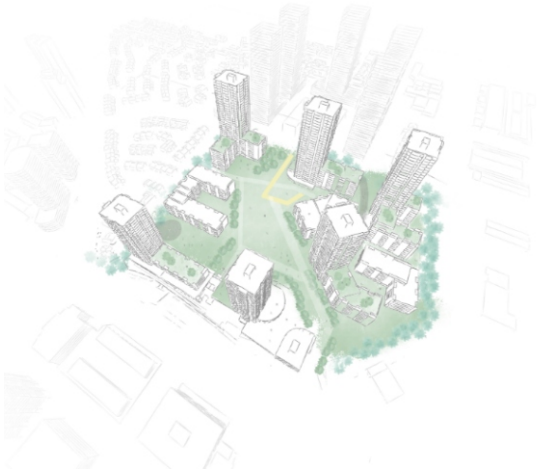
# Coronation Park TOD Transportation Study

Prepared for:
Wesgroup Properties,
Vancouver, BC





Prepared by:

Traffic Engineering Specialists

November 2021

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## EXECUTIVE SUMMARY

Wesgroup Properties is proposing to develop a mixed-use, transit-oriented development in the Coronation Park neighbourhood of the City of Port Moody. Creative Transportation Solutions is pleased to submit a transportation study report on the proposed development.

The site is very well suited to providing residential, business and leisure space with:

- Access to frequent transit via the Inlet Centre SkyTrain station;
- Connectivity to the bicycle network, including nearby trails and multi-use paths (MUPs); and
- Connectivity to the pedestrian network, being within walking distance to the nearby Suter Brook Village, Newport Village and Port Moody Library and Recreation Centre.

The proposed development is aligned with the City's Master Transportation Plan, *TransPort Moody*, by promoting and influencing a preference for residents to use alternative transportation modes such as walking and cycling for local trips and buses and SkyTrain for medium to longer distance journeys. This may be achieved by considering the following improvements to the transportation network:

- Provision of wider pathways and sidewalks to accommodate more active modes during the peak periods;
- Enhancing the existing bicycle network by:
    - Filling in gaps in cycle lanes at key intersections.
    - Evaluating protective infrastructure such as flex posts and bike boxes to improve cyclist safety.
    - Connecting the proposed site to the Murray Street bikeway and other nearby trails and paths.
- Improving existing transit infrastructure such as bus shelters, wayfinding signage and concrete pads for accessibility;
- Constructing a pedestrian overpass of Ioco Road, between Barnet Highway and Suter Brook Way to enhance pedestrian connectivity to the SkyTrain network, before approximately 20% of dwelling units at Coronation Park and the neighbouring developments by Polygon and at Parcel E have been built and occupied;
- Enhancing pedestrian comfort by providing covered walkways at key points;
- As part of the rezoning process the developer will optimise the internal access routes to facilitate more balanced traffic volumes accessing the road network to minimise reliance on any one point of access.

- Targeted intersection improvements to specific turning movements, for example the provision of a second left turn lane for the eastbound to northbound left turn at the intersection of Ioco Road and Murray Street will be explored with the;

- Wesgroup will maximise the connectivity of the underground parking facilities such that access is not restricted to a single location.

- The new road connection between Palmer Avenue and Barnet Highway is required once approximately 50% of the proposed development is constructed and occupied.

- Develop a comprehensive TDM package that could include items such as:
    - Unbundled parking
    - Car share (including preferential parking and provision of vehicles)
    - Preferential parking for carpools
    - Real-time transit information displays
    - Rideshare communication strategies
    - Preferential location for bicycle parking
    - Secure bicycle parking
    - Bicycle end-of-trip facilities
    - Subsidised transit passes
    - Enhanced transit shelters
    - Resident-only bike share (including helmets and storage)
    - Comprehensive communications strategy to residents on alternative modes of transportation

  The combination of the TDM measures, the pedestrian overpass, the bicycling network improvements, and wayfinding will serve to encourage residents to utilise modes of transportation other than the private automobile.

  The above noted suite of measures will be refined and implementation strategy developed as part of the rezoning application process.

- It is anticipated that using a 0.5% background traffic growth rate (as opposed to the 1.0% used in this report) along with the measures listed above (including targeted intersection improvements) could result in traffic operations that are between 5% and 10% better than what is illustrated in this report.

- Wesgroup will coordinate with the City of Port Moody the details of the infrastructure upgrade requirements including, timing, cost sharing (if any), and construction responsibility.

Date: November 19th, 2021
Our File No: 7224-01

**BY EMAIL**

Evan French
**Wesgroup Properties**
Suite 910, Four Bentall Centre
1055 Dunsmuir Street
Box 49287
Vancouver, BC
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Dear Mr. French,

**Re: Coronation Park Development Transportation Study, Port Moody, BC**

Creative Transportation Solutions Ltd. (CTS) is pleased to submit this **REVISED DRAFT** report summarising our work on the above study. CTS was retained by Wesgroup Properties to undertake a transportation study for a proposed mixed-use, transit-oriented development located in the Coronation Park neighbourhood of the City of Port Moody, BC. The primary objectives of this study are as follows:

1. To conduct a high-level transportation study for the proposed development by Wesgroup in the Coronation Park neighbourhood; and

2. To prepare a report that documents the data, technical analysis, key findings, and recommendations (if any) that meets the terms set out by the City of Port Moody.

This report documents our analyses and findings.

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# 1.0 BACKGROUND

## 1.1 The Site

Coronation Park is a 40-acre parcel of land spanning the municipal boundary between Port Moody and Coquitlam. It is generally bounded by Barnet Highway to the south, Ioco Road to the west, Guildford Way to the north, and the west property line of the strata parcel located west of Falcon Drive.

In 2017, City of Port Moody Council amended Port Moody's Official Community Plan to include the Coronation Park Neighbourhood Plan, which outlines the vision for the Port Moody portion of this neighbourhood: A transit-oriented, pedestrian friendly, and bike-friendly community with a range of housing forms and types in close proximity to shops, amenities and public transit. The City jointly conducted a transportation study (completed by Stantec) with the City of Coquitlam which developed a recommended road network with new neighbourhood access points. In May 2019, Council approved a Corporate Policy to guide redevelopment in the area, which includes a road network and grading plan from a draft Coronation Park Transportation Study.

Wesgroup Properties has completed significant planning for the site and is seeking an OCP amendment to reflect the design that their work to date indicates is suitable for the site, before continuing to subsequent approval stages. The proposed development is mixed use, including both residential and commercial components. The proposed design leverages the Transit Oriented Design (TOD) designation for the area and features excellent connectivity for non-auto travel modes.

The location of the Wesgroup site is shown in **FIGURE 1**.

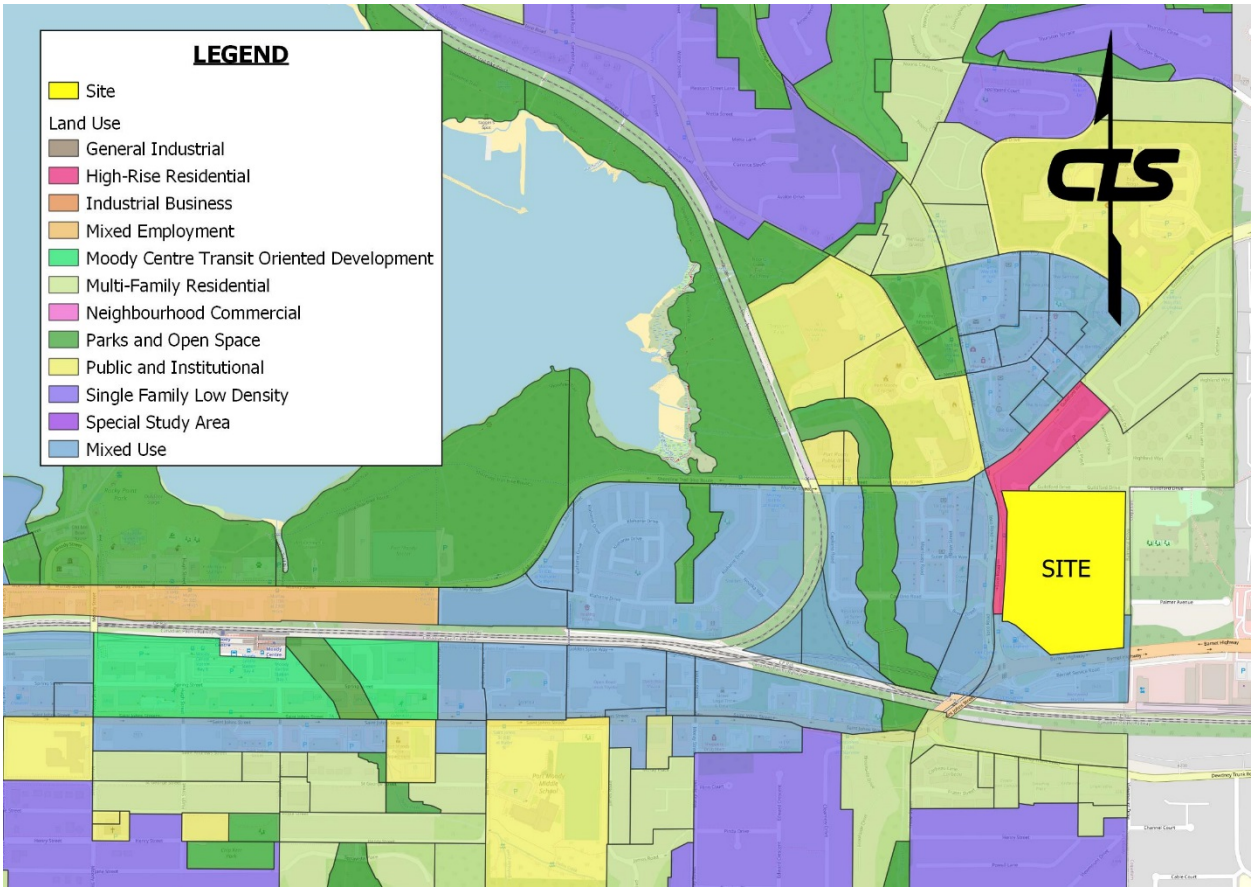
A presentation outlining the development concept for the site is included in **APPENDIX A**.

CTS utilized the City of Port Moody's Master Transportation Plan, *TransPort Moody*, as a key guiding document in the preparation of this high-level transportation study. The following are excerpts from this document:

*"It is widely accepted that Port Moody's street network is largely built out. There are few opportunities to build new roads or widen existing roads, so we must use our existing streets as efficiently as possible to move all road users, including people who walk, cycle, drive, or take transit. We also know that building new roads or widening roads will simply lead to more demand for even more people to travel by automobile, which would create even more congestion and have a negative impact on our community's liveability."*

*"Although major road widenings were considered as options throughout the planning process, they have not been included in TransPort Moody as they were not supported by the community."*

**FIGURE 1**
**SITE CONTEXT**

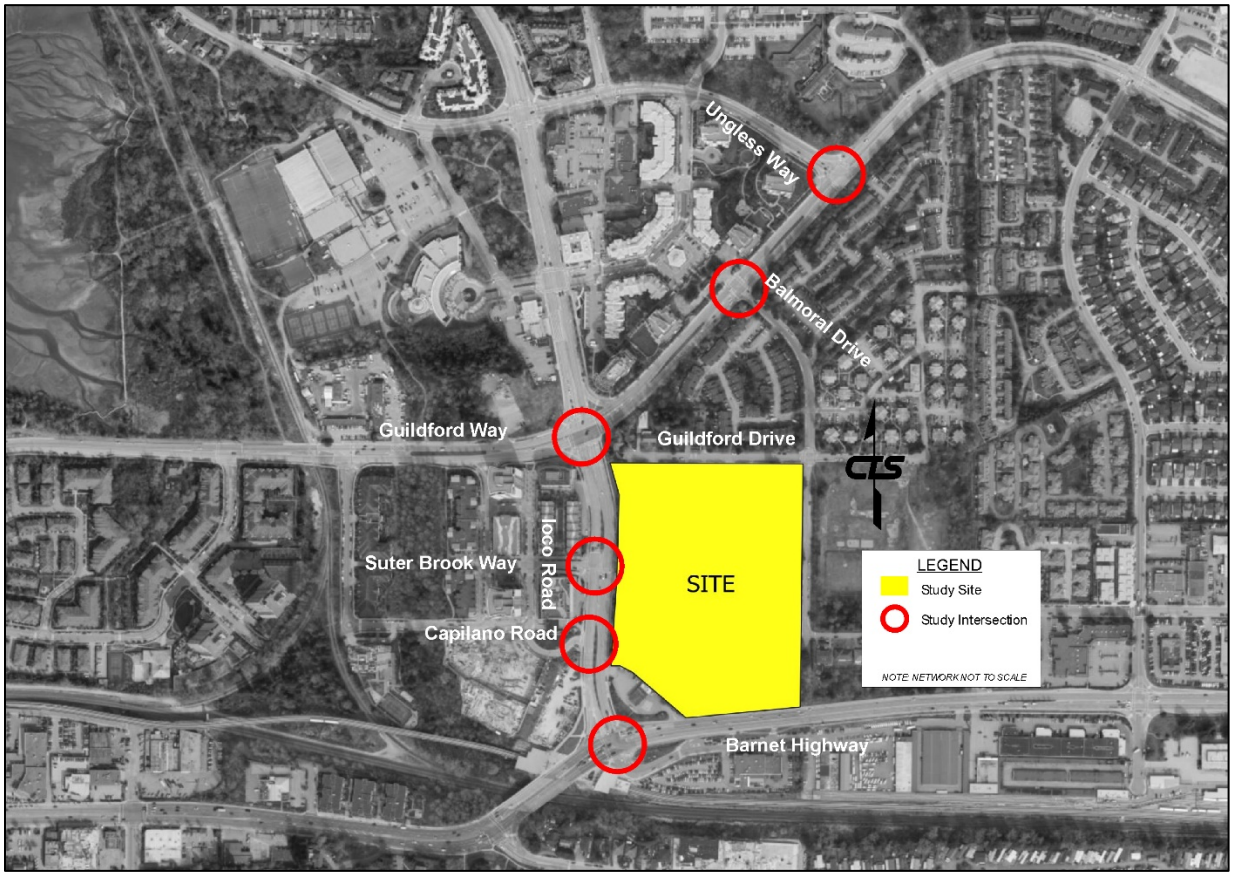



The study intersections included in this study are listed below:

- Ioco Road & Barnet Highway
- Ioco Road & Capilano Road
- Ioco Road & Suter Brook Way
- Ioco Road & Guildford Way
- Balmoral Drive & Guildford Way
- Ungless Way & Guildford Way
- Proposed Access & Barnet Highway

The study area and the existing roadways are illustrated in **FIGURE 2**.

**FIGURE 2**
**STUDY AREA AND INTERSECTIONS**




## 1.2 Site Visit / Road Network

A site visit was conducted on July 22, 2021 to document current conditions. The following were the key observations from the site visit:

Ioco Road
Ioco Road is a 6-lane north-south road that is part of TransLink's Major Road Network (MRN), connecting Ioco and Heritage Mountain areas to Barnet Highway. The posted speed limit is 50 km/hr and has dedicated cycle lanes in the southbound and northbound directions.

Guildford Way
Guildford Way / Murray Street is a 4-lane east-west arterial road. It is part of TransLink's MRN west of Ioco Road and a future part of the MRN east of Ioco Road. The posted speed limit is 50 km/hr and has dedicated cycle lanes in the eastbound and westbound directions. St Johns Street / Barnet Highway is a 4-lane east-west road that is also part of TransLink's MRN, connecting Moody Centre to Coquitlam Centre. The posted speed limit is 50 km/hr.

Ungless Way
Ungless Way is a 2-lane east-west collector, between Guildford Way and Ioco Road. The posted speed limit is 50 km/hr and there is a dedicated cycle lane in the eastbound direction. There is on-street parking in both travel directions.

Balmoral Drive
Balmoral Drive is a 2-lane north-south local road connecting the Coronation Park area to Guildford Way. The posted speed limit is 30 km/hr and there is a steep uphill grade in the southbound direction.

Suter Brook Way
Suter Brook Way is a 2 lane east-west local road connecting the mixed-use Suter Brook Village area to Ioco Road. The posted speed limit is 50 km/hr.

Capilano Road
Capilano Road / Brew Street is a 2 lane east-west local road also connecting Suter Brook Village to Ioco Road. The posted speed limit is 50 km/hr and there is a steep downhill grade in the westbound direction.

Most roads are constructed to their ultimate cross section. Construction of additional roadway capacity is not contemplated in *TransPort Moody*, the City's Transportation Master Plan, and would require extensive property acquisition and result in significant impact/loss of adjacent buildings.

## 1.3 Study Intersections

Ioco Road & Barnet Highway

The intersection of Ioco Road and Barnet Highway is a 4-leg signalized intersection. The east approach has a left-turn lane, 2 through lanes and a channelized right-turn lane. The west approach has a dual-left turn lane, 2 through lanes and a channelized right-turn lane. The north approach has a left-turn lane, a shared left/through lane and dual right-turn lanes. The south approach has a shared left/through lane and a channelized right-turn lane.

Ioco Road & Capilano Road

The intersection of Ioco Road and Capilano Road is a 3-leg unsignalized intersection. There is a raised median on Ioco Road, hence no northbound left-turns onto Capilano Road nor eastbound left-turns on to Ioco Road. There is a STOP sign on Capilano Road. The east approach has a right-turn lane. The south approach has 3 through lanes. The north approach has 2 through lanes and 1 shared through/right lane. This intersection is assumed to be signalized with a NBLT by 2035.

Ioco Road & Suter Brook Way

The intersection of Suter Brook Way and Ioco Road is a 3-leg signalized intersection. The west approach has a right turn lane and a left turn lane. The west approach (Suter Brook

Way) also has a channelized right turn lane with a yield sign. The south approach has a left turn lane and 3 through lanes. The north approach has 2 through lanes and 1 shared through / right turn lane. The proposed development by Wesgroup has a 4th leg (east approach) added to this intersection, providing access to the underground parkade of high-rise residential buildings by 2035.

Ioco Road & Guildford Way

The intersection of Ioco Road and Guildford Way is a 4-leg signalized intersection. There is a channelized right turn lane on the north, east and west approaches as well as a pocket dedicated to buses and bicycles.

Balmoral Drive & Guildford Way

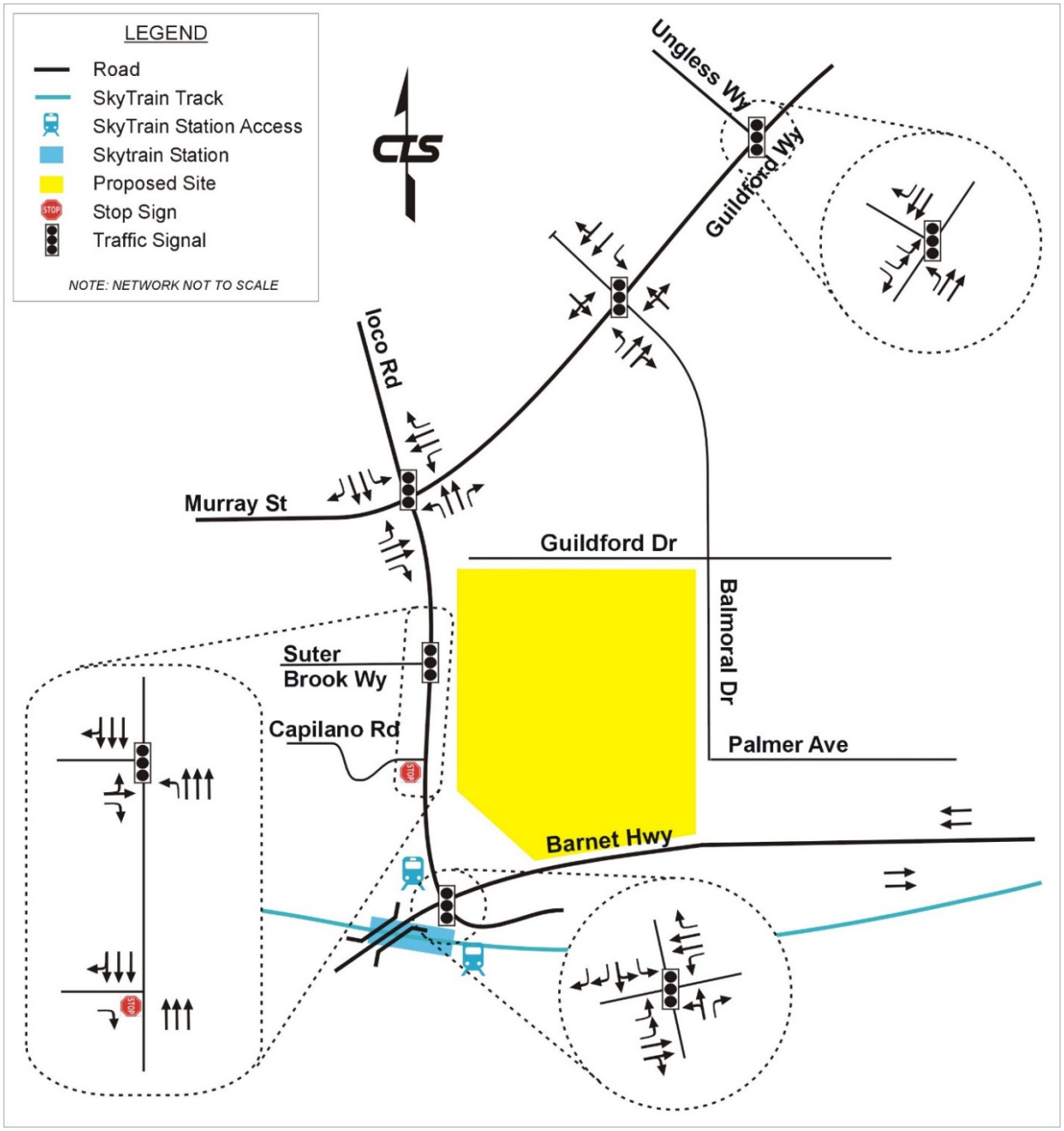
The intersection of Balmoral Drive and Guildford Way is a 4-leg signalized intersection.

Ungless Way & Guildford Way

The intersection of Ungless Way & Guildford Way is a 3-leg signalized intersection. The west approach has a left-turn bay and two through lanes as well as a marked cycle lane. The east approach has 2 through lanes and a channelized right-turn lane with a yield control. The north approach has 2 left-turn lanes and a channelized right-turn lane with a yield control.

A summary of the key roads and intersections, as well as existing lane configuration is shown in **FIGURE 3**.

**FIGURE 3**
**LANE CONFIGURATION**



## 1.4 Alternative Modes of Travel

Coronation Park is served by the following transit modes operated by TransLink:

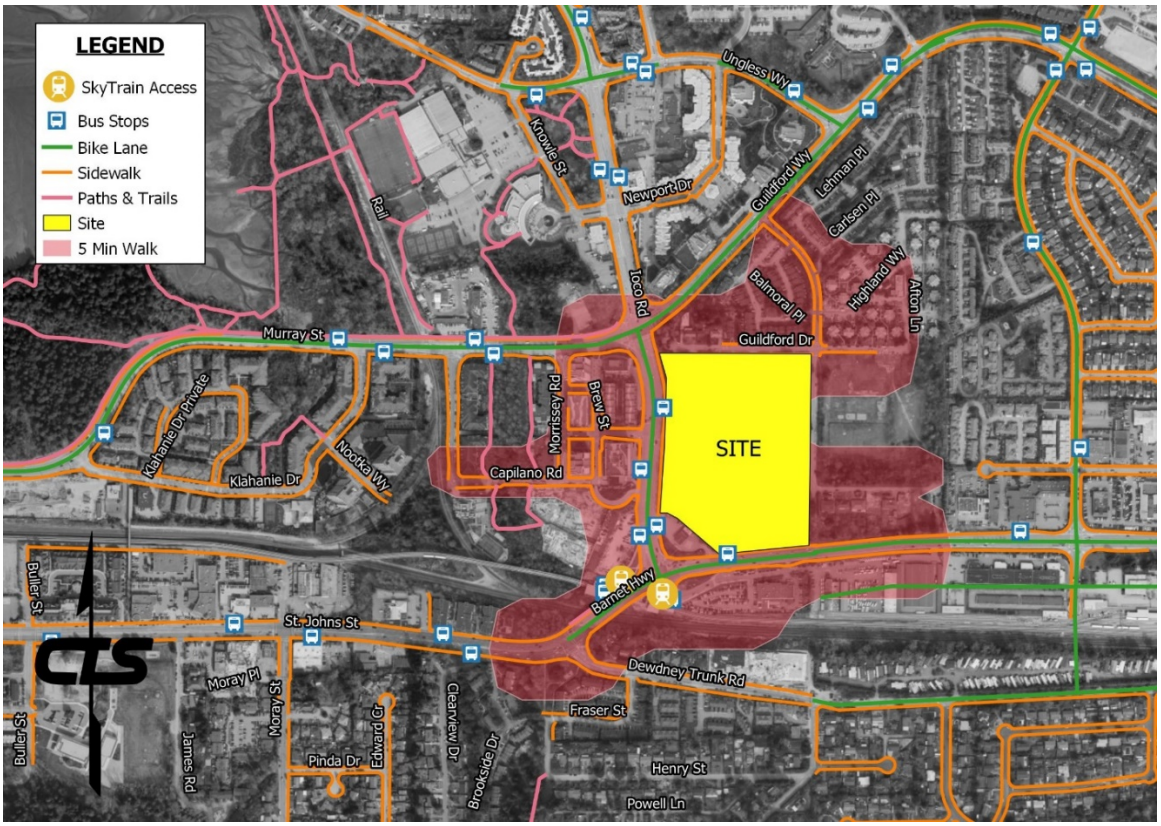
- The nearest SkyTrain station is Inlet Centre, at the intersection of Ioco Road and Barnet Highway. This station is served by the Millennium Line, connecting Lafarge Lake – Douglas to VCC – Clark.
- Bus stops on Ioco Road are served by bus routes 160 and 183, as well as the N9 night route.
- Bus stops on Murray Street are served by bus routes 181 and 182.
- Bus stops on Barnet Highway are served by bus routes 160, 183 and 184.

A sidewalk network provides pedestrian access to Inlet Centre Station, Suter Brook Village, Newport Village and the Port Moody City Hall, Library and Recreation Centre.

Bicycle and pedestrian trails provide alternative access to the Coronation Park area.

A summary of alternative mode transportation infrastructure as taken from Port Moody's GIS data is shown in **FIGURE 4**.

**FIGURE 4**
**ALTERNATIVE MODES OF TRAVEL**



## 2.0 TRANSIT ORIENTED DEVELOPMENT AREAS

A transit-oriented development (TOD) is a type of urban development that maximizes the amount of residential, business and leisure space within walking distance to public transit. It promotes a symbiotic relationship between dense, compact urban form and public transit use. With the Inlet Centre SkyTrain station being a 5 to 10-minute walk from Wesgroup's Coronation Park site, there is clearly a strong case for incorporating TOD design principles in the site design.

There are a number of site design elements that can contribute to achieving TOD objectives, and Wesgroup's design concept includes significant features that will contribute to the City's objectives, including:

- Enhanced pedestrian connections to existing commercial areas, residential areas and SkyTrain and bus stop locations, which will improve the experience of travels;
- High permeability of the site;
- A pedestrian friendly environment along Ioco Road to serve as an attraction for Coronation Park residents and existing area residents; and
- Mixed use including a day care centre, commercial space and the opportunity for small scale commercial spaces fronting the linear park, to reduce the need for external auto trips.

Other principles for the City's transportation network that support TOD could include:

- Acceptance of some delays and congestion for vehicle travel during peak periods and the potential that these have to influence drivers to travel by non-auto modes or at non-peak times when possible;
- Maximizing capacity for transit and active modes in the broader area including frequent transit service with higher capacity vehicles; completion of missing links in public walking and cycling networks; and
- Provision of wider pathways and sidewalks to accommodate more active modes travellers during peaks.
- A planned pedestrian overpass of Ioco Road, located between Barnet Highway and Suter Brook Way.

With the existing development and traffic demands for the study area, it is expected that key intersections will have experience congestion and delays in future.

# 3.0 BASE TRAFFIC VOLUMES

## 3.1 Existing Base Traffic Volumes

*2021 Base Traffic Volumes*

Due to the COVID-19 pandemic, traffic volumes and patterns at the time of preparing this report were different than non-pandemic conditions. In order to evaluate non-pandemic conditions, the 2021 base traffic volumes were estimated using a combination of historic traffic count data and the application of an annual growth factor, agreed upon with the City of Port Moody. It should be noted that as of October 2021, volumes have essentially returned to pre-pandemic conditions.

Count data was provided for study area intersections is shown in **TABLE 1.**

**TABLE 1**
**DATA AVAILABILITY FOR KEY INTERSECTIONS**

| Intersection | Available Data |
|---|---|
| Ioco Road & Barnet Highway | 02 June 2017 |
| Ioco Road & Capilano Road / Brew Street | 02 June 2017 |
| Ioco Road & Suter Brook Way | 26 May 2017 |
| Ioco Road & Murray Street / Guildford Way | 02 June 2017 |
| Balmoral Drive & Guildford Way | 20 November 2018 |
| Ungless Way & Guildford Drive | 20 November 2018 |

To develop base traffic volumes in 2020, the turning movement volumes for each intersection were increased to 2021 using a linear growth rate of one percent (1%), then link volumes were balanced between intersections.

The following peak hours were identified based on the peak hours observed at the intersection of Ioco Road and Barnet Highway:

- Weekday Morning Peak Hour – 07:45 – 08:45
- Weekday Afternoon Peak Hour – 16:30 – 17:30

Once balanced, a linear growth factor of one percent (1%) was applied per year to bring up all traffic volumes to the base analysis year of 2021.

Base traffic volumes for the weekday AM and PM peak hours are shown in **FIGURE 5** and **FIGURE 6** respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10.

**FIGURE 5**
**2021 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES**

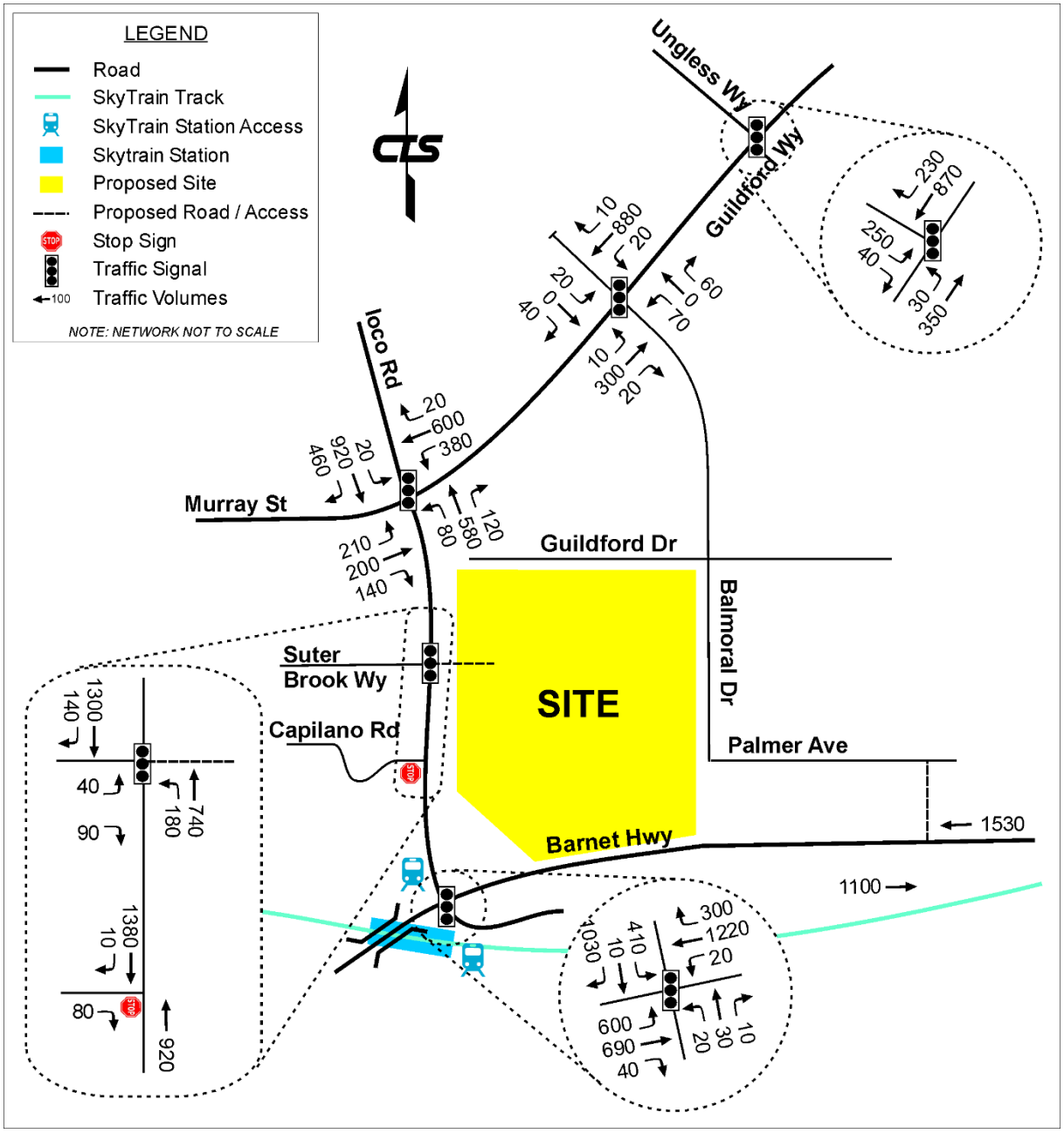
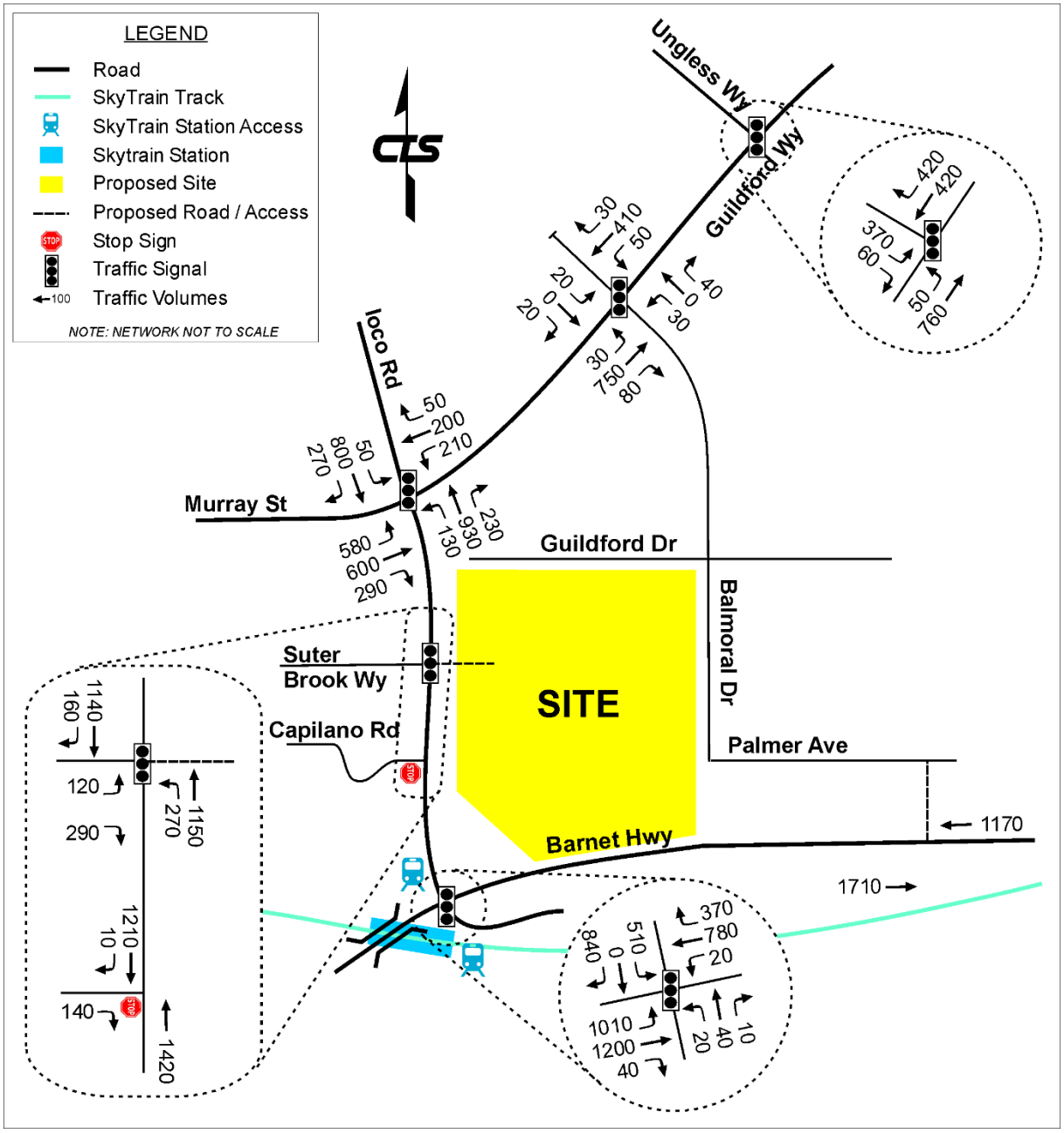


**FIGURE 6**
**2021 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES**



## 3.2 Future Base and Background Traffic

The City of Port Moody identified the following neighbouring developments to include as background traffic:

1. Parcel E, within the Coronation Park area, north of the Wesgroup proposed development.
2. Polygon Development within the Coronation Park Area in the City of Coquitlam to the east of the Wesgroup site.

For the Parcel E and Polygon developments, a unit count was provided by the City of Port Moody and analysis was conducted based on the following assumptions:

- Parcel E would consist of 800 units, assumed to be fully occupied by 2035 with access provided through Balmoral Drive.
- Polygon Development would consist of 2,200 units, assumed fully occupied by 2035 with access provided through Balmoral Drive and a future connection to Barnet Highway.

*2028 Future Base*

The 2028 base traffic volumes were calculated by factoring up the 2021 base traffic volumes by the approved traffic volume growth rate of 1% per annum (simple straight line) to the year 2028. Subsequent discussions with the City of Port Moody have concluded that a 0.5% growth rate will be more appropriate for subsequent analyses.

The 2028 base weekday morning and afternoon peak hour traffic volumes are illustrated in **FIGURE 7** and **FIGURE 8**, respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10.

*2035 Future Base*

The proposed development is anticipated to have been fully built-out and occupied by 2035. The 2035 base traffic volumes were calculated by factoring up the 2021 base traffic volumes by the traffic volume growth rate of 1% per annum (simple straight line) to the year 2035. Subsequent discussions with the City of Port Moody have concluded that a 0.5% growth rate will be more appropriate for subsequent analyses

The 2035 base weekday morning and afternoon peak hour traffic volumes are illustrated in **FIGURE 9** and **FIGURE 10**, respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10. Changes to the road network are also illustrated.

**FIGURE 7**
**2028 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES**

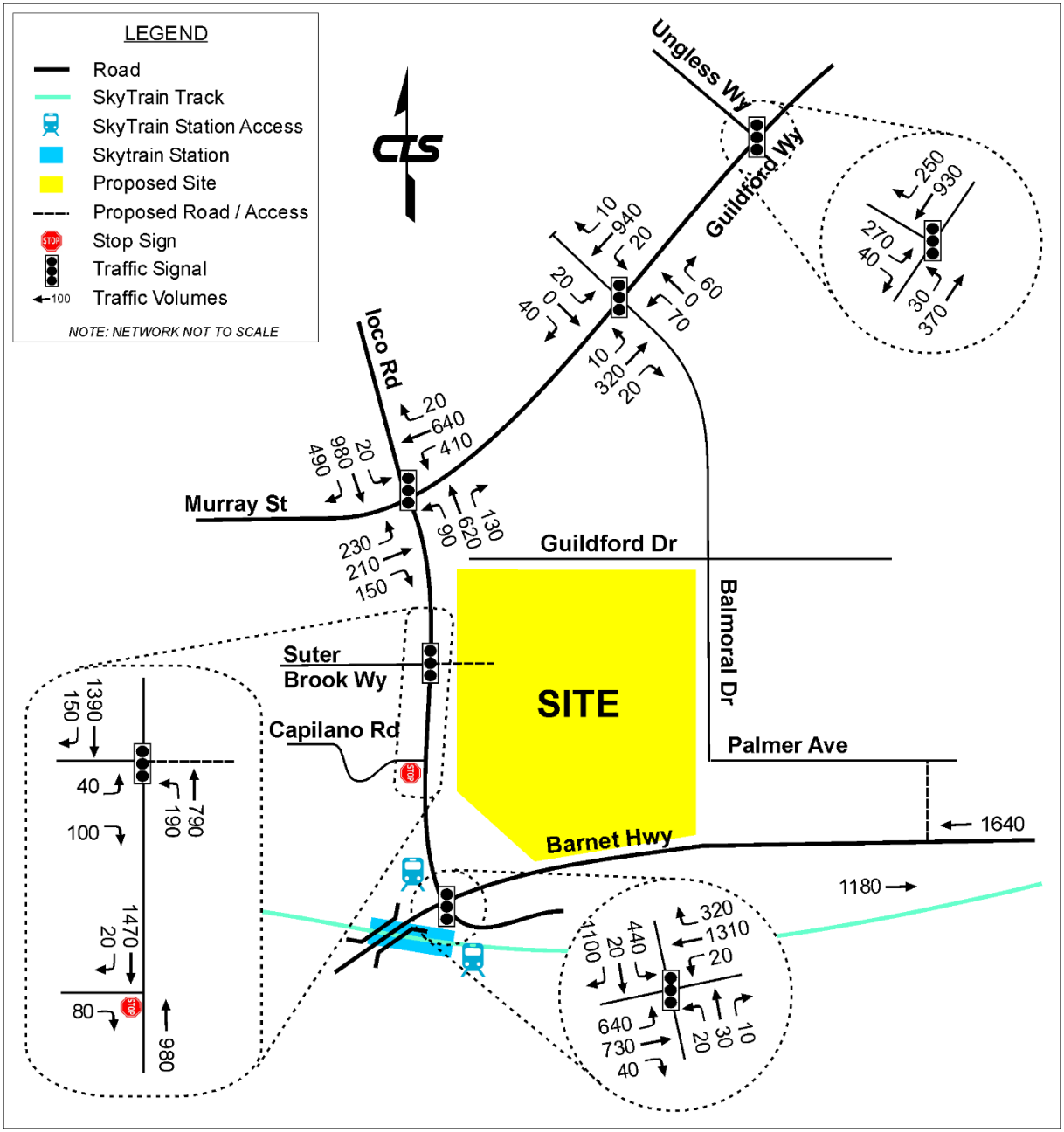


**FIGURE 8**
**2028 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES**

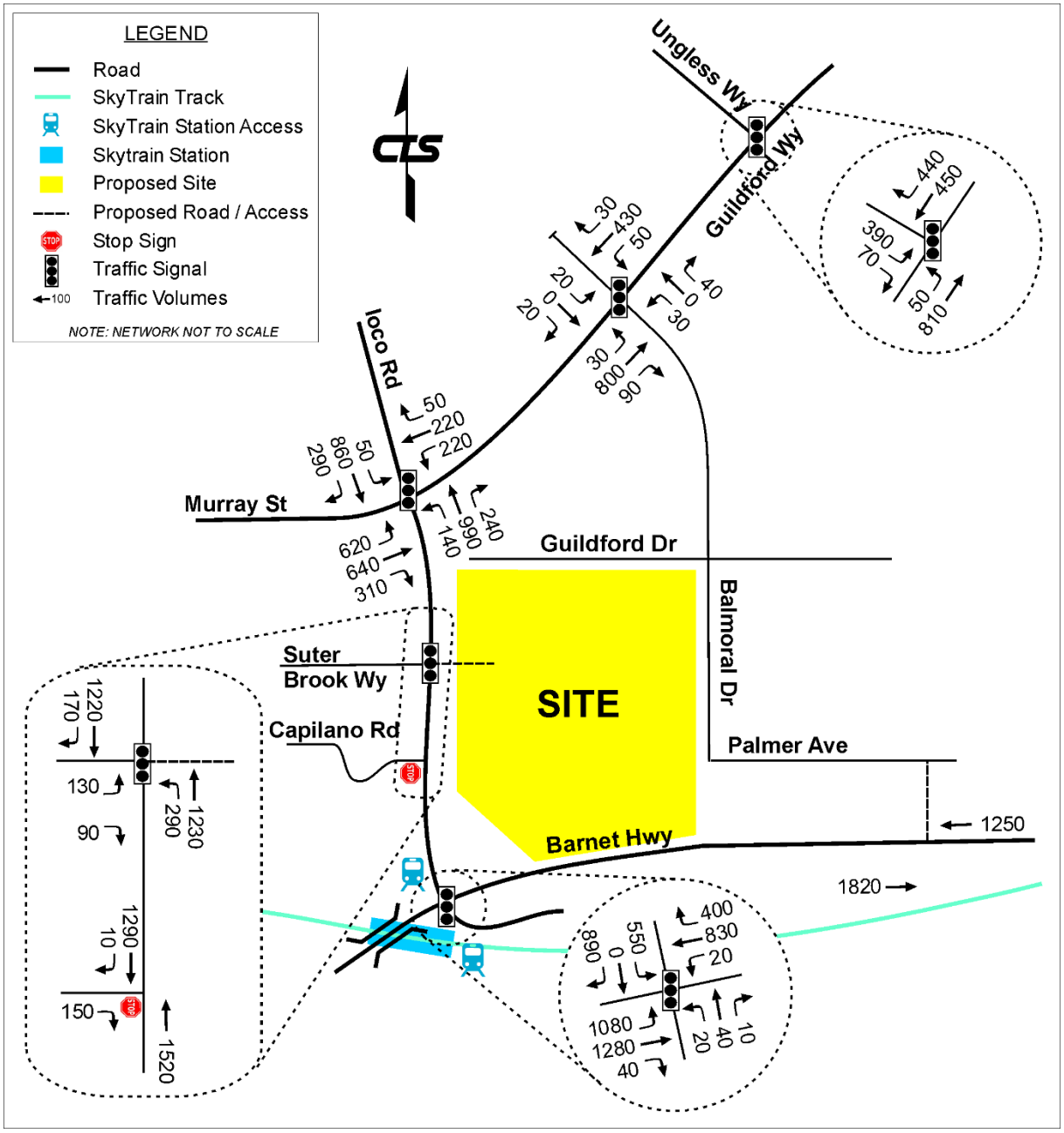


**FIGURE 9**
**2035 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES**

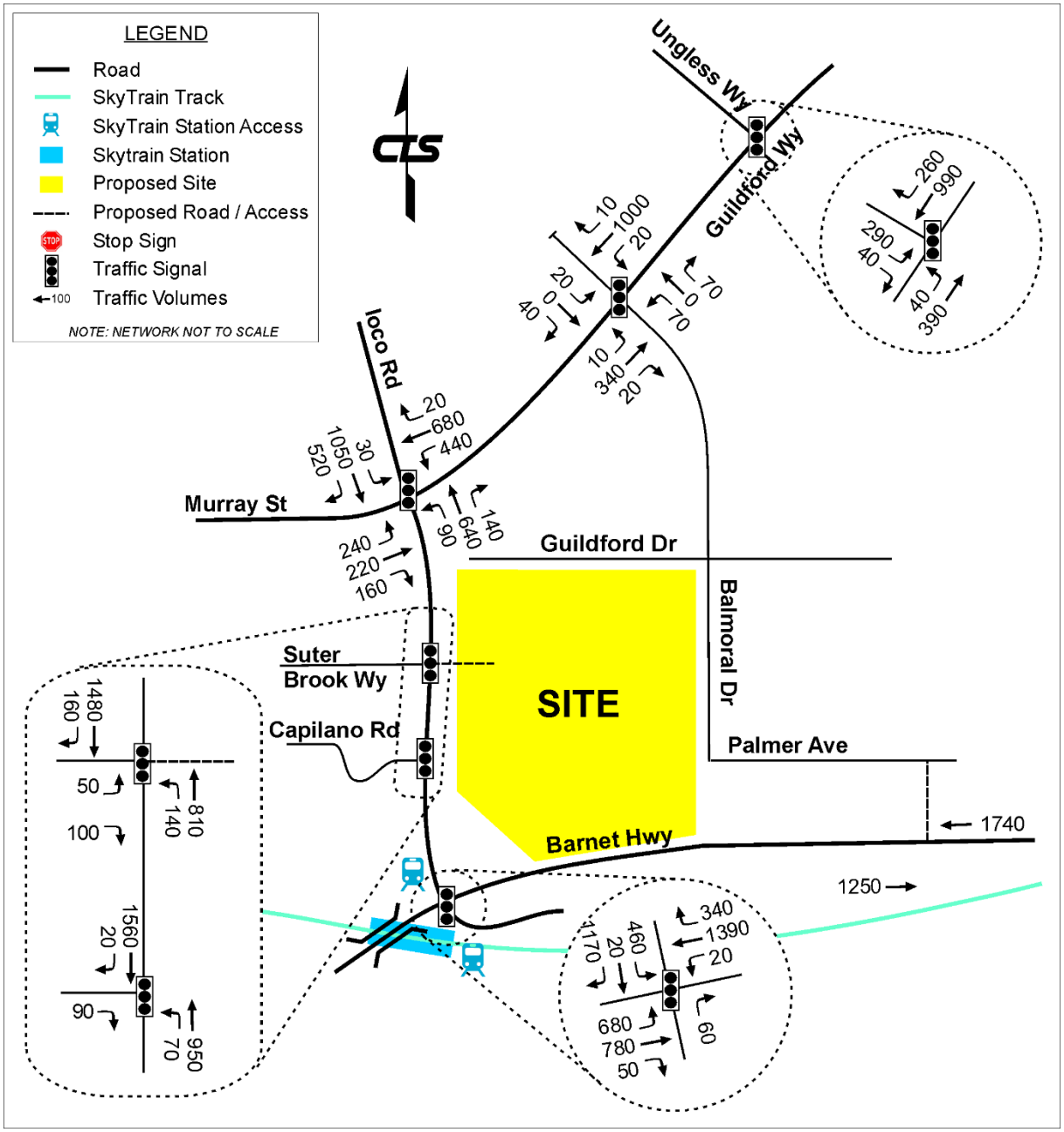
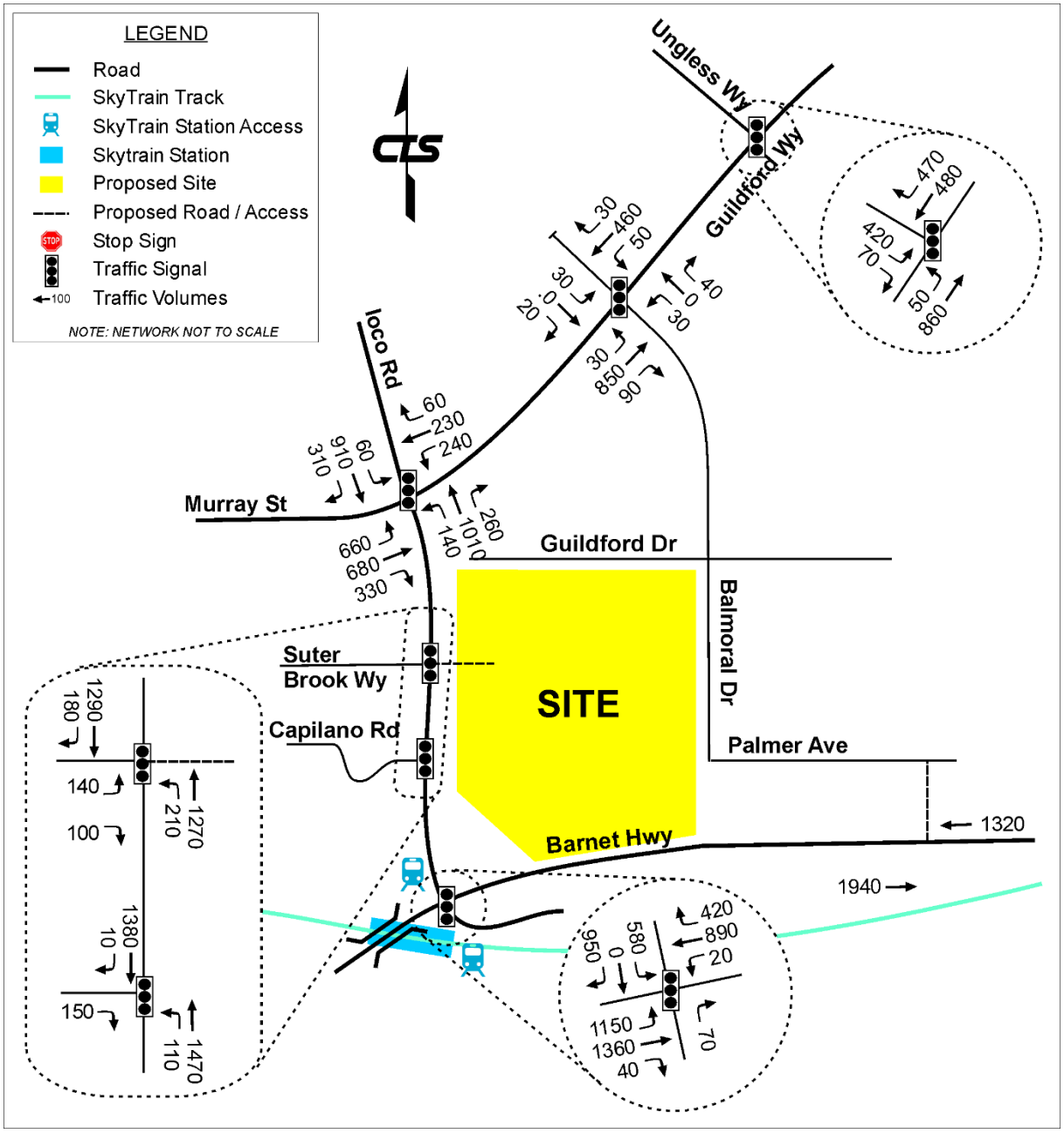


**FIGURE 10**
**2035 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES**



# 4.0 SITE & BACKGROUND TRAFFIC VOLUMES

## 4.1 Background Development Trip Generation

Traffic generated from the adjacent Polygon and Parcel E developments were estimated using unit counts provided by the City of Port Moody as well as the following assumptions:

- Both developments would have a 50% build-out by the year 2028 i.e., half the units proposed would be built and occupied by this date.
- Both developments would have a full-build out by the year 2035.
- The morning peak period trip generation rate for the Polygon development was provided by the City of Port Moody from a third-party consultant report.
- The published vehicle trip generation rates from *the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition* were used to forecast the Polygon and Parcel E site generated traffic volumes.

The estimated background trips from the Parcel E site and Polygon site are summarized in **TABLE 2** and **TABLE 3** respectively.

**TABLE 2**
**PARCEL E SITE TRIP GENERATION**

| Land Use | Peak Hour | Trip Generation Variable | Scope of Development | Vehicle Trip Generation Rate | Trip Rate Source | Directional Split | | Total Peak Hour Volumes (vph) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | % in | % out | in | out | total |
| High Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 800 | 0.21 | ITE Code 222 (10th Edition) Dense | 12% | 88% | 20 | 148 | 168 |
| | Weekday Afternoon | | | 0.19 | | 70% | 30% | 106 | 46 | 152 |
| **Total** | **Weekday Morning Peak Hour** | | | | | | | **20** | **148** | **168** |
| | **Weekday Afternoon Peak Hour** | | | | | | | **106** | **46** | **152** |

**TABLE 3**
**POLYGON SITE TRIP GENERATION**

| Land Use | Peak Hour | Trip Generation Variable | Scope of Development | Vehicle Trip Generation Rate | Trip Rate Source | Directional Split | | Total Peak Hour Volumes (vph) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | % in | % out | in | out | total |
| High Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 2200 | 0.20 | Bunt Report | 12% | 88% | 53 | 387 | 440 |
| | Weekday Afternoon | | | 0.19 | ITE 222 10E Dense | 70% | 30% | 293 | 125 | 418 |
| **Total** | **Weekday Morning Peak Hour** | | | | | | | **53** | **387** | **440** |
| | **Weekday Afternoon Peak Hour** | | | | | | | **293** | **125** | **418** |

## 4.2 Study Site Trip Generation

The proposed development is a transit-oriented development as the entire development is within a 5-to-10-minute walk to Inlet Centre Station. Following discussions with the City of Port Moody, a lower and higher estimate of the vehicular trips generated by the residential component of the proposed development was developed to account for the uncertainty in the residential travel patterns of the proposed development. The lower and higher estimates of residential vehicular trips were documented in the Terms of Reference for this study that was approved by the City of Port Moody.

The lower estimate of the residential trip generation was developed from using land use code 221: Multifamily Housing (Mid-Rise) and land use code 222: Multifamily Housing (High-Rise), with setting/location in a "dense multi-use urban" community, from *the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition.*

The higher estimate of the residential trip generation was developed from using a local trip rate that was developed from a survey conducted of 301 Capilano Road in 2015, prior to the opening of the Evergreen Line.

The commercial trip generation rates were selected based on the closest land use to the conceptual site plan from the published trip generation rates in *the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition.*

Lower and higher estimates for the study site trip generation are summarized in **TABLE 4** and **TABLE 5** respectively.

# TABLE 4
# SITE TRIP GENERATION TABLE
# LOWER ESTIMATE

| Land Use | Peak Hour | Trip Generation Variable | Scope of Development | Vehicle Trip Generation Rate | Trip Rate Source | Directional Split | | Gross Peak Hour Volumes (vph) | | | Reduction Internal Capture | Net Peak Hour Volumes (vph) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | % in | % out | in | out | total | % | in | out | total |
| Mid Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 445 | 0.20 | ITE Code 221 (10th Edition) Dense | 12% | 88% | 11 | 78 | 89 | 0% | 11 | 78 | 89 |
| | Weekday Afternoon | | | 0.18 | | 72% | 28% | 58 | 23 | 81 | 0% | 58 | 23 | 81 |
| High Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 2220 | 0.21 | ITE Code 222 (10th Edition) Dense | 12% | 88% | 56 | 411 | 467 | 0% | 56 | 411 | 467 |
| | Weekday Afternoon | | | 0.19 | | 70% | 30% | 295 | 127 | 422 | 0% | 295 | 127 | 422 |
| Drug Store (Parcel 1) | Weekday Morning | 1000 sq. ft. | 18.24 | 2.94 | ITE 10th Edition - Code 880 | 65% | 35% | 35 | 19 | 54 | 20% | 28 | 15 | 43 |
| | Weekday Afternoon | | | 8.51 | | 49% | 51% | 76 | 80 | 156 | 20% | 61 | 64 | 125 |
| CRU - Clinic (Parcel 1) | Weekday Morning | 1000 sq. ft. | 7.34 | 3.69 | ITE 10th Edition - Code 630 | 78% | 22% | 22 | 6 | 28 | 20% | 17 | 5 | 22 |
| | Weekday Afternoon | | | 3.28 | | 29% | 71% | 7 | 18 | 25 | 20% | 6 | 14 | 20 |
| Grocery (Parcel 2) | Weekday Morning | 1000 sq. ft. | 34.79 | 3.82 | ITE 10th Edition - Code 850 | 60% | 40% | 80 | 53 | 133 | 20% | 63 | 43 | 106 |
| | Weekday Afternoon | | | 9.24 | | 51% | 49% | 164 | 158 | 322 | 20% | 132 | 126 | 258 |
| Office (Parcel 2) | Weekday Morning | 1000 sq. ft. | 29.25 | 1.16 | ITE 10th Edition - Code 710 | 86% | 14% | 29 | 5 | 34 | 20% | 23 | 4 | 27 |
| | Weekday Afternoon | | | 1.15 | | 16% | 84% | 5 | 29 | 34 | 20% | 4 | 23 | 27 |
| Restaurant (Parcel 2) | Weekday Morning | 1000 sq. ft. | 9.46 | 9.94 | ITE 10th Edition - Code 932 | 55% | 45% | 52 | 43 | 95 | 20% | 42 | 34 | 76 |
| | Weekday Afternoon | | | 9.77 | | 62% | 38% | 58 | 35 | 93 | 20% | 46 | 28 | 74 |
| **Total** | **Weekday Morning Peak Hour** | | | | | | | | | | | **241** | **590** | **831** |
| | **Weekday Afternoon Peak Hour** | | | | | | | | | | | **602** | **405** | **1007** |

**TABLE 5**
**SITE TRIP GENERATION TABLE**
**HIGHER ESTIMATE**

| Land Use | Peak Hour | Trip Generation Variable | Scope of Development | Vehicle Trip Generation Rate | Trip Rate Source | Directional Split | | Gross Peak Hour Volumes (vph) | | | Reduction Internal Capture | Net Peak Hour Volumes (vph) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | % in | % out | in | out | total | % | in | out | total |
| Mid Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 445 | 0.34 | Local Trip Rate | 19% | 81% | 29 | 123 | 152 | 0% | 29 | 123 | 152 |
| | Weekday Afternoon | | | 0.37 | | 74% | 26% | 122 | 43 | 165 | 0% | 122 | 43 | 165 |
| High Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 2220 | 0.34 | Local Trip Rate | 19% | 81% | 143 | 612 | 755 | 0% | 143 | 612 | 755 |
| | Weekday Afternoon | | | 0.37 | | 74% | 26% | 608 | 214 | 822 | 0% | 608 | 214 | 822 |
| Drug Store (Parcel 1) | Weekday Morning | 1000 sq. ft. | 18.24 | 2.94 | ITE 10th Edition - Code 880 | 65% | 35% | 35 | 19 | 54 | 20% | 28 | 15 | 43 |
| | Weekday Afternoon | | | 8.51 | | 49% | 51% | 76 | 80 | 156 | 20% | 61 | 64 | 125 |
| CRU - Clinic (Parcel 1) | Weekday Morning | 1000 sq. ft. | 7.34 | 3.69 | ITE 10th Edition - Code 630 | 78% | 22% | 22 | 6 | 28 | 20% | 17 | 5 | 22 |
| | Weekday Afternoon | | | 3.28 | | 29% | 71% | 7 | 18 | 25 | 20% | 6 | 14 | 20 |
| Grocery (Parcel 2) | Weekday Morning | 1000 sq. ft. | 34.79 | 3.82 | ITE 10th Edition - Code 850 | 60% | 40% | 80 | 53 | 133 | 20% | 63 | 43 | 106 |
| | Weekday Afternoon | | | 9.24 | | 51% | 49% | 164 | 158 | 322 | 20% | 132 | 126 | 258 |
| Office (Parcel 2) | Weekday Morning | 1000 sq. ft. | 29.25 | 1.16 | ITE 10th Edition - Code 710 | 86% | 14% | 29 | 5 | 34 | 20% | 23 | 4 | 27 |
| | Weekday Afternoon | | | 1.15 | | 16% | 84% | 5 | 29 | 34 | 20% | 4 | 23 | 27 |
| Restaurant (Parcel 2) | Weekday Morning | 1000 sq. ft. | 9.46 | 9.94 | ITE 10th Edition - Code 932 | 55% | 45% | 52 | 43 | 95 | 20% | 42 | 34 | 76 |
| | Weekday Afternoon | | | 9.77 | | 62% | 38% | 58 | 35 | 93 | 20% | 46 | 28 | 74 |
| **Total** | **Weekday Morning Peak Hour** | | | | | | | | | | | **346** | **836** | **1182** |
| | **Weekday Afternoon Peak Hour** | | | | | | | | | | | **979** | **512** | **1491** |

High-rise multifamily housing includes apartments, townhouses, and condominiums that have more than 10 levels (floors). They are likely to have one or more elevators.

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors).

A pharmacy/drugstore is a retail facility that primarily sells prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products, and general merchandise. The drug stores in this category do not contain drive-through windows.

A clinic is any facility that provides limited diagnostic and outpatient care but is unable to provide prolonged in-house medical and surgical care. Clinics commonly have lab facilities, supporting pharmacies, and a wide range of services.

A supermarket is a free-standing retail store selling a complete assortment of food, food preparation and wrapping materials, and household cleaning items.

A restaurant land use consists of sit-down, full-service eating establishments with typical duration of stay of approximately one hour. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours a day.

A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted.

The commercial (non-residential) vehicle trip generation rates were selected using the General Urban / Suburban location setting.

From **TABLE 4**, the proposed development's total lower estimated trip generation is forecasted to be 831 vehicle trips (241 inbound, 590 outbound) during the weekday AM peak hour and 1007 vehicle trips (602 inbound, 405 outbound) during the weekday PM peak hour. This is the equivalent of one vehicle movement every 4.3 seconds during the weekday AM peak hour and one vehicle movement every 3.6 seconds during the weekday PM peak hour.

From **TABLE 5**, the proposed development's total higher estimated trip generation is forecasted to be 1182 vehicle trips (346 inbound, 836 outbound) during the weekday AM peak hour and 1491 vehicle trips (979 inbound, 512 outbound) during the weekday PM peak hour. This is the equivalent of one vehicle movement every 3.0 seconds during the weekday AM peak hour and one vehicle movement every 2.4 seconds during the weekday PM peak hour.

## 4.3 Estimation of Vehicle-Km Travelled

The TransLink Trip diary for 2017 gives a breakdown of average vehicle km travelled by auto drivers by time of day – binned hourly. Since the weekday AM peak hour of analysis in this study is 07:45 to 08:45, a weighted average was calculated with 25% of the trips in the 07:00 – 08:00 bin and 75% of trips in the 08:00 to 09:00 bin to give an average distance of 9.15km per driver. Similarly, in the weekday PM peak hour, a weighted average was calculated with 50% of trips in the 16:00 – 17:00 bin and 50% of the trips in the 17:00 – 18:00 bin to give an average of 11.5 km per driver. These average trip lengths were then multiplied by the site's residential lower and higher vehicle trip estimates to forecast the total vehicle-km travelled during the weekday AM and weekday PM peak hours.

CTS estimates that the total vehicle-km travelled by residents of the proposed development will range from 5,100 km to 8,300 km during the weekday AM peak hour and 5,800 km to 11,400 km during the weekday PM peak hour. Assuming an average occupancy rate of 2.2 residents per dwelling unit and a total of 2,665 dwelling units, this translates to a distance of 0.86 km to 1.42 km per resident in the AM peak hour and 0.99 km to 1.94 km per resident in the PM peak hour.

## 4.4 Trip Distribution

The trip distribution parameters for the commercial land uses of the proposed development were developed from the existing traffic patterns entering and exiting the study area. The trip distribution and traffic volume assignment for the commercial land uses of the proposed development are summarized in **TABLE 6** and **TABLE 7** respectively.

**TABLE 6**
**SUMMARY OF COMMERCIAL TRIP DISTRIBUTION PERCENTAGES**

| FROM / TO | WEEKDAY AM PEAK HOUR | | WEEKDAY PM PEAK HOUR | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| North | 25.0% | 20.0% | 20.0% | 26.0% |
| East | 40.0% | 26.0% | 25.0% | 38.0% |
| South | 0.0% | 1.0% | 0.0% | 0.0% |
| West | 35.0% | 53.0% | 55.0% | 36.0% |
| ***Total*** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

**TABLE 7**
**SUMMARY OF COMMERCIAL TRIP ASSIGNMENT**

| FROM / TO | WEEKDAY AM PEAK HOUR | | WEEKDAY PM PEAK HOUR | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| Ioco Rd (N) | 35 | 15 | 37 | 51 |
| Balmoral Dr (N) | 0 | 0 | 0 | 0 |
| Ungless Wy (N) | 9 | 5 | 12 | 15 |
| Guildford Wy (E) | 26 | 10 | 25 | 38 |
| Barnet Hwy (E) | 44 | 16 | 37 | 59 |
| Ioco Rd (S) | 0 | 1 | 0 | 0 |
| Barnet Hwy (W) | 35 | 35 | 75 | 54 |
| Capilano Rd (W) | 0 | 0 | 0 | 0 |
| Suter Brook Way (W) | 9 | 3 | 12 | 13 |
| Guildford Wy (W) | 17 | 15 | 50 | 26 |
| **TOTAL** | **175** | **100** | **248** | **256** |
| | **275** | | **504** | |

The trip distribution parameters for the residential land uses of the proposed development were based on the existing traffic patterns observed and first principles of general commuter patterns.

The trip distribution for the residential land use is summarized in **TABLE 8** below.

**TABLE 8**
**SUMMARY OF RESIDENTIAL TRIP DISTRIBUTION PERCENTAGES**

| FROM / TO | WEEKDAY AM PEAK HOUR | | WEEKDAY PM PEAK HOUR | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| North | 10.0% | 10.0% | 10.0% | 11.0% |
| East | 47.0% | 31.0% | 30.0% | 46.0% |
| South | 0.0% | 1.0% | 0.0% | 0.0% |
| West | 43.0% | 58.0% | 60.0% | 43.0% |
| ***Total*** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

The trip assignment for the lower estimate of the residential land use is summarized in **TABLE 9** below.

**TABLE 9**
**SUMMARY OF RESIDENTIAL LOWER ESTIMATE TRIP ASSIGNMENT**

| FROM / TO | WEEKDAY AM PEAK HOUR | | WEEKDAY PM PEAK HOUR | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| Ioco Rd (N) | 3 | 24 | 18 | 8 |
| Balmoral Dr (N) | 0 | 0 | 0 | 0 |
| Ungless Wy (N) | 3 | 24 | 18 | 9 |
| Guildford Wy (E) | 11 | 59 | 42 | 27 |
| Barnet Hwy (E) | 20 | 93 | 64 | 42 |
| Ioco Rd (S) | 0 | 5 | 0 | 0 |
| Barnet Hwy (W) | 17 | 186 | 116 | 39 |
| Capilano Rd (W) | 0 | 0 | 0 | 0 |
| Suter Brook Way (W) | 3 | 15 | 18 | 8 |
| Guildford Wy (W) | 9 | 83 | 78 | 18 |
| **TOTAL** | **66** | **489** | **354** | **151** |
| | **555** | | **505** | |

The trip assignment for the higher estimate of the residential land use is summarized in **TABLE 10** below.

**TABLE 10**
**SUMMARY OF RESIDENTIAL HIGHER ESTIMATE TRIP ASSIGNMENT**

| FROM / TO | WEEKDAY AM PEAK HOUR | | WEEKDAY PM PEAK HOUR | |
|---|---|---|---|---|
| | INBOUND | OUTBOUND | INBOUND | OUTBOUND |
| Ioco Rd (N) | 9 | 37 | 37 | 13 |
| Balmoral Dr (N) | 0 | 0 | 0 | 0 |
| Ungless Wy (N) | 9 | 37 | 37 | 15 |
| Guildford Wy (E) | 29 | 88 | 88 | 46 |
| Barnet Hwy (E) | 52 | 140 | 131 | 72 |
| Ioco Rd (S) | 0 | 7 | 0 | 0 |
| Barnet Hwy (W) | 43 | 279 | 241 | 67 |
| Capilano Rd (W) | 0 | 0 | 0 | 0 |
| Suter Brook Way (W) | 9 | 22 | 37 | 13 |
| Guildford Wy (W) | 22 | 125 | 161 | 31 |
| **TOTAL** | **173** | **735** | **732** | **257** |
| | **908** | | **989** | |

The total traffic generated by the proposed development (lower estimate) during the weekday morning and afternoon peak hours are illustrated in **FIGURE 11** and **FIGURE 12** respectively.

The total traffic generated by the proposed development (higher estimate) during the weekday morning and afternoon peak hours are illustrated in **FIGURE 13** and **FIGURE 14** respectively.

It must be noted that as part of the proposed Polygon development in Coquitlam, a new road link will be constructed connecting Palmer Avenue to Barnet Hwy – the new intersection will be signalised and full movement. As this development and road network are not contained within the municipal boundaries of Port Moody, it is not possible to project a specific construction completion date.

**FIGURE 11**
**TOTAL STUDY SITE WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES**
**LOWER ESTIMATE**

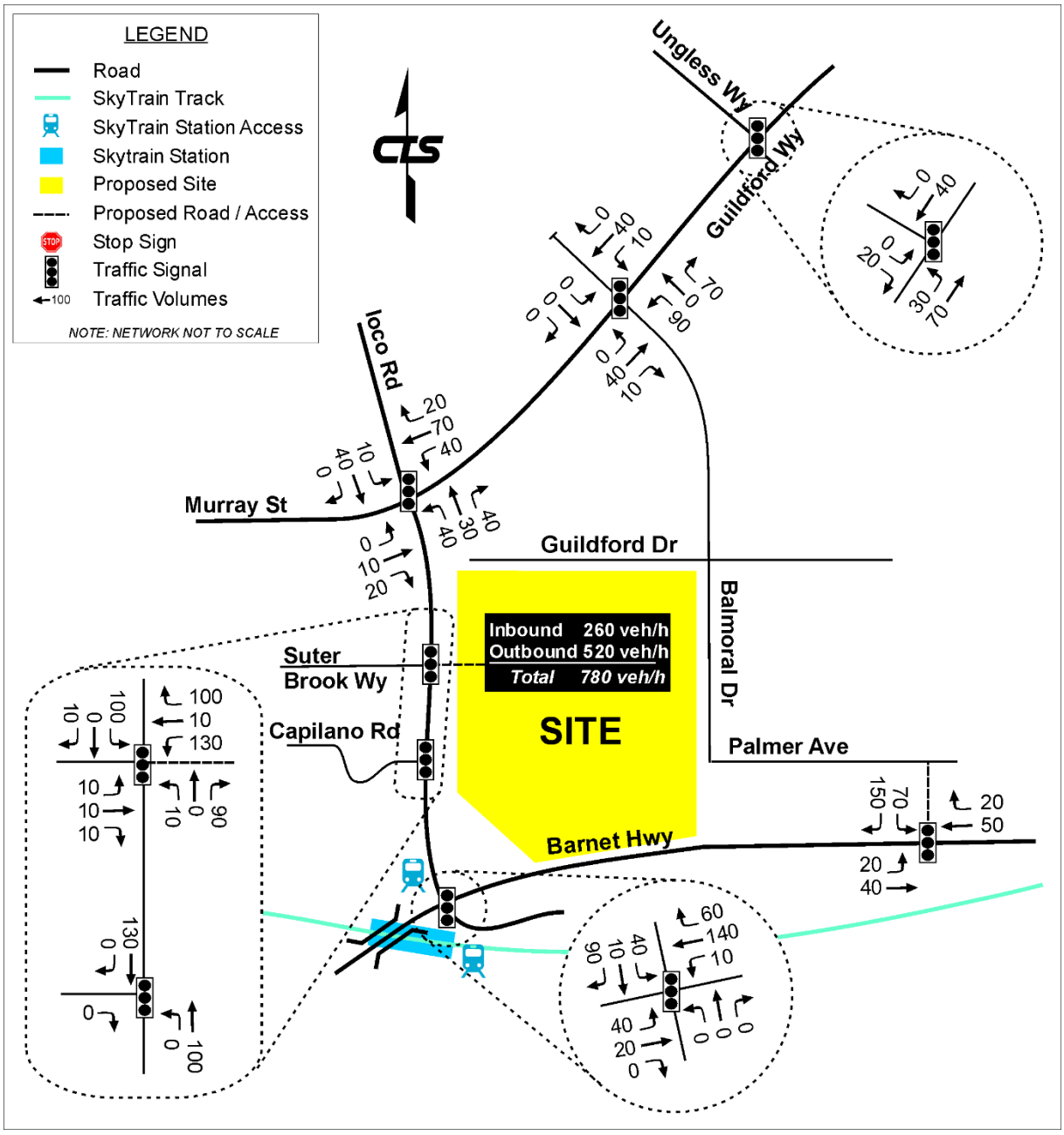


**FIGURE 12**
**TOTAL STUDY SITE WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES**
**LOWER ESTIMATE**

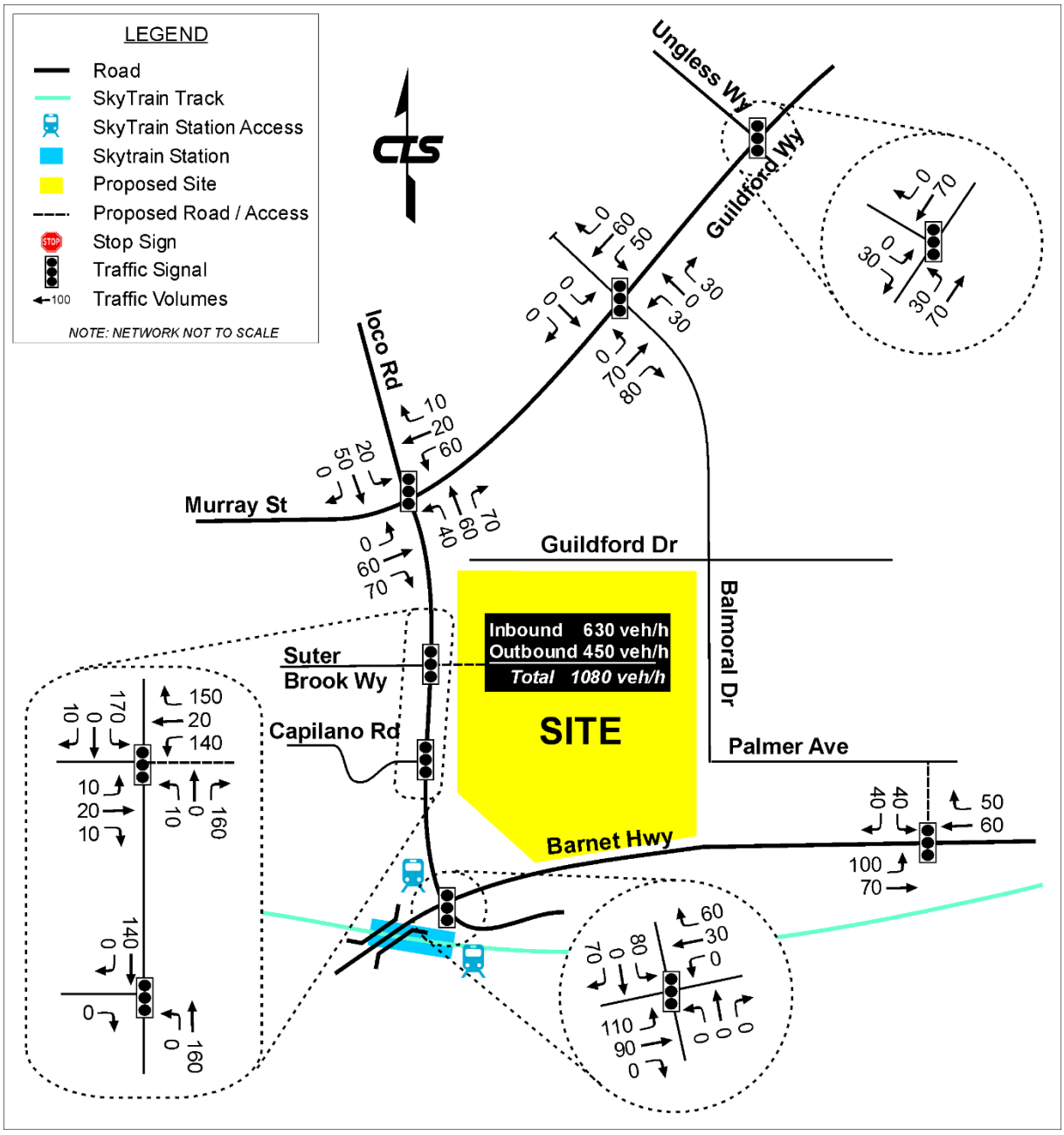


**FIGURE 13**
**TOTAL STUDY SITE WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES**
**HIGHER ESTIMATE**

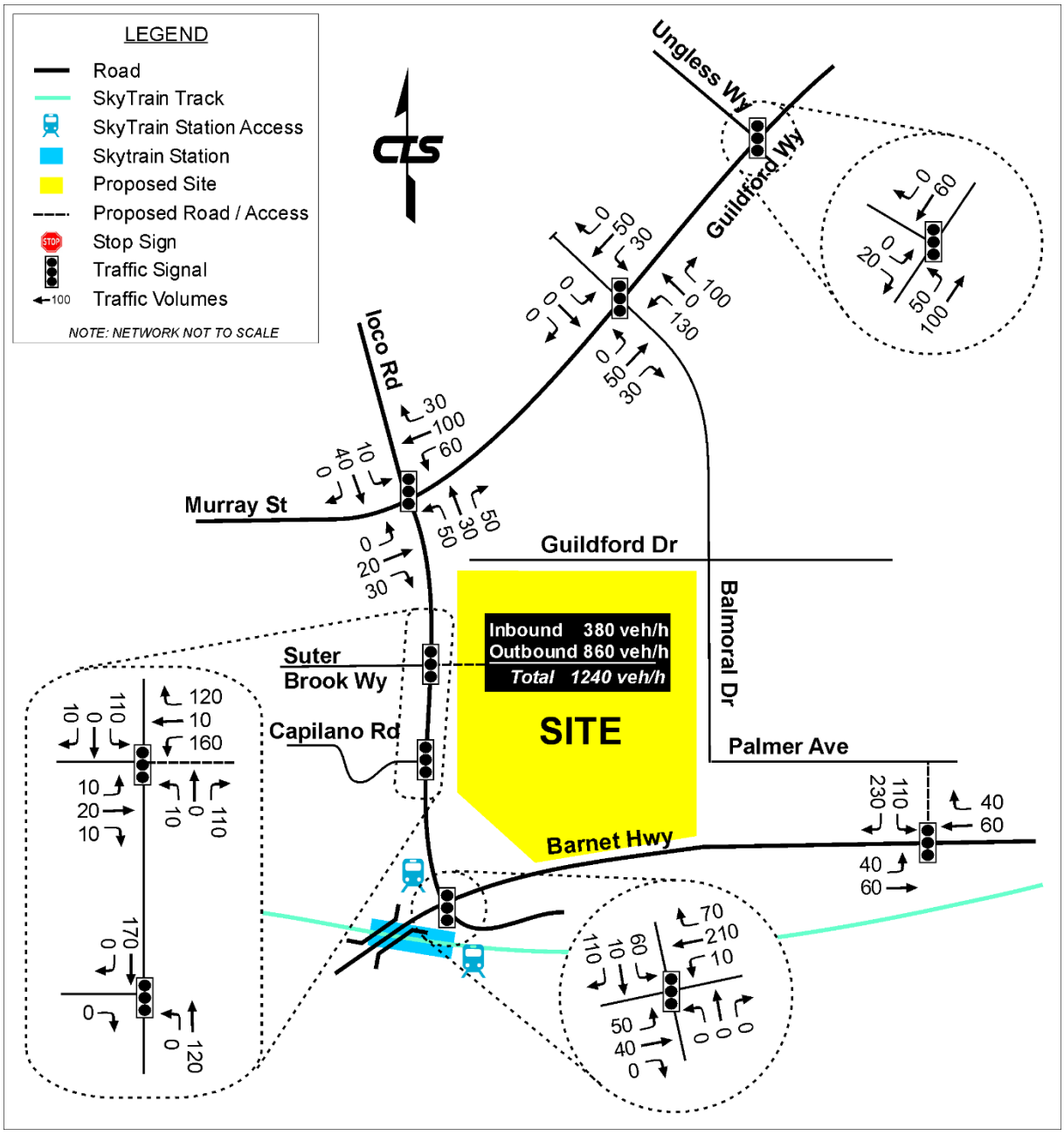
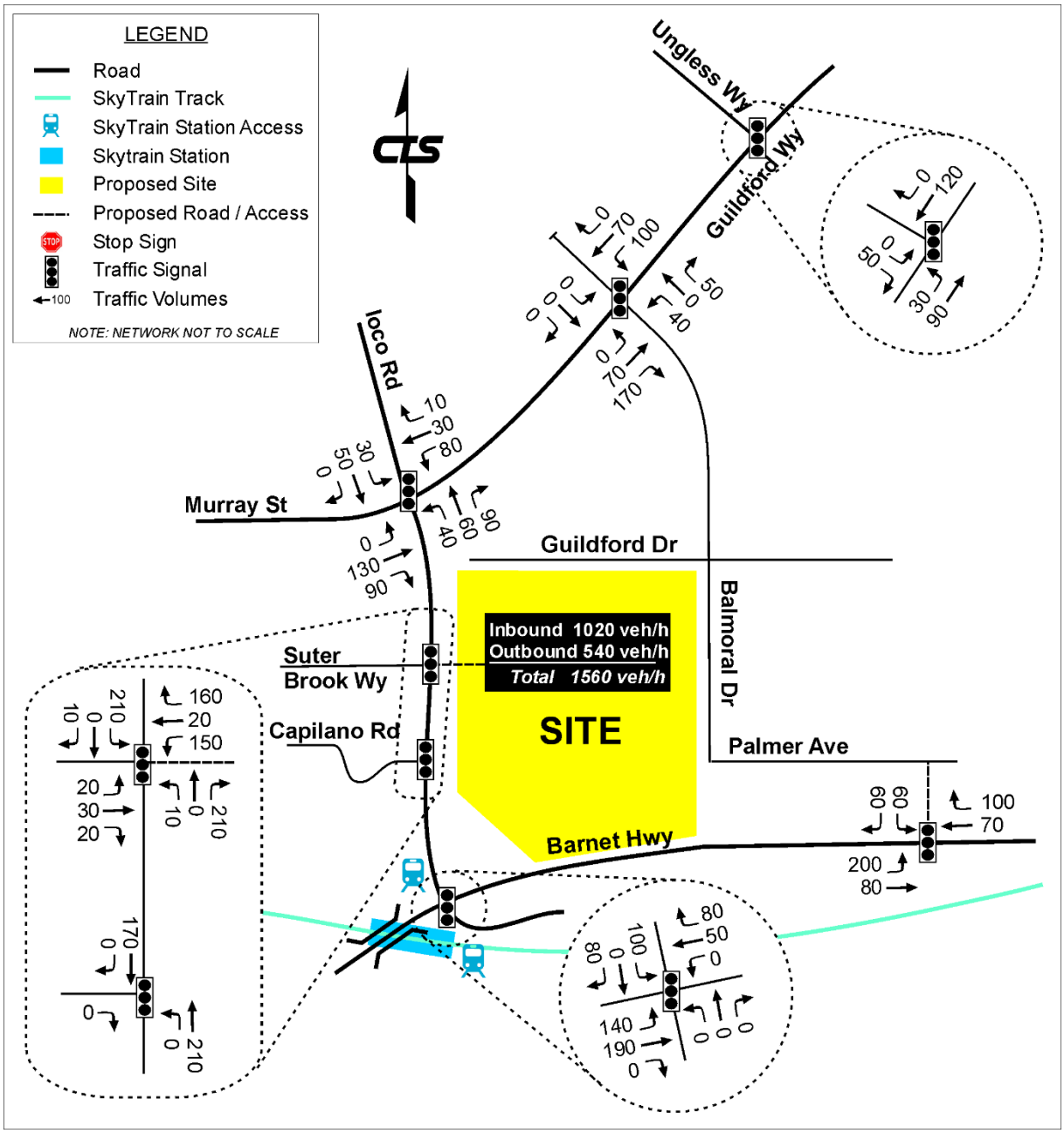


**FIGURE 14**
**TOTAL STUDY SITE WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES**
**HIGHER ESTIMATE**



## 5.0 BASE + BACKGROUND + SITE TRAFFIC VOLUMES

*2028 Future Base + Background + Site Traffic Volumes*

The proposed development is anticipated to be half built-out and occupied by the year 2028. The 2028 base + background + site traffic volumes were calculated by first factoring up the 2017/18 base traffic volumes by the traffic volume growth rate of 1.0% per annum (simple straight line) to the year 2021. Then factored up by the same annual growth factor to 2028. Site traffic generated by the proposed development was added to the 2028 future base traffic volumes. Subsequent discussions with the City of Port Moody have concluded that a 0.5% growth rate will be more appropriate for subsequent analyses

The lower estimate for the 2028 base + background + site weekday morning and weekday afternoon peak hour traffic volumes are illustrated in **FIGURE 15** and **FIGURE 16** respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10.

**FIGURE 15**
**2028 BASE + BACKGROUND + SITE VOLUMES**
**MORNING PEAK HOUR LOWER ESTIMATE**

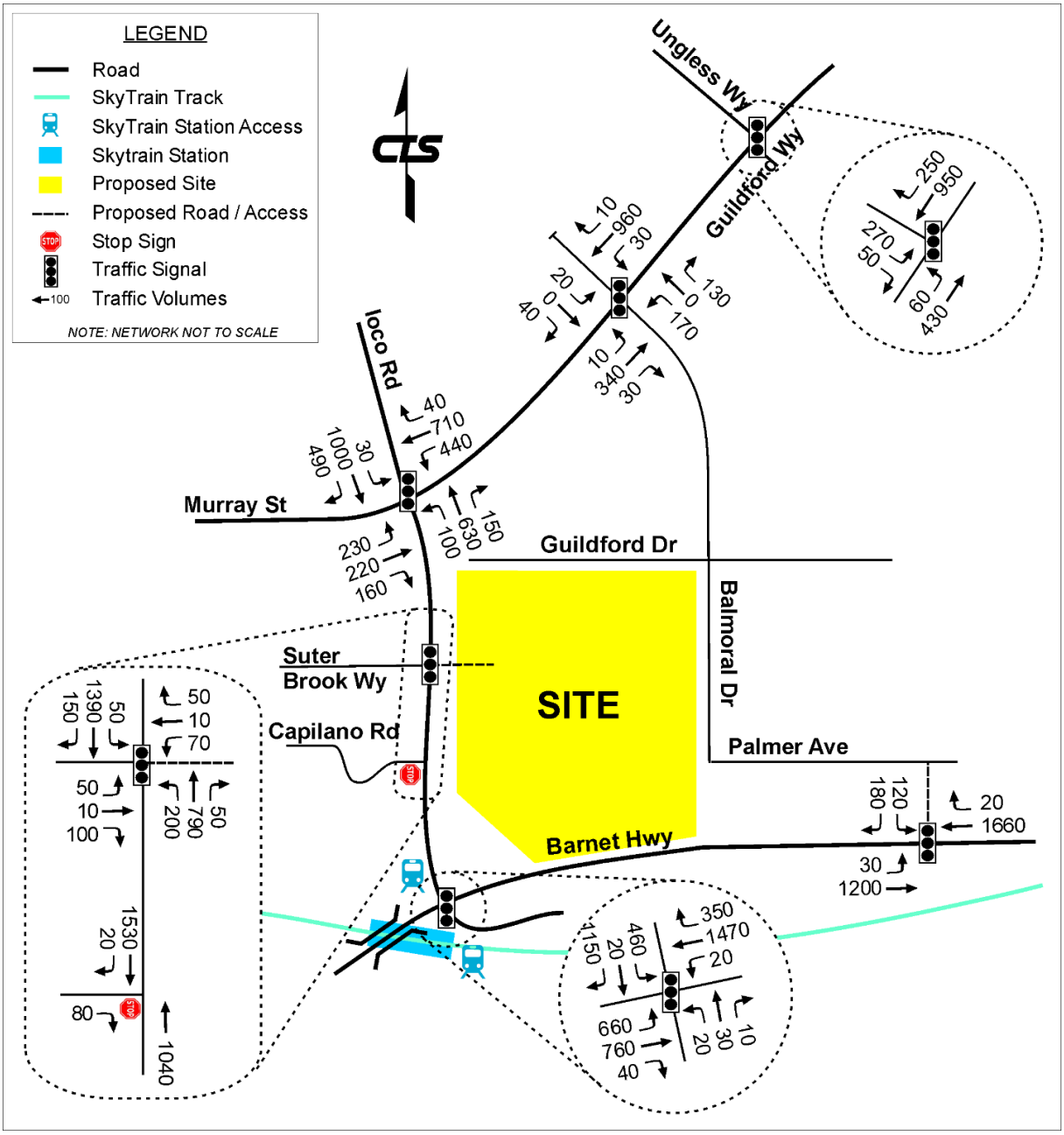
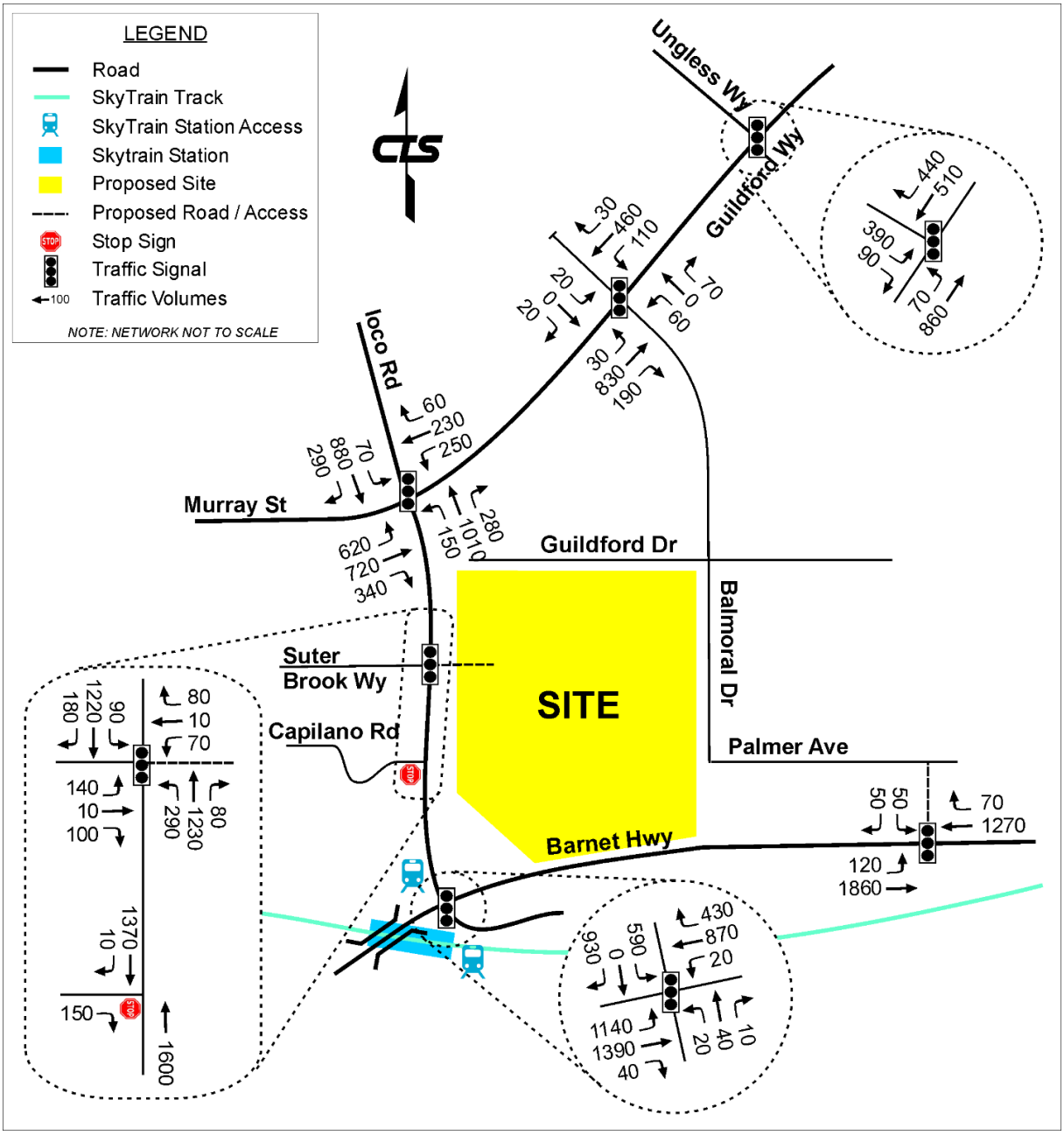


**FIGURE 16**
**2028 BASE + BACKGROUND + SITE VOLUMES**
**AFTERNOON PEAK HOUR LOWER ESTIMATE**



The higher estimate for the 2028 base + background + site weekday morning and weekday afternoon peak hour traffic volumes are illustrated in **FIGURE 17** and **FIGURE 18** respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10.

**FIGURE 17**
**2028 BASE + BACKGROUND + SITE VOLUMES**
**MORNING PEAK HOUR HIGHER ESTIMATE**

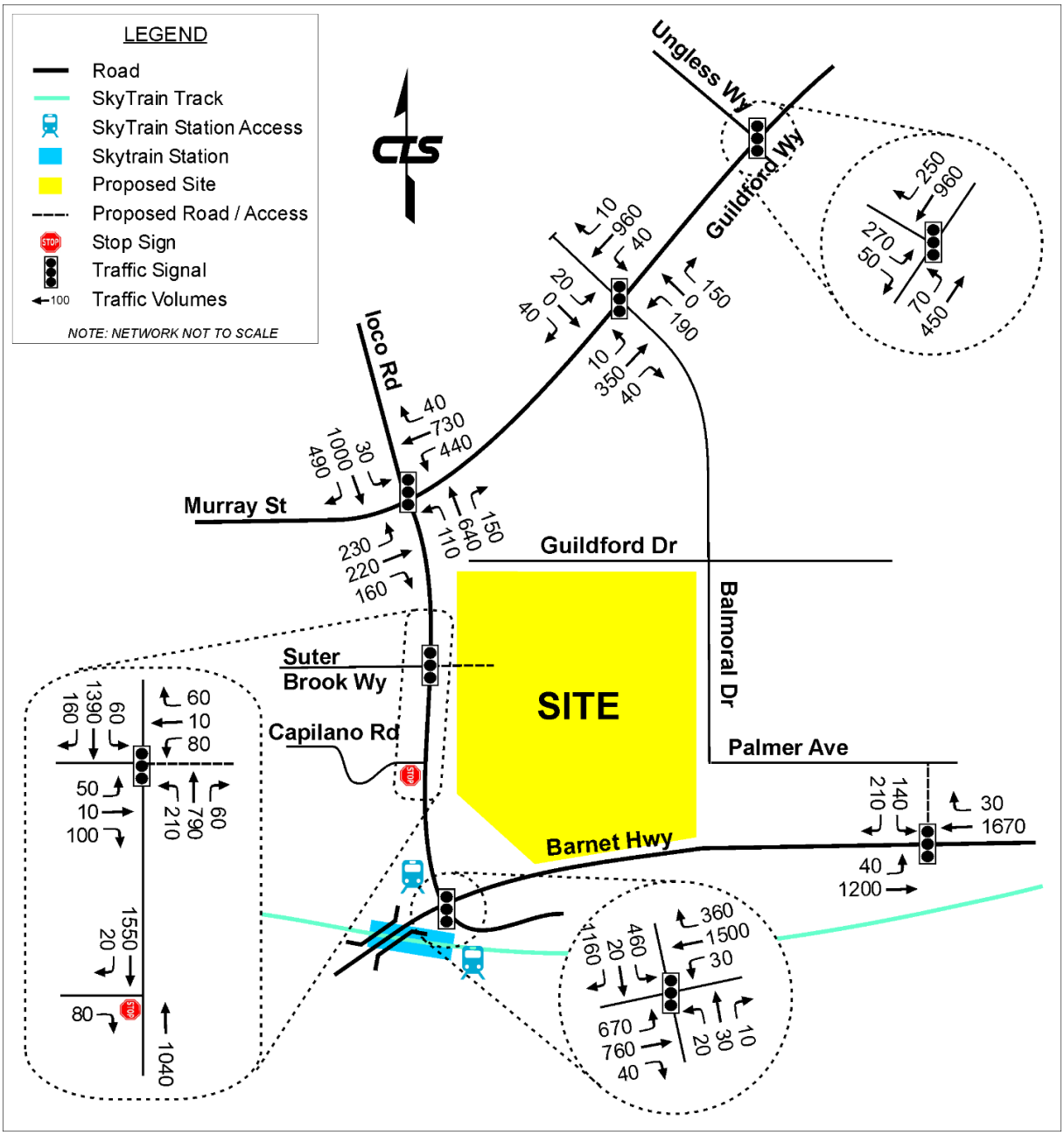
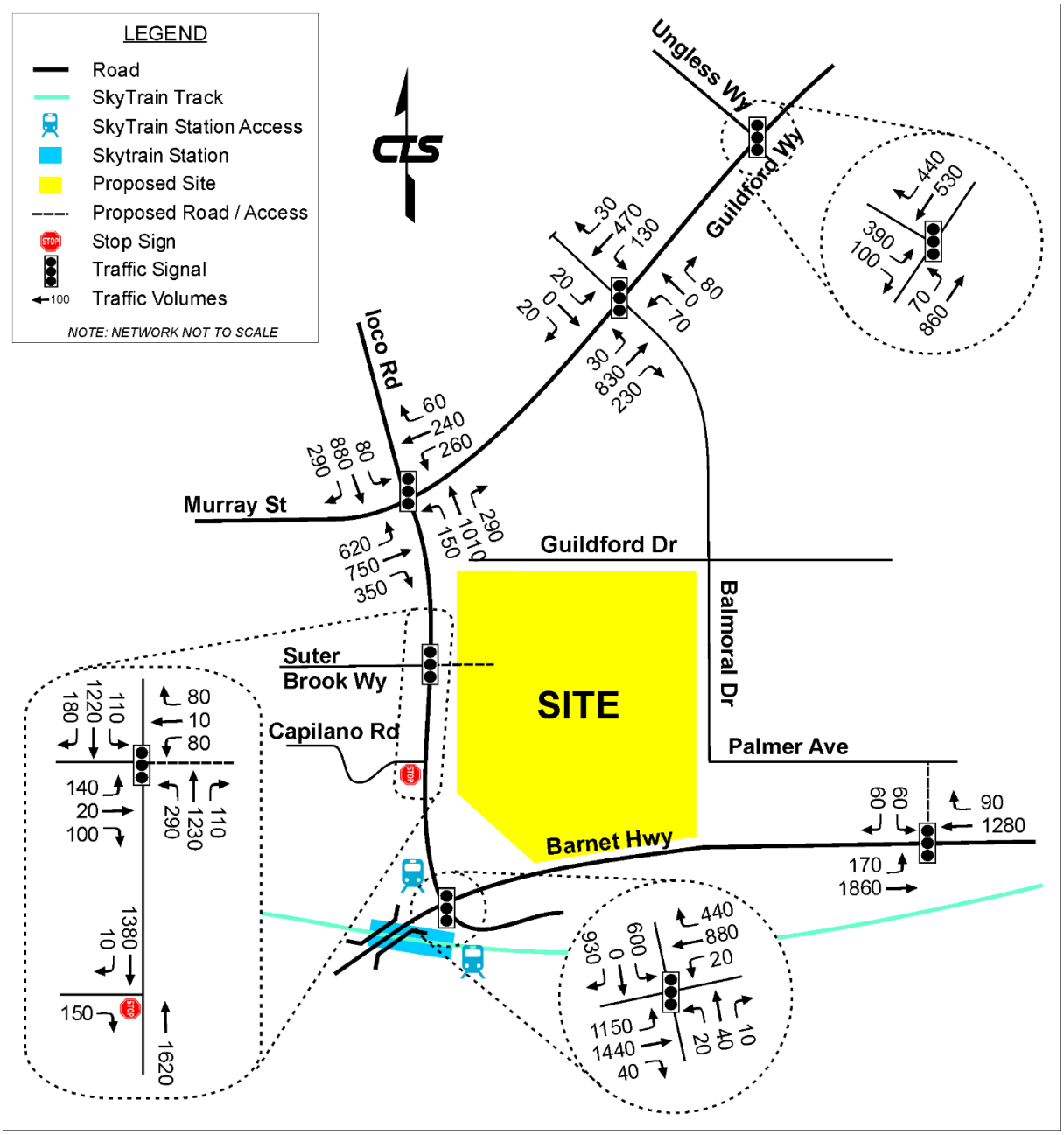


**FIGURE 18**
**2028 BASE + BACKGROUND + SITE VOLUMES**
**AFTERNOON PEAK HOUR HIGHER ESTIMATE**



*2035 Future Base + Site Traffic Volumes*

For the purposes of this study, the proposed development is anticipated to be fully built-out and occupied by the year 2035. The 2035 base + background + site traffic volumes were calculated by first factoring up the 2017/18 base traffic volumes by the traffic volume growth rate of 1.0% per annum (simple straight line) to the year 2021. Then factored up by the same annual growth rate to 2035. Site traffic generated by the proposed development was added to the 2038 future base traffic volumes. Subsequent discussions with the City of Port Moody have concluded that a 0.5% growth rate will be more appropriate for subsequent analyses

The lower estimate for the 2035 base + background + site weekday morning and weekday afternoon peak hour traffic volumes are illustrated in **FIGURE 19** and **FIGURE 20** respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10.

**FIGURE 19**
**2035 BASE + BACKGROUND + SITE VOLUMES**
**MORNING PEAK HOUR LOWER ESTIMATE**

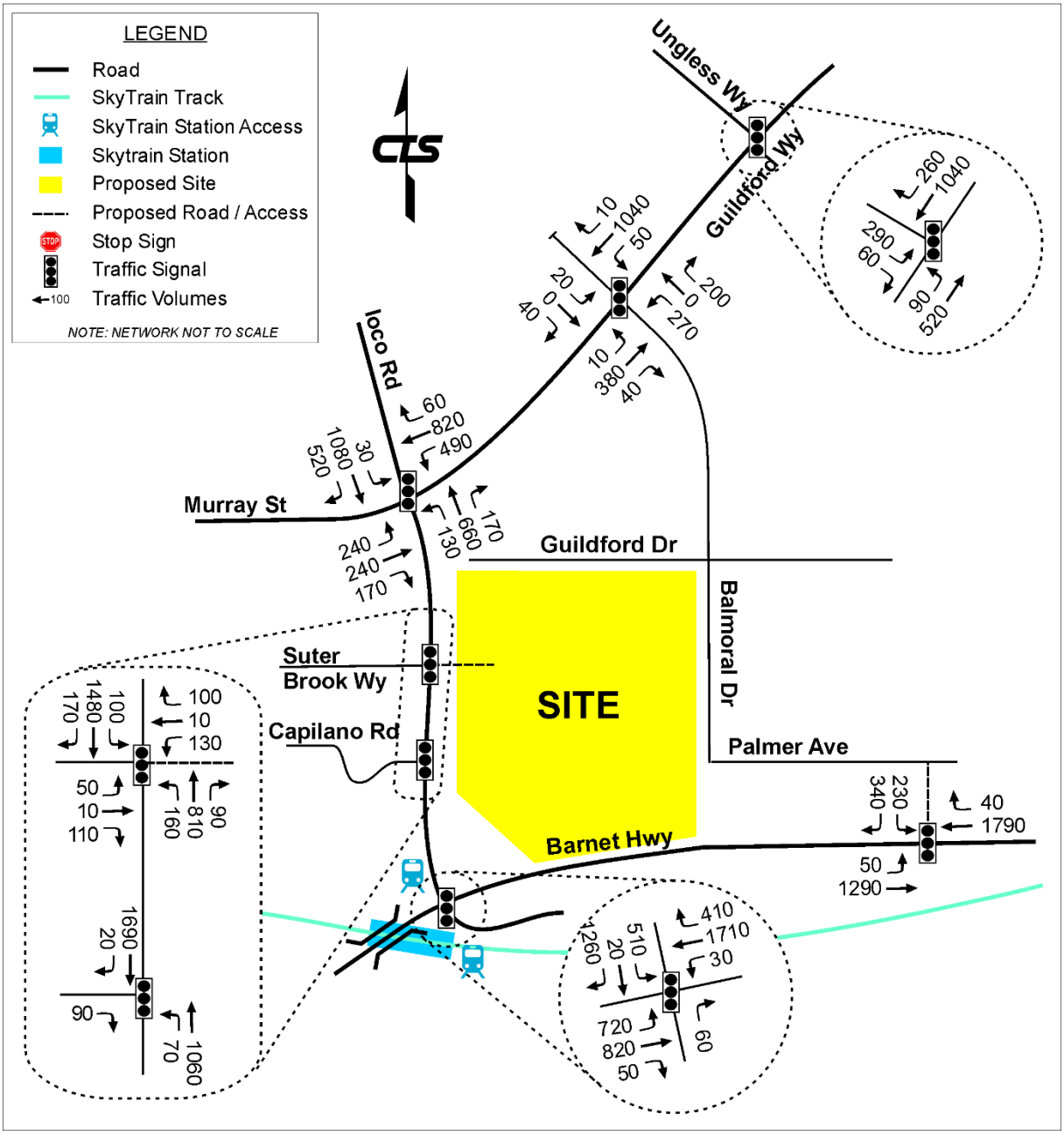
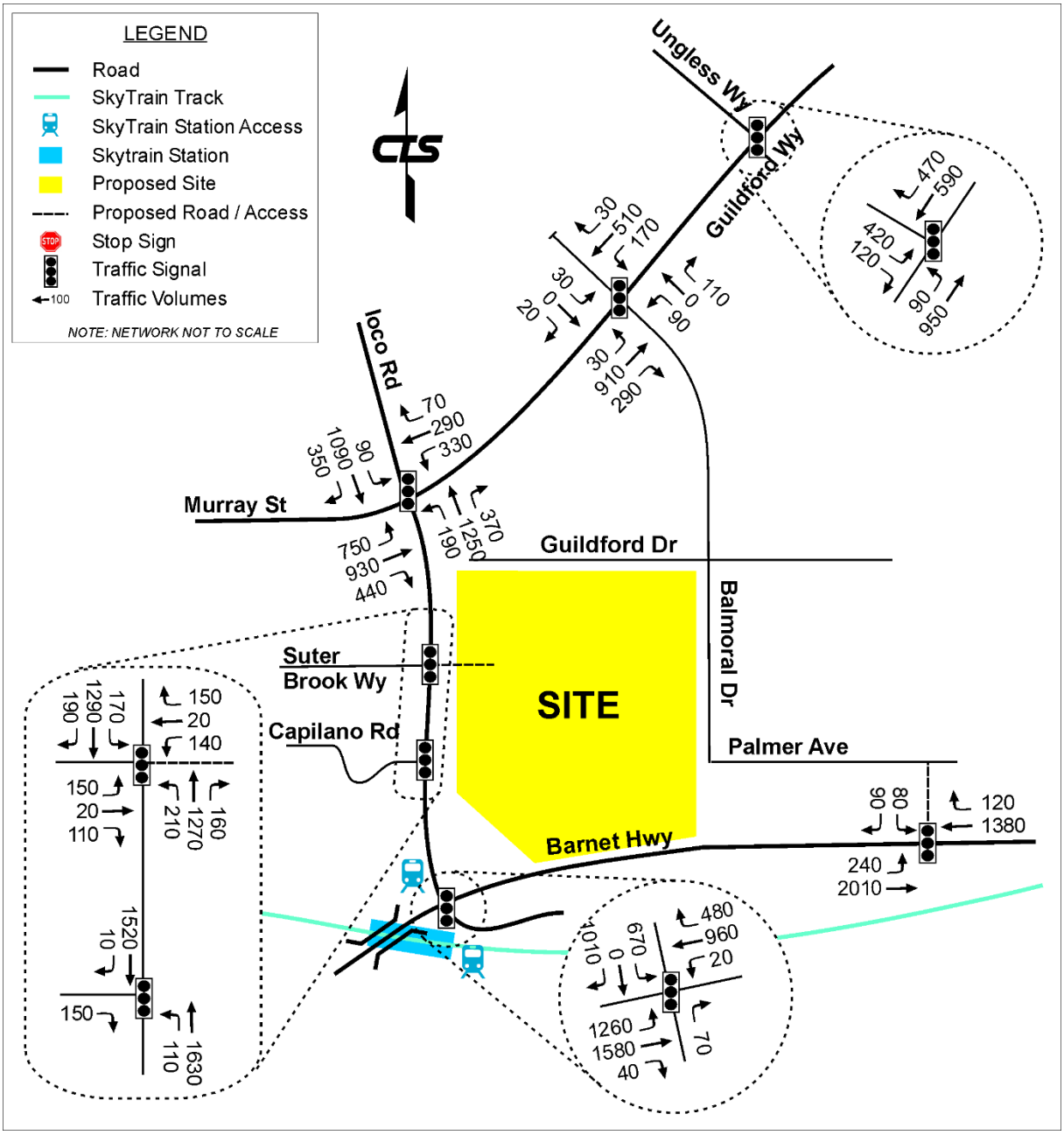


**FIGURE 20**
**2035 BASE + BACKGROUND + SITE VOLUMES**
**AFTERNOON PEAK HOUR LOWER ESTIMATE**



The higher estimate for the 2035 base + background + site weekday morning and weekday afternoon peak hour traffic volumes are illustrated in **FIGURE 21** and **FIGURE 22** respectively. Since this is a high-level study, the traffic volumes were rounded up to the nearest 10.

**FIGURE 21**
**2035 BASE + BACKGROUND + SITE VOLUMES**
**MORNING PEAK HOUR HIGHER ESTIMATE**

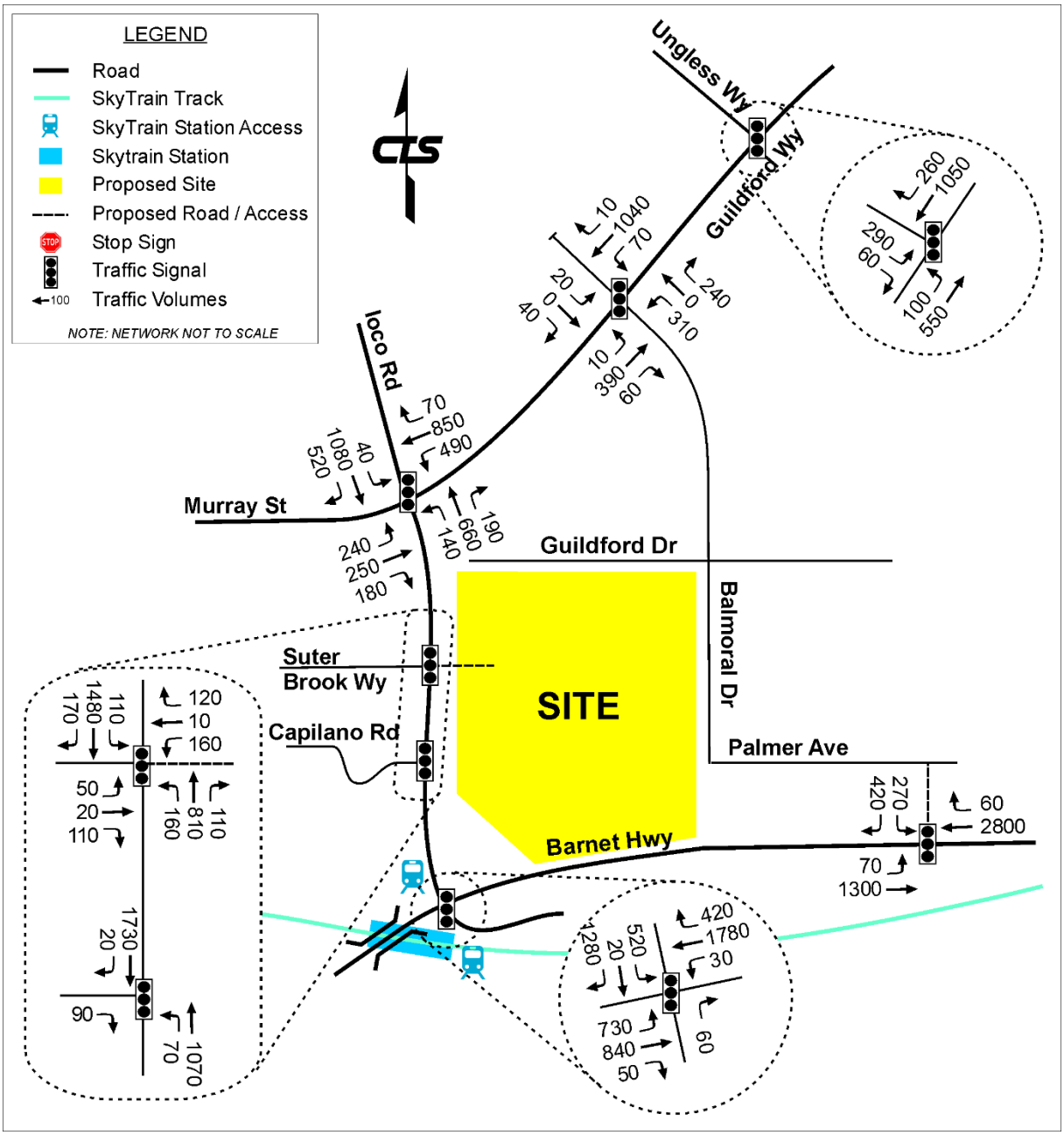
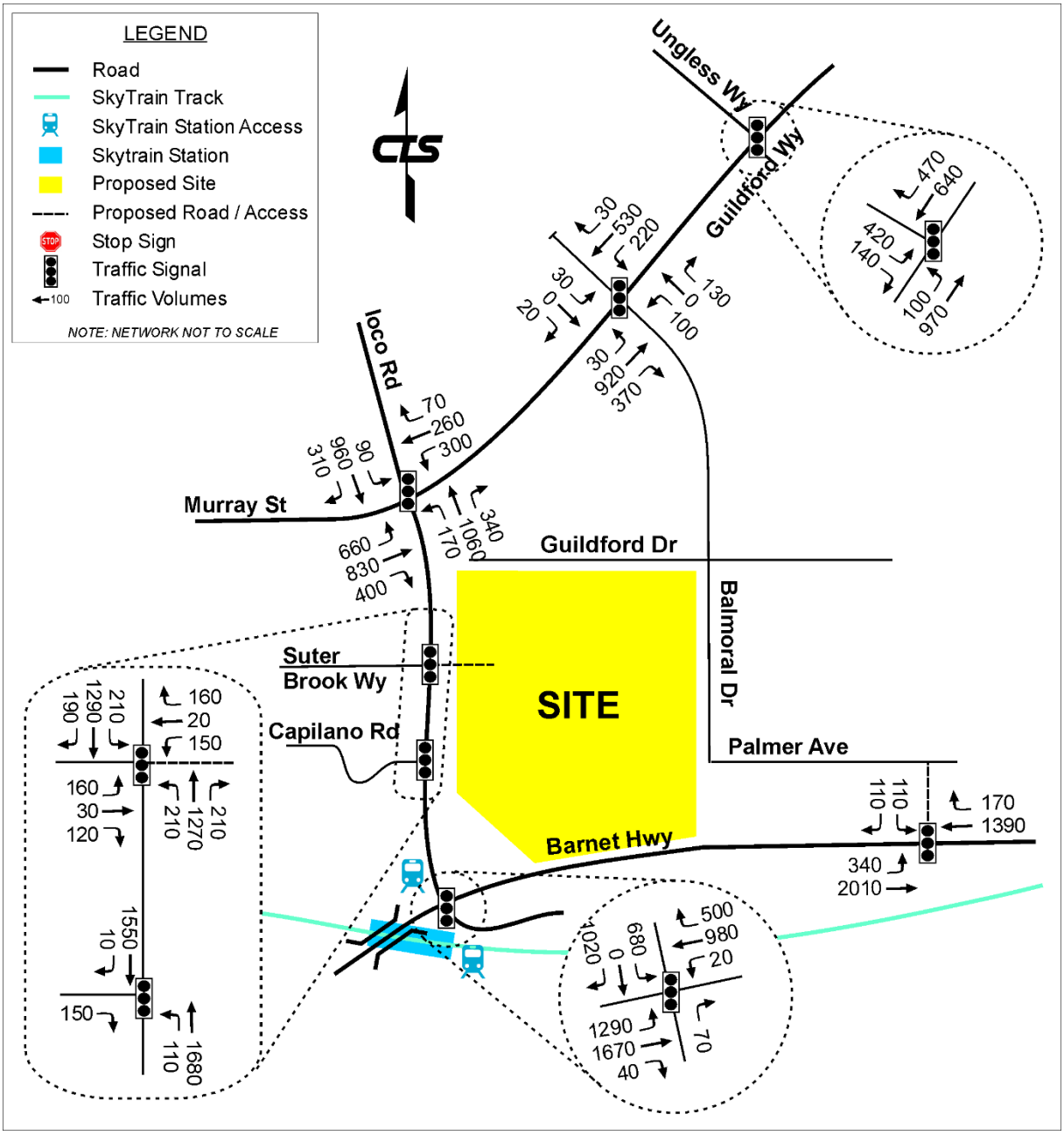


**FIGURE 22**
**2035 BASE + BACKGROUND + SITE VOLUMES**
**AFTERNOON PEAK HOUR LOWER ESTIMATE**



# 6.0 INTERSECTION CAPACITY ANALYSIS

## 6.1 Intersection Capacity Analysis

### 6.1.1 Overview of Capacity Analysis

In order to evaluate the performance of the study road network with and without the future traffic generated by the proposed development, the study area intersections were analysed based on capacity analysis methods from the *Highway Capacity Manual* published by the Transportation Research Board of the National Academies of Science in the United States, using Synchro 11 software for the signalized intersections and HCS 7.9 for the unsignalized intersections. This tool conducts a rigorous analysis of peak hour intersection operation based on intersection lane configurations, traffic signal timing and phasing and turning movement volumes. The purpose of the analysis is to identify movements that are or will become problems under forecast conditions.

Measures of effectiveness generated by the calculations include the following:

- Volume to capacity ratio (V/C) for each movement or lane group where there are shared lanes – this is the proportion of available capacity used by the forecast demand;
- Average delay per vehicle (Delay) in the lane group over the hour analysed – this indicates a weighted average delay in seconds per vehicle for drivers approaching during the hour analysed;
- 95th percentile queue length (95th Queue (m)) – this indicates the length of the vehicle queues which 95% of the time are not exceeded;
- Overall intersection Level of Service – this indicates the weighted average delay for the intersection during the hour analysed, converted to a letter representing a range of delays. The ranges of delays corresponding to each Level of Service are summarized in **TABLE 11**.

**TABLE 11**
**LEVEL OF SERVICE AND CORRESPONDING AVERAGE DELAY**

| Level of Service | Average Delay (Seconds per Vehicle) | |
|---|---|---|
| | Signalized Intersection | Unsignalized Intersection |
| A | 0 - 10 | 0 - 10 |
| B | >10 - 20 | >10 - 15 |
| C | >20 - 35 | >15 - 25 |
| D | >35 - 55 | >25 - 35 |
| E | >55 - 80 | >35 - 50 |
| F | >80 | >50 |

### 6.1.2 Evaluation Approach

The signalized intersection capacity analysis was conducted using the Ministry of Transportation and Infrastructure minimum timing standards and optimizing by cycle length in Synchro 11.

The following assumptions were made with respect to the intersection capacity analysis:

- *Saturation flow rate* = 1,900 passenger cars/hour of green time/lane (pcphgpl)
- *Peak hour factor* (PHF) = 0.95 (weekday AM peak hour) and 0.96 (weekday PM peak hour) were the average factors observed from the surveyed intersections.
- Heavy vehicle percentage for roads = 2%

*Saturation flow rate* is the equivalent hourly rate at which previously queued vehicles can traverse an intersection approach under prevailing conditions, assuming that the green signal is always available, and no lost times are experienced. It is a base rate to which adjustment factors are applied.

*Peak Hour Factor* is a measure of traffic demand fluctuation within the analysis hour. The closer the number is to 1.00, the less fluctuation during the hour.

The existing signal timing plans for the signalized study intersections were obtained from the City of Port Moody and are included in **APPENDIX D.**

For the 2021 base analysis, the existing signal timing plans were used. For the future horizon years, the signal timings were optimized by phase splits and the cycle lengths were maintained where possible. In situations where certain movements exceeded capacity after optimizing by splits, the intersection was optimized by cycle length. For the intersections of Ioco Road at Barnet Road and Ioco Road at Guildford Way, when the optimized cycle length exceeded 120 seconds, the intersection cycle length was suppressed to 120 seconds, and optimized by phase splits.

The intersection capacity analysis worksheets are included as **APPENDIX E**.

**TABLE 12** to **TABLE 19** summarizes the capacity analyses conducted for the study intersections.

# TABLE 12
# IOCO ROAD AT BARNET HIGHWAY SIGNALIZED CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 108 | 2021 Base | Volumes | 600 | 690 | 40 | 20 | 1220 | 300 | 20 | 30 | 10 | 410 | 10 | 1030 | D |
| | | | V/C | 0.91 | 0.36 | | 0.09 | 0.98 | 0.41 | 0.4 | | 0.05 | 0.57 | 0.59 | 0.88 | |
| | | | Delay (veh/s) | 60.6 | 12 | | 26.2 | 56.5 | 4.7 | 56.9 | | 0.4 | 42.7 | 43.6 | 20.9 | |
| | | | 95% Queue (m) | 107.3 | 59.8 | | 9.5 | 212.2 | 19.3 | 24.5 | | 0 | 69.3 | 72.8 | 73.7 | |
| | 120 | 2028 Base | Volumes | 640 | 730 | 40 | 20 | 1310 | 320 | 20 | 30 | 10 | 440 | 20 | 1100 | D |
| | | | V/C | 1.01 | 0.37 | | 0.08 | 1.00 | 0.42 | 0.46 | | 0.05 | 0.58 | 0.63 | 0.98 | |
| | | | Delay (veh/s) | 84.9 | 11.8 | | 24.4 | 60.3 | 4.2 | 67.6 | | 0.5 | 48.5 | 50.3 | 40.8 | |
| | | | 95% Queue (m) | 128.1 | 60.7 | | 9.2 | 231.1 | 18.5 | 26.9 | | 0 | 84.7 | 92.7 | 138.6 | |
| | 120 | 2035 Base | Volumes | 680 | 780 | 50 | 20 | 1390 | 340 | 0 | 0 | 60 | 460 | 20 | 1170 | D |
| | | | V/C | 1.01 | 0.38 | | 0.09 | 1.02 | 0.43 | | | 0.04 | 0.58 | 0.63 | 1.04 | |
| | | | Delay (veh/s) | 82.7 | 9.8 | | 23.2 | 62.6 | 3.8 | | | 0.1 | 46.2 | 48 | 58.3 | |
| | | | 95% Queue (m) | 134.2 | 58.8 | | 6.2 | 246.7 | 18.4 | | | 0 | 85.3 | 92.7 | 160.6 | |
| | 120 | 2028 Base + Background + Site Low | Volumes | 660 | 760 | 40 | 20 | 1470 | 350 | 20 | 30 | 10 | 460 | 20 | 1150 | E |
| | | | V/C | 1.1 | 0.39 | | 0.08 | 1.09 | 0.72 | 0.46 | | 0.05 | 0.61 | 0.66 | 1.05 | |
| | | | Delay (veh/s) | 113.4 | 12 | | 31.6 | 85 | 16.4 | 67.6 | | 0.5 | 49.5 | 51.4 | 63.7 | |
| | | | 95% Queue (m) | 139.6 | 63.7 | | 6.1 | 267.9 | 52.9 | 26.9 | | 0 | 88.9 | 96.7 | 165.3 | |
| | 120 | 2028 Base + Background + Site High | Volumes | 670 | 760 | 40 | 30 | 1500 | 360 | 20 | 30 | 10 | 460 | 20 | 1160 | E |
| | | | V/C | 1.12 | 0.39 | | 0.13 | 1.11 | 0.74 | 0.46 | | 0.05 | 0.61 | 0.66 | 1.06 | |
| | | | Delay (veh/s) | 118.7 | 12 | | 32.3 | 92.9 | 17 | 67.6 | | 0.5 | 49.5 | 51.4 | 66.7 | |
| | | | 95% Queue (m) | 142.3 | 63.7 | | 8.8 | 277.3 | 58.2 | 26.9 | | 0 | 88.9 | 96.7 | 168 | |
| | 120 | 2035 Base + Background + Site Low | Volumes | 720 | 820 | 50 | 30 | 1710 | 410 | 0 | 0 | 60 | 510 | 20 | 1260 | F |
| | | | V/C | 1.22 | 0.4 | | 0.13 | 1.18 | 0.66 | | | 0.04 | 0.64 | 0.69 | 1.18 | |
| | | | Delay (veh/s) | 156 | 10.1 | | 30.5 | 120.6 | 13.9 | | | 0.1 | 48.4 | 50.6 | 115.8 | |
| | | | 95% Queue (m) | 158 | 62.8 | | 6.7 | 324.5 | 45.7 | | | 0 | 94.6 | 102.8 | 209.3 | |
| | 120 | 2035 Base + Background + Site High | Volumes | 730 | 840 | 50 | 30 | 1780 | 420 | 0 | 0 | 60 | 520 | 20 | 1280 | F |
| | | | V/C | 1.3 | 0.41 | | 0.13 | 1.23 | 0.68 | | | 0.04 | 0.63 | 0.68 | 1.2 | |
| | | | Delay (veh/s) | 186 | 10.7 | | 30.2 | 139.9 | 14.1 | | | 0.1 | 47.1 | 49.4 | 121.8 | |
| | | | 95% Queue (m) | 164.7 | 66.6 | | 5.9 | 332.4 | 37.1 | | | 0 | 95.5 | 103.4 | 217.7 | |
| Weekday Afternoon Peak Hour | 118 | 2021 Base | Volumes | 1010 | 1200 | 40 | 20 | 780 | 370 | 20 | 40 | 10 | 510 | 0 | 840 | C |
| | | | V/C | 0.92 | 0.58 | | 0.2 | 0.88 | 0.61 | 0.47 | | 0.04 | 0.73 | 0.74 | 0.68 | |
| | | | Delay (veh/s) | 50.7 | 15.1 | | 44.1 | 55.9 | 8.5 | 64 | | 0.4 | 55.8 | 56 | 5.5 | |
| | | | 95% Queue (m) | 164.6 | 121.8 | | 12.7 | 153.4 | 29.5 | 29.9 | | 0 | 94.9 | 95.3 | 17.6 | |
| | 120 | 2028 Base | Volumes | 1080 | 1280 | 40 | 20 | 830 | 400 | 20 | 40 | 10 | 550 | 0 | 890 | C |
| | | | V/C | 0.97 | 0.61 | | 0.21 | 0.9 | 0.63 | 0.54 | | 0.05 | 0.81 | 0.81 | 0.7 | |
| | | | Delay (veh/s) | 58.8 | 14.5 | | 42.4 | 56.3 | 8.2 | 72.3 | | 0.4 | 62.9 | 63.1 | 5.8 | |
| | | | 95% Queue (m) | 189.2 | 126.4 | | 12.3 | 154.7 | 29.6 | 33 | | 0 | 114.6 | 115.7 | 18 | |
| | 120 | 2035 Base | Volumes | 1150 | 1360 | 40 | 20 | 890 | 420 | 0 | 0 | 70 | 580 | 0 | 950 | C |
| | | | V/C | 0.92 | 0.58 | | 0.2 | 0.85 | 0.65 | | | 0.05 | 0.84 | 0.84 | 0.72 | |
| | | | Delay (veh/s) | 48.5 | 9.2 | | 37.5 | 47.5 | 10 | | | 0.1 | 66.5 | 66.5 | 5.9 | |
| | | | 95% Queue (m) | 186.3 | 98.5 | | 11.2 | 149.7 | 43.2 | | | 0 | 124.9 | 124.9 | 18.3 | |
| | 120 | 2028 Base + Background + Site Low | Volumes | 1140 | 1390 | 40 | 20 | 870 | 430 | 20 | 40 | 10 | 590 | 0 | 930 | D |
| | | | V/C | 1.00 | 0.66 | | 0.25 | 0.98 | 0.88 | 0.54 | | 0.05 | 0.85 | 0.85 | 0.71 | |
| | | | Delay (veh/s) | 65.6 | 15.8 | | 61.1 | 78.7 | 38.6 | 72.3 | | 0.4 | 67.5 | 67.8 | 5.8 | |
| | | | 95% Queue (m) | 210.3 | 144.4 | | 10 | 157.7 | 84.1 | 33 | | 0 | 128.2 | 128.2 | 18.2 | |
| | 120 | 2028 Base + Background + Site High | Volumes | 1150 | 1440 | 40 | 20 | 880 | 440 | 20 | 40 | 10 | 600 | 0 | 930 | D |
| | | | V/C | 1.01 | 0.68 | | 0.26 | 0.99 | 0.9 | 0.54 | | 0.05 | 0.86 | 0.86 | 0.71 | |
| | | | Delay (veh/s) | 68.2 | 16.4 | | 62.8 | 79.5 | 41.1 | 72.3 | | 0.4 | 68.6 | 69 | 5.8 | |
| | | | 95% Queue (m) | 212.9 | 153.3 | | 9.8 | 163.8 | 96.8 | 33 | | 0 | 130.9 | 131.4 | 18.2 | |
| | 120 | 2035 Base + Background + Site Low | Volumes | 1260 | 1580 | 40 | 20 | 960 | 480 | 0 | 0 | 70 | 670 | 0 | 1010 | D |
| | | | V/C | 0.98 | 0.67 | | 0.27 | 0.97 | 0.88 | | | 0.05 | 0.96 | 0.96 | 0.74 | |
| | | | Delay (veh/s) | 56.5 | 10.9 | | 62.8 | 71.8 | 38.7 | | | 0.1 | 84.2 | 84.2 | 5.9 | |
| | | | 95% Queue (m) | 213.8 | 127.9 | | 8 | 171.2 | 119.2 | | | 0 | 153.2 | 153.2 | 18.6 | |
| | 120 | 2035 Base + Background + Site High | Volumes | 1290 | 1670 | 40 | 20 | 980 | 500 | 0 | 0 | 70 | 680 | 0 | 1020 | D |
| | | | V/C | 1.02 | 0.71 | | 0.29 | 0.97 | 0.9 | | | 0.05 | 0.97 | 0.97 | 0.74 | |
| | | | Delay (veh/s) | 67.4 | 11.7 | | 64.3 | 73.8 | 43.2 | | | 0.1 | 87.2 | 87.2 | 6 | |
| | | | 95% Queue (m) | 225.7 | 142.6 | | 6.8 | 172.8 | 128.6 | | | 0 | 157 | 157 | 18.6 | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*Ioco Road at Barnet Highway:*

This intersection is signalized. Based on input from City staff, it was assumed that by 2035, the NBLT and NBTH movements would be closed, and that the Barnet Service Road would be a right-in, right-out leg. The closure of these movements requires the signalization of the intersection at the east end of Barnet Frontage Road.

From **TABLE 12**, the following observations can be made:

During the weekday AM peak hour:

- The intersection is currently near capacity and operates at LOS D.
- In the years 2028 and 2035, the intersection is forecasted to worsen performance, particularly the EBLT, WBTH, and SBRT movements.
- Without the development traffic, the intersection is forecasted to operate at LOS D in the years 2028 and 2035.
- With half of the development traffic, the intersection is forecasted to operate at LOS E in the years 2028 and 2035.
- With the full development traffic, the intersection is forecasted to exceed capacity and operate at LOS F in the years 2028 and 2035.
- The EBLT 95$^{th}$ percentile queue exceeds the left turn storage length of 40 metres in all of the analyzed scenarios. However, the second left turn lane extends the length of the block (~150 metres), so the queue spill back is only from the first left turn lane being filled up.
- The SBLT 95$^{th}$ percentile queue exceeds the left turn storage length of 40 metres in all of the analyzed scenarios. However, the second lane is a shared thru / left turn lane that extends the length of the block (~190 metres), so the queue spill back is only from the first left turn lane being filled up.
- The SBRT 95$^{th}$ percentile queue extends past Capilano Road starting from the year 2028, without the development traffic. The queued vehicles block vehicles from entering and exiting Capilano Road during the busiest times of the day.
- The SBRT 95$^{th}$ percentile queue extends past Suter Brook Way in the year 2035, with development traffic. The queued vehicles block Suter Brook Way during the busiest times of the weekday morning peak hour.

During the weekday PM peak hour:

- The intersection is currently operating at LOS C.
- In the years 2028 and 2035, the intersection is forecasted to worsen performance, particularly the EBLT and WBTH movements.

- Without the development traffic, the intersection is forecasted to continue to operate at LOS C in the years 2028 and 2035.
- With half of the development traffic, the intersection is forecasted to operate at LOS D in the years 2028 and 2035.
- With the full development traffic, the intersection is forecasted to operate at LOS D in the years 2028 and 2035.
- The EBLT 95$^{th}$ percentile queue exceeds the left turn storage length of 40 metres in all of the analyzed scenarios. However, the second left turn lane extends the length of the block (~150 metres), so the queue spill back is only from the first left turn lane being filled up.
- The SBLT 95$^{th}$ percentile queue exceeds the left turn storage length of 40 metres in all of the analyzed scenarios. However, the second lane is a shared thru / left turn lane that extends the length of the block (~190 metres), so the queue spill back is only from the first left turn lane being filled up.
- The SBTH 95$^{th}$ percentile queue extends past Capilano Road starting from the year 2028, without the development traffic. The queued vehicles block vehicles from entering and exiting Capilano Road during the busiest times of the day.

It should be noted that this analysis is based on projecting future trips generated and assuming that travel patterns remain relatively stable. Assuming the level of congestion trends towards what is presented above, it is highly likely that changes in travel patterns will occur – peak hour becomes a peak period as commuters shift their departure/arrival times; or, modal shift and even higher percentage of people will use non-auto modes.

## TABLE 13
## IOCO ROAD AT CAPILANO ROAD
## UNSIGNALIZED CAPACITY ANALYSIS

| TIME OF DAY | SCENARIO | PERFORMANCE MEASURE | EASTBOUND | | | WESTBOUND | | | NORTHBOUND | | | SOUTHBOUND | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 2021 Base | Volumes | | | 80 | | | | | 920 | | | 1380 | 10 | A |
| | | Delay | | | 30.1 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 1.6 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | 2028 Base | Volumes | | | 80 | | | | | 980 | | | 1470 | 20 | A |
| | | Delay | | | 33.8 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 1.8 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | 2028 Base + Bkg + Site (low) | Volumes | | | 80 | | | | | 1040 | | | 1530 | 20 | A |
| | | Delay | | | 36.4 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 2.0 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | 2028 Base + Bkg + Site (high) | Volumes | | | 80 | | | | | 1040 | | | 1550 | 20 | A |
| | | Delay | | | 37.4 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 2.0 | | | | | 0.0 | | | 0.0 | 0.0 | |
| Weekday Afternoon Peak Hour | 2021 Base | Volumes | | | 140 | | | | | 1420 | | | 1210 | 10 | A |
| | | Delay | | | 41.8 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 3.6 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | 2028 Base | Volumes | | | 150 | | | | | 1520 | | | 1290 | 10 | A |
| | | Delay | | | 52.9 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 4.6 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | 2028 Base + Bkg + Site (low) | Volumes | | | 150 | | | | | 1600 | | | 1370 | 10 | A |
| | | Delay | | | 62.3 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 5.1 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | 2028 Base + Bkg + Site (high) | Volumes | | | 150 | | | | | 1620 | | | 1380 | 10 | A |
| | | Delay | | | 63.6 | | | | | 0.0 | | | 0.0 | 0.0 | |
| | | 95% Queue (veh) | | | 5.2 | | | | | 0.0 | | | 0.0 | 0.0 | |

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); ; or medium approach delays (25sec to <50sec)

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

*Ioco Road at Capilano Road (unsignalized):*

This intersection is currently only STOP controlled right-in/right-out at Capilano Road. For the purposed of this report, it was assumed that it would continue to remain STOP controlled at Capilano Road in the year 2028.

From **TABLE 13**, the following observations can be made:

During the weekday AM peak hour:

- The intersection currently operates at LOS A and is forecasted to continue to operate at LOS A in the year 2028 regardless of development traffic.
- The EBLT (right-out from Capilano Road) currently experiences medium delays and the delays continues to increase as the SBTH traffic increases in year 2028 with the addition of half of the development traffic.

During the weekday PM peak hour:

- The intersection currently operates at LOS A and is forecasted to continue to operate at LOS A in the year 2028 regardless of development traffic.
- The EBLT (right-out from Capilano Road) currently experiences medium delays and the delays continues to increase as the SBTH traffic increases in year 2028 with the addition of half of the development traffic.
- In the year 2028, the EBLT (right-out of Capilano Road) is forecasted to experience high delays regardless of the development traffic.

It should be noted that while the capacity analysis shows that the intersection is operating at LOS A, the SBTH and SBRT queues at Ioco Road at Barnet Highway extend past Capilano Road starting from 2028 during the busiest times of the day, blocking vehicles from entering and exiting Capilano Road.

# TABLE 14
# IOCO ROAD AT CAPILANO ROAD
# SIGNALIZED NBLT CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 90 | 2035 Base | Volumes | | | 90 | | | | 70 | 950 | | | 1560 | 20 | A |
| | | | V/C | | | 0.06 | | | | 0.41 | 0.2 | | | 0.4 | | |
| | | | Delay (veh/s) | | | 0.1 | | | | 44 | 0.1 | | | 1.8 | | |
| | | | 95% Queue (m) | | | 0 | | | | 25.5 | 0 | | | 1.2 | | |
| | 90 | 2035 Base + Background + Site Low | Volumes | | | 90 | | | | 70 | 1060 | | | 1690 | 20 | A |
| | | | V/C | | | 0.06 | | | | 0.41 | 0.22 | | | 0.43 | | |
| | | | Delay (veh/s) | | | 0.1 | | | | 44 | 0.1 | | | 0.8 | | |
| | | | 95% Queue (m) | | | 0 | | | | 25.5 | 0 | | | 5.7 | | |
| | 90 | 2035 Base + Background + Site High | Volumes | | | 90 | | | | 70 | 1070 | | | 1730 | 20 | A |
| | | | V/C | | | 0.06 | | | | 0.41 | 0.22 | | | 0.44 | | |
| | | | Delay (veh/s) | | | 0.1 | | | | 44 | 0.1 | | | 0.9 | | |
| | | | 95% Queue (m) | | | 0 | | | | 25.5 | 0 | | | 8.1 | | |
| Weekday Afternoon Peak Hour | 94 | 2035 Base | Volumes | | | 150 | | | | 110 | 1470 | | | 1380 | 10 | A |
| | | | V/C | | | 0.1 | | | | 0.54 | 0.3 | | | 0.37 | | |
| | | | Delay (veh/s) | | | 0.1 | | | | 47.4 | 0.2 | | | 1.9 | | |
| | | | 95% Queue (m) | | | 0 | | | | 36.6 | 0 | | | 12.6 | | |
| | 94 | 2035 Base + Background + Site Low | Volumes | | | 150 | | | | 110 | 1630 | | | 1520 | 10 | A |
| | | | V/C | | | 0.1 | | | | 0.54 | 0.33 | | | 0.41 | | |
| | | | Delay (veh/s) | | | 0.1 | | | | 47.4 | 0.2 | | | 1.3 | | |
| | | | 95% Queue (m) | | | 0 | | | | 36.6 | 0 | | | 6.5 | | |
| | 94 | 2035 Base + Background + Site High | Volumes | | | 150 | | | | 110 | 1680 | | | 1550 | 10 | A |
| | | | V/C | | | 0.1 | | | | 0.54 | 0.34 | | | 0.42 | | |
| | | | Delay (veh/s) | | | 0.1 | | | | 47.4 | 0.2 | | | 1.4 | | |
| | | | 95% Queue (m) | | | 0 | | | | 36.6 | 0 | | | 6.6 | | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*Ioco Road at Capilano Road (signalized NBLT):*

This intersection is currently only STOP controlled right-in/right-out at Capilano Road. For the purposed of this report, it was assumed that a signalized NBLT would be installed at this intersection by the year 2035.

From **TABLE 14**, the following observations can be made regarding the signalized NBLT at this intersection:

During the weekday AM peak hour:

- The intersection is forecasted to operate at LOS A in the year 2035 regardless of the addition of the development traffic.

During the weekday PM peak hour:

- The intersection is forecasted to operate at LOS A in the year 2035 regardless of the addition of the development traffic.

It should be noted that while the capacity analysis shows that the intersection is operating at LOS A, the SBTH and SBRT queues at Ioco Road at Barnet Highway extend past Capilano Road starting from 2028 during the busiest times of the day, blocking vehicles from entering and exiting Capilano Road.

Please note that the signal at Capilano Road has no direct effect on the proposed development. Should Port Moody elect not to install this signal (and concurrent northbound left turn) this will result in increased northbound left turn demand at the Suter Brook Road/Ioco Road intersection.

# TABLE 15
# IOCO ROAD AT SUTER BROOK WAY SIGNALIZED CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 90 | 2021 Base | Volumes | 40 | | 90 | | | | 180 | 740 | | | 1300 | 140 | A |
| | | | V/C | 0.24 | | 0.4 | | | | 0.49 | 0.18 | | | 0.47 | | |
| | | | Delay (veh/s) | 40.1 | | 13.3 | | | | 8.7 | 1.9 | | | 6.1 | | |
| | | | 95% Queue (m) | 16.8 | | 13.8 | | | | 20.3 | 12.8 | | | 39.6 | | |
| | 90 | 2028 Base | Volumes | 40 | | 100 | | | | 190 | 790 | | | 1390 | 150 | A |
| | | | V/C | 0.23 | | 0.42 | | | | 0.55 | 0.19 | | | 0.5 | | |
| | | | Delay (veh/s) | 40 | | 13.2 | | | | 12.9 | 1.9 | | | 7.9 | | |
| | | | 95% Queue (m) | 16.7 | | 14.7 | | | | 27.5 | 13.9 | | | 61.5 | | |
| | 90 | 2035 Base | Volumes | 50 | | 100 | | | | 140 | 810 | | | 1480 | 160 | A |
| | | | V/C | 0.34 | | 0.46 | | | | 0.54 | 0.23 | | | 0.6 | | |
| | | | Delay (veh/s) | 43.5 | | 14.7 | | | | 15.4 | 2.6 | | | 6.7 | | |
| | | | 95% Queue (m) | 20.1 | | 14.8 | | | | 23.2 | 17.5 | | | 50.5 | | |
| | 90 | 2028 Base + Background + Site Low | Volumes | 50 | 10 | 100 | 70 | 10 | 50 | 200 | 790 | 50 | 50 | 1390 | 150 | A |
| | | | V/C | 0.4 | | 0.31 | 0.52 | | 0.16 | 0.57 | 0.24 | | 0.11 | 0.54 | | |
| | | | Delay (veh/s) | 42.3 | | 4.2 | 47.6 | | 1 | 16 | 6 | | 4.1 | 8.3 | | |
| | | | 95% Queue (m) | 22.2 | | 5.4 | 28.2 | | 0 | 34.7 | 34.2 | | 2.9 | 53 | | |
| | 90 | 2028 Base + Background + Site High | Volumes | 50 | 10 | 100 | 80 | 10 | 60 | 210 | 790 | 60 | 60 | 1390 | 160 | B |
| | | | V/C | 0.38 | | 0.3 | 0.55 | | 0.18 | 0.59 | 0.25 | | 0.14 | 0.55 | | |
| | | | Delay (veh/s) | 40.7 | | 4 | 47.9 | | 1.2 | 17.8 | 7.1 | | 4.4 | 8.7 | | |
| | | | 95% Queue (m) | 21.9 | | 5.3 | 30.3 | | 0 | 38 | 36.1 | | 3.4 | 53.6 | | |
| | 90 | 2035 Base + Background + Site Low | Volumes | 50 | 10 | 110 | 130 | 10 | 100 | 160 | 810 | 90 | 100 | 1480 | 170 | B |
| | | | V/C | 0.32 | | 0.33 | 0.69 | | 0.3 | 0.68 | 0.36 | | 0.27 | 0.74 | | |
| | | | Delay (veh/s) | 33.8 | | 8.2 | 49.9 | | 8.2 | 31.3 | 11.6 | | 7.8 | 20.4 | | |
| | | | 95% Queue (m) | 20 | | 12.7 | 42.1 | | 12.2 | 44.2 | 49.3 | | 13.6 | 126.9 | | |
| | 90 | 2035 Base + Background + Site High | Volumes | 50 | 20 | 110 | 160 | 10 | 120 | 160 | 810 | 110 | 110 | 1480 | 170 | C |
| | | | V/C | 0.33 | | 0.31 | 0.76 | | 0.32 | 0.69 | 0.38 | | 0.31 | 0.77 | | |
| | | | Delay (veh/s) | 32.6 | | 7.6 | 53.3 | | 7.5 | 31.6 | 12.8 | | 8.8 | 22 | | |
| | | | 95% Queue (m) | 22.6 | | 12.7 | 50.8 | | 13.3 | 43.6 | 51 | | 14.8 | 126.9 | | |
| Weekday Afternoon Peak Hour | 94 | 2021 Base | Volumes | 120 | | 90 | | | | 270 | 1150 | | | 1140 | 160 | A |
| | | | V/C | 0.51 | | 0.32 | | | | 0.63 | 0.3 | | | 0.5 | | |
| | | | Delay (veh/s) | 44.4 | | 10.6 | | | | 15.2 | 3.5 | | | 7 | | |
| | | | 95% Queue (m) | 38.3 | | 13.2 | | | | 42.5 | 30.7 | | | 101.8 | | |
| | 94 | 2028 Base | Volumes | 130 | | 90 | | | | 290 | 1230 | | | 1220 | 170 | B |
| | | | V/C | 0.53 | | 0.31 | | | | 0.69 | 0.33 | | | 0.56 | | |
| | | | Delay (veh/s) | 44.3 | | 10.2 | | | | 21.3 | 3.8 | | | 16.1 | | |
| | | | 95% Queue (m) | 40.5 | | 13.1 | | | | 52.5 | 34.6 | | | 99.2 | | |
| | 94 | 2035 Base | Volumes | 140 | | 100 | | | | 210 | 1270 | | | 1290 | 180 | B |
| | | | V/C | 0.55 | | 0.33 | | | | 0.6 | 0.34 | | | 0.56 | | |
| | | | Delay (veh/s) | 44.4 | | 9.8 | | | | 16.3 | 4.2 | | | 14.1 | | |
| | | | 95% Queue (m) | 43 | | 13.4 | | | | 36 | 37.3 | | | 97.2 | | |
| | 94 | 2028 Base + Background + Site Low | Volumes | 140 | 10 | 100 | 70 | 10 | 80 | 290 | 1230 | 80 | 90 | 1220 | 180 | B |
| | | | V/C | 0.69 | | 0.25 | 0.45 | | 0.2 | 0.72 | 0.44 | | 0.31 | 0.61 | | |
| | | | Delay (veh/s) | 51.2 | | 3.3 | 40.7 | | 1.5 | 26.7 | 11.2 | | 10 | 19.4 | | |
| | | | 95% Queue (m) | 45.6 | | 5.3 | 26.6 | | 1.2 | 62.3 | 72.7 | | 12.1 | 105 | | |
| | 94 | 2028 Base + Background + Site High | Volumes | 140 | 20 | 100 | 80 | 10 | 80 | 290 | 1230 | 110 | 110 | 1220 | 180 | B |
| | | | V/C | 0.71 | | 0.25 | 0.51 | | 0.2 | 0.72 | 0.47 | | 0.39 | 0.62 | | |
| | | | Delay (veh/s) | 51.7 | | 3.2 | 43.2 | | 1.4 | 27.2 | 12.7 | | 11.5 | 19.9 | | |
| | | | 95% Queue (m) | 48.4 | | 5.3 | 29.7 | | 1.1 | 63 | 78.9 | | 14.3 | 105 | | |
| | 94 | 2035 Base + Background + Site Low | Volumes | 150 | 20 | 110 | 140 | 20 | 150 | 210 | 1270 | 160 | 170 | 1290 | 190 | C |
| | | | V/C | 0.83 | | 0.27 | 0.81 | | 0.35 | 0.64 | 0.56 | | 0.59 | 0.64 | | |
| | | | Delay (veh/s) | 65 | | 7.5 | 63.3 | | 7 | 23 | 17.3 | | 20.2 | 19.4 | | |
| | | | 95% Queue (m) | 57.7 | | 13.2 | 53 | | 14.8 | 45.6 | 98.4 | | 32.1 | 106.9 | | |
| | 94 | 2035 Base + Background + Site High | Volumes | 160 | 30 | 120 | 150 | 20 | 160 | 210 | 1270 | 210 | 210 | 1290 | 190 | C |
| | | | V/C | 0.85 | | 0.28 | 0.84 | | 0.34 | 0.66 | 0.61 | | 0.73 | 0.66 | | |
| | | | Delay (veh/s) | 65.1 | | 8.2 | 65.4 | | 6.4 | 25.8 | 20 | | 32.5 | 20.7 | | |
| | | | 95% Queue (m) | 63.6 | | 14.8 | 58.6 | | 14.8 | 47.7 | 106.7 | | 48.3 | 109.1 | | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*Ioco Road at Suter Brook Way:*

This intersection is currently a signalized T-intersection. With the build-out of the Coronation Park site, it will become a full-movement four-legged signalized intersection.

From **TABLE 15**, the following observations can be made:

During the weekday AM peak hour:

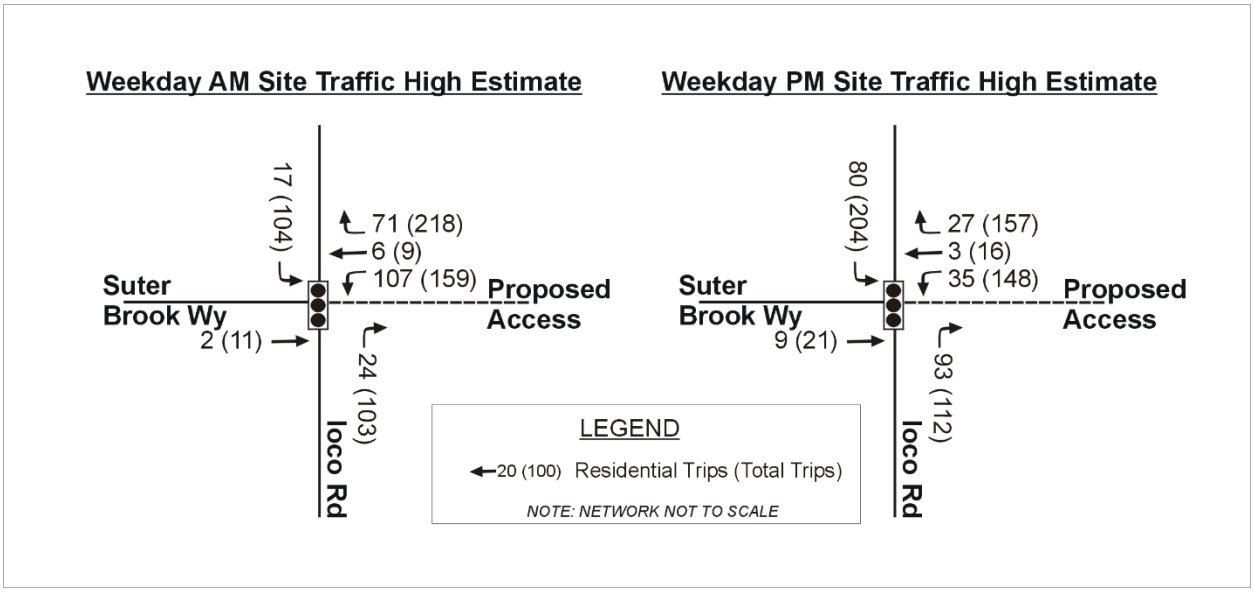
- The intersection currently operates at LOS A and is forecasted to continue to operate at LOS A in the years 2028 and 2035, without development traffic, as a T-intersection.
- In 2028, with the addition of half of the development traffic (lower study site estimate), the intersection is forecasted to operate at LOS A.
- In 2028, with the addition of the half of the development traffic (higher study site estimate), the intersection is forecasted to operate at LOS B.
- In 2035, with the addition of the all of the development traffic (lower study site estimate), the intersection is forecasted to operate at LOS B.
- In 2035, with the addition of all of the development traffic (higher study site estimate), the intersection is forecasted to operate at LOS C.
- The SBRT 95$^{th}$ percentile queue at Ioco Road at Barnet Highway extends past Suter Brook Way in the year 2035, with development traffic. The queued vehicles block Suter Brook Way during the busiest times of the weekday morning peak hour.

During the weekday PM peak hour:

- The intersection currently operates at LOS A and is forecasted to operate at LOS B in the years 2028 and 2035, without development traffic, as a T-intersection.
- In 2028, with the addition of half of the development traffic, the intersection is forecasted to operate at LOS B.
- In 2035, with the addition of all of the development traffic, the intersection is forecasted to operate at LOS C.
- The NBTH 95$^{th}$ percentile queue from Ioco Road at Guildford Way extend past Suter Brook Way in the existing conditions. This means that during the busiest times of the weekday PM peak hour, Suter Brook Way experiences upstream spillback and the intersection operations are throttled.

Port Moody requested consideration of re-assigning all residential traffic to other access points (i.e., away from the Suter Brook Road/Ioco Road intersection). As shown in **FIGURE 23** below, the residential traffic represents 18% of the AM inbound and 63% of the AM outbound volume and 40% of the PM inbound and 20% of the PM outbound volume:

**FIGURE 23**
**RESIDENTIAL TRAFFIC AND TOTAL TRAFFIC**
**AT SUTER BROOK ROAD AND IOCO ROAD**



# TABLE 16
# IOCO ROAD AT GUILDFORD WAY SIGNALIZED CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 90 | 2021 Base | Volumes | 210 | 200 | 140 | 380 | 600 | 20 | 80 | 580 | 120 | 20 | 920 | 460 | C |
| | | | V/C | 0.83 | 0.3 | 0.3 | 0.82 | 0.67 | 0.04 | 0.31 | 0.38 | 0.15 | 0.05 | 0.7 | 0.63 | |
| | | | Delay (veh/s) | 47.3 | 30.9 | 1.6 | 33.5 | 29.2 | 0.1 | 14.2 | 18.1 | 2.4 | 13.2 | 28.8 | 13.3 | |
| | | | 95% Queue (m) | 43.3 | 25.3 | 0.5 | 46.3 | 38.3 | 0 | 18 | 67.2 | 0 | 6.2 | 131.2 | 67 | |
| | 90 | 2028 Base | Volumes | 230 | 210 | 150 | 410 | 640 | 20 | 90 | 620 | 130 | 20 | 980 | 490 | C |
| | | | V/C | 0.75 | 0.23 | 0.3 | 0.86 | 0.74 | 0.04 | 0.41 | 0.43 | 0.18 | 0.06 | 0.78 | 0.68 | |
| | | | Delay (veh/s) | 34.1 | 26 | 5 | 36 | 32.3 | 0.1 | 18.1 | 20.1 | 4.5 | 13.9 | 32 | 13.8 | |
| | | | 95% Queue (m) | 57.8 | 25.4 | 12.2 | 47.3 | 78.4 | 0 | 19.3 | 69.7 | 11.8 | 6.1 | 130.6 | 66.6 | |
| | 90 | 2035 Base | Volumes | 240 | 220 | 160 | 440 | 680 | 20 | 90 | 640 | 140 | 30 | 1050 | 520 | C |
| | | | V/C | 0.93 | 0.26 | 0.33 | 1 | 0.82 | 0.04 | 0.47 | 0.51 | 0.22 | 0.11 | 0.9 | 0.75 | |
| | | | Delay (veh/s) | 61.8 | 27.6 | 6.1 | 64.6 | 35.5 | 0.1 | 21 | 23.8 | 4.7 | 15.7 | 42 | 19.1 | |
| | | | 95% Queue (m) | 73.8 | 27.3 | 14.6 | 107.8 | 73.8 | 0 | 20.5 | 75.2 | 13.4 | 8.6 | 154.4 | 96.6 | |
| | 90 | 2028 Base + Background + Site Low | Volumes | 230 | 220 | 160 | 440 | 710 | 40 | 100 | 630 | 150 | 30 | 1000 | 490 | C |
| | | | V/C | 0.78 | 0.24 | 0.31 | 0.91 | 0.79 | 0.08 | 0.45 | 0.48 | 0.23 | 0.09 | 0.82 | 0.69 | |
| | | | Delay (veh/s) | 37.5 | 25.7 | 5.6 | 40.1 | 31.5 | 0.3 | 27.6 | 18.9 | 2.4 | 14.3 | 33.7 | 15 | |
| | | | 95% Queue (m) | 62.4 | 26.5 | 14.1 | 66 | 50.1 | 0 | 23.3 | 71.2 | 2.3 | 8.2 | 135.2 | 69.9 | |
| | 90 | 2028 Base + Background + Site High | Volumes | 230 | 220 | 160 | 440 | 730 | 40 | 110 | 640 | 150 | 30 | 1000 | 490 | C |
| | | | V/C | 0.77 | 0.24 | 0.31 | 0.9 | 0.81 | 0.08 | 0.5 | 0.49 | 0.23 | 0.1 | 0.82 | 0.7 | |
| | | | Delay (veh/s) | 36.1 | 25.5 | 5.6 | 38.7 | 32.3 | 0.3 | 30.8 | 18.4 | 2 | 14.4 | 34 | 15.5 | |
| | | | 95% Queue (m) | 61.8 | 26.5 | 14.1 | 70 | 56.7 | 0.1 | 25.9 | 72.8 | 2.3 | 8.2 | 135.2 | 71.4 | |
| | 100 | 2035 Base + Background + Site Low | Volumes | 240 | 240 | 170 | 490 | 820 | 60 | 130 | 660 | 170 | 30 | 1080 | 520 | D |
| | | | V/C | 0.95 | 0.31 | 0.38 | 1 | 0.89 | 0.12 | 0.74 | 0.52 | 0.26 | 0.11 | 0.99 | 0.79 | |
| | | | Delay (veh/s) | 69.5 | 32.6 | 9.2 | 66.7 | 47.8 | 0.5 | 44.2 | 27.5 | 4.9 | 17.4 | 59 | 21.8 | |
| | | | 95% Queue (m) | 84 | 33.7 | 20.1 | 116 | 121.8 | 0 | 45.5 | 82.2 | 14.9 | 9.2 | 169.6 | 95.5 | |
| | 100 | 2035 Base + Background + Site High | Volumes | 240 | 250 | 180 | 490 | 850 | 70 | 140 | 660 | 190 | 40 | 1080 | 520 | D |
| | | | V/C | 0.95 | 0.32 | 0.39 | 1 | 0.91 | 0.14 | 0.79 | 0.53 | 0.29 | 0.15 | 1.01 | 0.8 | |
| | | | Delay (veh/s) | 70 | 32.7 | 10.1 | 66.4 | 49.7 | 0.6 | 49.9 | 27.8 | 4.9 | 17.9 | 63.6 | 22.8 | |
| | | | 95% Queue (m) | 84.4 | 34.9 | 22.9 | 117.3 | 128.5 | 0 | 50.6 | 82.5 | 15.7 | 11.3 | 170.4 | 104.5 | |
| Weekday Afternoon Peak Hour | 94 | 2021 Base | Volumes | 580 | 600 | 290 | 210 | 200 | 50 | 130 | 930 | 230 | 50 | 800 | 270 | C |
| | | | V/C | 1.03 | 0.7 | 0.52 | 0.57 | 0.31 | 0.13 | 0.53 | 0.77 | 0.37 | 0.23 | 0.74 | 0.48 | |
| | | | Delay (veh/s) | 67.8 | 36.1 | 8.2 | 22.8 | 29.2 | 2.1 | 30.7 | 31.9 | 3.3 | 19 | 34.7 | 6.5 | |
| | | | 95% Queue (m) | 134.1 | 74 | 24.7 | 31.7 | 27 | 0.6 | 35.1 | 142.1 | 7.4 | 13.4 | 110.5 | 20.3 | |
| | 120 | 2028 Base | Volumes | 620 | 640 | 310 | 220 | 220 | 50 | 140 | 990 | 240 | 50 | 860 | 290 | D |
| | | | V/C | 1.06 | 0.67 | 0.59 | 0.68 | 0.48 | 0.15 | 0.57 | 0.73 | 0.37 | 0.25 | 0.72 | 0.5 | |
| | | | Delay (veh/s) | 80.2 | 41.5 | 18.3 | 33.7 | 50.5 | 1 | 28.5 | 38.4 | 6.9 | 21.6 | 38.4 | 6.6 | |
| | | | 95% Queue (m) | 201.7 | 92.7 | 54.1 | 47.9 | 38.7 | 0 | 42.1 | 164.3 | 24.5 | 15.5 | 132.4 | 22.8 | |
| | 120 | 2035 Base | Volumes | 660 | 680 | 330 | 240 | 230 | 60 | 140 | 1010 | 260 | 60 | 910 | 310 | D |
| | | | V/C | 1.07 | 0.69 | 0.62 | 0.69 | 0.47 | 0.18 | 0.66 | 0.79 | 0.42 | 0.34 | 0.8 | 0.54 | |
| | | | Delay (veh/s) | 84.1 | 41.5 | 20 | 32.5 | 49.5 | 1.1 | 39.6 | 43 | 8.1 | 25.1 | 42.8 | 7.7 | |
| | | | 95% Queue (m) | 218 | 100 | 61.4 | 50.5 | 40.3 | 0 | 61.3 | 176.7 | 28.8 | 18.8 | 142.6 | 27.3 | |
| | 120 | 2028 Base + Background + Site Low | Volumes | 620 | 720 | 340 | 250 | 230 | 60 | 150 | 1010 | 280 | 70 | 880 | 290 | D |
| | | | V/C | 1.05 | 0.71 | 0.65 | 0.83 | 0.48 | 0.18 | 0.63 | 0.77 | 0.43 | 0.37 | 0.75 | 0.51 | |
| | | | Delay (veh/s) | 78.4 | 41.6 | 24.7 | 47.3 | 49.9 | 1.1 | 33.8 | 40.7 | 7.5 | 24.3 | 39.8 | 6.6 | |
| | | | 95% Queue (m) | 201.9 | 102.3 | 70.7 | 66 | 40.3 | 0 | 57.9 | 170.3 | 28.7 | 20.4 | 134.5 | 22.5 | |
| | 120 | 2028 Base + Background + Site High | Volumes | 620 | 750 | 350 | 260 | 240 | 60 | 150 | 1010 | 290 | 80 | 880 | 290 | D |
| | | | V/C | 1.04 | 0.74 | 0.67 | 0.86 | 0.47 | 0.18 | 0.66 | 0.78 | 0.45 | 0.43 | 0.75 | 0.51 | |
| | | | Delay (veh/s) | 75.5 | 42.3 | 26.3 | 52.5 | 49 | 1.1 | 36.4 | 41.4 | 7.6 | 26.6 | 40.2 | 6.6 | |
| | | | 95% Queue (m) | 202.3 | 108.5 | 76.1 | 77.6 | 41.7 | 0 | 58.3 | 170.3 | 29.6 | 22.8 | 134.5 | 22.5 | |
| | 120 | 2035 Base + Background + Site Low | Volumes | 660 | 830 | 400 | 300 | 260 | 70 | 170 | 1060 | 340 | 90 | 960 | 310 | D |
| | | | V/C | 1.06 | 0.84 | 0.79 | 0.84 | 0.43 | 0.19 | 0.86 | 0.92 | 0.54 | 0.54 | 0.88 | 0.57 | |
| | | | Delay (veh/s) | 77.3 | 48.7 | 35.4 | 53 | 45.7 | 1.1 | 62.8 | 72.5 | 9.6 | 32.9 | 49.5 | 9.3 | |
| | | | 95% Queue (m) | 220.8 | 130.6 | 103.9 | 103.4 | 44.9 | 0 | 72.7 | 186.3 | 38.6 | 25.3 | 163.1 | 32.3 | |
| | 120 | 2035 Base + Background + Site High | Volumes | 660 | 890 | 420 | 310 | 270 | 70 | 180 | 1060 | 350 | 110 | 960 | 310 | D |
| | | | V/C | 1.06 | 0.84 | 0.8 | 0.97 | 0.44 | 0.19 | 0.87 | 0.94 | 0.56 | 0.64 | 0.91 | 0.57 | |
| | | | Delay (veh/s) | 78.1 | 46.1 | 36.2 | 78 | 45.9 | 1.1 | 63.5 | 78.5 | 9.8 | 39.6 | 52.3 | 9.8 | |
| | | | 95% Queue (m) | 222.3 | 136.7 | 111.3 | 122 | 46.5 | 0 | 77.8 | 186.7 | 39.5 | 37.2 | 165.5 | 33.3 | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*Ioco Road at Guildford Way:*

This intersection is currently a signalized intersection. Within the horizon years of this study, there are no geometric changes anticipated.

From **TABLE 16**, the following observations can be made:

During the weekday AM peak hour:

- The intersection currently operates at LOS C and is forecasted to continue to operate at LOS C in the years 2028 and 2035, without development traffic.
- In 2028, with the addition of half of the development traffic, the intersection is forecasted to operate at LOS C.
- In 2028, the WBLT approaches capacity regardless of development traffic.
- In 2035, with the addition of all of the development traffic, the intersection is forecasted to operate at LOS D.
- In 2035, the EBLT is anticipated to approach capacity regardless of development traffic.
- In 2035, the WBLT is anticipated to be at capacity regardless of development traffic.
- In 2035, the WBTH is anticipated to approach capacity with the addition of the development traffic.
- In 2035, the SBTH is anticipated to approach capacity regardless of development traffic, and exceed capacity with the addition of the higher study site estimate traffic.
- The WBLT 95$^{th}$ percentile queue exceeds the existing storage length of 60 metres in the year 2028 with the addition of the development traffic and in the year 2035 regardless of development traffic.

During the weekday PM peak hour:

- The intersection currently operates at LOS C and is forecasted to operate at LOS D in the years 2028 and 2035, regardless of development traffic.
- The EBLT currently exceeds capacity and is forecasted to continue to worsen in performance in the future analysis years regardless of development traffic.
- The WBLT approaches capacity in the year 2028 with the addition of half of the development traffic (higher study site estimate) and in the year 2035 with the addition of the all of the development traffic (higher study site estimate)
- In 2035, the NBLT, NBTH, and SBTH movements approach capacity with the addition of the development traffic.

- The EBLT 95th percentile queue extends past the existing storage length of 90 metres for all analyzed horizon years and scenarios.
- The EBRT 95th percentile queue extends past the existing storage length of 40 metres in the years 2028 and 2035 regardless of development traffic.
- The WBLT 95th percentile queue extends past the existing storage length of 60 metres in the years 2028 and 2035 with the addition of the development traffic.
- The NBLT and SBLT 95th percentile queues just barely extend past the existing storage lengths of 77 metres and 35 metres in the year 2035 with the addition of the development traffic (higher study site estimate).
- The NBTH 95th percentile queues extend past Suter Brook Way in the existing conditions. This means that during the busiest times of the weekday PM peak hour, Ioco Road at Suter Brook Way experiences queue spillback and the intersection operations are throttled.

Subsequent to this analysis, the City of Port Moody advised that there is a long-term plan to provide a second eastbound left-turn bay at the intersection of Ioco Road and Guildford Way. The addition of a second left turn lane will improve overall intersection performance.

# TABLE 17
# BALMORAL DRIVE AT GUILDFORD WAY SIGNALIZED CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 90 | 2021 Base | Volumes | 10 | 300 | 20 | 20 | 880 | 10 | 70 | 0 | 60 | 20 | 0 | 40 | A |
| | | | V/C | 0.02 | 0.13 | | 0.03 | 0.35 | | 0.55 | | | 0.25 | | | |
| | | | Delay (veh/s) | 2.4 | 3.5 | | 2.9 | 4.8 | | 23.9 | | | 7 | | | |
| | | | 95% Queue (m) | 1.4 | 14.2 | | 2.6 | 56.8 | | 25.3 | | | 7.2 | | | |
| | 90 | 2028 Base | Volumes | 10 | 320 | 20 | 20 | 940 | 10 | 70 | 0 | 60 | 20 | 0 | 40 | A |
| | | | V/C | 0.02 | 0.14 | | 0.03 | 0.37 | | 0.55 | | | 0.25 | | | |
| | | | Delay (veh/s) | 2.4 | 3.7 | | 2.9 | 5 | | 23.9 | | | 7 | | | |
| | | | 95% Queue (m) | 1.1 | 15.2 | | 2.6 | 61.8 | | 25.3 | | | 7.2 | | | |
| | 90 | 2035 Base | Volumes | 10 | 340 | 20 | 20 | 1000 | 10 | 70 | 0 | 70 | 20 | 0 | 40 | A |
| | | | V/C | 0.03 | 0.15 | | 0.03 | 0.4 | | 0.6 | | | 0.27 | | | |
| | | | Delay (veh/s) | 2.6 | 3.6 | | 3.4 | 5.8 | | 27.6 | | | 7.4 | | | |
| | | | 95% Queue (m) | 1.3 | 17.4 | | 2.9 | 71.9 | | 28.2 | | | 7.2 | | | |
| | 90 | 2028 Base + Background + Site Low | Volumes | 10 | 340 | 30 | 30 | 960 | 10 | 170 | 0 | 130 | 20 | 0 | 40 | B |
| | | | V/C | 0.03 | 0.19 | | 0.05 | 0.45 | | 0.76 | | | 0.15 | | | |
| | | | Delay (veh/s) | 9.6 | 11.5 | | 7.6 | 11.4 | | 34 | | | 3.6 | | | |
| | | | 95% Queue (m) | 3.1 | 33.9 | | 6.5 | 98.6 | | 60.6 | | | 5.5 | | | |
| | 90 | 2028 Base + Background + Site High | Volumes | 10 | 350 | 40 | 40 | 960 | 10 | 190 | 0 | 150 | 20 | 0 | 40 | B |
| | | | V/C | 0.03 | 0.21 | | 0.07 | 0.48 | | 0.79 | | | 0.14 | | | |
| | | | Delay (veh/s) | 13 | 15.4 | | 8.7 | 12.9 | | 34.9 | | | 3.2 | | | |
| | | | 95% Queue (m) | 3.7 | 39.2 | | 8.3 | 102.4 | | 69.7 | | | 5.3 | | | |
| | 90 | 2035 Base + Background + Site Low | Volumes | 10 | 380 | 40 | 50 | 1040 | 10 | 270 | 0 | 200 | 20 | 0 | 40 | C |
| | | | V/C | 0.05 | 0.28 | | 0.11 | 0.62 | | 0.91 | | | 0.11 | | | |
| | | | Delay (veh/s) | 12.4 | 17.5 | | 12.5 | 19.9 | | 45.7 | | | 2.9 | | | |
| | | | 95% Queue (m) | 3.7 | 41.7 | | 11.1 | 125.5 | | 126.1 | | | 5.1 | | | |
| | 90 | 2035 Base + Background + Site High | Volumes | 10 | 390 | 60 | 70 | 1040 | 10 | 310 | 0 | 240 | 20 | 0 | 40 | C |
| | | | V/C | 0.05 | 0.36 | | 0.19 | 0.68 | | 0.95 | | | 0.1 | | | |
| | | | Delay (veh/s) | 13.6 | 21.1 | | 14.7 | 23.7 | | 50.3 | | | 2.6 | | | |
| | | | 95% Queue (m) | 3.9 | 46.2 | | 15 | 140.8 | | 156.8 | | | 4.9 | | | |
| Weekday Afternoon Peak Hour | 94 | 2021 Base | Volumes | 30 | 750 | 80 | 50 | 410 | 30 | 30 | 0 | 40 | 20 | 0 | 20 | A |
| | | | V/C | 0.04 | 0.33 | | 0.09 | 0.17 | | 0.35 | | | 0.21 | | | |
| | | | Delay (veh/s) | 1.2 | 2.8 | | 2 | 3.8 | | 13.1 | | | 4.5 | | | |
| | | | 95% Queue (m) | 1.2 | 23.3 | | 3.4 | 20.1 | | 11.3 | | | 2.8 | | | |
| | 94 | 2028 Base | Volumes | 30 | 800 | 90 | 50 | 430 | 30 | 30 | 0 | 40 | 20 | 0 | 20 | A |
| | | | V/C | 0.04 | 0.35 | | 0.1 | 0.17 | | 0.35 | | | 0.21 | | | |
| | | | Delay (veh/s) | 1.8 | 5.3 | | 2.1 | 3.9 | | 13.1 | | | 4.5 | | | |
| | | | 95% Queue (m) | 2.3 | 45.4 | | 3.4 | 21 | | 11.3 | | | 2.8 | | | |
| | 94 | 2035 Base | Volumes | 30 | 850 | 90 | 50 | 460 | 30 | 30 | 0 | 40 | 30 | 0 | 20 | A |
| | | | V/C | 0.04 | 0.37 | | 0.1 | 0.19 | | 0.35 | | | 0.27 | | | |
| | | | Delay (veh/s) | 1.8 | 5.5 | | 2.1 | 3.9 | | 13.1 | | | 7.3 | | | |
| | | | 95% Queue (m) | 2.3 | 48.9 | | 3.4 | 22.4 | | 11.3 | | | 5.7 | | | |
| | 94 | 2028 Base + Background + Site Low | Volumes | 30 | 830 | 190 | 110 | 460 | 30 | 60 | 0 | 70 | 20 | 0 | 20 | A |
| | | | V/C | 0.04 | 0.46 | | 0.27 | 0.2 | | 0.56 | | | 0.19 | | | |
| | | | Delay (veh/s) | 2.9 | 8.6 | | 4.2 | 5.4 | | 25.9 | | | 3.5 | | | |
| | | | 95% Queue (m) | 3.4 | 72.1 | | 9.5 | 28.4 | | 26.8 | | | 2.6 | | | |
| | 94 | 2028 Base + Background + Site High | Volumes | 30 | 830 | 230 | 130 | 470 | 30 | 70 | 0 | 80 | 20 | 0 | 20 | A |
| | | | V/C | 0.05 | 0.5 | | 0.33 | 0.21 | | 0.6 | | | 0.17 | | | |
| | | | Delay (veh/s) | 3.4 | 9.7 | | 5.2 | 6 | | 28.5 | | | 3.2 | | | |
| | | | 95% Queue (m) | 3.8 | 81.9 | | 11.9 | 31 | | 31.3 | | | 2.5 | | | |
| | 94 | 2035 Base + Background + Site Low | Volumes | 30 | 910 | 290 | 170 | 510 | 30 | 90 | 0 | 110 | 30 | 0 | 20 | B |
| | | | V/C | 0.05 | 0.59 | | 0.46 | 0.23 | | 0.67 | | | 0.19 | | | |
| | | | Delay (veh/s) | 4 | 12.6 | | 7.2 | 6.3 | | 24.3 | | | 1.6 | | | |
| | | | 95% Queue (m) | 4 | 116.5 | | 16.3 | 35.2 | | 32.8 | | | 0 | | | |
| | 94 | 2035 Base + Background + Site High | Volumes | 30 | 920 | 370 | 220 | 530 | 30 | 100 | 0 | 130 | 30 | 0 | 20 | B |
| | | | V/C | 0.05 | 0.68 | | 0.61 | 0.24 | | 0.71 | | | 0.18 | | | |
| | | | Delay (veh/s) | 4.9 | 16.4 | | 17.1 | 7.1 | | 27.2 | | | 1.3 | | | |
| | | | 95% Queue (m) | 4.5 | 136.6 | | 40.6 | 38.6 | | 39.6 | | | 0 | | | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*Balmoral Drive at Guildford Way:*

This intersection is signalized. There are no geometric changes anticipated within the horizon years of this study.

From **TABLE 17**, the following observations can be made:

During the weekday AM peak hour:

- The intersection currently operates at LOS A and is forecasted to continue to operate at LOS A in the years 2028 and 2035, without development traffic.
- In 2028, with the addition of half of the development traffic the intersection is forecasted to operate at LOS B.
- In 2035, with the addition of all of the development traffic, the intersection is forecasted to operate at LOS C.
- The northbound movements on Balmoral Drive are forecasted to approach capacity in the year 2035 with the addition of the development traffic.

During the weekday PM peak hour:

- The intersection currently operates at LOS A and is forecasted to continue to operate at LOS A in the years 2028 and 2035, without development traffic.
- In 2028, with the addition of half of the development traffic the intersection is forecasted to operate at LOS A.
- In 2035, with the addition of all of the development traffic, the intersection is forecasted to operate at LOS B.
- The WBLT 95$^{th}$ percentile queue is forecasted to extend past the existing storage length of 30 metres in the year 2035 with the addition of the development traffic (higher study site estimate).

## TABLE 18
## UNGLESS WAY AT GUILDFORD WAY SIGNALIZED CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 95 | 2021 Base | Volumes | 30 | 350 | | | 870 | 230 | | | | 250 | | 40 | B |
| | | | V/C | 0.1 | 0.14 | | | 0.45 | | | | | 0.56 | | 0.56 | |
| | | | Delay (veh/s) | 4.5 | 3.4 | | | 4.8 | | | | | 38.3 | | 38.3 | |
| | | | 95% Queue (m) | 4.6 | 14.2 | | | 51.7 | | | | | 38 | | 38 | |
| | 95 | 2028 Base | Volumes | 30 | 370 | | | 930 | 250 | | | | 270 | | 40 | B |
| | | | V/C | 0.12 | 0.15 | | | 0.48 | | | | | 0.58 | | 0.58 | |
| | | | Delay (veh/s) | 4.9 | 3.6 | | | 5.2 | | | | | 38.9 | | 38.9 | |
| | | | 95% Queue (m) | 4.8 | 15.4 | | | 58.7 | | | | | 40.6 | | 40.6 | |
| | 95 | 2035 Base | Volumes | 40 | 390 | | | 990 | 260 | | | | 290 | | 40 | B |
| | | | V/C | 0.17 | 0.16 | | | 0.53 | | | | | 0.65 | | 0.65 | |
| | | | Delay (veh/s) | 6.5 | 4.2 | | | 6.3 | | | | | 41.9 | | 41.9 | |
| | | | 95% Queue (m) | 7.1 | 17.6 | | | 70 | | | | | 43.7 | | 43.7 | |
| | 95 | 2028 Base + Background + Site Low | Volumes | 60 | 430 | | | 950 | 250 | | | | 270 | | 50 | B |
| | | | V/C | 0.24 | 0.17 | | | 0.49 | | | | | 0.59 | | 0.59 | |
| | | | Delay (veh/s) | 6.8 | 3.8 | | | 5.4 | | | | | 38.5 | | 38.5 | |
| | | | 95% Queue (m) | 9.7 | 18.2 | | | 61 | | | | | 41.3 | | 41.3 | |
| | 95 | 2028 Base + Background + Site High | Volumes | 70 | 450 | | | 960 | 250 | | | | 270 | | 50 | B |
| | | | V/C | 0.28 | 0.18 | | | 0.5 | | | | | 0.59 | | 0.59 | |
| | | | Delay (veh/s) | 7.6 | 3.8 | | | 5.4 | | | | | 38.6 | | 38.6 | |
| | | | 95% Queue (m) | 11.8 | 19 | | | 61.7 | | | | | 41.4 | | 41.4 | |
| | 95 | 2035 Base + Background + Site Low | Volumes | 90 | 520 | | | 1040 | 260 | | | | 290 | | 60 | B |
| | | | V/C | 0.43 | 0.21 | | | 0.55 | | | | | 0.67 | | 0.67 | |
| | | | Delay (veh/s) | 13 | 4.5 | | | 6.7 | | | | | 41.2 | | 41.2 | |
| | | | 95% Queue (m) | 21.5 | 24.2 | | | 76.4 | | | | | 45.3 | | 45.3 | |
| | 95 | 2035 Base + Background + Site High | Volumes | 100 | 550 | | | 1050 | 260 | | | | 290 | | 60 | B |
| | | | V/C | 0.48 | 0.22 | | | 0.55 | | | | | 0.67 | | 0.67 | |
| | | | Delay (veh/s) | 15 | 4.6 | | | 6.7 | | | | | 41.2 | | 41.2 | |
| | | | 95% Queue (m) | 26 | 25.7 | | | 77.3 | | | | | 45.3 | | 45.3 | |
| Weekday Afternoon Peak Hour | 99 | 2021 Base | Volumes | 50 | 760 | | | 420 | 420 | | | | 370 | | 60 | B |
| | | | V/C | 0.13 | 0.31 | | | 0.36 | | | | | 0.66 | | 0.66 | |
| | | | Delay (veh/s) | 6 | 5.6 | | | 3.3 | | | | | 39.6 | | 39.6 | |
| | | | 95% Queue (m) | 8.4 | 41.5 | | | 26.2 | | | | | 54 | | 54 | |
| | 99 | 2028 Base | Volumes | 50 | 810 | | | 450 | 440 | | | | 390 | | 70 | B |
| | | | V/C | 0.14 | 0.33 | | | 0.39 | | | | | 0.68 | | 0.68 | |
| | | | Delay (veh/s) | 6.6 | 6.1 | | | 3.7 | | | | | 39.3 | | 39.3 | |
| | | | 95% Queue (m) | 8.9 | 46.5 | | | 30.7 | | | | | 56.8 | | 56.8 | |
| | 99 | 2035 Base | Volumes | 50 | 860 | | | 480 | 470 | | | | 420 | | 70 | B |
| | | | V/C | 0.16 | 0.36 | | | 0.42 | | | | | 0.69 | | 0.69 | |
| | | | Delay (veh/s) | 7.2 | 6.7 | | | 4.2 | | | | | 39.2 | | 39.2 | |
| | | | 95% Queue (m) | 9.4 | 51.9 | | | 36.1 | | | | | 60.4 | | 60.4 | |
| | 99 | 2028 Base + Background + Site Low | Volumes | 70 | 860 | | | 510 | 440 | | | | 390 | | 90 | B |
| | | | V/C | 0.22 | 0.36 | | | 0.42 | | | | | 0.69 | | 0.69 | |
| | | | Delay (veh/s) | 7.8 | 6.5 | | | 4.4 | | | | | 38.7 | | 38.7 | |
| | | | 95% Queue (m) | 12.7 | 51 | | | 38.2 | | | | | 58.5 | | 58.5 | |
| | 99 | 2028 Base + Background + Site High | Volumes | 70 | 860 | | | 530 | 440 | | | | 390 | | 100 | B |
| | | | V/C | 0.22 | 0.36 | | | 0.43 | | | | | 0.69 | | 0.69 | |
| | | | Delay (veh/s) | 8.1 | 6.6 | | | 4.6 | | | | | 38.5 | | 38.5 | |
| | | | 95% Queue (m) | 13 | 51.5 | | | 41.2 | | | | | 59 | | 59 | |
| | 99 | 2035 Base + Background + Site Low | Volumes | 90 | 950 | | | 590 | 470 | | | | 420 | | 120 | B |
| | | | V/C | 0.33 | 0.4 | | | 0.47 | | | | | 0.72 | | 0.72 | |
| | | | Delay (veh/s) | 11.3 | 7.6 | | | 5.4 | | | | | 38 | | 38 | |
| | | | 95% Queue (m) | 19.7 | 61.6 | | | 50 | | | | | 64.2 | | 64.2 | |
| | 99 | 2035 Base + Background + Site High | Volumes | 100 | 970 | | | 640 | 470 | | | | 420 | | 140 | B |
| | | | V/C | 0.4 | 0.41 | | | 0.5 | | | | | 0.73 | | 0.73 | |
| | | | Delay (veh/s) | 13.6 | 7.9 | | | 6 | | | | | 37.6 | | 37.6 | |
| | | | 95% Queue (m) | 24.7 | 64.5 | | | 56.6 | | | | | 65.7 | | 65.7 | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*Ungless Way at Guildford Way:*

This intersection is a signalized T-intersection. There are no geometric changes anticipated within the horizon years of this study.

From **TABLE 18**, the following observations can be made:

During the weekday AM peak hour:

- The intersection currently operates at LOS B and is forecasted to continue to operate at LOS B in the years 2028 and 2035, regardless of development traffic.

During the weekday PM peak hour:

- The intersection currently operates at LOS B and is forecasted to continue to operate at LOS B in the years 2028 and 2035, regardless of development traffic.

## TABLE 19
## NEW ROAD AT BARNET HIGHWAY SIGNALIZED CAPACITY ANALYSIS

| Time of Day | Cycle length (s) | Scenario | Performance Measure | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Weekday Morning Peak Hour | 120 | 2028 Base + Background + Site Low | Volumes | 30 | 1200 | | | 1660 | 20 | | | | 120 | | 180 | B |
| | | | V/C | 0.16 | 0.45 | | | 0.68 | | | | | 0.61 | | 0.68 | |
| | | | Delay (veh/s) | 2.8 | 3.9 | | | 11.8 | | | | | 62.7 | | 34.3 | |
| | | | 95% Queue (m) | 2 | 75.7 | | | 181.9 | | | | | 48.4 | | 42.7 | |
| | 120 | 2028 Base + Background + Site High | Volumes | 40 | 1200 | | | 1670 | 30 | | | | 140 | | 210 | B |
| | | | V/C | 0.23 | 0.46 | | | 0.72 | | | | | 0.64 | | 0.74 | |
| | | | Delay (veh/s) | 4.8 | 4.3 | | | 14.6 | | | | | 61.2 | | 39.8 | |
| | | | 95% Queue (m) | 3 | 81.1 | | | 201 | | | | | 53.7 | | 52.4 | |
| | 120 | 2035 Base + Background + Site Low | Volumes | 50 | 1290 | | | 1790 | 40 | | | | 230 | | 340 | C |
| | | | V/C | 0.35 | 0.54 | | | 0.86 | | | | | 0.69 | | 0.91 | |
| | | | Delay (veh/s) | 15.4 | 11 | | | 24.4 | | | | | 55 | | 61.4 | |
| | | | 95% Queue (m) | 7.8 | 117.1 | | | 255.5 | | | | | 83.2 | | 115.1 | |
| | 120 | 2035 Base + Background + Site High | Volumes | 70 | 1300 | | | 1800 | 60 | | | | 270 | | 420 | C |
| | | | V/C | 0.49 | 0.58 | | | 0.94 | | | | | 0.67 | | 0.97 | |
| | | | Delay (veh/s) | 24.3 | 13 | | | 33.6 | | | | | 49.6 | | 70 | |
| | | | 95% Queue (m) | 15.5 | 118.8 | | | 304 | | | | | 94.6 | | 154 | |
| Weekday Afternoon Peak Hour | 120 | 2028 Base + Background + Site Low | Volumes | 120 | 1860 | | | 1270 | 70 | | | | 50 | | 50 | A |
| | | | V/C | 0.38 | 0.63 | | | 0.53 | | | | | 0.39 | | 0.31 | |
| | | | Delay (veh/s) | 5.4 | 9.3 | | | 7.7 | | | | | 61 | | 18.9 | |
| | | | 95% Queue (m) | 10.2 | 241.1 | | | 98 | | | | | 25.5 | | 12.5 | |
| | 120 | 2028 Base + Background + Site High | Volumes | 170 | 1860 | | | 1280 | 90 | | | | 60 | | 60 | A |
| | | | V/C | 0.54 | 0.64 | | | 0.55 | | | | | 0.44 | | 0.34 | |
| | | | Delay (veh/s) | 9.7 | 7 | | | 9.3 | | | | | 62 | | 17.5 | |
| | | | 95% Queue (m) | 12.3 | 168.1 | | | 121.1 | | | | | 29.6 | | 13.8 | |
| | 120 | 2035 Base + Background + Site Low | Volumes | 240 | 2010 | | | 1380 | 120 | | | | 80 | | 90 | B |
| | | | V/C | 0.72 | 0.72 | | | 0.69 | | | | | 0.55 | | 0.42 | |
| | | | Delay (veh/s) | 27.2 | 10.8 | | | 16.4 | | | | | 65.5 | | 16 | |
| | | | 95% Queue (m) | 45.5 | 225.6 | | | 176.8 | | | | | 36.7 | | 16.3 | |
| | 120 | 2035 Base + Background + Site High | Volumes | 340 | 2010 | | | 1390 | 170 | | | | 110 | | 110 | B |
| | | | V/C | 0.87 | 0.73 | | | 0.8 | | | | | 0.69 | | 0.45 | |
| | | | Delay (veh/s) | 49.6 | 8.1 | | | 24.3 | | | | | 74.1 | | 15.1 | |
| | | | 95% Queue (m) | 90 | 148.2 | | | 205.5 | | | | | 51.4 | | 18 | |

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or approach demand exceeds capacity (v/c ≥ 1.00)

95% Queue length exceeds storage bay capacity

*New Road at Barnet Highway:*

This is a proposed signalized intersection to provide a connection to Barnet Highway for the proposed developments bounded by Guildford Way, Ioco Road, and Barnet Highway. While the exact location and configuration is still to be determined, for the purposes of this study, it was assumed to be a signalized T-intersection connecting the east end of Palmer Avenue to Barnet Highway. The assumed lane configuration for the analysis was a dedicated EBLT lane, three (3) EBTH lanes, three (3) WBTH lanes, one (1) SBLT lane, and one (1) SBRT lane.

From **TABLE 19**, the following observations can be made:

During the weekday AM peak hour:

- The intersection is forecasted to operate at LOS B in the year 2028 with half build-out of the developments.
- The intersection is forecasted to operate at LOS C in the year 2035 with the full build-out of the developments.
- In 2035, the WBTH, WBRT, and SBRT movements are approaching capacity.

During the weekday PM peak hour:

- The intersection is forecasted to operate at LOS A in the year 2028 with half build-out of the developments.
- The intersection is forecasted to operate at LOS B in the year 2035 with the full build-out of the developments.
- In 2035, the EBLT approaches capacity with the higher estimate of the study site traffic.
- In 2035, the EBLT 95$^{th}$ percentile queue extends past the nominal 30 metre storage bay the analysis was conducted with. For the higher estimate of the study site traffic, an EBLT storage bay of 90 metres is needed.

Since the new road connection is located in Coquitlam, (i.e., not under the jurisdiction of the City of Port Moody), the exact timing of construction is not known. CTS undertook a sensitivity analysis to ascertain how much development could occur without overloading the intersection of Guildford at Balmoral (all traffic assigned to the new road would re-assign to the Guildford/Balmoral intersection) and determined that 50% of the development could be constructed and occupied before the new connection has to be constructed. If the new connection is not in place, a temporary right-in, right-out access on Barnet Highway could be considered, similar to the Suter Brook Way parkade entrance on Ioco Road.

## 6.2 Intersection Capacity Improvements

As noted in Section 6.2, several of the intersections studied are at or near capacity. Determining appropriate capacity improvements will be undertaken during the rezoning process and will require close coordination between CTS, Wesgroup and the City of Port Moody. During this coordination the details of the specific infrastructure upgrades including, timing, cost sharing (if any), and construction responsibility will be negotiated.

# 7.0 PEDESTRIAN OVERPASS

In order to support the transit-oriented developments of Coronation Park, Parcel E, and Polygon, CTS reviewed the need for a pedestrian overpass connecting the developments to Inlet Centre Station at Ioco Road at Barnet Highway. Between the three developments, a total of 5,665 residential dwelling units were estimated.

Based on a review of Google Earth and Google Street Views, it was determined that there is capacity for approximately 15 pedestrians on the northeast pedestrian refuge island. This estimate was conducted based on each pedestrian needing approximately 1 $m^2$ of space and accounting for dead space generated by the poles on the pedestrian refuge island. Assuming that Ioco Road at Barnet Highway has a cycle length of 120 seconds, consistent with the capacity analyses in **Section 6.0**, this yields a capacity for approximately 450 pedestrians per hour for the north crosswalk.

The relationship between the number of pedestrians and the number of dwelling units was referenced from the published person trip generation rates in *the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition.*

See **TABLE 20** below for the total number of dwelling units that may be constructed before the threshold of 450 pedestrians at the north crosswalk of Ioco Road at Barnet Highway is met.

**TABLE 20**
**PERSON TRIP GENERATION**

| Land Use | Peak Hour | Trip Generation Variable | Scope of Development | Person Trip Generation Rate | Trip Rate Source | Directional Split | | Net Peak Hour Volumes (vph) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | % in | % out | in | out | total |
| Mid Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 76 | 0.50 | ITE Code 221 (10th Edition) Dense | 17% | 83% | 6 | 32 | 38 |
| | Weekday Afternoon | | | 0.41 | | 69% | 31% | 22 | 10 | 32 |
| High Rise Multifamily Housing (Total) | Weekday Morning | Dwelling Units | 910 | 0.73 | ITE Code 222 (10th Edition) Dense | 21% | 79% | 140 | 525 | 665 |
| | Weekday Afternoon | | | 0.60 | | 59% | 41% | 322 | 224 | 546 |
| | **Weekday Morning Peak Hour** | | **Total Person Trips** | | | | | **146** | **557** | **703** |
| | **Weekday Afternoon Peak Hour** | | **Total Person Trips** | | | | | **344** | **234** | **578** |
| | **Weekday Morning Peak Hour** | | **Total Non-Auto Trips (80% for TOD)** | | | | | **117** | **446** | **562** |
| | **Weekday Afternoon Peak Hour** | | **Total Non-Auto Trips (80% for TOD)** | | | | | **275** | **187** | **462** |
| | **Weekday Morning Peak Hour** | | **Assume that 80% of all Non-Auto Trips Take Skytrain** | | | | | **93** | **356** | **450** |
| | **Weekday Afternoon Peak Hour** | | **Assume that 80% of all Non-Auto Trips Take Skytrain** | | | | | **220** | **150** | **370** |

From **TABLE 20** above, a total of 986 dwelling units, or 17.4% of the total 5,665 residential units, may be built-out before the pedestrian overpass needs to be constructed.

In 2028, assuming that 50% of the total dwelling units are built-out, a pedestrian overpass is needed as there is inadequate pedestrian queue storage on the pedestrian refuge islands, particularly the northeast pedestrian refuge island.

Early construction of the pedestrian overpass will encourage higher transit modal share by providing a high-quality pedestrian connection from the proposed development to Inlet Centre SkyTrain Station. Additional measures to improve the pedestrian experience such as the provision of covered walkways, wayfinding and lighting should also be considered by the developer.

As noted above, the pedestrian overpass is a key piece of transportation infrastructure that is important to the overall viability of the project as a Transit Oriented Development. As part of subsequent rezoning processes, Wesgroup and the City of Port Moody will negotiate the details of the overpass including, timing, cost sharing (if any), and construction responsibility.

# 8.0 CONCLUSIONS & RECOMMENDATIONS

1) Wesgroup is proposing to develop a transit-oriented, mixed-use development consisting of high-rise and mid-rise residential units as well as commercial space in the Coronation Park neighbourhood on the eastern boundary of the City of Port Moody.

2) The proposed development is within a 5-minute walk from the nearest SkyTrain Station at Inlet Centre as well as services and amenities in the nearby Suter Brook Village, Newport Village and the Port Moody Library and Recreation Centre.

3) There are adjacent proposed developments in Parcel E, north of the Wesgroup site as well as a Polygon development east of the Wesgroup side in the City of Coquitlam.

4) CTS evaluated this project with a total of 3 accesses to the road network serving the neighbourhood, as follows:

   - An east leg added to the intersection of Ioco Road & Suter Brook Way, making the intersection operate as a 4-way signalized intersection. This access is assumed to terminate in an underground parkade for residents and commercial retail customers;
   - Balmoral Drive & Guildford Way, providing access to the north of the site; and,
   - A new connection at Barnet Highway from Palmer Avenue.

5) CTS recommends the new connection at Barnet Highway be constructed when approximately 50% of the proposed development is constructed and occupied to prevent the intersection of Balmoral Drive and Guildford Way from failing during peak hours. If the new connection is not in place, a temporary right-in, right-out access on Barnet Highway could be considered, similar to the Suter Brook Way parkade entrance on Ioco Road.

6) CTS recommends that SimTraffic analysis be conducted to assess the effect of queue spillback in the study network, particularly along Ioco Road, as part of the detailed traffic impact assessment to be conducted once the project moves forward with a more solidified site plan. This analysis would allow CTS to provide targeted recommendations on road geometry and access location to the developer. The analysis would also inform decisions made on the internal road network such as the road alignment and gate positioning, to improve flow and safety.

7) CTS recommends a pedestrian overpass be constructed to connect the northeast corner of Ioco Road at Barnet Highway with Inlet Centre Station. From CTS' review, a total of 17.4% or 986 dwelling units, of the total 5,665 dwelling units (between Coronation Park, Parcel E, and Polygon) may be built-out before the pedestrian overpass needs to be constructed.

8) CTS recommends that the developer implement a fine-grained pedestrian and cyclist internal road network that connects to major nodes such as Suter Brook Village, the Murray Street bike path, and Inlet Centre Station. The proposed network upgrades will be addressed through the provision of high quality, all ages and abilities level, cycling and walking routes, particularly along existing adjacent roads and the internal transportation network.

9) The following additional changes are expected to be made to the road network by 2035:
   - The northbound left-turn and through movements on Ioco Road & Barnet Highway are expected to close, making the south leg of the intersection operate as a right-out. Removing the northbound phase will reduce queueing at the intersection by giving more green time to Barnet Highway.
   - The above is to be done in conjunction with a signalized T-intersection on the east side of Barnet Service Road and Barnet Highway.

10) In addition to the above road network changes, CTS notes that Wesgroup will work collaboratively with the City on other road and intersection capacity improvements (such as additional left and right turn lanes) subject to more detailed analysis and design feasibility studies.

11) CTS recommends that Wesgroup maximise the connectivity between the underground parking facilities such that access is not restricted to a single location.

12) CTS recommends that design of the internal road network and underground parking prioritise access via either Guildford Way or Barnet Highway to reduce the demand on Ioco Road.

13) CTS recommends that the developer, working with Port Moody staff, develop a comprehensive TDM package that could include the following:

    - Unbundled parking
    - Car share (including preferential parking and provision of vehicles)
    - Preferential parking for carpools
    - Real-time transit information displays
    - Rideshare communication strategies
    - Preferential location for bicycle parking
    - Secure bicycle parking
    - Bicycle end-of-trip facilities
    - Subsidised transit passes
    - Enhanced transit shelters
    - Resident-only bike share (including helmets and storage)
    - Comprehensive communications strategy to residents on alternative modes of transportation

14) It is anticipated that using a 0.5% background traffic growth rate (as opposed to the 1.0% used in this report) along with the measures listed above (including targeted intersection improvements) could result in traffic operations that are between 5% and 10% better than what is illustrated in this report.

15) Determining appropriate capacity improvements will be undertaken during the rezoning process and will require close coordination between CTS, Wesgroup and the City of Port Moody. During this coordination the details of the specific infrastructure upgrades including, timing, cost sharing (if any), and construction responsibility will be negotiated.

We would like to take this opportunity to thank you for this unique project and we look forward to working with you again in the future. Please call the undersigned should you have any questions or comments.

Yours truly,

**CREATIVE TRANSPORTATION SOLUTIONS LTD.**

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Attachments