

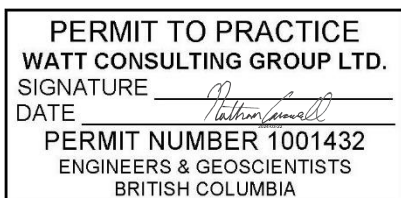


# 1160 VICTORIA DRIVE, PORT COQUITLAM

## Transportation Impact Assessment (TIA)

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## 1.0 INTRODUCTION

WATT Consulting Group (WATT) was retained by RBD Victoria Homes Inc., C/O H.Y. Engineering Ltd. to prepare a Transportation Impact Assessment (TIA) for the proposed development application at 1160 Victoria Drive in Port Coquitlam, BC for the City of Port Coquitlam (City).

The TIA forms part of the development application and determines any transportation impacts and their associated mitigation measures due to the development.

### 1.1 The Site Today

The development site is bounded by Victoria Drive to the north, Lynwood Avenue to the south, and existing single-family homes to the east and west.

The site location and lot layout are illustrated in **Figure 1**. The existing site is occupied by a single-family home.



1160 Victoria Drive, Port Coquitlam  
Transportation Impact Assessment (TIA)

Figure 1  
Site Location



## 1.2 Proposed Development

The proposed development includes 26 single-family residential units. Vehicle parking is proposed at the respective garages and driveway pads of the single-family dwelling units. Vehicular access to the homes is proposed from Lynwood Avenue (through the construction of a new north-south local road) while pedestrian access is proposed from both Victoria Drive (through the construction of a new north-south walkway) and Lynwood Avenue.

The development will replace the existing single-family home. The date of occupancy of the development is expected to be in 2028.

## 1.3 This Report

This report is provided as part of the rezoning application being submitted to the City. The report contains the following:

- An overview of the proposed development program.
- An overview of the transportation context in the vicinity of the site, including vehicular, pedestrian, cycling, and transit facilities, and area travel characteristics.
- An assessment of the existing traffic activity patterns and traffic volumes in the study area during the weekday morning and afternoon peak periods.
- An assessment of the trip generation and assignment characteristics of the proposed development.
- A review of vehicular traffic operations at intersections in the area under existing (2023), opening year (2028), and five-year horizon following the opening year (2033) conditions with and without the proposed development.
- A review of the proposed site access.
- A review of parking impacts in the vicinity of the site.





## 2.0 TRANSPORTATION CONTEXT

### 2.1 Road Network

The existing road network, lane configuration, and intersection control are illustrated in Figure 2. The study area consists of five roadways.

**Victoria Drive** is an east-west arterial road that borders both the City of Port Coquitlam and City of Coquitlam. It extends from Coast Meridian Road in the west, to Huber Drive in the east, where it continues as Cedar Drive. Victoria Drive has a posted speed limit of 50 km/h. Between Apel Drive and Holtby Street, Victoria Drive has a three-lane cross-section with one lane in each direction and a center left turn lane. East of Holtby Street, Victoria Drive has a two-lane cross-section with one lane in each direction. The speed limit reduces to 30 km/h west of Apel Drive/Soball Street due to a school zone (Leigh Elementary) from 8am to 5pm on school days, while a 30km/h speed limit also exists between Apel Drive/Soball Street and Holtby Street due to a playground zone (Victoria Park) at all times. A Multi-Use Pathway (MUP) is available on the north side of the road as part of the City's bike route. Curbside parking is available on the south side of the road west of Apel Drive/Soball Street while parking on both sides of the road is available east of the intersection. Walking facilities are available on both sides – MUP on the north side and sidewalk on the south side.

**Apel Drive and Soball Street** are collector roads under the jurisdiction of the City of Port Coquitlam and the City of Coquitlam respectively. Apel Drive extends diagonally between Coast Meridian Road in the southwest and Victoria Drive in the northeast, where it continues north as Soball Street as it enters the jurisdiction of the City of Coquitlam. Within the study area, Apel Drive/Soball Street has a two-lane cross-section with one lane in each direction. Both roads have a posted speed limit of 50 km/h. In the study area, the speed limit reduces to 30 km/h on Apel Drive north of Derby Crescent, and on Soball Street due to the school zone (Leigh Elementary) from 8am to 5pm on school days. Apel Drive is part of the City's designated on-street bike route with bike route guide signs. On Soball Street, a MUP is available on the west side of the road as part of the bike route. The MUP ends just north of the intersection with Wilkie Avenue. Curbside parking is available on both sides of Apel Drive, and on the west side of Soball Street within the study area. On Apel Drive, sidewalks are available on the east side of the road, and on the west side of the road for approximately 50m south of Victoria Drive. On Soball Street, walking facilities are available on both sides – MUP on the west side and sidewalk on the east side.





**Wedgewood Street** is a north-south local road under the jurisdiction of the City. It extends from Victoria Drive in the north, to Lynwood Avenue in the south. Wedgewood Street has a two-lane cross section with one lane in each direction, and a posted speed limit of 50 km/h. There are no cyclist facilities. Curbside parking is available on both sides of the road. Sidewalk is available on the west side of the road.

**Lynwood Avenue** is an east-west local road under the jurisdiction of the City. This section of Lynwood Avenue extends from Apel Drive in the west, to Alderwood Avenue in the east passing the intersection with Wedgewood Street. Lynwood Avenue has a two-lane cross section with one lane in each direction, and a posted speed limit of 50 km/h. There are no cyclist facilities. Curbside parking is available on both sides of the road. Sidewalk is available on the north side of the road. After Lynwood Avenue terminates at Alderwood Avenue, a gravel trail is available for pedestrians and cyclists to continue east and connect to the Traboulay Trail.

## 2.2 Study Intersections

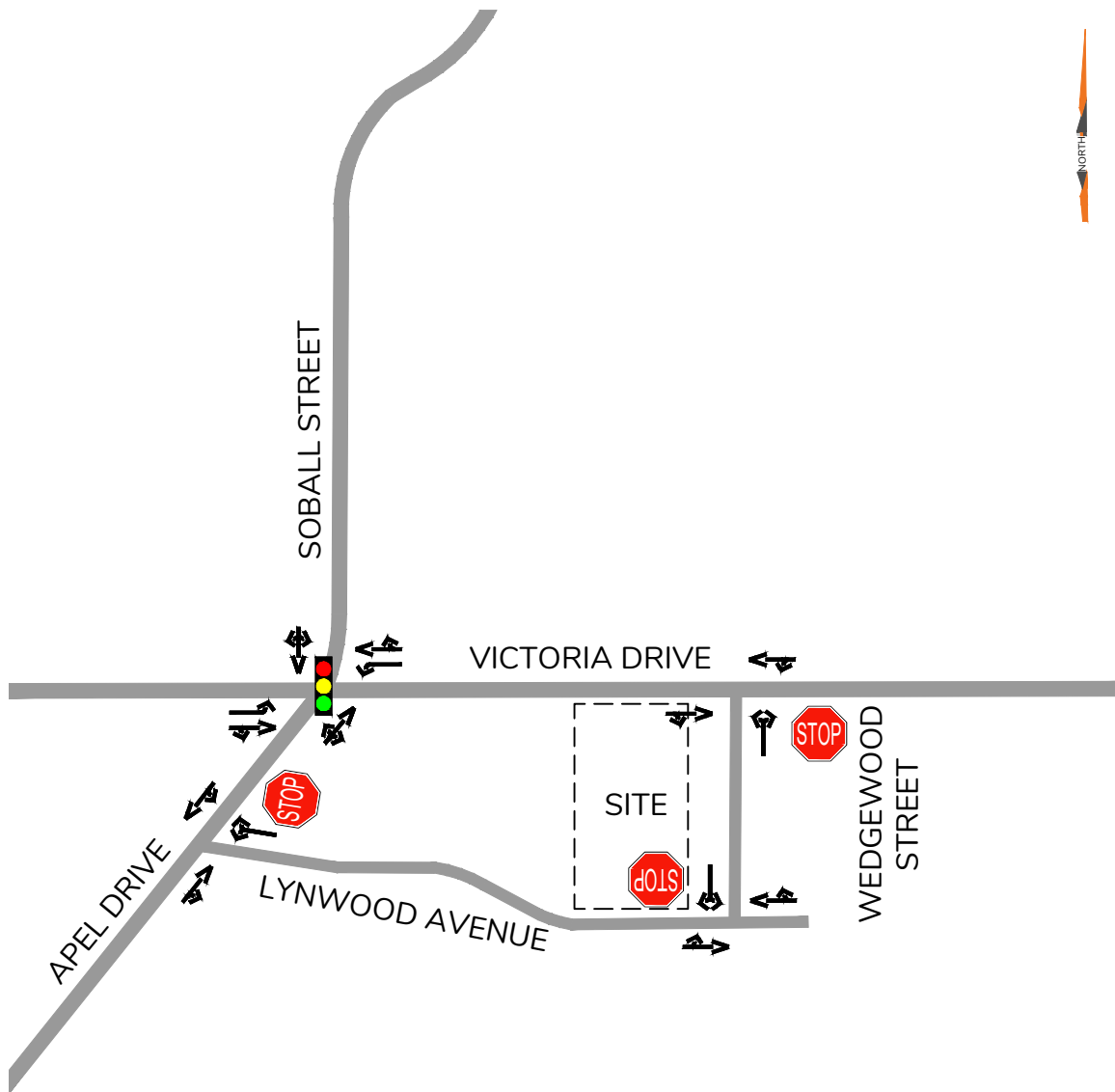
The study area consists of four intersections.

**Victoria Drive & Apel Drive / Soball Street** is a signalized four-legged intersection. The eastbound and westbound approaches have a shared through-right turn lane and a dedicated left turn lane. The northbound and southbound approach have a single shared lane for all movements. Pedestrian crossings are available on all legs of the intersection. The crossing on the north leg is a multi-use crossing for both pedestrians and cyclists as part of the MUP connection.

**Victoria Drive & Wedgewood Street** is an unsignalized three-legged intersection with stop control on the northbound approach and free movements for eastbound and westbound approaches. All approaches have a single shared lane for all movements. No signed pedestrian crosswalk is available at this intersection.

**Apel Drive & Lynwood Avenue** is an unsignalized three-legged intersection with stop control on the westbound approach and free movements for northbound and southbound approaches. All approaches have a single shared lane for all movements. No signed pedestrian crosswalk is available at this intersection.

**Wedgewood Street & Lynwood Avenue** is an unsignalized three-legged intersection with stop control on the southbound approach and free movements for eastbound and westbound approaches. All approaches have a single shared lane for all movements. No signed pedestrian crosswalk is available at this intersection.





## 2.3 Transit Network

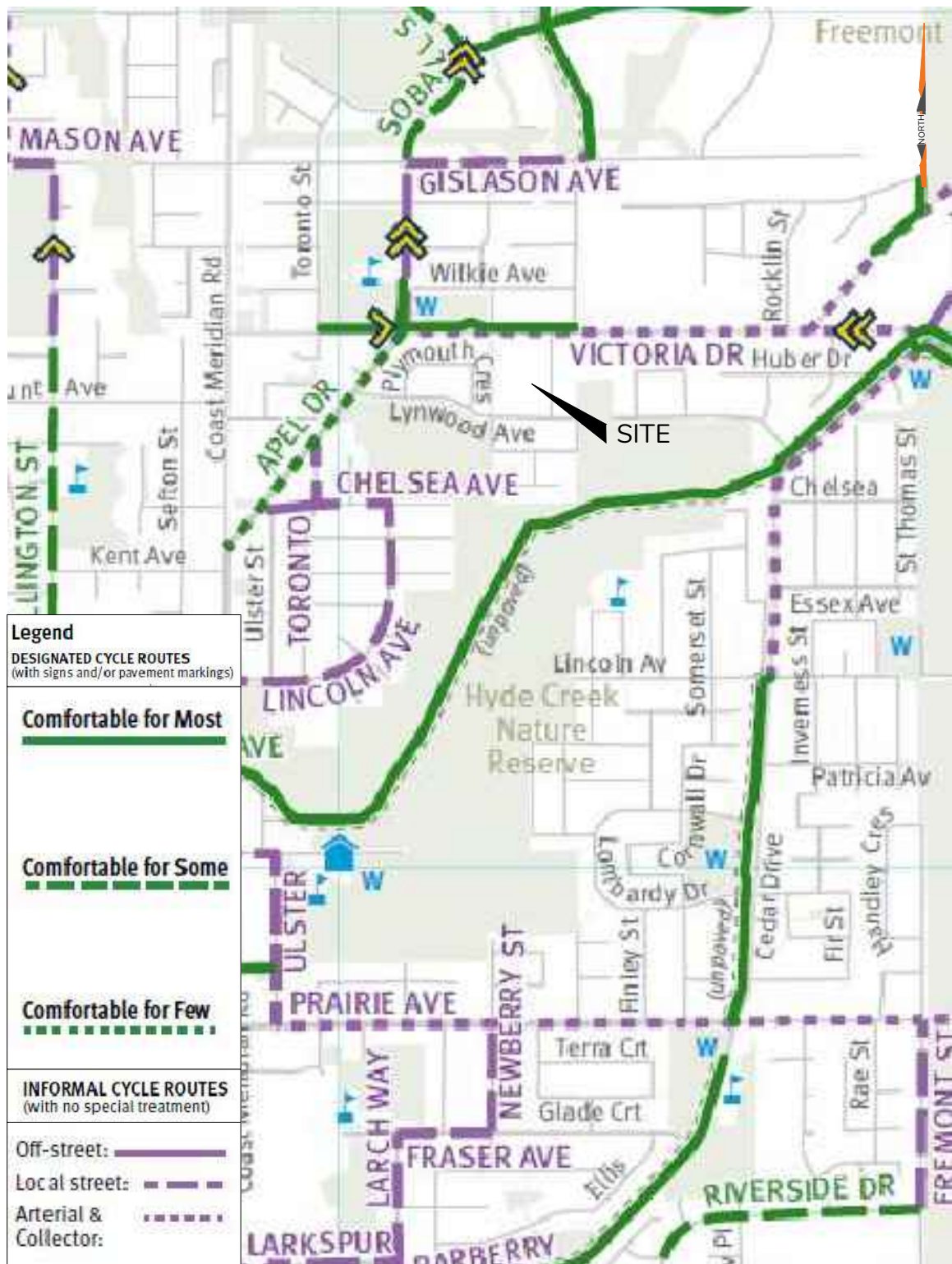
**Table 1** summarizes the transit route in the site vicinity. Although there is only one bus route directly serving the development, the bus route terminates shortly east of the site on Victoria Drive and continues on Cedar Drive as another bus route, making it two bus routes. Together they provide connections to key employment, institutional, and recreational locations such as Downtown Port Coquitlam, various commercial stores near the intersection of Coast Meridian Road & Prairie Avenue, Shaughnessy Station Mall, Port Coquitlam Community Centre, Port Coquitlam Station, before terminating at Coquitlam Central SkyTrain Station, allowing connection to the Millennium Line. A School Special bus route also operates two trips from Terry Fox Secondary School in the afternoon. The existing bus stop is within 250 metres (i.e., a 3-minute walk) from the development.

**Table 1 - Existing Transit Services**

Route	Direction	Walking Distance	Service Frequency (Peak Hours)
174 – Coquitlam Central Station / Rocklin	East/West	100 m	15 min
173 – Coquitlam Central Station / Cedar	East/West	150 m	15 min
863 – Terry Fox Secondary Special	Circular	250 m	Single Trip

## 2.4 Cycling Network

The existing area cycling network is illustrated in **Figure 3**. Multi-use pathways (MUP) are available along Victoria Drive and Soball Street. Apel Drive is a part of the City's designated on-street bike route. Future residents at the development site will also be able to connect to the Traboulay PoCo Trail by travelling 500m east of the Lynwood Avenue / Alderwood Avenue intersection. The Traboulay PoCo trail provides an off-street active transportation loop connection around the City.





## 2.5 Pedestrian Environment

There is adequate walking infrastructure in proximity to the site. Sidewalks are available on the west side of Wedgewood Street and on the north side of Lynwood Avenue. Sidewalk is also available on the south side of Victoria Drive, and walking facility as part of the MUP on the north side of Victoria Drive. Apel Drive has sidewalk on the east side of the road, and for approximately 50 meters south of Victoria Drive on the west side of the road. On Soball Street, a MUP is available on the west side of road, and sidewalk is available on the east side of the road. Signed and marked crossings are available on all four legs of the Apel Drive / Soball Street & Victoria Drive intersection.

The proposed development is planned to include a north-south walkway at Victoria Drive, providing direct access to/from the site at Victoria Drive.

## 3.0 PROPOSED DEVELOPMENT

### 3.1 Overview

The proposed development site plan is provided in **Appendix A**. The transportation-related elements of the proposed site plan are summarized in **Table 2**.

**Table 2 - Development Program**

Site Element	Details
Residential Units	26 units
New Roads	A north-south local road with an 8.5m road width connecting with Lynwood Avenue and an east-west laneway with a 6m road width connecting with the new north-south road will be constructed as part of the developments.
Vehicular Access	Vehicular access (including loading and waste collection) to the proposed residential units is provided from Lynwood Avenue.
Pedestrian Access	Pedestrian access will be provided from Victoria Drive through the proposed north-south walkway. Access will also be available from the existing north side sidewalk on Lynwood Avenue.



## 4.0 TRAFFIC VOLUMES

### 4.1 Traffic Analysis Scenarios and Design Periods

Vehicle traffic operational analysis has been undertaken for the weekday morning (AM) and afternoon (PM) peak hour under the following conditions:

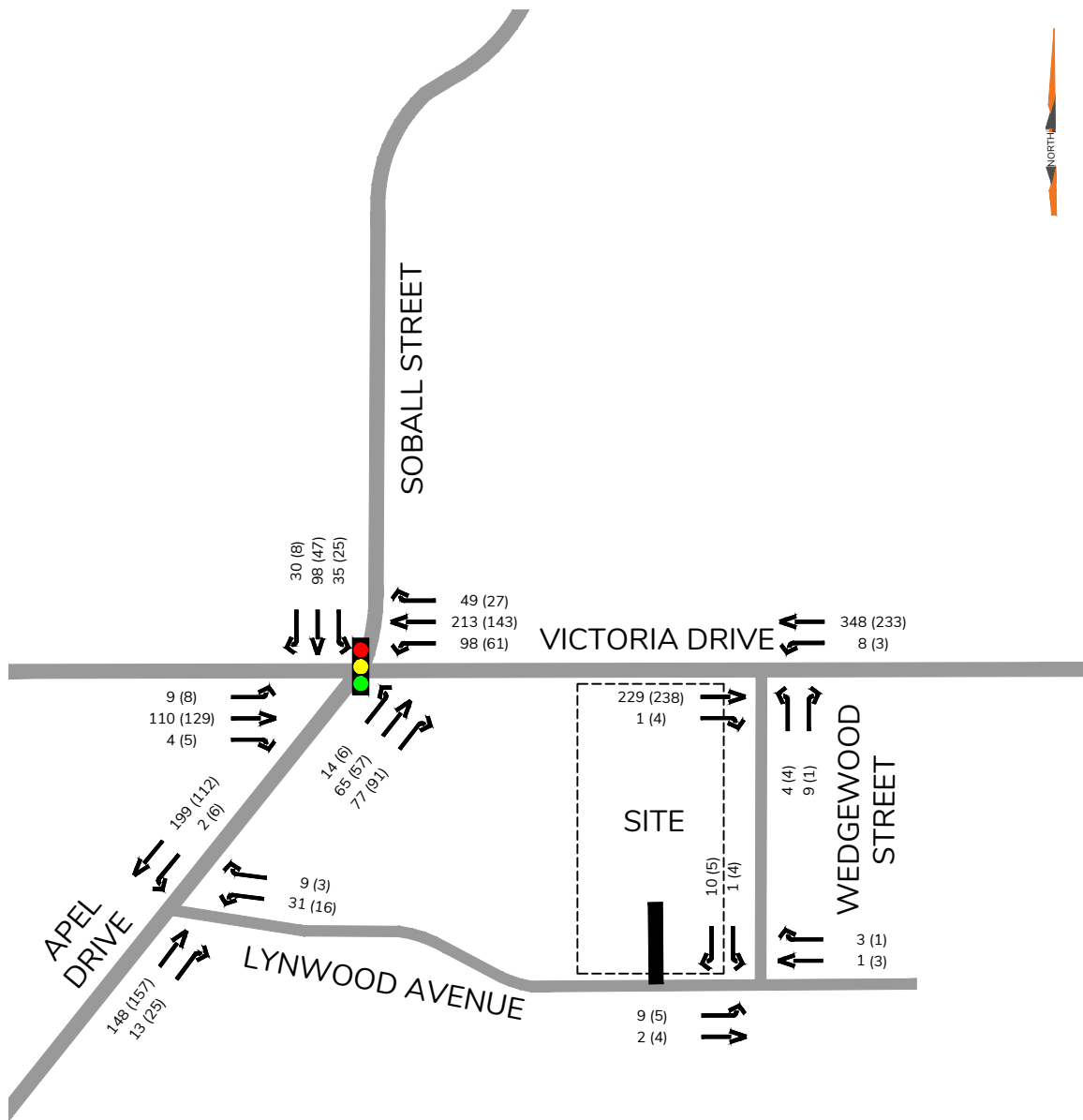
- **Existing traffic:** traffic activity under current conditions.
- **Background traffic:** traffic activity levels in the future, which includes allowances for corridor growth and other background developments.
- **Post-development traffic:** traffic activity levels in the future with the site redeveloped and projected site-generated traffic added to the road network.

Traffic operations are discussed in the following sections for these scenarios:

- 2023: Existing Conditions
- 2028: Opening Day, background and post-development conditions
- 2033: Five-year horizon after opening day, background and post-development conditions

### 4.2 Existing Traffic

Turning movement volumes were collected on Wednesday September 27<sup>th</sup>, 2023, between 8:00AM and 9:00AM for the AM peak hour, and 4:00PM to 5:00PM for the PM peak hour at the study intersections. It should be noted that the afternoon peak hour in the study area may also have an additional school peak hour due to the nearby Leigh Elementary School. However, the school peak hour does not coincide with the expected peak hour of the proposed development and is rather expected to coincide with the commuter traffic peak hour data that has been collected for the intersection. The existing traffic volumes for the weekday AM and PM peak hour are illustrated in **Figure 4**.



## - AM PEAK HOUR  
(##) - PM PEAK HOUR





### 4.3 Background Traffic Volumes

#### 4.3.1 Corridor Growth

The study area has undergone recent road upgrades along Victoria Drive between Toronto Street and Holtby Street which included a center turn lane to ease access to residential driveways, maintain street parking on the south side of Victoria Drive, widen the eastbound travel lane so that moving traffic can pass parked vehicles without crossing the center line, and provide a multi-use pathway on the north side of Victoria Drive. The upgrades are expected to extend further east between Holtby Street and Wedgewood Street in the future.

Additional road network upgrades related to the study area include the Fremont Connector Project which is planned to connect the east end of Victoria Drive at Cedar Drive to the Lougheed Highway and Mary Hill Bypass with a north-south arterial road (see **Figure 5**). This project is expected to increase background traffic along Victoria Drive from the east end via the connector road while reducing traffic along Victoria Drive from existing roads in the network such as Coast Meridian Road and Cedar Drive. For the purposes of the Transportation Impact Assessment for the subject site development, background traffic growth for the Victoria Drive corridor and all study area roads was forecast using a +2.0% annual linear growth rate applied to the existing 2023 volumes to all the horizon years. This growth rate would capture background traffic growth and assume a conservative traffic model to identify any possible development generated traffic impacts at the study area intersections due to the subject site.

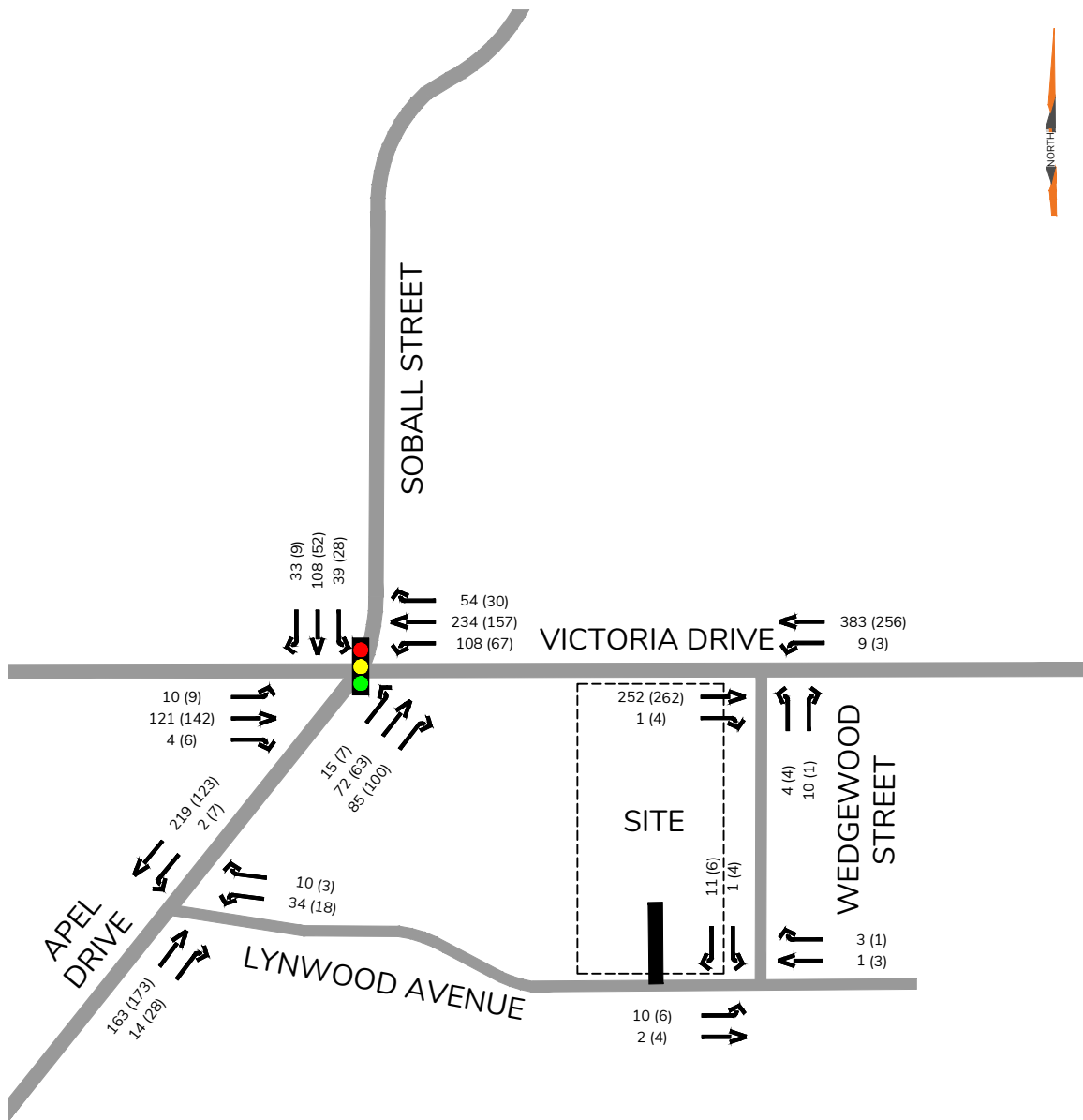


Figure 5: Map of Fremont Street Connector Project

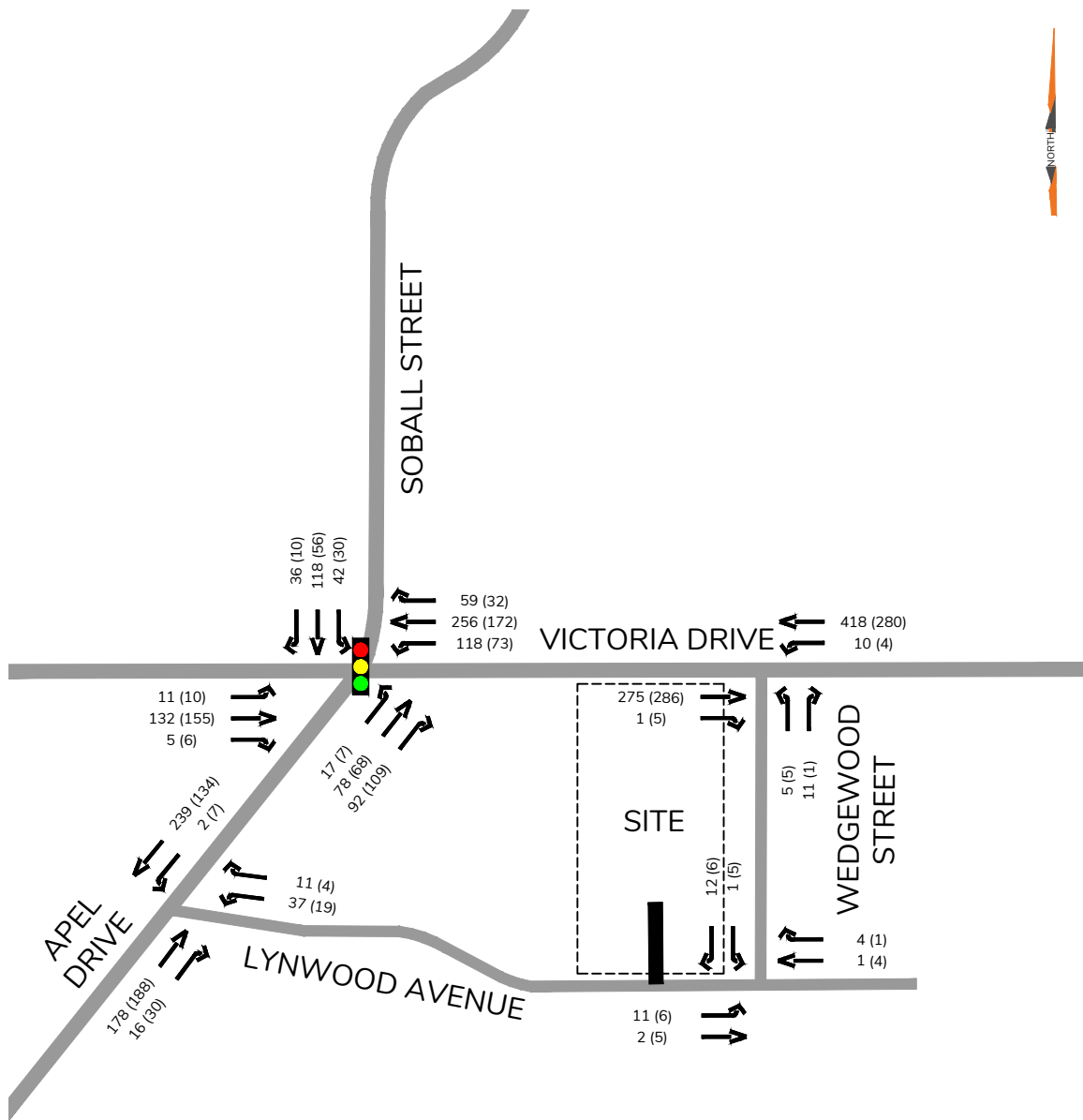


#### 4.3.2 Background Traffic Volumes

Background traffic volumes are the sum of the existing traffic volumes and corridor growth. Background traffic volumes for the 2028 opening day and the 2033 five-year horizon year are illustrated in **Figure 6** and **Figure 7**.



## - AM PEAK HOUR  
### - PM PEAK HOUR



## - AM PEAK HOUR  
(##) - PM PEAK HOUR



#### 4.4 Site Traffic Volumes

The weekday peak hour trip generation rates are obtained from Institute of Transportation Engineers (ITE) Trip Generation Manual 11<sup>th</sup> Edition. They are then used to estimate the number of site-generated trips for the proposed development. The trip generation rates are summarized in **Table 3**.

**Table 3 - Trip Generation Rates**

Land Use	Trip Generation Source	Setting	Units	Trip Type	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
					Rate	In	Out	Rate	In	Out
Single-family	ITE 210: Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	Vehicles	0.70	25%	75%	0.94	63%	37%

Based on the vehicle trip generation rates notes above, the number of external vehicle trips expected to be generated by the proposed development are shown in **Table 4**. The proposed development is expected to generate a total of 19 vehicle trips in the AM peak hour and 25 vehicle trips in the PM peak hour. This is equivalent to approximately 1 vehicle trip every 3 minutes in the AM peak hour and approximately 1 vehicle trip every 2.5 minutes in the PM peak hour. These additional trips are considered low and therefore, the proposed development is not expected to create any significant traffic issues in the neighborhood and the surrounding streets. Traffic modelling is performed in section 5 of this report to further confirm and validate these findings.



**Table 4 - Trip Generation, External Vehicle Trips**

Land Use	Trip Generation Source	Setting	Units	Trip Type	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
					Total	In	Out	Total	In	Out
Single-family	ITE 210: Single-Family Detached Housing	General Urban/Suburban	26	Vehicles	19	5	14	25	16	10
<b>Net Vehicle Trips</b>					<b>19</b>	<b>5</b>	<b>14</b>	<b>25</b>	<b>16</b>	<b>10</b>

\*Note: Totals may not add up due to rounding effects

#### 4.4.1 Trip Distribution and Assignment

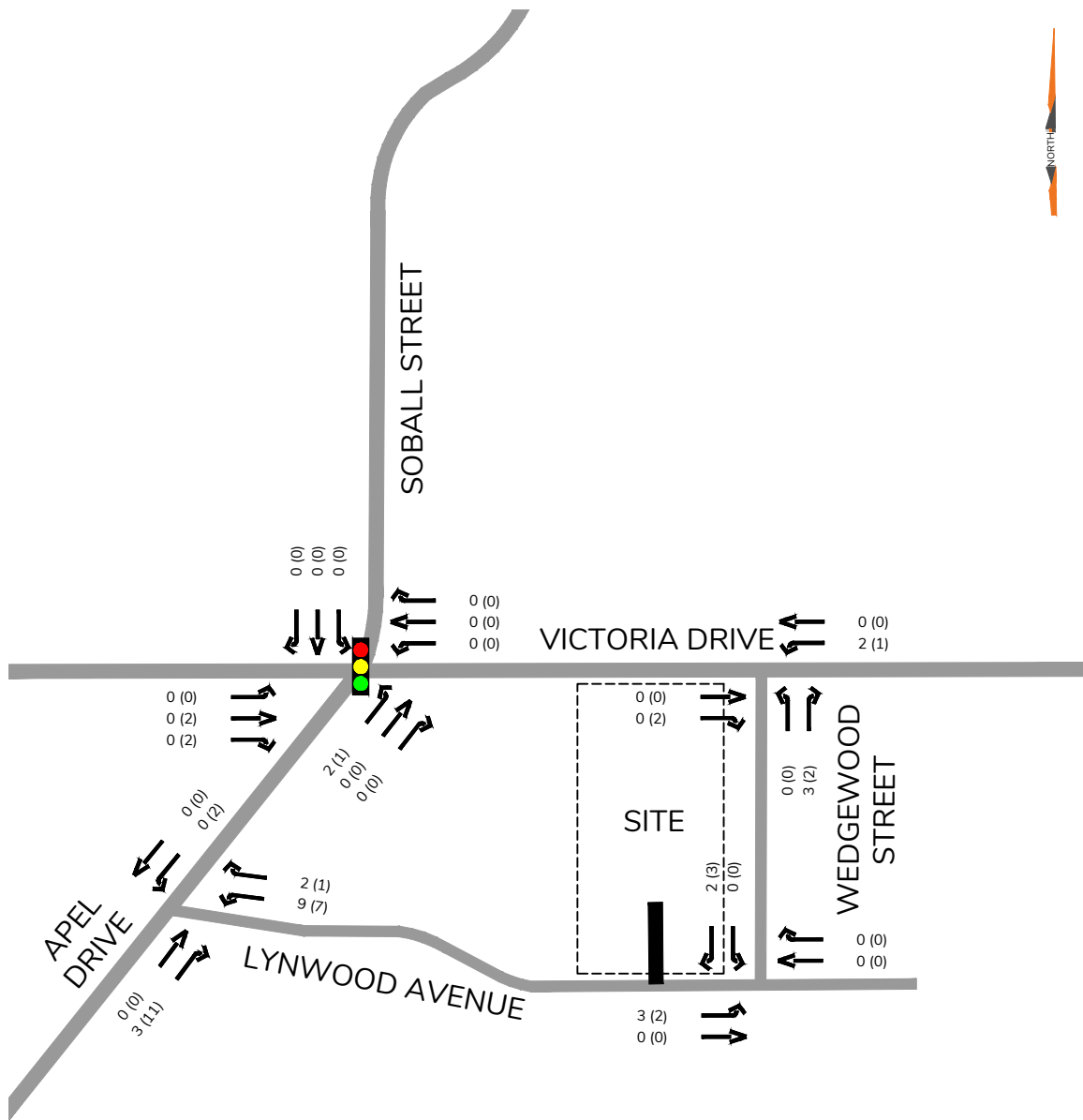
The trip distribution pattern for site-generated traffic was established based on the existing traffic patterns at each intersection.

The distribution of inbound and outbound traffic adopted for the proposed development is summarized in **Table 5**. The net new site traffic volumes assigned to the area road network are illustrated in **Figure 8**.

**Table 5 – Site Trip Distribution**

Route	From /To	AM Peak Hour		PM Peak Hour	
		Inbound	Outbound	Inbound	Outbound
Victoria Drive	West	12%	18%	27%	12%
	East	38%	18%	9%	21%
Apel Drive	South	50%	64%	64%	67%
<b>Total</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>





## - AM PEAK HOUR  
(##) - PM PEAK HOUR



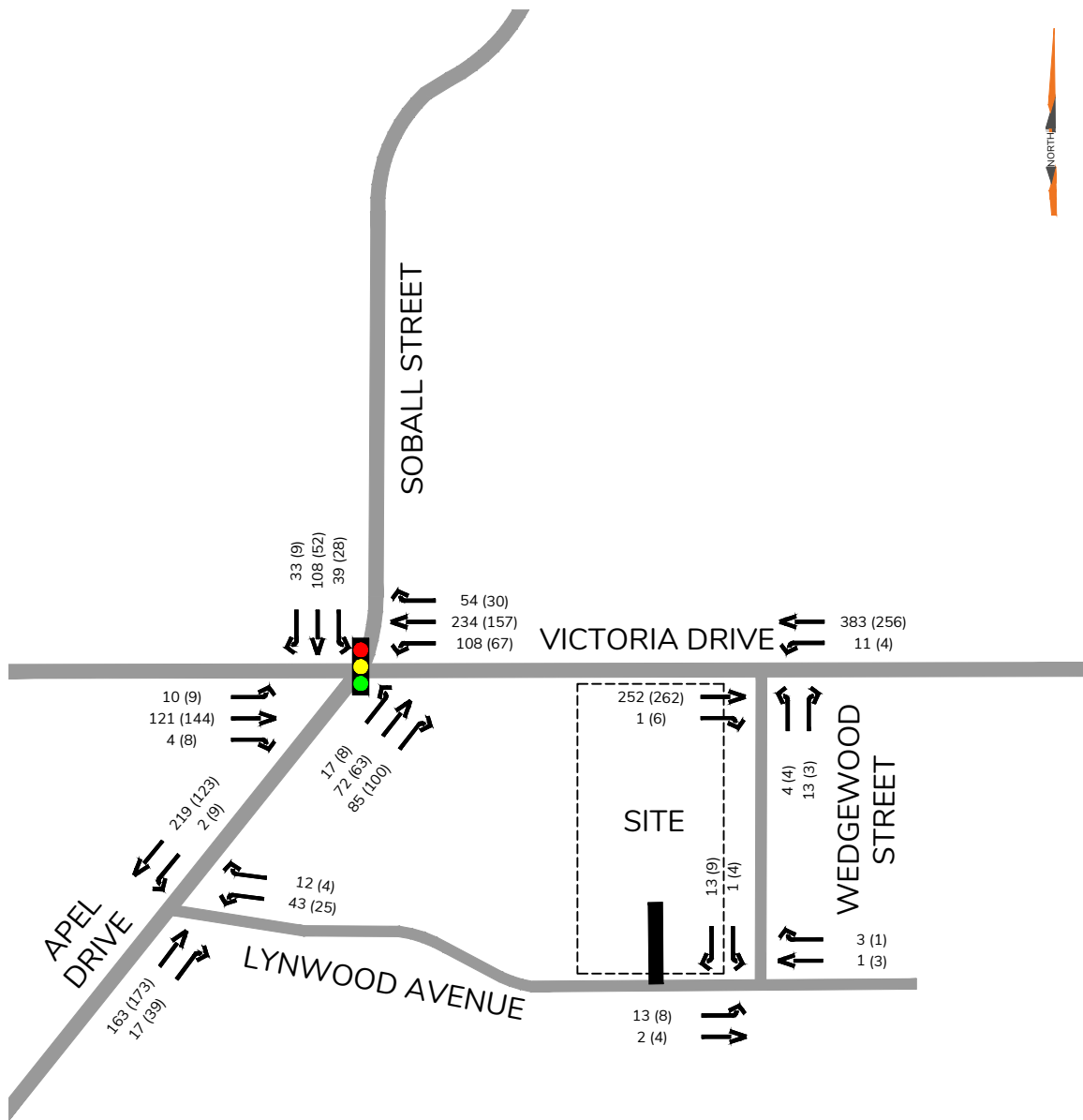
## 4.5 Post-Development Traffic Volumes

Post-development traffic volumes are the sum of the background traffic volumes and net new site traffic volumes. The proportion of the new site traffic volumes compared to the post development total traffic volumes provide an understanding of the level of development traffic at each of the study area intersections. **Table 6** summarizes the percentage of site generated traffic volumes compared to the total traffic volumes at the study area intersections which indicates that site generated traffic is adding a maximum of 17% of the total traffic volumes at Lynwood Avenue / Wedgewood Street intersection. This is an intersection comprised of local streets and therefore, site generated traffic impacts is expected to be minimal (see **Section 5**). At the Victoria Drive / Apel Drive / Soball Street intersection, which is comprised of arterial and collector streets, the addition of site generated traffic is less than 1%.

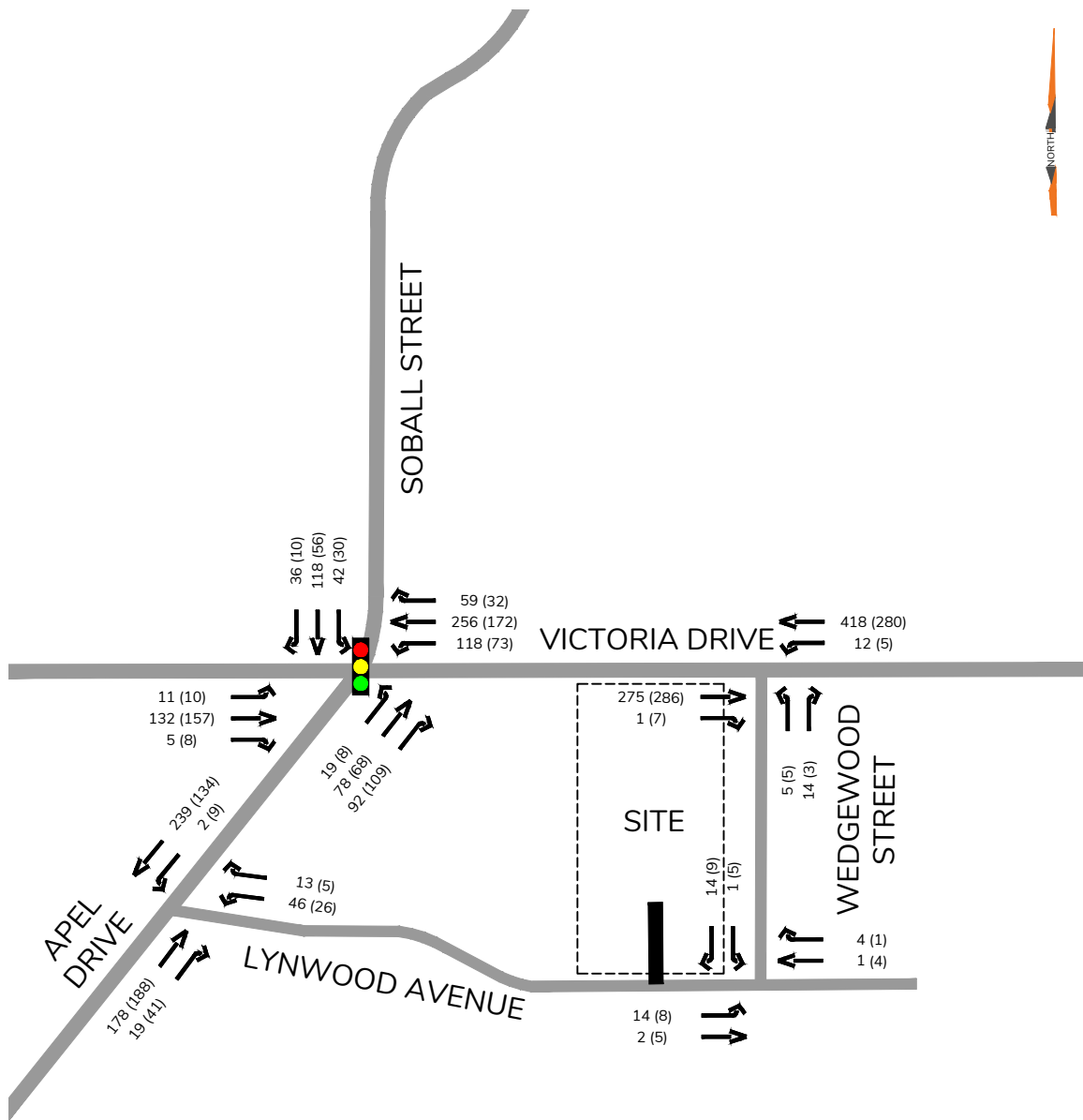
**Table 6: Proportion of Site Traffic Volumes to Total Traffic Volumes**

Intersection	Site Traffic Volumes / Total Traffic Volumes			
	2028 AM	2028 PM	2033 AM	2033 PM
Victoria Dr and Apel Dr / Soball St	2 / 885 = 0.3%	5 / 675 = 0.7%	2 / 966 = 0.2%	5 / 733 = 0.7%
Victoria Dr and Wedgewood St	5 / 664 = 0.8%	5 / 535 = 0.9%	5 / 725 = 0.7%	5 / 586 = 0.9%
Apel Dr and Lynwood Ave	14 / 456 = 3%	21 / 373 = 6%	14 / 497 = 3%	21 / 403 = 5%
Lynwood Ave and Wedgewood St	5 / 33 = 15%	5 / 29 = 17%	5 / 36 = 14%	5 / 32 = 16%

Post-development traffic volumes for opening day (2028) and five-year horizon (2033) are illustrated in **Figure 9** and **Figure 10**.



## - AM PEAK HOUR  
 (##) - PM PEAK HOUR



1160 Victoria Drive, Port Coquitlam  
Transportation Impact Assessment (TIA) 2033 Horizon Year Post-Development Traffic Volumes

Figure 10



## 5.0 TRAFFIC OPERATIONS ANALYSIS

### 5.1 Methodology

Analysis of vehicular traffic conditions at the study area intersections was undertaken using Synchro version 11. Synchro and SimTraffic is a two-part traffic modelling software that provides analysis of traffic conditions based on Highway Capacity Manual sixth edition evaluation methodology. A detailed description is provided in **Appendix B**.

### 5.2 Input and Calibration Parameters

#### **Heavy Vehicle**

Heavy vehicle percentages incorporated into the analysis were based on information provided as part of the intersection turning movement counts.

#### **Peak Hour Factor**

Peak hour factors (PHF) incorporated into the analysis were calculated from the intersection turning movement counts.

#### **Lane Configuration**

Lane configuration mirrored existing conditions for all scenarios within the report.



### 5.3 Victoria Drive & Apel Drive / Soball Street

Traffic analysis results for the Victoria Drive & Apel Drive / Soball Street intersection are summarized in **Table 7**.

Under existing conditions:

- All movements at this intersection are operating at LOS C or better which indicates no significant vehicle delay. With a volume / capacity (V/C) ratio of 0.67 or lower, all lanes are currently operating within capacity. There are no vehicle queueing issues for any movements and the left turn lanes have sufficient storage lengths to manage existing queues.

Under the opening day (2028) conditions:

- Without development traffic, all movements continue to operate at LOS C or better with no significant vehicle delays. The V/C ratio is expected to be 0.73 or lower and therefore, is not expected to have any lane capacity issues. No vehicle queues are expected.
- With development traffic, no significant additional traffic operational impacts are expected. Vehicle delay is expected to continue to operate at LOS C or better. The V/C is expected to remain the same at 0.73 or lower. No significant change in vehicle queueing is expected and the left turn lane storage lengths are expected to be sufficient to manage vehicle queues.

Under the opening day + five-year horizon (2033) conditions:

- Without development traffic, all movements are expected to continue to operate at LOS C or better, thus no significant vehicle delays. The V/C ratio is expected to be 0.76 or lower for all movements, well within lane capacities. No significant vehicle queueing is expected, and the left turn lane storage lengths are expected to be sufficient for managing vehicle queues.
- With development traffic, all movements are expected to continue to operate at LOS C or better. The V/C ratio is expected to remain the same at 0.76 or lower for all movements and no significant vehicle queues are expected. The left turn lane storage lengths are expected to be sufficient for managing any additional vehicle queues due to the development.



**Table 7 – Victoria Drive & Apel Drive / Soball Street Traffic Operations**

Key Movement	Existing (2023)				Background				Post Development			
	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)
<b>2023/28 Horizon Year (Opening Day)</b>												
<b>EBL</b>	B (B)	0.03 (0.02)	15 (13)	5 (5)	B (B)	0.03 (0.02)	15 (14)	5 (5)	B (B)	0.03 (0.02)	15 (14)	5 (5)
<b>EBTR</b>	B (B)	0.41 (0.47)	17 (16)	30 (25)	B (B)	0.44 (0.50)	18 (16)	30 (30)	B (B)	0.44 (0.50)	18 (16)	30 (30)
<b>WBL</b>	C (B)	0.67 (0.47)	24 (19)	25 (15)	C (C)	0.73 (0.49)	26 (20)	25 (15)	C (C)	0.73 (0.49)	26 (20)	25 (15)
<b>WBTR</b>	A (A)	0.45 (0.26)	9 (7)	35 (20)	A (A)	0.49 (0.28)	10 (8)	40 (30)	A (A)	0.49 (0.28)	10 (7)	40 (25)
<b>NB</b>	B (B)	0.40 (0.39)	16 (14)	20 (20)	B (B)	0.44 (0.42)	16 (15)	25 (20)	B (B)	0.44 (0.43)	16 (15)	25 (20)
<b>SB</b>	B (B)	0.40 (0.19)	15 (13)	25 (15)	B (B)	0.44 (0.21)	16 (13)	30 (15)	B (B)	0.44 (0.21)	16 (14)	30 (15)
<b>2033 Horizon Year (5-Year Post Build)</b>												
<b>EBL</b>	-	-	-	-	B (B)	0.04 (0.03)	16 (14)	5 (5)	B (B)	0.04 (0.03)	16 (14)	5 (5)
<b>EBTR</b>	-	-	-	-	B (B)	0.47 (0.52)	18 (17)	30 (35)	B (B)	0.47 (0.52)	18 (17)	35 (30)
<b>WBL</b>	-	-	-	-	C (C)	0.76 (0.51)	27 (21)	30 (20)	C (C)	0.76 (0.52)	27 (21)	30 (20)
<b>WBTR</b>	-	-	-	-	B (A)	0.53 (0.30)	10 (8)	40 (25)	B (A)	0.53 (0.30)	10 (8)	45 (30)
<b>NB</b>	-	-	-	-	B (B)	0.47 (0.45)	17 (15)	25 (20)	B (B)	0.47 (0.45)	17 (15)	25 (20)
<b>SB</b>	-	-	-	-	B (B)	0.47 (0.22)	17 (14)	35 (15)	B (B)	0.47 (0.22)	17 (14)	35 (15)

Notes: XX (XX) = AM (PM); # = storage length; 95<sup>th</sup> percentile queue lengths are rounded to the nearest 5 metres.





#### 5.4 Victoria Drive & Wedgewood Street

Traffic analysis results for the Victoria Drive & Wedgewood Street intersection are summarized in **Table 8**.

Under existing conditions:

All movements are operating at LOS B or better, thus no significant vehicle delays. The V/C ratio for all movements are well within capacity at 0.16 or lower. There is no significant vehicle queuing at this intersection.

Under the opening day (2028) background conditions:

- Without development traffic, this intersection is expected to continue to operate at LOS B or better for all movements. The V/C ratio is expected to be 0.18 or lower for all movements. No significant vehicle queuing is expected.
- With development traffic, traffic operations are not expected to deteriorate any further with no noticeable change in vehicle delay, capacity, or queuing.

Under the opening day + five-year horizon (2033) conditions:

- Without development traffic, this intersection is expected to continue to operate at LOS B or better, V/C ratio of 0.20 or lower and no significant vehicle queues for all movements.
- With development traffic, traffic operations are expected to remain the same as background conditions for all movements, and therefore, no significant traffic issues are expected due to the development.



**Table 8 - Victoria Drive & Wedgewood Street Traffic Operations**

Key Movement	Existing (2023)				Background				Post Development			
	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)
<b>2023/28 Horizon Year (Opening Day)</b>												
<b>EB</b>	A (A)	0.16 (0.15)	0 (0)	0 (0)	A (A)	0.18 (0.17)	0 (0)	0 (0)	A (A)	0.18 (0.17)	0 (0)	5 (0)
<b>WB</b>	A (A)	0.01 (0.00)	8 (8)	5 (0)	A (A)	0.01 (0.00)	8 (8)	5 (0)	A (A)	0.01 (0.00)	8 (8)	10 (5)
<b>NB</b>	B (B)	0.03 (0.01)	11 (12)	10 (5)	B (B)	0.03 (0.01)	12 (12)	10 (5)	B (B)	0.04 (0.01)	11 (11)	10 (5)
<b>2033 Horizon Year (5-Year Post Build)</b>												
<b>EB</b>	-	-	-	-	A (A)	0.20 (0.18)	0 (0)	0 (0)	A (A)	0.20 (0.19)	0 (0)	0 (5)
<b>WB</b>	-	-	-	-	A (A)	0.01 (0.00)	8 (8)	10 (5)	A (A)	0.01 (0.00)	8 (8)	10 (5)
<b>NB</b>	-	-	-	-	B (B)	0.04 (0.01)	12 (13)	10 (5)	B (B)	0.04 (0.02)	12 (12)	10 (10)

Notes: XX (XX) = AM (PM); # = storage length; 95<sup>th</sup> percentile queue lengths are rounded to the nearest 5 metres.



## 5.5 Apel Drive & Lynwood Avenue

Traffic analysis results for the Apel Drive & Lynwood Avenue intersection are summarized in **Table 9**.

Under existing conditions:

All movements at this intersection are operating at LOS B or better for all movements, indicating no significant vehicle delays. The V/C ratio is 0.12 or lower for all movements, indicating lanes are operating well within capacity. There is no significant vehicle queuing for any movement.

Under the opening day (2028) background conditions,

- Without development traffic, all movements are expected to continue to operate at LOS B or better, V/C ratio of 0.13 or lower, and no significant vehicle queues for all movements.
- With development traffic, no significant change in traffic operations is expected with LOS B or better, V/C ratio of 0.14 or lower and no increase in vehicle queues for all movements.

Under the opening day + five-year horizon (2033) conditions:

- Without development traffic, all movements are expected to continue to operate at LOS B or better, V/C ratio of 0.15 or lower, and no significant vehicle queues for all movements.
- With development traffic, no change in traffic operations is expected from background conditions and therefore, no significant traffic issues are expected due to the development.



**Table 9 – Apel Drive & Lynwood Avenue Traffic Operations**

Key Movement	Existing (2023)				Background				Post Development			
	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)
<b>2023/28 Horizon Year (Opening Day)</b>												
<b>WB</b>	B (B)	0.09 (0.03)	12 (11)	10 (10)	B (B)	0.11 (0.04)	12 (11)	10 (10)	B (B)	0.13 (0.05)	13 (11)	10 (10)
<b>NB</b>	A (A)	0.09 (0.12)	0 (0)	0 (0)	A (A)	0.13 (0.13)	0 (0)	0 (0)	A (A)	0.14 (0.14)	0 (0)	0 (0)
<b>SB</b>	A (A)	0.00 (0.01)	8 (8)	0 (5)	A (A)	0.00 (0.01)	8 (8)	0 (5)	A (A)	0.00 (0.01)	8 (8)	0 (5)
<b>2033 Horizon Year (5-Year Post Build)</b>												
<b>WB</b>	-	-	-	-	B (B)	0.12 (0.04)	13 (11)	10 (10)	B (B)	0.15 (0.06)	13 (11)	15 (10)
<b>NB</b>	-	-	-	-	A (A)	0.15 (0.15)	0 (0)	0 (0)	A (A)	0.15 (0.15)	0 (0)	0 (0)
<b>SB</b>	-	-	-	-	A (A)	0.00 (0.01)	8 (8)	5 (5)	A (A)	0.00 (0.01)	8 (8)	0 (5)

Notes: XX (XX) = AM (PM); # = storage length; 95<sup>th</sup> percentile queue lengths are rounded to the nearest 5 metres.



## 5.6 Wedgewood Street & Lynwood Avenue

Traffic analysis results for the Wedgewood Street & Lynwood Avenue intersection are summarized in **Table 10**.

Under existing conditions:

This intersection is operating at LOS A for all movements, which indicates no vehicle delay. The V/C ratio is 0.01 or lower for all movements, which indicates no lane capacity issues. There are no vehicle queuing issues for any movement.

Under the opening day (2028) background conditions:

- Without development traffic, this intersection is expected to continue to operate at LOS A, V/C ratio of 0.02 or lower, and no significant vehicle queues for all movements.
- With development traffic, this intersection is not expected to experience any significant change in traffic operations with LOS A, V/C ratio of 0.02 or lower, and no increase in vehicle queues for all movements.

Under the opening day + five-year horizon (2033) conditions:

- Without development traffic, this intersection is expected to continue to operate at LOS A, V/C ratio of 0.02 or lower, and no significant vehicle queues for all movements.
- With development traffic, this intersection is not expected to experience any significant change in traffic operations with LOS A, V/C ratio of 0.02 or lower, and no increase in vehicle queues for all movements.



**Table 10 – Wedgewood Street & Lynwood Avenue Traffic Operations**

Key Movement	Existing (2023)				Background				Post Development			
	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)	LOS	V/C Ratio	Delay (s)	Queue (m)
<b>2023/28 Horizon Year (Opening Day)</b>												
<b>EB</b>	A (A)	0.01 (0.00)	7 (7)	0 (0)	A (A)	0.01 (0.01)	7 (7)	0 (0)	A (A)	0.01 (0.01)	7 (7)	0 (0)
<b>WB</b>	A (A)	0.00 (0.00)	0 (0)	0 (0)	A (A)	0.00 (0.00)	0 (0)	0 (0)	A (A)	0.00 (0.00)	0 (0)	0 (0)
<b>SB</b>	A (A)	0.01 (0.01)	9 (9)	10 (10)	A (A)	0.02 (0.01)	9 (9)	10 (10)	A (A)	0.02 (0.02)	9 (9)	10 (10)
<b>2033 Horizon Year (5-Year Post Build)</b>												
<b>EB</b>	-	-	-	-	A (A)	0.01 (0.01)	7 (7)	0 (0)	A (A)	0.01 (0.01)	7 (7)	0 (0)
<b>WB</b>	-	-	-	-	A (A)	0.00 (0.00)	0 (0)	0 (0)	A (A)	0.00 (0.00)	0 (0)	0 (0)
<b>SB</b>	-	-	-	-	A (A)	0.02 (0.02)	9 (9)	10 (10)	A (A)	0.02 (0.02)	9 (9)	10 (10)

Notes: XX (XX) = AM (PM); # = storage length; 95<sup>th</sup> percentile queue lengths are rounded to the nearest 5 metres.

## 6.0 SITE ACCESS REVIEW

### 6.1 Sightlines and Access Spacing

Vehicular access to the proposed residential units is proposed from Lynwood Avenue. The Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads* (2017) provides recommended minimum intersection sight distances for drivers turning onto a road from a stop-controlled intersection. For this study, the design vehicle used was a passenger vehicle and the design speed was set to 50 km/h. Drivers should be provided with 65 metres of sight distance looking to the right and looking to the left when exiting at the Lynwood Avenue / New Road intersection. There are no sightline obstructions within 65 metres on either side of the intersection and therefore, no sightline issues are expected.

The TAC *Geometric Design Guide for Canadian Roads* (2017) also provides suggested minimum corner clearances from adjacent intersections on local or collector roads which is 15 meters. The Lynwood Avenue / New Road intersection is 65m from the nearest intersection to the east at Lynwood Avenue / Wedgewood Street and 65m from the nearest intersection to the west at Lynwood Avenue / Alderwood Avenue and therefore, the site access meets the recommended access spacing.



## 6.2 Neighborhood Traffic Impacts

With the vehicular site access at Lynwood Avenue, average traffic volumes during the peak hour along Lynwood Avenue are expected to increase by only 10 vehicles due to the proposed development as summarized in **Table 11** below. This increase is minimal and therefore, the proposed development is not expected to create any significant traffic issues in the neighborhood. The intersection traffic operations based on traffic modelling results summarized in Section 5 further support this conclusion.

**Table 11: Lynwood Avenue - Corridor Volumes**

Roadway	Peak Hour Traffic Volumes (Two-way) *	
	2028 – Without Development	2028 – With Development
Lynwood Avenue	42	52

\*Average corridor volume calculated from intersection volumes in Figure 5 and Figure 8

Lynwood Avenue has a 10m roadway width with curbside parking on both sides of the road. The presence of on-street parking reduces the effective travel lane width of the road which supports neighborhood traffic calming. The site visit performed for traffic data collection also did not indicate any speeding issues along Lynwood Avenue.

## 7.0 PARKING REVIEW

### 7.1 Off-Street Parking

The off-street vehicle parking supply requirement for the proposed development is reviewed by comparing with the City's Parking and Development Management bylaw. **Table 12** summarizes the bylaw requirements and the proposed parking supply. The proposed development is meeting the bylaw requirements for off-street vehicle parking supply.





**Table 12 – Off-Street Vehicle Parking Requirements**

Residential Use	Bylaw Reference	Required		Proposed	
		Rate	Number	Rate	Number
Single Family	Bylaw No. 4078, Section 8	2.0/unit	52	2.0/unit	52
Secondary Suite	Bylaw No. 4078, Section 8	1.0/unit	26	1.0/unit	26

In terms of off-street parking layout, the proposed two-vehicle garage per residential unit are intended to accommodate one vehicle for the principal residence and one vehicle for the secondary suite while the second vehicle for the principal residence is intended to be accommodated on the driveway pad of the garage directly behind the principal residence parked vehicle in the garage. This provides an independently accessible parking space for the secondary suite.

Moreover, the Institute of Transportation Engineers (ITE) Parking Generation Manual, 6<sup>th</sup> Edition, provides a vehicle parking rate of 1.41 vehicles per single-family home. This indicates that the bylaw requirement of 2 vehicles per single-family home is a conservative requirement and not all homes in the proposed development are expected to have a second vehicle for the principal residence. As such, the proposed layout for off-street parking supply is sufficient.

## 7.2 On-Street Parking

**Figure 11** illustrates the on-street parking supply along the site frontages on Victoria Drive and Lynwood Avenue. A total of 27 parking spaces are available on-street. The parking supply accounts for any parking restrictions due to presence of driveways and intersecting roads or pathways. The parking supply count is based on a 6m length per car which assumes a standard passenger car (5.6m long) and spacing between successive cars (0.4m).



Figure 11: On-Street Parking Supply



Parking utilization counts were conducted along the site frontages on a weekday (September 27, 2023) and a weekend (September 30, 2023) to determine the existing on-street parking demand. **Table 13** summarizes the on-street parking data collection results. On-street parking usage was found to be low along the site frontages with a peak parking utilization of 50% on the north side of Lynwood Avenue. This indicates 24 on-street parking spaces will still be available in case of any resident parking spillover from the proposed development to the surrounding streets.

The proposed development is not required to provide visitor parking spaces as per the City's Parking and Development Management bylaw. However, assuming a visitor parking rate of 0.2 parking spaces / dwelling unit, 5 visitor parking space demand is estimated for the proposed development. This demand can be accommodated by the 24 on-street parking spaces expected to be available along the street frontages on Victoria Drive and Lynwood Avenue.

**Table 13: On-Street Parking Utilization**

Street	Parking Supply	Parking Demand			Peak Parking Utilization (%)	Parking Spaces Available
		Weekday (8-9am)	Weekday (4-5pm)	Weekend (7-8pm)		
Victoria Drive (south side)	15	0	0	0	0%	15
Lynwood Avenue (north side)	6	1	3	0	50%	3
Lynwood Avenue (south side)	6	0	0	0	0%	6
<b>TOTAL</b>						<b>24</b>

It should be noted that the proposed development will include the construction of the new north-south local road which will connect with Lynwood Avenue. The new road is planned to have an 8.5m road width as per the City's Subdivision Servicing Bylaw requirements for a local road. This is expected to provide additional on-street parking supply to the neighborhood street network, ensuring sufficient parking spaces will be available for residents and visitors alike. An estimated 17 curbside parking spaces are expected to be available at the new road assuming parking will be allowed on both sides of the street.



## 8.0 CONCLUSIONS

The proposed development is to convert an existing large lot with a single-family home at 1160 Victoria Drive into 26 single-family homes. The development will also include the construction of a new north-south local road connecting with Lynwood Avenue, an east-west laneway connecting with the new north-south local road, and a north-south walkway to provide direct pedestrian access from Victoria Drive. Vehicular site access is proposed at the Lynwood Avenue / New Local Road intersection.

The proposed development is expected to generate a total of 19 vehicle trips in the AM peak hour and 25 vehicle trips in the PM peak hour. This is equivalent to approximately 1 vehicle trip every 3 minutes in the AM peak hour and approximately 1 vehicle trip every 2.5 minutes in the PM peak hour. These additional trips are considered low and therefore, the proposed development is not expected to create any significant traffic issues in the neighborhood and the surrounding streets. A traffic operational analysis of the study area road network indicated all movements at all intersections in the study area in the 2033 horizon year are expected to operate at LOS C or better, a V/C ratio of 0.76 or lower and no queuing issues. The development traffic does not deteriorate the traffic operations and all movements continue to operate at the same levels in terms of vehicle delay, capacity, and queuing.

The proposed development is within 250 meters from the existing bus stop (i.e., a 3-minute walk) which provide connections to Downtown Port Coquitlam, Shaughnessy Station Mall, Port Coquitlam Community Centre, Port Coquitlam Station, Coquitlam Central SkyTrain Station (Millennium Line) and Terry Fox Secondary School. The cycling network in the site vicinity consists of multi-use pathways (MUP) and on-street bike routes. Walking facilities are adequate around the site. Future residents of the development will also be 500m away from the Traboulay PoCo off-street active transportation loop trail.

The proposed site access at Lynwood Avenue / New Local Road intersection meets the recommended sightlines and access spacing guidelines. With access at Lynwood Avenue, traffic volumes along Lynwood Avenue are only expected to increase by 10 vehicles in the peak hour. This increase is minimal and is not expected to create any significant neighborhood traffic issues. Lynwood Avenue has on-street parking on both sides which reduces the effective travel lane width and supports neighborhood traffic calming. The site visit to the proposed site did not indicate any speeding issues along Lynwood Avenue.



The proposed development is meeting the bylaw requirements for off-street parking. Based on ITE parking rates of 1.41 vehicles per single-family home, the proposed supply of 2 vehicles per single-family home is higher than the effective parking rate. As such, the proposed layout of off-street parking with 2 spaces in the garage, shared between the principal resident and the secondary suite, and 1 space on the driveway pad is sufficient for independent accessibility to parking spaces. On-street parking usage along the site frontages are low at 50% peak parking utilization. Based on collected data, 24 street parking spaces will be available to accommodate any parking spillover due to the proposed development. The new north-south local road is also expected to have on-street parking availability which will further increase the on-street parking supply by as estimated 17 spaces.



## APPENDIX A: SITE PLAN



Planning & Development Department  
200 - 2654 Shaughnessy St., Port Coquitlam  
British Columbia, Canada V3C 3G4  
Tel: 604-927-5442 Email: planning@portcoquitlam.ca

# PROPOSED SUBDIVISION LAYOUT

## LAYOUT CONCEPT

File No: \_\_\_\_\_  
EXIST. ZONE: RS-3  
PROP. ZONE: RS-2



CIVIC ADDRESS: 1160 VICTORIA DR., PORT COQUITLAM, BC  
LEGAL: LOT 48, SECTION 7, TOWNSHIP 40, N.W.D., PLAN NWP29352; EXCEPT PLAN 77115



B560 - 20020 84 AVENUE, LANGLEY, BC  
EMAIL: INFO@JOSSDESIGN.CA  
TEL: 778-323-8873





## APPENDIX B: SYNCHRO BACKGROUND





## SYNCHRO MODELLING SOFTWARE DESCRIPTION

The traffic analysis was completed using Synchro and SimTraffic traffic modelling software. Results were measured in delay, level of service (LOS), and 95<sup>th</sup> percentile queue length.

SimTraffic integrates established driver behaviours and characteristics to simulate actual conditions by randomly “seeding” or positioning vehicles travelling throughout the network. The simulation is run ten times (ten different random seedings of vehicle types, behaviours and arrivals) to obtain statistical significance of the results.

### Levels of Service

Traffic operations are typically described in terms of levels of service, which rates the amount of delay per vehicle for each movement and the entire intersection. Levels of service range from LOS A (representing best operations) to LOS E/F (LOS E being poor operations and LOS F being unpredictable/disruptive operations). LOS E/F are generally unacceptable levels of service under normal everyday conditions. A LOS C or better is considered acceptable operations, while D is considered to be on the threshold between acceptable and unacceptable operations. Operations will typically need to operate at LOS C or better for through movements and LOS E or better for other traffic movements with lower order roads. The hierarchy of criteria for grading an intersection or movement not only includes delay times, but also takes into account traffic control type (stop signs or traffic signal). For example, if a vehicle is delayed for 19 seconds at an unsignalized intersection, it is considered to have an average operation, and would therefore be graded as an LOS C. However, at a signalized intersection, a 19 second delay would be considered a good operation and therefore it would be given an LOS B. The table below indicates the range of delay for LOS for signalized and unsignalized intersections.

**Table B1 – LOS Criteria by Intersection Traffic Control**

Level of Service (LOS)	Unsignalized Intersection Average Vehicle Delay (sec/veh)	Signalized Intersection Average Vehicle Delay (sec/veh)
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80