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**623 Yonge Street and  
515 Big Bay Point Road  
City of Barrie, ON**

**Proposed Gas Station  
Redevelopment**

**Traffic Brief**

Paradigm Transportation Solutions Limited

December 2023  
230604



**ptsl.com**



# Project Summary



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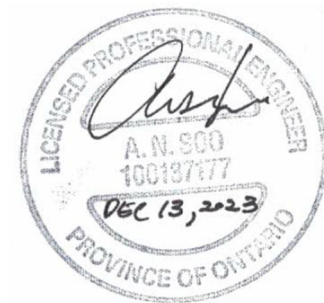
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## 623 Yonge Street and 515 Big Bay Point Road, City of Barrie, ON Proposed Gas Station Redevelopment, Traffic Brief



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# Executive Summary

## Content

Paradigm Transportation Solutions Limited (Paradigm) was retained to conduct a Traffic Brief for a proposed gas station redevelopment located at the municipal addresses of 623 Yonge Street and 515 Big Bay Point Road in the City of Barrie, Ontario. This study has been prepared in support of a Zoning By-law Amendment (ZBA) application.

This Traffic Brief includes a description of the proposed redevelopment, an assessment of existing transportation infrastructure, site trip generation forecasts, traffic impact assessment, and a review of the proposed parking supply.

The findings, conclusions, and recommendations of this study are summarized below and outlined in further detail in the body of the report.

## Proposed Development

The subject site is located at the municipal addresses of 623 Yonge Street and 515 Big Bay Point Road in the City of Barrie, Ontario. The site location is currently occupied by an existing gas station with a total of eight fueling positions.

The property owner proposes to redevelop the site to include a gas station providing a total of 12 fueling positions and a fast-food restaurant with a drive-through facility. The proposed fast-food restaurant would be combined with the gas station convenience store and have a gross floor area (GFA) of 287.4 SM (3,093.5 SF). The restaurant portion of the building will provide a seating area to accommodate up to 30 persons. It is noted the existing carwash facility (137.8 SM in size) on-site will remain unchanged.

Vehicular access is proposed via two full-movement driveways, one with Yonge Street and one with Big Bay Point Road. The access on Yonge Street is an existing access currently serving the site, which will remain unchanged. The access on Big Bay Point Road is proposed to be relocated further east, approximately 100 metres east of the intersection of Big Bay Point Road and Yonge Street.

In terms of parking supply, a total of 23 parking spaces are proposed, including 18 regular spaces, one barrier-free parking space, and four electric vehicle parking spaces. This supply meets the municipal zoning requirements as currently planned.



One loading space is proposed on-site. Waste collection is proposed via an in-ground waste system with the bins located adjacent to the loading space.

For the purpose of this assessment, full build-out of the proposed redevelopment is anticipated by 2024.

## Conclusions

Based on the investigations carried out, it is concluded that:

- ▶ Under **base year (2023) traffic conditions**, the study area intersections are operating at good levels of service and well within capacity during the weekday AM and PM peak hours, and Saturday peak hour;
- ▶ Under **2024 and 2029 background traffic conditions**, the study area intersections and traffic movements are forecast to continue operating at good levels of service and well within capacity during all peak periods;
- ▶ The proposed redevelopment is forecast to **generate** an additional 179 AM, 158 PM, and 222 Saturday net peak hour vehicular trips;
- ▶ Under **2024 and 2029 total traffic conditions**, operations at the study area intersections are similar to future background traffic conditions. The net impact of the proposed redevelopment is found to be minor.

All intersections and traffic movements are forecast to continue operating at good levels of service and well within capacity during all peak periods.

No intersection geometric improvements are anticipated to be required to accommodate the proposed redevelopment based upon operations and traffic volumes; and

- ▶ The proposed parking supply **meets and satisfies** the City of Barrie's Zoning By-law 2009-141 requirements resulting with a surplus of 10 parking spaces.

## Recommendations

The recommendations of the study area are as follows:

- ▶ The City of Barrie recognize the conclusions drawn above; and
- ▶ From a transportation perspective, the required planning applications to allow the proposed redevelopment should be approved.





# Contents

|          |                                               |           |
|----------|-----------------------------------------------|-----------|
| <b>1</b> | <b>Introduction .....</b>                     | <b>1</b>  |
| <b>2</b> | <b>Existing Conditions .....</b>              | <b>3</b>  |
| 2.1      | Roads and Traffic Control .....               | 3         |
| 2.2      | Transit .....                                 | 5         |
| 2.3      | Active Transportation .....                   | 7         |
| 2.4      | Data Collection and Traffic Volumes .....     | 7         |
| 2.5      | Traffic Operations .....                      | 9         |
| <b>3</b> | <b>Proposed Development .....</b>             | <b>12</b> |
| 3.1      | Description.....                              | 12        |
| 3.2      | Trip Generation.....                          | 14        |
| 3.3      | Trip Distribution and Assignment.....         | 16        |
| <b>4</b> | <b>Future Forecasts .....</b>                 | <b>18</b> |
| 4.1      | Future Background Traffic .....               | 18        |
| 4.1.1    | General Background Growth .....               | 18        |
| 4.1.2    | Other Area Developments .....                 | 18        |
| 4.1.3    | Future Background Traffic Forecasts .....     | 18        |
| 4.2      | Future Total Traffic.....                     | 22        |
| 4.3      | Future Transportation Network.....            | 22        |
| <b>5</b> | <b>Transportation Impact Assessment .....</b> | <b>25</b> |
| 5.1      | Future Background Traffic .....               | 25        |
| 5.2      | Future Total Traffic.....                     | 28        |
| 5.3      | Assessment of Impacts .....                   | 31        |
| <b>6</b> | <b>Functional Review.....</b>                 | <b>32</b> |
| 6.1      | Parking Review.....                           | 32        |
| 6.2      | Vehicle Manoeuvring .....                     | 33        |
| <b>7</b> | <b>Conclusions and Recommendations .....</b>  | <b>34</b> |
| 7.1      | Conclusions.....                              | 34        |
| 7.2      | Recommendations .....                         | 34        |



## Appendices

|            |                                             |
|------------|---------------------------------------------|
| Appendix A | Pre-Study Consultation                      |
| Appendix B | Traffic Data                                |
| Appendix C | Existing Traffic Operation Reports          |
| Appendix D | Growth Rate Calculations                    |
| Appendix E | Future Background Traffic Operation Reports |
| Appendix F | Future Total Traffic Operation Reports      |
| Appendix G | AutoTURN Vehicle Diagrams                   |

## Figures

|             |                                                  |    |
|-------------|--------------------------------------------------|----|
| Figure 1.1: | Study Area and Proposed Redevelopment Location   | 2  |
| Figure 2.1: | Existing Lane Configurations and Traffic Control | 4  |
| Figure 2.2: | City of Barrie Transit System Map                | 6  |
| Figure 2.3: | Base Year Traffic Volumes                        | 8  |
| Figure 3.1: | Proposed Redevelopment Concept Site Plan         | 13 |
| Figure 3.2: | Additional Site-Generated Traffic Forecasts      | 17 |
| Figure 4.1: | 2024 Background Traffic Forecasts                | 20 |
| Figure 4.2: | 2029 Background Traffic Forecasts                | 21 |
| Figure 4.3: | 2024 Total Traffic Forecasts                     | 23 |
| Figure 4.4: | 2029 Total Traffic Forecasts                     | 24 |

## Tables

|            |                                      |    |
|------------|--------------------------------------|----|
| Table 2.1: | Vehicle Level of Service Definitions | 9  |
| Table 2.2: | Base Year Traffic Operations         | 11 |
| Table 3.1: | Additional Site Trip Generation      | 15 |
| Table 3.2: | Trip Distribution                    | 16 |
| Table 5.1: | 2024 Background Traffic Operations   | 26 |
| Table 5.2: | 2029 Background Traffic Operations   | 27 |
| Table 5.3: | 2024 Total Traffic Operations        | 29 |
| Table 5.4: | 2029 Total Traffic Operations        | 30 |
| Table 5.5: | Traffic Volume Increase              | 31 |
| Table 6.1: | Zoning By-law Parking Requirements   | 32 |



# 1 Introduction

Paradigm Transportation Solutions Limited (Paradigm) was retained to prepare this Traffic Brief for a proposed gas station redevelopment located at the municipal addresses of 623 Yonge Street and 515 Big Bay Point Road in the City of Barrie. This study has been prepared in support of a Zoning By-law Amendment (ZBA) application. **Figure 1.1** illustrates the site location.

The purpose of this Traffic Brief is to determine the traffic impacts of the site on the adjacent transportation network, and identify how these impacts might be mitigated, if necessary. The scope of this study was confirmed with the City of Barrie (the City) via email in November 2023, comprises the following:

- ▶ Study area intersections including the intersections of Yonge Street/Driveway, and Big Bay Point Road/Driveway;
- ▶ Determine and assess the current study area traffic conditions;
- ▶ Estimate the vehicular trip generation of the redevelopment based on information contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11<sup>th</sup> Edition);
- ▶ Analyze the impacts of the additional site-generated traffic on the study area transportation network;
- ▶ Recommend remedial measures required to mitigate identified impacts, if any; and
- ▶ Review the proposed parking supply based on the municipal Zoning By-law requirements.

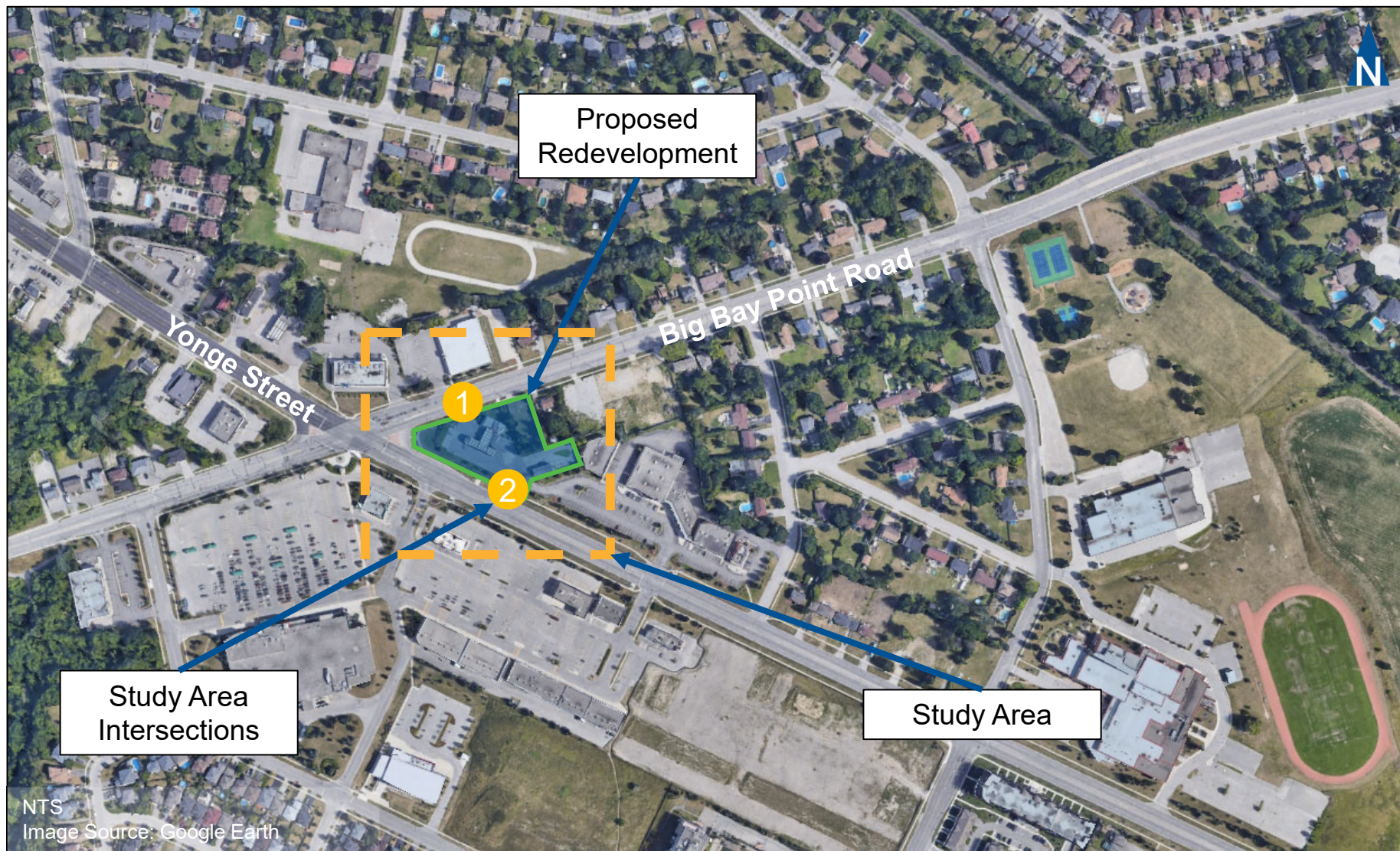
This study has been prepared in general accordance with the City of Barrie *Traffic Impact Study Guidelines*.<sup>1</sup> This report assesses the 2024 and 2029 horizon years representing the assumed full build-out year and five years beyond full build-out, respectively.

This study also responds to the direction provided by the City of Barrie staff. **Appendix A** contains the pre-study consultation correspondence exchanged with City staff for reference.

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<sup>1</sup> City of Barrie, *Transportation Impact Study Guidelines*, December 2021.





## Study Area and Proposed Redevelopment Location

623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

Figure 1.1

## 2 Existing Conditions

### 2.1 Roads and Traffic Control

The characteristics of the roadways in vicinity of the subject site are described below. Reference was made to the City of Barrie *Official Plan*.<sup>2</sup> All study area roads operate under the City's jurisdiction.

- ▶ **Yonge Street** is an arterial road with five travel lanes (two lanes in each direction and a centre two-way left-turn lane), running in a north-west/south-east diagonal fashion across the site frontage. For the purpose of this report, Yonge Street will herein be referred to as a north-south roadway.

The roadway has a posted maximum speed limit of 50 km/h. It is further noted the section of Yonge Street south of Big Bay Point Road is signed as a community safety zone.

Yonge Street has an urban cross-section with sidewalks provided along both sides of the roadway; and

- ▶ **Big Bay Point Road** is an east-west arterial road with five travel lanes (two lanes in each direction and a centre two-way left-turn lane) near the subject site. No posted speed limit signage is observed along the roadway; therefore, it is assumed the statutory limit of 50 kilometres per hour governs.

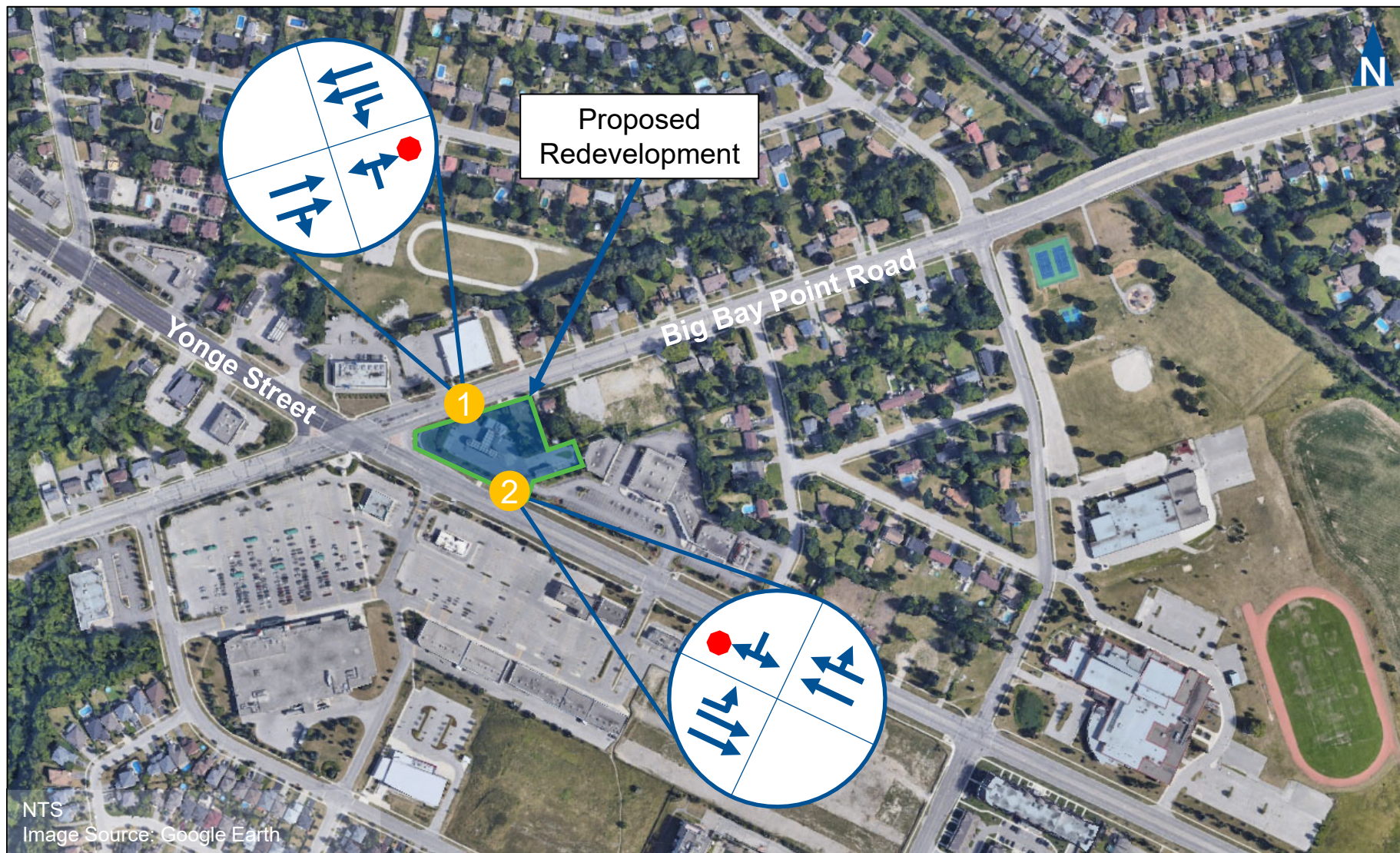
Big Bay Point Road has an urban cross-section with sidewalks provided along both sides of the roadway. On-street parking is restricted on Big Bay Point Road within the study area.

**Figure 2.1** illustrates the existing lane arrangements and traffic control devices for the study area intersections.

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<sup>2</sup> City of Barrie, *Official Plan, Schedule D - Road Plan*, January 2018.





## Existing Lane Configuration and Traffic Control

## 2.2 Transit

Barrie Transit currently operates four bus routes within proximity to the subject site. These routes provide service to key locations throughout the city including GO Transit train stations. The following is a summary of the transit services provided.

- ▶ **Route 3 Bayview/Painswick** operates between the Downtown Terminal and Barrie South GO Station and travels along Big Bay Point Road within the study area. Major transit stops include Park Place and Allandale Recreation Centre. Route 3 operates with headways in the order of 30 minutes during the weekday AM and PM, and Saturday peak periods. The route operates with headways in the order of 60 minutes on Sundays;
- ▶ **Route 4 East Bayfield/South GO** operates between Barrie South GO and the Georgian Mall and travels along Big Bay Point Road within the study area. Major transit stops include Allandale GO Station and the Downtown Terminal. Route 4 operates with headways in the order of approximately 40 minutes during the weekday AM and PM, and Saturday peak periods. The route operates with headways in the order of approximately 50 minutes on Sundays;
- ▶ **Route 8A RVH/Yonge (Southbound)** operates between Livingstone & Bayfield and Park Place and travels along Yonge Street within the study area. The route provides direct access to Barrie South GO Station. Route 8A (southbound) operates with headways in the order of 30 minutes during the weekday AM and PM, and Saturday peak periods, and with headways in the order of 60 minutes on Sundays; and
- ▶ **Route 8B Crosstown/Essa (Northbound)** operates between Livingstone & Bayfield and Park Place and travels along Yonge Street within the study area. The route provides direct access to Allandale GO Station and Barrie South GO Station. Route 8B (northbound) operates with headways in the order of 30 minutes during the weekday AM and PM, and Saturday peak periods. The route operates with headways in the order of 60 minutes on Sundays.

In summary the subject site is well served by transit, which also provides connections to larger transit hubs facilitating inter-regional travel by public transit.

**Figure 2.2** shows the existing transit network around the subject site.





NTS

Image Source: <https://www.barrie.ca/services-payments/transportation-parking/barrie-transit/schedules-maps>



## City of Barrie Transit System Map

## 2.3 Active Transportation

Sidewalks are provided along the study area roadways of Yonge Street and Big Bay Point Road. The municipal network is relatively well-connected and continuous.

No dedicated cycling facilities are provided within the study area; therefore, all cycling trips are accommodated within the travelled roadway.

## 2.4 Data Collection and Traffic Volumes

To assess intersection operations, turning movement counts (TMCs) are used to quantify the movement of vehicles, pedestrians, trucks, buses, and cyclists through an intersection. Existing traffic data at an intersection or on a road section forms the foundation for operational analysis. The counts are usually collected during peak periods to complete level of service (LOS) analysis under its worst-case operating conditions.

Paradigm to collected TMCs at the study area intersections on Tuesday, November 21, 2023 from 6:00 AM to 10:00 AM and from 3:00 PM to 7:00 PM, and on Saturday, November 25, 2023 from 10:00 AM to 3:00 PM. The data was counted in 15-minute intervals and vehicles were classified by type.

**Figure 2.3** illustrates the base year (2023) weekday AM and PM, and Saturday peak hour traffic volumes. **Appendix B** contains the raw traffic data for reference.





|                |     |
|----------------|-----|
| AM Peak Hour   | 123 |
| PM Peak Hour   | 123 |
| Sat. Peak Hour | 123 |



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## Base Year Traffic Volumes

623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

Figure 2.3

## 2.5 Traffic Operations

Intersection level of service (LOS) is a recognized method of quantifying the average delay experienced by drivers at intersections. It is based on the delay experienced by individual vehicles executing the various turning movements. The delay is related to the number of vehicles desiring to make a movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to the opposing traffic flows and intersection geometry.

**Table 2.1** summarizes the level of service criteria for signalized and unsignalized intersections. The highest possible rating is LOS A, where the average total delay is equal or less than 10.0 seconds per vehicle. When the average delay exceeds 80 seconds for signalized intersections, 50 seconds for unsignalized intersections or when the volume to capacity ratio is greater than 1.0, the movement is classed as LOS F and remedial measures are usually implemented, if feasible. LOS E is usually used as a guideline for the determination of road improvement needs on through lanes, while LOS F may be acceptable for left-turn movements at peak times.

**TABLE 2.1: VEHICLE LEVEL OF SERVICE DEFINITIONS**

| Level of Service | Signalized Intersections Average Total Delay (sec/veh) | Unsignalized Intersections Average Total Delay (sec/veh) |
|------------------|--------------------------------------------------------|----------------------------------------------------------|
| A                | $\leq 10$                                              | $\leq 10$                                                |
| B                | $> 10 \text{ \& } \leq 20$                             | $> 10 \text{ \& } \leq 15$                               |
| C                | $> 20 \text{ \& } \leq 35$                             | $> 15 \text{ \& } \leq 25$                               |
| D                | $> 35 \text{ \& } \leq 55$                             | $> 25 \text{ \& } \leq 35$                               |
| E                | $> 55 \text{ \& } \leq 80$                             | $> 35 \text{ \& } \leq 50$                               |
| F                | $> 80$                                                 | $> 50$                                                   |

The City of Barrie *Transportation Impact Study Guidelines*<sup>3</sup> defines critical movements at intersections as follows:

- ▶ Signalized intersections:
  - LOS for overall intersection operations exceeds LOS D;
  - v/c ratios for overall intersection operations, through movements, or shared through/turning movements increase to 0.85 or above;

<sup>3</sup> City of Barrie, *Transportation Impact Study Guidelines*, December 2021.



- v/c ratios for exclusive movements increase to 0.85 or above;
  - Where the 50<sup>th</sup> and 90<sup>th</sup> percentile queue length exceed available turning lane storage; and
  - Queues for exclusive left and right turn lanes that are inaccessible due to the through lane queue length.
- ▶ Unsignalized intersections:
- LOS, based on average delay per vehicle, on individual movements exceeds LOS E; and
  - The estimated 95<sup>th</sup> percentile queue length for an individual movement exceeds the lesser of five vehicles or the available queue storage.

To assess the existing peak hour conditions, a level of service analysis was conducted using Synchro software, which implements the methods of the Highway Capacity Manual. The key parameters used in the analysis include:

- ▶ Existing lane configurations;
- ▶ Heavy vehicle percentages as derived from the collected traffic count data;
- ▶ Conflicting pedestrian volumes as derived from the collected traffic count data;
- ▶ Calculated intersection peak hour factors (PHF), which facilitates an assessment of the busiest 15-minute period within the peak hour; and
- ▶ Synchro default values for all other inputs.

**Table 2.2** summarizes the base year AM and PM, and Saturday peak hour intersection operations including the LOS, average vehicle delay in seconds, v/c ratio, and 95<sup>th</sup> percentile queue length in metres. Any movements identified as critical movements are highlighted within the results table. **Appendix C** contains the detailed Synchro reports for reference.

The results of the analysis indicate the study area intersections are operating at good levels of service and well within capacity during the weekday AM and PM, and Saturday peak hours.

The 95<sup>th</sup> percentile queue lengths were checked for all turn lanes against provided storage, and queue lengths for through movements were also checked. No storage or spillback issues are identified.



**TABLE 2.2: BASE YEAR TRAFFIC OPERATIONS**

| Analysis Period    | Intersection                                 | Control Type | MOE                                      | Direction/Movement/Approach |                               |                       |          |                                 |                          |                       |          |                                |                               |                       |          |                                   |                               |       |          | Overall |
|--------------------|----------------------------------------------|--------------|------------------------------------------|-----------------------------|-------------------------------|-----------------------|----------|---------------------------------|--------------------------|-----------------------|----------|--------------------------------|-------------------------------|-----------------------|----------|-----------------------------------|-------------------------------|-------|----------|---------|
|                    |                                              |              |                                          | Eastbound                   |                               |                       |          | Westbound                       |                          |                       |          | Northbound                     |                               |                       |          | Southbound                        |                               |       |          |         |
|                    |                                              |              |                                          | Left                        | Through                       | Right                 | Approach | Left                            | Through                  | Right                 | Approach | Left                           | Through                       | Right                 | Approach | Left                              | Through                       | Right | Approach |         |
| AM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.11<br>0<br>-      | ><br>><br>><br>><br>> | A<br>0   | A<br>8<br>0.02<br>1<br>20<br>19 | A<br>0<br>0.16<br>0<br>- |                       | A<br>0   | B<br>10<br>0.05<br>1<br>-      |                               | ><br>><br>><br>><br>> | B<br>10  |                                   |                               |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                               |                       |          | B<br>12<br>0.09<br>2<br>-<br>-  |                          | ><br>><br>><br>><br>> | B<br>12  |                                | A<br>0<br>0.25<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.04<br>1<br>20.0<br>19 | A<br>0<br>0.15<br>0<br>-<br>- |       | A<br>1   |         |
| PM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.24<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.02<br>1<br>20<br>19 | A<br>0<br>0.15<br>0<br>- |                       | A<br>0   | B<br>11<br>0.1<br>3<br>-<br>-  |                               | ><br>><br>><br>><br>> | B<br>11  |                                   |                               |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                               |                       |          | B<br>12<br>0.14<br>1<br>-<br>-  |                          | ><br>><br>><br>><br>> | B<br>12  |                                | A<br>0<br>0.27<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.08<br>2<br>20<br>18   | A<br>0<br>0.18<br>0<br>-<br>- |       | A<br>1   |         |
| Saturday Peak Hour | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.23<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.04<br>1<br>20<br>19 | A<br>0<br>0.18<br>0<br>- |                       | A<br>1   | B<br>12<br>0.13<br>4<br>-<br>- |                               | ><br>><br>><br>><br>> | B<br>12  |                                   |                               |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                               |                       |          | B<br>13<br>0.24<br>7<br>-<br>-  |                          | ><br>><br>><br>><br>> | B<br>13  |                                | A<br>0<br>0.24<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.11<br>3<br>20<br>17   | A<br>0<br>0.17<br>0<br>-<br>- |       | A<br>1   |         |

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

TWSC - Two-Way Stop Control

&lt; / &gt; - Shared with through movement



## 3 Proposed Development

### 3.1 Description

The subject site is located at the municipal addresses of 623 Yonge Street and 515 Big Bay Point Road in the City of Barrie, Ontario. The site location is currently occupied by an existing gas station which provides a total of eight fueling positions, an ancillary convenience store, and a drive-through carwash facility.

The property owner proposes to redevelop the site to include a gas station providing a total of 12 fueling positions, and a fast-food restaurant combined with the gas station convenience market. The fast-food restaurant would also provide a drive-through facility. The proposed combined fast-food restaurant and convenience market would be 287.4 SM (3,093.5 SF) gross floor area (GFA) in size. The restaurant would provide interior seating to accommodate up to 30 patrons. It is noted the existing carwash facility (approximately 137.8 SM in size) on-site will remain unchanged.

Vehicular access is proposed via two full-movement driveways, one with Yonge Street and one with Big Bay Point Road. The access on Yonge Street is an existing access currently serving the site, which will remain unchanged. The access on Big Bay Point Road is proposed to be relocated further east, approximately 100 metres east of the intersection of Big Bay Point Road and Yonge Street.

In terms of parking supply, a total of 23 parking spaces are proposed, including 18 regular spaces, one barrier-free parking space, and four electric vehicle parking spaces. This supply meets the municipal zoning requirements as currently planned.

One loading space is proposed on-site. Waste collection is proposed via an in-ground waste system with the bins located adjacent to the loading space.

For the purpose of this assessment, full build-out of the proposed redevelopment is anticipated by 2024.

**Figure 3.1** illustrates the proposed redevelopment concept.





623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

### Figure 3.1

## 3.2 Trip Generation

The site is currently occupied by an existing gas station which provides a total of eight fueling positions. The existing driveway count data accounts for vehicular traffic generated by the existing gas pumps.

The property owner proposes to redevelop the site to include a gas station providing a total of 12 fueling positions (i.e., 4 additional fueling positions) and a combined gas station convenience market and fast-food restaurant (287.4 SM of GFA) with a drive-through facility. The existing carwash facility on-site will remain unchanged.

The additional components to the site include four fueling positions and the fast-food restaurant.

Trip generation data from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11<sup>th</sup> Edition)<sup>4</sup> publication was used to estimate the additional vehicle trips generated by the proposed redevelopment.

Specifically, the average trip rates for Land Use Code (LUC) 944 – Gasoline/Service Station, and LUC 934 – Fast-Food Restaurant with Drive-Through Window were used. We note that our trip generation estimate is conservative (i.e., errs on the high side) as we have not accounted for pass-by traffic. In reality, given the context of the land uses the majority of these trip would in fact be pass-by trips (i.e., trips already on the transportation network) as the land uses are not typical trip ends/generators.

**Table 3.1** summarizes the forecast additional trip generation for the subject site. The proposed redevelopment is expected to generate additional 179 AM peak hour trips, 158 PM peak hour trips, and 222 Saturday peak hour trips at full build-out.

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<sup>4</sup> Institute of Transportation Engineers, *Trip Generation Manual*, 11<sup>th</sup> Edition. 2021.



**TABLE 3.1: ADDITIONAL SITE TRIP GENERATION**

| LUC                                                               | Variable              | AM Peak Hour |           |           |            | PM Peak Hour |           |           |            | Saturday Peak Hour |            |            |            |
|-------------------------------------------------------------------|-----------------------|--------------|-----------|-----------|------------|--------------|-----------|-----------|------------|--------------------|------------|------------|------------|
|                                                                   |                       | Rate         | In        | Out       | Total      | Rate         | In        | Out       | Total      | Rate               | In         | Out        | Total      |
| 944 - Gasoline/Service Station <sup>1</sup>                       | 4 fueling positions   | 10.28        | 21        | 20        | 41         | 13.91        | 28        | 28        | 56         | 12.77              | 26         | 25         | 51         |
| 934 - Fast-Food Restaurant with Drive-Through Window <sup>2</sup> | 3,093.6 SF (287.4 SM) | 44.61        | 70        | 68        | 138        | 33.03        | 53        | 49        | 102        | 55.25              | 87         | 84         | 171        |
| <b>Total</b>                                                      |                       |              | <b>91</b> | <b>88</b> | <b>179</b> |              | <b>81</b> | <b>77</b> | <b>158</b> |                    | <b>113</b> | <b>109</b> | <b>222</b> |

<sup>1</sup> AM: 10.28 trips per fueling positions (50% in, 50% out); PM: 13.91 trips per fueling positions (50% in, 50% out); Saturday: 12.77 trips per fueling positions (50% in, 50% out).

<sup>2</sup> AM: 44.61 trips per 1,000 SF of GFA (51% in, 49% out); PM: 33.03 trips per 1,000 SF of GFA (52% in, 48% out); Saturday: 55.25 trips per 1,000 SF of GFA (51% in, 49% out).



### 3.3 Trip Distribution and Assignment

The directional distribution of traffic approaching and departing the subject lands is a function of several variables including population density, existing travel patterns, and efficiency of the roadways leading to the site.

Trip distribution for the subject site was estimated based on a review of the existing trip patterns documented in the turning movement count data. Specifically, trips to/from the site via the site access connections with Big Bay Point Road and Yonge Street were reviewed.

**Table 3.2** summarizes the resulting trip distribution.

**TABLE 3.2: TRIP DISTRIBUTION**

| Origin/Destination          | AM Peak Hour |             | PM Peak Hour |             | Saturday Peak Hour |             |
|-----------------------------|--------------|-------------|--------------|-------------|--------------------|-------------|
|                             | In           | Out         | In           | Out         | In                 | Out         |
| North via Yonge Street      | 34%          | 44%         | 55%          | 45%         | 51%                | 55%         |
| South via Yonge Street      | 26%          | 15%         | 16%          | 10%         | 13%                | 10%         |
| East via Big Bay Point Road | 27%          | 21%         | 16%          | 38%         | 20%                | 24%         |
| West via Big Bay Point Road | 13%          | 20%         | 13%          | 7%          | 16%                | 11%         |
| <b>Total</b>                | <b>100%</b>  | <b>100%</b> | <b>100%</b>  | <b>100%</b> | <b>100%</b>        | <b>100%</b> |

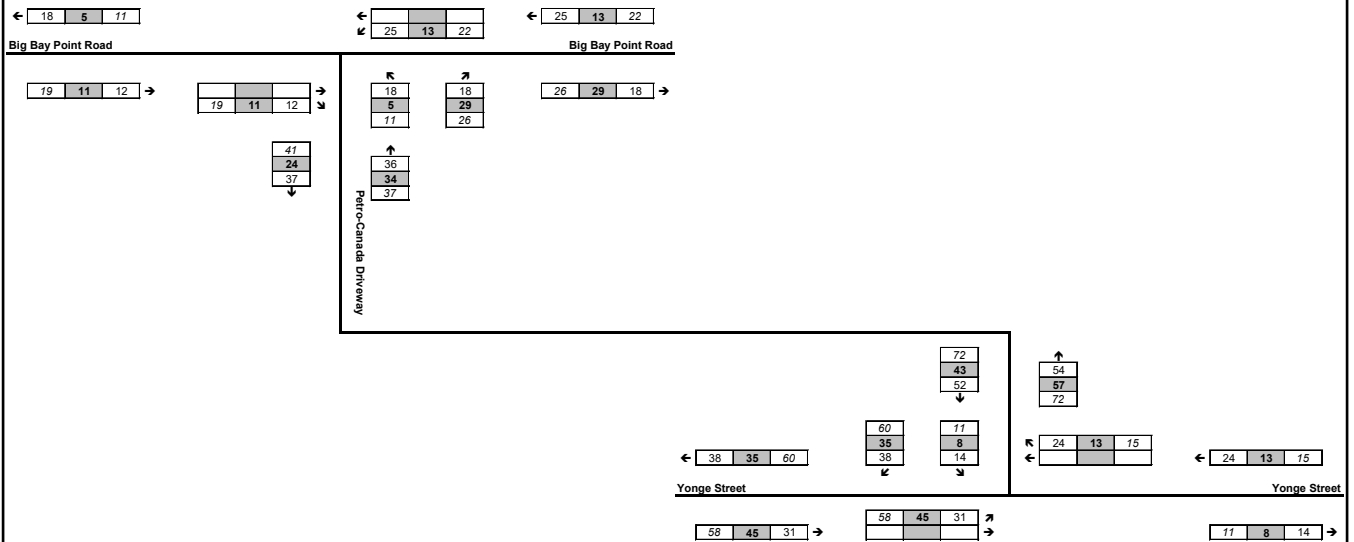
Using the estimated trip generation and existing trip distribution patterns, the additional site traffic was assigned to the road network.

**Figure 3.2** illustrates the trip assignment for the weekday AM and PM, and Saturday peak hours. Slight differences with respect to the trip generation estimates are due to rounding.





|                |     |
|----------------|-----|
| AM Peak Hour   | 123 |
| PM Peak Hour   | 123 |
| Sat. Peak Hour | 123 |



NTS



## Additional Site-Generated Traffic Forecasts

## 4 Future Forecasts

The assessment of future traffic conditions includes estimates of future background and total traffic volumes, and operational analyses for the 2024 and 2029 horizons, representing the assumed full build-out year and five years beyond full build-out, respectively.

The future traffic volumes in the vicinity of the redevelopment will consist of increased non-site traffic volumes (background traffic growth), traffic generated by other developments, and the additional site traffic generated by the proposed redevelopment.

### 4.1 Future Background Traffic

#### 4.1.1 General Background Growth

Generalized traffic growth is estimated through the application of a 2.0% per annum compounded growth rate to the existing through movements along Yonge Street and Big Bay Point Road, to derive the 2024 and 2029 generalized background forecasts.

This growth rate was estimated based data extracted from the City of Barrie Transportation Master Plan Appendix E – EMM Macro Modelling and Improvements Rationale Technical Memorandum (June 2019).

Reviewing the 2016, 2031 and 2041 traffic forecasts for the applicable sections of Big Bay Point Road and Yonge Street, per annum growth rates of 0.96% - 2.22% were calculated for the weekday AM and PM peak hours.

The use of a 2.0% per annum growth rate was applied to the study area roadways. The use of this growth rate was confirmed by City staff during pre-study consultation.

**Appendix D** contains the growth rate calculations for reference.

#### 4.1.2 Other Area Developments

City of Barrie staff did not advise of any other area background developments to be accounted for within the traffic forecasts.

#### 4.1.3 Future Background Traffic Forecasts

**Figure 4.1** illustrates the 2024 background traffic forecasts for the weekday AM and PM, and Saturday peak hours.

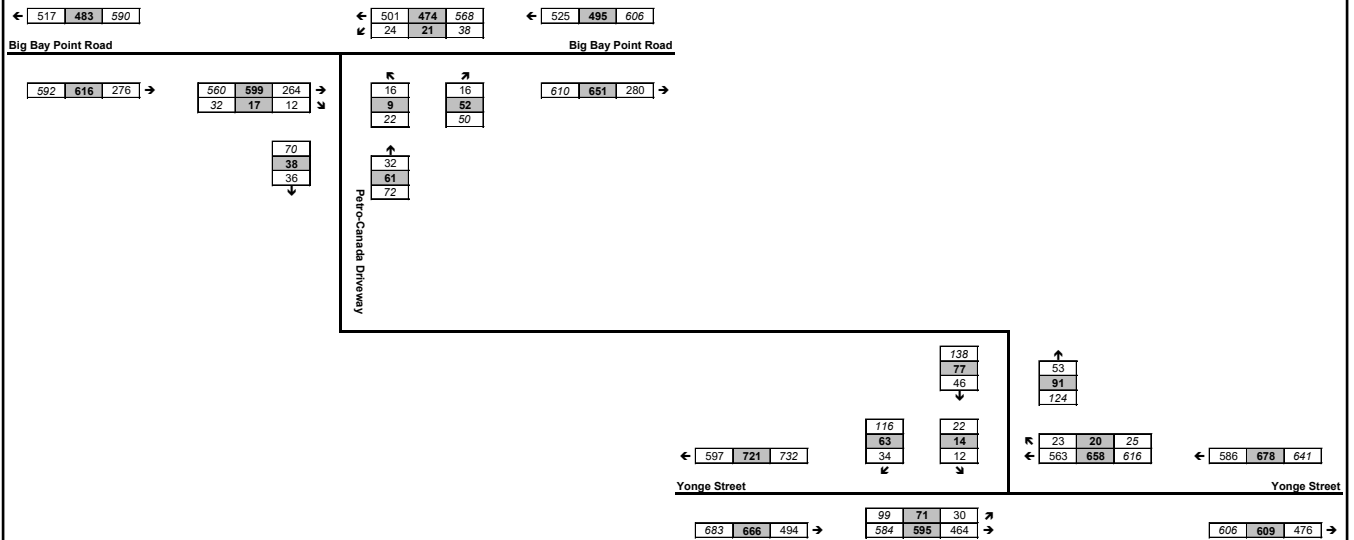


**Figure 4.2** illustrates the 2029 background traffic forecasts for the weekday AM and PM, and Saturday peak hours.





|                |     |
|----------------|-----|
| AM Peak Hour   | 123 |
| PM Peak Hour   | 123 |
| Sat. Peak Hour | 123 |



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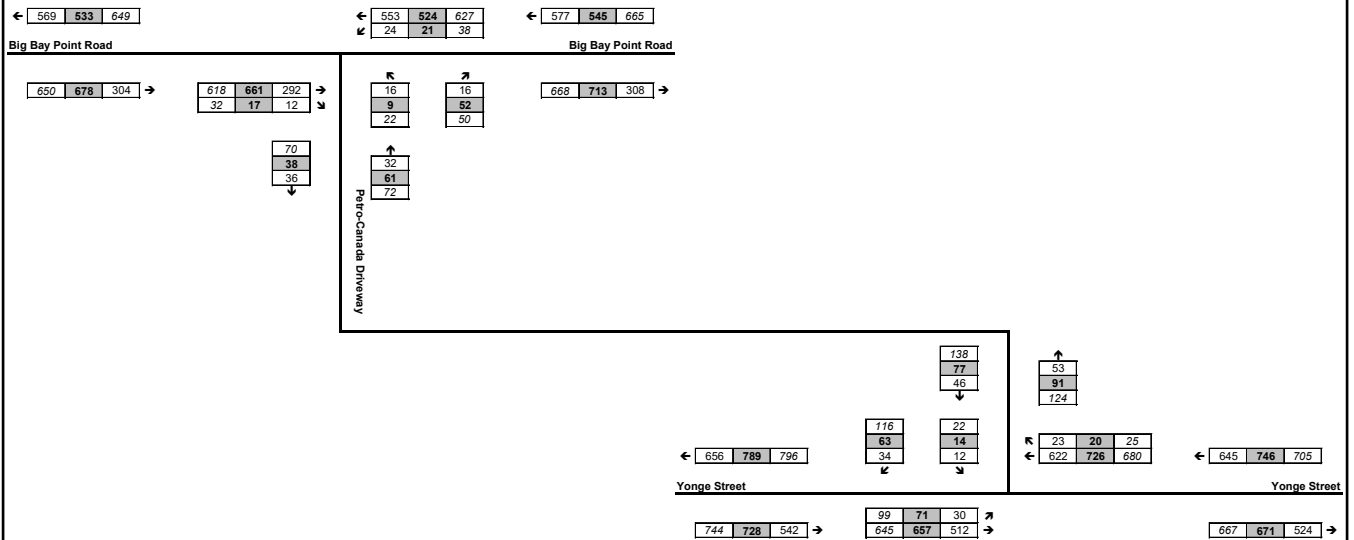
## 2024 Background Traffic Forecasts

623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

Figure 4.1



|                |     |
|----------------|-----|
| AM Peak Hour   | 123 |
| PM Peak Hour   | 123 |
| Sat. Peak Hour | 123 |



NTS



## 2029 Background Traffic Forecasts

623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

Figure 4.2

## 4.2 Future Total Traffic

The background traffic forecasts were summed with the site traffic assignments to develop the total traffic forecasts.

**Figure 4.3** illustrates the 2024 total traffic forecasts for the weekday AM and PM, and Saturday peak hours.

**Figure 4.4** illustrates the 2029 total traffic forecasts for the weekday AM and PM, and Saturday peak hours.

## 4.3 Future Transportation Network

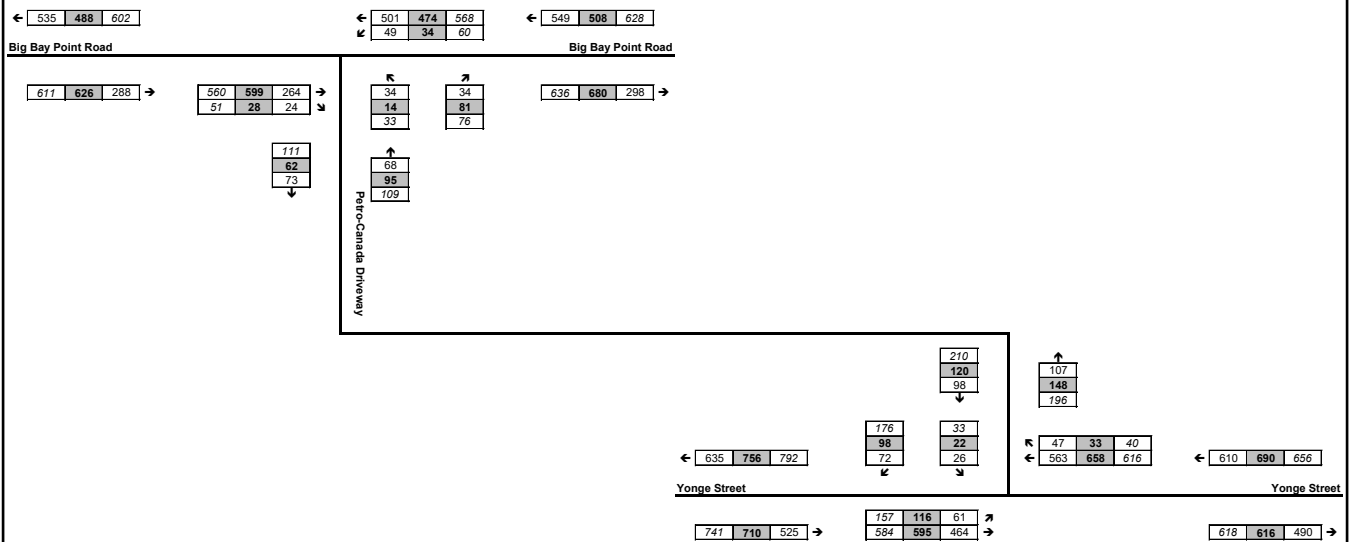
Through a review of the City of Barrie Transportation Master Plan (TMP) (June 2019), there are no future road network improvements proposed within the study area under the future horizon years; therefore, the existing road network and intersection lane configurations are utilized for all future operational analyses.

In terms of active transportation infrastructure, based on Figure 3-6 – Existing Cycling Network in the City TMP (June 2019), buffered bike lanes are proposed along Big Bay Point Road and Yonge Street within proximity to the subject site.





|                |     |
|----------------|-----|
| AM Peak Hour   | 123 |
| PM Peak Hour   | 123 |
| Sat. Peak Hour | 123 |



NTS



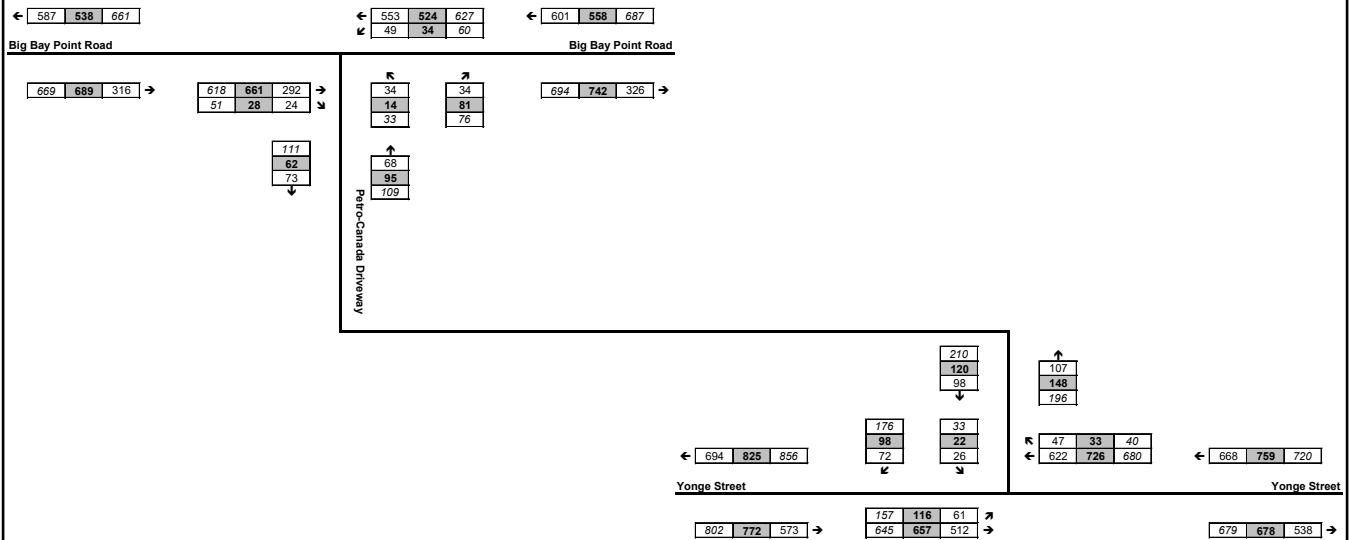
## 2024 Total Traffic Forecasts

623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

Figure 4.3



|                |     |
|----------------|-----|
| AM Peak Hour   | 123 |
| PM Peak Hour   | 123 |
| Sat. Peak Hour | 123 |



NTS



## 2029 Total Traffic Forecasts

623 Yonge Street and 515 Big Bay Point Road – Traffic Brief  
230604

Figure 4.4

## 5 Transportation Impact Assessment

### 5.1 Future Background Traffic

The study area intersections under 2024 and 2029 background traffic conditions (without subject redevelopment) are analyzed using Synchro following the same methodology as under existing conditions.

**Table 5.1** and **Table 5.2** summarize the background peak hour traffic operations including the LOS, vehicle delays, v/c ratios and 95<sup>th</sup> percentile queue lengths for the 2024 and 2029 horizon years, respectively. Any movements identified as critical movements are highlighted within the results tables. **Appendix E** contains the detailed analysis reports for reference.

The results indicate the study area intersections are forecast to operate at similar levels of service as noted under base year conditions, but slightly exacerbated accounting for background growth.

Under both 2024 and 2029 background traffic conditions (without the subject redevelopment), the study area intersections are forecast to continue operating at good levels of service and well within capacity. No critical movements are identified.

The 95<sup>th</sup> percentile queue lengths were checked for all turn lanes against provided storage, and queue lengths for through movements were also checked. No storage or spillback issues are identified.



**TABLE 5.1: 2024 BACKGROUND TRAFFIC OPERATIONS**

| Analysis Period    | Intersection                                 | Control Type | MOE                          | Direction/Movement/Approach |              |         |          |                  |              |         |          |                 |                |         |          |                  |                |       |          |         |
|--------------------|----------------------------------------------|--------------|------------------------------|-----------------------------|--------------|---------|----------|------------------|--------------|---------|----------|-----------------|----------------|---------|----------|------------------|----------------|-------|----------|---------|
|                    |                                              |              |                              | Eastbound                   |              |         |          | Westbound        |              |         |          | Northbound      |                |         |          | Southbound       |                |       |          | Overall |
|                    |                                              |              |                              | Left                        | Through      | Right   | Approach | Left             | Through      | Right   | Approach | Left            | Through        | Right   | Approach | Left             | Through        | Right | Approach |         |
| AM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay V/C Q Stor. Avail. |                             | A 0 0.11 0 - | > > > > | A 0      | A 8 0.02 1 20 19 | A 0 0.16 0 - |         | A 0      | B 10 0.05 1 -   |                | > > > > | B 10     |                  |                |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay V/C Q Stor. Avail. |                             |              |         |          | B 12 0.09 2 - -  |              | > > > > | B 12     |                 | A 0 0.25 0 - - | > > > > | A 0      | A 9 0.04 1 20 19 | A 0 0.15 0 - - |       | A 1      |         |
| PM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay V/C Q Stor. Avail. |                             | A 0 0.25 0 - | > > > > | A 0      | A 9 0.02 1 20 19 | A 0 0.15 0 - |         | A 0      | B 11 0.1 3 - -  |                | > > > > | B 11     |                  |                |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay V/C Q Stor. Avail. |                             |              |         |          | B 12 0.14 4 - -  |              | > > > > | B 12     |                 | A 0 0.27 0 - - | > > > > | A 0      | A 9 0.08 2 20 18 | A 0 0.18 0 - - |       | A 1      |         |
| Saturday Peak Hour | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay V/C Q Stor. Avail. |                             | A 0 0.24 0 - | > > > > | A 0      | A 9 0.04 1 20 19 | A 0 0.18 0 - |         | A 1      | B 12 0.14 4 - - |                | > > > > | B 12     |                  |                |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay V/C Q Stor. Avail. |                             |              |         |          | B 13 0.24 8 - -  |              | > > > > | B 13     |                 | A 0 0.25 0 - - | > > > > | A 0      | A 9 0.11 3 20 17 | A 0 0.18 0 - - |       | A 1      |         |

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

TWSC - Two-Way Stop Control

&lt; / &gt; - Shared with through movement



**TABLE 5.2: 2029 BACKGROUND TRAFFIC OPERATIONS**

| Analysis Period    | Intersection                                 | Control Type | MOE                                      | Direction/Movement/Approach |                               |                       |          |                                 |                          |                       |          |                           |                               |                       |          |                                  |                       |       |          | Overall |
|--------------------|----------------------------------------------|--------------|------------------------------------------|-----------------------------|-------------------------------|-----------------------|----------|---------------------------------|--------------------------|-----------------------|----------|---------------------------|-------------------------------|-----------------------|----------|----------------------------------|-----------------------|-------|----------|---------|
|                    |                                              |              |                                          | Eastbound                   |                               |                       |          | Westbound                       |                          |                       |          | Northbound                |                               |                       |          | Southbound                       |                       |       |          |         |
|                    |                                              |              |                                          | Left                        | Through                       | Right                 | Approach | Left                            | Through                  | Right                 | Approach | Left                      | Through                       | Right                 | Approach | Left                             | Through               | Right | Approach |         |
| AM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.12<br>-<br>-      | ><br>><br>><br>><br>> | A<br>0   | A<br>8<br>0.02<br>1<br>20<br>19 | A<br>0<br>0.18<br>0<br>- |                       | A<br>0   | B<br>11<br>0.05<br>1<br>- |                               | ><br>><br>><br>><br>> | B<br>11  |                                  |                       |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                               |                       |          | B<br>12<br>0.1<br>3<br>-<br>-   |                          | ><br>><br>><br>><br>> | B<br>12  |                           | A<br>0<br>0.28<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.04<br>1<br>20<br>19  | A<br>0<br>0<br>-<br>- |       | A<br>0   |         |
| PM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.28<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.03<br>1<br>20<br>19 | A<br>0<br>0.16<br>0<br>- |                       | A<br>0   | B<br>12<br>0.11<br>3<br>- |                               | ><br>><br>><br>><br>> | B<br>12  |                                  |                       |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                               |                       |          | B<br>13<br>0.15<br>4<br>-<br>-  |                          | ><br>><br>><br>><br>> | B<br>13  |                           | A<br>0<br>0.3<br>0<br>-<br>-  | ><br>><br>><br>><br>> | A<br>0   | A<br>10<br>0.09<br>2<br>20<br>18 | A<br>0<br>0<br>-<br>- |       | A<br>1   |         |
| Saturday Peak Hour | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.26<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.05<br>1<br>20<br>19 | A<br>0<br>0.2<br>0<br>-  |                       | A<br>0   | B<br>13<br>0.14<br>4<br>- |                               | ><br>><br>><br>><br>> | B<br>13  |                                  |                       |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                               |                       |          | B<br>14<br>0.25<br>8<br>-<br>-  |                          | ><br>><br>><br>><br>> | B<br>14  |                           | A<br>0<br>0.27<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>10<br>0.12<br>3<br>20<br>17 | A<br>0<br>0<br>-<br>- |       | A<br>1   |         |

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

TWSC - Two-Way Stop Control

&lt; / &gt; - Shared with through movement



## 5.2 Future Total Traffic

To assess the automobile operating conditions for the total traffic forecasts during the study peak hours, operational analyses were undertaken using the same methodology, parameters, lane arrangements, and traffic control devices as in the analysis of background conditions.

**Table 5.3**, and **Table 5.4** summarize the peak hour total traffic operations including the LOS, vehicle delays, v/c ratios, and 95<sup>th</sup> percentile queue lengths for the 2024 and 2029 horizons, respectively. Any movements identified as critical movements are highlighted within the results tables. **Appendix F** contains the detailed analysis reports for reference.

The results of the analyses indicate the study area intersections are forecast to operate at similar levels of service as noted under background traffic conditions.

With the additional site-generated traffic, the 2024 and 2029 total traffic conditions are forecast to continue operating at good levels of service and well within capacity. No critical movements were identified.

The 95<sup>th</sup> percentile queue lengths were checked for all turn lanes against provided storage, and queue lengths for through movements were also checked. No storage or spillback issues are identified.



**TABLE 5.3: 2024 TOTAL TRAFFIC OPERATIONS**

| Analysis Period    | Intersection                                 | Control Type | MOE                                      | Direction/Movement/Approach |                          |                       |          |                                 |                          |                       |          |                           |                               |                       |          |                                  |                       |       |          |         |
|--------------------|----------------------------------------------|--------------|------------------------------------------|-----------------------------|--------------------------|-----------------------|----------|---------------------------------|--------------------------|-----------------------|----------|---------------------------|-------------------------------|-----------------------|----------|----------------------------------|-----------------------|-------|----------|---------|
|                    |                                              |              |                                          | Eastbound                   |                          |                       |          | Westbound                       |                          |                       |          | Northbound                |                               |                       |          | Southbound                       |                       |       |          | Overall |
|                    |                                              |              |                                          | Left                        | Through                  | Right                 | Approach | Left                            | Through                  | Right                 | Approach | Left                      | Through                       | Right                 | Approach | Left                             | Through               | Right | Approach |         |
| AM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.11<br>0<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>8<br>0.04<br>1<br>20<br>19 | A<br>0<br>0.16<br>0<br>- |                       | A<br>1   | B<br>11<br>0.11<br>3<br>- |                               | ><br>><br>><br>><br>> | B<br>11  |                                  |                       |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                          |                       |          | B<br>13<br>0.2<br>6<br>-<br>-   |                          | ><br>><br>><br>><br>> | B<br>13  |                           | A<br>0<br>0.25<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.08<br>2<br>20<br>18  | A<br>0<br>0<br>0<br>- |       | A<br>1   |         |
| PM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.25<br>0<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.04<br>1<br>20<br>19 | A<br>0<br>0.15<br>0<br>- |                       | A<br>1   | B<br>12<br>0.16<br>5<br>- |                               | ><br>><br>><br>><br>> | B<br>12  |                                  |                       |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                          |                       |          | B<br>14<br>0.23<br>7<br>-<br>-  |                          | ><br>><br>><br>><br>> | B<br>14  |                           | A<br>0<br>0.27<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>10<br>0.14<br>4<br>20<br>16 | A<br>0<br>0<br>0<br>- |       | A<br>2   |         |
| Saturday Peak Hour | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             | A<br>0<br>0.24<br>0<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>9<br>0.07<br>2<br>20<br>18 | A<br>0<br>0.18<br>0<br>- |                       | A<br>1   | B<br>13<br>0.21<br>6<br>- |                               | ><br>><br>><br>><br>> | B<br>13  |                                  |                       |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay<br>V/C<br>Q<br>Stor.<br>Avail. |                             |                          |                       |          | C<br>15<br>0.38<br>14<br>-<br>- |                          | ><br>><br>><br>><br>> | C<br>15  |                           | A<br>0<br>0.25<br>0<br>-<br>- | ><br>><br>><br>><br>> | A<br>0   | A<br>10<br>0.18<br>5<br>20<br>15 | A<br>0<br>0<br>0<br>- |       | A<br>2   |         |

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

TWSC - Two-Way Stop Control

&lt; / &gt; - Shared with through movement



**TABLE 5.4: 2029 TOTAL TRAFFIC OPERATIONS**

| Analysis Period    | Intersection                                 | Control Type | MOE                          | Direction/Movement/Approach |                |           |          |                  |                |           |          |                 |                |           |          |                   |             |       |          |         |
|--------------------|----------------------------------------------|--------------|------------------------------|-----------------------------|----------------|-----------|----------|------------------|----------------|-----------|----------|-----------------|----------------|-----------|----------|-------------------|-------------|-------|----------|---------|
|                    |                                              |              |                              | Eastbound                   |                |           |          | Westbound        |                |           |          | Northbound      |                |           |          | Southbound        |             |       |          | Overall |
|                    |                                              |              |                              | Left                        | Through        | Right     | Approach | Left             | Through        | Right     | Approach | Left            | Through        | Right     | Approach | Left              | Through     | Right | Approach |         |
| AM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay V/C Q Stor. Avail. |                             | A 0 0.12 0 - - | > > > > > | A 0      | A 8 0.04 1 20 19 | A 0 0.18 0 - - |           | A 1      | B 11 0.11 3 - - |                | > > > > > | B 11     |                   |             |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay V/C Q Stor. Avail. |                             |                |           |          | B 14 0.21 6 - -  |                | > > > > > | B 14     |                 | A 0 0.28 0 - - | > > > > > | A 0      | A 10 0.08 2 20 18 | A 0 0 0 - - |       | A 1      |         |
| PM Peak Hour       | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay V/C Q Stor. Avail. |                             | A 0 0.28 0 - - | > > > > > | A 0      | A 9 0.04 1 20 19 | A 0 0.16 0 - - |           | A 1      | B 12 0.17 5 - - |                | > > > > > | B 12     |                   |             |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay V/C Q Stor. Avail. |                             |                |           |          | B 14 0.25 8 - -  |                | > > > > > | B 14     |                 | A 0 0.3 0 - -  | > > > > > | A 0      | B 10 0.15 4 20 16 | A 0 0 0 - - |       | A 2      |         |
| Saturday Peak Hour | Petro-Canada Driveway & Big Bay Point Road   | TWSC         | LOS Delay V/C Q Stor. Avail. |                             | A 0 0.26 0 - - | > > > > > | A 0      | A 9 0.07 2 20 18 | A 0 0.2 0 - -  |           | A 1      | B 14 0.23 7 - - |                | > > > > > | B 14     |                   |             |       |          |         |
|                    | Yonge Street & Petro-Canada / Plaza Driveway | TWSC         | LOS Delay V/C Q Stor. Avail. |                             |                |           |          | C 16 0.4 15 - -  |                | > > > > > | C 16     |                 | A 0 0.27 0 - - | > > > > > | A 0      | B 10 0.19 5 20 15 | A 0 0 0 - - |       | A 2      |         |

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

TWSC - Two-Way Stop Control

&lt; / &gt; - Shared with through movement



### 5.3 Assessment of Impacts

Based on the future traffic operational results documented in **Section 5.1** and **Section 5.2**, the incremental impact of the proposed redevelopment on the adjacent transportation network is considered minor from an operational perspective.

From a traffic volume perspective, **Table 5.5** provides a summary of how traffic volumes are anticipated to increase with the subject redevelopment. It is reiterated that the trip generation estimated for the site is conservative (i.e., errs on the high side) as it did not account for pass-by traffic and instead assessed a situation where all traffic generated by the site would be new net trips rather than attracting trips that are already on the transportation network.

The proposed redevelopment is anticipated to generate less than 250 vehicular trips (two-way) during each study peak hour. The additional traffic would be less than daily traffic variations typically experienced (10%).

This amount of additional site-generated traffic is not anticipated to result in any adverse impact to the adjacent transportation network.

In summary, no intersection geometric improvements are anticipated to be required to accommodate the proposed gas station redevelopment. It is reiterated that both site driveways are currently served by centre two-way left-turn lanes, and it is confirmed that provision of auxiliary right-turn lanes at the site driveway connections are not required.

**TABLE 5.5: TRAFFIC VOLUME INCREASE**

| Intersection                                       | 2029 Background vs. 2029 Total<br>% Volume Increase<br>(Total Entering) |                 |                       |
|----------------------------------------------------|-------------------------------------------------------------------------|-----------------|-----------------------|
|                                                    | AM Peak<br>Hour                                                         | PM Peak<br>Hour | Saturday<br>Peak Hour |
| Yonge Street and<br>Petro-Canada/Plaza<br>Driveway | 9%                                                                      | 6%              | 9%                    |
| Big Bay Point Road<br>and Petro-Canada<br>Driveway | 8%                                                                      | 5%              | 6%                    |



## 6 Functional Review

### 6.1 Parking Review

The subject site proposes a total of 23 spaces on-site, including 18 regular spaces, one barrier-free parking space (Type A), and four electric vehicle parking spaces.

The vehicular parking requirements for the subject site have been verified against the City of Barrie *Zoning By-law (ZBL) 2009-141*.<sup>5</sup>

Per Section 4.6 – Parking Standards, the minimum parking requirements are as follows:

- ▶ Automotive Service Station: 1 space per 50 SM of gross floor area (GFA), minimum of 2 spaces;
- ▶ Car Wash: 1 space per 70 SM of gross floor area (GFA); and
- ▶ Restaurant: 1 space per 4 persons.

**Table 6.1** summarizes the required parking for the proposed gas station redevelopment in comparison to the proposed parking supply.

**TABLE 6.1: ZONING BY-LAW PARKING REQUIREMENTS**

| Land Use                                           | Zoning By-law Requirements            | Spaces Required | Spaces Proposed | Surplus/ Deficit |
|----------------------------------------------------|---------------------------------------|-----------------|-----------------|------------------|
| Automotive Service Station (287.4 SM)              | 1 space per 50 SM of gross floor area | 6               | 23              | +7               |
| Car Wash (137.8 SM in size)                        | 1 space per 70 SM of gross floor area | 2               |                 |                  |
| Fast-Food Restaurant with Drive-Through (30 seats) | 1 space per 4 persons                 | 8               |                 |                  |
| <b>Total</b>                                       |                                       | <b>16</b>       | <b>23</b>       | <b>+7</b>        |

As shown above, the proposed vehicle parking supply for the proposed redevelopment meets and satisfies the City's ZBL requirements.

<sup>5</sup> City of Barrie, *Zoning By-law 2009-141*, August 2009, Office Consolidation January 2023.



Barrier-free parking space requirements were reviewed based on Section 4.6.4 – Barrier Free Parking. The minimum number of barrier-free parking spaces to be provided should be one Type A space when the required parking ranges between 5 to 25 spaces. The proposed barrier-free parking supply (one Type A space) satisfies the City's ZBL requirement.

## 6.2 Vehicle Manoeuvring

The proposed redevelopment provides a site access connection to Yonge Street and to Big Bay Point Road. The proposed fast-food restaurant component provides a drive-through facility. The site contains one loading space that is southeast to the proposed fast-food restaurant, and waste collection is proposed via an in-ground waste system with in-ground bins located adjacent to the loading zone. All vehicle parking is available at-grade.

The site circulation assessment has been conducted for the anticipated design vehicles expected on-site, which includes:

- ▶ Transportation Association of Canada (TAC) Passenger (P) Vehicle;
- ▶ TAC B-Train Double (BTD) Truck;
- ▶ TAC Medium Single-Unit (MSU) Truck;
- ▶ Private Waste Collection Truck (Earthbin/Molok); and
- ▶ Pumper Fire Truck.

All assessments have been carried out using AutoTURN swept path analysis software. The analysis indicates all design vehicles can enter/exit the site, travel within the site as needed, and exit the site without any conflicts.

The assessment also examines a worst-case scenario where the BTD truck, representative of a fuel delivery truck is on-site and illustrates passenger vehicles can still access fueling pumps and circulate on-site.

**Appendix G** contains the vehicle manoeuvring diagrams for reference.



## 7 Conclusions and Recommendations

### 7.1 Conclusions

Based on the investigations carried out, it is concluded that:

- ▶ Under **base year (2023) traffic conditions**, the study area intersections are operating at good levels of service and well within capacity during the weekday AM and PM peak hours, and Saturday peak hour;
- ▶ Under **2024 and 2029 background traffic conditions**, the study area intersections and traffic movements are forecast to continue operating at good levels of service and well within capacity during all peak periods;
- ▶ The proposed redevelopment is forecast to **generate** an additional 179 AM, 158 PM, and 222 Saturday net peak hour vehicular trips;
- ▶ Under **2024 and 2029 total traffic conditions**, operations at the study area intersections are similar to future background traffic conditions. The net impact of the proposed redevelopment is found to be minor.

All intersections and traffic movements are forecast to continue operating at good levels of service and well within capacity during all peak periods.

No intersection geometric improvements are anticipated to be required to accommodate the proposed redevelopment based upon operations and traffic volumes; and

- ▶ The proposed parking supply **meets and satisfies** the City of Barrie's Zoning By-law 2009-141 requirements resulting with a surplus of 10 parking spaces.

### 7.2 Recommendations

The recommendations of the study area are as follows:

- ▶ The City of Barrie recognize the conclusions drawn above; and
- ▶ From a transportation perspective, the required planning applications to allow the proposed redevelopment should be approved.



# Appendix A

## Pre-Study Consultation



**From:** [Adrian Soo](#)  
**To:** [Wenting Li](#)  
**Subject:** FW: D28-039-2023 - 623 Yonge St & 515 Big Bay Point Rd - Traffic Brief Terms of Reference  
**Date:** November 29, 2023 2:19:06 PM  
**Attachments:** [image001.png](#)

---

FYI

**Adrian Soo, P.Eng.**

*Senior Project Manager, Associate  
(he/him)*

**Paradigm Transportation Solutions Limited**

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m: 647.637.4946

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---

**From:** Donson Chan <[Donson.Chan@barrie.ca](mailto:Donson.Chan@barrie.ca)>  
**Sent:** Tuesday, November 14, 2023 9:07 AM  
**To:** Adrian Soo <[asoo@ptsl.com](mailto:asoo@ptsl.com)>  
**Subject:** RE: D28-039-2023 - 623 Yonge St & 515 Big Bay Point Rd - Traffic Brief Terms of Reference

Hi Adrian,

Transportation Planning has reviewed the scope of work for the Traffic Brief in regard to 623 Yonge St & 515 Big Bay Point Rd. Please proceed with the proposed works.

Thanks,

**Donson Chan, P.Eng.**

Transportation Engineer – Development Services

The City of Barrie

Mobile 249-733-5355

*Please consider the environment before printing this email.*

---

**From:** Adrian Soo <[asoo@ptsl.com](mailto:asoo@ptsl.com)>  
**Sent:** Thursday, November 9, 2023 1:49 PM  
**To:** Donson Chan <[Donson.Chan@barrie.ca](mailto:Donson.Chan@barrie.ca)>  
**Subject:** D28-039-2023 - 623 Yonge St & 515 Big Bay Point Rd - Traffic Brief Terms of Reference

Good Afternoon Donson,

We have been retained to undertake a Traffic Brief for the proposed gas station redevelopment located at 623 Yonge Street and 515 Big Bay Point Road in support of the sought ZBA development application.

Per your Pre-Consultation comments provided, I am just reaching out provide our proposed Traffic Brief scope of work for review and comment. For reference I've attached your comments and the site plan.

#### **Background/Proposed Development:**

- The existing gas station site will be redeveloped to include a gas station providing a total of 10 fueling positions, a 287.4 SM GFA building which will include a fast-food restaurant with accompanying drive-through facility. The existing carwash facility on-site will remain unchanged.
- Vehicular access is proposed via two full-movement driveways, one with Yonge Street, and one with Big Bay Point Road
  - The access on Yonge Street is an existing access currently severing the development. No change is proposed.
  - The access on Big Bay Point Road is proposed to be located further east from the Big Bay Point Rd/Yonge St intersection in comparison to existing.
  - It is noted that auxiliary left turn lanes are provided on both Yonge Street and Big Bay Point Road serving the development as both roadways are served by centre two-way left turn lanes.
- A total parking supply of 20 spaces is proposed, which includes 15 regular spaces, one accessible space, and four electric vehicle parking spaces. This supply meets the municipal zoning requirements as currently planned and therefore would not trigger the need for a Parking Study.
- Waste collection is proposed via an in-ground waste system, with Earthbin products proposed. These in-ground bins are located adjacent to a loading zone sized 6.0 x 15.0 m

#### **Proposed Scope of Work:**

- **Traffic Brief** to evaluate the effects of the proposed development on the transportation system. Specifically, we are proposed to examine the site access driveways at Yonge Street and at Big Bay Point Road.
  - Study Area Intersections:
    - Yonge Street and Site Access Driveway;
    - Big Bay Point Road and Site Access Driveway;
  - Traffic Horizons:
    - Opening Year, and a Five-Year Horizon following opening;
  - Analysis Periods:
    - Weekday AM peak hour;
    - Weekday PM peak hour; and

- Saturday peak hour
  - Data Collection – We will count the existing driveways.
  - Trip Generation – We will forecast additional site traffic to be generated using ITE Trip Generation 11<sup>th</sup> Edition data;
  - Background Growth Rate – We have reviewed the City TMP EMME forecasts (Appendix E), examining the 2016, 2031 and 2041 volume forecasts for the application sections of Big Bay Point Road and Yonge Street. Between 2016 – 2041, per annum growth rates of 0.96% - 2.22% were calculated for the AM and PM peak hours. We are proposing the application of a 2.0% per annum growth rate to the study area roads.
  - Other Area Background Developments – Requesting the City to provide active/in-stream background developments to be included in the future traffic forecasts, and their corresponding traffic impact study reports, if any.
- **Parking** – A total parking supply of 20 spaces is proposed, which includes 15 regular spaces, one accessible space, and four electric vehicle parking spaces. This supply meets the municipal zoning requirements as currently planned and therefore would not trigger the need for a Parking Study.
- **Internal Site Circulation** – Vehicular turning templates will be provided to demonstrate sufficient circulation to access the loading zone/waste collection bins, as well demonstrating that a fuel tanker truck can circulate on-site.
- **Construction Management and Parking Plan** – A plan will be development and submitted as part of the application, but will be separate from the Traffic Brief. As we understand the client's construction manager/consultant will be generating this plan.

If you could review and provide your comments at your earliest convenience that would be greatly appreciated.

Regards,

**Adrian Soo, P.Eng.**

*Senior Project Manager, Associate  
(he/him)*

**Paradigm Transportation Solutions Limited**

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# Appendix B

## Traffic Data



# Yonge Street & Petro-Canada / Plaza Driveway

## Morning Peak Diagram

### Specified Period

From: 6:00:00

To: 10:00:00

### One Hour Peak

From: 7:45:00

To: 8:45:00

**Municipality:** Barrie

**Site #:** 0000007602

**Intersection:** Yonge Street & Petro-Canada / Plaza

**TFR File #:** 1

**Count date:** 21-Nov-2023

### Weather conditions:

Cloudy / Rain

### Person(s) who counted:

### \*\* Non-Signalized Intersection \*\*

**Major Road:** Yonge Street runs N/S

North Leg Total: 1071

North Entering: 485

North Peds: 0

Peds Cross:  $\nabla$

|        |     |    |     |
|--------|-----|----|-----|
| Heavys | 15  | 0  | 15  |
| Trucks | 8   | 1  | 9   |
| Cars   | 432 | 29 | 461 |
| Totals | 455 | 30 |     |

|        |     |
|--------|-----|
| Heavys | 19  |
| Trucks | 4   |
| Cars   | 563 |
| Totals | 586 |

East Leg Total: 99

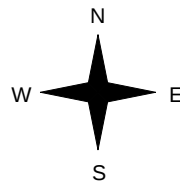
East Entering: 46

East Peds: 2

Peds Cross:  $\nabla$



Yonge Street



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 33   | 0      | 1      | 34     |
| 12   | 0      | 0      | 12     |
| 45   | 0      | 1      |        |

Petro-Canada / Plaza Driveway



Yonge Street



|        |     |        |     |    |     |
|--------|-----|--------|-----|----|-----|
| Cars   | 444 | Cars   | 530 | 21 | 551 |
| Trucks | 8   | Trucks | 4   | 0  | 4   |
| Heavys | 15  | Heavys | 18  | 2  | 20  |
| Totals | 467 | Totals | 552 | 23 |     |

Peds Cross:  $\nabla$

South Peds: 0

South Entering: 575

South Leg Total: 1042

### Comments

# Yonge Street & Petro-Canada / Plaza Driveway

## Afternoon Peak Diagram

### Specified Period

From: 15:00:00

To: 19:00:00

### One Hour Peak

From: 15:15:00

To: 16:15:00

**Municipality:** Barrie

**Site #:** 0000007602

**Intersection:** Yonge Street & Petro-Canada / Plaza

**TFR File #:** 1

**Count date:** 21-Nov-2023

### Weather conditions:

Cloudy / Rain

### Person(s) who counted:

### \*\* Non-Signalized Intersection \*\*

**Major Road:** Yonge Street runs N/S

North Leg Total: 1362

North Entering: 654

North Peds: 0

Peds Cross:  $\times$

|        |     |    |     |
|--------|-----|----|-----|
| Heavys | 8   | 0  | 8   |
| Trucks | 5   | 1  | 6   |
| Cars   | 570 | 70 | 640 |
| Totals | 583 | 71 |     |

|        |     |
|--------|-----|
| Heavys | 11  |
| Trucks | 7   |
| Cars   | 690 |
| Totals | 708 |

East Leg Total: 168

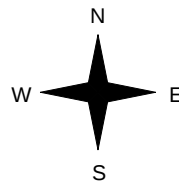
East Entering: 77

East Peds: 3

Peds Cross:  $\times$



Yonge Street



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 63   | 0      | 0      | 63     |
| 13   | 1      | 0      | 14     |
| 76   | 1      | 0      |        |



Petro-Canada / Plaza Driveway



Yonge Street



|        |     |        |     |    |     |
|--------|-----|--------|-----|----|-----|
| Cars   | 583 | Cars   | 627 | 20 | 647 |
| Trucks | 6   | Trucks | 7   | 0  | 7   |
| Heavys | 8   | Heavys | 11  | 0  | 11  |
| Totals | 597 | Totals | 645 | 20 |     |

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 90   | 1      | 0      | 91     |

Peds Cross:  $\times$

South Peds: 1

South Entering: 665

South Leg Total: 1262

### Comments

# Yonge Street & Petro-Canada / Plaza Driveway

## Total Count Diagram

**Municipality:** Barrie

**Site #:** 0000007602

**Intersection:** Yonge Street & Petro-Canada / Plaza

**TFR File #:** 1

**Count date:** 21-Nov-2023

**Weather conditions:**

Cloudy / Rain

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Yonge Street runs N/S

North Leg Total: 8108

North Entering: 3950

North Peds: 7

Peds Cross:  $\bowtie$

|        |      |     |      |
|--------|------|-----|------|
| Heavys | 68   | 1   | 69   |
| Trucks | 25   | 5   | 30   |
| Cars   | 3485 | 366 | 3851 |
| Totals | 3578 | 372 |      |



|        |      |
|--------|------|
| Heavys | 84   |
| Trucks | 43   |
| Cars   | 4031 |
| Totals | 4158 |

East Leg Total: 1032

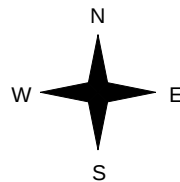
East Entering: 499

East Peds: 30

Peds Cross:  $\bowtie$



Yonge Street



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 385  | 4      | 1      | 390    |



|     |   |   |     |
|-----|---|---|-----|
| 106 | 3 | 0 | 109 |
| 491 | 7 | 1 |     |

Petro-Canada / Plaza Driveway



Yonge Street



|        |      |        |      |     |      |
|--------|------|--------|------|-----|------|
| Cars   | 3591 | Cars   | 3646 | 158 | 3804 |
| Trucks | 28   | Trucks | 39   | 0   | 39   |
| Heavys | 68   | Heavys | 83   | 3   | 86   |
| Totals | 3687 | Totals | 3768 | 161 |      |



Peds Cross:  $\bowtie$

South Peds: 3

South Entering: 3929

South Leg Total: 7616

**Comments**

# Yonge Street & Petro-Canada / Plaza Driveway

## Traffic Count Summary

Intersection: Yonge Street & Petro-Canada / Plaza      Count Date: 21-Nov-2023      Municipality: Barrie

| North Approach Totals                               |                                 |      |       |                |               | North/South<br>Total<br>Approaches | South Approach Totals |                                 |       |       |                |               |
|-----------------------------------------------------|---------------------------------|------|-------|----------------|---------------|------------------------------------|-----------------------|---------------------------------|-------|-------|----------------|---------------|
| Hour<br>Ending                                      | Includes Cars, Trucks, & Heavys |      |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |
|                                                     | Left                            | Thru | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru  | Right | Grand<br>Total |               |
| 6:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 0                                  | 6:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 7:00:00                                             | 6                               | 265  | 0     | 271            | 0             | 495                                | 7:00:00               | 0                               | 213   | 11    | 224            | 2             |
| 8:00:00                                             | 16                              | 454  | 0     | 470            | 1             | 904                                | 8:00:00               | 0                               | 409   | 25    | 434            | 0             |
| 9:00:00                                             | 37                              | 388  | 0     | 425            | 0             | 987                                | 9:00:00               | 0                               | 540   | 22    | 562            | 0             |
| 10:00:00                                            | 55                              | 364  | 0     | 419            | 2             | 876                                | 10:00:00              | 0                               | 441   | 16    | 457            | 0             |
| 15:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 0                                  | 15:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 16:00:00                                            | 69                              | 576  | 0     | 645            | 0             | 1267                               | 16:00:00              | 0                               | 604   | 18    | 622            | 1             |
| 17:00:00                                            | 73                              | 590  | 0     | 663            | 2             | 1266                               | 17:00:00              | 0                               | 578   | 25    | 603            | 0             |
| 18:00:00                                            | 69                              | 542  | 0     | 611            | 1             | 1184                               | 18:00:00              | 0                               | 549   | 24    | 573            | 0             |
| 19:00:00                                            | 47                              | 399  | 0     | 446            | 1             | 900                                | 19:00:00              | 0                               | 434   | 20    | 454            | 0             |
| Totals:                                             | 372                             | 3578 | 0     | 3950           | 7             | 7879                               |                       | 0                               | 3768  | 161   | 3929           | 3             |
| East Approach Totals                                |                                 |      |       |                |               | East/West<br>Total<br>Approaches   | West Approach Totals  |                                 |       |       |                |               |
| Hour<br>Ending                                      | Includes Cars, Trucks, & Heavys |      |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |
|                                                     | Left                            | Thru | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru  | Right | Grand<br>Total |               |
| 6:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 0                                  | 6:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 7:00:00                                             | 13                              | 0    | 8     | 21             | 2             | 21                                 | 7:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 8:00:00                                             | 8                               | 0    | 13    | 21             | 8             | 21                                 | 8:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 9:00:00                                             | 14                              | 0    | 40    | 54             | 1             | 54                                 | 9:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 10:00:00                                            | 15                              | 0    | 60    | 75             | 5             | 75                                 | 10:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 15:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 0                                  | 15:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 16:00:00                                            | 16                              | 0    | 55    | 71             | 2             | 71                                 | 16:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 17:00:00                                            | 11                              | 0    | 76    | 87             | 2             | 87                                 | 17:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 18:00:00                                            | 18                              | 0    | 69    | 87             | 6             | 87                                 | 18:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 19:00:00                                            | 14                              | 0    | 69    | 83             | 4             | 83                                 | 19:00:00              | 0                               | 0     | 0     | 0              | 0             |
| Totals:                                             | 109                             | 0    | 390   | 499            | 30            | 499                                |                       | 0                               | 0     | 0     | 0              | 0             |
| Calculated Values for Traffic Crossing Major Street |                                 |      |       |                |               |                                    |                       |                                 |       |       |                |               |
| Hours Ending:                                       | 7:00                            | 8:00 | 9:00  | 10:00          |               |                                    | 16:00                 | 17:00                           | 18:00 | 19:00 |                |               |
| Crossing Values:                                    | 15                              | 9    | 14    | 17             |               |                                    | 17                    | 13                              | 19    | 15    |                |               |

# Big Bay Point Road & Petro-Canada Driveway

## Morning Peak Diagram

### Specified Period

From: 6:00:00

To: 10:00:00

### One Hour Peak

From: 8:45:00

To: 9:45:00

**Municipality:** Barrie

**Site #:** 0000007601

**Intersection:** Big Bay Point Road & Petro-Canada Driveway

**TFR File #:** 1

**Count date:** 21-Nov-2023

### Weather conditions:

Cloudy / Rain

### Person(s) who counted:

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Big Bay Point Road runs W/E

East Leg Total: 790

East Entering: 515

East Peds: 0

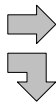
Peds Cross: 8

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 6      | 8      | 493  | 507    |

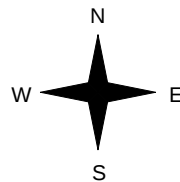


Big Bay Point Road

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 10     | 5      | 244  | 259    |
| 1      | 0      | 11   | 12     |
| 11     | 5      | 255  |        |



Petro-Canada Driveway



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 477  | 8      | 6      | 491    |
| 24   | 0      | 0      | 24     |
| 501  | 8      | 6      |        |



Big Bay Point Road

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 258  | 6      | 11     | 275    |

Peds Cross: 8  
West Peds: 0  
West Entering: 271  
West Leg Total: 778

|        |    |
|--------|----|
| Cars   | 35 |
| Trucks | 0  |
| Heavys | 1  |
| Totals | 36 |



|        |    |    |    |
|--------|----|----|----|
| Cars   | 16 | 14 | 30 |
| Trucks | 0  | 1  | 1  |
| Heavys | 0  | 1  | 1  |
| Totals | 16 | 16 |    |

Peds Cross: 8  
South Peds: 1  
South Entering: 32  
South Leg Total: 68

## Comments

# Big Bay Point Road & Petro-Canada Driveway

## Afternoon Peak Diagram

### Specified Period

**From:** 15:00:00

**To:** 19:00:00

### One Hour Peak

**From:** 16:30:00

**To:** 17:30:00

**Municipality:** Barrie

**Site #:** 0000007601

**Intersection:** Big Bay Point Road & Petro-Canada Driveway

**TFR File #:** 1

**Count date:** 21-Nov-2023

### Weather conditions:

Cloudy / Rain

### Person(s) who counted:

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Big Bay Point Road runs W/E

East Leg Total: 1125

East Entering: 486

East Peds: 0

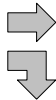
Peds Cross: 8

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 4      | 8      | 462  | 474    |

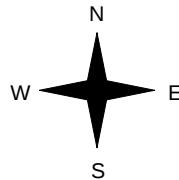


Big Bay Point Road

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 3      | 2      | 582  | 587    |
| 0      | 0      | 17   | 17     |
| 3      | 2      | 599  |        |



Petro-Canada Driveway



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 453  | 8      | 4      | 465    |
| 20   | 1      | 0      | 21     |
| 473  | 9      | 4      |        |



Big Bay Point Road

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 634  | 2      | 3      | 639    |

Peds Cross: 8  
West Peds: 0  
West Entering: 604  
West Leg Total: 1078

|        |    |
|--------|----|
| Cars   | 37 |
| Trucks | 1  |
| Heavys | 0  |
| Totals | 38 |



|        |   |    |    |
|--------|---|----|----|
| Cars   | 9 | 52 | 61 |
| Trucks | 0 | 0  | 0  |
| Heavys | 0 | 0  | 0  |
| Totals | 9 | 52 |    |

Peds Cross: 0  
South Peds: 1  
South Entering: 61  
South Leg Total: 99

## Comments

# Big Bay Point Road & Petro-Canada Driveway

## Total Count Diagram

**Municipality:** Barrie

**Site #:** 0000007601

**Intersection:** Big Bay Point Road & Petro-Canada Driveway

**TFR File #:** 1

**Count date:** 21-Nov-2023

**Weather conditions:**

Cloudy / Rain

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Big Bay Point Road runs W/E

East Leg Total: 6446

East Entering: 3414

East Peds: 0

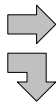
Peds Cross: 8

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 46     | 37     | 3268 | 3351   |

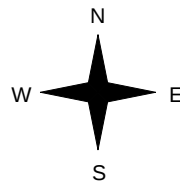


Big Bay Point Road

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 49     | 19     | 2738 | 2806   |
| 1      | 1      | 98   | 100    |
| 50     | 20     | 2836 |        |



Petro-Canada Driveway



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 3158 | 35     | 45     | 3238   |
| 174  | 2      | 0      | 176    |
| 3332 | 37     | 45     |        |



Big Bay Point Road

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 2962 | 20     | 50     | 3032   |

Peds Cross: 8  
West Peds: 0  
West Entering: 2906  
West Leg Total: 6257

|        |     |
|--------|-----|
| Cars   | 272 |
| Trucks | 3   |
| Heavys | 1   |
| Totals | 276 |



|        |     |     |     |
|--------|-----|-----|-----|
| Cars   | 110 | 224 | 334 |
| Trucks | 2   | 1   | 3   |
| Heavys | 1   | 1   | 2   |
| Totals | 113 | 226 |     |

Peds Cross: 8  
South Peds: 6  
South Entering: 339  
South Leg Total: 615

**Comments**

# Big Bay Point Road & Petro-Canada Driveway

## Traffic Count Summary

Intersection: Big Bay Point Road & Petro-Canada    Count Date: 21-Nov-2023    Municipality: Barrie

| North Approach Totals                               |                                 |      |       |                |               | North/South<br>Total<br>Approaches | South Approach Totals |                                 |       |       |                |               |
|-----------------------------------------------------|---------------------------------|------|-------|----------------|---------------|------------------------------------|-----------------------|---------------------------------|-------|-------|----------------|---------------|
| Hour<br>Ending                                      | Includes Cars, Trucks, & Heavys |      |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |
|                                                     | Left                            | Thru | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru  | Right | Grand<br>Total |               |
| 6:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 0                                  | 6:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 7:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 12                                 | 7:00:00               | 7                               | 0     | 5     | 12             | 2             |
| 8:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 20                                 | 8:00:00               | 11                              | 0     | 9     | 20             | 0             |
| 9:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 28                                 | 9:00:00               | 14                              | 0     | 14    | 28             | 0             |
| 10:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 33                                 | 10:00:00              | 15                              | 0     | 18    | 33             | 3             |
| 15:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 0                                  | 15:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 16:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 55                                 | 16:00:00              | 23                              | 0     | 32    | 55             | 0             |
| 17:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 69                                 | 17:00:00              | 13                              | 0     | 56    | 69             | 0             |
| 18:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 69                                 | 18:00:00              | 15                              | 0     | 54    | 69             | 1             |
| 19:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 53                                 | 19:00:00              | 15                              | 0     | 38    | 53             | 0             |
| Totals:                                             | 0                               | 0    | 0     | 0              | 0             | 339                                |                       | 113                             | 0     | 226   | 339            | 6             |
| East Approach Totals                                |                                 |      |       |                |               | East/West<br>Total<br>Approaches   | West Approach Totals  |                                 |       |       |                |               |
| Hour<br>Ending                                      | Includes Cars, Trucks, & Heavys |      |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |
|                                                     | Left                            | Thru | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru  | Right | Grand<br>Total |               |
| 6:00:00                                             | 0                               | 0    | 0     | 0              | 0             | 0                                  | 6:00:00               | 0                               | 0     | 0     | 0              | 0             |
| 7:00:00                                             | 17                              | 232  | 0     | 249            | 0             | 312                                | 7:00:00               | 0                               | 60    | 3     | 63             | 0             |
| 8:00:00                                             | 9                               | 375  | 0     | 384            | 0             | 569                                | 8:00:00               | 0                               | 180   | 5     | 185            | 0             |
| 9:00:00                                             | 24                              | 464  | 0     | 488            | 0             | 775                                | 9:00:00               | 0                               | 279   | 8     | 287            | 0             |
| 10:00:00                                            | 26                              | 458  | 0     | 484            | 0             | 731                                | 10:00:00              | 0                               | 236   | 11    | 247            | 0             |
| 15:00:00                                            | 0                               | 0    | 0     | 0              | 0             | 0                                  | 15:00:00              | 0                               | 0     | 0     | 0              | 0             |
| 16:00:00                                            | 34                              | 477  | 0     | 511            | 0             | 1029                               | 16:00:00              | 0                               | 501   | 17    | 518            | 0             |
| 17:00:00                                            | 19                              | 437  | 0     | 456            | 0             | 1054                               | 17:00:00              | 0                               | 579   | 19    | 598            | 0             |
| 18:00:00                                            | 22                              | 450  | 0     | 472            | 0             | 1043                               | 18:00:00              | 0                               | 553   | 18    | 571            | 0             |
| 19:00:00                                            | 25                              | 345  | 0     | 370            | 0             | 807                                | 19:00:00              | 0                               | 418   | 19    | 437            | 0             |
| Totals:                                             | 176                             | 3238 | 0     | 3414           | 0             | 6320                               |                       | 0                               | 2806  | 100   | 2906           | 0             |
| Calculated Values for Traffic Crossing Major Street |                                 |      |       |                |               |                                    |                       |                                 |       |       |                |               |
| Hours Ending:                                       | 7:00                            | 8:00 | 9:00  | 10:00          |               |                                    | 16:00                 | 17:00                           | 18:00 | 19:00 |                |               |
| Crossing Values:                                    | 7                               | 11   | 14    | 15             |               |                                    | 23                    | 13                              | 15    | 15    |                |               |

# Yonge Street & Petro-Canada / Plaza Driveway

## Mid-day Peak Diagram

### Specified Period

From: 10:00:00

To: 15:00:00

### One Hour Peak

From: 13:00:00

To: 14:00:00

**Municipality:** Barrie

**Site #:** 0000007602

**Intersection:** Yonge Street & Petro-Canada / Plaza

**TFR File #:** 1

**Count date:** 25-Nov-2023

### Weather conditions:

Cloudy

### Person(s) who counted:

### \*\* Non-Signalized Intersection \*\*

**Major Road:** Yonge Street runs N/S

North Leg Total: 1392

North Entering: 672

North Peds: 1

Peds Cross:  $\times$

|        |     |    |     |
|--------|-----|----|-----|
| Heavys | 2   | 0  | 2   |
| Trucks | 1   | 0  | 1   |
| Cars   | 570 | 99 | 669 |
| Totals | 573 | 99 |     |

|        |     |
|--------|-----|
| Heavys | 2   |
| Trucks | 1   |
| Cars   | 717 |
| Totals | 720 |

East Leg Total: 262

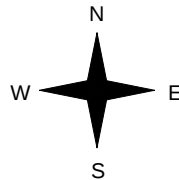
East Entering: 138

East Peds: 2

Peds Cross:  $\times$



Yonge Street



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 116  | 0      | 0      | 116    |
| 22   | 0      | 0      | 22     |
| 138  | 0      | 0      |        |



Petro-Canada / Plaza Driveway

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 124  | 0      | 0      | 124    |

Yonge Street

|        |     |        |     |    |     |
|--------|-----|--------|-----|----|-----|
| Cars   | 592 | Cars   | 601 | 25 | 626 |
| Trucks | 1   | Trucks | 1   | 0  | 1   |
| Heavys | 2   | Heavys | 2   | 0  | 2   |
| Totals | 595 | Totals | 604 | 25 |     |

Peds Cross:  $\times$

South Peds: 0

South Entering: 629

South Leg Total: 1224

### Comments

# Yonge Street & Petro-Canada / Plaza Driveway

## Total Count Diagram

**Municipality:** Barrie

**Site #:** 0000007602

**Intersection:** Yonge Street & Petro-Canada / Plaza

**TFR File #:** 1

**Count date:** 25-Nov-2023

**Weather conditions:**

Cloudy

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Yonge Street runs N/S

North Leg Total: 6251

North Entering: 3057

North Peds: 4

Peds Cross:  $\bowtie$

|        |      |     |      |
|--------|------|-----|------|
| Heavys | 16   | 0   | 16   |
| Trucks | 9    | 1   | 10   |
| Cars   | 2593 | 438 | 3031 |
| Totals | 2618 | 439 |      |



|        |      |
|--------|------|
| Heavys | 16   |
| Trucks | 15   |
| Cars   | 3163 |
| Totals | 3194 |

East Leg Total: 1145

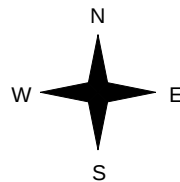
East Entering: 569

East Peds: 9

Peds Cross:  $\bowtie$



Yonge Street



|      |        |        |        |
|------|--------|--------|--------|
| Cars | Trucks | Heavys | Totals |
| 476  | 2      | 1      | 479    |



|      |        |        |        |
|------|--------|--------|--------|
| Cars | Trucks | Heavys | Totals |
| 90   | 0      | 0      | 90     |
| 566  | 2      | 1      |        |

Petro-Canada / Plaza Driveway



|      |        |        |        |
|------|--------|--------|--------|
| Cars | Trucks | Heavys | Totals |
| 574  | 2      | 0      | 576    |

Yonge Street



|        |      |
|--------|------|
| Cars   | 2683 |
| Trucks | 9    |
| Heavys | 16   |
| Totals | 2708 |



|        |      |     |      |
|--------|------|-----|------|
| Cars   | 2687 | 136 | 2823 |
| Trucks | 13   | 1   | 14   |
| Heavys | 15   | 0   | 15   |
| Totals | 2715 | 137 |      |

Peds Cross:  $\bowtie$

South Peds: 1

South Entering: 2852

South Leg Total: 5560

**Comments**

| Intersection: Yonge Street & Petro-Canada / Pla     |                                 |       |       |                |               | Count Date: 25-Nov-2023            |                       | Municipality: Barrie            |       |       |                |               |  |
|-----------------------------------------------------|---------------------------------|-------|-------|----------------|---------------|------------------------------------|-----------------------|---------------------------------|-------|-------|----------------|---------------|--|
| North Approach Totals                               |                                 |       |       |                |               | North/South<br>Total<br>Approaches | South Approach Totals |                                 |       |       |                |               |  |
| Hour<br>Ending                                      | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |  |
|                                                     | Left                            | Thru  | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru  | Right | Grand<br>Total |               |  |
| 10:00:00                                            | 0                               | 0     | 0     | 0              | 0             | 0                                  | 10:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| 11:00:00                                            | 65                              | 499   | 0     | 564            | 0             | 1077                               | 11:00:00              | 0                               | 489   | 24    | 513            | 0             |  |
| 12:00:00                                            | 81                              | 492   | 0     | 573            | 1             | 1156                               | 12:00:00              | 0                               | 552   | 31    | 583            | 0             |  |
| 13:00:00                                            | 108                             | 513   | 0     | 621            | 1             | 1191                               | 13:00:00              | 0                               | 550   | 20    | 570            | 0             |  |
| 14:00:00                                            | 99                              | 573   | 0     | 672            | 1             | 1301                               | 14:00:00              | 0                               | 604   | 25    | 629            | 0             |  |
| 15:00:00                                            | 86                              | 541   | 0     | 627            | 1             | 1184                               | 15:00:00              | 0                               | 520   | 37    | 557            | 1             |  |
| Totals:                                             |                                 |       |       |                |               | 5909                               | 0 2715 137 2852 1     |                                 |       |       |                |               |  |
| East Approach Totals                                |                                 |       |       |                |               | East/West<br>Total<br>Approaches   | West Approach Totals  |                                 |       |       |                |               |  |
| Hour<br>Ending                                      | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |       |       |                | Total<br>Peds |  |
|                                                     | Left                            | Thru  | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru  | Right | Grand<br>Total |               |  |
| 10:00:00                                            | 0                               | 0     | 0     | 0              | 0             | 0                                  | 10:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| 11:00:00                                            | 11                              | 0     | 80    | 91             | 2             | 91                                 | 11:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| 12:00:00                                            | 16                              | 0     | 99    | 115            | 0             | 115                                | 12:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| 13:00:00                                            | 20                              | 0     | 105   | 125            | 2             | 125                                | 13:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| 14:00:00                                            | 22                              | 0     | 116   | 138            | 2             | 138                                | 14:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| 15:00:00                                            | 21                              | 0     | 79    | 100            | 3             | 100                                | 15:00:00              | 0                               | 0     | 0     | 0              | 0             |  |
| Totals:                                             |                                 |       |       |                |               | 569                                | 0 0 0 0 0             |                                 |       |       |                |               |  |
| Calculated Values for Traffic Crossing Major Street |                                 |       |       |                |               |                                    |                       |                                 |       |       |                |               |  |
| Hours Ending:                                       | 10:00                           | 11:00 | 12:00 | 13:00          |               | 14:00                              | 15:00                 | 15:00                           | 15:00 |       |                |               |  |
| Crossing Values:                                    | 0                               | 11    | 17    | 21             |               | 23                                 | 23                    | 23                              | 23    |       |                |               |  |

# Big Bay Point Road & Petro-Canada Driveway

## Mid-day Peak Diagram

### Specified Period

**From:** 10:00:00

**To:** 15:00:00

### One Hour Peak

**From:** 13:45:00

**To:** 14:45:00

**Municipality:** Barrie

**Site #:** 0000007601

**Intersection:** Big Bay Point Road & Petro-Canada Driveway

**TFR File #:** 1

**Count date:** 25-Nov-2023

**Weather conditions:**

Cloudy

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Big Bay Point Road runs W/E

East Leg Total: 1194

East Entering: 595

East Peds: 0

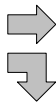
Peds Cross: 8

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 3      | 3      | 573  | 579    |

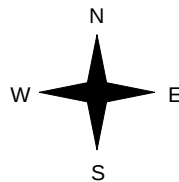


Big Bay Point Road

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 2      | 2      | 545  | 549    |
| 0      | 0      | 32   | 32     |
| 2      | 2      | 577  |        |



Petro-Canada Driveway



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 551  | 3      | 3      | 557    |
| 38   | 0      | 0      | 38     |
| 589  | 3      | 3      |        |



Big Bay Point Road

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 595  | 2      | 2      | 599    |



Peds Cross: 8  
West Peds: 1  
West Entering: 581  
West Leg Total: 1160

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 70   | 0      | 0      | 70     |
| 22   | 0      | 0      | 22     |
| 50   | 0      | 0      | 50     |
| 72   | 0      | 0      | 72     |

Peds Cross: 0  
South Peds: 4  
South Entering: 72  
South Leg Total: 142

## Comments

# Big Bay Point Road & Petro-Canada Driveway

## Total Count Diagram

**Municipality:** Barrie

**Site #:** 0000007601

**Intersection:** Big Bay Point Road & Petro-Canada Driveway

**TFR File #:** 1

**Count date:** 25-Nov-2023

**Weather conditions:**

Cloudy

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Big Bay Point Road runs W/E

East Leg Total: 5344

East Entering: 2784

East Peds: 0

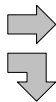
Peds Cross: 8

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 19     | 11     | 2659 | 2689   |

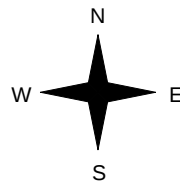


Big Bay Point Road

| Heavys | Trucks | Cars | Totals |
|--------|--------|------|--------|
| 20     | 8      | 2302 | 2330   |
| 0      | 0      | 123  | 123    |
| 20     | 8      | 2425 |        |



Petro-Canada Driveway



| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 2566 | 11     | 19     | 2596   |
| 188  | 0      | 0      | 188    |
| 2754 | 11     | 19     |        |



Big Bay Point Road

| Cars | Trucks | Heavys | Totals |
|------|--------|--------|--------|
| 2531 | 9      | 20     | 2560   |

Peds Cross: 8  
West Peds: 1  
West Entering: 2453  
West Leg Total: 5142

|        |     |
|--------|-----|
| Cars   | 311 |
| Trucks | 0   |
| Heavys | 0   |
| Totals | 311 |



|        |    |     |     |
|--------|----|-----|-----|
| Cars   | 93 | 229 | 322 |
| Trucks | 0  | 1   | 1   |
| Heavys | 0  | 0   | 0   |
| Totals | 93 | 230 |     |

Peds Cross: 0  
South Peds: 12  
South Entering: 323  
South Leg Total: 634

**Comments**

# Big Bay Point Road & Petro-Canada Driveway

## Traffic Count Summary

Intersection: Big Bay Point Road & Petro-Canada    Count Date: 25-Nov-2023    Municipality: Barrie

| North Approach Totals |                                 |      |       |                |               | North/South<br>Total<br>Approaches | South Approach Totals |                                 |      |       |                |               |
|-----------------------|---------------------------------|------|-------|----------------|---------------|------------------------------------|-----------------------|---------------------------------|------|-------|----------------|---------------|
| Hour<br>Ending        | Includes Cars, Trucks, & Heavys |      |       |                | Total<br>Peds |                                    | Hour<br>Ending        | Includes Cars, Trucks, & Heavys |      |       |                | Total<br>Peds |
|                       | Left                            | Thru | Right | Grand<br>Total |               |                                    |                       | Left                            | Thru | Right | Grand<br>Total |               |
| 10:00:00              | 0                               | 0    | 0     | 0              | 0             | 0                                  | 10:00:00              | 0                               | 0    | 0     | 0              | 0             |
| 11:00:00              | 0                               | 0    | 0     | 0              | 0             | 50                                 | 11:00:00              | 21                              | 0    | 29    | 50             | 1             |
| 12:00:00              | 0                               | 0    | 0     | 0              | 0             | 59                                 | 12:00:00              | 14                              | 0    | 45    | 59             | 2             |
| 13:00:00              | 0                               | 0    | 0     | 0              | 0             | 59                                 | 13:00:00              | 15                              | 0    | 44    | 59             | 4             |
| 14:00:00              | 0                               | 0    | 0     | 0              | 0             | 84                                 | 14:00:00              | 22                              | 0    | 62    | 84             | 2             |
| 15:00:00              | 0                               | 0    | 0     | 0              | 0             | 71                                 | 15:00:00              | 21                              | 0    | 50    | 71             | 3             |
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# Appendix C

## Existing Traffic Operation Reports



Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road Base Year AM Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖     |       |
| Traffic Volume (vph)              | 259          | 12    | 24    | 491                    | 16    | 16    |
| Future Volume (vph)               | 259          | 12    | 24    | 491                    | 16    | 16    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.993        |       |       |                        | 0.932 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.976 |       |
| Satd. Flow (prot)                 | 3379         | 0     | 1805  | 3505                   | 1623  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.976 |       |
| Satd. Flow (perm)                 | 3379         | 0     | 1805  | 3505                   | 1623  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 136.9        |       |       | 98.5                   | 45.9  |       |
| Travel Time (s)                   | 9.9          |       |       | 7.1                    | 3.3   |       |
| Confl. Peds. (#/hr)               |              | 1     | 1     |                        |       |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 6%           | 8%    | 0%    | 3%                     | 0%    | 13%   |
| Adj. Flow (vph)                   | 282          | 13    | 26    | 534                    | 17    | 17    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 295          | 0     | 26    | 534                    | 34    | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 24.4%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road Base Year AM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 259  | 12   | 24    | 491  | 16                   | 16   |
| Future Volume (Veh/h)             | 259  | 12   | 24    | 491  | 16                   | 16   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 282  | 13   | 26    | 534  | 17                   | 17   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 296   |      | 608                  | 148  |
| vC1, stage 1 conf vol             |      |      |       |      | 290                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 319                  |      |
| vCu, unblocked vol                |      |      | 296   |      | 608                  | 148  |
| tC, single (s)                    |      |      | 4.1   |      | 6.8                  | 7.2  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.4  |
| p0 queue free %                   |      |      | 98    |      | 97                   | 98   |
| cM capacity (veh/h)               |      |      | 1276  |      | 605                  | 837  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 188  | 107  | 26    | 267  | 267                  | 34   |
| Volume Left                       | 0    | 0    | 26    | 0    | 0                    | 17   |
| Volume Right                      | 0    | 13   | 0     | 0    | 0                    | 17   |
| cSH                               | 1700 | 1700 | 1276  | 1700 | 1700                 | 702  |
| Volume to Capacity                | 0.11 | 0.06 | 0.02  | 0.16 | 0.16                 | 0.05 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 0.5   | 0.0  | 0.0                  | 1.2  |
| Control Delay (s)                 | 0.0  | 0.0  | 7.9   | 0.0  | 0.0                  | 10.4 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.4   |      |                      | 10.4 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.6   |      |                      |      |
| Intersection Capacity Utilization |      |      | 24.4% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway Base Year AM Peak Hour

|                            | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations        | W     |       | ↑↑    |       | ↓     | ↑↑   |
| Traffic Volume (vph)       | 12    | 34    | 552   | 23    | 30    | 455  |
| Future Volume (vph)        | 12    | 34    | 552   | 23    | 30    | 455  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.901 |       | 0.994 |       |       |      |
| Flt Protected              | 0.987 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1653  | 0     | 3444  | 0     | 1752  | 3438 |
| Flt Permitted              | 0.987 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1653  | 0     | 3444  | 0     | 1752  | 3438 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 46.5  |       | 92.6  |       | 112.1 |      |
| Travel Time (s)            | 3.3   |       | 6.7   |       | 8.1   |      |
| Confl. Peds. (#/hr)        |       |       |       | 2     | 2     |      |
| Peak Hour Factor           | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88 |
| Heavy Vehicles (%)         | 0%    | 3%    | 4%    | 9%    | 3%    | 5%   |
| Adj. Flow (vph)            | 14    | 39    | 627   | 26    | 34    | 517  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 53    | 0     | 653   | 0     | 34    | 517  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

| Intersection Summary              |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 32.7%        |
| Analysis Period (min)             | 15           |
| ICU Level of Service A            |              |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway Base Year AM Peak Hour

|                        | WBL  | WBR  | NBT   | NBR  | SBL   | SBT  |
|------------------------|------|------|-------|------|-------|------|
| Movement               | W    |      | ↑↑    |      | ↓     | ↑↑   |
| Lane Configurations    | W    |      | ↑↑    |      | ↓     | ↑↑   |
| Traffic Volume (veh/h) | 12   | 34   | 552   | 23   | 30    | 455  |
| Future Volume (Veh/h)  | 12   | 34   | 552   | 23   | 30    | 455  |
| Sign Control           | Stop |      | Free  |      | Free  |      |
| Grade                  | 0%   |      | 0%    |      | 0%    |      |
| Peak Hour Factor       | 0.88 | 0.88 | 0.88  | 0.88 | 0.88  | 0.88 |
| Hourly flow rate (vph) | 14   | 39   | 627   | 26   | 34    | 517  |
| Pedestrians            | 2    |      |       |      |       |      |
| Lane Width (m)         | 3.6  |      |       |      |       |      |
| Walking Speed (m/s)    | 1.2  |      |       |      |       |      |
| Percent Blockage       | 0    |      |       |      |       |      |
| Right turn flare (veh) |      |      |       |      |       |      |
| Median type            |      |      | TWLTL |      | TWLTL |      |
| Median storage (veh)   |      |      | 2     |      | 2     |      |
| Upstream signal (m)    |      |      |       |      |       |      |
| pX, platoon unblocked  |      |      |       |      |       |      |
| vC, conflicting volume | 968  | 328  |       |      | 655   |      |
| vC1, stage 1 conf vol  | 642  |      |       |      |       |      |
| vC2, stage 2 conf vol  | 326  |      |       |      |       |      |
| vCu, unblocked vol     | 968  | 328  |       |      | 655   |      |
| tC, single (s)         | 6.8  | 7.0  |       |      | 4.2   |      |
| tC, 2 stage (s)        | 5.8  |      |       |      |       |      |
| tF (s)                 | 3.5  | 3.3  |       |      | 2.2   |      |
| p0 queue free %        | 97   | 94   |       |      | 96    |      |
| cM capacity (veh/h)    | 439  | 663  |       |      | 920   |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2  | SB 1 | SB 2  | SB 3 |
| Volume Total           | 53   | 418  | 235   | 34   | 258   | 258  |
| Volume Left            | 14   | 0    | 0     | 34   | 0     | 0    |
| Volume Right           | 39   | 0    | 26    | 0    | 0     | 0    |
| cSH                    | 584  | 1700 | 1700  | 920  | 1700  | 1700 |
| Volume to Capacity     | 0.09 | 0.25 | 0.14  | 0.04 | 0.15  | 0.15 |
| Queue Length 95th (m)  | 2.4  | 0.0  | 0.0   | 0.9  | 0.0   | 0.0  |
| Control Delay (s)      | 11.8 | 0.0  | 0.0   | 9.1  | 0.0   | 0.0  |
| Lane LOS               | B    |      |       | A    |       |      |
| Approach Delay (s)     | 11.8 | 0.0  |       | 0.6  |       |      |
| Approach LOS           | B    |      |       |      |       |      |

| Intersection Summary              |       |
|-----------------------------------|-------|
| Average Delay                     | 0.7   |
| Intersection Capacity Utilization | 32.7% |
| Analysis Period (min)             | 15    |
| ICU Level of Service A            |       |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road Base Year PM Peak Hour

|                                         | →                      | ↘     | ↙     | ←    | ↖     | ↗     |
|-----------------------------------------|------------------------|-------|-------|------|-------|-------|
| Lane Group                              | EBT                    | EBR   | WBL   | WBT  | NBL   | NBR   |
| Lane Configurations                     | ↕↕                     |       | ↘     | ↕↕   | ↖     |       |
| Traffic Volume (vph)                    | 587                    | 17    | 21    | 465  | 9     | 52    |
| Future Volume (vph)                     | 587                    | 17    | 21    | 465  | 9     | 52    |
| Ideal Flow (vphpl)                      | 1900                   | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (m)                      |                        | 0.0   | 20.0  |      | 0.0   | 0.0   |
| Storage Lanes                           |                        | 0     | 1     |      | 1     | 0     |
| Taper Length (m)                        |                        |       | 7.5   |      | 7.5   |       |
| Lane Util. Factor                       | 0.95                   | 0.95  | 1.00  | 0.95 | 1.00  | 1.00  |
| Ped Bike Factor                         |                        |       |       |      |       |       |
| Frt                                     | 0.996                  |       |       |      | 0.886 |       |
| Flt Protected                           |                        |       | 0.950 |      | 0.992 |       |
| Satd. Flow (prot)                       | 3561                   | 0     | 1719  | 3505 | 1670  | 0     |
| Flt Permitted                           |                        |       | 0.950 |      | 0.992 |       |
| Satd. Flow (perm)                       | 3561                   | 0     | 1719  | 3505 | 1670  | 0     |
| Link Speed (k/h)                        | 50                     |       |       | 50   | 50    |       |
| Link Distance (m)                       | 136.9                  |       |       | 98.5 | 45.9  |       |
| Travel Time (s)                         | 9.9                    |       |       | 7.1  | 3.3   |       |
| Conf. Peds. (#/hr)                      |                        | 1     | 1     |      |       |       |
| Peak Hour Factor                        | 0.94                   | 0.94  | 0.94  | 0.94 | 0.94  | 0.94  |
| Heavy Vehicles (%)                      | 1%                     | 0%    | 5%    | 3%   | 0%    | 0%    |
| Adj. Flow (vph)                         | 624                    | 18    | 22    | 495  | 10    | 55    |
| Shared Lane Traffic (%)                 |                        |       |       |      |       |       |
| Lane Group Flow (vph)                   | 642                    | 0     | 22    | 495  | 65    | 0     |
| Enter Blocked Intersection              | No                     | No    | No    | No   | No    | No    |
| Lane Alignment                          | Left                   | Right | Left  | Left | Left  | Right |
| Median Width(m)                         | 3.6                    |       |       | 3.6  | 3.6   |       |
| Link Offset(m)                          | 0.0                    |       |       | 0.0  | 0.0   |       |
| Crosswalk Width(m)                      | 4.8                    |       |       | 4.8  | 4.8   |       |
| Two way Left Turn Lane                  | Yes                    |       |       | Yes  |       |       |
| Headway Factor                          | 1.00                   | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (k/h)                     |                        | 15    | 25    |      | 25    | 15    |
| Sign Control                            | Free                   |       |       | Free | Stop  |       |
| <b>Intersection Summary</b>             |                        |       |       |      |       |       |
| Area Type:                              | Other                  |       |       |      |       |       |
| Control Type:                           | Unsignalized           |       |       |      |       |       |
| Intersection Capacity Utilization 27.8% | ICU Level of Service A |       |       |      |       |       |
| Analysis Period (min) 15                |                        |       |       |      |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road Base Year PM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 587  | 17   | 21    | 465  | 9                    | 52   |
| Future Volume (Veh/h)             | 587  | 17   | 21    | 465  | 9                    | 52   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.94 | 0.94 | 0.94  | 0.94 | 0.94                 | 0.94 |
| Hourly flow rate (vph)            | 624  | 18   | 22    | 495  | 10                   | 55   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 643   |      | 926                  | 322  |
| vC1, stage 1 conf vol             |      |      |       |      | 634                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 292                  |      |
| vCu, unblocked vol                |      |      | 643   |      | 926                  | 322  |
| tC, single (s)                    |      |      | 4.2   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 98    |      | 98                   | 92   |
| cM capacity (veh/h)               |      |      | 917   |      | 451                  | 679  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 416  | 226  | 22    | 248  | 248                  | 65   |
| Volume Left                       | 0    | 0    | 22    | 0    | 0                    | 10   |
| Volume Right                      | 0    | 18   | 0     | 0    | 0                    | 55   |
| cSH                               | 1700 | 1700 | 917   | 1700 | 1700                 | 630  |
| Volume to Capacity                | 0.24 | 0.13 | 0.02  | 0.15 | 0.15                 | 0.10 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 0.6   | 0.0  | 0.0                  | 2.7  |
| Control Delay (s)                 | 0.0  | 0.0  | 9.0   | 0.0  | 0.0                  | 11.4 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.4   |      |                      | 11.4 |
| Approach LOS                      |      |      |       |      |                      | B    |
| <b>Intersection Summary</b>       |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.8   |      |                      |      |
| Intersection Capacity Utilization |      |      | 27.8% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway Base Year PM Peak Hour

|                            | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations        | W     |       | ↑     |       | ↓     | ↑    |
| Traffic Volume (vph)       | 14    | 63    | 645   | 20    | 71    | 583  |
| Future Volume (vph)        | 14    | 63    | 645   | 20    | 71    | 583  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.890 |       | 0.995 |       |       |      |
| Flt Protected              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1654  | 0     | 3490  | 0     | 1787  | 3539 |
| Flt Permitted              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1654  | 0     | 3490  | 0     | 1787  | 3539 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 46.5  |       | 92.6  |       | 112.1 |      |
| Travel Time (s)            | 3.3   |       | 6.7   |       | 8.1   |      |
| Confl. Peds. (#/hr)        | 1     |       |       | 3     | 3     |      |
| Peak Hour Factor           | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95 |
| Heavy Vehicles (%)         | 7%    | 0%    | 3%    | 0%    | 1%    | 2%   |
| Adj. Flow (vph)            | 15    | 66    | 679   | 21    | 75    | 614  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 81    | 0     | 700   | 0     | 75    | 614  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 37.1% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway Base Year PM Peak Hour

|                        | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
|------------------------|------|------|------|------|------|------|
| Movement               | W    |      | ↑    |      | ↓    | ↑    |
| Lane Configurations    | W    |      | ↑    |      | ↓    | ↑    |
| Traffic Volume (veh/h) | 14   | 63   | 645  | 20   | 71   | 583  |
| Future Volume (Veh/h)  | 14   | 63   | 645  | 20   | 71   | 583  |
| Sign Control           | Stop |      | Free |      | Free |      |
| Grade                  | 0%   |      | 0%   |      | 0%   |      |
| Peak Hour Factor       | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 15   | 66   | 679  | 21   | 75   | 614  |
| Pedestrians            | 3    |      | 1    |      |      |      |
| Lane Width (m)         | 3.6  |      | 3.6  |      |      |      |
| Walking Speed (m/s)    | 1.2  |      | 1.2  |      |      |      |
| Percent Blockage       | 0    |      | 0    |      |      |      |
| Right turn flare (veh) |      |      |      |      |      |      |
| Median type            |      |      | TWLT |      | TWLT |      |
| Median storage (veh)   |      |      | 2    |      | 2    |      |
| Upstream signal (m)    |      |      |      |      |      |      |
| pX, platoon unblocked  |      |      |      |      |      |      |
| vC, conflicting volume | 1150 | 353  |      |      | 703  |      |
| vC1, stage 1 conf vol  | 692  |      |      |      |      |      |
| vC2, stage 2 conf vol  | 458  |      |      |      |      |      |
| vCu, unblocked vol     | 1150 | 353  |      |      | 703  |      |
| tC, single (s)         | 6.9  | 6.9  |      |      | 4.1  |      |
| tC, 2 stage (s)        | 5.9  |      |      |      |      |      |
| tF (s)                 | 3.6  | 3.3  |      |      | 2.2  |      |
| p0 queue free %        | 96   | 90   |      |      | 92   |      |
| cM capacity (veh/h)    | 368  | 647  |      |      | 895  |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total           | 81   | 453  | 247  | 75   | 307  | 307  |
| Volume Left            | 15   | 0    | 0    | 75   | 0    | 0    |
| Volume Right           | 66   | 0    | 21   | 0    | 0    | 0    |
| cSH                    | 568  | 1700 | 1700 | 895  | 1700 | 1700 |
| Volume to Capacity     | 0.14 | 0.27 | 0.15 | 0.08 | 0.18 | 0.18 |
| Queue Length 95th (m)  | 4.0  | 0.0  | 0.0  | 2.2  | 0.0  | 0.0  |
| Control Delay (s)      | 12.4 | 0.0  | 0.0  | 9.4  | 0.0  | 0.0  |
| Lane LOS               | B    |      |      | A    |      |      |
| Approach Delay (s)     | 12.4 | 0.0  |      | 1.0  |      |      |
| Approach LOS           | B    |      |      |      |      |      |

Intersection Summary

Average Delay

1.2

Intersection Capacity Utilization

37.1%

ICU Level of Service

A

Analysis Period (min)

15

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road Base Year Saturday Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↑↑↘          |       | ↘     | ↑↑                     | ↖     |       |
| Traffic Volume (vph)              | 549          | 32    | 38    | 557                    | 22    | 50    |
| Future Volume (vph)               | 549          | 32    | 38    | 557                    | 22    | 50    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.992        |       |       |                        | 0.907 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (prot)                 | 3548         | 0     | 1805  | 3574                   | 1697  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (perm)                 | 3548         | 0     | 1805  | 3574                   | 1697  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 136.9        |       |       | 98.5                   | 45.9  |       |
| Travel Time (s)                   | 9.9          |       |       | 7.1                    | 3.3   |       |
| Confl. Peds. (#/hr)               |              | 4     | 4     |                        | 1     |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 1%           | 0%    | 0%    | 1%                     | 0%    | 0%    |
| Adj. Flow (vph)                   | 597          | 35    | 41    | 605                    | 24    | 54    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 632          | 0     | 41    | 605                    | 78    | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 33.8%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road Base Year Saturday Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖    | ↗                      |
|-----------------------------------|------|------|-------|------|------|------------------------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL  | NBR                    |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖    |                        |
| Traffic Volume (veh/h)            | 549  | 32   | 38    | 557  | 22   | 50                     |
| Future Volume (Veh/h)             | 549  | 32   | 38    | 557  | 22   | 50                     |
| Sign Control                      | Free |      |       | Free | Stop |                        |
| Grade                             | 0%   |      |       | 0%   | 0%   |                        |
| Peak Hour Factor                  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 | 0.92                   |
| Hourly flow rate (vph)            | 597  | 35   | 41    | 605  | 24   | 54                     |
| Pedestrians                       | 1    |      |       |      | 4    |                        |
| Lane Width (m)                    | 3.6  |      |       |      | 3.6  |                        |
| Walking Speed (m/s)               | 1.2  |      |       |      | 1.2  |                        |
| Percent Blockage                  | 0    |      |       |      | 0    |                        |
| Right turn flare (veh)            |      |      |       |      |      |                        |
| Median type                       | TWLT |      |       | TWLT |      |                        |
| Median storage (veh)              | 2    |      |       | 2    |      |                        |
| Upstream signal (m)               |      |      |       |      |      |                        |
| pX, platoon unblocked             |      |      |       |      |      |                        |
| vC, conflicting volume            |      |      | 636   |      | 1004 | 320                    |
| vC1, stage 1 conf vol             |      |      |       |      | 618  |                        |
| vC2, stage 2 conf vol             |      |      |       |      | 386  |                        |
| vCu, unblocked vol                |      |      | 636   |      | 1004 | 320                    |
| tC, single (s)                    |      |      | 4.1   |      | 6.8  | 6.9                    |
| tC, 2 stage (s)                   |      |      |       |      | 5.8  |                        |
| tF (s)                            |      |      | 2.2   |      | 3.5  | 3.3                    |
| p0 queue free %                   |      |      | 96    |      | 94   | 92                     |
| cM capacity (veh/h)               |      |      | 954   |      | 434  | 679                    |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3 | NB 1                   |
| Volume Total                      | 398  | 234  | 41    | 302  | 302  | 78                     |
| Volume Left                       | 0    | 0    | 41    | 0    | 0    | 24                     |
| Volume Right                      | 0    | 35   | 0     | 0    | 0    | 54                     |
| cSH                               | 1700 | 1700 | 954   | 1700 | 1700 | 579                    |
| Volume to Capacity                | 0.23 | 0.14 | 0.04  | 0.18 | 0.18 | 0.13                   |
| Queue Length 95th (m)             | 0.0  | 0.0  | 1.1   | 0.0  | 0.0  | 3.7                    |
| Control Delay (s)                 | 0.0  | 0.0  | 8.9   | 0.0  | 0.0  | 12.2                   |
| Lane LOS                          |      |      | A     |      |      | B                      |
| Approach Delay (s)                | 0.0  |      | 0.6   |      |      | 12.2                   |
| Approach LOS                      |      |      |       |      |      | B                      |
| Intersection Summary              |      |      |       |      |      |                        |
| Average Delay                     |      |      | 1.0   |      |      |                        |
| Intersection Capacity Utilization |      |      | 33.8% |      |      | ICU Level of Service A |
| Analysis Period (min)             |      |      | 15    |      |      |                        |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway Base Year Saturday Peak Hour

|                            | ←     | ↖     | ↑     | ↗     | ↘     | ↓    |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
| Lane Configurations        | W     | W     | ↑     | ↑     | ↘     | ↘    |
| Traffic Volume (vph)       | 22    | 116   | 604   | 25    | 99    | 573  |
| Future Volume (vph)        | 22    | 116   | 604   | 25    | 99    | 573  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.887 |       | 0.994 |       |       |      |
| Flt Protected              | 0.992 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1672  | 0     | 3588  | 0     | 1805  | 3574 |
| Flt Permitted              | 0.992 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1672  | 0     | 3588  | 0     | 1805  | 3574 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 46.5  |       | 92.6  |       | 112.1 |      |
| Travel Time (s)            | 3.3   |       | 6.7   |       | 8.1   |      |
| Confl. Peds. (#/hr)        |       | 1     |       | 2     | 2     |      |
| Peak Hour Factor           | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97 |
| Heavy Vehicles (%)         | 0%    | 0%    | 0%    | 0%    | 0%    | 1%   |
| Adj. Flow (vph)            | 23    | 120   | 623   | 26    | 102   | 591  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 143   | 0     | 649   | 0     | 102   | 591  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.6% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway Base Year Saturday Peak Hour

|                        | ←    | ↖    | ↑     | ↗    | ↘     | ↓    |
|------------------------|------|------|-------|------|-------|------|
| Movement               | WBL  | WBR  | NBT   | NBR  | SBL   | SBT  |
| Lane Configurations    | W    | W    | ↑     | ↑    | ↘     | ↘    |
| Traffic Volume (veh/h) | 22   | 116  | 604   | 25   | 99    | 573  |
| Future Volume (Veh/h)  | 22   | 116  | 604   | 25   | 99    | 573  |
| Sign Control           | Stop |      | Free  |      | Free  |      |
| Grade                  | 0%   |      | 0%    |      | 0%    |      |
| Peak Hour Factor       | 0.97 | 0.97 | 0.97  | 0.97 | 0.97  | 0.97 |
| Hourly flow rate (vph) | 23   | 120  | 623   | 26   | 102   | 591  |
| Pedestrians            | 2    |      |       |      |       | 1    |
| Lane Width (m)         | 3.6  |      |       |      |       | 3.6  |
| Walking Speed (m/s)    | 1.2  |      |       |      |       | 1.2  |
| Percent Blockage       | 0    |      |       |      |       | 0    |
| Right turn flare (veh) |      |      |       |      |       |      |
| Median type            |      |      | TWLTL |      | TWLTL |      |
| Median storage (veh)   |      |      | 2     |      | 2     |      |
| Upstream signal (m)    |      |      |       |      |       |      |
| pX, platoon unblocked  |      |      |       |      |       |      |
| vC, conflicting volume | 1138 | 328  |       |      | 651   |      |
| vC1, stage 1 conf vol  | 638  |      |       |      |       |      |
| vC2, stage 2 conf vol  | 500  |      |       |      |       |      |
| vCu, unblocked vol     | 1138 | 328  |       |      | 651   |      |
| tC, single (s)         | 6.8  | 6.9  |       |      | 4.1   |      |
| tC, 2 stage (s)        | 5.8  |      |       |      |       |      |
| tF (s)                 | 3.5  | 3.3  |       |      | 2.2   |      |
| p0 queue free %        | 94   | 82   |       |      | 89    |      |
| cM capacity (veh/h)    | 386  | 672  |       |      | 943   |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2  | SB 1 | SB 2  | SB 3 |
| Volume Total           | 143  | 415  | 234   | 102  | 296   | 296  |
| Volume Left            | 23   | 0    | 0     | 102  | 0     | 0    |
| Volume Right           | 120  | 0    | 26    | 0    | 0     | 0    |
| cSH                    | 601  | 1700 | 1700  | 943  | 1700  | 1700 |
| Volume to Capacity     | 0.24 | 0.24 | 0.14  | 0.11 | 0.17  | 0.17 |
| Queue Length 95th (m)  | 7.4  | 0.0  | 0.0   | 2.9  | 0.0   | 0.0  |
| Control Delay (s)      | 12.9 | 0.0  | 0.0   | 9.3  | 0.0   | 0.0  |
| Lane LOS               | B    |      |       | A    |       |      |
| Approach Delay (s)     | 12.9 | 0.0  |       | 1.4  |       |      |
| Approach LOS           | B    |      |       |      |       |      |

Intersection Summary

Average Delay 1.9

Intersection Capacity Utilization 41.6% ICU Level of Service A

Analysis Period (min) 15

# Appendix D

## Growth Rate Calculations



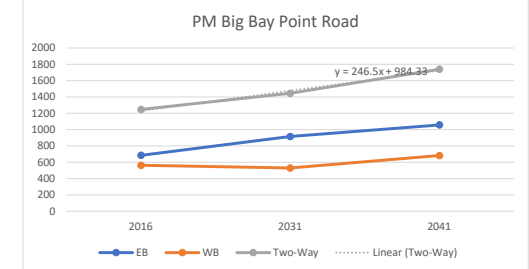
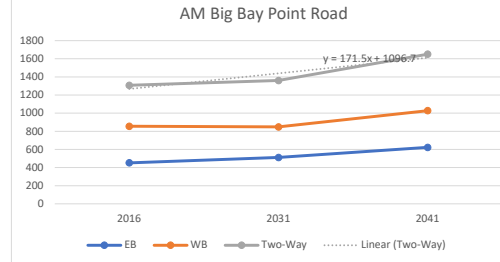
Project: 623 Yonge Street & 515 Big Bay Point Road - Traffic Brief  
 Project #: 230604  
 Task: Background Growth Rate

Source: City of Barrie TMP Appendix E  
 Pg 288 - 2041 AM 344 - 2031 AM 392 - 2016 AM  
 310 - 2041 PM 364 - 2031 PM 414 - 2016 PM

#### Big Bay Point Road (East of Yonge Street)

| Direction | 2016 | 2031 | 2041 | 1 | 2016 | 1268.2 | GR | AM     |
|-----------|------|------|------|---|------|--------|----|--------|
| EB        | 453  | 511  | 623  | 3 | 2041 | 1611.2 |    | 0.962% |
| WB        | 855  | 849  | 1028 |   |      |        |    |        |
| Two-Way   | 1308 | 1360 | 1651 |   |      |        |    |        |

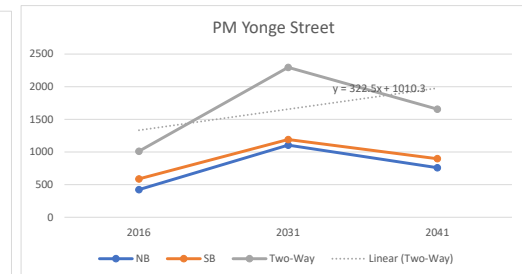
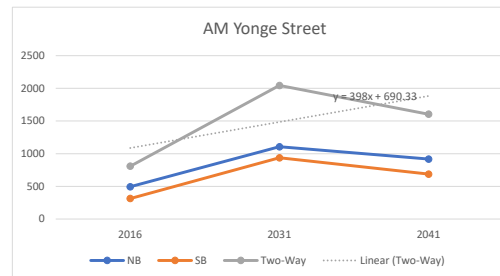
| Direction | 2016 | 2031 | 2041 | 1 | 2016 | 1230.83 | GR | PM    |
|-----------|------|------|------|---|------|---------|----|-------|
| EB        | 685  | 916  | 1058 | 3 | 2041 | 1723.83 |    | 1.36% |
| WB        | 562  | 529  | 682  |   |      |         |    |       |
| Two-Way   | 1247 | 1445 | 1740 |   |      |         |    |       |



#### Yonge Street (South of Big Bay Point Road)

| Direction | 2016 | 2031 | 2041 | 1 | 2016 | 1088.33 | GR | AM     |
|-----------|------|------|------|---|------|---------|----|--------|
| NB        | 494  | 1107 | 918  | 3 | 2041 | 1884.33 |    | 2.220% |
| SB        | 315  | 938  | 687  |   |      |         |    |        |
| Two-Way   | 809  | 2045 | 1605 |   |      |         |    |        |

| Direction | 2016 | 2031 | 2041 | 1 | 2016 | 1332.8 | GR | PM    |
|-----------|------|------|------|---|------|--------|----|-------|
| NB        | 424  | 1106 | 759  | 3 | 2041 | 1977.8 |    | 1.59% |
| SB        | 588  | 1191 | 898  |   |      |        |    |       |
| Two-Way   | 1012 | 2297 | 1657 |   |      |        |    |       |



# Appendix E

## Future Background Traffic Operation Reports



Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Background AM Peak Hour

|                                   |                                                                                    |  |  |                                                                                    |  |  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |   |                                                                                   |  |   |  |                                                                                   |
| Traffic Volume (vph)              | 264                                                                                                                                                                 | 12                                                                                | 24                                                                                | 501                                                                                                                                                                 | 16                                                                                | 16                                                                                |
| Future Volume (vph)               | 264                                                                                                                                                                 | 12                                                                                | 24                                                                                | 501                                                                                                                                                                 | 16                                                                                | 16                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                |                                                                                                                                                                     | 0.0                                                                               | 20.0                                                                              |                                                                                                                                                                     | 0.0                                                                               | 0.0                                                                               |
| Storage Lanes                     |                                                                                                                                                                     | 0                                                                                 | 1                                                                                 |                                                                                                                                                                     | 1                                                                                 | 0                                                                                 |
| Taper Length (m)                  |                                                                                                                                                                     |                                                                                   | 7.5                                                                               |                                                                                                                                                                     | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 0.95                                                                                                                                                                | 0.95                                                                              | 1.00                                                                              | 0.95                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              |
| Ped Bike Factor                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |
| Frt                               | 0.993                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                                                                                                     | 0.932                                                                             |                                                                                   |
| Flt Protected                     |                                                                                                                                                                     |                                                                                   | 0.950                                                                             |                                                                                                                                                                     | 0.976                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 3379                                                                                                                                                                | 0                                                                                 | 1805                                                                              | 3505                                                                                                                                                                | 1623                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                                                                                                     |                                                                                   | 0.950                                                                             |                                                                                                                                                                     | 0.976                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 3379                                                                                                                                                                | 0                                                                                 | 1805                                                                              | 3505                                                                                                                                                                | 1623                                                                              | 0                                                                                 |
| Link Speed (k/h)                  | 50                                                                                                                                                                  |                                                                                   |                                                                                   | 50                                                                                                                                                                  | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 117.0                                                                                                                                                               |                                                                                   |                                                                                   | 98.5                                                                                                                                                                | 45.9                                                                              |                                                                                   |
| Travel Time (s)                   | 8.4                                                                                                                                                                 |                                                                                   |                                                                                   | 7.1                                                                                                                                                                 | 3.3                                                                               |                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                                                                                                     | 1                                                                                 | 1                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                                                                                                                | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                                                                                                | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)                | 6%                                                                                                                                                                  | 8%                                                                                | 0%                                                                                | 3%                                                                                                                                                                  | 0%                                                                                | 13%                                                                               |
| Adj. Flow (vph)                   | 287                                                                                                                                                                 | 13                                                                                | 26                                                                                | 545                                                                                                                                                                 | 17                                                                                | 17                                                                                |
| Shared Lane Traffic (%)           |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 300                                                                                                                                                                 | 0                                                                                 | 26                                                                                | 545                                                                                                                                                                 | 34                                                                                | 0                                                                                 |
| Enter Blocked Intersection        | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                                                                                                | Left                                                                              | Right                                                                             |
| Median Width(m)                   | 3.6                                                                                                                                                                 |                                                                                   |                                                                                   | 3.6                                                                                                                                                                 | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                                                                                                                 |                                                                                   |                                                                                   | 0.0                                                                                                                                                                 | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                                                                                                                 |                                                                                   |                                                                                   | 4.8                                                                                                                                                                 | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            | Yes                                                                                                                                                                 |                                                                                   |                                                                                   | Yes                                                                                                                                                                 |                                                                                   |                                                                                   |
| Headway Factor                    | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               |                                                                                                                                                                     | 15                                                                                | 25                                                                                |                                                                                                                                                                     | 25                                                                                | 15                                                                                |
| Sign Control                      | Free                                                                                                                                                                |                                                                                   |                                                                                   | Free                                                                                                                                                                | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 24.5%                                                                                                                                                               |                                                                                   |                                                                                   | ICU Level of Service A                                                                                                                                              |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Background AM Peak Hour

|                                   | <div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> |      |       |       |                      |      |
|-----------------------------------|--------------------------------------------------------------------------------------|------|-------|-------|----------------------|------|
| Movement                          | EBT                                                                                  | EBR  | WBL   | WBT   | NBL                  | NBR  |
| Lane Configurations               | ↕↕                                                                                   |      | ↕     | ↕↕    | ↕                    |      |
| Traffic Volume (veh/h)            | 264                                                                                  | 12   | 24    | 501   | 16                   | 16   |
| Future Volume (Veh/h)             | 264                                                                                  | 12   | 24    | 501   | 16                   | 16   |
| Sign Control                      | Free                                                                                 |      |       | Free  | Stop                 |      |
| Grade                             | 0%                                                                                   |      |       | 0%    | 0%                   |      |
| Peak Hour Factor                  | 0.92                                                                                 | 0.92 | 0.92  | 0.92  | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 287                                                                                  | 13   | 26    | 545   | 17                   | 17   |
| Pedestrians                       |                                                                                      |      |       |       | 1                    |      |
| Lane Width (m)                    |                                                                                      |      |       |       | 3.6                  |      |
| Walking Speed (m/s)               |                                                                                      |      |       |       | 1.2                  |      |
| Percent Blockage                  |                                                                                      |      |       |       | 0                    |      |
| Right turn flare (veh)            |                                                                                      |      |       |       |                      |      |
| Median type                       | TWLTL                                                                                |      |       | TWLTL |                      |      |
| Median storage (veh)              | 2                                                                                    |      |       | 2     |                      |      |
| Upstream signal (m)               |                                                                                      |      |       |       |                      |      |
| pX, platoon unblocked             |                                                                                      |      |       |       |                      |      |
| vC, conflicting volume            |                                                                                      |      | 301   |       | 619                  | 151  |
| vC1, stage 1 conf vol             |                                                                                      |      |       |       | 294                  |      |
| vC2, stage 2 conf vol             |                                                                                      |      |       |       | 324                  |      |
| vCu, unblocked vol                |                                                                                      |      | 301   |       | 619                  | 151  |
| tC, single (s)                    |                                                                                      |      | 4.1   |       | 6.8                  | 7.2  |
| tC, 2 stage (s)                   |                                                                                      |      |       |       | 5.8                  |      |
| tF (s)                            |                                                                                      |      | 2.2   |       | 3.5                  | 3.4  |
| p0 queue free %                   |                                                                                      |      | 98    |       | 97                   | 98   |
| cM capacity (veh/h)               |                                                                                      |      | 1270  |       | 600                  | 834  |
| Direction, Lane #                 | EB 1                                                                                 | EB 2 | WB 1  | WB 2  | WB 3                 | NB 1 |
| Volume Total                      | 191                                                                                  | 109  | 26    | 272   | 272                  | 34   |
| Volume Left                       | 0                                                                                    | 0    | 26    | 0     | 0                    | 17   |
| Volume Right                      | 0                                                                                    | 13   | 0     | 0     | 0                    | 17   |
| cSH                               | 1700                                                                                 | 1700 | 1270  | 1700  | 1700                 | 698  |
| Volume to Capacity                | 0.11                                                                                 | 0.06 | 0.02  | 0.16  | 0.16                 | 0.05 |
| Queue Length 95th (m)             | 0.0                                                                                  | 0.0  | 0.5   | 0.0   | 0.0                  | 1.2  |
| Control Delay (s)                 | 0.0                                                                                  | 0.0  | 7.9   | 0.0   | 0.0                  | 10.4 |
| Lane LOS                          |                                                                                      |      | A     |       |                      | B    |
| Approach Delay (s)                | 0.0                                                                                  |      | 0.4   |       |                      | 10.4 |
| Approach LOS                      |                                                                                      |      |       |       |                      | B    |
| Intersection Summary              |                                                                                      |      |       |       |                      |      |
| Average Delay                     |                                                                                      |      | 0.6   |       |                      |      |
| Intersection Capacity Utilization |                                                                                      |      | 24.5% |       | ICU Level of Service | A    |
| Analysis Period (min)             |                                                                                      |      | 15    |       |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Background AM Peak Hour

|                                   |  |  |                                                                                       |  |  |                                                                                       |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                                                                                                                    | NBR                                                                               | SBL                                                                               | SBT                                                                                                                                                                    |
| Lane Configurations               |  |                                                                                   | <br> |                                                                                   |  | <br> |
| Traffic Volume (vph)              | 12                                                                                | 34                                                                                | 563                                                                                                                                                                    | 23                                                                                | 30                                                                                | 464                                                                                                                                                                    |
| Future Volume (vph)               | 12                                                                                | 34                                                                                | 563                                                                                                                                                                    | 23                                                                                | 30                                                                                | 464                                                                                                                                                                    |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                   | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                   |
| Storage Length (m)                | 0.0                                                                               | 0.0                                                                               |                                                                                                                                                                        | 0.0                                                                               | 20.0                                                                              |                                                                                                                                                                        |
| Storage Lanes                     | 1                                                                                 | 0                                                                                 |                                                                                                                                                                        | 0                                                                                 | 1                                                                                 |                                                                                                                                                                        |
| Taper Length (m)                  | 7.5                                                                               |                                                                                   |                                                                                                                                                                        |                                                                                   | 7.5                                                                               |                                                                                                                                                                        |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                                                                                                   | 0.95                                                                              | 1.00                                                                              | 0.95                                                                                                                                                                   |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |
| Frt                               | 0.901                                                                             |                                                                                   | 0.994                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                                                                                                        |
| Flt Protected                     | 0.987                                                                             |                                                                                   |                                                                                                                                                                        |                                                                                   | 0.950                                                                             |                                                                                                                                                                        |
| Satd. Flow (prot)                 | 1653                                                                              | 0                                                                                 | 3444                                                                                                                                                                   | 0                                                                                 | 1752                                                                              | 3438                                                                                                                                                                   |
| Flt Permitted                     | 0.987                                                                             |                                                                                   |                                                                                                                                                                        |                                                                                   | 0.950                                                                             |                                                                                                                                                                        |
| Satd. Flow (perm)                 | 1653                                                                              | 0                                                                                 | 3444                                                                                                                                                                   | 0                                                                                 | 1752                                                                              | 3438                                                                                                                                                                   |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   | 50                                                                                                                                                                     |                                                                                   | 50                                                                                |                                                                                                                                                                        |
| Link Distance (m)                 | 47.3                                                                              |                                                                                   | 89.0                                                                                                                                                                   |                                                                                   | 112.1                                                                             |                                                                                                                                                                        |
| Travel Time (s)                   | 3.4                                                                               |                                                                                   | 6.4                                                                                                                                                                    |                                                                                   | 8.1                                                                               |                                                                                                                                                                        |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                                                                                                        | 2                                                                                 | 2                                                                                 |                                                                                                                                                                        |
| Peak Hour Factor                  | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                                                                                                   | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 4%                                                                                                                                                                     | 9%                                                                                | 3%                                                                                | 5%                                                                                                                                                                     |
| Adj. Flow (vph)                   | 14                                                                                | 39                                                                                | 640                                                                                                                                                                    | 26                                                                                | 34                                                                                | 527                                                                                                                                                                    |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |
| Lane Group Flow (vph)             | 53                                                                                | 0                                                                                 | 666                                                                                                                                                                    | 0                                                                                 | 34                                                                                | 527                                                                                                                                                                    |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                                                                                                     | No                                                                                | No                                                                                | No                                                                                                                                                                     |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                                                                                                                   | Right                                                                             | Left                                                                              | Left                                                                                                                                                                   |
| Median Width(m)                   | 3.6                                                                               |                                                                                   | 3.6                                                                                                                                                                    |                                                                                   | 3.6                                                                               |                                                                                                                                                                        |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   | 0.0                                                                                                                                                                    |                                                                                   | 0.0                                                                               |                                                                                                                                                                        |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   | 4.8                                                                                                                                                                    |                                                                                   | 4.8                                                                               |                                                                                                                                                                        |
| Two way Left Turn Lane            |                                                                                   |                                                                                   | Yes                                                                                                                                                                    |                                                                                   | Yes                                                                               |                                                                                                                                                                        |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                   |
| Turning Speed (k/h)               | 25                                                                                | 15                                                                                |                                                                                                                                                                        | 15                                                                                | 25                                                                                |                                                                                                                                                                        |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                                                                                                                   |                                                                                   | Free                                                                              |                                                                                                                                                                        |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |
| Intersection Capacity Utilization | 33.0%                                                                             |                                                                                   |                                                                                                                                                                        | ICU Level of Service A                                                            |                                                                                   |                                                                                                                                                                        |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Background AM Peak Hour

|                                   | ←    | ↖    | ↑     | ↗    | ↘                    | ↓    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
| Lane Configurations               | W    | R    | ↑     | ↑    | ↘                    | ↗    |
| Traffic Volume (veh/h)            | 12   | 34   | 563   | 23   | 30                   | 464  |
| Future Volume (Veh/h)             | 12   | 34   | 563   | 23   | 30                   | 464  |
| Sign Control                      | Stop |      | Free  |      | Free                 |      |
| Grade                             | 0%   |      | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.88 | 0.88 | 0.88  | 0.88 | 0.88                 | 0.88 |
| Hourly flow rate (vph)            | 14   | 39   | 640   | 26   | 34                   | 527  |
| Pedestrians                       | 2    |      |       |      |                      |      |
| Lane Width (m)                    | 3.6  |      |       |      |                      |      |
| Walking Speed (m/s)               | 1.2  |      |       |      |                      |      |
| Percent Blockage                  | 0    |      |       |      |                      |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      |      | TWLT  |      | TWLT                 |      |
| Median storage (veh)              |      |      | 2     |      | 2                    |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 986  | 335  |       |      | 668                  |      |
| vC1, stage 1 conf vol             | 655  |      |       |      |                      |      |
| vC2, stage 2 conf vol             | 332  |      |       |      |                      |      |
| vCu, unblocked vol                | 986  | 335  |       |      | 668                  |      |
| tC, single (s)                    | 6.8  | 7.0  |       |      | 4.2                  |      |
| tC, 2 stage (s)                   | 5.8  |      |       |      |                      |      |
| tF (s)                            | 3.5  | 3.3  |       |      | 2.2                  |      |
| p0 queue free %                   | 97   | 94   |       |      | 96                   |      |
| cM capacity (veh/h)               | 432  | 657  |       |      | 909                  |      |
| Direction, Lane #                 | WB 1 | NB 1 | NB 2  | SB 1 | SB 2                 | SB 3 |
| Volume Total                      | 53   | 427  | 239   | 34   | 264                  | 264  |
| Volume Left                       | 14   | 0    | 0     | 34   | 0                    | 0    |
| Volume Right                      | 39   | 0    | 26    | 0    | 0                    | 0    |
| cSH                               | 577  | 1700 | 1700  | 909  | 1700                 | 1700 |
| Volume to Capacity                | 0.09 | 0.25 | 0.14  | 0.04 | 0.15                 | 0.15 |
| Queue Length 95th (m)             | 2.4  | 0.0  | 0.0   | 0.9  | 0.0                  | 0.0  |
| Control Delay (s)                 | 11.9 | 0.0  | 0.0   | 9.1  | 0.0                  | 0.0  |
| Lane LOS                          | B    |      |       | A    |                      |      |
| Approach Delay (s)                | 11.9 | 0.0  |       | 0.6  |                      |      |
| Approach LOS                      | B    |      |       |      |                      |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.7   |      |                      |      |
| Intersection Capacity Utilization |      |      | 33.0% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Background PM Peak Hour

|                                         | →                      | ↘     | ↙     | ←    | ↖     | ↗     |
|-----------------------------------------|------------------------|-------|-------|------|-------|-------|
| Lane Group                              | EBT                    | EBR   | WBL   | WBT  | NBL   | NBR   |
| Lane Configurations                     | ↕↕                     |       | ↘     | ↕↕   | ↖     |       |
| Traffic Volume (vph)                    | 599                    | 17    | 21    | 474  | 9     | 52    |
| Future Volume (vph)                     | 599                    | 17    | 21    | 474  | 9     | 52    |
| Ideal Flow (vphpl)                      | 1900                   | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (m)                      |                        | 0.0   | 20.0  |      | 0.0   | 0.0   |
| Storage Lanes                           |                        | 0     | 1     |      | 1     | 0     |
| Taper Length (m)                        |                        |       | 7.5   |      | 7.5   |       |
| Lane Util. Factor                       | 0.95                   | 0.95  | 1.00  | 0.95 | 1.00  | 1.00  |
| Ped Bike Factor                         |                        |       |       |      |       |       |
| Frt                                     | 0.996                  |       |       |      | 0.886 |       |
| Flt Protected                           |                        |       | 0.950 |      | 0.992 |       |
| Satd. Flow (prot)                       | 3561                   | 0     | 1719  | 3505 | 1670  | 0     |
| Flt Permitted                           |                        |       | 0.950 |      | 0.992 |       |
| Satd. Flow (perm)                       | 3561                   | 0     | 1719  | 3505 | 1670  | 0     |
| Link Speed (k/h)                        | 50                     |       |       | 50   | 50    |       |
| Link Distance (m)                       | 117.0                  |       |       | 98.5 | 45.9  |       |
| Travel Time (s)                         | 8.4                    |       |       | 7.1  | 3.3   |       |
| Conf. Peds. (#/hr)                      |                        | 1     | 1     |      |       |       |
| Peak Hour Factor                        | 0.94                   | 0.94  | 0.94  | 0.94 | 0.94  | 0.94  |
| Heavy Vehicles (%)                      | 1%                     | 0%    | 5%    | 3%   | 0%    | 0%    |
| Adj. Flow (vph)                         | 637                    | 18    | 22    | 504  | 10    | 55    |
| Shared Lane Traffic (%)                 |                        |       |       |      |       |       |
| Lane Group Flow (vph)                   | 655                    | 0     | 22    | 504  | 65    | 0     |
| Enter Blocked Intersection              | No                     | No    | No    | No   | No    | No    |
| Lane Alignment                          | Left                   | Right | Left  | Left | Left  | Right |
| Median Width(m)                         | 3.6                    |       |       | 3.6  | 3.6   |       |
| Link Offset(m)                          | 0.0                    |       |       | 0.0  | 0.0   |       |
| Crosswalk Width(m)                      | 4.8                    |       |       | 4.8  | 4.8   |       |
| Two way Left Turn Lane                  | Yes                    |       |       | Yes  |       |       |
| Headway Factor                          | 1.00                   | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (k/h)                     |                        | 15    | 25    |      | 25    | 15    |
| Sign Control                            | Free                   |       |       | Free | Stop  |       |
| Intersection Summary                    |                        |       |       |      |       |       |
| Area Type:                              | Other                  |       |       |      |       |       |
| Control Type:                           | Unsignalized           |       |       |      |       |       |
| Intersection Capacity Utilization 27.8% | ICU Level of Service A |       |       |      |       |       |
| Analysis Period (min) 15                |                        |       |       |      |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Background PM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 599  | 17   | 21    | 474  | 9                    | 52   |
| Future Volume (Veh/h)             | 599  | 17   | 21    | 474  | 9                    | 52   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.94 | 0.94 | 0.94  | 0.94 | 0.94                 | 0.94 |
| Hourly flow rate (vph)            | 637  | 18   | 22    | 504  | 10                   | 55   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 656   |      | 943                  | 328  |
| vC1, stage 1 conf vol             |      |      |       |      | 647                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 296                  |      |
| vCu, unblocked vol                |      |      | 656   |      | 943                  | 328  |
| tC, single (s)                    |      |      | 4.2   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 98    |      | 98                   | 92   |
| cM capacity (veh/h)               |      |      | 907   |      | 444                  | 673  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 425  | 230  | 22    | 252  | 252                  | 65   |
| Volume Left                       | 0    | 0    | 22    | 0    | 0                    | 10   |
| Volume Right                      | 0    | 18   | 0     | 0    | 0                    | 55   |
| cSH                               | 1700 | 1700 | 907   | 1700 | 1700                 | 623  |
| Volume to Capacity                | 0.25 | 0.14 | 0.02  | 0.15 | 0.15                 | 0.10 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 0.6   | 0.0  | 0.0                  | 2.8  |
| Control Delay (s)                 | 0.0  | 0.0  | 9.1   | 0.0  | 0.0                  | 11.4 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.4   |      |                      | 11.4 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.8   |      |                      |      |
| Intersection Capacity Utilization |      |      | 27.8% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Background PM Peak Hour

|                            | ←     | ↖     | ↑     | ↗     | ↘     | ↓    |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
| Lane Configurations        | ↖     |       | ↗     |       | ↘     | ↖    |
| Traffic Volume (vph)       | 14    | 63    | 658   | 20    | 71    | 595  |
| Future Volume (vph)        | 14    | 63    | 658   | 20    | 71    | 595  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.890 |       | 0.996 |       |       |      |
| Flt Protected              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1654  | 0     | 3494  | 0     | 1787  | 3539 |
| Flt Permitted              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1654  | 0     | 3494  | 0     | 1787  | 3539 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 47.3  |       | 89.0  |       | 112.1 |      |
| Travel Time (s)            | 3.4   |       | 6.4   |       | 8.1   |      |
| Confl. Peds. (#/hr)        | 1     |       |       | 3     | 3     |      |
| Peak Hour Factor           | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95 |
| Heavy Vehicles (%)         | 7%    | 0%    | 3%    | 0%    | 1%    | 2%   |
| Adj. Flow (vph)            | 15    | 66    | 693   | 21    | 75    | 626  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 81    | 0     | 714   | 0     | 75    | 626  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 37.4%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Background PM Peak Hour

|                        | ←    | ↖    | ↑    | ↗    | ↘    | ↓    |
|------------------------|------|------|------|------|------|------|
| Movement               | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations    | ↖    |      | ↗    |      | ↘    | ↖    |
| Traffic Volume (veh/h) | 14   | 63   | 658  | 20   | 71   | 595  |
| Future Volume (Veh/h)  | 14   | 63   | 658  | 20   | 71   | 595  |
| Sign Control           | Stop |      | Free |      | Free |      |
| Grade                  | 0%   |      | 0%   |      | 0%   |      |
| Peak Hour Factor       | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 15   | 66   | 693  | 21   | 75   | 626  |
| Pedestrians            | 3    |      | 1    |      |      |      |
| Lane Width (m)         | 3.6  |      | 3.6  |      |      |      |
| Walking Speed (m/s)    | 1.2  |      | 1.2  |      |      |      |
| Percent Blockage       | 0    |      | 0    |      |      |      |
| Right turn flare (veh) |      |      |      |      |      |      |
| Median type            |      |      | TWLT |      | TWLT |      |
| Median storage (veh)   |      |      | 2    |      | 2    |      |
| Upstream signal (m)    |      |      |      |      |      |      |
| pX, platoon unblocked  |      |      |      |      |      |      |
| vC, conflicting volume | 1170 | 360  |      |      | 717  |      |
| vC1, stage 1 conf vol  | 706  |      |      |      |      |      |
| vC2, stage 2 conf vol  | 464  |      |      |      |      |      |
| vCu, unblocked vol     | 1170 | 360  |      |      | 717  |      |
| tC, single (s)         | 6.9  | 6.9  |      |      | 4.1  |      |
| tC, 2 stage (s)        | 5.9  |      |      |      |      |      |
| tF (s)                 | 3.6  | 3.3  |      |      | 2.2  |      |
| p0 queue free %        | 96   | 90   |      |      | 92   |      |
| cM capacity (veh/h)    | 362  | 641  |      |      | 884  |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total           | 81   | 462  | 252  | 75   | 313  | 313  |
| Volume Left            | 15   | 0    | 0    | 75   | 0    | 0    |
| Volume Right           | 66   | 0    | 21   | 0    | 0    | 0    |
| cSH                    | 561  | 1700 | 1700 | 884  | 1700 | 1700 |
| Volume to Capacity     | 0.14 | 0.27 | 0.15 | 0.08 | 0.18 | 0.18 |
| Queue Length 95th (m)  | 4.0  | 0.0  | 0.0  | 2.2  | 0.0  | 0.0  |
| Control Delay (s)      | 12.5 | 0.0  | 0.0  | 9.4  | 0.0  | 0.0  |
| Lane LOS               | B    |      |      | A    |      |      |
| Approach Delay (s)     | 12.5 | 0.0  |      | 1.0  |      |      |
| Approach LOS           | B    |      |      |      |      |      |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Average Delay                     | 1.2                    |
| Intersection Capacity Utilization | 37.4%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Background Saturday Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖     |       |
| Traffic Volume (vph)              | 560          | 32    | 38    | 568                    | 22    | 50    |
| Future Volume (vph)               | 560          | 32    | 38    | 568                    | 22    | 50    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.992        |       |       |                        | 0.907 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (prot)                 | 3548         | 0     | 1805  | 3574                   | 1697  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (perm)                 | 3548         | 0     | 1805  | 3574                   | 1697  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 117.0        |       |       | 98.5                   | 45.9  |       |
| Travel Time (s)                   | 8.4          |       |       | 7.1                    | 3.3   |       |
| Confl. Peds. (#/hr)               |              | 4     | 4     |                        | 1     |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 1%           | 0%    | 0%    | 1%                     | 0%    | 0%    |
| Adj. Flow (vph)                   | 609          | 35    | 41    | 617                    | 24    | 54    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 644          | 0     | 41    | 617                    | 78    | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 34.2%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Background Saturday Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 560  | 32   | 38    | 568  | 22                   | 50   |
| Future Volume (Veh/h)             | 560  | 32   | 38    | 568  | 22                   | 50   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 609  | 35   | 41    | 617  | 24                   | 54   |
| Pedestrians                       | 1    |      |       |      | 4                    |      |
| Lane Width (m)                    | 3.6  |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               | 1.2  |      |       |      | 1.2                  |      |
| Percent Blockage                  | 0    |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 648   |      | 1022                 | 326  |
| vC1, stage 1 conf vol             |      |      |       |      | 630                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 392                  |      |
| vCu, unblocked vol                |      |      | 648   |      | 1022                 | 326  |
| tC, single (s)                    |      |      | 4.1   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 96    |      | 94                   | 92   |
| cM capacity (veh/h)               |      |      | 944   |      | 428                  | 673  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 406  | 238  | 41    | 308  | 308                  | 78   |
| Volume Left                       | 0    | 0    | 41    | 0    | 0                    | 24   |
| Volume Right                      | 0    | 35   | 0     | 0    | 0                    | 54   |
| cSH                               | 1700 | 1700 | 944   | 1700 | 1700                 | 572  |
| Volume to Capacity                | 0.24 | 0.14 | 0.04  | 0.18 | 0.18                 | 0.14 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 1.1   | 0.0  | 0.0                  | 3.8  |
| Control Delay (s)                 | 0.0  | 0.0  | 9.0   | 0.0  | 0.0                  | 12.3 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.6   |      |                      | 12.3 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 1.0   |      |                      |      |
| Intersection Capacity Utilization |      |      | 34.2% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Background Saturday Peak Hour

|                            | ←     | ↖     | ↑     | ↗     | ↘     | ↓    |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
| Lane Configurations        | W     | W     | ↑     | ↑     | ↘     | ↘    |
| Traffic Volume (vph)       | 22    | 116   | 616   | 25    | 99    | 584  |
| Future Volume (vph)        | 22    | 116   | 616   | 25    | 99    | 584  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.887 |       | 0.994 |       |       |      |
| Flt Protected              | 0.992 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1672  | 0     | 3588  | 0     | 1805  | 3574 |
| Flt Permitted              | 0.992 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1672  | 0     | 3588  | 0     | 1805  | 3574 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 47.3  |       | 89.0  |       | 112.1 |      |
| Travel Time (s)            | 3.4   |       | 6.4   |       | 8.1   |      |
| Confl. Peds. (#/hr)        |       | 1     |       | 2     | 2     |      |
| Peak Hour Factor           | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97 |
| Heavy Vehicles (%)         | 0%    | 0%    | 0%    | 0%    | 0%    | 1%   |
| Adj. Flow (vph)            | 23    | 120   | 635   | 26    | 102   | 602  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 143   | 0     | 661   | 0     | 102   | 602  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 41.9%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Background Saturday Peak Hour

|                        | ←    | ↖    | ↑     | ↗    | ↘     | ↓    |
|------------------------|------|------|-------|------|-------|------|
| Movement               | WBL  | WBR  | NBT   | NBR  | SBL   | SBT  |
| Lane Configurations    | W    | W    | ↑     | ↑    | ↘     | ↘    |
| Traffic Volume (veh/h) | 22   | 116  | 616   | 25   | 99    | 584  |
| Future Volume (Veh/h)  | 22   | 116  | 616   | 25   | 99    | 584  |
| Sign Control           | Stop |      | Free  |      | Free  |      |
| Grade                  | 0%   |      | 0%    |      | 0%    |      |
| Peak Hour Factor       | 0.97 | 0.97 | 0.97  | 0.97 | 0.97  | 0.97 |
| Hourly flow rate (vph) | 23   | 120  | 635   | 26   | 102   | 602  |
| Pedestrians            | 2    |      |       |      |       | 1    |
| Lane Width (m)         | 3.6  |      |       |      |       | 3.6  |
| Walking Speed (m/s)    | 1.2  |      |       |      |       | 1.2  |
| Percent Blockage       | 0    |      |       |      |       | 0    |
| Right turn flare (veh) |      |      |       |      |       |      |
| Median type            |      |      | TWLTL |      | TWLTL |      |
| Median storage (veh)   |      |      | 2     |      | 2     |      |
| Upstream signal (m)    |      |      |       |      |       |      |
| pX, platoon unblocked  |      |      |       |      |       |      |
| vC, conflicting volume | 1155 | 334  |       |      | 663   |      |
| vC1, stage 1 conf vol  | 650  |      |       |      |       |      |
| vC2, stage 2 conf vol  | 505  |      |       |      |       |      |
| vCu, unblocked vol     | 1155 | 334  |       |      | 663   |      |
| tC, single (s)         | 6.8  | 6.9  |       |      | 4.1   |      |
| tC, 2 stage (s)        | 5.8  |      |       |      |       |      |
| tF (s)                 | 3.5  | 3.3  |       |      | 2.2   |      |
| p0 queue free %        | 94   | 82   |       |      | 89    |      |
| cM capacity (veh/h)    | 381  | 666  |       |      | 934   |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2  | SB 1 | SB 2  | SB 3 |
| Volume Total           | 143  | 423  | 238   | 102  | 301   | 301  |
| Volume Left            | 23   | 0    | 0     | 102  | 0     | 0    |
| Volume Right           | 120  | 0    | 26    | 0    | 0     | 0    |
| cSH                    | 595  | 1700 | 1700  | 934  | 1700  | 1700 |
| Volume to Capacity     | 0.24 | 0.25 | 0.14  | 0.11 | 0.18  | 0.18 |
| Queue Length 95th (m)  | 7.5  | 0.0  | 0.0   | 2.9  | 0.0   | 0.0  |
| Control Delay (s)      | 13.0 | 0.0  | 0.0   | 9.3  | 0.0   | 0.0  |
| Lane LOS               | B    |      |       | A    |       |      |
| Approach Delay (s)     | 13.0 | 0.0  |       | 1.4  |       |      |
| Approach LOS           | B    |      |       |      |       |      |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Average Delay                     | 1.9                    |
| Intersection Capacity Utilization | 41.9%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Background AM Peak Hour

|                                         | →                      | ↘     | ↙     | ←     | ↖    | ↗     |
|-----------------------------------------|------------------------|-------|-------|-------|------|-------|
| Lane Group                              | EBT                    | EBR   | WBL   | WBT   | NBL  | NBR   |
| Lane Configurations                     | ↑↑                     |       | ↘     | ↑↑    | ↖    |       |
| Traffic Volume (vph)                    | 292                    | 12    | 24    | 553   | 16   | 16    |
| Future Volume (vph)                     | 292                    | 12    | 24    | 553   | 16   | 16    |
| Ideal Flow (vphpl)                      | 1900                   | 1900  | 1900  | 1900  | 1900 | 1900  |
| Storage Length (m)                      |                        | 0.0   | 20.0  |       | 0.0  | 0.0   |
| Storage Lanes                           |                        | 0     | 1     |       | 1    | 0     |
| Taper Length (m)                        |                        |       | 7.5   |       | 7.5  |       |
| Lane Util. Factor                       | 0.95                   | 0.95  | 1.00  | 0.95  | 1.00 | 1.00  |
| Ped Bike Factor                         |                        |       |       |       |      |       |
| Frt                                     | 0.994                  |       |       | 0.932 |      |       |
| Flt Protected                           |                        |       | 0.950 | 0.976 |      |       |
| Satd. Flow (prot)                       | 3383                   | 0     | 1805  | 3505  | 1623 | 0     |
| Flt Permitted                           |                        |       | 0.950 | 0.976 |      |       |
| Satd. Flow (perm)                       | 3383                   | 0     | 1805  | 3505  | 1623 | 0     |
| Link Speed (k/h)                        | 50                     |       |       | 50    | 50   |       |
| Link Distance (m)                       | 117.0                  |       |       | 98.5  | 45.9 |       |
| Travel Time (s)                         | 8.4                    |       |       | 7.1   | 3.3  |       |
| Confl. Peds. (#/hr)                     |                        | 1     | 1     |       |      |       |
| Peak Hour Factor                        | 0.92                   | 0.92  | 0.92  | 0.92  | 0.92 | 0.92  |
| Heavy Vehicles (%)                      | 6%                     | 8%    | 0%    | 3%    | 0%   | 13%   |
| Adj. Flow (vph)                         | 317                    | 13    | 26    | 601   | 17   | 17    |
| Shared Lane Traffic (%)                 |                        |       |       |       |      |       |
| Lane Group Flow (vph)                   | 330                    | 0     | 26    | 601   | 34   | 0     |
| Enter Blocked Intersection              | No                     | No    | No    | No    | No   | No    |
| Lane Alignment                          | Left                   | Right | Left  | Left  | Left | Right |
| Median Width(m)                         | 3.6                    |       |       | 3.6   | 3.6  |       |
| Link Offset(m)                          | 0.0                    |       |       | 0.0   | 0.0  |       |
| Crosswalk Width(m)                      | 4.8                    |       |       | 4.8   | 4.8  |       |
| Two way Left Turn Lane                  | Yes                    |       |       | Yes   |      |       |
| Headway Factor                          | 1.00                   | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  |
| Turning Speed (k/h)                     |                        | 15    | 25    |       | 25   | 15    |
| Sign Control                            | Free                   |       |       | Free  | Stop |       |
| Intersection Summary                    |                        |       |       |       |      |       |
| Area Type:                              | Other                  |       |       |       |      |       |
| Control Type:                           | Unsignalized           |       |       |       |      |       |
| Intersection Capacity Utilization 25.3% | ICU Level of Service A |       |       |       |      |       |
| Analysis Period (min) 15                |                        |       |       |       |      |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Background AM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↑↑   |      | ↘     | ↑↑   | ↖                    |      |
| Traffic Volume (veh/h)            | 292  | 12   | 24    | 553  | 16                   | 16   |
| Future Volume (Veh/h)             | 292  | 12   | 24    | 553  | 16                   | 16   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 317  | 13   | 26    | 601  | 17                   | 17   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 331   |      | 677                  | 166  |
| vC1, stage 1 conf vol             |      |      |       |      | 324                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 352                  |      |
| vCu, unblocked vol                |      |      | 331   |      | 677                  | 166  |
| tC, single (s)                    |      |      | 4.1   |      | 6.8                  | 7.2  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.4  |
| p0 queue free %                   |      |      | 98    |      | 97                   | 98   |
| cM capacity (veh/h)               |      |      | 1239  |      | 574                  | 815  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 211  | 119  | 26    | 300  | 300                  | 34   |
| Volume Left                       | 0    | 0    | 26    | 0    | 0                    | 17   |
| Volume Right                      | 0    | 13   | 0     | 0    | 0                    | 17   |
| cSH                               | 1700 | 1700 | 1239  | 1700 | 1700                 | 674  |
| Volume to Capacity                | 0.12 | 0.07 | 0.02  | 0.18 | 0.18                 | 0.05 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 0.5   | 0.0  | 0.0                  | 1.3  |
| Control Delay (s)                 | 0.0  | 0.0  | 8.0   | 0.0  | 0.0                  | 10.6 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.3   |      |                      | 10.6 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.6   |      |                      |      |
| Intersection Capacity Utilization |      |      | 25.3% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Background AM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |  |  |
| Traffic Volume (vph)              | 12                                                                                | 34                                                                                | 622                                                                               | 23                                                                                | 30                                                                                | 512                                                                               |
| Future Volume (vph)               | 12                                                                                | 34                                                                                | 622                                                                               | 23                                                                                | 30                                                                                | 512                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   |
| Storage Lanes                     | 1                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   |
| Taper Length (m)                  | 7.5                                                                               |                                                                                   |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.901                                                                             |                                                                                   | 0.995                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.987                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1653                                                                              | 0                                                                                 | 3448                                                                              | 0                                                                                 | 1752                                                                              | 3438                                                                              |
| Flt Permitted                     | 0.987                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1653                                                                              | 0                                                                                 | 3448                                                                              | 0                                                                                 | 1752                                                                              | 3438                                                                              |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 47.3                                                                              |                                                                                   | 89.0                                                                              |                                                                                   | 112.1                                                                             |                                                                                   |
| Travel Time (s)                   | 3.4                                                                               |                                                                                   | 6.4                                                                               |                                                                                   | 8.1                                                                               |                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |
| Peak Hour Factor                  | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 4%                                                                                | 9%                                                                                | 3%                                                                                | 5%                                                                                |
| Adj. Flow (vph)                   | 14                                                                                | 39                                                                                | 707                                                                               | 26                                                                                | 34                                                                                | 582                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 53                                                                                | 0                                                                                 | 733                                                                               | 0                                                                                 | 34                                                                                | 582                                                                               |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              |
| Median Width(m)                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               | 25                                                                                | 15                                                                                |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 34.6%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Background AM Peak Hour

|                                   | ←    | ↖    | ↑     | ↗    | →                    | ↓    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
| Lane Configurations               | W    | W    | ↑     | ↑    | ↖                    | ↖    |
| Traffic Volume (veh/h)            | 12   | 34   | 622   | 23   | 30                   | 512  |
| Future Volume (Veh/h)             | 12   | 34   | 622   | 23   | 30                   | 512  |
| Sign Control                      | Stop |      | Free  |      | Free                 |      |
| Grade                             | 0%   |      | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.88 | 0.88 | 0.88  | 0.88 | 0.88                 | 0.88 |
| Hourly flow rate (vph)            | 14   | 39   | 707   | 26   | 34                   | 582  |
| Pedestrians                       | 2    |      |       |      |                      |      |
| Lane Width (m)                    | 3.6  |      |       |      |                      |      |
| Walking Speed (m/s)               | 1.2  |      |       |      |                      |      |
| Percent Blockage                  | 0    |      |       |      |                      |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      |      | TWLTL |      | TWLTL                |      |
| Median storage (veh)              |      |      | 2     |      | 2                    |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 1081 | 368  |       |      | 735                  |      |
| vC1, stage 1 conf vol             | 722  |      |       |      |                      |      |
| vC2, stage 2 conf vol             | 359  |      |       |      |                      |      |
| vCu, unblocked vol                | 1081 | 368  |       |      | 735                  |      |
| tC, single (s)                    | 6.8  | 7.0  |       |      | 4.2                  |      |
| tC, 2 stage (s)                   | 5.8  |      |       |      |                      |      |
| tF (s)                            | 3.5  | 3.3  |       |      | 2.2                  |      |
| p0 queue free %                   | 96   | 94   |       |      | 96                   |      |
| cM capacity (veh/h)               | 399  | 625  |       |      | 858                  |      |
| Direction, Lane #                 | WB 1 | NB 1 | NB 2  | SB 1 | SB 2                 | SB 3 |
| Volume Total                      | 53   | 471  | 262   | 34   | 291                  | 291  |
| Volume Left                       | 14   | 0    | 0     | 34   | 0                    | 0    |
| Volume Right                      | 39   | 0    | 26    | 0    | 0                    | 0    |
| cSH                               | 544  | 1700 | 1700  | 858  | 1700                 | 1700 |
| Volume to Capacity                | 0.10 | 0.28 | 0.15  | 0.04 | 0.17                 | 0.17 |
| Queue Length 95th (m)             | 2.6  | 0.0  | 0.0   | 1.0  | 0.0                  | 0.0  |
| Control Delay (s)                 | 12.3 | 0.0  | 0.0   | 9.4  | 0.0                  | 0.0  |
| Lane LOS                          | B    |      |       | A    |                      |      |
| Approach Delay (s)                | 12.3 | 0.0  |       | 0.5  |                      |      |
| Approach LOS                      | B    |      |       |      |                      |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.7   |      |                      |      |
| Intersection Capacity Utilization |      |      | 34.6% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Background PM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |  |                                                                                   |
| Traffic Volume (vph)              | 661                                                                               | 17                                                                                | 21                                                                                | 524                                                                               | 9                                                                                 | 52                                                                                |
| Future Volume (vph)               | 661                                                                               | 17                                                                                | 21                                                                                | 524                                                                               | 9                                                                                 | 52                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   | 0.0                                                                               | 0.0                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |
| Taper Length (m)                  |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.996                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.886                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   | 0.992                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 3561                                                                              | 0                                                                                 | 1719                                                                              | 3505                                                                              | 1670                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   | 0.992                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 3561                                                                              | 0                                                                                 | 1719                                                                              | 3505                                                                              | 1670                                                                              | 0                                                                                 |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   |                                                                                   | 50                                                                                | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 117.0                                                                             |                                                                                   |                                                                                   | 98.5                                                                              | 45.9                                                                              |                                                                                   |
| Travel Time (s)                   | 8.4                                                                               |                                                                                   |                                                                                   | 7.1                                                                               | 3.3                                                                               |                                                                                   |
| Conf. Peds. (#/hr)                |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor                  | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              |
| Heavy Vehicles (%)                | 1%                                                                                | 0%                                                                                | 5%                                                                                | 3%                                                                                | 0%                                                                                | 0%                                                                                |
| Adj. Flow (vph)                   | 703                                                                               | 18                                                                                | 22                                                                                | 557                                                                               | 10                                                                                | 55                                                                                |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 721                                                                               | 0                                                                                 | 22                                                                                | 557                                                                               | 65                                                                                | 0                                                                                 |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(m)                   | 3.6                                                                               |                                                                                   |                                                                                   | 3.6                                                                               | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   |                                                                                   | 4.8                                                                               | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   | 25                                                                                | 15                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 29.2%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Background PM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 661  | 17   | 21    | 524  | 9                    | 52   |
| Future Volume (Veh/h)             | 661  | 17   | 21    | 524  | 9                    | 52   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.94 | 0.94 | 0.94  | 0.94 | 0.94                 | 0.94 |
| Hourly flow rate (vph)            | 703  | 18   | 22    | 557  | 10                   | 55   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 722   |      | 1036                 | 362  |
| vC1, stage 1 conf vol             |      |      |       |      | 713                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 322                  |      |
| vCu, unblocked vol                |      |      | 722   |      | 1036                 | 362  |
| tC, single (s)                    |      |      | 4.2   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 97    |      | 98                   | 91   |
| cM capacity (veh/h)               |      |      | 856   |      | 411                  | 640  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 469  | 252  | 22    | 278  | 278                  | 65   |
| Volume Left                       | 0    | 0    | 22    | 0    | 0                    | 10   |
| Volume Right                      | 0    | 18   | 0     | 0    | 0                    | 55   |
| cSH                               | 1700 | 1700 | 856   | 1700 | 1700                 | 590  |
| Volume to Capacity                | 0.28 | 0.15 | 0.03  | 0.16 | 0.16                 | 0.11 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 0.6   | 0.0  | 0.0                  | 3.0  |
| Control Delay (s)                 | 0.0  | 0.0  | 9.3   | 0.0  | 0.0                  | 11.9 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.4   |      |                      | 11.9 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.7   |      |                      |      |
| Intersection Capacity Utilization |      |      | 29.2% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Background PM Peak Hour

|                            | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
| Lane Configurations        | W     | W     | W     | W     | W     | W    |
| Traffic Volume (vph)       | 14    | 63    | 726   | 20    | 71    | 657  |
| Future Volume (vph)        | 14    | 63    | 726   | 20    | 71    | 657  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.890 |       | 0.996 |       |       |      |
| Flt Protected              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1654  | 0     | 3494  | 0     | 1787  | 3539 |
| Flt Permitted              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1654  | 0     | 3494  | 0     | 1787  | 3539 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 47.3  |       | 89.0  |       | 112.1 |      |
| Travel Time (s)            | 3.4   |       | 6.4   |       | 8.1   |      |
| Confl. Peds. (#/hr)        | 1     |       |       | 3     | 3     |      |
| Peak Hour Factor           | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95 |
| Heavy Vehicles (%)         | 7%    | 0%    | 3%    | 0%    | 1%    | 2%   |
| Adj. Flow (vph)            | 15    | 66    | 764   | 21    | 75    | 692  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 81    | 0     | 785   | 0     | 75    | 692  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

| Intersection Summary              |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 39.3%        |
| Analysis Period (min)             | 15           |
| ICU Level of Service              | A            |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Background PM Peak Hour

|                        | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
|------------------------|------|------|------|------|------|------|
| Movement               | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations    | W    | W    | W    | W    | W    | W    |
| Traffic Volume (veh/h) | 14   | 63   | 726  | 20   | 71   | 657  |
| Future Volume (Veh/h)  | 14   | 63   | 726  | 20   | 71   | 657  |
| Sign Control           | Stop |      | Free |      | Free |      |
| Grade                  | 0%   |      | 0%   |      | 0%   |      |
| Peak Hour Factor       | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 15   | 66   | 764  | 21   | 75   | 692  |
| Pedestrians            | 3    |      | 1    |      |      |      |
| Lane Width (m)         | 3.6  |      | 3.6  |      |      |      |
| Walking Speed (m/s)    | 1.2  |      | 1.2  |      |      |      |
| Percent Blockage       | 0    |      | 0    |      |      |      |
| Right turn flare (veh) |      |      |      |      |      |      |
| Median type            |      |      | TWLT |      | TWLT |      |
| Median storage (veh)   |      |      | 2    |      | 2    |      |
| Upstream signal (m)    |      |      |      |      |      |      |
| pX, platoon unblocked  |      |      |      |      |      |      |
| vC, conflicting volume | 1274 | 396  |      |      | 788  |      |
| vC1, stage 1 conf vol  | 778  |      |      |      |      |      |
| vC2, stage 2 conf vol  | 497  |      |      |      |      |      |
| vCu, unblocked vol     | 1274 | 396  |      |      | 788  |      |
| tC, single (s)         | 6.9  | 6.9  |      |      | 4.1  |      |
| tC, 2 stage (s)        | 5.9  |      |      |      |      |      |
| tF (s)                 | 3.6  | 3.3  |      |      | 2.2  |      |
| p0 queue free %        | 95   | 89   |      |      | 91   |      |
| cM capacity (veh/h)    | 333  | 608  |      |      | 832  |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total           | 81   | 509  | 276  | 75   | 346  | 346  |
| Volume Left            | 15   | 0    | 0    | 75   | 0    | 0    |
| Volume Right           | 66   | 0    | 21   | 0    | 0    | 0    |
| cSH                    | 527  | 1700 | 1700 | 832  | 1700 | 1700 |
| Volume to Capacity     | 0.15 | 0.30 | 0.16 | 0.09 | 0.20 | 0.20 |
| Queue Length 95th (m)  | 4.3  | 0.0  | 0.0  | 2.4  | 0.0  | 0.0  |
| Control Delay (s)      | 13.1 | 0.0  | 0.0  | 9.8  | 0.0  | 0.0  |
| Lane LOS               | B    |      |      | A    |      |      |
| Approach Delay (s)     | 13.1 | 0.0  |      | 1.0  |      |      |
| Approach LOS           | B    |      |      |      |      |      |

| Intersection Summary              |       |
|-----------------------------------|-------|
| Average Delay                     | 1.1   |
| Intersection Capacity Utilization | 39.3% |
| Analysis Period (min)             | 15    |
| ICU Level of Service              | A     |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Background Saturday Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖↖    |       |
| Traffic Volume (vph)              | 618          | 32    | 38    | 627                    | 22    | 50    |
| Future Volume (vph)               | 618          | 32    | 38    | 627                    | 22    | 50    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.993        |       |       |                        | 0.907 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (prot)                 | 3551         | 0     | 1805  | 3574                   | 1697  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (perm)                 | 3551         | 0     | 1805  | 3574                   | 1697  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 117.0        |       |       | 98.5                   | 45.9  |       |
| Travel Time (s)                   | 8.4          |       |       | 7.1                    | 3.3   |       |
| Confl. Peds. (#/hr)               |              | 4     | 4     |                        | 1     |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 1%           | 0%    | 0%    | 1%                     | 0%    | 0%    |
| Adj. Flow (vph)                   | 672          | 35    | 41    | 682                    | 24    | 54    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 707          | 0     | 41    | 682                    | 78    | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 35.8%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Background Saturday Peak Hour

|                                   | →     | ↘    | ↙     | ←     | ↖                    | ↗    |
|-----------------------------------|-------|------|-------|-------|----------------------|------|
| Movement                          | EBT   | EBR  | WBL   | WBT   | NBL                  | NBR  |
| Lane Configurations               | ↑↑    |      | ↘     | ↑↑    | ↖                    |      |
| Traffic Volume (veh/h)            | 618   | 32   | 38    | 627   | 22                   | 50   |
| Future Volume (Veh/h)             | 618   | 32   | 38    | 627   | 22                   | 50   |
| Sign Control                      | Free  |      |       | Free  | Stop                 |      |
| Grade                             | 0%    |      |       | 0%    | 0%                   |      |
| Peak Hour Factor                  | 0.92  | 0.92 | 0.92  | 0.92  | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 672   | 35   | 41    | 682   | 24                   | 54   |
| Pedestrians                       | 1     |      |       |       | 4                    |      |
| Lane Width (m)                    | 3.6   |      |       |       | 3.6                  |      |
| Walking Speed (m/s)               | 1.2   |      |       |       | 1.2                  |      |
| Percent Blockage                  | 0     |      |       |       | 0                    |      |
| Right turn flare (veh)            |       |      |       |       |                      |      |
| Median type                       | TWLTL |      |       | TWLTL |                      |      |
| Median storage (veh)              | 2     |      |       | 2     |                      |      |
| Upstream signal (m)               |       |      |       |       |                      |      |
| pX, platoon unblocked             |       |      |       |       |                      |      |
| vC, conflicting volume            |       |      | 711   |       | 1118                 | 358  |
| vC1, stage 1 conf vol             |       |      |       |       | 694                  |      |
| vC2, stage 2 conf vol             |       |      |       |       | 424                  |      |
| vCu, unblocked vol                |       |      | 711   |       | 1118                 | 358  |
| tC, single (s)                    |       |      | 4.1   |       | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |       |      |       |       | 5.8                  |      |
| tF (s)                            |       |      | 2.2   |       | 3.5                  | 3.3  |
| p0 queue free %                   |       |      | 95    |       | 94                   | 92   |
| cM capacity (veh/h)               |       |      | 895   |       | 397                  | 643  |
| Direction, Lane #                 | EB 1  | EB 2 | WB 1  | WB 2  | WB 3                 | NB 1 |
| Volume Total                      | 448   | 259  | 41    | 341   | 341                  | 78   |
| Volume Left                       | 0     | 0    | 41    | 0     | 0                    | 24   |
| Volume Right                      | 0     | 35   | 0     | 0     | 0                    | 54   |
| cSH                               | 1700  | 1700 | 895   | 1700  | 1700                 | 540  |
| Volume to Capacity                | 0.26  | 0.15 | 0.05  | 0.20  | 0.20                 | 0.14 |
| Queue Length 95th (m)             | 0.0   | 0.0  | 1.2   | 0.0   | 0.0                  | 4.0  |
| Control Delay (s)                 | 0.0   | 0.0  | 9.2   | 0.0   | 0.0                  | 12.8 |
| Lane LOS                          |       |      | A     |       |                      | B    |
| Approach Delay (s)                | 0.0   |      | 0.5   |       |                      | 12.8 |
| Approach LOS                      |       |      |       |       |                      | B    |
| Intersection Summary              |       |      |       |       |                      |      |
| Average Delay                     |       |      | 0.9   |       |                      |      |
| Intersection Capacity Utilization |       |      | 35.8% |       | ICU Level of Service | A    |
| Analysis Period (min)             |       |      | 15    |       |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Background Saturday Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |  |  |
| Traffic Volume (vph)              | 22                                                                                | 116                                                                               | 680                                                                               | 25                                                                                | 99                                                                                | 645                                                                               |
| Future Volume (vph)               | 22                                                                                | 116                                                                               | 680                                                                               | 25                                                                                | 99                                                                                | 645                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   |
| Storage Lanes                     | 1                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   |
| Taper Length (m)                  | 7.5                                                                               |                                                                                   |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.887                                                                             |                                                                                   | 0.995                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1672                                                                              | 0                                                                                 | 3592                                                                              | 0                                                                                 | 1805                                                                              | 3574                                                                              |
| Flt Permitted                     | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1672                                                                              | 0                                                                                 | 3592                                                                              | 0                                                                                 | 1805                                                                              | 3574                                                                              |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 47.3                                                                              |                                                                                   | 89.0                                                                              |                                                                                   | 112.1                                                                             |                                                                                   |
| Travel Time (s)                   | 3.4                                                                               |                                                                                   | 6.4                                                                               |                                                                                   | 8.1                                                                               |                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   | 1                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |
| Peak Hour Factor                  | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 1%                                                                                |
| Adj. Flow (vph)                   | 23                                                                                | 120                                                                               | 701                                                                               | 26                                                                                | 102                                                                               | 665                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 143                                                                               | 0                                                                                 | 727                                                                               | 0                                                                                 | 102                                                                               | 665                                                                               |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              |
| Median Width(m)                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               | 25                                                                                | 15                                                                                |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 43.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Background Saturday Peak Hour

|                                   | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
| Lane Configurations               | W    | W    | W     | W    | W                    | W    |
| Traffic Volume (veh/h)            | 22   | 116  | 680   | 25   | 99                   | 645  |
| Future Volume (Veh/h)             | 22   | 116  | 680   | 25   | 99                   | 645  |
| Sign Control                      | Stop |      | Free  |      | Free                 |      |
| Grade                             | 0%   |      | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.97 | 0.97 | 0.97  | 0.97 | 0.97                 | 0.97 |
| Hourly flow rate (vph)            | 23   | 120  | 701   | 26   | 102                  | 665  |
| Pedestrians                       | 2    |      |       |      |                      | 1    |
| Lane Width (m)                    | 3.6  |      |       |      |                      | 3.6  |
| Walking Speed (m/s)               | 1.2  |      |       |      |                      | 1.2  |
| Percent Blockage                  | 0    |      |       |      |                      | 0    |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      |      | TWLTL |      | TWLTL                |      |
| Median storage (veh)              |      |      | 2     |      | 2                    |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 1252 | 366  |       |      | 729                  |      |
| vC1, stage 1 conf vol             | 716  |      |       |      |                      |      |
| vC2, stage 2 conf vol             | 536  |      |       |      |                      |      |
| vCu, unblocked vol                | 1252 | 366  |       |      | 729                  |      |
| tC, single (s)                    | 6.8  | 6.9  |       |      | 4.1                  |      |
| tC, 2 stage (s)                   | 5.8  |      |       |      |                      |      |
| tF (s)                            | 3.5  | 3.3  |       |      | 2.2                  |      |
| p0 queue free %                   | 93   | 81   |       |      | 88                   |      |
| cM capacity (veh/h)               | 353  | 635  |       |      | 883                  |      |
| Direction, Lane #                 | WB 1 | NB 1 | NB 2  | SB 1 | SB 2                 | SB 3 |
| Volume Total                      | 143  | 467  | 260   | 102  | 332                  | 332  |
| Volume Left                       | 23   | 0    | 0     | 102  | 0                    | 0    |
| Volume Right                      | 120  | 0    | 26    | 0    | 0                    | 0    |
| cSH                               | 563  | 1700 | 1700  | 883  | 1700                 | 1700 |
| Volume to Capacity                | 0.25 | 0.27 | 0.15  | 0.12 | 0.20                 | 0.20 |
| Queue Length 95th (m)             | 8.0  | 0.0  | 0.0   | 3.1  | 0.0                  | 0.0  |
| Control Delay (s)                 | 13.6 | 0.0  | 0.0   | 9.6  | 0.0                  | 0.0  |
| Lane LOS                          | B    |      |       | A    |                      |      |
| Approach Delay (s)                | 13.6 | 0.0  |       | 1.3  |                      |      |
| Approach LOS                      | B    |      |       |      |                      |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 1.8   |      |                      |      |
| Intersection Capacity Utilization |      |      | 43.7% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

# Appendix F

## Future Total Traffic Operation Reports



Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Total AM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |  |                                                                                   |
| Traffic Volume (vph)              | 264                                                                               | 24                                                                                | 49                                                                                | 501                                                                               | 34                                                                                | 34                                                                                |
| Future Volume (vph)               | 264                                                                               | 24                                                                                | 49                                                                                | 501                                                                               | 34                                                                                | 34                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   | 0.0                                                                               | 0.0                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |
| Taper Length (m)                  |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.988                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.932                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   | 0.976                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 3360                                                                              | 0                                                                                 | 1805                                                                              | 3505                                                                              | 1623                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   | 0.976                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 3360                                                                              | 0                                                                                 | 1805                                                                              | 3505                                                                              | 1623                                                                              | 0                                                                                 |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   |                                                                                   | 50                                                                                | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 117.0                                                                             |                                                                                   |                                                                                   | 98.5                                                                              | 43.6                                                                              |                                                                                   |
| Travel Time (s)                   | 8.4                                                                               |                                                                                   |                                                                                   | 7.1                                                                               | 3.1                                                                               |                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)                | 6%                                                                                | 8%                                                                                | 0%                                                                                | 3%                                                                                | 0%                                                                                | 13%                                                                               |
| Adj. Flow (vph)                   | 287                                                                               | 26                                                                                | 53                                                                                | 545                                                                               | 37                                                                                | 37                                                                                |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 313                                                                               | 0                                                                                 | 53                                                                                | 545                                                                               | 74                                                                                | 0                                                                                 |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(m)                   | 3.6                                                                               |                                                                                   |                                                                                   | 3.6                                                                               | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   |                                                                                   | 4.8                                                                               | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   | 25                                                                                | 15                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 25.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Total AM Peak Hour

|                                   | →     | ↘    | ↙     | ←     | ↖                    | ↗    |
|-----------------------------------|-------|------|-------|-------|----------------------|------|
| Movement                          | EBT   | EBR  | WBL   | WBT   | NBL                  | NBR  |
| Lane Configurations               | ↕↕    |      | ↘     | ↕↕    | ↖                    |      |
| Traffic Volume (veh/h)            | 264   | 24   | 49    | 501   | 34                   | 34   |
| Future Volume (Veh/h)             | 264   | 24   | 49    | 501   | 34                   | 34   |
| Sign Control                      | Free  |      |       | Free  | Stop                 |      |
| Grade                             | 0%    |      |       | 0%    | 0%                   |      |
| Peak Hour Factor                  | 0.92  | 0.92 | 0.92  | 0.92  | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 287   | 26   | 53    | 545   | 37                   | 37   |
| Pedestrians                       |       |      |       |       | 1                    |      |
| Lane Width (m)                    |       |      |       |       | 3.6                  |      |
| Walking Speed (m/s)               |       |      |       |       | 1.2                  |      |
| Percent Blockage                  |       |      |       |       | 0                    |      |
| Right turn flare (veh)            |       |      |       |       |                      |      |
| Median type                       | TWLTL |      |       | TWLTL |                      |      |
| Median storage (veh)              | 2     |      |       | 2     |                      |      |
| Upstream signal (m)               |       |      |       |       |                      |      |
| pX, platoon unblocked             |       |      |       |       |                      |      |
| vC, conflicting volume            |       |      | 314   |       | 680                  | 158  |
| vC1, stage 1 conf vol             |       |      |       |       | 301                  |      |
| vC2, stage 2 conf vol             |       |      |       |       | 378                  |      |
| vCu, unblocked vol                |       |      | 314   |       | 680                  | 158  |
| tC, single (s)                    |       |      | 4.1   |       | 6.8                  | 7.2  |
| tC, 2 stage (s)                   |       |      |       |       | 5.8                  |      |
| tF (s)                            |       |      | 2.2   |       | 3.5                  | 3.4  |
| p0 queue free %                   |       |      | 96    |       | 93                   | 96   |
| cM capacity (veh/h)               |       |      | 1257  |       | 561                  | 826  |
| Direction, Lane #                 | EB 1  | EB 2 | WB 1  | WB 2  | WB 3                 | NB 1 |
| Volume Total                      | 191   | 122  | 53    | 272   | 272                  | 74   |
| Volume Left                       | 0     | 0    | 53    | 0     | 0                    | 37   |
| Volume Right                      | 0     | 26   | 0     | 0     | 0                    | 37   |
| cSH                               | 1700  | 1700 | 1257  | 1700  | 1700                 | 668  |
| Volume to Capacity                | 0.11  | 0.07 | 0.04  | 0.16  | 0.16                 | 0.11 |
| Queue Length 95th (m)             | 0.0   | 0.0  | 1.1   | 0.0   | 0.0                  | 3.0  |
| Control Delay (s)                 | 0.0   | 0.0  | 8.0   | 0.0   | 0.0                  | 11.1 |
| Lane LOS                          |       |      | A     |       |                      | B    |
| Approach Delay (s)                | 0.0   |      | 0.7   |       |                      | 11.1 |
| Approach LOS                      |       |      |       |       |                      | B    |
| Intersection Summary              |       |      |       |       |                      |      |
| Average Delay                     |       |      | 1.3   |       |                      |      |
| Intersection Capacity Utilization |       |      | 25.5% |       | ICU Level of Service | A    |
| Analysis Period (min)             |       |      | 15    |       |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Total AM Peak Hour

|                                         |  |  |                                                                                    |  |  |                                                                                    |
|-----------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lane Group                              | WBL                                                                               | WBR                                                                               | NBT                                                                                                                                                                 | NBR                                                                               | SBL                                                                               | SBT                                                                                                                                                                 |
| Lane Configurations                     |  |                                                                                   |   |                                                                                   |  |   |
| Traffic Volume (vph)                    | 26                                                                                | 72                                                                                | 563                                                                                                                                                                 | 47                                                                                | 61                                                                                | 464                                                                                                                                                                 |
| Future Volume (vph)                     | 26                                                                                | 72                                                                                | 563                                                                                                                                                                 | 47                                                                                | 61                                                                                | 464                                                                                                                                                                 |
| Ideal Flow (vphpl)                      | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                |
| Storage Length (m)                      | 0.0                                                                               | 0.0                                                                               |                                                                                                                                                                     | 0.0                                                                               | 20.0                                                                              |                                                                                                                                                                     |
| Storage Lanes                           | 1                                                                                 | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 1                                                                                 |                                                                                                                                                                     |
| Taper Length (m)                        | 7.5                                                                               |                                                                                   |                                                                                                                                                                     |                                                                                   | 7.5                                                                               |                                                                                                                                                                     |
| Lane Util. Factor                       | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                                                                                                | 0.95                                                                              | 1.00                                                                              | 0.95                                                                                                                                                                |
| Ped Bike Factor                         |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Frt                                     | 0.901                                                                             |                                                                                   | 0.989                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Flt Protected                           | 0.987                                                                             |                                                                                   |                                                                                                                                                                     |                                                                                   | 0.950                                                                             |                                                                                                                                                                     |
| Satd. Flow (prot)                       | 1653                                                                              | 0                                                                                 | 3420                                                                                                                                                                | 0                                                                                 | 1752                                                                              | 3438                                                                                                                                                                |
| Flt Permitted                           | 0.987                                                                             |                                                                                   |                                                                                                                                                                     |                                                                                   | 0.950                                                                             |                                                                                                                                                                     |
| Satd. Flow (perm)                       | 1653                                                                              | 0                                                                                 | 3420                                                                                                                                                                | 0                                                                                 | 1752                                                                              | 3438                                                                                                                                                                |
| Link Speed (k/h)                        | 50                                                                                |                                                                                   | 50                                                                                                                                                                  |                                                                                   | 50                                                                                |                                                                                                                                                                     |
| Link Distance (m)                       | 49.7                                                                              |                                                                                   | 89.0                                                                                                                                                                |                                                                                   | 112.1                                                                             |                                                                                                                                                                     |
| Travel Time (s)                         | 3.6                                                                               |                                                                                   | 6.4                                                                                                                                                                 |                                                                                   | 8.1                                                                               |                                                                                                                                                                     |
| Confl. Peds. (#/hr)                     |                                                                                   |                                                                                   |                                                                                                                                                                     | 2                                                                                 | 2                                                                                 |                                                                                                                                                                     |
| Peak Hour Factor                        | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                                                                                                | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                                                                                                |
| Heavy Vehicles (%)                      | 0%                                                                                | 3%                                                                                | 4%                                                                                                                                                                  | 9%                                                                                | 3%                                                                                | 5%                                                                                                                                                                  |
| Adj. Flow (vph)                         | 30                                                                                | 82                                                                                | 640                                                                                                                                                                 | 53                                                                                | 69                                                                                | 527                                                                                                                                                                 |
| Shared Lane Traffic (%)                 |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Lane Group Flow (vph)                   | 112                                                                               | 0                                                                                 | 693                                                                                                                                                                 | 0                                                                                 | 69                                                                                | 527                                                                                                                                                                 |
| Enter Blocked Intersection              | No                                                                                | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                                                                                                  |
| Lane Alignment                          | Left                                                                              | Right                                                                             | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                                                                                                |
| Median Width(m)                         | 3.6                                                                               |                                                                                   | 3.6                                                                                                                                                                 |                                                                                   | 3.6                                                                               |                                                                                                                                                                     |
| Link Offset(m)                          | 0.0                                                                               |                                                                                   | 0.0                                                                                                                                                                 |                                                                                   | 0.0                                                                               |                                                                                                                                                                     |
| Crosswalk Width(m)                      | 4.8                                                                               |                                                                                   | 4.8                                                                                                                                                                 |                                                                                   | 4.8                                                                               |                                                                                                                                                                     |
| Two way Left Turn Lane                  |                                                                                   |                                                                                   | Yes                                                                                                                                                                 |                                                                                   | Yes                                                                               |                                                                                                                                                                     |
| Headway Factor                          | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                |
| Turning Speed (k/h)                     | 25                                                                                | 15                                                                                |                                                                                                                                                                     | 15                                                                                | 25                                                                                |                                                                                                                                                                     |
| Sign Control                            | Stop                                                                              |                                                                                   | Free                                                                                                                                                                |                                                                                   | Free                                                                              |                                                                                                                                                                     |
| Intersection Summary                    |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Area Type:                              | Other                                                                             |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Control Type: Unsignalized              |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Intersection Capacity Utilization 36.3% |                                                                                   |                                                                                   | ICU Level of Service A                                                                                                                                              |                                                                                   |                                                                                   |                                                                                                                                                                     |
| Analysis Period (min) 15                |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Total AM Peak Hour

|                                   | ←    | ↙     | ↑    | ↘                    | →    | ↓    |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Movement                          | WBL  | WBR   | NBT  | NBR                  | SBL  | SBT  |
| Lane Configurations               | W    |       | ↑    |                      | ↘    | ↑    |
| Traffic Volume (veh/h)            | 26   | 72    | 563  | 47                   | 61   | 464  |
| Future Volume (Veh/h)             | 26   | 72    | 563  | 47                   | 61   | 464  |
| Sign Control                      | Stop |       | Free |                      | Free |      |
| Grade                             | 0%   |       | 0%   |                      | 0%   |      |
| Peak Hour Factor                  | 0.88 | 0.88  | 0.88 | 0.88                 | 0.88 | 0.88 |
| Hourly flow rate (vph)            | 30   | 82    | 640  | 53                   | 69   | 527  |
| Pedestrians                       | 2    |       |      |                      |      |      |
| Lane Width (m)                    | 3.6  |       |      |                      |      |      |
| Walking Speed (m/s)               | 1.2  |       |      |                      |      |      |
| Percent Blockage                  | 0    |       |      |                      |      |      |
| Right turn flare (veh)            |      |       |      |                      |      |      |
| Median type                       |      |       | TWLT |                      | TWLT |      |
| Median storage (veh)              |      |       | 2    |                      | 2    |      |
| Upstream signal (m)               |      |       |      |                      |      |      |
| pX, platoon unblocked             |      |       |      |                      |      |      |
| vC, conflicting volume            | 1070 | 348   |      |                      | 695  |      |
| vC1, stage 1 conf vol             | 668  |       |      |                      |      |      |
| vC2, stage 2 conf vol             | 402  |       |      |                      |      |      |
| vCu, unblocked vol                | 1070 | 348   |      |                      | 695  |      |
| tC, single (s)                    | 6.8  | 7.0   |      |                      | 4.2  |      |
| tC, 2 stage (s)                   | 5.8  |       |      |                      |      |      |
| tF (s)                            | 3.5  | 3.3   |      |                      | 2.2  |      |
| p0 queue free %                   | 93   | 87    |      |                      | 92   |      |
| cM capacity (veh/h)               | 406  | 644   |      |                      | 888  |      |
| Direction, Lane #                 | WB 1 | NB 1  | NB 2 | SB 1                 | SB 2 | SB 3 |
| Volume Total                      | 112  | 427   | 266  | 69                   | 264  | 264  |
| Volume Left                       | 30   | 0     | 0    | 69                   | 0    | 0    |
| Volume Right                      | 82   | 0     | 53   | 0                    | 0    | 0    |
| cSH                               | 556  | 1700  | 1700 | 888                  | 1700 | 1700 |
| Volume to Capacity                | 0.20 | 0.25  | 0.16 | 0.08                 | 0.15 | 0.15 |
| Queue Length 95th (m)             | 6.0  | 0.0   | 0.0  | 2.0                  | 0.0  | 0.0  |
| Control Delay (s)                 | 13.1 | 0.0   | 0.0  | 9.4                  | 0.0  | 0.0  |
| Lane LOS                          | B    |       |      | A                    |      |      |
| Approach Delay (s)                | 13.1 | 0.0   |      | 1.1                  |      |      |
| Approach LOS                      | B    |       |      |                      |      |      |
| Intersection Summary              |      |       |      |                      |      |      |
| Average Delay                     |      | 1.5   |      |                      |      |      |
| Intersection Capacity Utilization |      | 36.3% |      | ICU Level of Service |      | A    |
| Analysis Period (min)             |      | 15    |      |                      |      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Total PM Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖     |       |
| Traffic Volume (vph)              | 599          | 28    | 34    | 474                    | 14    | 81    |
| Future Volume (vph)               | 599          | 28    | 34    | 474                    | 14    | 81    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.993        |       |       |                        | 0.885 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.993 |       |
| Satd. Flow (prot)                 | 3551         | 0     | 1719  | 3505                   | 1670  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.993 |       |
| Satd. Flow (perm)                 | 3551         | 0     | 1719  | 3505                   | 1670  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 117.0        |       |       | 98.5                   | 43.6  |       |
| Travel Time (s)                   | 8.4          |       |       | 7.1                    | 3.1   |       |
| Confl. Peds. (#/hr)               |              | 1     | 1     |                        |       |       |
| Peak Hour Factor                  | 0.94         | 0.94  | 0.94  | 0.94                   | 0.94  | 0.94  |
| Heavy Vehicles (%)                | 1%           | 0%    | 5%    | 3%                     | 0%    | 0%    |
| Adj. Flow (vph)                   | 637          | 30    | 36    | 504                    | 15    | 86    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 667          | 0     | 36    | 504                    | 101   | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 36.6%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Total PM Peak Hour

|                                   | →     | ↘    | ↙     | ←     | ↖                    | ↗    |
|-----------------------------------|-------|------|-------|-------|----------------------|------|
| Movement                          | EBT   | EBR  | WBL   | WBT   | NBL                  | NBR  |
| Lane Configurations               | ↕↕    |      | ↘     | ↕↕    | ↖                    |      |
| Traffic Volume (veh/h)            | 599   | 28   | 34    | 474   | 14                   | 81   |
| Future Volume (Veh/h)             | 599   | 28   | 34    | 474   | 14                   | 81   |
| Sign Control                      | Free  |      |       | Free  | Stop                 |      |
| Grade                             | 0%    |      |       | 0%    | 0%                   |      |
| Peak Hour Factor                  | 0.94  | 0.94 | 0.94  | 0.94  | 0.94                 | 0.94 |
| Hourly flow rate (vph)            | 637   | 30   | 36    | 504   | 15                   | 86   |
| Pedestrians                       |       |      |       |       | 1                    |      |
| Lane Width (m)                    |       |      |       |       | 3.6                  |      |
| Walking Speed (m/s)               |       |      |       |       | 1.2                  |      |
| Percent Blockage                  |       |      |       |       | 0                    |      |
| Right turn flare (veh)            |       |      |       |       |                      |      |
| Median type                       | TWLTL |      |       | TWLTL |                      |      |
| Median storage (veh)              | 2     |      |       | 2     |                      |      |
| Upstream signal (m)               |       |      |       |       |                      |      |
| pX, platoon unblocked             |       |      |       |       |                      |      |
| vC, conflicting volume            |       |      | 668   |       | 977                  | 334  |
| vC1, stage 1 conf vol             |       |      |       |       | 653                  |      |
| vC2, stage 2 conf vol             |       |      |       |       | 324                  |      |
| vCu, unblocked vol                |       |      | 668   |       | 977                  | 334  |
| tC, single (s)                    |       |      | 4.2   |       | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |       |      |       |       | 5.8                  |      |
| tF (s)                            |       |      | 2.2   |       | 3.5                  | 3.3  |
| p0 queue free %                   |       |      | 96    |       | 97                   | 87   |
| cM capacity (veh/h)               |       |      | 897   |       | 434                  | 667  |
| Direction, Lane #                 | EB 1  | EB 2 | WB 1  | WB 2  | WB 3                 | NB 1 |
| Volume Total                      | 425   | 242  | 36    | 252   | 252                  | 101  |
| Volume Left                       | 0     | 0    | 36    | 0     | 0                    | 15   |
| Volume Right                      | 0     | 30   | 0     | 0     | 0                    | 86   |
| cSH                               | 1700  | 1700 | 897   | 1700  | 1700                 | 618  |
| Volume to Capacity                | 0.25  | 0.14 | 0.04  | 0.15  | 0.15                 | 0.16 |
| Queue Length 95th (m)             | 0.0   | 0.0  | 1.0   | 0.0   | 0.0                  | 4.7  |
| Control Delay (s)                 | 0.0   | 0.0  | 9.2   | 0.0   | 0.0                  | 12.0 |
| Lane LOS                          |       |      | A     |       |                      | B    |
| Approach Delay (s)                | 0.0   |      | 0.6   |       |                      | 12.0 |
| Approach LOS                      |       |      |       |       |                      | B    |
| Intersection Summary              |       |      |       |       |                      |      |
| Average Delay                     |       |      | 1.2   |       |                      |      |
| Intersection Capacity Utilization |       |      | 36.6% |       | ICU Level of Service | A    |
| Analysis Period (min)             |       |      | 15    |       |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Total PM Peak Hour

|                            | ←     | ↖     | ↑     | ↗     | ↘     | ↓    |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
| Lane Configurations        | W     | W     | ↑     | ↑     | ↘     | ↘    |
| Traffic Volume (vph)       | 22    | 98    | 658   | 33    | 116   | 595  |
| Future Volume (vph)        | 22    | 98    | 658   | 33    | 116   | 595  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.890 |       | 0.993 |       |       |      |
| Flt Protected              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1655  | 0     | 3485  | 0     | 1787  | 3539 |
| Flt Permitted              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1655  | 0     | 3485  | 0     | 1787  | 3539 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 49.7  |       | 89.0  |       | 112.1 |      |
| Travel Time (s)            | 3.6   |       | 6.4   |       | 8.1   |      |
| Confl. Peds. (#/hr)        | 1     |       |       | 3     | 3     |      |
| Peak Hour Factor           | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95 |
| Heavy Vehicles (%)         | 7%    | 0%    | 3%    | 0%    | 1%    | 2%   |
| Adj. Flow (vph)            | 23    | 103   | 693   | 35    | 122   | 626  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 126   | 0     | 728   | 0     | 122   | 626  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 42.9%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Total PM Peak Hour

|                        | ←    | ↖    | ↑    | ↗    | ↘    | ↓    |
|------------------------|------|------|------|------|------|------|
| Movement               | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations    | W    | W    | ↑    | ↑    | ↘    | ↘    |
| Traffic Volume (veh/h) | 22   | 98   | 658  | 33   | 116  | 595  |
| Future Volume (Veh/h)  | 22   | 98   | 658  | 33   | 116  | 595  |
| Sign Control           | Stop |      | Free |      | Free |      |
| Grade                  | 0%   |      | 0%   |      | 0%   |      |
| Peak Hour Factor       | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 23   | 103  | 693  | 35   | 122  | 626  |
| Pedestrians            | 3    |      | 1    |      |      |      |
| Lane Width (m)         | 3.6  |      | 3.6  |      |      |      |
| Walking Speed (m/s)    | 1.2  |      | 1.2  |      |      |      |
| Percent Blockage       | 0    |      | 0    |      |      |      |
| Right turn flare (veh) |      |      |      |      |      |      |
| Median type            |      |      | TWLT |      | TWLT |      |
| Median storage (veh)   |      |      | 2    |      | 2    |      |
| Upstream signal (m)    |      |      |      |      |      |      |
| pX, platoon unblocked  |      |      |      |      |      |      |
| vC, conflicting volume | 1272 | 367  |      |      | 731  |      |
| vC1, stage 1 conf vol  | 714  |      |      |      |      |      |
| vC2, stage 2 conf vol  | 558  |      |      |      |      |      |
| vCu, unblocked vol     | 1272 | 367  |      |      | 731  |      |
| tC, single (s)         | 6.9  | 6.9  |      |      | 4.1  |      |
| tC, 2 stage (s)        | 5.9  |      |      |      |      |      |
| tF (s)                 | 3.6  | 3.3  |      |      | 2.2  |      |
| p0 queue free %        | 93   | 84   |      |      | 86   |      |
| cM capacity (veh/h)    | 329  | 634  |      |      | 874  |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total           | 126  | 462  | 266  | 122  | 313  | 313  |
| Volume Left            | 23   | 0    | 0    | 122  | 0    | 0    |
| Volume Right           | 103  | 0    | 35   | 0    | 0    | 0    |
| cSH                    | 543  | 1700 | 1700 | 874  | 1700 | 1700 |
| Volume to Capacity     | 0.23 | 0.27 | 0.16 | 0.14 | 0.18 | 0.18 |
| Queue Length 95th (m)  | 7.1  | 0.0  | 0.0  | 3.9  | 0.0  | 0.0  |
| Control Delay (s)      | 13.6 | 0.0  | 0.0  | 9.8  | 0.0  | 0.0  |
| Lane LOS               | B    |      |      | A    |      |      |
| Approach Delay (s)     | 13.6 | 0.0  |      | 1.6  |      |      |
| Approach LOS           | B    |      |      |      |      |      |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Average Delay                     | 1.8                    |
| Intersection Capacity Utilization | 42.9%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Total Saturday Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖     |       |
| Traffic Volume (vph)              | 560          | 51    | 60    | 568                    | 33    | 76    |
| Future Volume (vph)               | 560          | 51    | 60    | 568                    | 33    | 76    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.988        |       |       |                        | 0.906 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (prot)                 | 3534         | 0     | 1805  | 3574                   | 1696  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (perm)                 | 3534         | 0     | 1805  | 3574                   | 1696  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 117.0        |       |       | 98.5                   | 43.6  |       |
| Travel Time (s)                   | 8.4          |       |       | 7.1                    | 3.1   |       |
| Confl. Peds. (#/hr)               |              | 4     | 4     |                        | 1     |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 1%           | 0%    | 0%    | 1%                     | 0%    | 0%    |
| Adj. Flow (vph)                   | 609          | 55    | 65    | 617                    | 36    | 83    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 664          | 0     | 65    | 617                    | 119   | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 37.0%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2024 Total Saturday Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 560  | 51   | 60    | 568  | 33                   | 76   |
| Future Volume (Veh/h)             | 560  | 51   | 60    | 568  | 33                   | 76   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 609  | 55   | 65    | 617  | 36                   | 83   |
| Pedestrians                       | 1    |      |       |      | 4                    |      |
| Lane Width (m)                    | 3.6  |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               | 1.2  |      |       |      | 1.2                  |      |
| Percent Blockage                  | 0    |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 668   |      | 1080                 | 336  |
| vC1, stage 1 conf vol             |      |      |       |      | 640                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 440                  |      |
| vCu, unblocked vol                |      |      | 668   |      | 1080                 | 336  |
| tC, single (s)                    |      |      | 4.1   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 93    |      | 91                   | 87   |
| cM capacity (veh/h)               |      |      | 928   |      | 408                  | 663  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 406  | 258  | 65    | 308  | 308                  | 119  |
| Volume Left                       | 0    | 0    | 65    | 0    | 0                    | 36   |
| Volume Right                      | 0    | 55   | 0     | 0    | 0                    | 83   |
| cSH                               | 1700 | 1700 | 928   | 1700 | 1700                 | 558  |
| Volume to Capacity                | 0.24 | 0.15 | 0.07  | 0.18 | 0.18                 | 0.21 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 1.8   | 0.0  | 0.0                  | 6.4  |
| Control Delay (s)                 | 0.0  | 0.0  | 9.2   | 0.0  | 0.0                  | 13.2 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.9   |      |                      | 13.2 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 1.5   |      |                      |      |
| Intersection Capacity Utilization |      |      | 37.0% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Total Saturday Peak Hour

|                            | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
| Lane Configurations        | W     | W     | W     | W     | W     | W    |
| Traffic Volume (vph)       | 33    | 176   | 616   | 40    | 157   | 584  |
| Future Volume (vph)        | 33    | 176   | 616   | 40    | 157   | 584  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.886 |       | 0.991 |       |       |      |
| Flt Protected              | 0.992 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1670  | 0     | 3578  | 0     | 1805  | 3574 |
| Flt Permitted              | 0.992 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1670  | 0     | 3578  | 0     | 1805  | 3574 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 49.7  |       | 89.0  |       | 112.1 |      |
| Travel Time (s)            | 3.6   |       | 6.4   |       | 8.1   |      |
| Confl. Peds. (#/hr)        |       | 1     |       | 2     | 2     |      |
| Peak Hour Factor           | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97 |
| Heavy Vehicles (%)         | 0%    | 0%    | 0%    | 0%    | 0%    | 1%   |
| Adj. Flow (vph)            | 34    | 181   | 635   | 41    | 162   | 602  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 215   | 0     | 676   | 0     | 162   | 602  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

| Intersection Summary              |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 49.8%        |
| Analysis Period (min)             | 15           |
| ICU Level of Service              | A            |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2024 Total Saturday Peak Hour

|                        | WBL  | WBR  | NBT   | NBR  | SBL   | SBT  |
|------------------------|------|------|-------|------|-------|------|
| Movement               | WBL  | WBR  | NBT   | NBR  | SBL   | SBT  |
| Lane Configurations    | W    | W    | W     | W    | W     | W    |
| Traffic Volume (veh/h) | 33   | 176  | 616   | 40   | 157   | 584  |
| Future Volume (Veh/h)  | 33   | 176  | 616   | 40   | 157   | 584  |
| Sign Control           | Stop |      | Free  |      | Free  |      |
| Grade                  | 0%   |      | 0%    |      | 0%    |      |
| Peak Hour Factor       | 0.97 | 0.97 | 0.97  | 0.97 | 0.97  | 0.97 |
| Hourly flow rate (vph) | 34   | 181  | 635   | 41   | 162   | 602  |
| Pedestrians            | 2    |      |       |      |       | 1    |
| Lane Width (m)         | 3.6  |      |       |      |       | 3.6  |
| Walking Speed (m/s)    | 1.2  |      |       |      |       | 1.2  |
| Percent Blockage       | 0    |      |       |      |       | 0    |
| Right turn flare (veh) |      |      |       |      |       |      |
| Median type            |      |      | TWLTL |      | TWLTL |      |
| Median storage (veh)   |      |      | 2     |      | 2     |      |
| Upstream signal (m)    |      |      |       |      |       |      |
| pX, platoon unblocked  |      |      |       |      |       |      |
| vC, conflicting volume | 1282 | 341  |       |      | 678   |      |
| vC1, stage 1 conf vol  | 658  |      |       |      |       |      |
| vC2, stage 2 conf vol  | 625  |      |       |      |       |      |
| vCu, unblocked vol     | 1282 | 341  |       |      | 678   |      |
| tC, single (s)         | 6.8  | 6.9  |       |      | 4.1   |      |
| tC, 2 stage (s)        | 5.8  |      |       |      |       |      |
| tF (s)                 | 3.5  | 3.3  |       |      | 2.2   |      |
| p0 queue free %        | 90   | 73   |       |      | 82    |      |
| cM capacity (veh/h)    | 331  | 659  |       |      | 922   |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2  | SB 1 | SB 2  | SB 3 |
| Volume Total           | 215  | 423  | 253   | 162  | 301   | 301  |
| Volume Left            | 34   | 0    | 0     | 162  | 0     | 0    |
| Volume Right           | 181  | 0    | 41    | 0    | 0     | 0    |
| cSH                    | 570  | 1700 | 1700  | 922  | 1700  | 1700 |
| Volume to Capacity     | 0.38 | 0.25 | 0.15  | 0.18 | 0.18  | 0.18 |
| Queue Length 95th (m)  | 14.0 | 0.0  | 0.0   | 5.1  | 0.0   | 0.0  |
| Control Delay (s)      | 15.1 | 0.0  | 0.0   | 9.7  | 0.0   | 0.0  |
| Lane LOS               | C    |      |       | A    |       |      |
| Approach Delay (s)     | 15.1 | 0.0  |       | 2.1  |       |      |
| Approach LOS           | C    |      |       |      |       |      |

| Intersection Summary              |       |
|-----------------------------------|-------|
| Average Delay                     | 2.9   |
| Intersection Capacity Utilization | 49.8% |
| Analysis Period (min)             | 15    |
| ICU Level of Service              | A     |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Total AM Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖     |       |
| Traffic Volume (vph)              | 292          | 24    | 49    | 553                    | 34    | 34    |
| Future Volume (vph)               | 292          | 24    | 49    | 553                    | 34    | 34    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.989        |       |       |                        | 0.932 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.976 |       |
| Satd. Flow (prot)                 | 3363         | 0     | 1805  | 3505                   | 1623  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.976 |       |
| Satd. Flow (perm)                 | 3363         | 0     | 1805  | 3505                   | 1623  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 117.0        |       |       | 98.5                   | 43.6  |       |
| Travel Time (s)                   | 8.4          |       |       | 7.1                    | 3.1   |       |
| Confl. Peds. (#/hr)               |              | 1     | 1     |                        |       |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 6%           | 8%    | 0%    | 3%                     | 0%    | 13%   |
| Adj. Flow (vph)                   | 317          | 26    | 53    | 601                    | 37    | 37    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 343          | 0     | 53    | 601                    | 74    | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 26.3%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Total AM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 292  | 24   | 49    | 553  | 34                   | 34   |
| Future Volume (Veh/h)             | 292  | 24   | 49    | 553  | 34                   | 34   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 317  | 26   | 53    | 601  | 37                   | 37   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 344   |      | 738                  | 172  |
| vC1, stage 1 conf vol             |      |      |       |      | 331                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 406                  |      |
| vCu, unblocked vol                |      |      | 344   |      | 738                  | 172  |
| tC, single (s)                    |      |      | 4.1   |      | 6.8                  | 7.2  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.4  |
| p0 queue free %                   |      |      | 96    |      | 93                   | 95   |
| cM capacity (veh/h)               |      |      | 1225  |      | 537                  | 807  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 211  | 132  | 53    | 300  | 300                  | 74   |
| Volume Left                       | 0    | 0    | 53    | 0    | 0                    | 37   |
| Volume Right                      | 0    | 26   | 0     | 0    | 0                    | 37   |
| cSH                               | 1700 | 1700 | 1225  | 1700 | 1700                 | 645  |
| Volume to Capacity                | 0.12 | 0.08 | 0.04  | 0.18 | 0.18                 | 0.11 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 1.1   | 0.0  | 0.0                  | 3.1  |
| Control Delay (s)                 | 0.0  | 0.0  | 8.1   | 0.0  | 0.0                  | 11.3 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.7   |      |                      | 11.3 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 1.2   |      |                      |      |
| Intersection Capacity Utilization |      |      | 26.3% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Total AM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |  |  |
| Traffic Volume (vph)              | 26                                                                                | 72                                                                                | 622                                                                               | 47                                                                                | 61                                                                                | 512                                                                               |
| Future Volume (vph)               | 26                                                                                | 72                                                                                | 622                                                                               | 47                                                                                | 61                                                                                | 512                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   |
| Storage Lanes                     | 1                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   |
| Taper Length (m)                  | 7.5                                                                               |                                                                                   |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.901                                                                             |                                                                                   | 0.990                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.987                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1653                                                                              | 0                                                                                 | 3425                                                                              | 0                                                                                 | 1752                                                                              | 3438                                                                              |
| Flt Permitted                     | 0.987                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1653                                                                              | 0                                                                                 | 3425                                                                              | 0                                                                                 | 1752                                                                              | 3438                                                                              |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 49.7                                                                              |                                                                                   | 89.0                                                                              |                                                                                   | 112.1                                                                             |                                                                                   |
| Travel Time (s)                   | 3.6                                                                               |                                                                                   | 6.4                                                                               |                                                                                   | 8.1                                                                               |                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |
| Peak Hour Factor                  | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 4%                                                                                | 9%                                                                                | 3%                                                                                | 5%                                                                                |
| Adj. Flow (vph)                   | 30                                                                                | 82                                                                                | 707                                                                               | 53                                                                                | 69                                                                                | 582                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 112                                                                               | 0                                                                                 | 760                                                                               | 0                                                                                 | 69                                                                                | 582                                                                               |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              |
| Median Width(m)                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               | 25                                                                                | 15                                                                                |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 38.0%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Total AM Peak Hour

|                                   | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
| Lane Configurations               | W    | W    | W     | W    | W                    | W    |
| Traffic Volume (veh/h)            | 26   | 72   | 622   | 47   | 61                   | 512  |
| Future Volume (Veh/h)             | 26   | 72   | 622   | 47   | 61                   | 512  |
| Sign Control                      | Stop |      | Free  |      | Free                 |      |
| Grade                             | 0%   |      | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.88 | 0.88 | 0.88  | 0.88 | 0.88                 | 0.88 |
| Hourly flow rate (vph)            | 30   | 82   | 707   | 53   | 69                   | 582  |
| Pedestrians                       | 2    |      |       |      |                      |      |
| Lane Width (m)                    | 3.6  |      |       |      |                      |      |
| Walking Speed (m/s)               | 1.2  |      |       |      |                      |      |
| Percent Blockage                  | 0    |      |       |      |                      |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      |      | TWLTL |      | TWLTL                |      |
| Median storage (veh)              |      |      | 2     |      | 2                    |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 1164 | 382  |       |      | 762                  |      |
| vC1, stage 1 conf vol             | 736  |      |       |      |                      |      |
| vC2, stage 2 conf vol             | 429  |      |       |      |                      |      |
| vCu, unblocked vol                | 1164 | 382  |       |      | 762                  |      |
| tC, single (s)                    | 6.8  | 7.0  |       |      | 4.2                  |      |
| tC, 2 stage (s)                   | 5.8  |      |       |      |                      |      |
| tF (s)                            | 3.5  | 3.3  |       |      | 2.2                  |      |
| p0 queue free %                   | 92   | 87   |       |      | 92                   |      |
| cM capacity (veh/h)               | 376  | 612  |       |      | 838                  |      |
| Direction, Lane #                 | WB 1 | NB 1 | NB 2  | SB 1 | SB 2                 | SB 3 |
| Volume Total                      | 112  | 471  | 289   | 69   | 291                  | 291  |
| Volume Left                       | 30   | 0    | 0     | 69   | 0                    | 0    |
| Volume Right                      | 82   | 0    | 53    | 0    | 0                    | 0    |
| cSH                               | 524  | 1700 | 1700  | 838  | 1700                 | 1700 |
| Volume to Capacity                | 0.21 | 0.28 | 0.17  | 0.08 | 0.17                 | 0.17 |
| Queue Length 95th (m)             | 6.4  | 0.0  | 0.0   | 2.1  | 0.0                  | 0.0  |
| Control Delay (s)                 | 13.7 | 0.0  | 0.0   | 9.7  | 0.0                  | 0.0  |
| Lane LOS                          | B    |      |       | A    |                      |      |
| Approach Delay (s)                | 13.7 | 0.0  |       | 1.0  |                      |      |
| Approach LOS                      | B    |      |       |      |                      |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 1.4   |      |                      |      |
| Intersection Capacity Utilization |      |      | 38.0% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Total PM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |  |                                                                                   |
| Traffic Volume (vph)              | 661                                                                               | 28                                                                                | 34                                                                                | 524                                                                               | 14                                                                                | 81                                                                                |
| Future Volume (vph)               | 661                                                                               | 28                                                                                | 34                                                                                | 524                                                                               | 14                                                                                | 81                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   | 0.0                                                                               | 0.0                                                                               |
| Storage Lanes                     |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 0                                                                                 |
| Taper Length (m)                  |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.994                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.885                                                                             |                                                                                   |
| Flt Protected                     |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   | 0.993                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 3554                                                                              | 0                                                                                 | 1719                                                                              | 3505                                                                              | 1670                                                                              | 0                                                                                 |
| Flt Permitted                     |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   | 0.993                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 3554                                                                              | 0                                                                                 | 1719                                                                              | 3505                                                                              | 1670                                                                              | 0                                                                                 |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   |                                                                                   | 50                                                                                | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 117.0                                                                             |                                                                                   |                                                                                   | 98.5                                                                              | 43.6                                                                              |                                                                                   |
| Travel Time (s)                   | 8.4                                                                               |                                                                                   |                                                                                   | 7.1                                                                               | 3.1                                                                               |                                                                                   |
| Conf. Peds. (#/hr)                |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor                  | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              |
| Heavy Vehicles (%)                | 1%                                                                                | 0%                                                                                | 5%                                                                                | 3%                                                                                | 0%                                                                                | 0%                                                                                |
| Adj. Flow (vph)                   | 703                                                                               | 30                                                                                | 36                                                                                | 557                                                                               | 15                                                                                | 86                                                                                |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 733                                                                               | 0                                                                                 | 36                                                                                | 557                                                                               | 101                                                                               | 0                                                                                 |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(m)                   | 3.6                                                                               |                                                                                   |                                                                                   | 3.6                                                                               | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   |                                                                                   | 4.8                                                                               | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   | 25                                                                                | 15                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 38.3%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Total PM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↕↕   |      | ↘     | ↕↕   | ↖                    |      |
| Traffic Volume (veh/h)            | 661  | 28   | 34    | 524  | 14                   | 81   |
| Future Volume (Veh/h)             | 661  | 28   | 34    | 524  | 14                   | 81   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 0.94 | 0.94 | 0.94  | 0.94 | 0.94                 | 0.94 |
| Hourly flow rate (vph)            | 703  | 30   | 36    | 557  | 15                   | 86   |
| Pedestrians                       |      |      |       |      | 1                    |      |
| Lane Width (m)                    |      |      |       |      | 3.6                  |      |
| Walking Speed (m/s)               |      |      |       |      | 1.2                  |      |
| Percent Blockage                  |      |      |       |      | 0                    |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | TWLT |      |       | TWLT |                      |      |
| Median storage (veh)              | 2    |      |       | 2    |                      |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 734   |      | 1070                 | 368  |
| vC1, stage 1 conf vol             |      |      |       |      | 719                  |      |
| vC2, stage 2 conf vol             |      |      |       |      | 350                  |      |
| vCu, unblocked vol                |      |      | 734   |      | 1070                 | 368  |
| tC, single (s)                    |      |      | 4.2   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      | 5.8                  |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 96    |      | 96                   | 86   |
| cM capacity (veh/h)               |      |      | 847   |      | 402                  | 635  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | WB 3                 | NB 1 |
| Volume Total                      | 469  | 264  | 36    | 278  | 278                  | 101  |
| Volume Left                       | 0    | 0    | 36    | 0    | 0                    | 15   |
| Volume Right                      | 0    | 30   | 0     | 0    | 0                    | 86   |
| cSH                               | 1700 | 1700 | 847   | 1700 | 1700                 | 584  |
| Volume to Capacity                | 0.28 | 0.16 | 0.04  | 0.16 | 0.16                 | 0.17 |
| Queue Length 95th (m)             | 0.0  | 0.0  | 1.1   | 0.0  | 0.0                  | 5.0  |
| Control Delay (s)                 | 0.0  | 0.0  | 9.4   | 0.0  | 0.0                  | 12.4 |
| Lane LOS                          |      |      | A     |      |                      | B    |
| Approach Delay (s)                | 0.0  |      | 0.6   |      |                      | 12.4 |
| Approach LOS                      |      |      |       |      |                      | B    |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 1.1   |      |                      |      |
| Intersection Capacity Utilization |      |      | 38.3% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Total PM Peak Hour

|                            | WBL   | WBR   | NBT   | NBR   | SBL   | SBT  |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations        | W     |       | ↑     |       | ↑     | ↑    |
| Traffic Volume (vph)       | 22    | 98    | 726   | 33    | 116   | 657  |
| Future Volume (vph)        | 22    | 98    | 726   | 33    | 116   | 657  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Storage Length (m)         | 0.0   | 0.0   |       | 0.0   | 20.0  |      |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |      |
| Taper Length (m)           | 7.5   |       |       |       | 7.5   |      |
| Lane Util. Factor          | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 0.95 |
| Ped Bike Factor            |       |       |       |       |       |      |
| Frt                        | 0.890 |       | 0.993 |       |       |      |
| Flt Protected              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (prot)          | 1655  | 0     | 3485  | 0     | 1787  | 3539 |
| Flt Permitted              | 0.991 |       |       |       | 0.950 |      |
| Satd. Flow (perm)          | 1655  | 0     | 3485  | 0     | 1787  | 3539 |
| Link Speed (k/h)           | 50    |       | 50    |       | 50    |      |
| Link Distance (m)          | 49.7  |       | 89.0  |       | 112.1 |      |
| Travel Time (s)            | 3.6   |       | 6.4   |       | 8.1   |      |
| Confl. Peds. (#/hr)        | 1     |       |       | 3     | 3     |      |
| Peak Hour Factor           | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95 |
| Heavy Vehicles (%)         | 7%    | 0%    | 3%    | 0%    | 1%    | 2%   |
| Adj. Flow (vph)            | 23    | 103   | 764   | 35    | 122   | 692  |
| Shared Lane Traffic (%)    |       |       |       |       |       |      |
| Lane Group Flow (vph)      | 126   | 0     | 799   | 0     | 122   | 692  |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No   |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left |
| Median Width(m)            | 3.6   |       | 3.6   |       | 3.6   |      |
| Link Offset(m)             | 0.0   |       | 0.0   |       | 0.0   |      |
| Crosswalk Width(m)         | 4.8   |       | 4.8   |       | 4.8   |      |
| Two way Left Turn Lane     |       |       | Yes   |       | Yes   |      |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Turning Speed (k/h)        | 25    | 15    |       | 15    | 25    |      |
| Sign Control               | Stop  |       | Free  |       | Free  |      |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.8%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Total PM Peak Hour

|                        | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
|------------------------|------|------|------|------|------|------|
| Lane Configurations    | W    |      | ↑    |      | ↑    | ↑    |
| Traffic Volume (veh/h) | 22   | 98   | 726  | 33   | 116  | 657  |
| Future Volume (Veh/h)  | 22   | 98   | 726  | 33   | 116  | 657  |
| Sign Control           | Stop |      | Free |      | Free |      |
| Grade                  | 0%   |      | 0%   |      | 0%   |      |
| Peak Hour Factor       | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 23   | 103  | 764  | 35   | 122  | 692  |
| Pedestrians            | 3    |      | 1    |      |      |      |
| Lane Width (m)         | 3.6  |      | 3.6  |      |      |      |
| Walking Speed (m/s)    | 1.2  |      | 1.2  |      |      |      |
| Percent Blockage       | 0    |      | 0    |      |      |      |
| Right turn flare (veh) |      |      |      |      |      |      |
| Median type            |      |      | TWLT |      | TWLT |      |
| Median storage (veh)   |      |      | 2    |      | 2    |      |
| Upstream signal (m)    |      |      |      |      |      |      |
| pX, platoon unblocked  |      |      |      |      |      |      |
| vC, conflicting volume | 1376 | 402  |      |      | 802  |      |
| vC1, stage 1 conf vol  | 784  |      |      |      |      |      |
| vC2, stage 2 conf vol  | 591  |      |      |      |      |      |
| vCu, unblocked vol     | 1376 | 402  |      |      | 802  |      |
| tC, single (s)         | 6.9  | 6.9  |      |      | 4.1  |      |
| tC, 2 stage (s)        | 5.9  |      |      |      |      |      |
| tF (s)                 | 3.6  | 3.3  |      |      | 2.2  |      |
| p0 queue free %        | 92   | 83   |      |      | 85   |      |
| cM capacity (veh/h)    | 304  | 602  |      |      | 822  |      |
| Direction, Lane #      | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
| Volume Total           | 126  | 509  | 290  | 122  | 346  | 346  |
| Volume Left            | 23   | 0    | 0    | 122  | 0    | 0    |
| Volume Right           | 103  | 0    | 35   | 0    | 0    | 0    |
| cSH                    | 510  | 1700 | 1700 | 822  | 1700 | 1700 |
| Volume to Capacity     | 0.25 | 0.30 | 0.17 | 0.15 | 0.20 | 0.20 |
| Queue Length 95th (m)  | 7.7  | 0.0  | 0.0  | 4.2  | 0.0  | 0.0  |
| Control Delay (s)      | 14.4 | 0.0  | 0.0  | 10.1 | 0.0  | 0.0  |
| Lane LOS               | B    |      |      | B    |      |      |
| Approach Delay (s)     | 14.4 | 0.0  |      | 1.5  |      |      |
| Approach LOS           | B    |      |      |      |      |      |

Intersection Summary

Average Delay 1.8

Intersection Capacity Utilization 44.8%

ICU Level of Service

A

Analysis Period (min) 15

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Total Saturday Peak Hour

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↕↕           |       | ↘     | ↕↕                     | ↖     |       |
| Traffic Volume (vph)              | 618          | 51    | 60    | 627                    | 33    | 76    |
| Future Volume (vph)               | 618          | 51    | 60    | 627                    | 33    | 76    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (m)                |              | 0.0   | 20.0  |                        | 0.0   | 0.0   |
| Storage Lanes                     |              | 0     | 1     |                        | 1     | 0     |
| Taper Length (m)                  |              |       | 7.5   |                        | 7.5   |       |
| Lane Util. Factor                 | 0.95         | 0.95  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Ped Bike Factor                   |              |       |       |                        |       |       |
| Frt                               | 0.989        |       |       |                        | 0.906 |       |
| Flt Protected                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (prot)                 | 3538         | 0     | 1805  | 3574                   | 1696  | 0     |
| Flt Permitted                     |              |       | 0.950 |                        | 0.985 |       |
| Satd. Flow (perm)                 | 3538         | 0     | 1805  | 3574                   | 1696  | 0     |
| Link Speed (k/h)                  | 50           |       |       | 50                     | 50    |       |
| Link Distance (m)                 | 117.0        |       |       | 98.5                   | 43.6  |       |
| Travel Time (s)                   | 8.4          |       |       | 7.1                    | 3.1   |       |
| Confl. Peds. (#/hr)               |              | 4     | 4     |                        | 1     |       |
| Peak Hour Factor                  | 0.92         | 0.92  | 0.92  | 0.92                   | 0.92  | 0.92  |
| Heavy Vehicles (%)                | 1%           | 0%    | 0%    | 1%                     | 0%    | 0%    |
| Adj. Flow (vph)                   | 672          | 55    | 65    | 682                    | 36    | 83    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 727          | 0     | 65    | 682                    | 119   | 0     |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(m)                   | 3.6          |       |       | 3.6                    | 3.6   |       |
| Link Offset(m)                    | 0.0          |       |       | 0.0                    | 0.0   |       |
| Crosswalk Width(m)                | 4.8          |       |       | 4.8                    | 4.8   |       |
| Two way Left Turn Lane            | Yes          |       |       | Yes                    |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (k/h)               |              | 15    | 25    |                        | 25    | 15    |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| Intersection Summary              |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 38.6%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
1: Petro-Canada Driveway & Big Bay Point Road 2029 Total Saturday Peak Hour

|                                   | →     | ↘    | ↙     | ←     | ↖                    | ↗    |
|-----------------------------------|-------|------|-------|-------|----------------------|------|
| Movement                          | EBT   | EBR  | WBL   | WBT   | NBL                  | NBR  |
| Lane Configurations               | ↕↕    |      | ↘     | ↕↕    | ↖                    |      |
| Traffic Volume (veh/h)            | 618   | 51   | 60    | 627   | 33                   | 76   |
| Future Volume (Veh/h)             | 618   | 51   | 60    | 627   | 33                   | 76   |
| Sign Control                      | Free  |      |       | Free  | Stop                 |      |
| Grade                             | 0%    |      |       | 0%    | 0%                   |      |
| Peak Hour Factor                  | 0.92  | 0.92 | 0.92  | 0.92  | 0.92                 | 0.92 |
| Hourly flow rate (vph)            | 672   | 55   | 65    | 682   | 36                   | 83   |
| Pedestrians                       | 1     |      |       |       | 4                    |      |
| Lane Width (m)                    | 3.6   |      |       |       | 3.6                  |      |
| Walking Speed (m/s)               | 1.2   |      |       |       | 1.2                  |      |
| Percent Blockage                  | 0     |      |       |       | 0                    |      |
| Right turn flare (veh)            |       |      |       |       |                      |      |
| Median type                       | TWLTL |      |       | TWLTL |                      |      |
| Median storage (veh)              | 2     |      |       | 2     |                      |      |
| Upstream signal (m)               |       |      |       |       |                      |      |
| pX, platoon unblocked             |       |      |       |       |                      |      |
| vC, conflicting volume            |       |      | 731   |       | 1176                 | 368  |
| vC1, stage 1 conf vol             |       |      |       |       | 704                  |      |
| vC2, stage 2 conf vol             |       |      |       |       | 472                  |      |
| vCu, unblocked vol                |       |      | 731   |       | 1176                 | 368  |
| tC, single (s)                    |       |      | 4.1   |       | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |       |      |       |       | 5.8                  |      |
| tF (s)                            |       |      | 2.2   |       | 3.5                  | 3.3  |
| p0 queue free %                   |       |      | 93    |       | 90                   | 87   |
| cM capacity (veh/h)               |       |      | 880   |       | 379                  | 633  |
| Direction, Lane #                 | EB 1  | EB 2 | WB 1  | WB 2  | WB 3                 | NB 1 |
| Volume Total                      | 448   | 279  | 65    | 341   | 341                  | 119  |
| Volume Left                       | 0     | 0    | 65    | 0     | 0                    | 36   |
| Volume Right                      | 0     | 55   | 0     | 0     | 0                    | 83   |
| cSH                               | 1700  | 1700 | 880   | 1700  | 1700                 | 526  |
| Volume to Capacity                | 0.26  | 0.16 | 0.07  | 0.20  | 0.20                 | 0.23 |
| Queue Length 95th (m)             | 0.0   | 0.0  | 1.9   | 0.0   | 0.0                  | 6.9  |
| Control Delay (s)                 | 0.0   | 0.0  | 9.4   | 0.0   | 0.0                  | 13.8 |
| Lane LOS                          |       |      | A     |       |                      | B    |
| Approach Delay (s)                | 0.0   |      | 0.8   |       |                      | 13.8 |
| Approach LOS                      |       |      |       |       |                      | B    |
| Intersection Summary              |       |      |       |       |                      |      |
| Average Delay                     |       |      | 1.4   |       |                      |      |
| Intersection Capacity Utilization |       |      | 38.6% |       | ICU Level of Service | A    |
| Analysis Period (min)             |       |      | 15    |       |                      |      |

Lanes, Volumes, Timings (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Total Saturday Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                        | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |  |  |
| Traffic Volume (vph)              | 33                                                                                | 176                                                                               | 680                                                                               | 40                                                                                | 157                                                                               | 645                                                                               |
| Future Volume (vph)               | 33                                                                                | 176                                                                               | 680                                                                               | 40                                                                                | 157                                                                               | 645                                                                               |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (m)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 20.0                                                                              |                                                                                   |
| Storage Lanes                     | 1                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   |
| Taper Length (m)                  | 7.5                                                                               |                                                                                   |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 0.95                                                                              | 1.00                                                                              | 0.95                                                                              |
| Ped Bike Factor                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Frt                               | 0.886                                                                             |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Flt Protected                     | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (prot)                 | 1670                                                                              | 0                                                                                 | 3581                                                                              | 0                                                                                 | 1805                                                                              | 3574                                                                              |
| Flt Permitted                     | 0.992                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |
| Satd. Flow (perm)                 | 1670                                                                              | 0                                                                                 | 3581                                                                              | 0                                                                                 | 1805                                                                              | 3574                                                                              |
| Link Speed (k/h)                  | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   | 50                                                                                |                                                                                   |
| Link Distance (m)                 | 49.7                                                                              |                                                                                   | 89.0                                                                              |                                                                                   | 112.1                                                                             |                                                                                   |
| Travel Time (s)                   | 3.6                                                                               |                                                                                   | 6.4                                                                               |                                                                                   | 8.1                                                                               |                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   | 1                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |
| Peak Hour Factor                  | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 1%                                                                                |
| Adj. Flow (vph)                   | 34                                                                                | 181                                                                               | 701                                                                               | 41                                                                                | 162                                                                               | 665                                                                               |
| Shared Lane Traffic (%)           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)             | 215                                                                               | 0                                                                                 | 742                                                                               | 0                                                                                 | 162                                                                               | 665                                                                               |
| Enter Blocked Intersection        | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment                    | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              |
| Median Width(m)                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   | 3.6                                                                               |                                                                                   |
| Link Offset(m)                    | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |
| Crosswalk Width(m)                | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   | 4.8                                                                               |                                                                                   |
| Two way Left Turn Lane            |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |                                                                                   |
| Headway Factor                    | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (k/h)               | 25                                                                                | 15                                                                                |                                                                                   | 15                                                                                | 25                                                                                |                                                                                   |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   | Free                                                                              |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Area Type:                        | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Control Type:                     | Unsignalized                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 51.6%                                                                             |                                                                                   |                                                                                   | ICU Level of Service A                                                            |                                                                                   |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

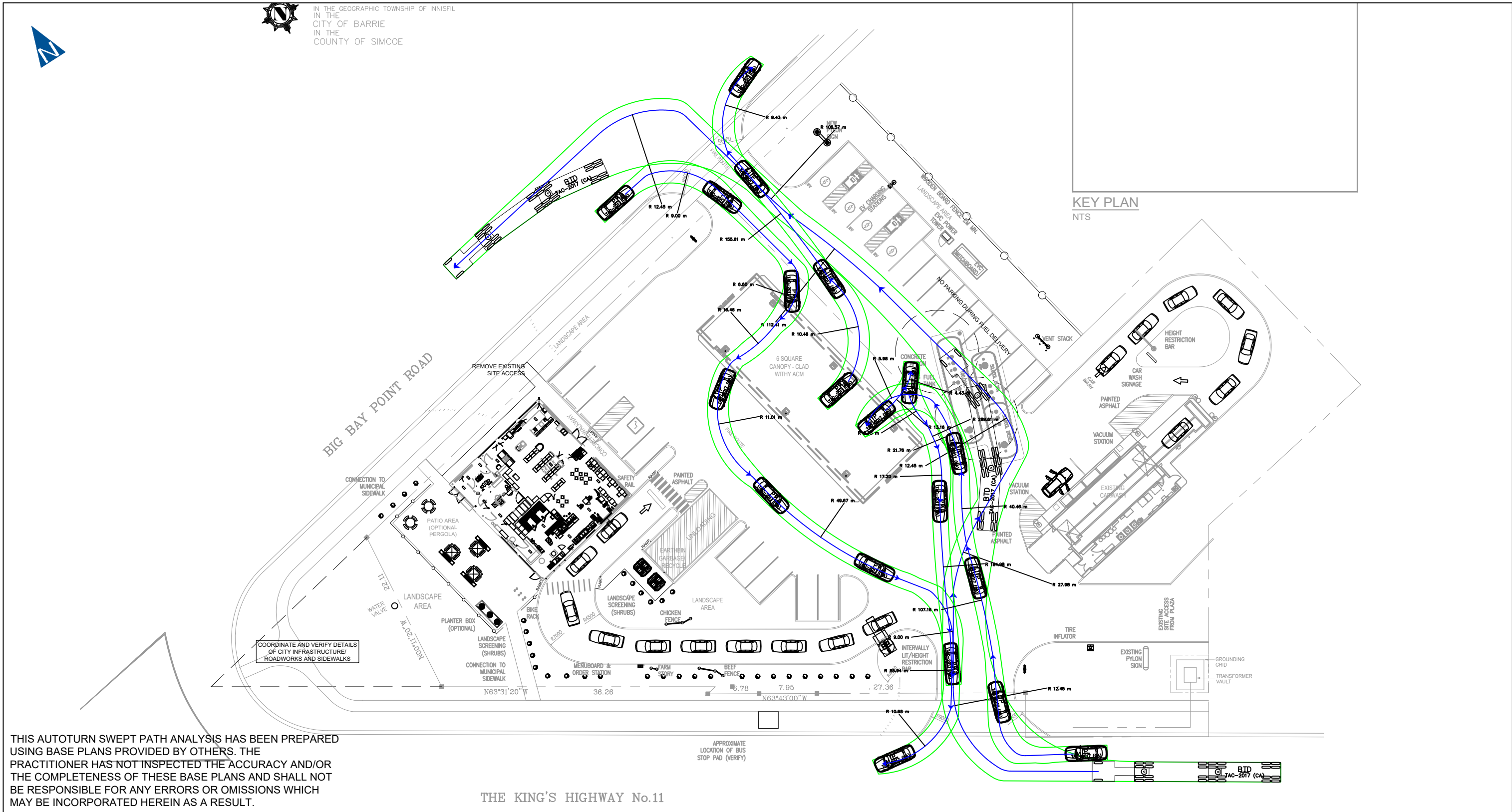
HCM Unsignalized Intersection Capacity Analysis (230604) - 623 Yonge Street and 515 Big Bay Point Road  
2: Yonge Street & Petro-Canada / Plaza Driveway 2029 Total Saturday Peak Hour

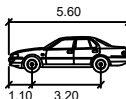
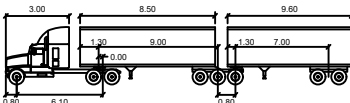
|                                   | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | WBL  | WBR  | NBT   | NBR  | SBL                  | SBT  |
| Lane Configurations               | W    | W    | W     | W    | W                    | W    |
| Traffic Volume (veh/h)            | 33   | 176  | 680   | 40   | 157                  | 645  |
| Future Volume (Veh/h)             | 33   | 176  | 680   | 40   | 157                  | 645  |
| Sign Control                      | Stop |      | Free  |      | Free                 |      |
| Grade                             | 0%   |      | 0%    |      | 0%                   |      |
| Peak Hour Factor                  | 0.97 | 0.97 | 0.97  | 0.97 | 0.97                 | 0.97 |
| Hourly flow rate (vph)            | 34   | 181  | 701   | 41   | 162                  | 665  |
| Pedestrians                       | 2    |      |       |      |                      | 1    |
| Lane Width (m)                    | 3.6  |      |       |      |                      | 3.6  |
| Walking Speed (m/s)               | 1.2  |      |       |      |                      | 1.2  |
| Percent Blockage                  | 0    |      |       |      |                      | 0    |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       |      |      | TWLTL |      | TWLTL                |      |
| Median storage (veh)              |      |      | 2     |      | 2                    |      |
| Upstream signal (m)               |      |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            | 1380 | 374  |       |      | 744                  |      |
| vC1, stage 1 conf vol             | 724  |      |       |      |                      |      |
| vC2, stage 2 conf vol             | 656  |      |       |      |                      |      |
| vCu, unblocked vol                | 1380 | 374  |       |      | 744                  |      |
| tC, single (s)                    | 6.8  | 6.9  |       |      | 4.1                  |      |
| tC, 2 stage (s)                   | 5.8  |      |       |      |                      |      |
| tF (s)                            | 3.5  | 3.3  |       |      | 2.2                  |      |
| p0 queue free %                   | 89   | 71   |       |      | 81                   |      |
| cM capacity (veh/h)               | 308  | 628  |       |      | 871                  |      |
| Direction, Lane #                 | WB 1 | NB 1 | NB 2  | SB 1 | SB 2                 | SB 3 |
| Volume Total                      | 215  | 467  | 275   | 162  | 332                  | 332  |
| Volume Left                       | 34   | 0    | 0     | 162  | 0                    | 0    |
| Volume Right                      | 181  | 0    | 41    | 0    | 0                    | 0    |
| cSH                               | 539  | 1700 | 1700  | 871  | 1700                 | 1700 |
| Volume to Capacity                | 0.40 | 0.27 | 0.16  | 0.19 | 0.20                 | 0.20 |
| Queue Length 95th (m)             | 15.2 | 0.0  | 0.0   | 5.4  | 0.0                  | 0.0  |
| Control Delay (s)                 | 16.0 | 0.0  | 0.0   | 10.1 | 0.0                  | 0.0  |
| Lane LOS                          | C    |      |       | B    |                      |      |
| Approach Delay (s)                | 16.0 | 0.0  |       | 2.0  |                      |      |
| Approach LOS                      | C    |      |       |      |                      |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 2.8   |      |                      |      |
| Intersection Capacity Utilization |      |      | 51.6% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

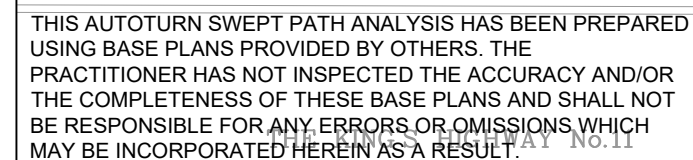
# Appendix G

## AutoTURN Vehicle Diagrams

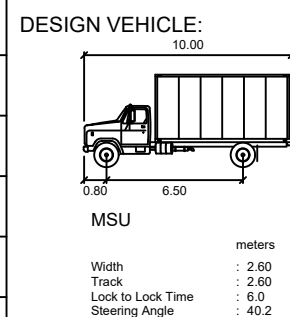




|     |      |         |                 |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                               |                     |                     |              |                    |
|-----|------|---------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------|---------------------|--------------|--------------------|
|     |      |         |                 | <div>DESIGN VEHICLE:</div> <div></div> <div>P</div> <div><div>Width</div><div>Track</div><div>Lock to Lock Time</div><div>Steering Angle</div><div>meters</div><div>: 2.00</div><div>: 2.00</div><div>: 6.0</div><div>: 35.9</div></div> | <div>DESIGN VEHICLE:</div> <div></div> <div>BTD</div> <div><div>Tractor Width</div><div>Trailer Width</div><div>Tractor Track</div><div>Trailer Track</div><div>Lock to Lock Time</div><div>Steering Angle</div><div>Articulating Angle</div><div>meters</div><div>: 2.60</div><div>: 2.60</div><div>: 2.60</div><div>: 2.60</div><div>: 6.0</div><div>: 29.3</div><div>: 70.0</div></div> | <div>AUTOTURN ASSESSMENT</div> <div>623 YONGE STREET &amp; 515 BIG BAY POINT ROAD</div> <div>BARRIE, ON</div> |                     |                     |              |                    |
| NO. | DATE | INITIAL | REVISION DETAIL |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          | PROJECT NO.: 230604 | DATE: DECEMBER 2023 | SCALE: 1:500 | DRAWING NO.:<br>01 |
|     |      |         |                 |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                               | DRAWN: LC           | DESIGN: LC          | CHECK: ASo   |                    |



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| NO. | DATE | INITIAL | REVISION DETAIL |



AUTOTURN ASSESSMENT  
623 YONGE STREET & 515 BIG BAY POINT ROAD  
BARRIE, ON



PROJECT NO.: 230604

DRAWN: LC

DATE: DECEMBER 2023

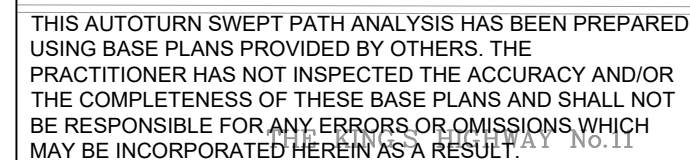
DESIGN: LC

SCALE: 1:500

CHECK: AS<sub>0</sub>

DRAWING NO.:

02



AUTOTURN ASSESSMENT  
623 YONGE STREET & 515 BIG BAY POINT ROAD  
BARRIE, ON

|     |      |         |                 |
|-----|------|---------|-----------------|
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|     |      |         |                 |
|     |      |         |                 |
|     |      |         |                 |
|     |      |         |                 |
| NO. | DATE | INITIAL | REVISION DETAIL |

Side view of a truck with dimensions: total length 11.70, wheelbase 7.19, and front overhang 1.37.

|                   |        |
|-------------------|--------|
|                   | meters |
| Width             | : 2.47 |
| Track             | : 2.47 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 53.0 |

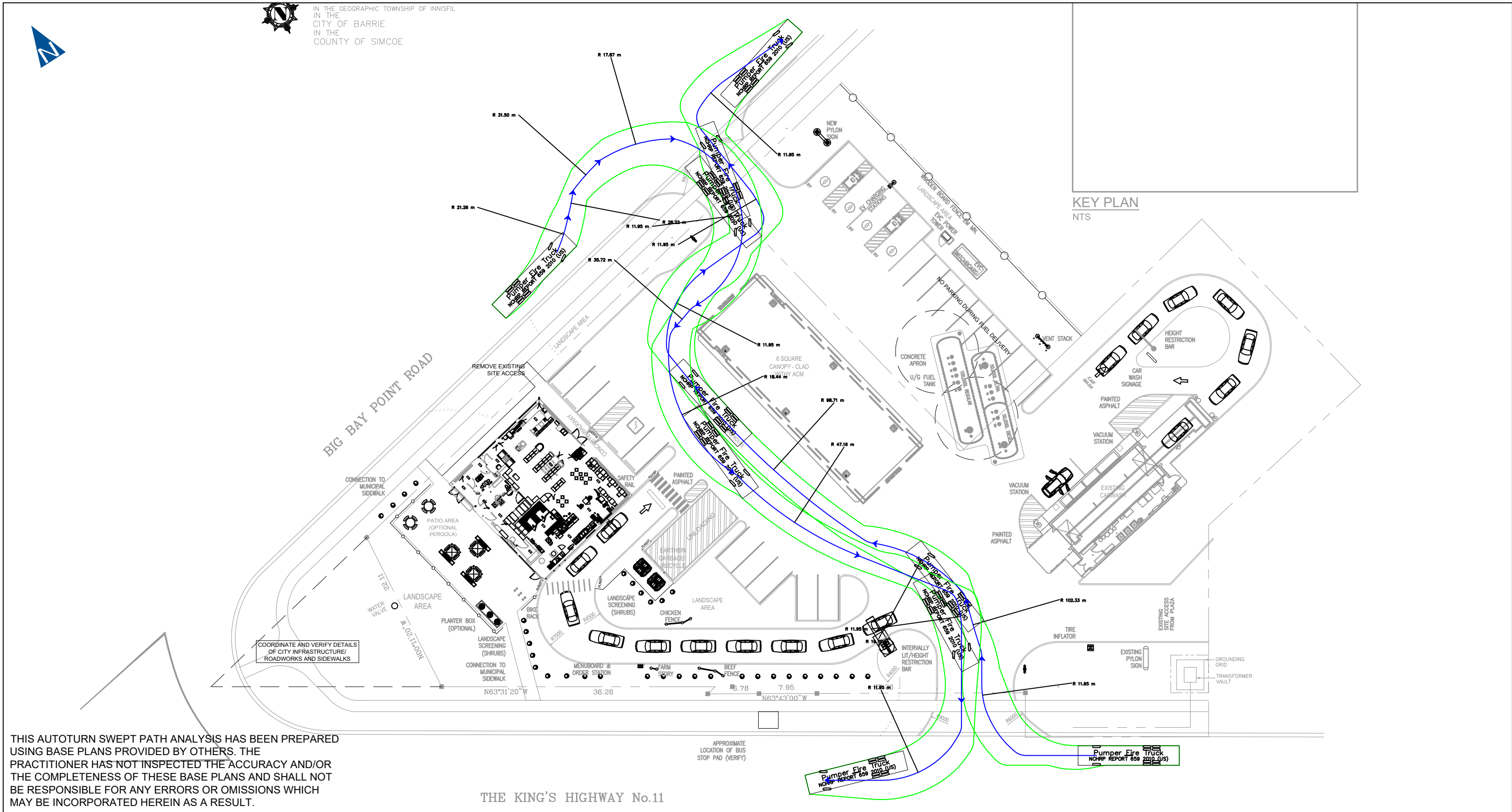


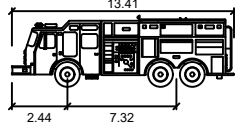
DRAWN: LC

DESIGN: LC

CHECK: AS<sub>0</sub>

03



|     |      |         |                 |                                                                                                                                                                                                                                                                                                                                               |                                                                                                               |                     |                     |              |                    |
|-----|------|---------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------|---------------------|--------------|--------------------|
|     |      |         |                 | <div>DESIGN VEHICLE:</div> <div></div> <div>Pumper Fire Truck</div> <div><div>Width</div><div>: 2.59</div><div>Track</div><div>: 2.59</div><div>Lock to Lock Time</div><div>: 6.0</div><div>Steering Angle</div><div>: 37.8</div><div>meters</div></div> | <div>AUTOTURN ASSESSMENT</div> <div>623 YONGE STREET &amp; 515 BIG BAY POINT ROAD</div> <div>BARRIE, ON</div> |                     |                     |              |                    |
|     |      |         |                 |                                                                                                                                                                                                                                                                                                                                               |                                                                                                               |                     |                     |              |                    |
|     |      |         |                 |                                                                                                                                                                                                                                                                                                                                               |                                                                                                               |                     |                     |              |                    |
|     |      |         |                 |                                                                                                                                                                                                                                                                                                                                               |                                                                                                               |                     |                     |              |                    |
|     |      |         |                 |                                                                                                                                                                                                                                                                                                                                               |                                                                                                               |                     |                     |              |                    |
| NO. | DATE | INITIAL | REVISION DETAIL |                                                                                                                                                                                                                                                                                                                                               |                          | PROJECT NO.: 230604 | DATE: DECEMBER 2023 | SCALE: 1:500 | DRAWING NO.:<br>04 |
|     |      |         |                 |                                                                                                                                                                                                                                                                                                                                               |                                                                                                               | DRAWN: LC           | DESIGN: LC          | CHECK: ASo   |                    |