

Committee of Council Agenda

Tuesday, October 13, 2020

2:00 p.m.

Port Coquitlam Community Centre - Wilson Lounge

2150 Wilson Avenue, Port Coquitlam, BC

Pages

1. CALL TO ORDER

2. ADOPTION OF THE AGENDA

2.1. Adoption of the Agenda

Recommendation:

That the Tuesday, October 13, 2020, Committee of Council Meeting Agenda be adopted as circulated.

3. CONFIRMATION OF MINUTES

3.1. Minutes of Committee of Council

1

Recommendation:

That the minutes of the following Committee of Council Meetings be adopted:

- *October 6, 2020.*

4. DELEGATIONS

4.1. Mr. Zuccolo - Parking on McAllister Avenue and Shaughnessy Street

5

5. REPORTS

5.1. OCP and Zoning Bylaw Amendment - 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

18

Recommendation:

1. That Committee of Council, having given consideration to s.475 of the Local Government Act, confirm the following consultation for the proposed Official Community Plan amendment:

- a. *on-site signage,*

- b. *the applicant's consultation with the community,*
- c. *staff communication with School District 43, and,*
- d. *consideration of the application by Committee of Council in open meetings.*

2. That Committee of Council recommend to Council that:

- a. *The Official Community Plan land use designation for the development site be amended from Neighbourhood Commercial and Apartment to Comprehensive Residential.*
- b. *The Official Community Plan land use designation for the remaining City portion of 2428 Kingsway Avenue be amended from Neighbourhood Commercial to Park Reserve.*
- c. *The Zoning be amended from RS1 (Residential Single Dwelling 1), RD (Residential Duplex) and M1 (General Industrial) to a Comprehensive Development Zone to provide for rental tenure apartment dwelling units and a 400m2 childcare facility and P3 (Parks and Natural Areas) for the eastern portion of 2428 Kingsway Avenue.*

3. Prior to adoption of the amending bylaws, the following conditions be met to the satisfaction of the Director of Development Services:

- a. *Adoption of a Housing Agreement Bylaw that provides for 300 non-market rental housing units.*
- b. *Closure and sale of lanes within the development site and subdivision and sale of a portion of 2428 Kingsway Avenue.*
- c. *Demolition of existing structures and lot consolidation.*
- d. *Submission of a plan providing for road dedication along Kingsway and Gately Avenues.*
- e. *Submission of plans and securities and fees for off-site works and services including improvements to the intersection of Kingsway and Gately Avenues, construction of Gately Avenue and a 3m wide multi-use pathway along the Kingsway Avenue frontage and street trees.*
- f. *Submission of a plan and securities for riparian area enhancements and construction of the Coquitlam River Trail between Gately and Kingsway Avenues.*
- g. *Registration of legal agreement(s) to ensure:*
 - i. *The development is designed and constructed in accordance with the recommendations of acoustic and vibration studies, and*
 - ii. *The watercourse protection area is restricted to riparian vegetation and protected from future disturbance.*

5.2. Development Permit - 1835 McLean Avenue 297

Recommendation:

That Committee of Council approve Development Permit DP000423 to regulate an industrial development at 1835 McLean Avenue.

5.3. Property Standards and Nuisance Abatement Bylaw 317

Recommendation:

That Committee of Council recommend that Council adopt Property Standards and Nuisance Abatement Bylaw 4190.

5.4. Delegation of Authority Amendment Bylaw 337

Recommendation:

That Committee of Council recommend that Council adopt amendments to the Delegation of Authority Bylaw, No. 3876, as outlined in the October 13, 2020, staff report.

6. COUNCILLORS' UPDATE

7. MAYOR'S UPDATE

8. CAO UPDATE

9. RESOLUTION TO CLOSE

9.1. Resolution to Close

Recommendation:

That the Committee of Council Meeting of Tuesday, October 13, 2020, be closed to the public pursuant to the following subsections(s) of Section 90(1) of the Community Charter:

Item 5.1

f. law enforcement, if the council considers that disclosure could reasonably be expected to harm the conduct of an investigation under or enforcement of an enactment.

Item 5.2

c. labour relations or other employee relations;

i. the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose;

l. discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 [annual municipal report].

10. ADJOURNMENT

10.1. Adjournment of the Meeting

Recommendation:

That the Tuesday, October 13, 2020, Committee of Council Meeting be adjourned.

11. MEETING NOTES



Committee of Council Minutes

Tuesday, October 6, 2020
Port Coquitlam Community Centre - Wilson Lounge
2150 Wilson Avenue, Port Coquitlam, BC

Present: Chair - Mayor West
Councillor Darling
Councillor Dupont
Councillor McCurrach
Councillor Penner
Councillor Pollock
Councillor Washington

1. CALL TO ORDER

The meeting was called to order at 2:00 p.m.

2. ADOPTION OF THE AGENDA

2.1 Adoption of the Agenda

Moved-Seconded:

That the Tuesday, October 6, 2020, Committee of Council Meeting Agenda be adopted as circulated.

In Favour (7): Mayor West, Councillor Darling, Councillor Dupont, Councillor McCurrach, Councillor Penner, Councillor Pollock, and Councillor Washington

Carried

3. CONFIRMATION OF MINUTES

3.1 Minutes of Committee of Council

Moved-Seconded:

That the minutes of the following Committee of Council Meetings be adopted:

- September 22, 2020.

In Favour (7): Mayor West, Councillor Darling, Councillor Dupont, Councillor McCurrach, Councillor Penner, Councillor Pollock, and Councillor Washington

Carried

4. REPORTS

4.1 Development Permit - 745 Seaborne Avenue

Moved-Seconded:

That Committee of Council approve Development Permit DP000430 to regulate an industrial development at 745 Seaborne Avenue.

In Favour (7): Mayor West, Councillor Darling, Councillor Dupont, Councillor McCurrach, Councillor Penner, Councillor Pollock, and Councillor Washington

Carried

4.2 Development Permit and Development Variance Permit - 2841 Welcher Avenue

Moved-Seconded:

That Committee of Council:

- 1. Approve in principle Development Permit DP000441, regulating a 5-storey 63-unit, multi-family residential development at 2481 Welcher Avenue.*
- 2. Pursuant to s. 498 of the Local Government Act, authorize staff to provide notice of an application to vary building height and floor area regulations; and*
- 3. Forward Development Variance Permit DVP00073 to Council with support for consideration, subject to comments from neighbourhood input.*

In Favour (7): Mayor West, Councillor Darling, Councillor Dupont, Councillor McCurrach, Councillor Penner, Councillor Pollock, and Councillor Washington

Carried

4.3 2019 Traffic Count Results

Staff presented the 2019 Traffic Count results and Committee provided feedback.

4.4 Oxford Street and Coquitlam Avenue Intersection Control

Moved-Seconded:

That Committee of Council approve staff to proceed with detailed design of a traffic signal at the intersection of Oxford Street and Coquitlam Avenue as presented in this report; and

That the 2021-2025 Financial Plan include \$49,600 in funding from the General Capital Reserve to the Oxford Street and Coquitlam Avenue Intersection Control project for construction in 2021.

In Favour (5): Mayor West, Councillor Darling, Councillor Dupont, Councillor Penner, and Councillor Pollock

Opposed (2): Councillor McCurrach, and Councillor Washington

Carried

5. COUNCILLORS' UPDATE

No update.

6. MAYOR'S UPDATE

No update.

7. CAO UPDATE

No update.

8. RESOLUTION TO CLOSE

8.1 Resolution to Close

Moved-Seconded:

That the Committee of Council Meeting of Tuesday, October 6, 2020, be closed to the public pursuant to the following subsections(s) of Section 90(1) of the Community Charter:

Item 5.1

i. the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose;

l. discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 [annual municipal report].

In Favour (7): Mayor West, Councillor Darling, Councillor Dupont, Councillor McCurrach, Councillor Penner, Councillor Pollock, and Councillor Washington

Carried

9. ADJOURNMENT

9.1 Adjournment of the Meeting

Moved-Seconded:

That the Tuesday, October 6, 2020, Committee of Council Meeting be adjourned at 5:35 p.m.

In Favour (7): Mayor West, Councillor Darling, Councillor Dupont, Councillor McCurrach, Councillor Penner, Councillor Pollock, and Councillor Washington

Carried

10. MEETING NOTES

None.

Mayor

Corporate Officer

May 4, 2020

City of Port Coquitlam
Mayors Office
2580 Shaughnessy St
Port Coquitlam, BC
V3V 2A8

VERTUAL

Attn: Brad West

RE: Return of street parking at the corner of 2608 Shaughnessy St and McAllister Ave.

My present title

Without Prejudice

Our family and a partner constructed the building in 1988. We didn't have any problems with the City until 3-4 years ago when they took away our parking on McAllister and Shaughnessy. They returned the parking when we objected.

Now we are back to the loss of our parking once again. When we objected, the City stated that when they asked two of our tenants if they objected to taking away our parking and that they said it was okay. *That was not the case.*

I prepared an affidavit whereby, Sun Mart, Omega Pizza & Tip Thai signed the affidavit stating that they were not approached by City Hall regarding parking. *While the Cities 1st Lie,*

I was surprised that City Hall did not have the courtesy to check with me—now I know why.

I met with Engineering to get the return of our parking. 'Miss' Engineering advised that it was not her decision to make; it was up to Trans Link. So, I went to Trans Link and they were happy to help. They drew up plans for three alternate Bus Stops. I returned to 'Miss' Engineering with the plans and she rejected all three alternatives. *I reminded her that she was contradicting herself - no response + another deception or lie.* She called a meeting which was held out on McAllister between our building and the Bowling Alley. She had three other ladies with her and the Trans Link Engineer that had prepared the three alternate Bus stops. If I had known she was going to have all the City employees with her, I would have several of our tenants with me. I made a few suggestions like doubling up on one of the other Bus Stops or an extended curb or bulb-out on one of several locations on McAllister. She said that they did not have the budget for it. I would have been happy to pay for half of the cost of installing a bulb-out. The engineer from Trans Link did not say a word until the meeting was over. He approached me and said I was not to return to Trans Link for

help-obviously 'Miss' Engineering instructed him to say I was not welcome to call on Trans Link again-that was a nasty thing to do.

GREG MOORE

here we go again
Eng. running the show!

I asked for a meeting with the Mayor, there were several of our tenants with me. He said he would consider our dissatisfaction and get back to us, subsequently he sent me an email stating that he passed the problem back to 'Miss' Engineering. I knew then that it was going no where so I discontinued the voluntary parking fee issued semi annually for the City. 'Miss' Engineering has misled me on several counts which were unethical to say the least. 'Miss' Engineering that desperate that she thinks nothing of misleading me and the business' that are paying taxes that support her and City Hall.

70% of revenue is from it
'Miss' Engineering has put our tenants into a difficult financial position. The lack of parking has caused a 70 % drop in business revenue.

I would like the City to consider returning our parking on both McAllister and Shaughnessy.

Without the parking the tenants are dead. *Customers are going to other stores & Restaurants.*

Like the pizza tenant customers are simply going to the other pizza down the street

We also lost a tenant who had been with the building since it was constructed. The parking was not the only reason for him leaving. Being on the second floor some of his customers had difficulty with the stairs. We offered to put in a lift in the stair case but he decided to find a location at street level with street parking. The rental market is flat at present and I think ~~and~~ think we will have an empty space for a long time. *THE TENANT LEFT THE BLDG. LAST DECEMBER & IT IS STILL VACANT.*

Until just recently with this parking issue, we have never had any issues with the City. That is until 'Miss' Engineering entered the picture, AND IT DIDN'T TAKE HER LONG BEFORE SHE CAUSED BAD VIBES WITH HER NEGATIVE ATTITUDE

rs. At this point we are beginning to feel that we are not wanted.

One of the options I put forward to 'Miss' Engineering was an extension to the sidewalk, which she did not accept. Just lately I attempted to get the cost of a neckdown (bulb-out). I ended up speaking with Ann P in the Dept of Transportation. I was overwhelmed at how responsive she was to this idea. Her positive attitude was refreshing-she is a keeper. She is looking into the cost and the possibility of installing this neckdown, which would return our parking on McAllister. The neckdown could be installed anywhere along McAllister. This neckdown would also give us a Bus top as well as our parking.

The tenants in our building are all hard working and very professional at what they do. Only a small percentage of small business' every survive. Most seem to have family working together because they can't afford to pay a reasonable wage.

Sun Mart (The Corner Store) are a very creative husband and wife team, selling flowers, ice cream, lotto tickets, coffee etc and put in 15-hour days, with no holidays, weekends, or official Holidays off. I don't think I have ever seen such hard working and dedicated people.

In an effort to facilitate our tenants in keeping their costs down I undertake a large portion of the maintenance and repair work. This includes electrical, painting, mechanical, roof repairs, plumbing, asphalt etc.,

With regards to parking on Shaughnessy, I have asked the Police to check to see if there are any infringements regarding the cars giving the Buses the right of way when they pull out. They reported that there no infringements.

I know that in your tenure as Mayor you will give small Business the respect they deserve. The City should have someone checking and calling on business asking how they are doing and asking if there if there is anything the City can do for them.

With regards to your tenure I am happy to note I have heard nothing but good things.

It seems good men are hard to come by according to Jordan Hansen, the newspaper editor in Kelowna, who has authored a book on 'our tax dollars are wasted and splurged on food and corruption by elected officials. They carry on as though they are entitled to more and more. *WITH you Mayor Brad West in Charge THERE WILL BE a change.*

It seems the public in general have the feeling that they cannot beat City Hall—hopefully you can rid the City of that stigma.

Our tenants have experienced considerable stress and financial losses as previously noted-thanks to 'Miss' Engineering they deserve to be compensated by the City. Please give this matter your utmost consideration.

We are doing what we can financially through these difficult Covid-19 times. Without a great deal if help they are not likely to survive.

Small business, as you know are the backbone and soul of any City-without them the Cities are naked
Not supporting Small Business is like not watering your garden.

Thanks for listening



I just read to you a letter dated May 4/2021. Since then CMBC Mgr. David Doney has recommended that we move The Bus Stop to the front of the Bowling alley - no Bulb-out required - that's moving the stop 30 yds from its present location which takes 10 seconds. All basically @ no cost & interruption.

I spoke to David Doney of CMBC on Sunday Sept. 19 to confirm his satisfaction with moving The Bus Stop to the Bowling Alley. Contrary to Anne Pymenburg's letter dated May 21 letter; he may not have been in favour of the Bulb-out but not a move to the Bowling Ave.

" This issue is without Prejudice & about a lack of compassion or empathy for small business - Bullying of Laura Dupont by the Mayor & 5 of the 10 councillors & an overall lies, & deception & disrespect & negative attitude from MS Engineering "

On a positive note The staff @ City Hall the likes of Karen Gromada are helpful & gracious & that goes for the staff @ Engineering

Amen

Now that I have your attention.

I would like to have you consider
a review of the Investment portfolio

The income for 2018 was \$12,700,791^{1/2}

I can appreciate the need to have

a reserve, however it should be

capped (adjusted for inflation) &

the balance should go back to

the Tax payers in cash - after all

its their money.

A committee consisting of an

independent firm & a few

members of the public. The

Committee should also investigate

The need for 636 mil in Private Properties

the C. Ty has ^{guessed} realizing that a good portion are essential.

TO WHOM IT MAY CONCERN:

P. 6 of 8

I know something about engineering
as I was the project engineer
for Babcock Wilson on the Sacramento
Municipal Utility District - SMUD. ~~The project~~

Initially the project only had 15%
of the engineering done when I took

over & there was a large penalty if

the project was ~~not~~ delayed. I managed it
^{help of many}

with ^{expeditors}

to complete the project on time but
not on budget. I only had one

Ontario Hydro ~~inspector~~ that

caused me a problem because I was

^{organizer}
catholic & he was a protestant. I should
He had a wife & a 5 year old boy. I cornered him one day & convinced
him that he should not raise his boy to hate as it is not the Christian way.
and that I only answered to the

^{not even}
Board of directors is the President of the Co.
I was 20 years old at the time I learned

that you get I no-where without
a positive attitude. City Hall

should realize that No should not
be in their vocabulary & more specifically
not in ~~an~~ engineering's vocabulary.

If the City is capable of having
a positive attitude when it comes
to their major projects they should
have the same attitude when it comes

to small business which are one of
the major contributors to City Hall taxes
& their legacy.

Our tenants are special hard working
solar & they deserve your respect.

The city councillors should realize that
with all the deception & lies — that have

altered
played
played out over this issue is enough to
warrant an apology ^{to small business} & more

I have never encountered such negative &
deceit in all my endeavours. I have had
a Rick's Restaurant in Park Royal, a pump Co.
, a H.R. Transmission Co., a water filtration Co.
a photographic supply Co. & office in Calgary
and Regina & a hair photo store. I have also
accumulated real estate, in Vancouver, Toronto,
Vancouver Island, Toronto, & the U.S.A.

When I see the many perks the city staff
receive along with the assured wage increases
& compare that to what small businesses
have it is startling. I do not begrudge
the benefits etc that the staff have more
power to them. But they & the Mayor &
Council should treat
& help small business @ every opportunity.

There is no logical reason for not
moving the Bus stop to the Bowling Alley
& likewise the Shuangchi parking.
Restaurants cannot stay in business @
50% or 75% capacity. I don't think the Mayor
or councilors realize that Restaurants spend
30% on labour, 30% on rent & 30% on the cost of food -
that leaves them with a 10% Margin. The U.S. of A.
Chamber of Commerce stated that 25% have already closed

[REDACTED]

Sent: Tuesday, October 6, 2020 9:19 AM
To: nzuccolo@telus.net
Subject: RE: WB McAllister nearside Shaughnessy - [REDACTED] 2604 Shaughnessy

Joe,

I have been very clear during our phone conversations. I will again reiterate my response to you, which is consistent with my conversations with the city. It is my understanding that the city has already given you a response re: bus stop in front of the bowling alley. That being said, should this be a consideration from the city's perspective, CMBC engineering would be happy to consider the city's proposals on the impacts to CMBC Operations.

Please deal directly with the city for future correspondence.

Thank you,

David Doney
Acting Manager, Capital Projects CMBC
T: 778-312-7936 | translink.ca/cmhc
C: 604-377-4832

Coast Mountain Bus Company
Office: 13401 108th Ave, Surrey BC V3S 5V2

T Together all the way

[REDACTED]

Sent: October-05-20 9:07 PM
To: Doney, David <David.Doney@coastmountainbus.com>
Subject: RE: WB McAllister nearside Shaughnessy - [REDACTED] 2604 Shaughnessy

Hi Dave

We need you to state that you also agreed to moving the bus stop to the Bowling Alley. I have written to City Hall on several occasions about your acceptance of the Bowling Alley as an acceptable bus stop and referring to a phone call of September 19th checking on your acceptance of the Bowling Alley location. I need this as a supporting document which has to be delivered to the Corporate Office by Wednesday October 7, 2020.
Thanks

[REDACTED]

From: Doney, David <David.Doney@coastmountainbus.com>
Sent: Monday, October 5, 2020 11:47 AM

Subject: RE: WB McAllister nearside Shaughnessy - [REDACTED] 2604 Shaughnessy

[REDACTED]

April 24th 2020

To whom it may concern,

(re: City of Port Coquitlam, changes to parking on Shaughnessy street at the 2608 block)

I would like to address the issue that my company faces in regards to the changed lanes on Shaughnessy Street at the corner of McAllister Avenue. Our music school is located on the 2nd floor of the 2608 building, above Tip Thai restaurant. The stairs leading up to our school are located on Shaughnessy street and relies heavily on car drop off directly in front of the door. There are, on average, 3-4 families every 30 minutes between the time of 3:00-8:00pm Monday to Friday and 9am-3pm on weekends walking into or from our establishment. Many parents are disappointed that they can no longer watch their child walk up the stairs as they will be in the way of the northern Shaughnessy traffic, and with many parents just getting off work around the 5pm weekday time, with constant traffic around that corner, and the lack of other available parking in the close vicinity, parents are forced to park either in behind the bowling alley building parking lot or create their own parking lot in behind the 'pop-up park' in the laneway.

Though this is not an issue presently with the covid-19 pandemic as our teachers are at home teaching on an on-line platform, this will be a very serious issue when we all return to 'business as usual'. I fear this is a safety issue around that area, especially with the limited space available for northern bound traveler's on Shaughnessy on that particular corner, as the limited amount of space, caused by the extended 'bike lane' has made it very difficult for those turning north bound from Eastbound McAllister travelers. Buses and trucks are having extreme difficulty as I've witnesses it on a number of occasions.

Regarding the added bike lane at the lights on Shaughnessy and McAllister, is there not a way with all the adjacent streets nearby to move the bike lane from that immediate area (Elgin to Wilson, perhaps moving it along Maple street, makes sense with the river there) By taking out the bike lane, is there not a way to regain the 3 spots on the east side of Shaughnessy that we had originally lost?

As a suggestion, as I have rented a 2nd floor unit in the past from the property owner who owns the property where the fire was on Shaughnessy, beside the Giggle dam, I assume there is already a contract in place with him regarding the Pop-up park, so maybe, adding a properly designated parking lot in the 'back portion' of his land to use as an interim parking lot, with properly painted lines as it's evident he has no plans to do anything with it in the near future.

Thank you for your consideration.

Take good care during this difficult time,

owner/ musical director
#201-2608 Shaughnessy Street, Poco



[REDACTED]

From: [REDACTED]
Date: January 15, 2018 5:45 PM
To: [REDACTED]
Subject: Traffic Complaint

On January 15, 2018 from 1530 hrs until 1630 hrs Cst Potter stood at the corner of Shaunessy and McAllister, Port Coquitlam in response to a complaint from [REDACTED] of problems with vehicles yielding to transit buses.

During that time Cst Potter observed multiple buses, mostly Community Shuttles, negotiate the intersection in all directions with no incidents.

There is no public safety issue and no police action is required.


Cst B Potter, [REDACTED] Coquitlam RCMP Traffic Services

2018-01-15


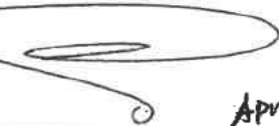
AFFIDAVIT

The following signators attest that they^were not contacted by the City of Port Coquitlam
Regarding the removal of parking spaces along McAllister and Shaughnessy Streets.

SUN MART

 Apr 30, 2020

OMEGA PIZZA

  Apr 30/20

TIP THAI

  April 30./20

The city personnel stated that they contacted two of the businesses but they did not say which
Which two.

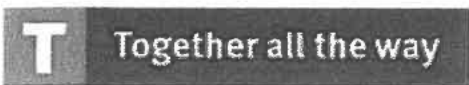
From: "Doney, David" <David.Doney@coastmountainbus.com>
Date: May 4, 2020 12:59 PM
To: [REDACTED]
Attach: 53496 Stop Usage.xlsx
Subject: Data - Stop ID 53496

Nice to meet you. Attached is the average data for the stop W/B McAlister at Shaughnessey (the bus stop ID is 53496). These are averages (M-F, Sat, and Sun) and are for the Sept 2019-Dec 2019 period.

Let me know if you have any questions.

David Doney
Operations Manager, Port Coquitlam Transit Centre (PTC)
T: 778-375-7001 | translink.ca/cmbc
C: 604-377-4832

Coast Mountain Bus Company
Office: 2061 Kingsway Ave, Port Coquitlam BC V3C 1T2



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Sheet	19SEP
Stop Number	53496
Row Labels	Daily Boardings
WB MCALLISTER AVE AT SHAUGHNESSY ST	
MF	48.77
SAT	25.42
SUN	11.88

Daily Alightings	?
	8.21
	0.88
	0.72

RECOMMENDATIONS:

1. That Committee of Council, having given consideration to s.475 of the *Local Government Act*, confirm the following consultation for the proposed Official Community Plan amendment:
 - a. on-site signage,
 - b. the applicant's consultation with the community,
 - c. staff communication with School District 43, and,
 - d. consideration of the application by Committee of Council in open meetings.
2. That Committee of Council recommend to Council that:
 - a. The Official Community Plan land use designation for the development site be amended from Neighbourhood Commercial and Apartment to Comprehensive Residential.
 - b. The Official Community Plan land use designation for the remaining City portion of 2428 Kingsway Avenue be amended from Neighbourhood Commercial to Park Reserve.
 - c. The Zoning be amended from RS1 (Residential Single Dwelling 1), RD (Residential Duplex) and M1 (General Industrial) to a Comprehensive Development Zone to provide for rental tenure apartment dwelling units and a 400m² childcare facility and P3 (Parks and Natural Areas) for the eastern portion of 2428 Kingsway Avenue.
3. Prior to adoption of the amending bylaws, the following conditions be met to the satisfaction of the Director of Development Services:
 - a. Adoption of a Housing Agreement Bylaw that provides for 300 non-market rental housing units.
 - b. Closure and sale of lanes within the development site and subdivision and sale of a portion of 2428 Kingsway Avenue.
 - c. Demolition of existing structures and lot consolidation.
 - d. Submission of a plan providing for road dedication along Kingsway and Gately Avenues.
 - e. Submission of plans and securities and fees for off-site works and services including improvements to the intersection of Kingsway and Gately Avenues, construction of Gately Avenue and a 3m wide multi-use pathway along the Kingsway Avenue frontage and street trees.
 - f. Submission of a plan and securities for riparian area enhancements and construction of the Coquitlam River Trail between Gately and Kingsway Avenues.
 - g. Registration of legal agreement(s) to ensure:
 - i) The development is designed and constructed in accordance with the recommendations of acoustic and vibration studies, and
 - ii) The watercourse protection area is restricted to riparian vegetation and protected from future disturbance.

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

PREVIOUS COUNCIL/COMMITTEE ACTION

At the July 28, 2020 Committee of Council meeting, the following resolution was passed:

That in consideration of s.475 of the Local Government Act, Committee of Council direct the following consultation be undertaken for the proposed Official Community Plan amendment:

- 1. On site signage and an advertised on-line public input process led by the applicant, with notification provided to residents, businesses and community services within the area;*
- 2. Information posted on the City's website and considered in an open Committee of Council meeting; and*
- 3. Staff communication with School District 43.*

REPORT SUMMARY

This report provides for Committee consideration of an application to rezone a 2.4-acre site to permit a 6 storey non-market rental apartment development with a childcare facility. This site is currently designated in the Official Community Plan (OCP) for commercial and low density apartment uses and amending the land use designation of the OCP would be required to facilitate rezoning for the proposed development. The report recommends a number of conditions be required prior to consideration of bylaw adoption, including closure and sale of City lanes, sale of a portion of 2428 Kingsway Avenue, dedication of road to allow for widening of Kingsway and Gately Avenues, a Housing Agreement to ensure adherence to the City's Affordable and Family Friendly Housing Policy, and legal agreements to ensure the development is constructed to adhere to acoustic and vibration standards.

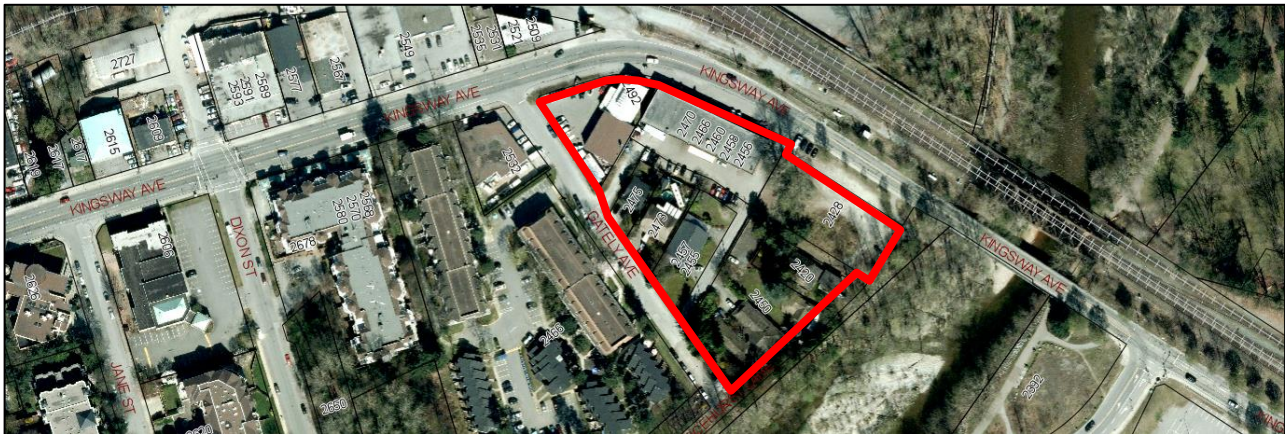
The project is seen to offer an important opportunity to address affordable housing needs within the community and review of this application is being expedited in accordance with the City's policy for applications deemed to be in the public interest. Staff recommend Committee support the Official Community Plan and Zoning Bylaw amendments and that the applications proceed to Council for consideration of the bylaw amendments.

BACKGROUND

Proposal: Peak Towers Development Ltd. in partnership with the Affordable Housing Societies has submitted applications to develop a large non-market residential apartment complex with a childcare facility at 2455, 2473 and 2475 Gately Avenue, 2428, 2456 and 2492 Kingsway Avenue and 2420 and 2450 Ticehurst Lane.

Site Context: The proposed development site is approximately 2.4 acres in size and consists of eight properties bound by Kingsway Avenue, Gately Avenue, Ticehurst Lane and the Coquitlam River. Uses on the site currently include four houses, one duplex and two small scale industrial properties (one single tenant building and one two-storey multi-tenant building) and a vacant City owned parcel.

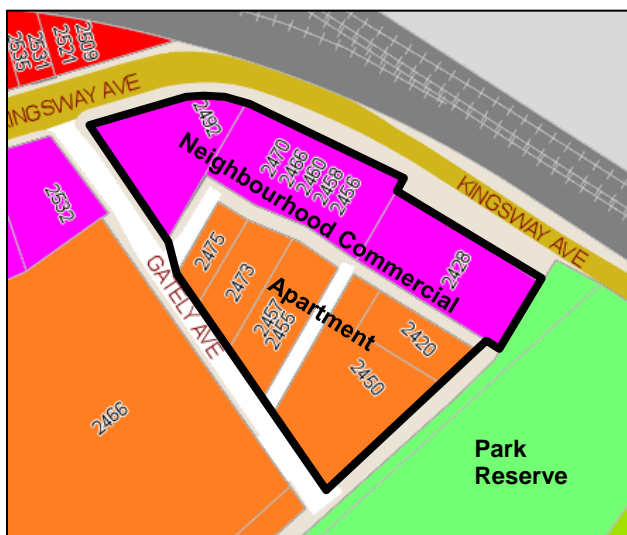
OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane



Location map

Surrounding land uses include the Canadian Pacific Railway corridor and small scale industrial uses north of Kingsway Avenue, a large multi-family residential complex and a small scale light industrial building west of Gately Avenue. An unopened road allowance (Ticehurst Lane) and Coquitlam River is to the east. The Downtown and Lions Park are within walking distance, directly east of the Coquitlam River.

Policy and Regulations: The site is currently zoned a mixture RS1 (Residential Single Dwelling 1), RD (Residential Duplex) and M1 (General Industrial), which reflect their current uses. The Official Community Plan land use designation for the properties along Kingsway Avenue is currently Neighbourhood Commercial (N) intended to provide for a mixed use development. The designation along Gately Avenue is Apartment (A) which would support low profile apartment uses to a maximum of 4 storeys. An amendment to the Comprehensive Residential (RC) OCP designation is proposed to better reflect the anticipated mix of uses.



Current OCP designations



Current zoning

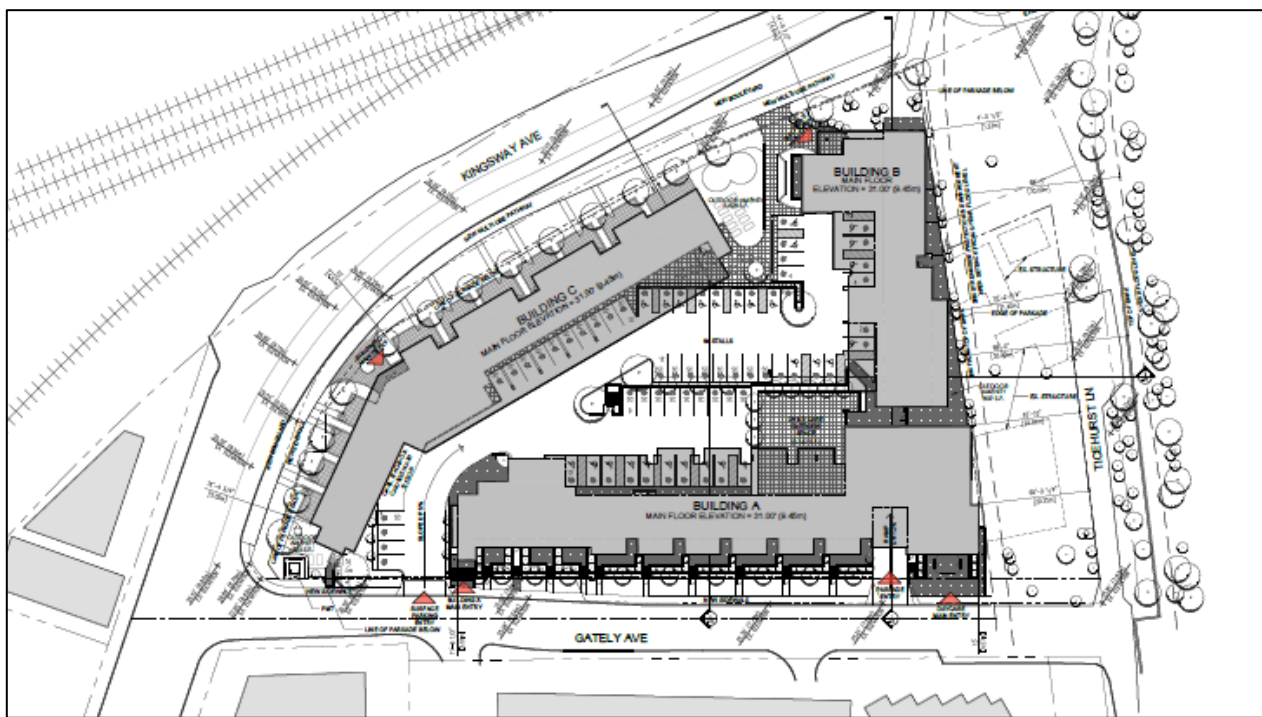
OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

The policies of the Official Community Plan supports provision of housing that will meet a variety of needs, including affordable and non-market rental housing. The policies support new multifamily housing in areas close to the downtown, and encourage the creation of new childcare facilities. The policies also provide for the City to protect areas of environmental sensitivity through development and support improved pedestrian connections and trail networks.

This site will be subject to form and character, environmental conservation and watercourse protection development permit objectives and design guidelines. These applications would be considered after adoption of the Official Community Plan and Zoning Bylaw amendments.

The City's Density Bonus policy provides for the City to retain the additional land value achieved by the rezoning and Official Community Plan amendment and provides for consideration of that value to be offset by the provision of social housing and community amenities. The City's Affordable and Family Friendly Housing Policy requires that 10% of any additional residential density be secured as non-market rental housing. The City's Processing of Development Applications Policy provides for the City to fast-track public Interest applications through the various application review processes and process the applications at the City's cost.

Project description: The proposed development consists of three 6-storey buildings with 302 apartment units and a 400m² (4,305 ft²) childcare facility built over a common one-level parkade. The complex consists of three buildings fronting the periphery of the site clustered around a grade level interior parking court.

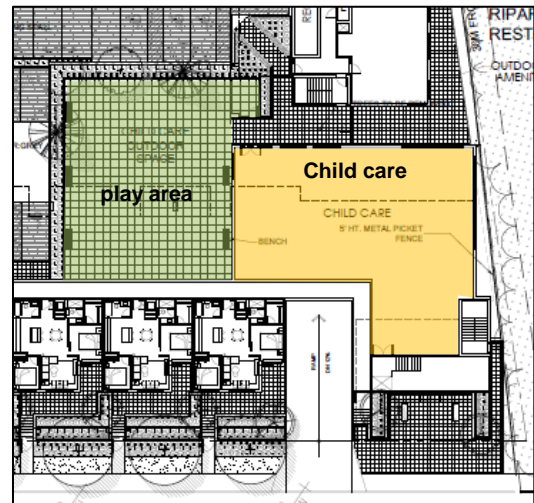


Proposed site plan

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

Each building is designed with its own prominent main entry providing pedestrian level access from the adjoining street. Apartment units at street level have individual front doors and landscaped walkways leading to the street to promote pedestrian access and eyes on the street. There are two vehicle access points to the site from Gately Avenue; one for access to the grade level parking court which will also serve as access to garbage and recycling rooms located to the interior of the site and a second for access to the underground parkade.

The residential portion of the development will consist of 129 one-bedroom, 123 two-bedroom and 48 three-bedroom apartment units ranging in size from 44m² (474 ft²) to 80m² (861 ft²). These units include 60 adaptable and 30 accessible units to help meet the needs of residents with disabilities. The proposal include common amenity space for the residents consisting of two outdoor amenity areas which provide a children's play area, raised gardening beds and seating and tables for outdoor gatherings. The indoor amenity spaces include a lounge/party room and meeting/study rooms. The proposed child care is to be located near the southeast corner of the site and includes outdoor play space located to the interior of the site. All units have private outdoor space in the form of a balcony or patio.



Child care and outdoor play area

The developer proposes a contemporary architectural style that includes quality cladding materials in keeping with other recent development in Port Coquitlam including brick, fibre-cement panel, corrugated metal, standing seam metal, aluminum and glass balcony railing, and wood look metal soffits. Each building will utilize consistent materials but have its own unique colour palette to create a cohesive design while allowing each building to have its own personality.



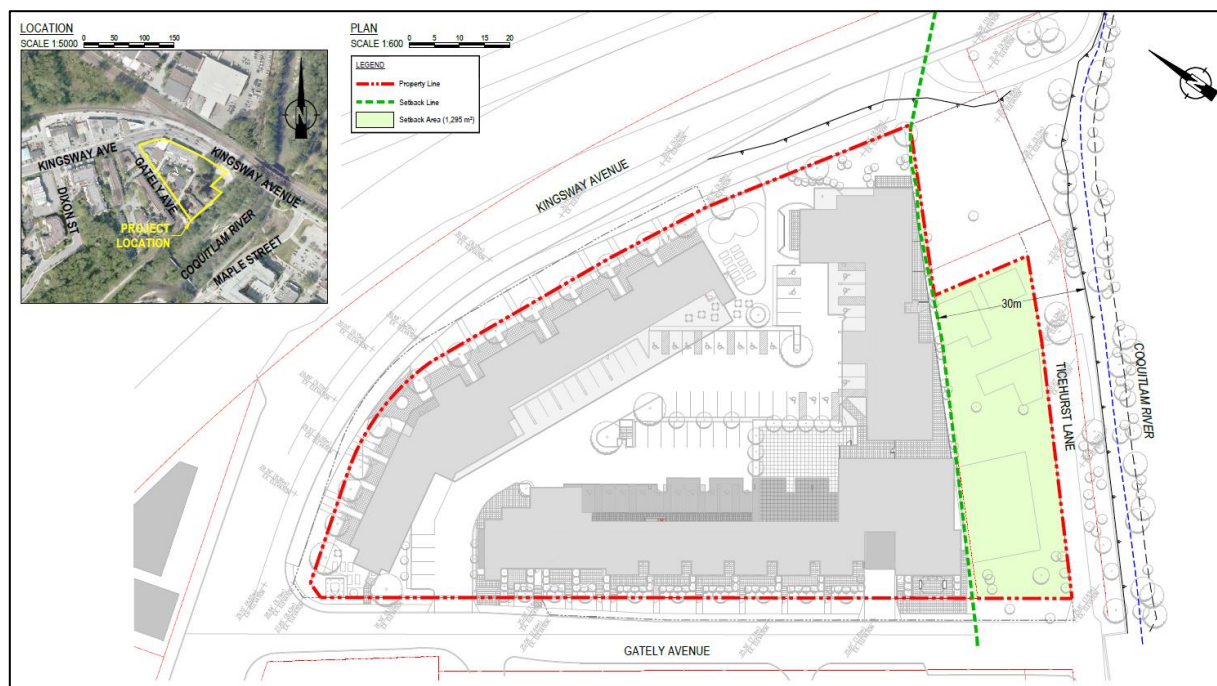
Façade fronting Kingsway / Gately intersection

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

The landscape plan calls for a mixture of trees, shrubs, perennials and ground cover plants located throughout the periphery of the site in integrated landscape planters and tiered retaining walls to soften the building edges and define and beautify the apartment patios for the ground floor apartment units. The interior parking court is also to be landscaped and the parking areas interplanted with trees to add shading and architectural interest. The landscape surface materials include concrete and high quality unit pavers for patios and walkways, asphalt for the parking court driveways and unit pavers for the vehicles parking spaces.

The proposed development, in accordance with the building and plumbing bylaw, will also be constructed to meet Step 2 of the BC Energy Step Code which will provide at least a 15% reduction to the National Building Code for energy consumption. The applicant's preliminary stormwater management plan indicates a stormwater detention tank is to be installed to detain/delay stormwater flows from the development to aid in reducing impacts to the City stormsewer system. A thorough description of environmental conservation measures will be provided to Committee for consideration of development permit issuance.

Watercourse Protection: The proposed development is adjacent to the Coquitlam River and subject to the objectives and guidelines of the Watercourse Protection Development Permit (DP) Area. These guidelines would prescribe a 30m wide watercourse protection area measured from the Coquitlam River top-of-bank. The development is also subject to the Provincial Riparian Area Protection Regulation (RAPR).



Map showing the watercourse protection area

OCB and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

The applicant provided an environmental report which assessed the development proposal and its conformance with the City's Watercourse Protection DP guidelines. This report confirmed the project meets the prescribed 30 meter setback as shown on the image below. Through this development, the applicant would remove several existing structures (two houses, two accessory buildings and pavement) from the setback area and enhance it with riparian plantings. Further information on watercourse protection and the enhancement plans would be provided to Committee in consideration of a Watercourse Protection Development Permit should the application proceed.

Trees: The applicant submitted an arborist report (Attachment 2) assessing the 54 existing trees on the site, mostly located on the single residential and duplex properties and 6 street trees. The proposed concept requires 41 trees to be removed as they are within the footprint of the parkade; 7 of these trees meet the Tree Bylaw's definition of significant tree due to their size. 13 trees within the watercourse protection area and the 6 street trees would be retained.

The applicant is proposing to plant 91 new trees which includes 59 on the development site, 20 in the watercourse protection area and approximately 12 additional street trees. The robust landscape plan also proposes a mixture of 1,079 shrubs, 660 grasses, 467 perennials and 428 ground cover plants with an additional mixture of 775 shrubs, 127 perennials, and 325 ground cover plants in the watercourse protection area.

Parking: The Parking and Development Management Bylaw requires 305 parking spaces for the proposed development including 300 for the residents (1 parking space per dwelling unit) and 5 for the child care (1 parking space per 10 children). The applicant has proposed 294 parking spaces including 289 for the residents (0.96 parking spaces per dwelling unit) and 5 for the childcare facility. Over 10% (33) of the parking stalls will be accessible spaces that provide for wheelchair access; these stalls are 4 meters wide which is 1.3m wider than a standard parking space.

The transportation impact study (Attachment 3) provides an analysis of the proposed parking and concludes the proposed parking will meet the needs of the development. The Affordable Housing Societies has also provided a letter (Attachment 4) describing the typical parking needs of their residents and confirming that, based on their other housing projects, the proposed parking ratio is more than adequate to meet the needs of their tenants. The building will also provide storage for bicycles in a secure room in the underground parking structure.

Transportation: The applicant provided a transportation impact study that assessed the existing traffic conditions and the impact of the proposed development on the transportation network. In summary, the report found the proposal will add 153 new vehicle trips in the AM peak hour and 178 new vehicle trips in the PM peak hour and confirms the existing transportation network has adequate capacity to accommodate these trips. The report provides analysis and identified options for improvements to the Gately/Kingsway Avenue intersection. The recommended improvement is

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

to enhanced movements to/from Gately Avenue through the addition of a westbound left turn lane/receiving lane as shown on the image below. Road dedications along Kingsway and Gately Avenues would be required to meet the necessary road allowance widths to accommodate the required infrastructure.

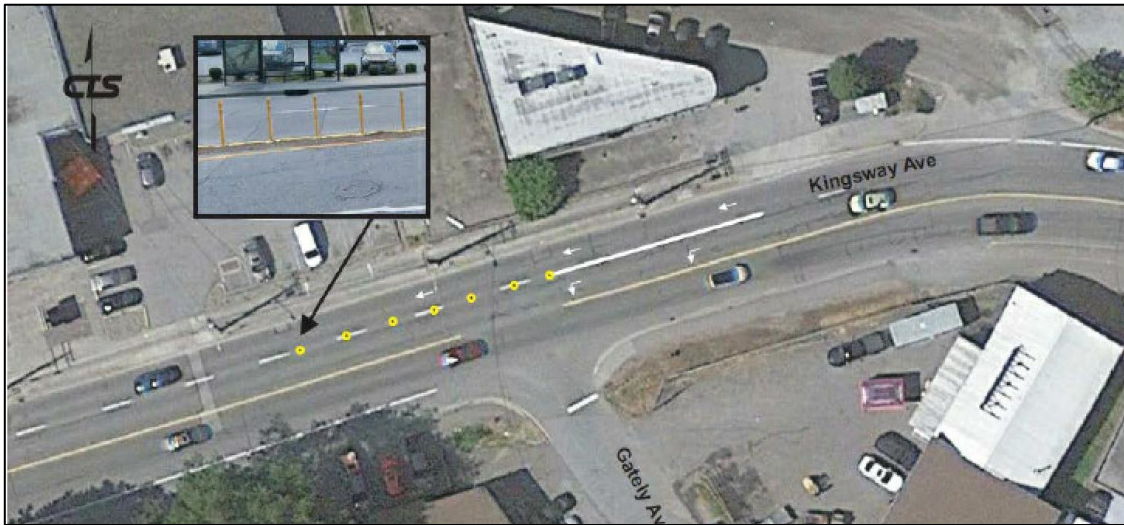


Illustration of proposed westbound left turn and receiving lane

The report also recommends improvements to pedestrian and bicycle infrastructure adjacent to the site including a construction of a 3m wide multi-use pathway (MUP) along Kingsway Avenue and connection of the Coquitlam River Trail between Gately and Kingsway Avenues.



Potential extension to Coquitlam River Trail

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

Finally, the report recommends consideration of a future connection between Gately and Chine Avenues to provide enhanced access from Gately Avenue to the fully signalized intersection at Dixon Street and Kingsway Avenue as shown on the image below. This connection would transect vacant municipal land adjacent to Dixon Street and the River Woods housing site at 2446 Gately Avenue (owned by the Affordable Housing Societies). Affordable Housing Societies has indicated intent to explore redevelopment 2446 Gately Avenue in the future and the potential to construct this connector will be explored at that time.

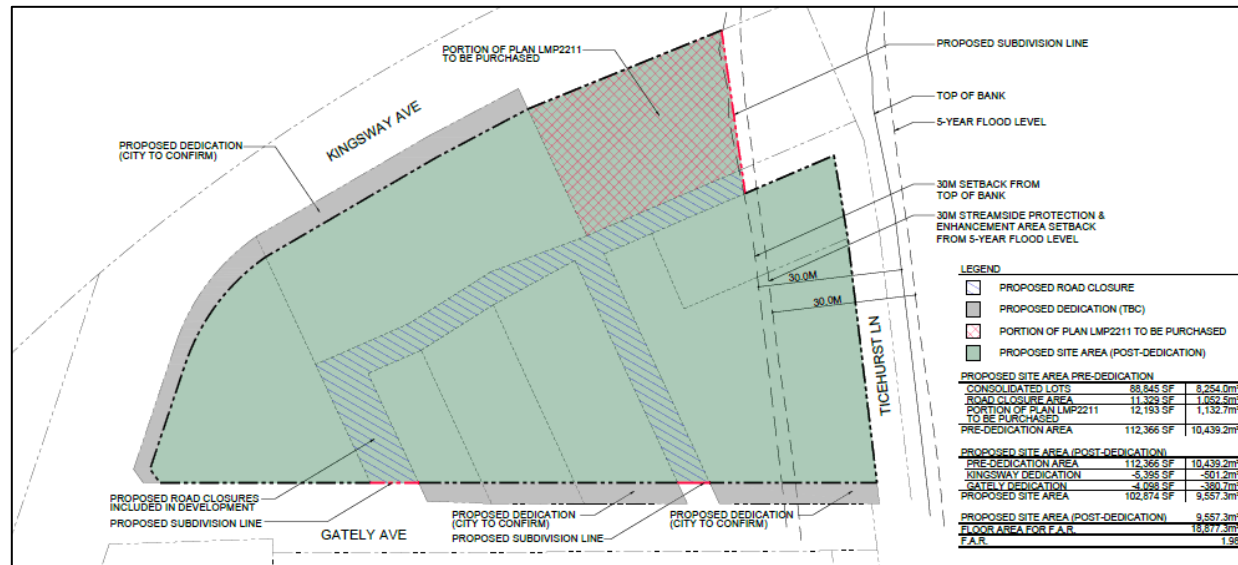


Potential future extension to Chine Avenue

Off-site Infrastructure and utilities: In addition the road network improvements identified by the traffic study, this project would require significant infrastructure and service upgrades to meet standards of the subdivision servicing bylaw and adequately service the proposed development. These include reconstruction of Kingsway Avenue ½ road plus one meter complete with curb and gutter, sidewalk, road drainage, street trees and street lighting; reconstruction of Gately Avenue full width complete with curb and gutter, sidewalk, road drainage, street trees and street lighting on the eastern side fronting the site. This development also requires extensive service upgrades including replacement of both the watermain and sanitary services on Gately Avenue. An assessment is being completed to determine if storm sewer upgrades are necessary.

Land Purchase and Road Closure: To facilitate the consolidation with adjacent properties, the applicant has requested to purchase a portion of a city owned parcel at 2428 Kingsway Avenue and the lanes within the 2400 block of Gately and Kingsway Avenue as illustrated in the image below. The total area of land to be purchased is approximately 2,184m².

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane



Map showing proposed road closure, portion of 2428 Kingsway to be purchased and road dedications

Proximity to railway operations and Kingsway corridor: The site is located in proximity to the CP Rail corridor and adjacent to the Kingsway Avenue, which is an arterial route and truck corridor. In accordance with guidelines developed by FCM and the Railway Association of Canada, the applicant contacted CP for comments and retained technical studies to assess potential noise and vibration impacts and provide mitigation strategies. The guidelines also suggest maintaining a 30m setback from the rail corridor where possible; the proposed development is located approximately 25 to 29m from the Canadian Pacific Railway (CP) corridor and approximately 40m from the actual rail tracks.

The acoustic study (Attachment 5) found the noise level to be 69 dBA, which is on the high side of the CMHC recommended range of 55 to 75 dBA. The study recommends a number of measures be taken to provide adequate noise isolation in interior spaces including thickening exterior sheathing and interior drywall and using sound dampening windows and doors for suite walls fronting Kingsway Avenue. As the noise isolation can only be achieved when windows and doors are tightly closed, consideration will also need to be given to alternative forms of ventilation. The applicants are in the process of assessing the potential for vibrations and identifying if mitigation measures are necessary.

CP declined to comment on the development as it is not directly adjacent to the rail corridor.

Public Consultation: Consistent with the consultation plan presented to Committee July 28, 2020, the applicant provided an opportunity for community input beginning August 20th and ending September 13th. During this period the applicants received comments from 9 respondents on the proposed land use. The input received about the proposal included comments in support of the

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

project and the provision of non-market housing along with concerns about the additional density, traffic and environmental impacts. A summary is provided in attachment 6.

DISCUSSION

The OCP and additional City policies establishes how the community is intended to develop, designates lands for uses in keeping with these policies and provides guidance on the types of housing, services and community supports the City should encourage. An evaluation of the proposal with applicable policies and regulations indicates the following:

- The apartment uses on the site are reflective of the OCP's Apartment Residential designation for a large portion of the site and in keeping with policies to locate apartment buildings in urban centers close to community services and transit. The site is within walking distance from the Downtown, in close proximity to other multi-family developments, parks and trails and existing commercial uses.
- The proposal retains a portion of the commercial uses anticipated in the OCP by including a daycare facility. The location of this facility at the rear of the site provides for a superior site context and buffers this use from the traffic and rail corridor.
- The proposal for 300 non-market rental housing units aligns with the OCP and associated policies to explore and support the development of rental housing, encourage housing affordability and promote a range of housing options to meet the needs of our diverse community. The development provides for outdoor and indoor community amenity space and each unit will benefit from their own balcony or patio.
- The OCP policies for community facilities and services encourages the provision of additional childcare spaces to meet the needs of the community and the draft Child Care Action Plan supports this direction. The proposed 48 child facility will help support childcare need in the neighbourhood.
- The proposal is in keeping with the City's Affordable and Family Friendly Housing and Density Bonus Policies by providing 100% non-market rental units and community amenities in the form of the childcare facility in exchange for an increase in density. The additional density will translate into the provision of approximately 78 additional non-market units.
- The OCP provides that residential units should be buffered from negative impacts. The impact of traffic noise from Kingsway Avenue and the CP rail corridor can be reduced by implementing measures and recommendations of the technical studies prepared by acoustical and geotechnical engineering consultants.
- Information submitted by the applicant and their transportation consultants suggested the proposed parking ratio will more than adequately meet the needs of the residents given the mix of tenants and the affordability criteria. The site is also well located to promote alternative modes of transportation (walking and cycling) due to its proximity to the Downtown and access to public transit on Kingsway Avenue.

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

- The proposal meets the intent of the City's Watercourse Protection Development Permit Guidelines by maintaining the required setback to the Coquitlam River and enhancing the riparian landscape through removal of encroachments and appropriate plantings.
- The proposal will result in improvements to the Kingsway and Gately intersections and additional pedestrian connections through construction of the MUP on Kingsway and extension to the Coquitlam River Trail.

It is staff's opinion that the proposal provides substantial community benefit and is aligned with established direction in the OCP. Staff recommend the proposal be supported with the following provisions:

- 1) The site land use designations be amended to Comprehensive Residential (RC) and a Comprehensive Development (CD) zone be crafted that provides for the proposed mix of land uses, and confirms permitted density, built form, siting and parking requirements.
- 2) Registration of a housing agreement that restricts the site to the provision of rental non-market housing to ensure the continued community benefit of the project.
- 3) Closure, subdivision and sale of municipal lanes and land, dedication of road along Gately and Kingsway Avenues and consolidation of lands into one parcel.
- 4) Securing off-site works that include improvements to Kingsway and Gately Avenue intersection, construction of a multi-use path along Kingsway Avenue, extension of the Coquitlam River Trail along Ticehurst Lane, and riparian enhancements.
- 5) Registration of legal agreements to ensure the noise and vibration impacts from Kingsway Avenue and rail lines are mitigated in accordance with the recommendations of technical studies and the Watercourse Protection Area is restricted to riparian vegetation and protected from future disturbance in perpetuity.


The applicant has undertaken consultation in keeping with Committee's July 28th resolution and Section 475 of the *Local Government Act*. Comments on the proposal ranged from support to concerns about traffic, density, overall growth in the community and impacts to the environment. Staff further recommend Council confirm its consultation requirements by adoption of the recommended motion.

FINANCIAL IMPLICATIONS

In accordance with the Processing of Development Applications Policy, the City did not require Rezoning and Development Permit application fees, an approximate value of \$57,000. The Affordable Housing Society may also apply to the City for a grant from the Special Needs Housing Reserve, previously provided at \$1,000 per dwelling unit.

OCP and Zoning Bylaw Amendment – 2455-2475 Gately Avenue, 2428-2492 Kingsway Avenue and 2420 & 2450 Ticehurst Lane

OPTIONS (✓ = Staff Recommendation)

	#	Description
	1	Recommend to Council that the Official Community Plan and Zoning Bylaw amendments be considered for approval.
	2	Request additional information, amendments to the application, changes to recommended conditions of prior to forwarding the application to Council.
	3	Recommend to Council that the application be refused.

ATTACHMENTS

Attachment #1: Development concept drawings

Attachment #2: Arborist report

Attachment #3: Transportation impact report

Attachment #4: Affordable Housing Societies parking needs letter

Attachment #5: Acoustic study

Attachment #6: Consultation summary

Lead author(s): Bryan Sherrell and Jennifer Little

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NORTH ARROW



OWNER/CLIENT:

10	DP/ZONING RESUBMISSION	00/2620
11	DP/ZONING SUBMISSION	04/01/20
12	ISSUE	11/01/21

SEAL:

CONSULTANT:

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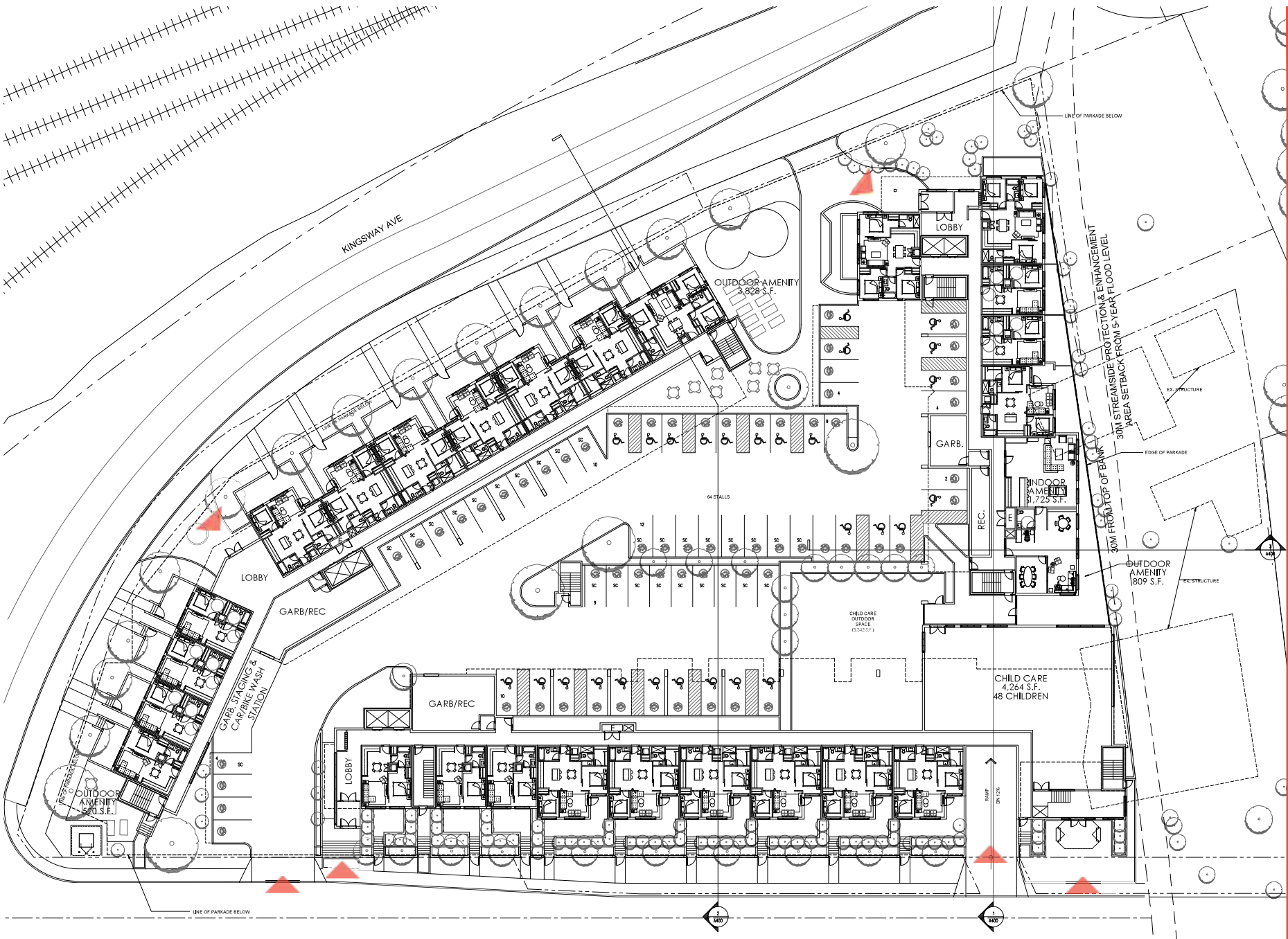
1140 331 • 1444 Abbott Street Vancouver V6B 2Z4
 (604) 685-5525 • 604-685-5525 • 604-685-5525
 office@iwa-arch.ca | www.iwa-arch.ca

PROJECT NAME:

PROJECT ADDRESS
**GATELY + KINGSWAY AVENUE
 PORT COQUITLAM, BC**

DRAWING TITLE
**GROUND FLOOR
 PLAN**

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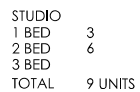
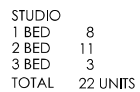


SEAL:

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DWG NO: A0202 APRIL 2020





OWNER/CLIENT:

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CONSULTANT:

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PROJECT NAME

PROJECT ADDRESS

**GATELY + KINGSWAY AVENUE
PORT COQUITLAM, BC**

DRAWING TITLE

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L01, L02-L06

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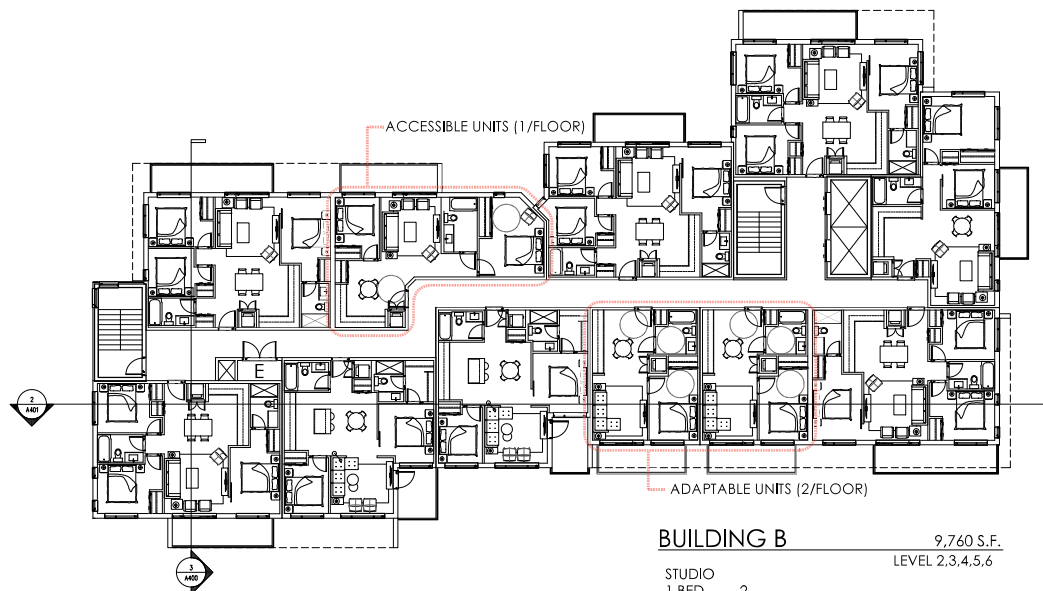
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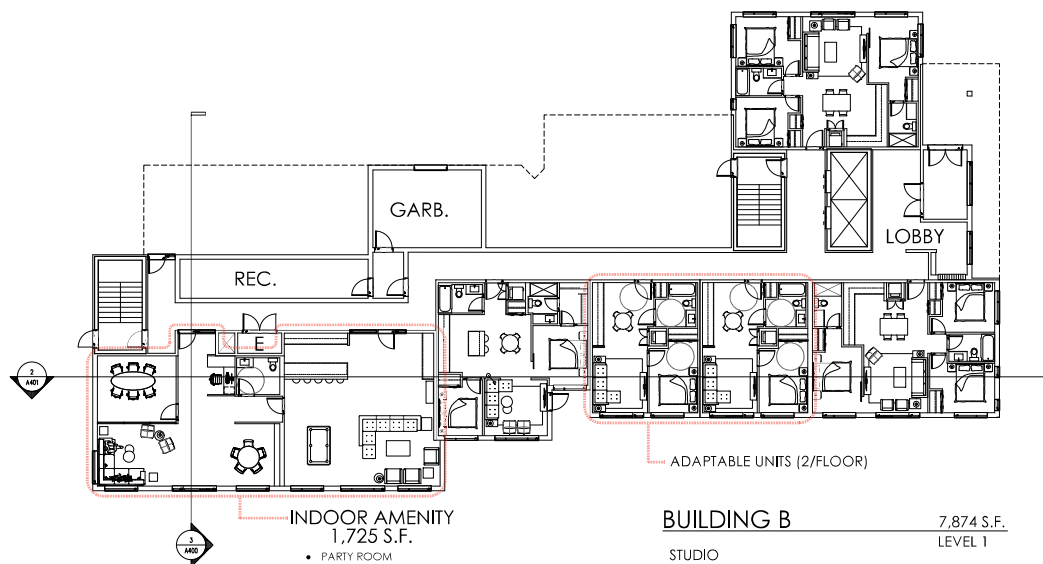


BUILDING B

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LEVEL 2.3.4.5.6

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3 BED	5
TOTAL	11 UNITS

BUILDING B

7,874 S.F.

LEVEL 1

STUDIO	
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2 BED	1
3 BED	2



02	DIPREZONING RESUBMISSION	00/2820
01	DIPREZONING SUBMISSION	040120
NO.	ISSUE	M/D/Y

CONSULTANT:

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PROJECT NAME:

DRAWING TITLE:
BUILDING C
L01, L02-L06

PROJECT NO: 19129 DRAWN BY: CSH
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DWG NO: **A0204** APRIL 2020



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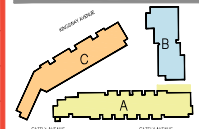
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2 BED	6
3 BED	1
TOTAL	11 UNITS



STUDIO	
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3 BED	1
TOTAL	11 UNITS

NORTH ARROW

KEY PLAN:

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01	DPREZONING SUBMISSION	04/01/21
NO.	ISSUE	M/D/Y

CONSULTANT:

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PROJECT NAME

PROJECT ADDRESS:
**GATELY + KINGSWAY AVENUE
PORT COQUITLAM, BC**

DRAWING TITLE

BUILDING A ELEVATIONS

PROJECT NO: 15029

DRAWN BY: GSH

SCALE: **1/8"=1'-0"** REVIEW BY: **EW**
DWG NO: **A0300** APRIL 2020



NORTH ARROW

OWNER/CLIENT:

[illegible]

SEAL:

CONSULTANT:

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VIC 104 - 3212 Jacklin Road Victoria, V8B 6J5
604.885.3529 | office@wa-arch.ca | wa-arch.ca

PROJECT NAME:

PROJECT ADDRESS:
**GATELY + KINGSWAY AVENUE
PORT COQUITLAM, BC**

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CONSULTANT:

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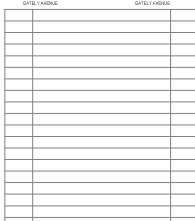
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PORT COQUITLAM, BC**

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KEY PLAN:

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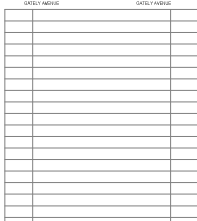
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KEY PLAN:



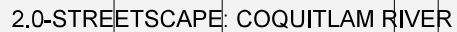
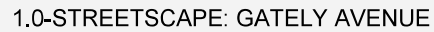
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PROJECT NAME:

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DWG NO: **A0305** APRIL 2020





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NORTH ARROW

OWNER/CLIENT:

KEY PLAN:



CONSULTANT:

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 VIA 104 - 3212 Jaclyn Road, Port Moody, BC V3B 0J5
 604.693.1524 | office@iwa-arch.ca | www.iwa-arch.ca

PROJECT NAME:

PROJECT ADDRESS:

**CATLY + KINGSWAY AVENUE
 PORT COQUITLAM, BC**

DRAWING TITLE:

STREETSCAPE

PROJECT NO: 1929

DRAWN BY: CSH

SCALE: 1/8" = 1'-0"

REVIEW BY: BW

DWG NO: **A0306**

APRIL 2020

NORTH ARROW:

SEAL:

LWA ARCHITECTS

PROJECT NAME:

DWG NO: **A0500** APRIL 2020



NORTH AFRICA

OWNER/CLIENT:

#2	DPIPE ZONING RESUBMISSION	06/08/09
01	DPIPE ZONING SUBMISSION	04/01/09
NO.	ISSUE	M/D/Y

CONSULTANT:

LWA ARCHITECTS

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VIC 104 - 3212 Jacklin Road Victoria, V9B 0J9
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PROJECT NAME

PROJECT ADDRESS:

**GATELY + KINGSWAY AVENUE
PORT COQUITLAM, BC**

DRAWING TITLE

3D IMAGE 02

PROJECT NO: 19029 DRAWN BY: CSH
SCALE: REVIEW BY: GW
DWG NO: **A0501** APRIL 2020



NORTH ARROW:

[illegible]

SEAL:

LWA ARCHITECTS

PROJECT NAME:

DRAWING TITLE:

PROJECT NO: 19109 DRAWN BY: CSH

DWG NO: **A0502**



NORTH ARROW:

02	DPREZONING RESUBMISSION	03/28/20
01	DPREZONING SUBMISSION	04/01/20
NO.	ISSUE	MM/DD

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GATELY + KINGSWAY AVENUE
PORT COQUITLAM, BC

3D IMAGE 04

DWG NO: **A0503** APRIL 2020



NORTH ARROW:

02	OPREZONING RESUBMISSION	08/28/20
01	OPREZONING SUBMISSION	04/01/20
NO.	ISSUE	M/D/Y

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**GATELY + KINGSWAY AVENUE
PORT COQUITLAM, BC**

3D IMAGE 05

DWG NO: **A0504** APRIL 2020

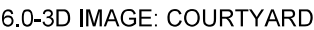


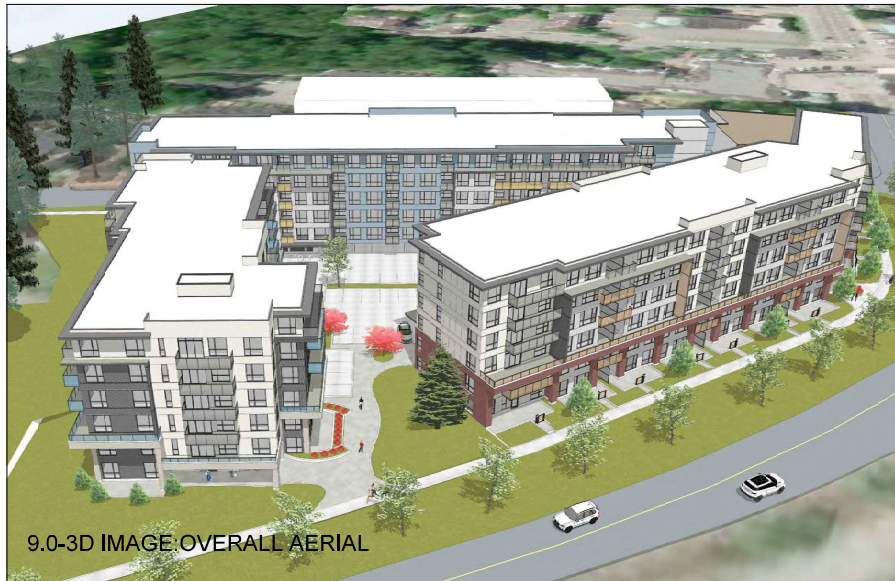
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NORTH ARROW:

SEAL:

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NO.	DATE	DESCRIPTION	BY	CHKD.
01	08/06/20	PRELIMINARY SUBMISSION	08/06/20	
02	08/06/20	PRELIMINARY SUBMISSION	08/06/20	
03	08/06/20	ISSUE	08/06/20	

SEAL:

CONSULTANT:

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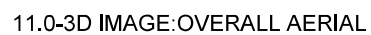
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PROJECT NAME:

PROJECT ADDRESS:
**GATELY + KINGSWAY AVENUE
 PORT COQUITLAM, BC**

DRAWING TITLE:
3D IMAGE 07

PROJECT NO: 19029 DRAWN BY: GSH
 SCALE: REVIEW BY: BNW
 DWG NO: **A0506** APRIL 2020

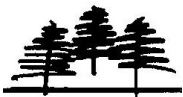


53

**Tree Evaluation Report for:
Kingsway Affordable Housing
Kingsway Avenue and Gately Avenue
Port Coquitlam, BC**

Prepared by:

**Mike Fadum and Associates Ltd.
#105, 8277-129 Street
Surrey, BC
Phone 778-593-0300
Fax 778-593-0302**



**Date: April 22, 2020
Revised: September 28, 2020**

1.0 INTRODUCTION

We attended the site on April 8 and April 21, 2020 to evaluate the tree resource and to make recommendations for removal and preservation for the development application proposed for the properties southeast of the Kingsway Avenue and Gately Avenue intersection. The Coquitlam River riparian zone borders the site to the southeast. The application proposes rezoning for the purpose of constructing new multifamily buildings with underground parking. A plan showing the proposed building footprints, lot lines, riparian setbacks, and topographical survey was provided for our use and used as a resource for making recommendations pertaining to tree removal and retention. *The September 28, 2020 revision reflects the current plans.*



Figure 1. Aerial Photograph 2492 Kingsway Avenue (QtheMap, 2019).

2.0 FINDINGS

The onsite tree resource varies considerably across the site with the majority of trees located on 2450 and 2420 Ticehurst Lane. These two properties include a wide assortment of native and non native species that are typically well conditioned. Dominant trees to the north include a small group of mature black cottonwoods (*Populus balsamifera* ssp. *balsamifera*) and a mature Douglas-fir (*Pseudotsuga menziesii*). Dominant trees on the western lots include a well conditioned Colorado blue spruce (*Picea pungens* var. *glauca*) and row of flowering cherries (*Prunus* sp). We did not individually assess all trees below the top of bank but did walk the area to conduct a Level 1 Tree Risk Assessment. This area is dominated by red alder (*Alnus rubra*) and black cottonwood that range in diameter from approximately 15-65cm. Trees here are typically in good health and have forms of trees growing in this type of environment including limited stem tapers and phototropic sweeps.

Table 1 provides individual tree data. Specific information includes tree type, diameter at breast height (DBH), structure and health rating (poor (P), moderate (M), good (G) or a combination of two), live crown ratio (LCR) and structural observations. Health refers to the tree's overall health and vigor, while structure is a qualitative rating of a tree's shape and structure when compared to ideal trees of the same species and age class. Trees were evaluated for their preservation potential based on health, structure, location and species factors. Trees expected to be unsafe, conflicting with the proposed building plans, of poor health or of little long-term retentive value are recommended for removal and are shown on the attached Tree Preservation and Removal Plan. Smaller stature trees and shrubs are included on the plans with a Legend. Photographs are provided in Appendix A.

3.0 TREE PROTECTION

Tree protection fencing is to be installed as per municipal standards prior to construction with no excavation, grade alterations or materials storage within the tree protection zone. The consulting Arborist should be contacted prior to and be onsite for any construction within the recommended root protection zone which is approximately 6x the tree diameter. Grade alterations and other construction works required to provide drainage are not to occur within the root protection zone. Failure to comply with these recommendations may result in delays, stop work orders or fines imposed by the municipality.



4.0 TREE PRESERVATION SUMMARY

Our plans have been provided to the design team and it is expected that all consultants and contractors adhere to the recommendations in this report and ensure there is no conflict with Tree Protection Zones. No ground disturbance or grade alterations are permitted within the Tree Protection Zones unless preapproved by the project arborist. Mechanical injuries caused to trees below or above ground cannot be repaired. All parties must be aware that long-term success in tree preservation efforts depends greatly on minimizing the impact caused during and post construction. Best efforts must be made to ensure that soils remain undisturbed within the tree protection zones. Ongoing monitoring and implementation of mitigating works, such as watering, mulching, etc., is essential for success.

5.0 EDGE TREE ASSESSMENT

We recommend all edge trees undergo a Tree Risk Assessment to determine if they are at an increased risk of partial or complete failure when the surrounding trees are removed and the exposure to wind is increased. Trees considered to be of poor structure and / or condition, of species types prone to failure within striking distance of future targets of value should be removed or undergo crown modification treatments. We recommend that any trees to be removed near retained trees are cut to grade and their stumps left intact in order to prevent disturbance to the stability and negative impacts on the health of the adjacent trees. Crown modification treatments may include large limb removal and or retopping.

6.0 LIMITATIONS

This Arboricultural field review report is based on site observations on the dates noted. Effort has been made to ensure that the opinions expressed are a reasonable and accurate representation of the condition of the trees reviewed. All trees or groups of trees have the potential to fail. No guarantees are offered or implied by Mike Fadum and Associates Ltd. or its employees that the trees are safe given all conditions. The inspection is limited to visual examination of accessible items without dissection, excavation, probing, coring or climbing. Trees can be managed, but they cannot be controlled. To live, work or play near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

The findings and opinions expressed in this report are representative of the conditions found on the day of the review only. Any trees retained should be reviewed on a regular basis. The root crowns, and overall structure, of all the



trees to be retained must be reviewed immediately following land clearing, grade disturbance, significant weather events and prior to site usage changes.

Please contact the undersigned if you have any questions or concerns regarding this report.

On behalf of Mike Fadum and Associates Ltd.



Peter Mennel BSc
ISA Certified Arborist PN# 5611A
TRAQ



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
4530	Japanese Maple (<i>Acer palmatum</i>)	10/6/16/8 /16/8/17	G	G	NA	5m dripline.	Remove. 4.0m
4531	Dogwood (<i>Cornus florida</i>)	15/8/ 5/6	M	M	NA	All major leaders headed back previously. Growing under a soffit. Extensive sucker growth. 3m dripline.	Remove. 2.5m
4532	Japanese Maple (<i>Acer palmatum</i>)	12/14/4/5 /3/19/ 10	MG	MG	NA	Not identified at the time of survey. Location approximate. 4m dripline. Includes 4 unsurveyed rhododendrons between 3-4m tall in this area.	Remove. 2.5m
4533	Mountain Ash (<i>Sorbus americana</i>)	20/8/ 18/8/7	MG	MG	NA	Multi stemmed base. 3m dripline.	Remove. 3.0m
4534	Sawara Falsecypress (<i>Chamaecyparis pisifera</i>)	37/27/ 23/43	M	MG	80	4m dripline. Some stems topped previously for overhead utility line clearance. Multi stemmed base.	Remove. 5.0m
4535	Threadleaf Falsecypress (<i>Chamaecyparis pisifera</i>)	17	MG	MG	60	2m dripline. Canopy weighted to the south west. Slight pistol butt base.	Remove. 2.0m
4536	Deodar Cedar (<i>Cedrus deodara</i>)	75	MG	MG	70	Pistol butt base. Multi stemmed at 5m. Canopy weighted to the southwest. 7m dripline.	Remove. 5.0m
4537	Grand Fir (<i>Abies grandis</i>)	38	G	MG	90	3m dripline. No observed defects.	Remove. 3.0m
4538	Hiba (<i>Thujopsis dolabrata</i>)	28	MG	MG	80	3m dripline. No observed defects.	Remove. 2.5m



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
4539	Sawara Falsecypress (<i>Chamaecyparis pisifera</i>)	61/48	P	M	95	Significant lower stem phototropic sweep. Northern stem has been topped at 5m with no regrowth. Canopy weighted to the south. 4m dripline.	Remove. 5.0m
4540	Magnolia (<i>Magnolia sp.</i>)	15/10/8/16 /12/17/8	MG	M	NA	Shade suppressed. 4m dripline.	Remove. 3.0m
4541	Pine (<i>Pinus sp.</i>)	14/16/ 12/6	M	M	20	Leggy form. High canopy. Four stemmed coppice base. 2.5m dripline.	Remove. 2.5m
4542	Photinia (<i>Photinia sp</i>)	~14/ 14/6/9/ 8/6/5	MP	M	NA	Topped at 3m with multiple stem small diameter regrowth. 1.5m dripline.	Retain. 2.5m
4543	Flowering Cherry (<i>Prunus sp</i>)	43	M	MG	NA	Most major leaders and scaffold headed back at 4m. Open grown symmetrical canopy. Decay cavity at point of past leader failure. 4m dripline.	Retain. 3.5m
4544	Norway Maple (<i>Acer platanoides</i>)	42	M	M	NA	Well calloused rib on the north side. Leggy form. Canopy weighted to the west. 7m dripline.	Retain. 3.5m
4545	Flowering Cherry (<i>Prunus sp</i>)	48	MP?	MG	NA	Decay cavity at base with large conk. Leggy form. High canopy. 7m dripline.	Retain. 3.5m
4546	Katsura (<i>Cercidiphyllum japonicum</i>)	~35/36/ 28/35/ 20/15/19	MG	G	NA	8m dripline. No observed defects.	Retain. 5.0m
4547	Persian Ironwood (<i>Parrotia persica</i>)	3-17 X40	M	G	NA	Multi stemmed base. 6m dripline.	Retain. 5.0m



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
4548	Norway Spruce (<i>Picea abies</i>)	34	M	MG	40	Limited trunk taper. 3m dripline.	Retain. 3.0m
4549	Japanese Maple (<i>Acer palmatum</i>)	8/5/9	M	M	NA	Dieback throughout canopy. Shade suppressed - leggy form. 3m dripline.	Retain. 2.0m
4550	Mountain Ash (<i>Sorbus americana</i>)	31	MP	M	NA	Multiple stems cut or fail at 2-4m. Leggy form. 3.5m dripline.	Retain. 2.5m
4551	Sycamore Maple (<i>Acer pseudoplatanus</i>)	42	M	MG	NA	Canopy weighted to the south. Large pile of debris and concrete at the base prevented a thorough assessment. 6m dripline.	Retain. 3.5m
4552	Sycamore Maple (<i>Acer pseudoplatanus</i>)	40	M	MG	NA	Canopy weighted to the north. Phototropic sweep to the north. Large stem removed from the base with sucker growth. 5m dripline.	Retain. 3.0m
4553	Sycamore Maple (<i>Acer pseudoplatanus</i>)	~60	M	M	NA	Heavy ivy growth. 6m dripline.	Remove. 4.5m
4554	Cherry (<i>Prunus sp.</i>)	33	M	G	NA	Significant sweep to the west. Decay column at 1m. 8m dripline.	Remove. 2.5m
4555	Spruce (<i>Picea sp.</i>)	47	M	MG	80	Sweep to the north. Old wound at 1m north side. 5m dripline.	Remove. 4.0m
4556	Colorado Blue Spruce (<i>Picea pungens</i> <i>Glauca Group</i>)	41	M	M	NA	Dieback throughout. Codominant leader at 3m has failed at 8m.	Remove. 3.0m
4557	Colorado Spruce (<i>Picea pungens</i>)	29	M	MP	75	Canopy weighted to the south. Pruned north side for utility line clearance. 3m dripline.	Remove. 2.5m



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
4558	Colorado Spruce (<i>Picea pungens</i>)	29	MG	M	80	Pruned north side for utility line clearance. Canopy weighted to the south. 3m dripline.	Remove. 2.5m
4559	Black Cottonwood (<i>Populus trichocarpa</i>)	~20	G	G	NA	Typical.	Retain. 2.0m
4560	Black Cottonwood (<i>Populus trichocarpa</i>)	~60/50 /60	M	MG	NA	3 stems fused to the base with phototropic sweeps. Ivy across lower 10m and recently removed. 11m dripline.	Remove. 7.5m
4561	Black Cottonwood (<i>Populus trichocarpa</i>)	55	M	MG	NA	Tree grows to about 60 degrees angle to the south then corrects to vertical. Ivy across lower 10m recently removed. 10m dripline.	Remove. 4.5m
4562	Black Cottonwood (<i>Populus trichocarpa</i>)	56	M	MG	NA	Ivy recently removed. Significant sweep to the west. 10m dripline.	Remove. 4.5m
4563	Black Cottonwood (<i>Populus trichocarpa</i>)	53	M	MG	NA	Ivy across lower 10m and recently removed. 8m dripline.	Remove. 4.0m
4564	Black Cottonwood (<i>Populus trichocarpa</i>)	~100	M	MG	NA	2 stems fused across lower 2m. Ivy across lower 10m and recently removed. 8m dripline.	Remove. 7.0m
4565	Emerald Cedar (<i>Thuja occidentalis</i>) 'Smargd'	8/10/12 /8/5	MP	M	80	Tree leans to the south – possibly supported by the Douglas fir. Top has corrected to vertical. 2m dripline.	Remove. 2.0m
4566	Colorado Blue Spruce (<i>Picea pungens</i> <i>Glauca Group</i>)	36	M	M	50	Significant phototropic sweep to the west. Shade suppressed. 5m dripline.	Remove. 2.5m



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
4567	Douglas-fir (<i>Pseudotsuga menziesii</i>)	77	M	MG	80	Codominant attachment at 2m with angle of attachment. Limb locked. Some dieback across lower canopy and needle blight. 8m dripline.	Remove. 6.0m
4568	Threadleaf Falsecypress (<i>Chamaecyparis pisifera</i>)	23/20	M	G	NA	2 stem base. Canopy weighted to the south. Pruned on north side to clear the house. 2m dripline.	Remove. 2.5m
4569	Colorado Blue Spruce (<i>Picea pungens Glauca Group</i>)	42	MG	MG	80	4m dripline.	Remove. 3.0m
4570	Cherry (<i>Prunus sp.</i>)	31/32/ 32/20	M	G	NA	Multi stemmed base. Large leader scaffolds pruned/cut on the west side. 7m dripline.	Remove. 5.0m
4752	Cherry (<i>Prunus sp.</i>)	44/15/17/1 7/26/27	M	MG	NA	Scaffolds pruned on west side. 7m dripline.	Remove. 5.0m
4753	Threadleaf Falsecypress (<i>Chamaecyparis pisifera</i>)	31	M	G	50	Canopy weighted to the north. Aggressively pruned on the south side to clear the carport. 2.5m dripline.	Remove. 2.0m
4754	Plum (<i>Prunus sp.</i>)	~5-15 X13	M	M	NA	Not maintained. 2.0m	Remove. 2.5m
4755	Mountain Ash (<i>Sorbus americana</i>)	~3-25 X25	P	M	NA	Large limb failure. Large cavity in the lower stem. Topped at 4-6m. Southern stem has failed.	Remove. 2.5m



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
4756	Magnolia (<i>Magnolia sp.</i>)	15/12	MP	MG	NA	Leaders cut at 2m with multiple stem small diameter regrowth. Decay at points of cutting. 2m dripline.	Remove. 2.0m
4757	Cherry (<i>Prunus sp.</i>)	10/6/ 11	MP	M	NA	Dieback lower mid canopy. Shade suppressed. 1m dripline.	Remove. 2.5m
4758	Norway Maple (<i>Acer platanoides</i>)	58	M	MG	NA	Well calloused crack on the south side. Some leaders have been topped previously. 6m dripline.	Remove. 4.5m
4759	Apple (<i>Malus sp</i>)	10/10/ 13/17	M	MG	NA	3 stems fused at the base. 3m dripline.	Remove. 2.5m
4760	Laburnum (<i>Laburnum sp</i>)	12/5/ 4/2	MG	MG	NA	Multi stemmed. Canopy weighted to the north.	Remove. 2.0m
4761	Norway Spruce (<i>Picea abies</i>)	~25	MG	MG	70	Lack of access prevented thorough assessment. Possibly topped previously. 3m dripline.	Remove. 2.5m
4762	Apple (<i>Malus sp</i>)	10/15/10/ 10/10	M	M	NA	Open grown canopy. Lack of access prevented thorough assessment. 4m dripline.	Remove. 2.5m
4763	Atlas Cedar (<i>Cedrus atlantica</i>)	24/ ~45/35	MG	M	80	Canopy weighted to the south. Multi stemmed base. 8m dripline.	Remove. 5.0m
ROW1	Western Redcedar (<i>Thuja plicata</i>) X12	24,19,22,26 ,20,18,23, 22,20,11,8, 24	G	G	60	Many trees not surveyed. 3m dripline.	Retain. 2.5m



Table 1 - Tree Evaluation: Kingsway Avenue and Gately Avenue, Port Coquitlam, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
C1	European Hornbeam (<i>Carpinus betulus</i>)	22/15 /15/5	G	G	NA	Phototropic sweep to the west. Canopy weighted to the west. 5m dripline.	Retain. 3.0m
C2	European Hornbeam (<i>Carpinus betulus</i>)	5-15 x11	MG	G	NA	4m dripline. No observed defects.	Retain. 3.0m
C3	European Hornbeam (<i>Carpinus betulus</i>)	5-10 X12	M	MG	NA	Stems pruned on north side for sidewalk clearance. 2.5m dripline.	Retain. 3.0m
C4	European Hornbeam (<i>Carpinus betulus</i>)	3-6 X7	M	MG	NA	Stems pruned on north side for sidewalk clearance. 2m dripline.	Retain. 3.0m
C5	European Hornbeam (<i>Carpinus betulus</i>)	3-8 X11	MG	MG	NS	2.5m dripline. No observed defects.	Retain. 3.0m
C6	European Hornbeam (<i>Carpinus betulus</i>)	3-16 X22	MG	MG	NA	2.5m dripline. Typical.	Retain. 3.0m
ADDITIONAL RECOMMENDATIONS							
<ul style="list-style-type: none"> In order to prevent root damage, which may adversely affect the health and or stability of the retained trees, any ground disturbance or grade alteration within the recommended Tree Protection Zone provided in the table above shall be under the direction of the project arborist if permissible. 							

Note: 'OS' refers to Offsite trees and due to restricted access their diameters are approximate. An assessment of offsite trees does not imply they are safe as the restricted access prevented a thorough review. 'C' refers to trees on City property.





Figure 1. 4530 with rhododendrons.



Figure 2. 4533 with sumac in the foreground.



Figure 3. 4534



Figure 4. 4535 and 4763.





Figure 5. 4536 (left) and 4539.



Figure 6. 4537



Figure 7. 4538

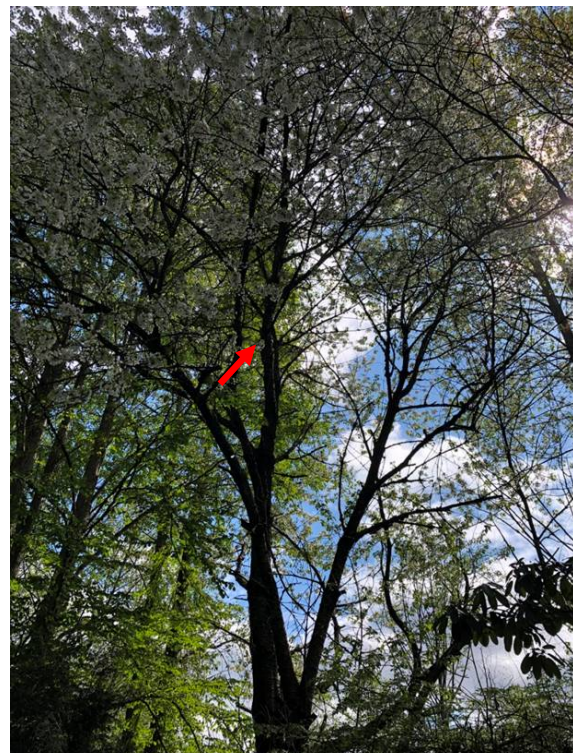


Figure 8. 4545.



Figure 9. 4546



Figure 10. 4547 (right) and 4548.



Figure 11. Row 1.



Figure 12. 4552.





Figure 13. 4553 (left) and 4555.



Figure 14. Typical boulevard hornbeam.



Figure 15. 4560-4564.



Figure 16. 4569 (left) and 4570.



Figure 17. 4578.



Figure 18. 4761.

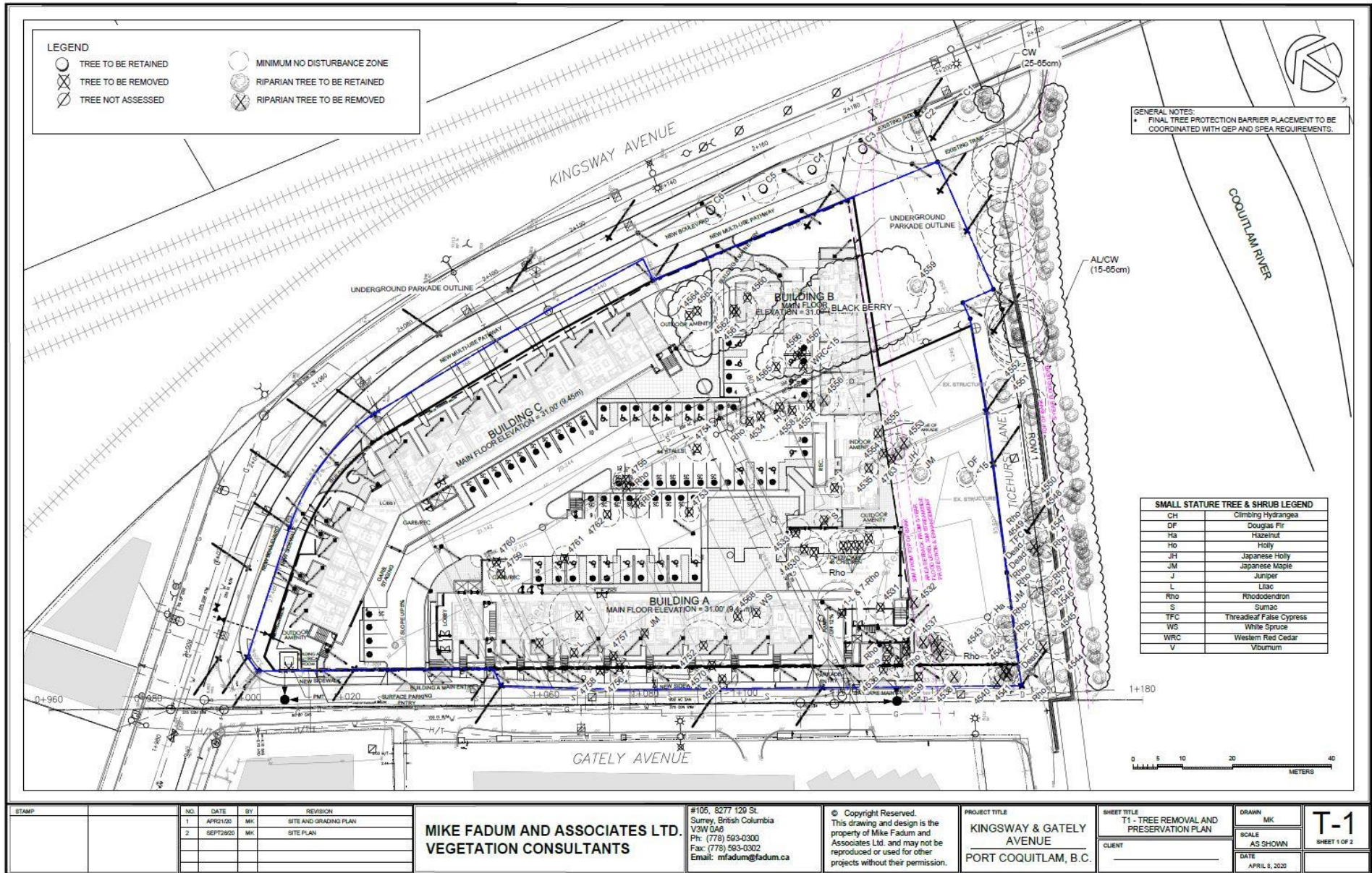


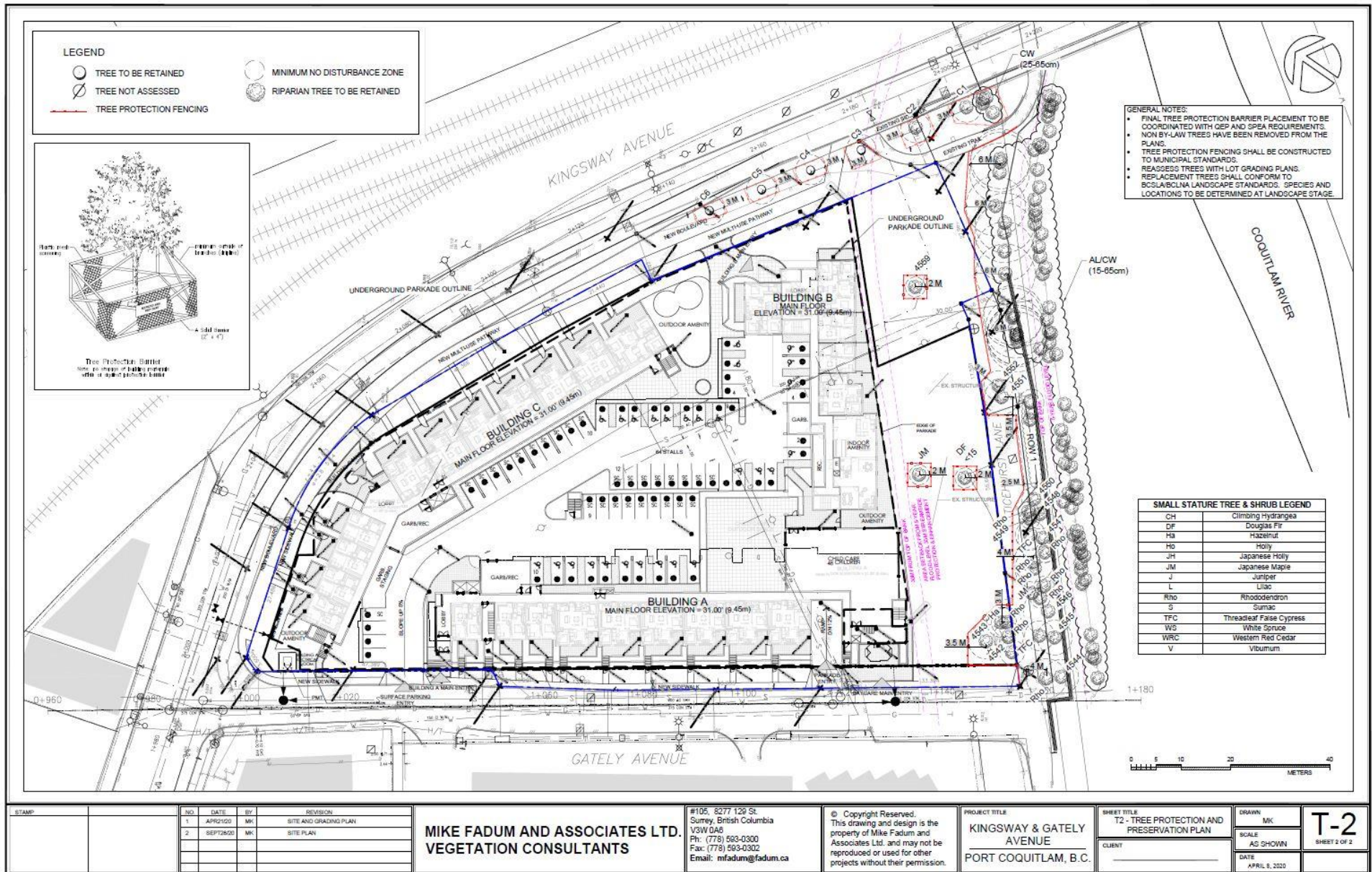
Figure 19. Riparian are black cottonwoods at northeast corner.



Figure 20. Interior of riparian zone.







Housing Development Traffic Impact Study

Prepared for:

Peak Tower Development



Prepared by:



SEPTEMBER 2020

84a moody street
port moody, bc
canada v3h 2p5

604.936.6190

604.936.6175

www.cts-bc.com

Date: September 28, 2020

File No: 7163-01

BY EMAIL

Peak Tower Development
c/o
Mr. Barry Weih
WA Architects Ltd.
#301, 1444 Alberni Street
Vancouver, BC
V6G 2Z4

Dear Mr. Weih,

Re: Housing Development, Port Coquitlam – Revised FINAL Traffic Impact Study

Creative Transportation Solutions Ltd. (CTS) is pleased to submit this Revised FINAL Traffic Impact Study for a proposed housing development located at the intersection of Gately Avenue at Kingsway Avenue in the City of Port Coquitlam. The primary objectives of this assignment were:

1. To conduct a traffic impact assessment for the proposed housing development based on the most recent project data, and
2. To document the site conditions, data, analyses, conclusions and recommendation (if any) in a report that meets the requirements of the City of Port Coquitlam.

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1.0 BACKGROUND

1.1 Study Site

The proposed housing development site is located in the south quadrant of the intersection of Gately Avenue at Kingsway Avenue in the City of Port Coquitlam. Phase 1 of the development will have 302 apartment units and 4,000 ft² of day care space on eleven properties:

- 2428, 2456, 2458, 2460, 2466, 2470, 2492 Kingsway Avenue;
- 2420, 2450 Ticehurst Lane; and
- 2455, 2473, 2475 Gately Avenue.

The legal descriptions are:

- Strata Lot B, Plan NWS1714, District Lot 379, New Westminster District;
- Strata Lot D, Plan NWS1714, District Lot 379, New Westminster District;
- Strata Lot C, Plan NWS1714, District Lot 379, New Westminster District;
- Strata Lot E, Plan NWS1714, District Lot 379, New Westminster District;
- Strata Lot F, Plan NWS1714, District Lot 379, New Westminster District;
- Lot 1, Plan LMP15261, District Lot 379, New Westminster District;
- Lot 14, Plan NWP3106, District Lot 379, New Westminster District;
- Lot A, Plan NWP3106, District Lot 379, New Westminster District;
- Lot 16, Plan NWP3106, District Lot 379, New Westminster District;
- Lot 2, Plan NWP8602, District Lot 379, New Westminster District; and
- Plan NWP8602, District Lot 367, New Westminster District.

Phase 2 of the housing development could have up to 450 apartment units on two properties:

- 2532 Kingsway Avenue; and
- 2466 Gately Avenue.

The legal descriptions are:

- Lot 22, Plan NWP3106, District Lot 379, New Westminster District; and
- Lot 125, Plan NWP63714, District Lot 379, New Westminster District.

1.2 Study Area

The study area is bounded by Dixon Street to the west, Kingsway Avenue to the north and the site property line to the south & east. **FIGURE 1** illustrates the study area and adjacent road network. A copy of the site plan referenced by this Traffic Impact Study is included as **APPENDIX A**.

The following intersections are included in the traffic impact assessment:

- 1) Gately Avenue at Kingsway Avenue (unsignalized);
- 2) Dixon Street at Kingsway Avenue (signalized);
- 3) Westwood Street at Kingsway Avenue (signalized); and
- 4) Maple Street at Kingsway Avenue (signalized).

**FIGURE 1
STUDY AREA AND ADJACENT ROAD NETWORK**



1.3 Road Network

A brief description of each study intersection follows:

Westwood Street at Kingsway Avenue

- Westwood Street intersects Kingsway Avenue at a signalized “T” intersection.
- On the north approach there is a left turn lane and through lane. On the south approach there is a through lane and right turn lane. On the east approach there is a left turn lane and right turn lane.
- The signal is coordinated with the CP Rail signal to the east.
- There are signalized pedestrian crosswalks and sidewalks on the north and east approaches.
- The intersection is illuminated.
- The posted speed is 50 km/h.
- On-street parking is prohibited on Westwood Street and Kingsway Avenue in proximity to the intersection.

Dixon Street at Kingsway Avenue

- Dixon Street intersects Kingsway Avenue at a signalized “+” intersection.
- On the north approach there is a shared left turn/through/right turn lane. On the south approach there is a shared left turn/through/right turn lane. On the east approach there is a shared left turn/through lane and shared through/right turn lane. On the west approach there a shared left turn/through lane and shared through/right turn lane.
- There are signalized pedestrian crosswalks and sidewalks on all approaches.
- The intersection is illuminated.
- The posted speed is 50 km/h.
- On-street parking is prohibited on Westwood Street and Kingsway Avenue in proximity to the intersection.
- On-street parking is controlled by time of day along Kingsway Avenue i.e. NO PARKING / 7AM–9AM / 3PM–7PM / MON-FRI and 1 HOUR PARKING / 9AM–3PM / MON-FRI.

Gately Avenue at Kingsway Avenue

- Gately Avenue intersects Kingsway Avenue at an unsignalized “T” intersection. Gately Avenue is STOP controlled.
- On the south approach there is a shared left turn/right turn lane. On the east approach there is a shared left turn/through lane and a through lane. On the west approach there a shared through/right turn lane.
- There are sidewalks on all approaches.
- The intersection is illuminated.
- The posted speed is 50 km/h.

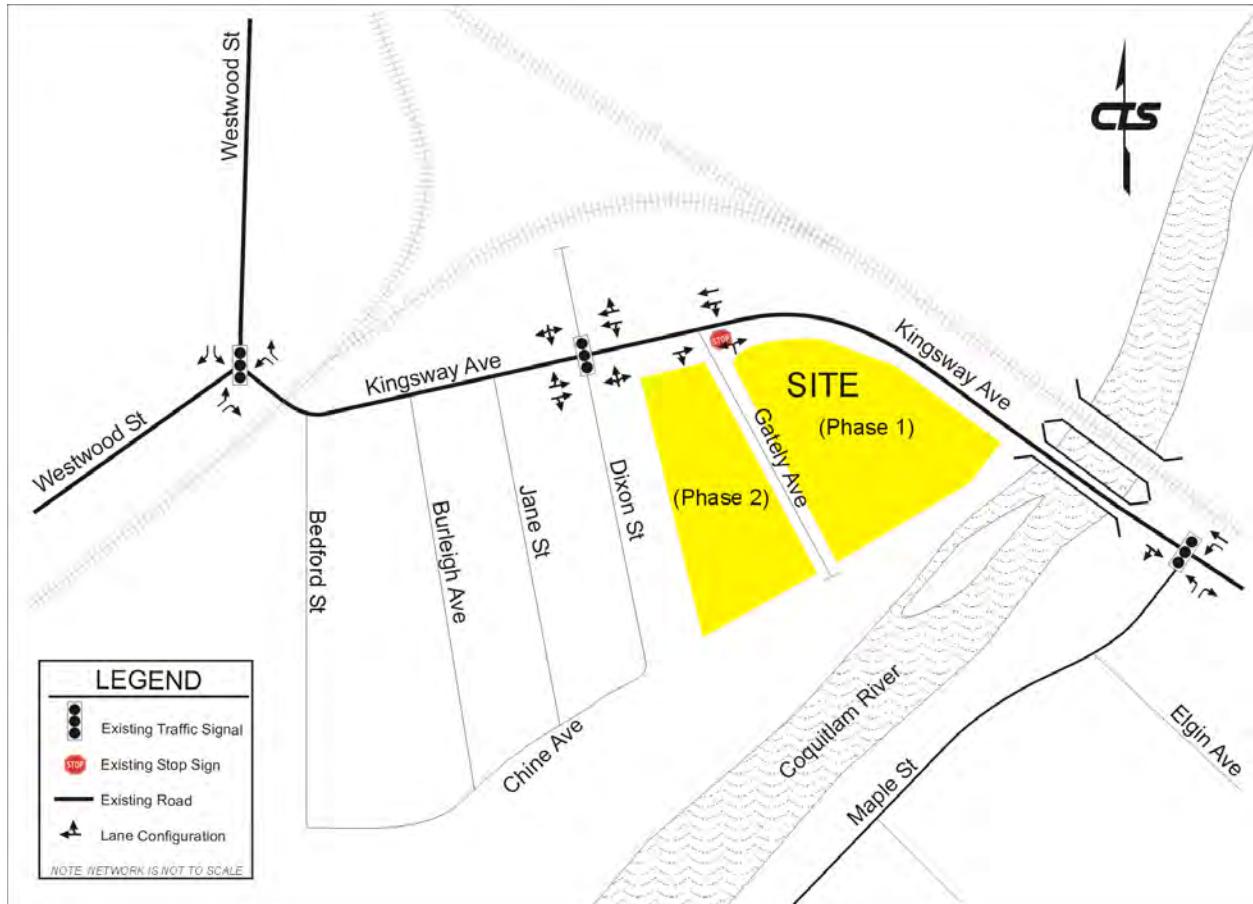
- On-street parking is prohibited on Westwood Street and Kingsway Avenue in proximity to the intersection.
- On-street parking is controlled by time of day along Kingsway Avenue i.e. NO PARKING / 7AM–9AM / 3PM–7PM / MON-FRI and 1 HOUR PARKING / 9AM–3PM / MON-FRI.

Maple Street at Kingsway Avenue

- Maple Street intersects Kingsway Avenue at a signalized “T” intersection.
- On the south approach there is a left turn lane and right turn lane. On the east approach there is a left turn lane and a through lane. On the west approach there is a shared through/right turn lane.
- There are signalized pedestrian crosswalks and sidewalks on all approaches.
- The intersection is illuminated.
- The posted speed is 50 km/h.
- On-street parking is prohibited on Maple Street and Kingsway Avenue in proximity to the intersection.

The existing laning configuration for the study intersections is illustrated by **FIGURE 2**.

**FIGURE 2
EXISTING LANING CONFIGURATION**



1.4 Transport Modal Infrastructure

Pedestrian Network

There are concrete sidewalks on Kingsway Avenue. However, there are currently no sidewalks around the proposed housing development site on Gately Avenue.

Bicycle Network

Currently, there are no bicycle routes within the study area. However, with reference to the City of Port Coquitlam *2013 Master Transportation Plan*, there is a multi-use pathway proposed along Kingsway Avenue from Wilson Avenue to the Fraser River and a signed on-street bicycle route along Wilson Avenue linking the multi-use pathway along Kingsway Avenue with the existing multi-use pathway network along the Coquitlam River. There is a new signed on-street bicycle route along Bedford Street and Chine Avenue linking to the existing multi-use pathway network along the Coquitlam River. **FIGURE 3** illustrates the existing and proposed bicycle network within the study area.

Public Transit

The site is well serviced by transit. The proposed housing development is located approximately 130 meters from bus stops on Kingsway Avenue. Bus stop locations are illustrated by **FIGURE 3**. The nearby bus stops are served by the following routes:

- Route #173 – Coquitlam Central Station/Cedar. Service is every 10 to 15 minutes Monday to Friday during peak periods.
- Route #174 – Coquitlam Central Station/Rocklin. Service is every 10 to 15 minutes Monday to Friday during peak periods.
- Route #175 - Coquitlam Central Station/Meridian. Service only in the morning and afternoon peak hours every 30 minutes.

A transit route diagram for each transit route is included as **APPENDIX B**.

**FIGURE 3
EXISTING BUS STOP AND BICYCLE ROUTE LOCATIONS**



1.5 Study Periods

The weekday AM and PM peak hours were selected as the design hours for this study.

- Weekday AM Peak Hour – 0745 to 0845
- Weekday PM Peak Hour – 1545 to 1645

The following horizon years were selected for this study:

- 2020 (existing base traffic conditions);
- 2022 (future base traffic conditions without the development);
- 2025 (future base traffic conditions without the development);
- 2030 (future base traffic conditions without the development);
- 2022 (future base traffic conditions + Phase 1 site generated traffic volume);
- 2025 (future base traffic conditions + Phase 1 & Phase 2 site generated traffic volume); and
- 2030 (5 years post build-out).

2.0 BASE TRAFFIC VOLUMES

2020 Base Traffic Volumes

CTS conducted intersection traffic turning movement counts on Tuesday, January 21, 2020 from 0700 to 0900 and 1500 to 1800 in order to capture both the AM and PM peak periods. The traffic turning movement count data was tabulated and reviewed to ensure data integrity and validity. The tabulated traffic turning movement count data sheets are included as **APPENDIX C. FIGURE 4** and **FIGURE 5** illustrate the weekday AM and PM peak hour traffic volumes, respectively.

The following design hours were selected based on the peak hours observed at the study intersections:

- Weekday AM Peak Hour – (0745 to 0845)
- Weekday PM Peak Hour – (1545 to 1645)

2022 Future Base Traffic Volumes

Year 2022 is anticipated to be the year of build-out for the proposed housing development – Phase 1. The 2020 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent the future base year 2022 traffic volumes. **FIGURE 6** and **FIGURE 7** illustrate the 2022 weekday AM and PM peak hour traffic volume future base scenarios with no development traffic, respectively.

2025 Future Base Traffic Volumes

Year 2025 is anticipated to be the year for build-out for the proposed housing development – Phase 1 and Phase 2. The 2020 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent the future base year 2025 traffic volumes. **FIGURE 8** and **FIGURE 9** illustrate the 2025 weekday AM and PM peak hour traffic volume future base scenarios with no development traffic, respectively.

2030 Future Base Traffic Volumes

Year 2030 is anticipated to be 5 years post build-out for the proposed housing development – Phase 1 and Phase 2. The 2020 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent the future base year 2030 traffic volumes. **FIGURE 10** and **FIGURE 11** illustrate the 2030 weekday AM and PM peak hour traffic volume future base scenarios with no development traffic, respectively.

FIGURE 4
2020 WEEKDAY AM PEAK HOUR BASE TRAFFIC VOLUMES

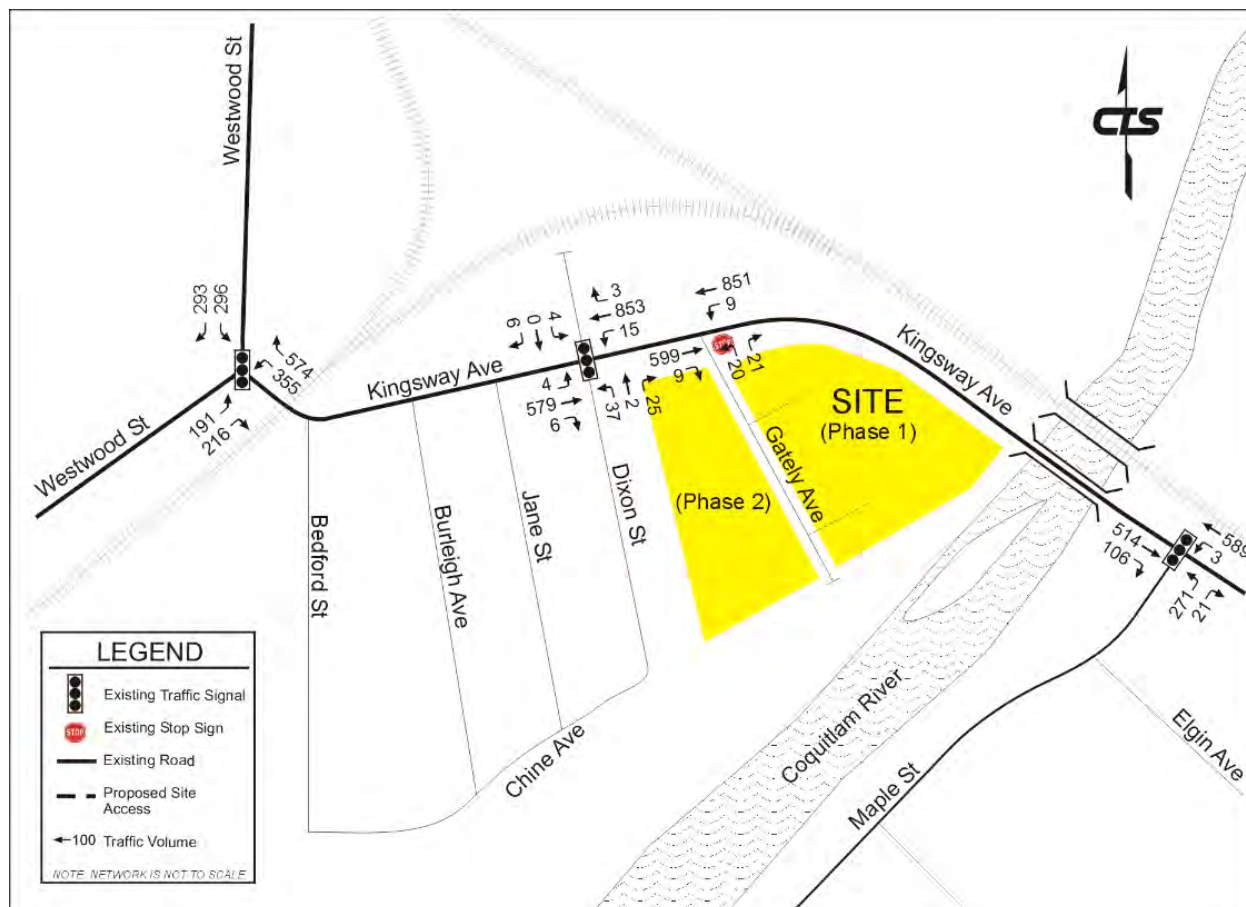


FIGURE 5
2020 WEEKDAY PM PEAK HOUR BASE TRAFFIC VOLUMES

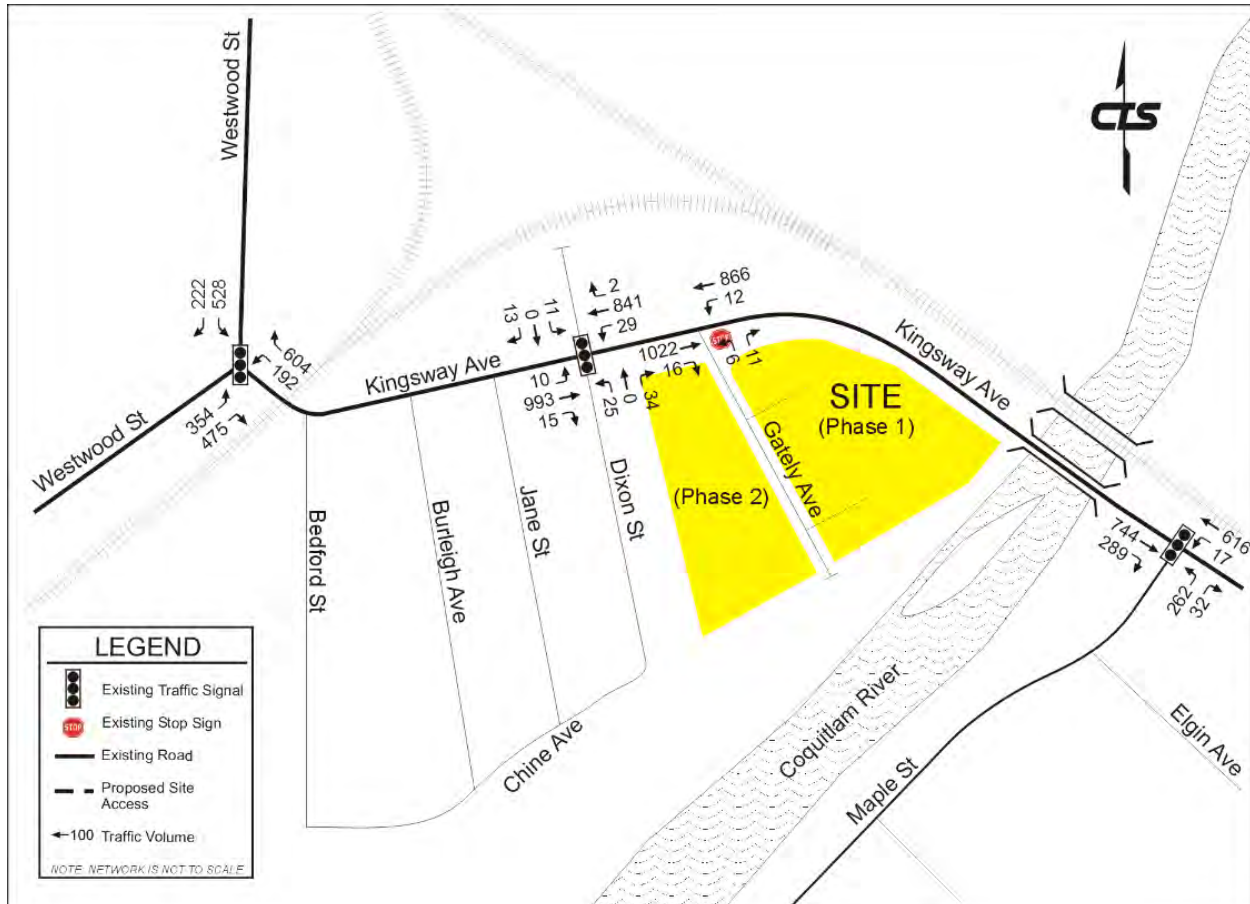


FIGURE 6
2022 WEEKDAY AM PEAK HOUR BASE TRAFFIC VOLUMES

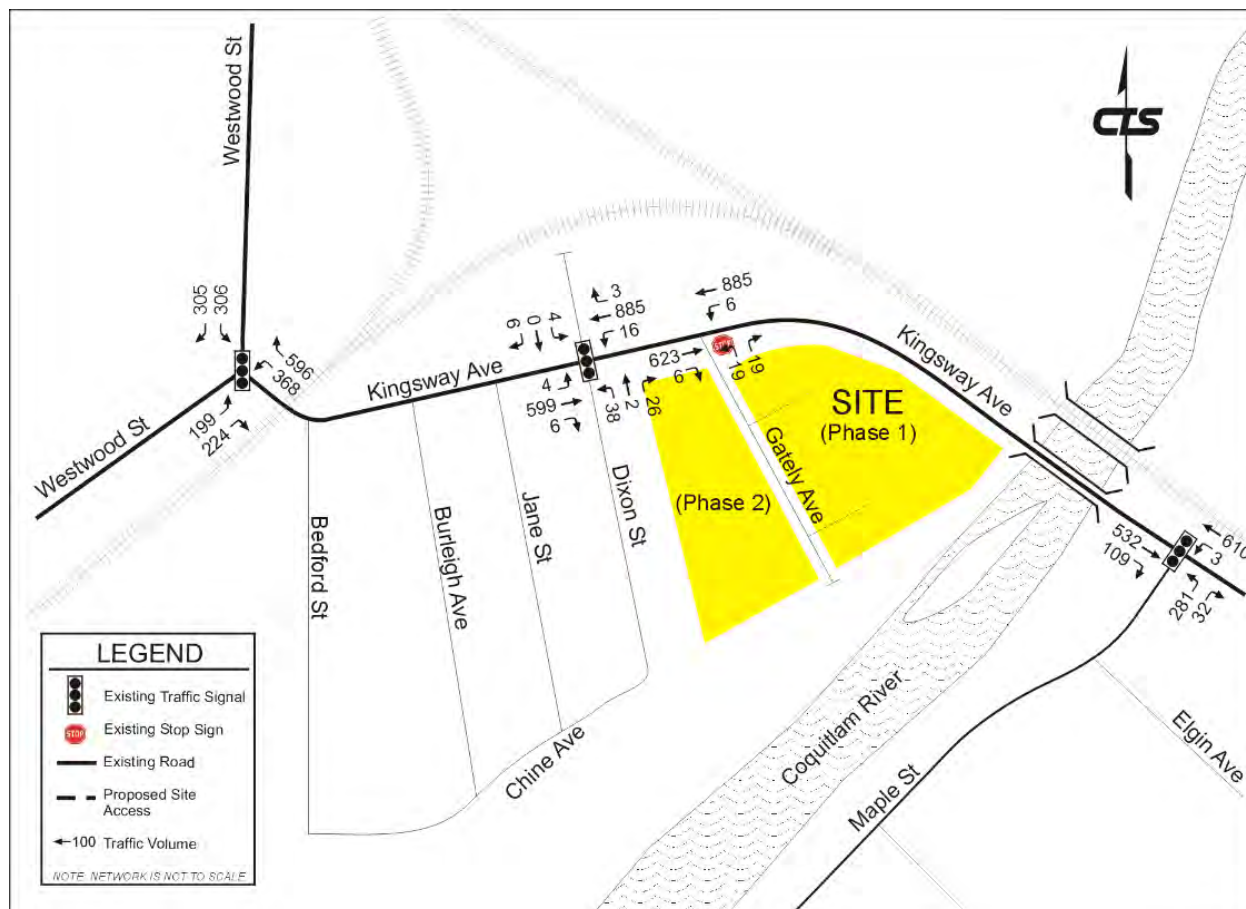


FIGURE 7
2022 WEEKDAY PM PEAK HOUR BASE TRAFFIC VOLUMES

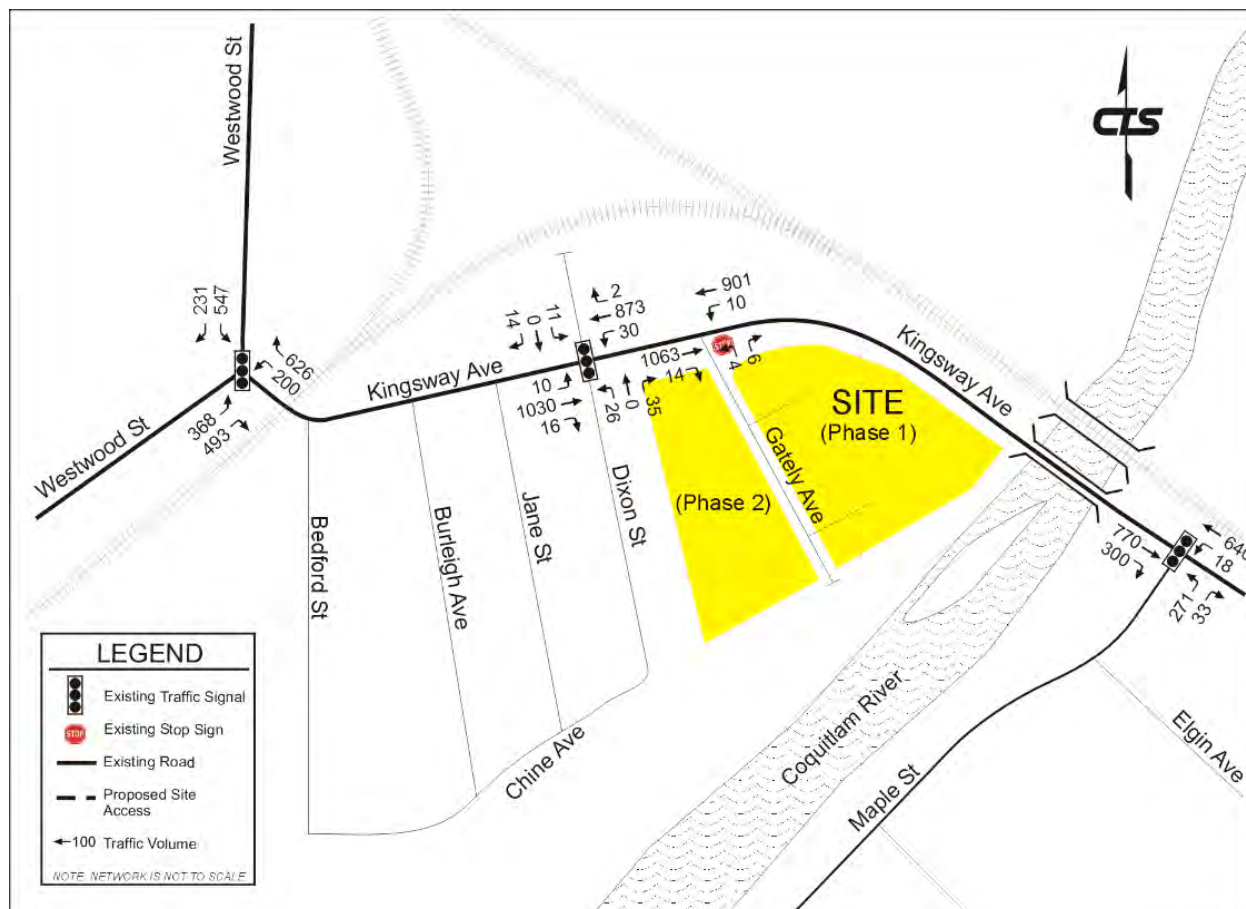


FIGURE 8
2025 WEEKDAY AM PEAK HOUR BASE TRAFFIC VOLUMES

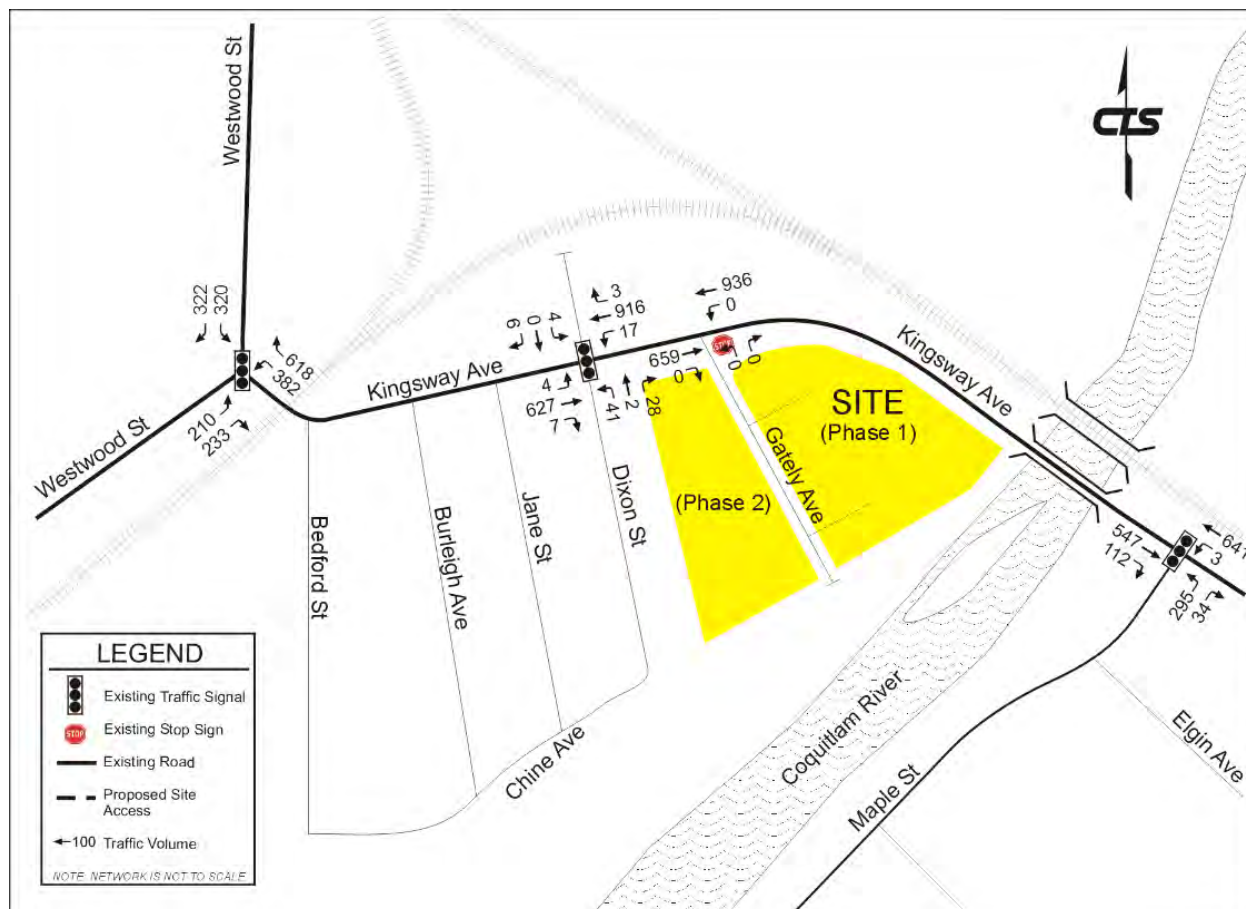


FIGURE 9
2025 WEEKDAY PM PEAK HOUR BASE TRAFFIC VOLUMES

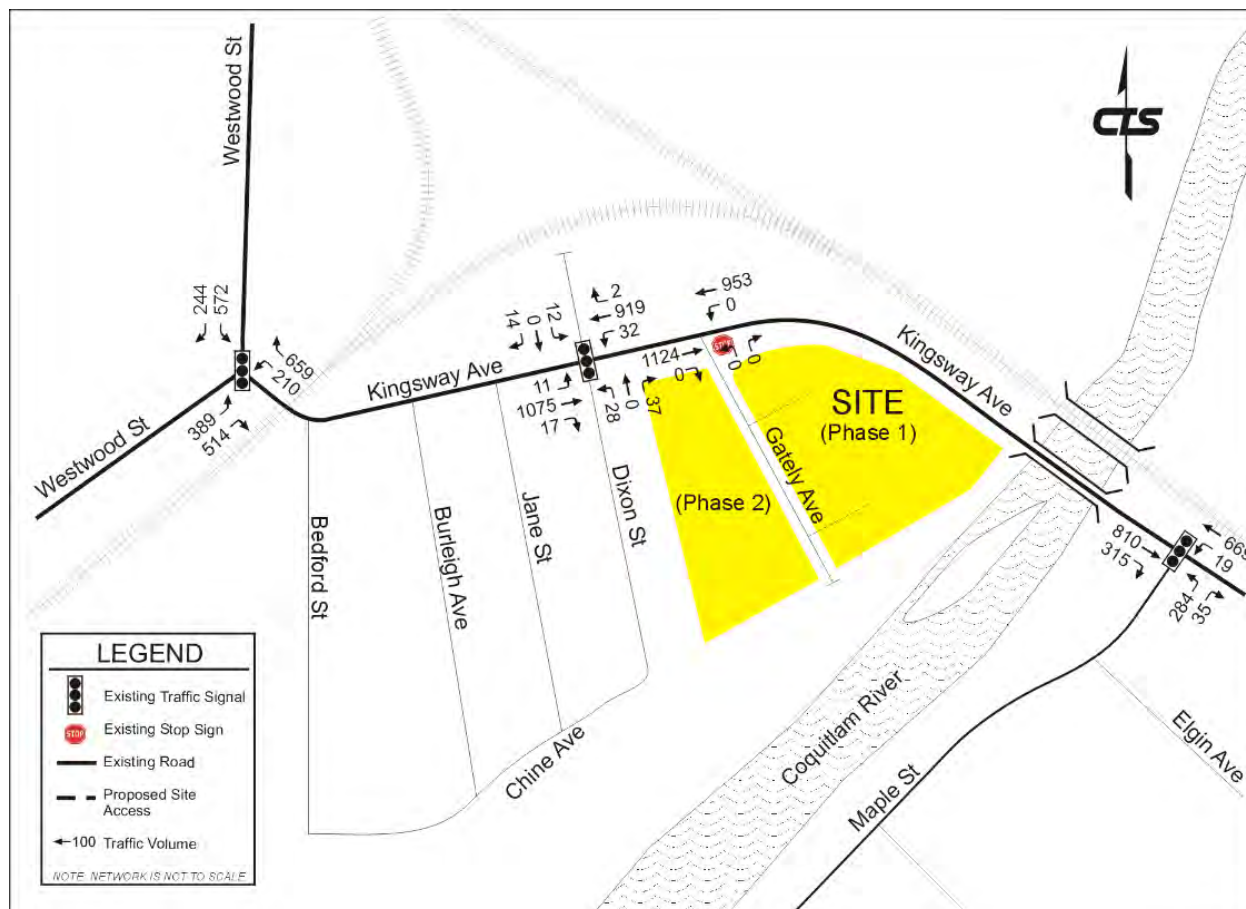


FIGURE 10
2030 WEEKDAY AM PEAK HOUR BASE TRAFFIC VOLUMES

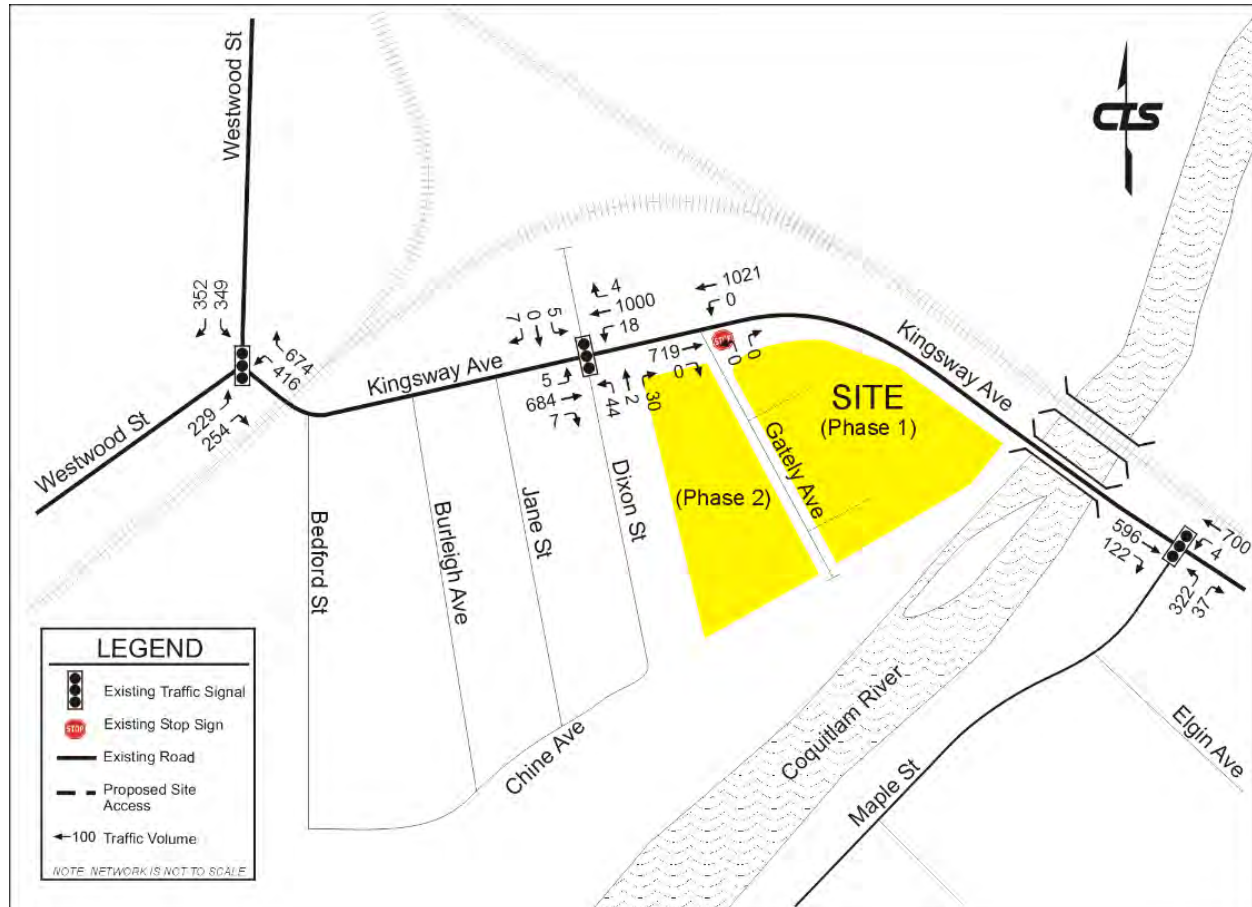
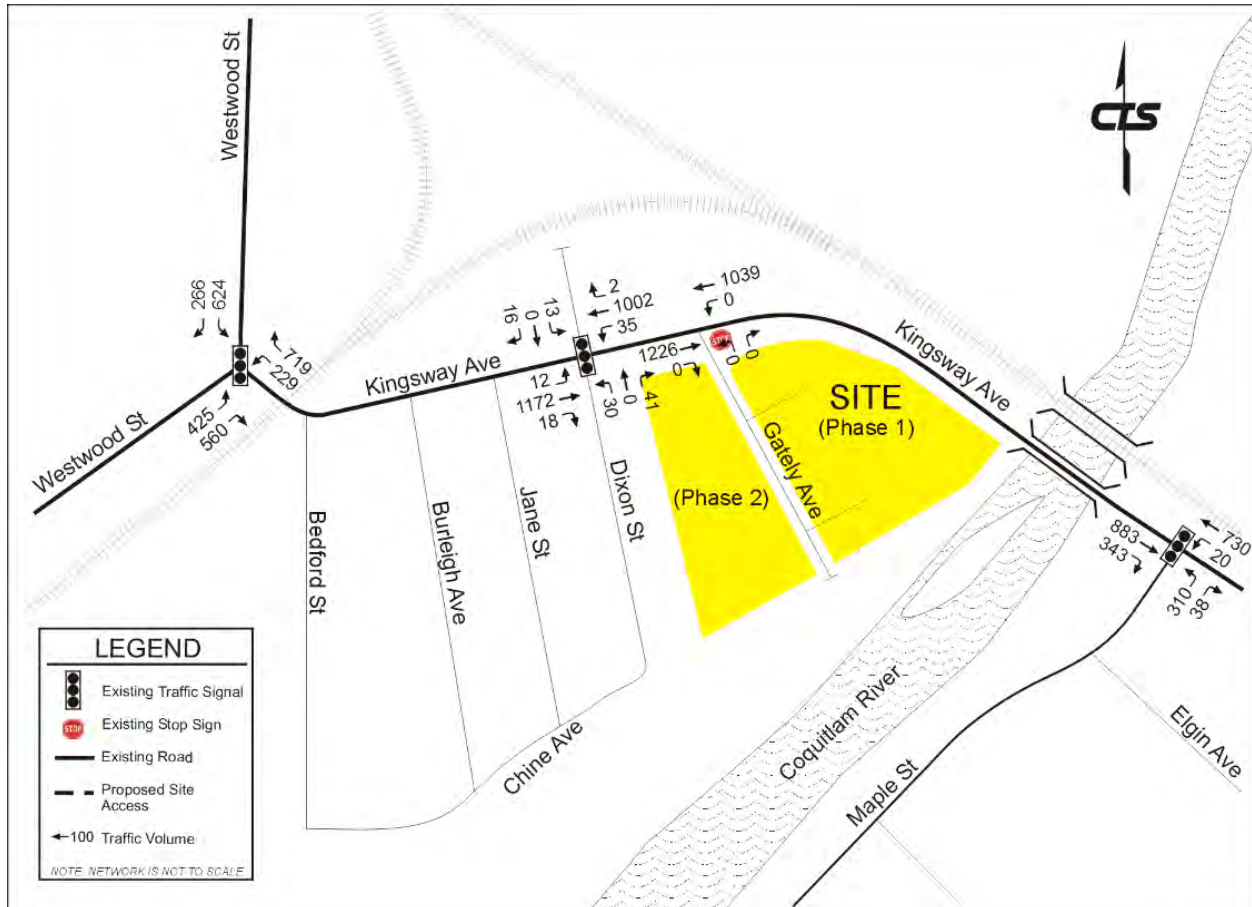


FIGURE 11
2030 WEEKDAY PM PEAK HOUR BASE TRAFFIC VOLUMES



3.0 SITE TRAFFIC VOLUMES

3.1 Trip Generation

The proposed housing development - Phase 1 will have 302 residential units and 4,000 ft² of day care space. The proposed housing development - Phase 2 will have up to 450 residential units. **TABLE 1** summarizes the projected site generated traffic with reference to the Institute of Transportation Engineers *Trip Generation Manual 10th Edition Code 221 – Multifamily Housing (Mid Rise)* and *Code 565 – Day Care*.

Note - Existing site generated traffic volumes were assumed to be zero so that the projected traffic volumes would represent the worst case scenario in that all traffic would be “new” traffic on the adjacent road network.

TABLE 1
SUMMARY OF SITE GENERATED VEHICLE TRIPS – PHASE 1 AND PHASE 2

Land Use			Peak Hour	Trip Generation Variable	Scope of Development	Vehicle Trip Generation Rate	Trip Rate Source	Directional Split		Peak Hour Volumes (vph)		
								% in	% out	in	out	total
Phase 1	Residential	Multi-Family (Mid-Rise)	Weekday Morning	Dwelling Units	302	0.36	ITE 10th Edition Code 221	26%	74%	28	81	109
			Weekday Afternoon		302	0.44	ITE 10th Edition Code 221	61%	39%	81	52	133
	Day Care		Weekday Morning	1,000 Sq. Ft. GFA	4.0	11.00	ITE 10th Edition Code 565	53%	47%	23	21	44
			Weekday Afternoon		4.0	11.12	ITE 10th Edition Code 565	47%	53%	21	24	45
	PHASE 1 TOTAL WEEKDAY MORNING PEAK HOUR									51	102	153
	PHASE 1 TOTAL WEEKDAY AFTERNOON PEAK HOUR									102	76	178
Phase 2	Residential	Multi-Family (Mid-Rise)	Weekday Morning	Dwelling Units	450	0.36	ITE 10th Edition Code 221	26%	74%	42	120	162
			Weekday Afternoon		450	0.44	ITE 10th Edition Code 221	61%	39%	121	77	198
	PHASE 2 TOTAL WEEKDAY MORNING PEAK HOUR									42	120	162
	PHASE 2 TOTAL WEEKDAY AFTERNOON PEAK HOUR									121	77	198
ALL TOTAL WEEKDAY MORNING PEAK HOUR									93	222	315	
ALL TOTAL WEEKDAY AFTERNOON PEAK HOUR									223	153	376	

From **TABLE 1**, the proposed housing development - Phase 1 is forecast to generate a total of 167 new vehicle trips (55 inbound, and 112 outbound) during the weekday AM peak hour and 195 vehicle trips (113 inbound and 82 outbound) during the weekday PM peak hour.

The proposed housing development - Phase 2 is forecast to generate a total of 162 new vehicle trips (42 inbound, and 120 outbound) during the weekday AM peak hour and 198 vehicle trips (121 inbound and 77 outbound) during the weekday PM peak hour.

3.2 Site Trip Distribution

Trip distribution percentages for site generated vehicle trips to/from for the proposed housing development - Phase 1 and Phase 2, were developed from existing traffic patterns entering and exiting the study area. The trip distribution percentages for the proposed housing development - Phase 1 and Phase 2 are summarized by **TABLE 2**.

TABLE 2
TRIP DISTRIBUTION PERCENTAGES
FOR PHASE 1 AND PHASE 2 SITE GENERATED TRAFFIC

FROM / TO	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
North - Westwood St	31.3%	37.2%	29.9%	39.0%
East - Kingsway Ave	31.5%	26.0%	25.3%	31.6%
South- Maple St	15.5%	5.3%	11.7%	12.5%
South- Westwood St	21.6%	31.5%	33.1%	16.9%
TOTAL	100.0%	100.0%	100.0%	100.0%

The trip distribution percentages for the proposed housing development - Phase 1 and Phase 2 were used to calculate the trip distribution vehicle volumes for Phase 1 and Phase 2. The trip distribution vehicle volumes for the proposed housing development - Phase 1 and Phase 2 are summarized by **TABLE 3** and **TABLE 4**, respectively.

TABLE 3
TRIP DISTRIBUTION VEHICLE VOLUMES
FOR NEW SITE GENERATED TRAFFIC (PHASE 1)

FROM / TO	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
North - Westwood St	16	38	31	30
East - Kingsway Ave	16	26	26	24
South- Maple St	8	6	12	9
South- Westwood St	11	32	33	13
TOTAL	51	102	102	76
	153		178	

TABLE 4
TRIP DISTRIBUTION VEHICLE VOLUMES
FOR NEW SITE GENERATED TRAFFIC (PHASE 2)

FROM / TO	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
North - Westwood St	13	45	36	30
East - Kingsway Ave	13	31	31	24
South- Maple St	7	6	14	10
South- Westwood St	9	38	40	13
TOTAL	42	120	121	77
	162		198	

FIGURE 12 and **FIGURE 13** illustrate the new site generated traffic volumes for the proposed housing development - Phase 1 for the 2022 weekday AM and PM peak hours. Similarly, **FIGURE 14** and **FIGURE 15** illustrate the new site generated traffic volumes for the proposed housing development - Phase 2 for the 2025 weekday AM and PM peak hours.

FIGURE 12
2022 WEEKDAY AM PEAK HOUR SITE GENERATED TRAFFIC VOLUMES (PHASE 1)

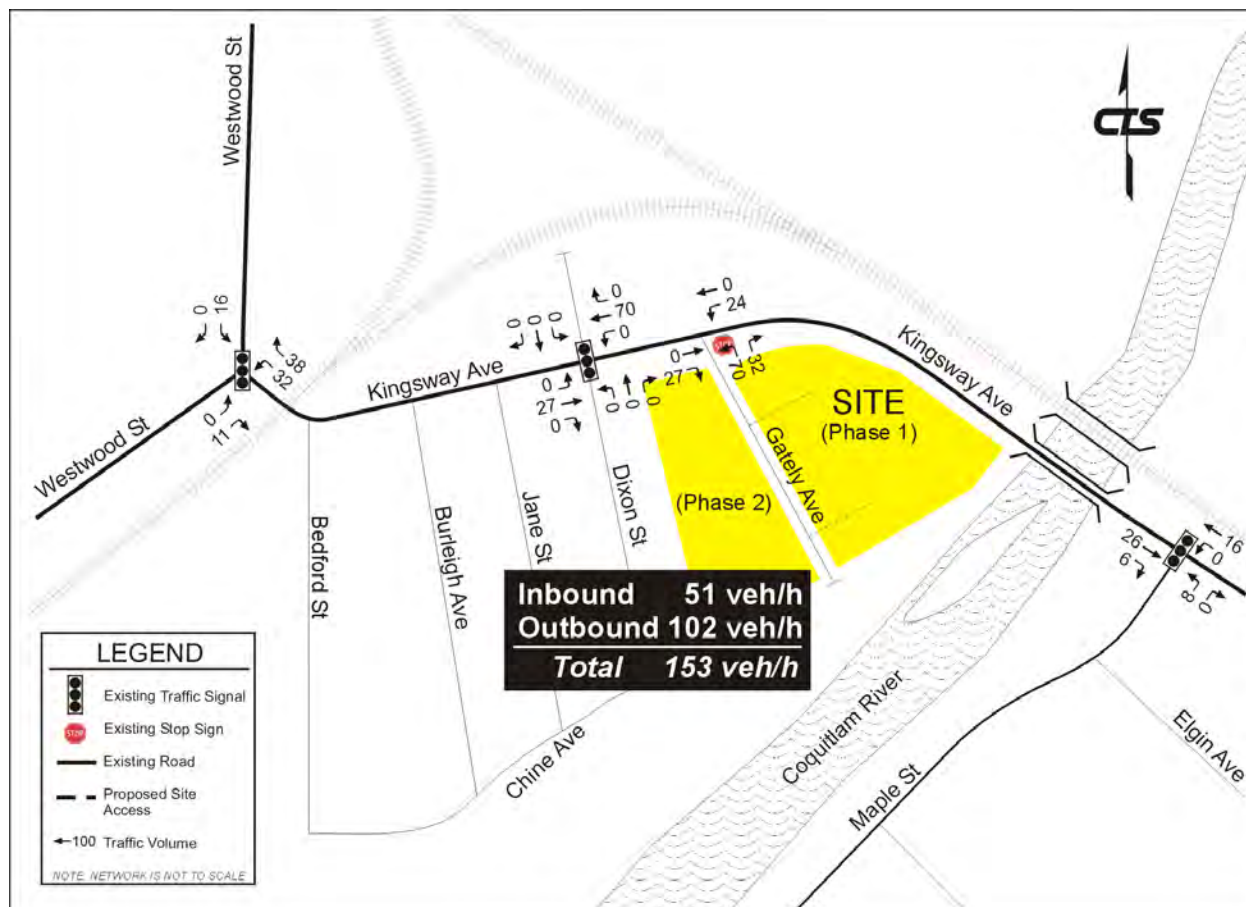


FIGURE 13
2022 WEEKDAY PM PEAK HOUR SITE GENERATED TRAFFIC VOLUMES (PHASE 1)

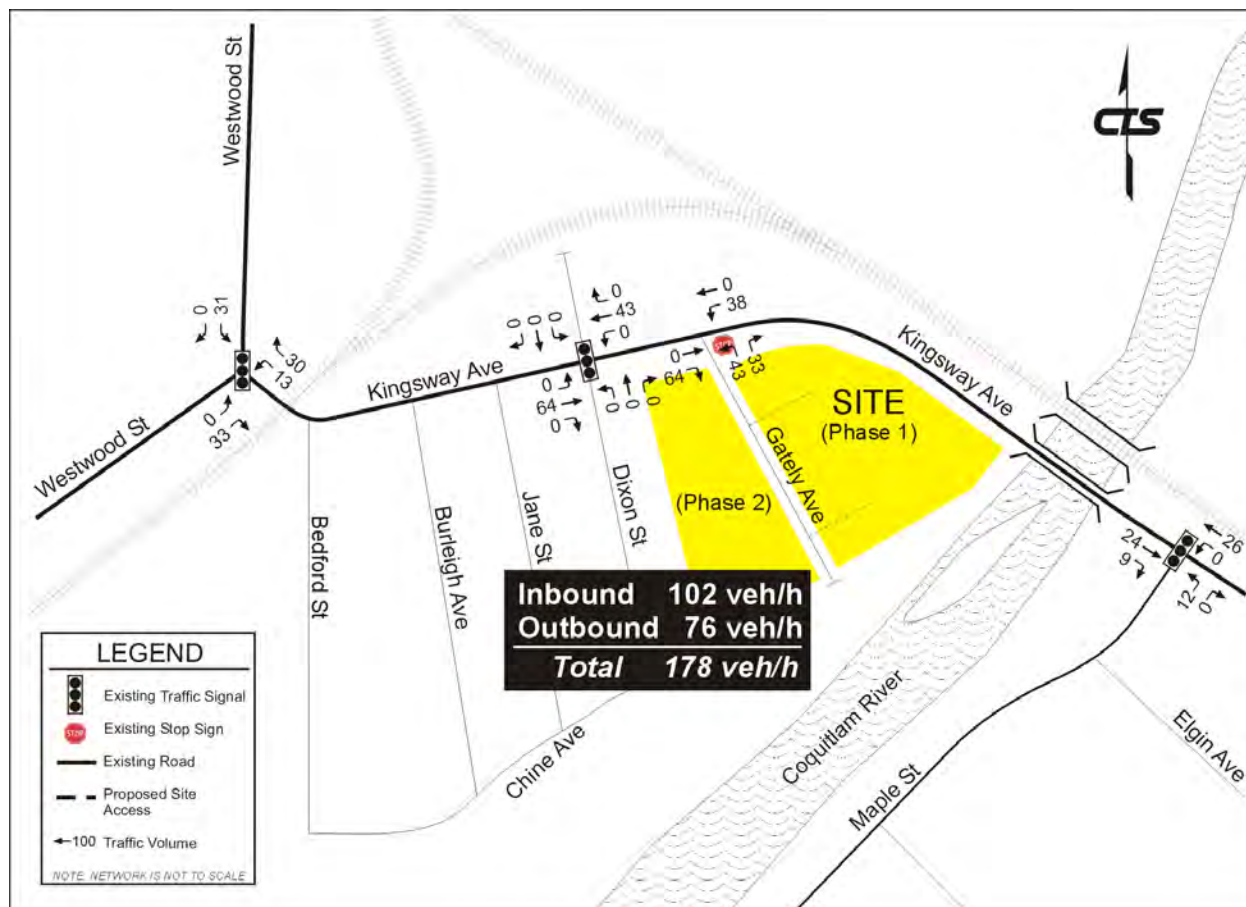


FIGURE 14
2025 WEEKDAY AM PEAK HOUR SITE GENERATION TRAFFIC VOLUMES (PHASE 2)

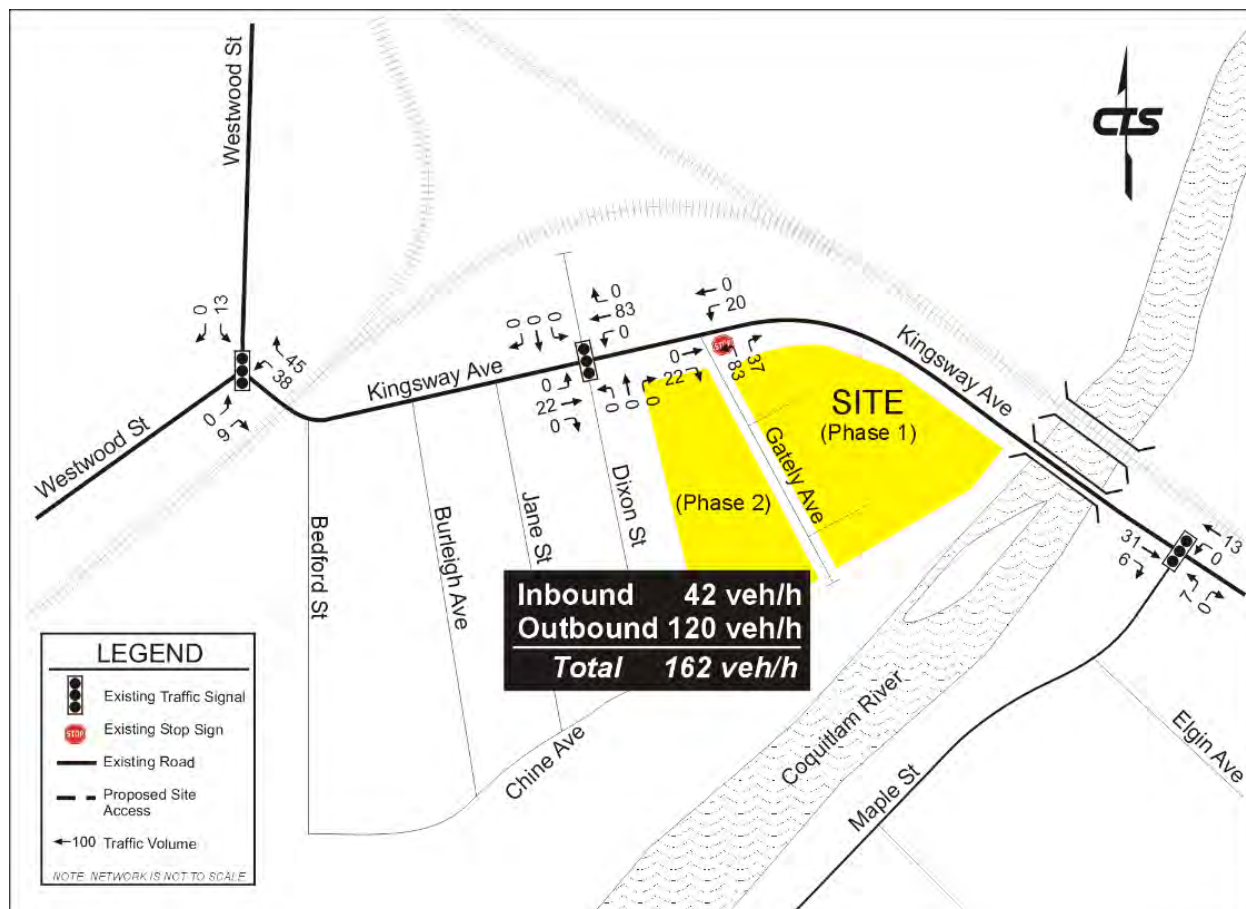
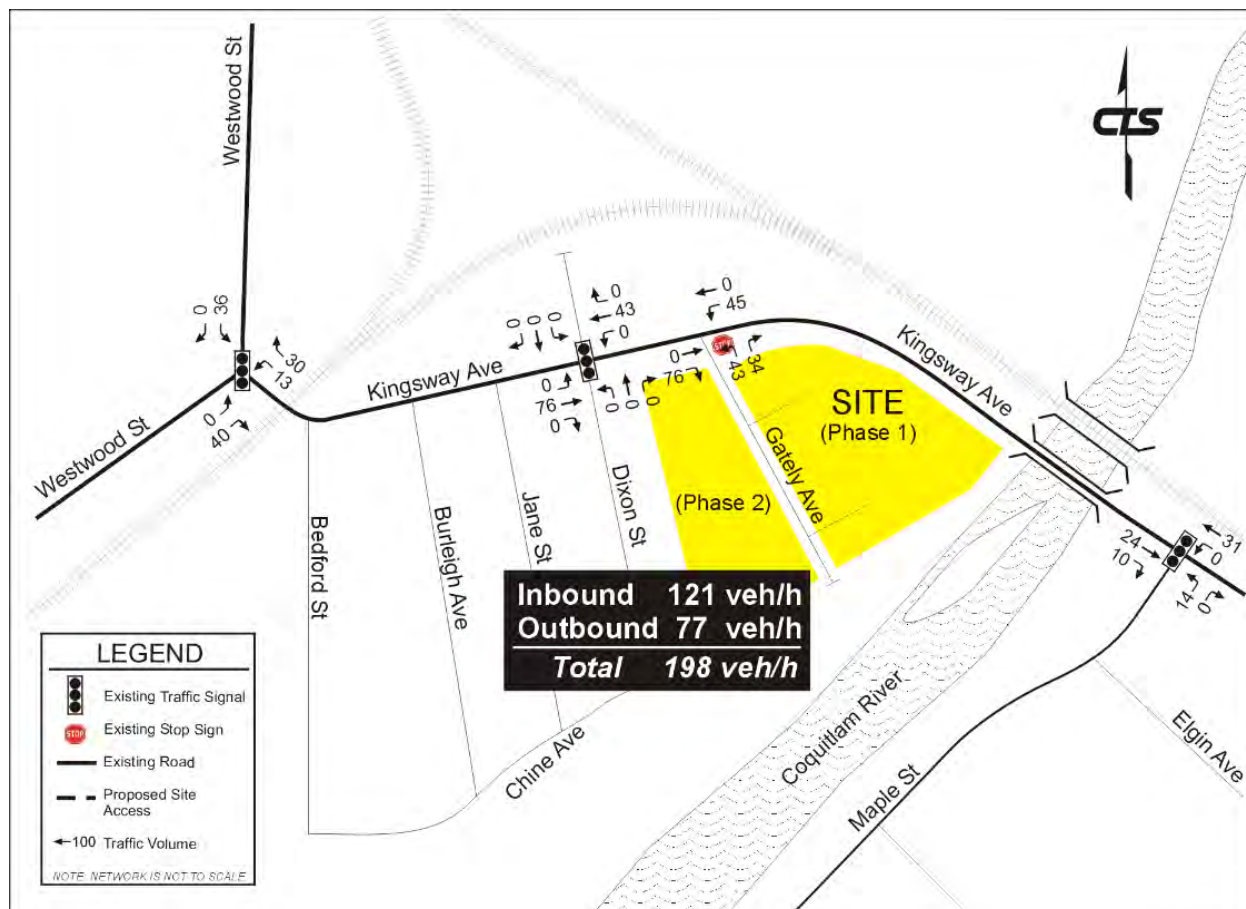


FIGURE 15
2025 WEEKDAY PM PEAK HOUR SITE GENERATION TRAFFIC VOLUMES (PHASE 2)



4.0 BASE + SITE TRAFFIC VOLUMES

FIGURE 16 and **FIGURE 17** illustrate the total projected traffic volumes for the future base and Phase 1 site generated traffic distributed to the adjacent street network for the year 2022.

FIGURE 18 and **FIGURE 19** illustrate the total projected traffic volumes for the future base and Phase 1 and Phase 2 site generated traffic distributed to the adjacent street network for the year 2025.

FIGURE 20 and **FIGURE 21** illustrate the total projected traffic volumes for the future base and Phase 1 and Phase 2 site generated traffic distributed to the adjacent street network for the year 2025 with a Chine Avenue connection.

FIGURE 22 and **FIGURE 23** illustrate the total projected traffic volumes for the future base and Phase 1 and Phase 2 site generated traffic distributed to the adjacent street network for the year 2030 with a Chine Avenue connection.

*Note – Per the agreed upon Terms of Reference, the City of Port Coquitlam requires analyses of a Chine Avenue connection alternative to full movement access at the intersection of Gately Avenue and Kingsway Avenue. **FIGURES 20-23** include a Chine Avenue connection for the 2025 and 2030 horizon years.*

FIGURE 16
2022 WEEKDAY AM PEAK HOUR BASE + PHASE 1 TRAFFIC VOLUMES

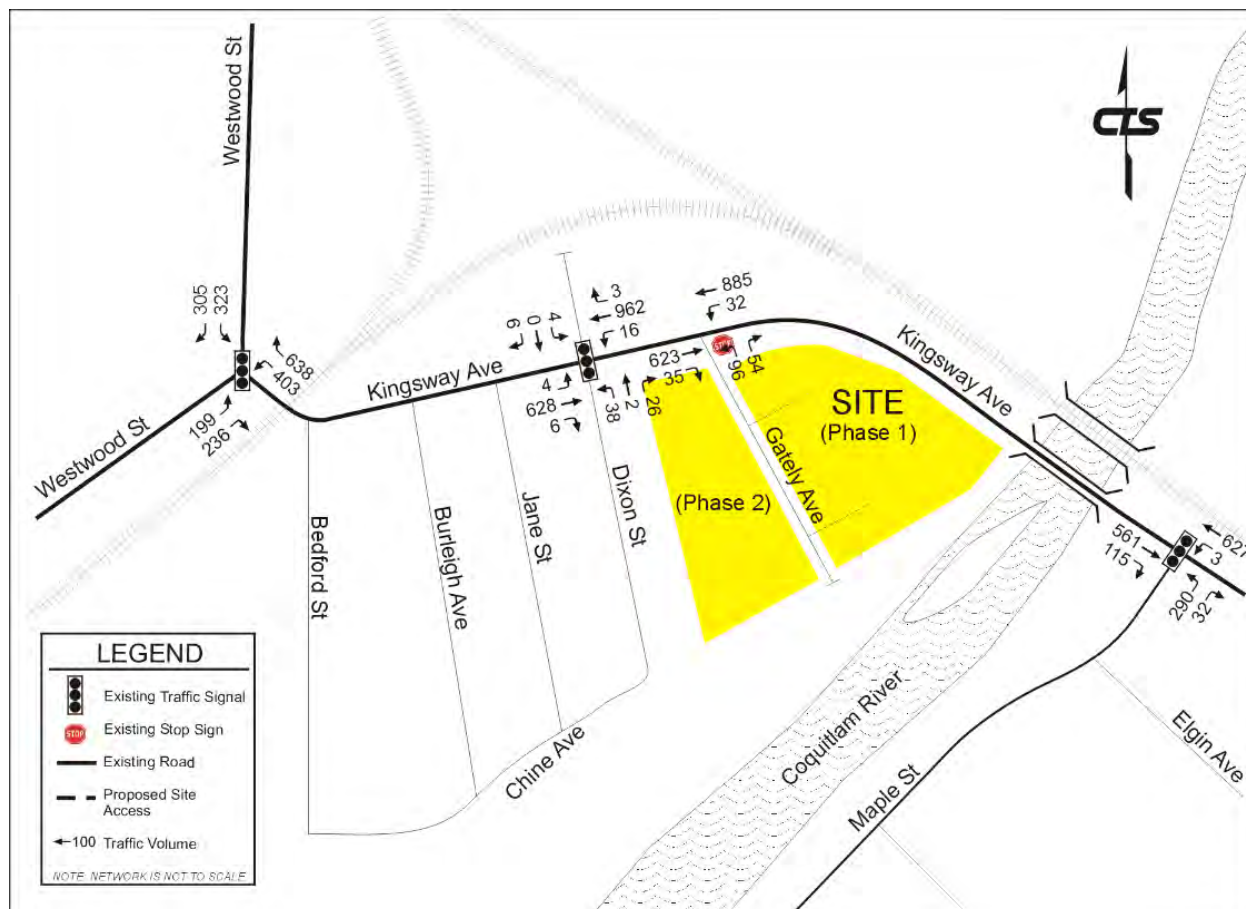


FIGURE 17
2022 WEEKDAY PM PEAK HOUR BASE + PHASE 1 TRAFFIC VOLUMES

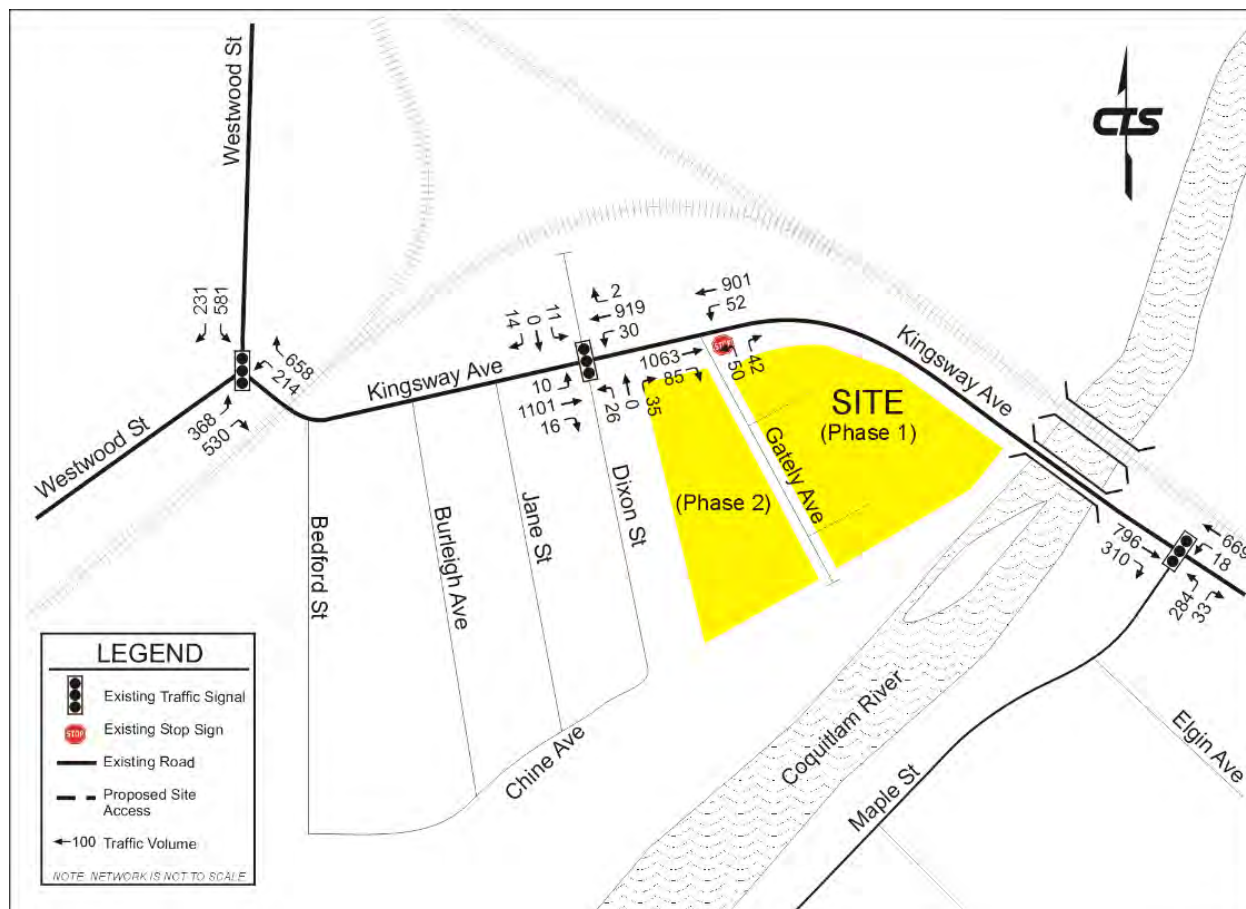


FIGURE 18
2025 WEEDAY AM PEAK HOUR BASE + PHASE 1 AND PHASE 2 TRAFFIC VOLUMES

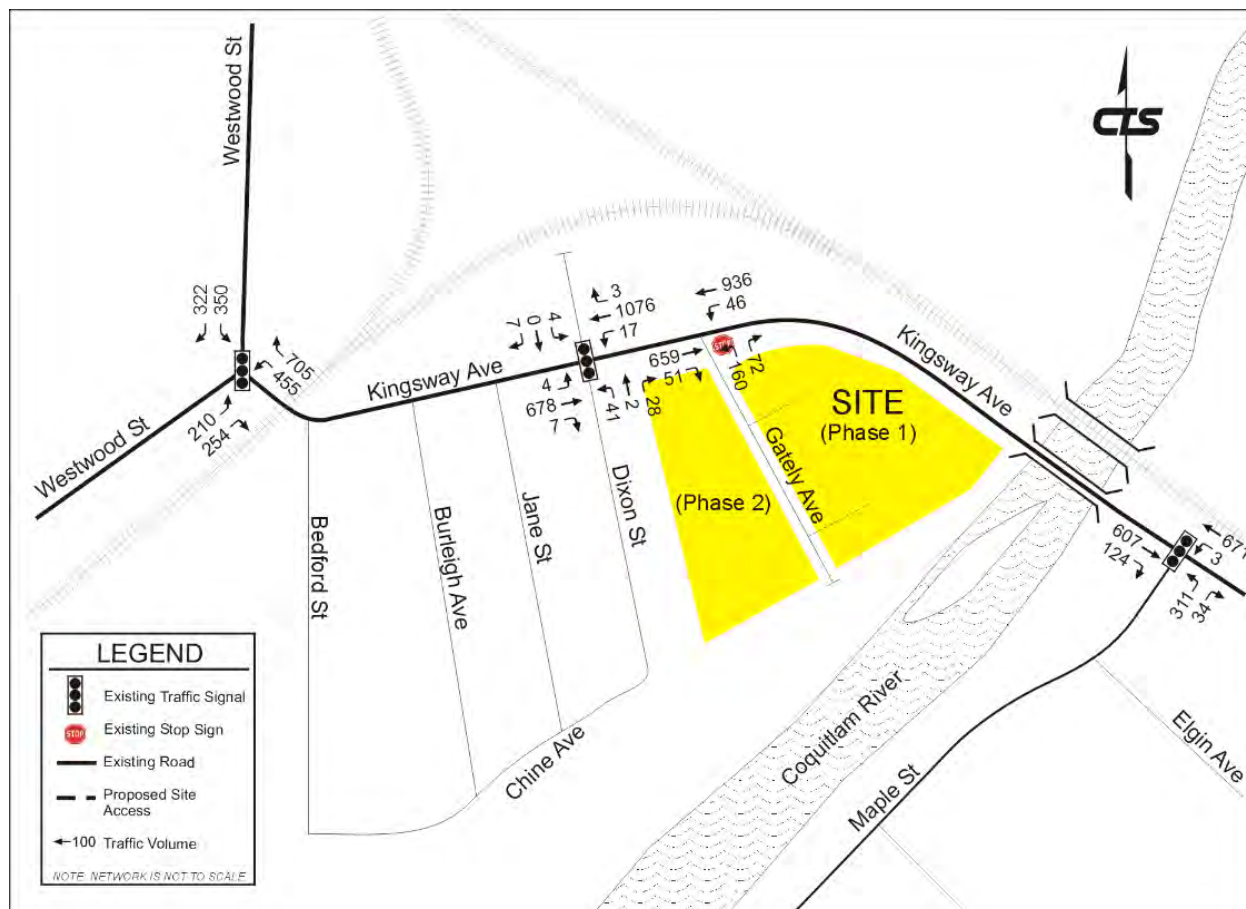


FIGURE 19
2025 WEEKDAY PM PEAK HOUR BASE + PHASE 1 AND PHASE 2 TRAFFIC VOLUMES

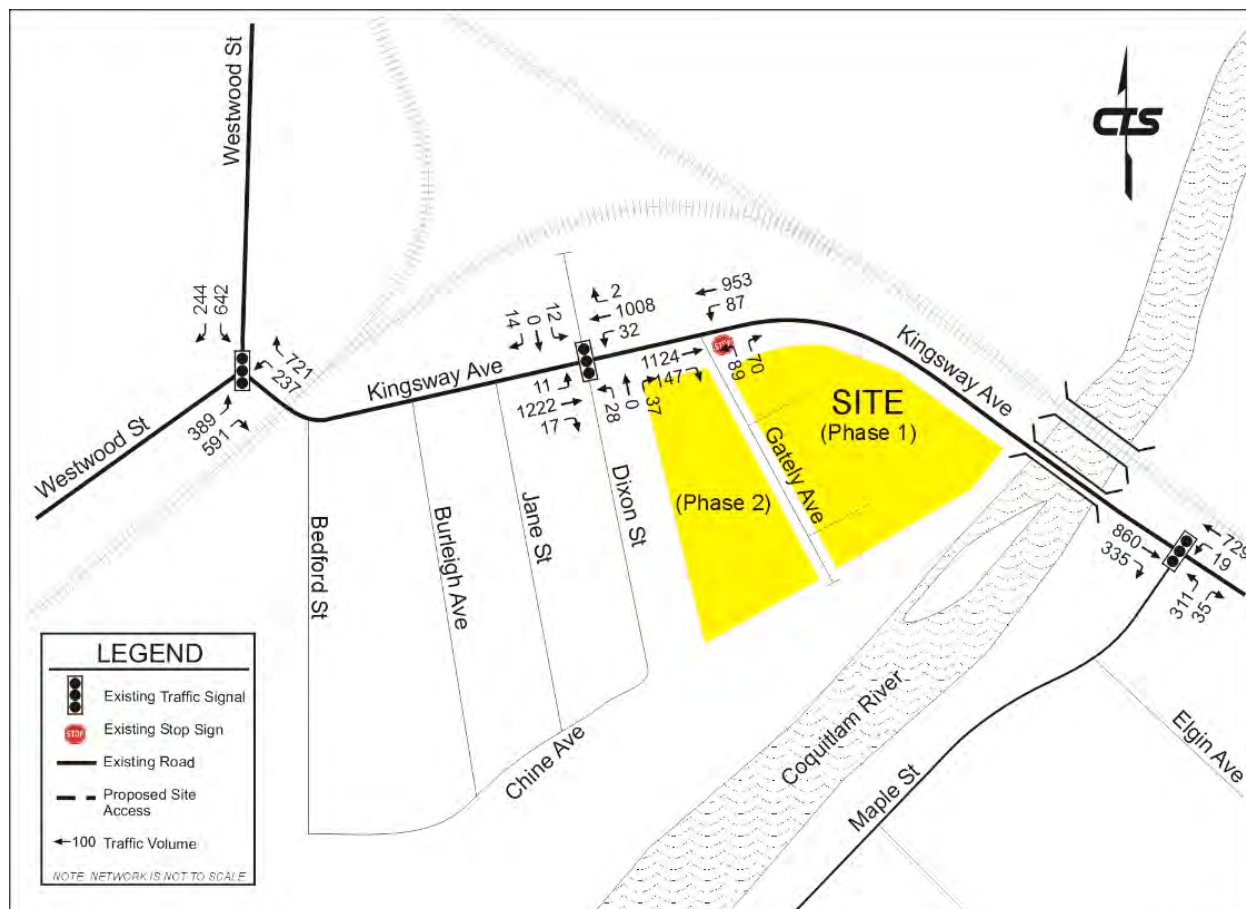


FIGURE 20
2025 WEEKDAY AM PEAK HOUR BASE + PHASE 1 AND PHASE 2 TRAFFIC VOLUMES
WITH CHINE AVENUE CONNECTION

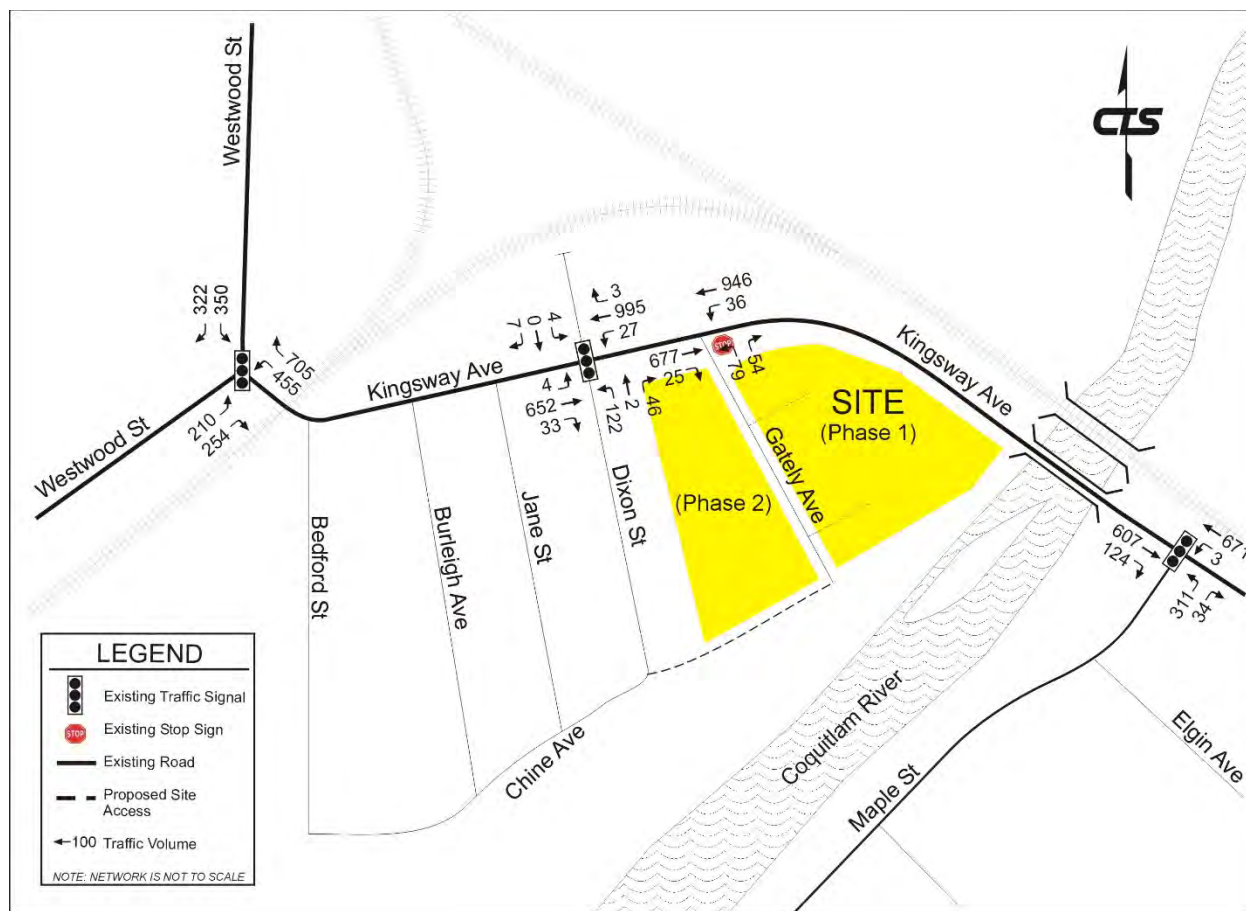


FIGURE 21
2025 WEEKDAY PM PEAK HOUR BASE + PHASE 1 AND PHASE 2 TRAFFIC VOLUMES
WITH CHINE AVENUE CONNECTION

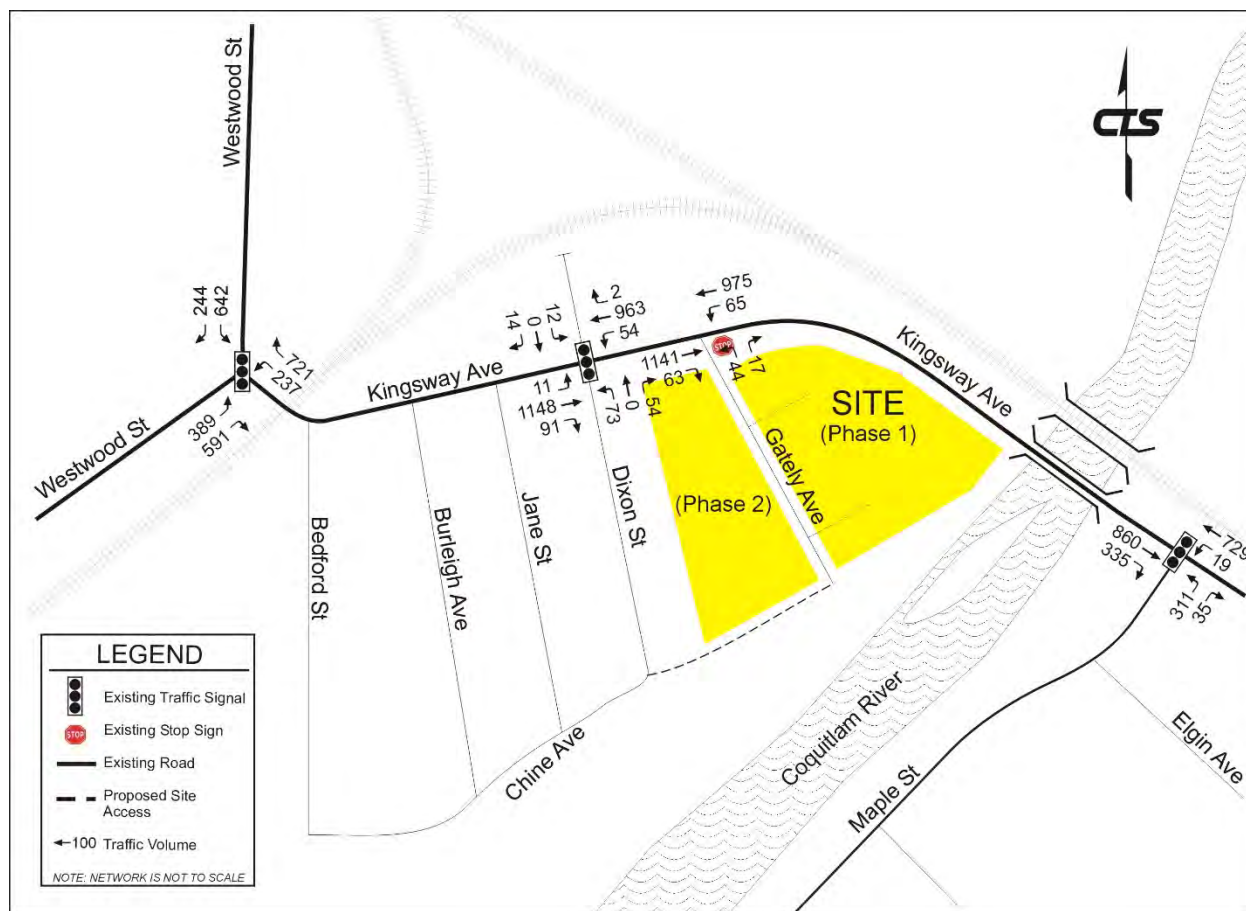


FIGURE 22
2030 WEEKDAY AM PEAK HOUR BASE + PHASE 1 AND PHASE 2 TRAFFIC VOLUMES
WITH CHINE AVENUE CONNECTION

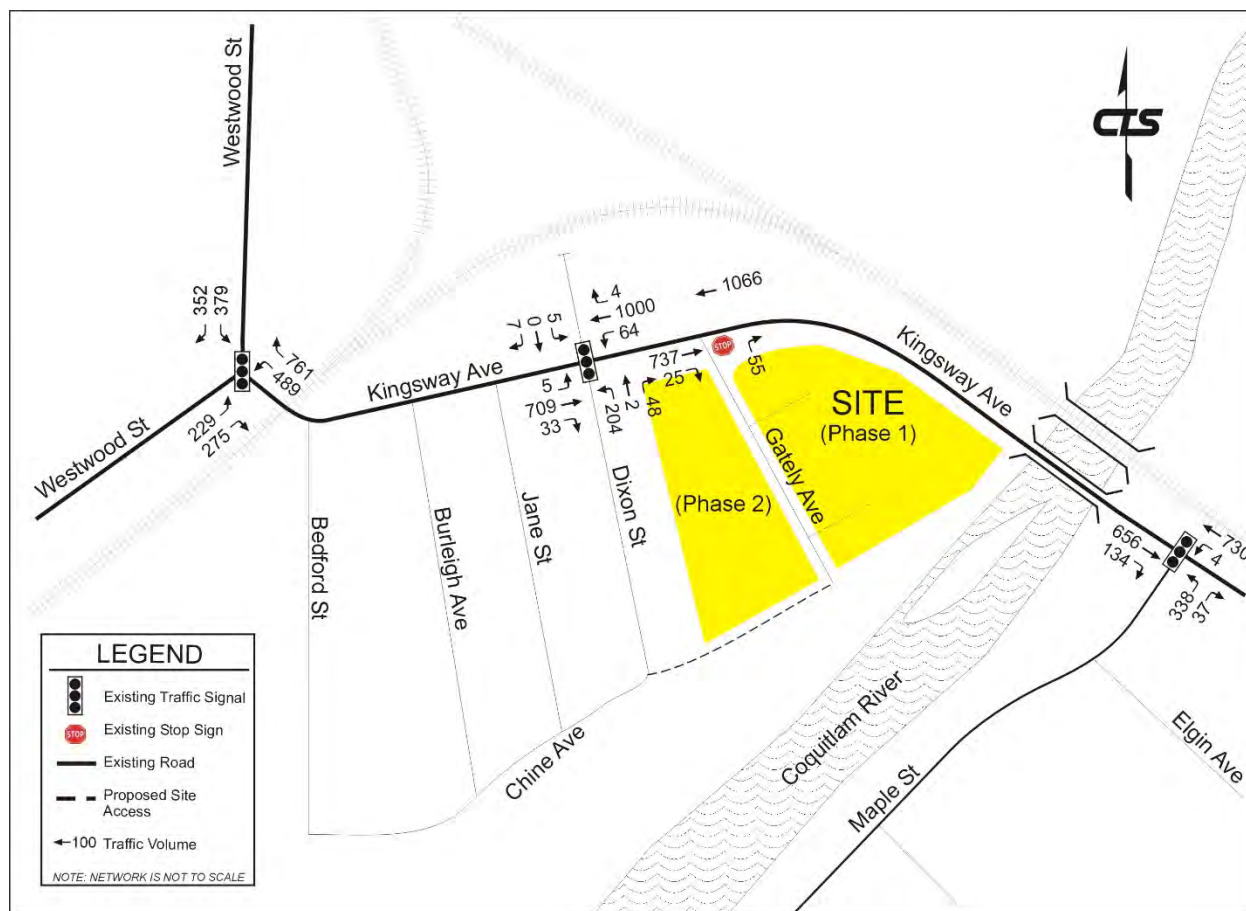
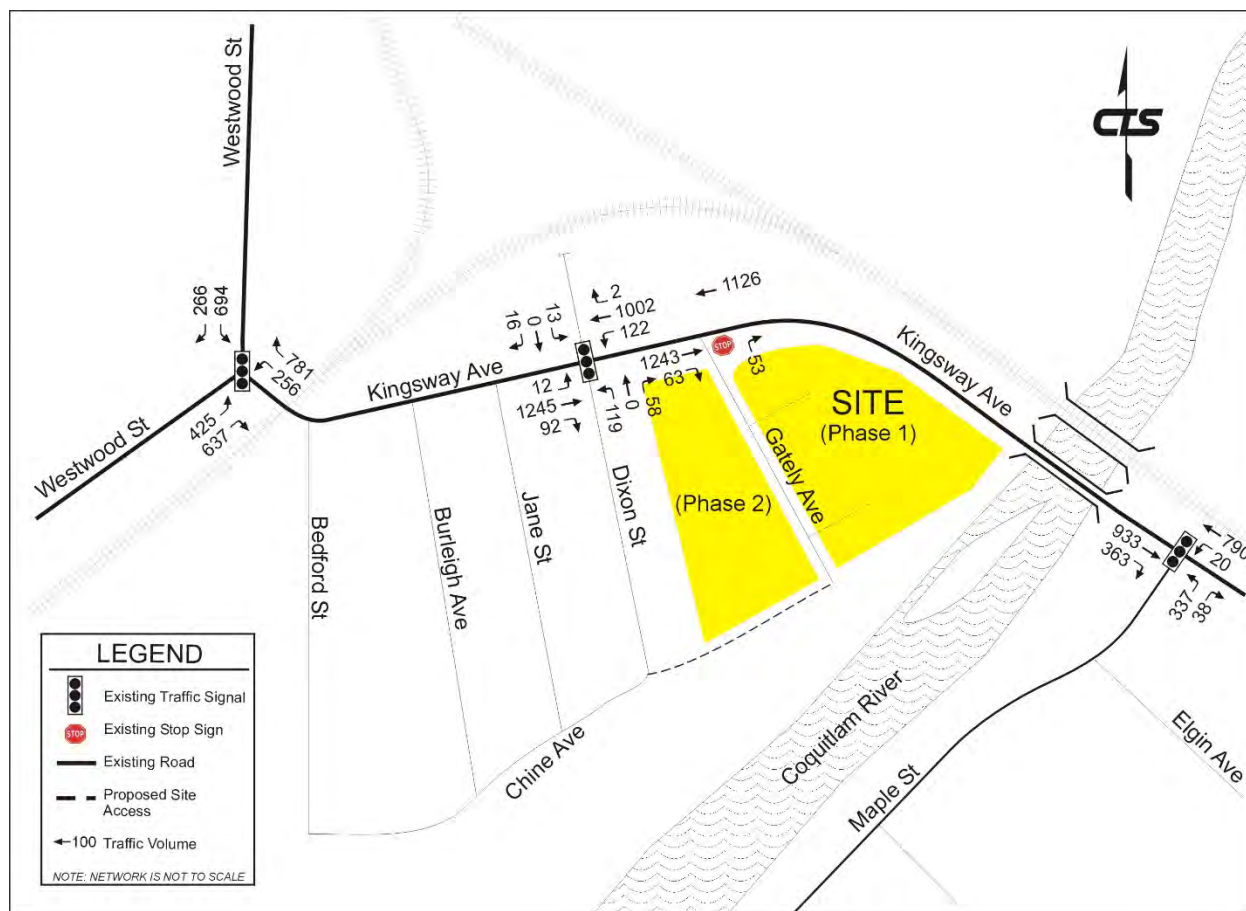


FIGURE 23
2030 WEEKDAY PM PEAK HOUR BASE + SITE TRAFFIC VOLUMES
2030 WEEKDAY PM PEAK HOUR BASE + PHASE 1 AND PHASE 2 TRAFFIC VOLUMES
WITH CHINE AVENUE CONNECTION



5.0 TRAFFIC ANALYSIS

5.1 Capacity Analysis

Capacity analysis was performed at each study intersection to determine the overall intersection and individual movement Level of Service (LOS) that is provided to motorists. The LOS for intersections and individual movements is defined in terms of delay (seconds per vehicle) which is a measure of driver discomfort and frustration, fuel consumption and lost travel time.

An intersection or movement LOS can range from "A" (Excellent) to "E" (Poor). A LOS of "F" (Fail) indicates that an intersection or individual movement is failing because the intersection or movement is over capacity and delays are excessive. A LOS of "D" (Fair) or better is considered acceptable by many public agencies for overall intersection, through and right turn movements and a LOS of "E" (Poor) or better is considered acceptable for left turn movements, at signalized intersections.

Synchro (Version 10.0) was used to analyze the intersection and individual movement level of service for signalized intersections. Highway Capacity Software (HCS 7) was used to analyze the intersection and individual movement level of service for unsignalized intersections.

With respect to the intersection and individual movement analysis, the following assumptions were made:

- Saturation flow rate → 1,800 passenger cars/hour of green/lane (pcphgpl).
- Truck percentage → 2% was used for all movements.
- Peak Hour Factor (PHF) → 0.93 for the weekday AM peak hour and 0.92 for the weekday PM peak hour which are an average of the PHF's from the traffic turning movement counts.

TABLE 5 summarizes and compares the delay in seconds and the 95th percentile queue in meters for each signalized intersection. **TABLE 6** summarizes and compares the delay in seconds and the 95th percentile queue for each unsignalized intersection. The capacity analysis summary sheets are included as **APPENDIX D**.

TABLE 5
SIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes	
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Westwood Street (N/S) and Kingsway Avenue (E/W)	Weekday Morning Peak Hour	2020 Base	Volumes				355		574		191	216	296	293		B	OK. Existing signal timing.	
			V/C				0.69		0.68		0.57	0.46	0.62	0.32				
			95% Queue (m)				113.2		28.3		70.9	20.9	98.0	17.4				
		2022 Base	Volumes				368		596		199	224	306	305		C	Optimized signal timing.	
			V/C				0.70		0.69		0.60	0.25	0.64	0.25				
			95% Queue (m)				118.3		28.7		73.7	21.4	101.8	11.0				
		2022 Base + Phase 1	Volumes				403		638		199	236	323	305		C	Optimized signal timing.	
			V/C				0.75		0.71		0.62	0.50	0.67	0.27				
			95% Queue (m)				130.1		30.0		74.8	22.2	108.3	13.9				
		2025 Base	Volumes				382		618		210	233	320	322		C	Optimized signal timing.	
			V/C				0.73		0.70		0.63	0.48	0.66	0.36				
			95% Queue (m)				124.1		29.4		77.1	21.7	108.5	26.9				
		2025 Base + Phase 1 & Phase 2	Volumes				455		705		210	254	350	322		C	Optimized signal timing.	
			V/C				0.80		0.74		0.67	0.53	0.73	0.38				
			95% Queue (m)				148.4		30.5		79.8	23.5	120.5	35.9				
		2030 Base	Volumes				416		674		229	254	349	352		C	Optimized signal timing.	
			V/C				0.77		0.73		0.68	0.51	0.71	0.40				
			95% Queue (m)				135.3		31.9		85.0	22.8	118.3	37.6				
		2030 Base + Phase 1 & Phase 2	Volumes				489		761		229	275	379	352		C	Optimized signal timing.	
			V/C				0.84		0.80		0.74	0.55	0.79	0.42				
			95% Queue (m)				174.7		66.7		86.9	24.5	140.6	47.2				
	Weekday Afternoon Peak Hour	2020 Base	Volumes				192		604		354	475	528	222		C	Existing signal timing. SBLT is near capacity.	
			V/C				0.66		0.81		0.80	0.68	0.85	0.21				
			95% Queue (m)				73.8		42.9		134.9	41.8	193.8	6.6				
		2022 Base	Volumes				200		626		368	493	547	231		C	Optimized signal timing. SBLT is near capacity.	
			V/C				0.68		0.82		0.84	0.71	0.86	0.22				
			95% Queue (m)				76.7		44.8		145.7	53.3	203.2	6.7				
		2022 Base + Phase 1	Volumes				214		658		368	530	581	231		C	Optimized signal timing. NBTH & SNLT are near capacity.	
			V/C				0.74		0.84		0.85	0.78	0.90	0.22				
			95% Queue (m)				83.4		47.7		146.8	78.8	218.6	9.1				
		2025 Base	Volumes				210		659		389	514	572	244		C	Optimized signal timing. WBRT, NBTH & SNLT are near capacity.	
			V/C				0.71		0.85		0.87	0.74	0.91	0.23				
			95% Queue (m)				80.7		61.5		156.1	65.4	220.1	8.9				
		2025 Base + Phase 1 & Phase 2	Volumes				237		721		389	591	642	244		D	Optimized signal timing. WBRT, NB, SBLT are near capacity.	
			V/C				0.81		0.91		0.92	0.90	0.96	0.23				
			95% Queue (m)				100.8		105.2		163.3	136.3	250.6	12.7				
		2030 Base	Volumes				229		719		425	560	624	266		D	Optimized signal timing. WBRT, NBTH & SNLT are near capacity.	
			V/C				0.79		0.94		0.94	0.83	0.97	0.25				
			95% Queue (m)				95.1		115.4		179.0	105.9	246.8	13.9				
		2030 Base + Phase 1 & Phase 2	Volumes				256		781		425	637	694	266		E	Optimized signal timing. WBRT is near capacity. NB & SNLT are over capacity.	
			V/C				0.83		0.98		1.05	1.00	1.05	0.26				
			95% Queue (m)				105.8		134.4		177.7	161.6	260.6	15.8				
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 high approach demand over capacity (v/c >= 1.0)																		
95% Queue length exceeds the capacity of existing storage bay.																		

TABLE 5 CONTINUED
SIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Dixon Street (N/S) and Kingsway Avenue (E/W)	Weekday Morning Peak Hour	2020 Base	Volumes	4	579	6	15	853	3	37	2	25	4	0	6	A	OK. Existing signal timing.
			V/C	0.26	0.26	0.26	0.38	0.38	0.38	0.23			0.03				
			95% Queue (m)	18.3	18.3	18.3	30.0	30.0	30.0	10.6			0.0				
		2022 Base	Volumes	4	599	6	16	885	3	38	2	26	4	0	6	A	Optimized signal timing.
			V/C	0.26	0.26	0.26	0.39	0.39	0.39	0.24			0.03				
			95% Queue (m)	19.3	19.3	19.3	32.2	32.2	32.2	10.9			0.0				
		2022 Base + Phase 1	Volumes	4	628	6	16	962	3	38	2	26	4	0	6	A	Optimized signal timing.
			V/C	0.27	0.27	0.27	0.42	0.42	0.42	0.24			0.03				
			95% Queue (m)	20.4	20.4	20.4	36.2	36.2	36.2	11.6			0.0				
		2025 Base	Volumes	4	627	7	17	916	3	41	2	28	4	0	7	A	Optimized signal timing.
			V/C	0.28	0.28	0.28	0.41	0.41	0.41	0.25			0.03				
			95% Queue (m)	20.8	20.8	20.8	34.6	34.6	34.6	11.5			0.0				
		2025 Base + Phase 1 & Phase 2	Volumes	4	678	7	17	1076	3	41	2	28	4	0	7	A	Optimized signal timing.
			V/C	0.29	0.29	0.29	0.47	0.47	0.47	0.26			0.04				
			95% Queue (m)	23.1	23.1	23.1	44.1	44.1	44.1	13.2			0.0				
		2025 Base + Phase 1 & Phase 2 (with Chine Avenue Connection)	Volumes	4	652	22	27	995	3	122	2	46	4	0	7	A	Optimized signal timing.
			V/C	0.39	0.39	0.39	0.61	0.61	0.61	0.51			0.03				
			95% Queue (m)	35.5	35.5	35.5	63.0	63.0	63.0	34.1			0.0				
		2030 Base	Volumes	5	684	7	18	1000	4	44	2	30	5	0	7	A	Optimized signal timing.
			V/C	0.30	0.30	0.30	0.44	0.44	0.44	0.27			0.04				
			95% Queue (m)	23.5	23.5	23.5	40.0	40.0	40.0	12.9			0.0				
		2030 Base + Phase 1 & Phase 2 (with Chine Avenue Connection)	Volumes	5	709	33	64	1000	4	204	2	48	5	0	7	B	Optimized signal timing.
			V/C	0.46	0.46	0.46	0.74	0.74	0.74	0.72			0.02				
			95% Queue (m)	54.0	54.0	54.0	97.0	97.0	97.0	73.0			0.0				
	Weekday Afternoon Peak Hour	2020 Base	Volumes	10	993	15	29	841	2	25	0	34	11	0	13	A	OK. Existing signal timing.
			V/C	0.44	0.44	0.44	0.39	0.39	0.39	0.20			0.08				
			95% Queue (m)	31.8	31.8	31.8	26.2	26.2	26.2	5.5			0.3				
		2022 Base	Volumes	10	1030	16	30	873	2	26	0	35	11	0	14	A	Optimized signal splits
			V/C	0.45	0.45	0.45	0.41	0.41	0.41	0.21			0.09				
			95% Queue (m)	34.7	34.7	34.7	28.5	28.5	28.5	5.8			0.4				
		2022 Base + Phase 1	Volumes	10	1101	16	30	919	2	26	0	35	11	0	14	A	Optimized signal timing.
			V/C	0.48	0.48	0.48	0.43	0.43	0.43	0.22			0.09				
			95% Queue (m)	38.5	38.5	38.5	30.8	30.8	30.8	6.0			0.3				
		2025 Base	Volumes	11	1075	17	32	919	2	28	0	37	12	0	14	A	Optimized signal timing.
			V/C	0.47	0.47	0.47	0.43	0.43	0.43	0.23			0.09				
			95% Queue (m)	38.0	38.0	38.0	31.7	31.7	31.7	6.6			0.5				
		2025 Base + Phase 1 & Phase 2	Volumes	11	1222	17	32	1008	2	28	0	37	12	0	14	A	Optimized signal timing.
			V/C	0.56	0.56	0.56	0.50	0.50	0.50	0.25			0.10				
			95% Queue (m)	45.5	45.5	45.5	35.5	35.5	35.5	7.2			0.1				
		2025 Base + Phase 1 & Phase 2 (with Chine Avenue Connection)	Volumes	11	1148	91	54	963	2	73	0	54	12	0	14	A	Optimized signal timing.
			V/C	0.60	0.60	0.60	0.55	0.55	0.55	0.43			0.08				
			95% Queue (m)	65.7	65.7	65.7	53.0	53.0	53.0	19.8			0.0				
		2030 Base	Volumes	12	1172	18	35	1002	2	30	0	41	13	0	16	A	Optimized signal timing
			V/C	0.55	0.55	0.55	0.51	0.51	0.51	0.26			0.10				
			95% Queue (m)	45.3	45.3	45.3	37.7	37.7	37.7	8.1			0.7				
		2030 Base + Phase 1 & Phase 2 (with Chine Avenue Connection)	Volumes	12	1245	92	122	1002	2	119	0	58	13	0	16	B	Optimized signal timing
			V/C	0.65	0.65	0.65	0.83	0.83	0.83	0.64			0.10				
			95% Queue (m)	91.8	91.8	91.8	137.7	137.7	137.7	33.3			0.0				

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 high approach demand over capacity (v/c >= 1.0)

95% Queue length exceeds the capacity of existing storage bay.

TABLE 5 CONTINUED
SIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Maple Street (N/S) & Kingsway Avenue (E/W)	Weekday Morning Peak Hour	2020 Base	Volumes		514	106	3	589		271		31				B	OK. Existing signal timing.
			V/C		0.75		0.01	0.70		0.55		0.05					
			95% Queue (m)		99.9		1.3	92.2		51.5		4.3					
		2022 Base	Volumes		532	109	3	610		281		32				B	Optimized signal timing.
			V/C		0.75		0.01	0.70		0.60		0.07					
			95% Queue (m)		93.2		1.1	86.1		60.0		5.9					
		2022 Base + Phase 1	Volumes		561	115	3	627		290		32				B	Optimized signal timing.
			V/C		0.78		0.01	0.71		0.62		0.07					
			95% Queue (m)		102.8		1.1	90.3		62.0		5.9					
		2025 Base	Volumes		547	112	3	641		295		34				B	Optimized signal timing.
			V/C		0.77		0.01	0.73		0.63		0.08					
			95% Queue (m)		97.9		1.1	94.0		63.2		6.1					
		2025 Base + Phase 1 & Phase 2	Volumes		607	124	3	671		311		34				B	Optimized signal timing.
			V/C		0.81		0.02	0.74		0.68		0.08					
			95% Queue (m)		114.9		1.1	97.4		75.0		6.2					
		2030 Base	Volumes		596	122	4	700		322		37				B	Optimized signal timing.
			V/C		0.81		0.02	0.78		0.69		0.08					
			95% Queue (m)		115.8		1.4	109.9		71.2		6.4					
		2030 Base + Phase 1 & Phase 2	Volumes		656	134	4	730		338		37				C	Optimized signal timing. EB is near capacity.
			V/C		0.86		0.03	0.78		0.75		0.09					
			95% Queue (m)		161.2		1.3	114.1		85.0		6.6					
	Weekday Afternoon Peak Hour	2020 Base	Volumes		744	289	17	616		262		32				D	Existing signal timing. EB is over capacity.
			V/C		1.09		0.16	0.63		0.64		0.08					
			95% Queue (m)		258.7		5.2	99.6		50.4		5.3					
		2022 Base	Volumes		770	300	18	640		271		33				C	Optimized signal timing. EB & NBLT are near capacity.
			V/C		0.98		0.20	0.57		0.90		0.11					
			95% Queue (m)		239.6		4.3	65.5		83.0		7.0					
		2022 Base + Phase 1	Volumes		796	310	18	669		284		33				C	Optimized signal timing. EB & NBLT are near capacity.
			V/C		0.99		0.26	0.58		0.92		0.11					
			95% Queue (m)		305.3		6.0	82.9		15.3		7.9					
		2025 Base	Volumes		810	315	19	669		284		35				C	Optimized signal timing. EB & NBLT are near capacity.
			V/C		0.99		0.26	0.57		0.95		0.12					
			95% Queue (m)		337.2		6.0	86.3		115.9		8.8					
		2025 Base + Phase 1 & Phase 2	Volumes		860	335	19	729		311		35				D	Optimized signal timing. EB & NBLT are over capacity.
			V/C		1.05		0.37	0.61		1.01		0.12					
			95% Queue (m)		432.7		11.1	116.6		147.7		11.2					
		2030 Base	Volumes		883	343	20	730		310		38				D	Optimized signal timing. EB & NBLT are over capacity.
			V/C		1.07		0.38	0.61		1.02		0.13					
			95% Queue (m)		449.1		12.4	115.0		48.1		117.0					
		2030 Base + Phase 1 & Phase 2	Volumes		933	363	20	790		337		38				E	Optimized signal timing. EB & NBLT are over capacity.
			V/C		1.12		0.38	0.66		1.14		0.13					
			95% Queue (m)		486.7		12.1	131.5		166.8		12.4					

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 high approach demand over capacity (v/c >= 1.0)

95% Queue length exceeds the capacity of existing storage bay.

TABLE 6
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Gately Avenue (N/S) and Kingsway Avenue (E/W)	Weekday Morning Peak Hour	2020 Base	Volumes		599	9	9	851		20		21				A	OK
			Delay		0.0	0.0	8.9	0.0		21.1							
			95% Queue (veh)		0.0	0.0	0.0	0.0		0.6							
		2022 Base	Volumes		623	6	6	885		19		19				A	OK
			Delay		0.0	0.0	9.0	0.0		22.0							
			95% Queue (veh)		0.0	0.0	0.0	0.0		0.6							
		2022 Base + Phase 1 (Existing Lane Configuration)	Volumes		623	33	30	885		89		51				A	NB movements are over capacity.
			Delay		0.0	0.0	9.2	0.0		59.7							
			95% Queue (veh)		0.0	0.0	0.1	0.0		4.8							
		2022 Base + Phase 1 (Right-in/Right-out Access)	Volumes		623	63		934				140				A	OK
			Delay		0.0	0.0		0.0				19.4					
			95% Queue (veh)		0.0	0.0		0.0				1.7					
		2022 Base + Phase 1 (WBLT Lane & NBLT Receiving Lane)	Volumes		623	33	30	885		89		51				A	OK
			Delay		0.0	0.0	9.2	0.0		18.2							
			95% Queue (veh)		0.0	0.0	0.1	0.0		1.6							
		2025 Base	Volumes		659	0	0	936		0		0				A	OK
			Delay		0.0	0.0	0.0	0.0		0.0							
			95% Queue (veh)		0.0	0.0	0.0	0.0		0.0							
		2025 Base + Phase 1 & Phase 2 (Right-in/Right-out Access)	Volumes		659	93		980				222				A	NBRT is approaching capacity.
			Delay		0.0	0.0		0.0				29.8					
			95% Queue (veh)		0.0	0.0		0.0				4.2					
		2025 Base + Phase 1 & Phase 2 (WBLT Lane & NBLT Receiving Lane)	Volumes		659	49	44	936		153		69				A	NB movements are approaching capacity.
			Delay		0.0	0.0	9.5	0.0		27.4							
			95% Queue (veh)		0.0	0.0	0.2	0.0		3.9							
		2025 Base + Phase 1 & Phase 2 (Right-in/Right-out with Chine Avenue Connection)	Volumes		677	38		980				51				A	OK
			Delay		0.0	0.0		0.0				16.6					
			95% Queue (veh)		0.0	0.0		0.0				0.5					
		2030 Base	Volumes		719	0	0	1021		0		0				A	OK
			Delay		0.0	0.0	0.0	0.0		0.0							
			95% Queue (veh)		0.0	0.0	0.0	0.0		0.0							
		2030 Base + Phase 1 & Phase 2 (Right-in/Right-out Access)	Volumes		719	93		1065				222				A	NBRT is approaching capacity.
			Delay		0.0	0.0		0.0				36.9					
			95% Queue (veh)		0.0	0.0		0.0				0.5					
		2030 Base + Phase 1 & Phase 2 (WBLT Lane & NBLT Receiving Lane)	Volumes		719	49	44	1021		153		69				A	NB movements are approaching capacity.
			Delay		0.0	0.0	9.8	0.0		32.8							
			95% Queue (veh)		0.0	0.0	0.2	0.0		4.6							
		2030 Base + Phase 1 & Phase 2 (Right-in/Right-out with Chine Avenue Connection)	Volumes		737	38		1065				51				A	OK
			Delay		0.0	0.0		0.0				18.0					
			95% Queue (veh)		0.0	0.0		0.0				0.6					

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)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 6 CONTINUED
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Gately Avenue (N/S) and Kingsway Avenue (E/W)	Weekday Afternoon Peak Hour	2020 Base	Volumes		1022	16	12	866		6		11				A	NB movements are approaching capacity.
			Delay		0.0	0.0	11.0	0.0		34.3							
			95% Queue (veh)		0.0	0.0	0.1	0.0		0.4							
		2022 Base	Volumes		1063	14	10	901		4		6				A	NB movements are approaching capacity.
			Delay		0.0	0.0	11.2	0.0		36.4							
			95% Queue (veh)		0.0	0.0	0.1	0.0		0.3							
		2022 Base + Phase 1 (Existing Lane Configuration)	Volumes		1063	78	48	901		47		39				A	NB movements are over capacity.
			Delay		0.0	0.0	12.1	0.0		202.2							
			95% Queue (veh)		0.0	0.0	0.3	0.0		6.3							
		2022 Base + Phase 1 (Right-in/Right-out Access)	Volumes		1063	126		953				86				A	NBRT is approaching capacity.
			Delay		0.0	0.0		0.0				41.2					
			95% Queue (veh)		0.0	0.0		0.0				2.4					
		2022 Base + Phase 1 (WBLT Lane & NBLT Receiving Lane)	Volumes		1063	78	48	901		47		39				A	NB movements are approaching capacity.
			Delay		0.0	0.0	12.1	0.0		34.3							
			95% Queue (veh)		0.0	0.0	0.3	0.0		2.1							
		2025 Base	Volumes		1124	0	0	953		0		0				A	OK
			Delay		0.0	0.0	0.0	0.0		0.0							
			95% Queue (veh)		0.0	0.0	0.0	0.0		0.0							
		2025 Base + Phase 1 & Phase 2 (Right-in/Right-out Access)	Volumes		1124	223		1036				153				A	NBRT is over capacity.
			Delay		0.0	0.0		0.0				116.0					
			95% Queue (veh)		0.0	0.0		0.0				7.6					
		2025 Base + Phase 1 & Phase 2 (WBLT Lane & NBLT Receiving Lane)	Volumes		1124	140	83	953		86		67				A	NB movements are over capacity.
			Delay		0.0	0.0	13.8	0.0		96.8							
			95% Queue (veh)		0.0	0.0	0.7	0.0		6.9							
		2025 Base + Phase 1 & Phase 2 (Right-in/Right-out with Chine Avenue Connection)	Volumes		1141	102		1036				50				A	NBRT is approaching capacity.
			Delay		0.0	0.0		0.0				36.8					
			95% Queue (veh)		0.0	0.0		0.0				1.3					
		2030 Base	Volumes		1226	0	0	1039		0		0				A	OK
			Delay		0.0	0.0	0.0	0.0		0.0							
			95% Queue (veh)		0.0	0.0	0.0	0.0		0.0							
		2030 Base + Phase 1 & Phase 2 (Right-in/Right-out Access)	Volumes		1226	223		1122				153				B	NBRT is over capacity.
			Delay		0.0	0.0		0.0				184.2					
			95% Queue (veh)		0.0	0.0		0.0				9.4					
		2030 Base + Phase 1 & Phase 2 (WBLT Lane & NBLT Receiving Lane)	Volumes		1226	140	83	1039		86		67				A	NB movements are over capacity.
			Delay		0.0	0.0	14.9	0.0		153.4							
			95% Queue (veh)		0.0	0.0	0.7	0.0		8.7							
		2030 Base + Phase 1 & Phase 2 (Right-in/Right-out with Chine Avenue Connection)	Volumes		1243	102		1122				50				A	NBRT is approaching capacity.
			Delay		0.0	0.0		0.0				46.2					
			95% Queue (veh)		0.0	0.0		0.0				1.7					

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)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

Based on the capacity analyses summarized by **TABLE 5** and **TABLE 6**, the following observations can be made:

Westwood Street (N/S) at Kingsway Avenue (E/W)

- The signalized intersection currently operates at an overall LOS B (Very Good) and LOS C (good) during the existing AM and PM peak hours with existing traffic signal timing. The southbound left turn movement is approaching capacity during the AM peak hour.
- By the year 2022 under base traffic conditions and with optimized signal timing, the overall intersection level of service is LOS C (Good) during the AM and PM peak hours. The southbound left-turn movement is approaching capacity in the PM peak hour.
- Addition of Phase 1 site traffic to 2022 base traffic conditions results in no change to the overall intersection level of service. The overall intersection level of service remains at C (Good) during the AM and PM peak hours. The northbound through and the southbound left turn movements are approaching capacity.
- By the year 2025 under base traffic conditions and with optimized signal timing, the overall intersection level of service is LOS C (Good) during the AM and PM peak hours. The westbound right turn, the northbound through, and the southbound left turn movements are approaching capacity during the PM peak hour.
- Addition of Phase 1 and Phase 2 site traffic to base 2025 base traffic conditions results in change to the overall intersection level of service. The overall intersection level of service remains at C (good) during the AM peak hour however, the overall intersection level of service is LOS D (Fair) during the PM peak hour. The westbound right-turn, the northbound through and right turn, and the southbound left turn movements are approaching capacity.
- By the year 2030 under base traffic conditions and with optimized signal timing, the overall intersection level of service is LOS C (Good) during the AM peak hour and LOS D (Fair) during the PM peak hour. The westbound right-turn, the northbound through, and the southbound left-turn movements are approaching capacity during the PM peak hour.
- For the year 2030 the overall intersection level of service is LOS C (Good) during the AM peak hour. However, the overall intersection level of service is projected to decrease to LOS E (Poor) during the PM peak hour. The westbound right turn movement is approaching capacity and the northbound through and right turn, and the southbound left-turn movements are over capacity.

Dixon Street (N/S) at Kingsway Avenue (E/W)

- The signalized intersection currently operates at an overall LOS A (Excellent) with the existing traffic signal timing, for the existing AM and PM peak hours.
- By the years 2022, 2025 and 2030 under base traffic conditions and with optimized signal timing, the overall intersection level of service remains at LOS A (Excellent) during the AM and PM peak hours.
- Addition of Phase 1 site traffic to 2022 base traffic conditions does not result in a change to the overall intersection level of service. It remains at LOS A (Excellent) during the AM and PM peak hours.
- Addition of Phase 1 and Phase 2 site traffic to 2025 base traffic conditions does not result in change to the overall intersection level of service. It remains at LOS A (Excellent) without and with a Chine Avenue connection, during the AM and PM peak hours.
- By the year 2030, the overall intersection level of service is LOS B (Very Good) without and with a Chine Avenue connection, during the AM and PM peak hours.

Maple Street (N/S) at Kingsway Avenue (E/W)

- The signalized intersection currently operates at an overall LOS B (Very Good) during the AM peak hour and LOS D (Fair) during the PM peak hour with the existing traffic signal timing. The eastbound movements are over capacity.
- By the year 2022 and 2025 under base traffic conditions and with optimized signal timing, the overall intersection level of service is LOS B (Very Good) during the AM peak hour and LOS C (Good) in the PM peak hour. However, the eastbound and the northbound left turn movements are approaching capacity in the PM peak hour.
- By the year 2030 under base traffic conditions and with optimized signal timing, the overall intersection level of service is LOS B (Very Good) during the AM peak hour and LOS D (Fair) in the PM peak hour. The eastbound and northbound left turn movements are over capacity.
- Addition of Phase 1 site traffic to 2022 base traffic conditions does not result in a change to the overall intersection level of service. It remains at LOS B (Very Good) during the AM peak hour and LOS C (Good) during the PM peak hour. The eastbound and northbound left turn movements are approaching capacity.
- Addition of Phase 1 and Phase 2 site traffic to 2025 base traffic conditions results in an overall intersection level of service of LOS B (Very Good) during the AM peak hour and LOS D (Fair) during the PM peak hour. The eastbound and northbound left turn movements are over capacity.
- By the year 2030 the overall intersection level of service is LOS C (Good) during the AM peak hour and at LOS E (Poor) during the PM peak hour. The eastbound and northbound left-turn movements are over capacity.

Gately Avenue (N/S) at Kingsway Avenue (E/W)

- This location currently operates as an unsignalized intersection with STOP control on Gately Avenue. For the existing conditions, the intersection operates at LOS A (Excellent) during the AM and PM peak hours. The northbound movements are approaching capacity during the PM peak hour.
- By the year 2022 under base traffic conditions, the overall intersection level of service remains at LOS A (Excellent) during the AM and PM peak hours. The northbound movements are approaching capacity during the PM peak hour.
- By the year 2025 and year 2030 under base traffic conditions, the overall intersection level of service remains at LOS A (Excellent) during the AM and PM peak hours.
- Addition of Phase 1 site traffic to 2022 base traffic conditions does not result in a change to the overall intersection level of service during the AM and PM peak hours. It remains at LOS A (Excellent). The northbound movements are over capacity during the AM and PM peak hours.
- To improve safety and the level of service for Gately Avenue at Kingsway Avenue in 2022, CTS considered two options:
 - Right-In/Right-Out only at the intersection of Gately Avenue and Kingsway Avenue.
 - A westbound left turn lane mirrored by a receiving lane for the northbound left turn movement, on Kingsway Avenue at Gately Avenue.

The overall intersection level of service is LOS A (Excellent) during the AM and PM peak hours however the northbound movements are approaching capacity for both options during the PM peak hour.

- By the year 2025 base traffic condition with Phase 1 and Phase 2 site traffic, the overall intersection level of service is LOS A (Excellent) during the AM and PM peak hours.
- To improve safety and the level of service for Gately Avenue at Kingsway Avenue in 2025, CTS considered three options:
 - Right-In/Right-Out only at the intersection of Gately Avenue and Kingsway Avenue.
 - A westbound left turn lane mirrored by a receiving lane for the northbound left turn movement, on Kingsway Avenue at Gately Avenue.
 - Right-In/Right-Out at the intersection of Gately Avenue and Kingsway Avenue with a Chine Avenue connection.

The northbound right turn is approaching capacity in the AM peak hour and over capacity in the PM peak hour for the right-in/right-out only option.

The northbound left turn/through/right turn movements are approaching capacity in the AM peak hour and over capacity in the PM peak hour for the westbound left turn lane/receiving lane option.

The northbound right turn is approaching capacity in the PM peak hour for the right-in/right-out with a Chine Avenue connection.

- For the year 2030 base traffic condition with Phase 1 and Phase 2 site traffic, the overall intersection level of service is LOS A (Excellent) during both the AM and PM peak hours.
- To improve safety and the level of service for Gately Avenue at Kingsway Avenue in 2030, CTS considered three options:
 - Right-In/Right-Out only at the intersection of Gately Avenue and Kingsway Avenue.
 - A westbound left turn lane mirrored by a receiving lane for the northbound left turn movement, on Kingsway Avenue at Gately Avenue.
 - Right-In/Right-Out at the intersection of Gately Avenue and Kingsway Avenue with a Chine Avenue connection.

The northbound right turn is approaching capacity in the AM peak hour and over capacity in the PM peak hour for the right-in/right-out only option.

The northbound left turn/through/right turn movements are approaching capacity in the AM peak hour and over capacity in the PM peak hour for the westbound left turn lane/receiving lane option.

The northbound right turn is approaching capacity in the PM peak hour for the right-in/right-out with a Chine Avenue connection.

6.0 ACCESS AND SIGHT LINES

6.1 Sight Lines

CTS reviewed the sight lines to/from the intersection of Gately Avenue given the horizontal curve on Kingsway Avenue to the east is limiting for vehicles turning left on to Kingsway Avenue from Gately Avenue or turning left on to Gately Avenue from Kingsway Avenue.

With reference to the Transportation Association of Canada *Geometric Design Guide for Canadian Roads 2017*, Table 2.5.2: *Stopping Sight Distance*, the stopping sight distance for a road posted at 50 km/h is 65 meters. CTS measured the stopping sight distance from the STOP bar on Gately Avenue east to a point on Kingsway Avenue westbound at 70 meters. CTS also measured the stopping sight distance from the intersection with Gately Avenue east to a point on Kingsway Avenue westbound at 85 meters. The left turn from Gately Avenue to Kingsway Avenue is the critical manoeuvre.

CTS also tested a scenario assuming a vehicle approaching the intersection of Gately Avenue and Kingsway Avenue from the east is approaching at 60 km/h, a typical operating speed. In this instance the stopping sight distance would be 85 meters.

6.2 Access

To more safely accommodate left turns at the intersection of Gately Avenue and Kingsway Avenue, CTS considered the creation of a left turn lane and a receiving lane on Kingsway Avenue at Gately Avenue. Creation of the left turn lane and receiving lane on Kingsway Avenue at Gately Avenue was considered for the 2022 base traffic condition with Phase 1 site traffic as well as the 2025 and 2030 base traffic condition with Phase 1 and Phase 2 site traffic, analysis. The proposed laning is illustrated by **FIGURE 24**.

CTS also considered right-in/right-out on Kingsway Avenue at Gately Avenue. Creation of the right-in/right-out only on Kingsway Avenue at Gately Avenue was considered for the 2022 base traffic condition with Phase 1 site traffic as well as the 2025 and 2030 base traffic condition with Phase 1 and Phase 2 site traffic, analysis. The proposed laning is illustrated by **FIGURE 25**.

CTS also considered a Chine Avenue connection with right-in/right-out only on Kingsway Avenue at Gately Avenue. Creation of a Chine Avenue connection with right-in/right-out only on Kingsway Avenue at Gately Avenue was considered for the 2025 and 2030 base traffic condition with Phase 1 and Phase 2 site traffic, analysis. The proposed connection is illustrated by **FIGURE 26**.

CTS did not consider signalization of the intersection of Kingsway Avenue at Gately Avenue given the following:

- The intersection spacing between Dixon Street and Gately Avenue does not meet the minimum with reference to the Transportation Association of Canada *Geometric Design Guide for Canadian Roads 2017, Section 9.4.2.1: Arterials*; and
- The turning sight distance does not meet the minimum with reference to the Transportation Association of Canada *Geometric Design Guide for Canadian Roads 2017, Table 9.9.4: Design Intersection Sight Distance*.

FIGURE 24
GATELY AVENUE AT KINGSWAY AVENUE – WESTBOUND LEFT TURN LANE/RECEIVING LANE



FIGURE 25
GATELY AVENUE AT KINGSWAY AVENUE – RIGHT-IN/RIGHT-OUT



FIGURE 26
CHINE AVENUE CONNECTION



7.0 PARKING AND LOADING

7.1 Vehicle Parking

With reference to the City of Port Coquitlam *Zoning Bylaw 4078 – Parking and Development Management*, 300 off-street vehicle parking spaces are required for the non-market housing and five (5) off-street parking spaces for a daycare. **TABLE 7** summarizes the vehicle parking requirement and provision.

**TABLE 7
VEHICLE PARKING SUMMARY**

USE	RATE (BYLAW)	SCOPE	REQUIRED	PROVIDED	DIFFERENCE
Phase 1 (Non-market Housing)	1 per dwelling unit	300	300	289	-11
Daycare	1 for each 10 children	50	5	5	

From **TABLE 7**, the development is proposing 294 off-street vehicle parking spaces. The proposed off-street vehicle parking requirement is therefore deficient and an eleven (11) vehicle parking space variance or a 0.96 parking space per unit rate, is being sought.

In support of a an eleven (11) vehicle parking space variance or a 0.96 parking space per unit rate, CTS referenced the Institute of Transportation Engineers (ITE) *Parking Generation Manual 5th Edition - Affordable Housing (Code 223)* wherein it notes that the parking space rate per unit can be as low as 0.32 parking spaces per unit for affordable non-market housing. It is also noted that the 85th percentile parking space rate can range between 0.86 and 1.33 parking spaces per unit and the 95% confidence interval parking space rate can range between 0.89 and 1.09 parking spaces per unit.

Given vehicle ownership amongst residents of affordable non-market housing is generally low, good access to transport modal infrastructure and with reference to the preceding statistics, it would be reasonable to accept an (11) vehicle parking space variance or a 0.96 parking space per unit parking space rate for this development site.

7.2 Bicycle Parking

With reference to the City of Port Coquitlam *Zoning Bylaw 4078 – Parking and Development Management*, there is no bicycle parking space requirement for the site.

7.3 Loading

With reference to the City of Port Coquitlam *Zoning Bylaw 4078 – Parking and Development Management*, there is no loading space requirement for the site.

8.0 SUMMARY & CONCLUSIONS

CTS conducted a Traffic Impact Study for a proposed housing development at the intersection of Gately Avenue at Kingsway Avenue in the City of Port Coquitlam. Based on the analysis documented, the following can be stated:

- 1) The proposed housing development is well serviced by the local street network.
- 2) Transport model infrastructure adjacent to the site provides localized access to walking, cycling and transit. There are opportunities for adding to the pedestrian and cycling network given the proximity to existing transport modal infrastructure.
- 3) The proposed housing development - Phase 1 is forecast to generate a total of 153 new vehicle trips (51 inbound, 102 outbound) during the weekday AM peak hour, and 178 new vehicle trips (102 inbound, 76 outbound) during the PM peak hour. The proposed housing development - Phase 2 is forecast to generate a total of 162 new vehicle trips (42 inbound, 120 outbound) during the weekday AM peak hour, and 198 new vehicle trips (121 inbound, 77 outbound) during the weekday PM peak hour.
- 4) CTS did not discount new vehicle trips generated by Phase 1 and Phase 2 by subtracting vehicle trips currently being generated by the existing land uses on the Phase 1 and Phase 2 housing development sites. Traffic volumes therefore represent the worst case scenario in that all traffic would be “new” traffic on the adjacent road network and the capacity analysis is considered conservative.
- 5) The signalized intersection at Westwood Street at Kingsway Avenue will operate well i.e. LOS C (Good) to LOS D (Fair) overall for all base condition scenarios though individual movements are nearing capacity. With the addition of Phase 1 and Phase 2 site traffic, the level of service remains okay i.e. LOS C (Good) to LOS E (Poor), overall for the year 2025 and 2030 scenarios. Individual movements however, are nearing or are over capacity.
- 6) The signalized intersection at Dixon Street at Kingsway Avenue will operate very well i.e. LOS A (Excellent) to LOS B (Very Good), overall for all scenarios without and with addition of Phase 1 and Phase 2 site traffic.
- 7) The signalized intersection at Maple Street at Kingsway Avenue will operate well i.e. LOS B (Very Good) to LOS D (Fair), overall for all base condition scenarios though individual movements are nearing capacity or over capacity. With the addition of Phase 1 and Phase 2 site traffic, the level of service remains okay i.e. LOS B (Very Good) to LOS E (Poor), overall for the year 2025 and 2030 scenarios. Individual movements however, are nearing or are over capacity.
- 8) The unsignalized intersection at Gately Avenue at Kingsway Avenue will operate well i.e. LOS A (Excellent) and LOS B (Very Good) overall, for all scenarios without and with the addition of Phase 1 and Phase 2 site traffic. However, the northbound movements experience significant delay, particularly in the PM peak hour.
- 9) To improve safety and the level of service for Gately Avenue at Kingsway Avenue, CTS considered two options for the 2022 base traffic condition and Phase 1 site

traffic:

- Right-In/Right-Out only at the intersection of Gately Avenue and Kingsway Avenue; and
- A westbound left turn lane mirrored by a receiving lane for the northbound left turn movement, on Kingsway Avenue at Gately Avenue.

Based on the capacity analysis, the overall level of service is acceptable for both options however, Gately Avenue northbound is approaching capacity in the PM peak hour with the right-in/right-out option and the westbound left turn lane/receiving lane option.

- 10) To improve safety and the level of service for Gately Avenue at Kingsway Avenue, CTS considered three options for the 2025 and 2030 base traffic condition and Phase 1 and Phase 2 site traffic:

- Right-In/Right-Out only at the intersection of Gately Avenue and Kingsway Avenue.
- A westbound left turn lane mirrored by a receiving lane for the northbound left turn movement, on Kingsway Avenue at Gately Avenue.
- Right-In/Right-Out at the intersection of Gately Avenue and Kingsway Avenue and a Chine Avenue Connection.

Based on the capacity analysis, the overall level of service is acceptable for all options however, Gately Avenue is approaching capacity in the AM peak hour and exceeding capacity in the PM peak hour with the right-in/right-out option and the westbound left turn lane/receiving lane option.

The level of service on Gately remains acceptable with the Right-In/Right-Out at the intersection of Gately Avenue and Kingsway Avenue and a Chine Avenue Connection.

- 11) As per the City of Port Coquitlam *Zoning Bylaw 40787 - Parking and Development Management*, an eleven (11) vehicle parking space variance is being sought. The bicycle parking and loading space requirements are met.

9.0 RECOMMENDATIONS

Based on the data, analysis and conclusions documented by this study, the following is recommended that:

1. The City of Port Coquitlam accept the data, analysis and conclusions documented by this study.
2. Sidewalks be provided along all frontages and that a multi-user pathway connection along Kingsway Avenue to the multi-user pathway network along the Coquitlam River, be provided.
3. For Phase 1 build-out:
 - That an interim westbound left turn lane mirrored by a receiving lane for the northbound left turn movement on Kingsway Avenue at Gately Avenue, be constructed; and
 - Signal timings be optimized.
4. For Phase 1 and Phase 2 build-out:
 - The Chine Avenue connection be constructed;
 - The intersection of Kingsway Avenue at Gately Avenue be right-in/right-out only; and
 - Signal timings be optimized.


Note – The analysis by CTS was based on a general estimate of the potential density for Phase 2. Given the timing of the development of Phase 2 remains unclear at this point, CTS expects that the Chine Avenue connection or potentially signalizing Kingsway at Gately Avenue will be reviewed by the City of Port Coquitlam during the development application process for Phase 2.

5. For 5 years post Phase 1 and Phase 2 build-out:
 - Signal timings be optimized.
6. Given vehicle ownership amongst residents of affordable non-market housing is generally low, good access to transport modal infrastructure and with reference to Institute of Transportation Engineers (ITE) *Parking Generation Manual 5th Edition - Affordable Housing (Code 223)* wherein lower parking space rates are noted for affordable non-market housing, it would be reasonable to accept an (11) vehicle parking space variance or a 0.96 parking space per unit parking space rate for this development site.

In closing, CTS would like to thank Peak Tower Developments for the opportunity to assist you and your team with this unique assignment. Please call the undersigned should there be any questions and/or comments pertaining to this report or its contents.

Yours truly,

CREATIVE TRANSPORTATION SOLUTIONS LTD.

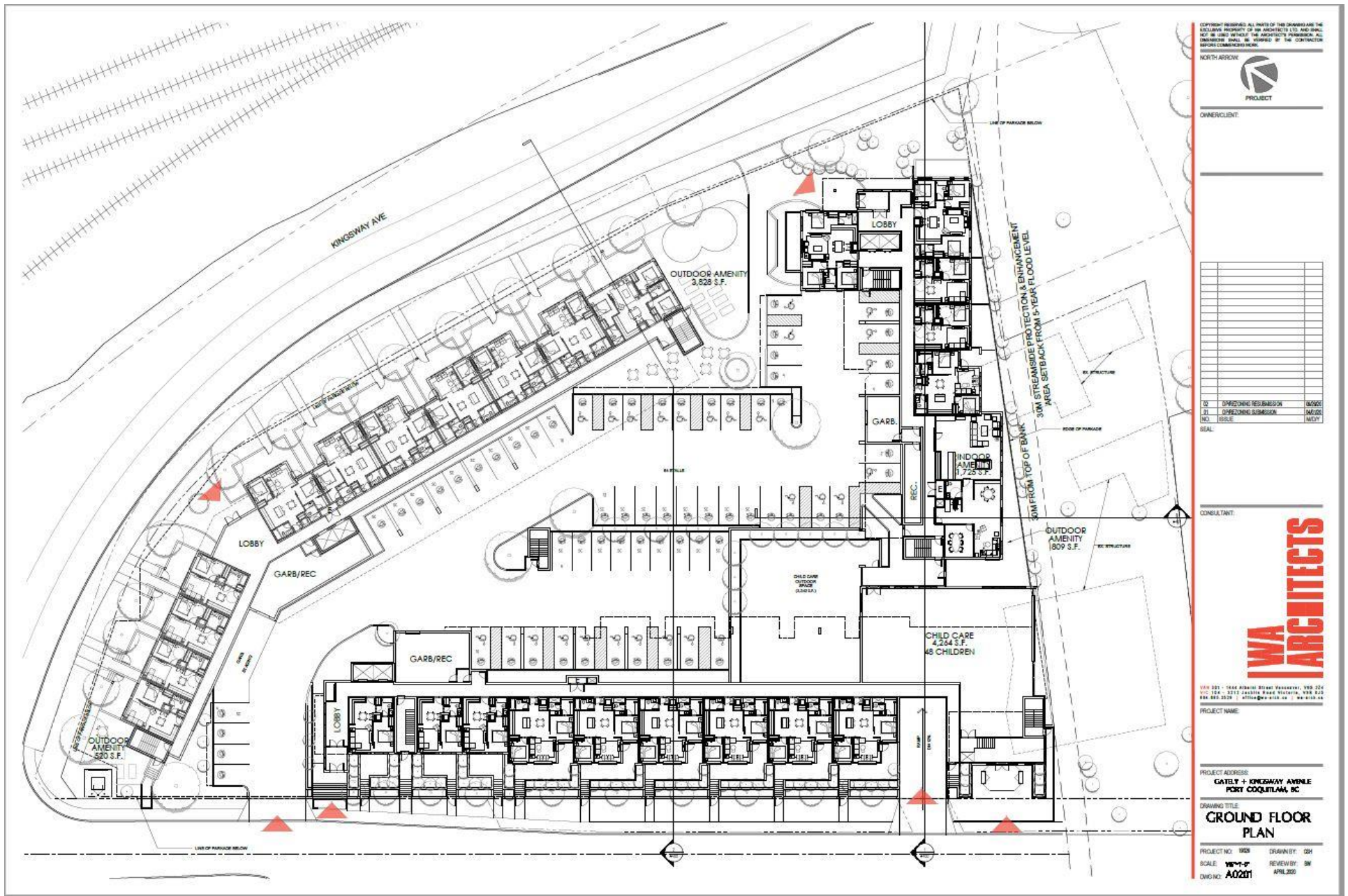
 

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E-mail: bdozzi@cts-bc.com

APPENDICES

Appendix A Site Plan



Appendix B

Transit Route Diagrams

173 Coquitlam Central Station/ Cedar



Legend

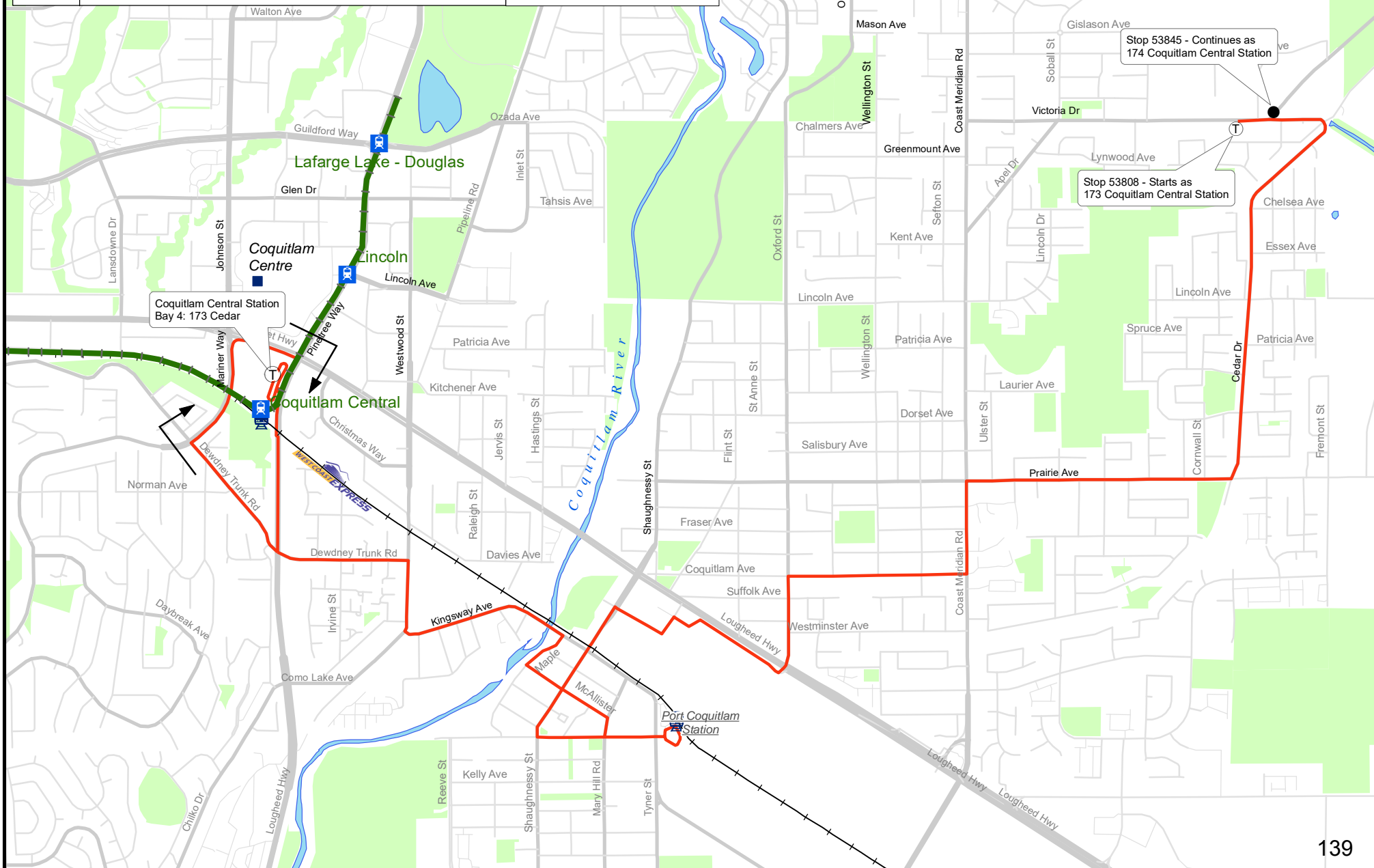
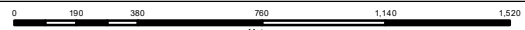
- Regular Routing
- + West Coast Express
- West Coast Express Station
- Terminus/Scheduled Stop
- Point of Interest

December 2016

For more information, visit

www.translink.ca

CMBC Service Planning



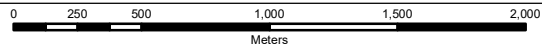
175 Coquitlam Central Station/ Meridian

January 2020

For route and schedule
information, visit
www.translink.bc.ca

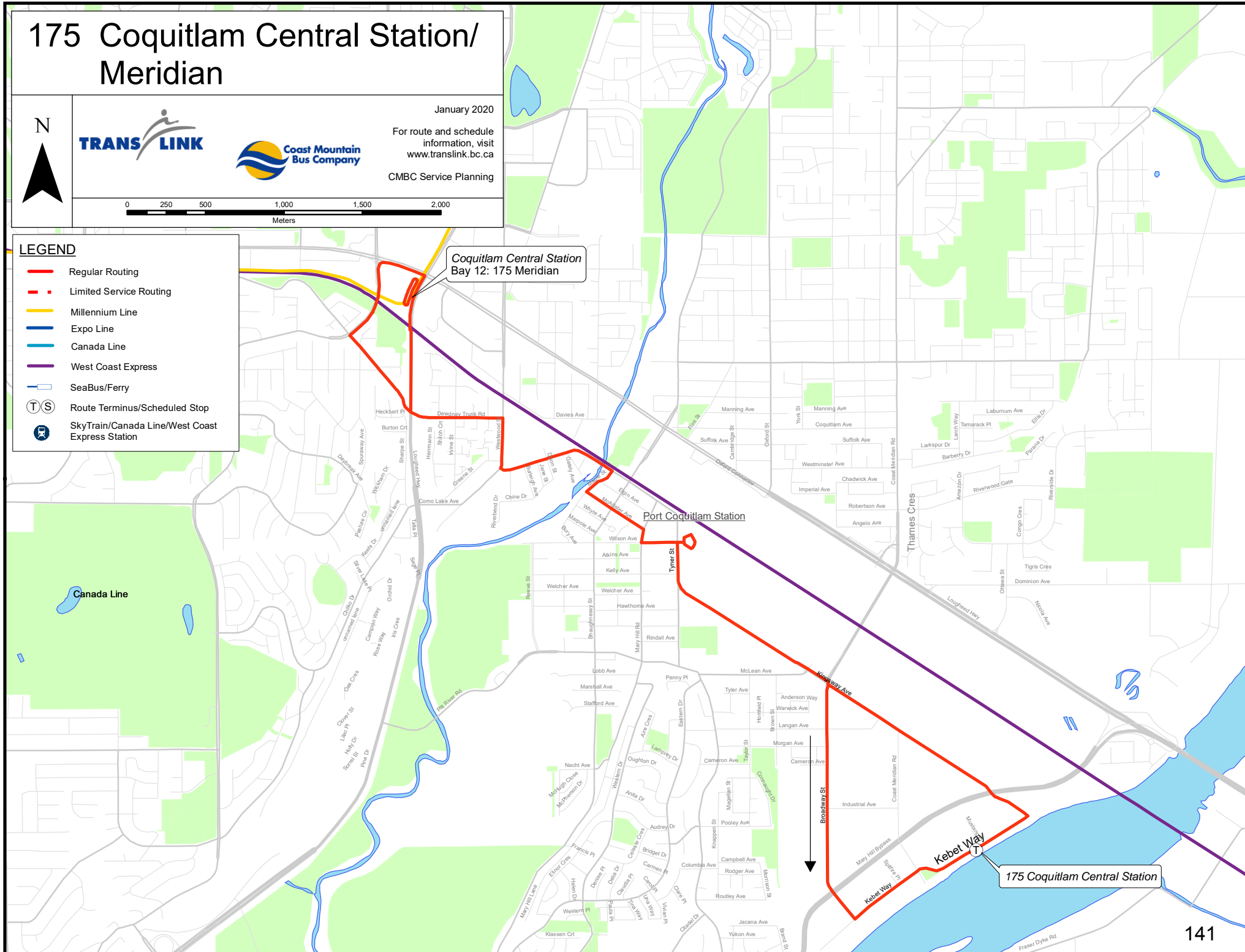
CMBC Service Planning

N



LEGEND

- Regular Routing
- Limited Service Routing
- Millennium Line
- Expo Line
- Canada Line
- West Coast Express
- SeaBus/Ferry
- Route Terminus/Scheduled Stop
- SkyTrain/Canada Line/West Coast Express Station



Appendix C

Turning Movement Count Summary Sheets

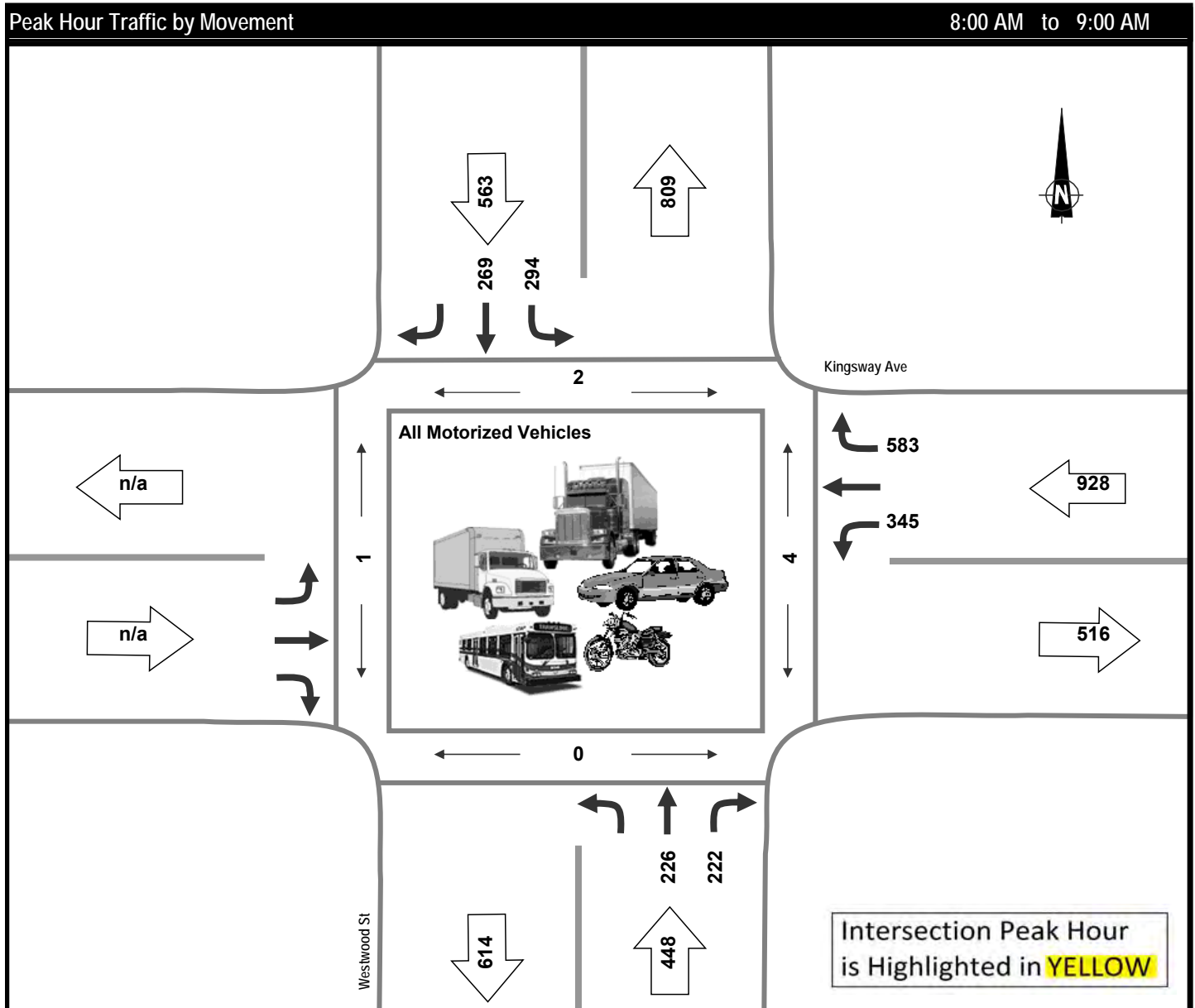
**Vehicle Classification Summary**

Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain

Time Period	Entering Intersection	Vehicle Classification					Total
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:00 - 09:00)	Volume	3,547	29				3,576
	%	99.2%	0.8%				100.0%
Midday (00:00 - 00:00)	Volume						
	%						
Afternoon (15:00 - 18:00)	Volume	6,940	11				6,951
	%	99.8%	0.2%				100.0%
Total (5 Hours)	Volume	10,487	40				10,527
	%	99.6%	0.4%				100.0%

Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles

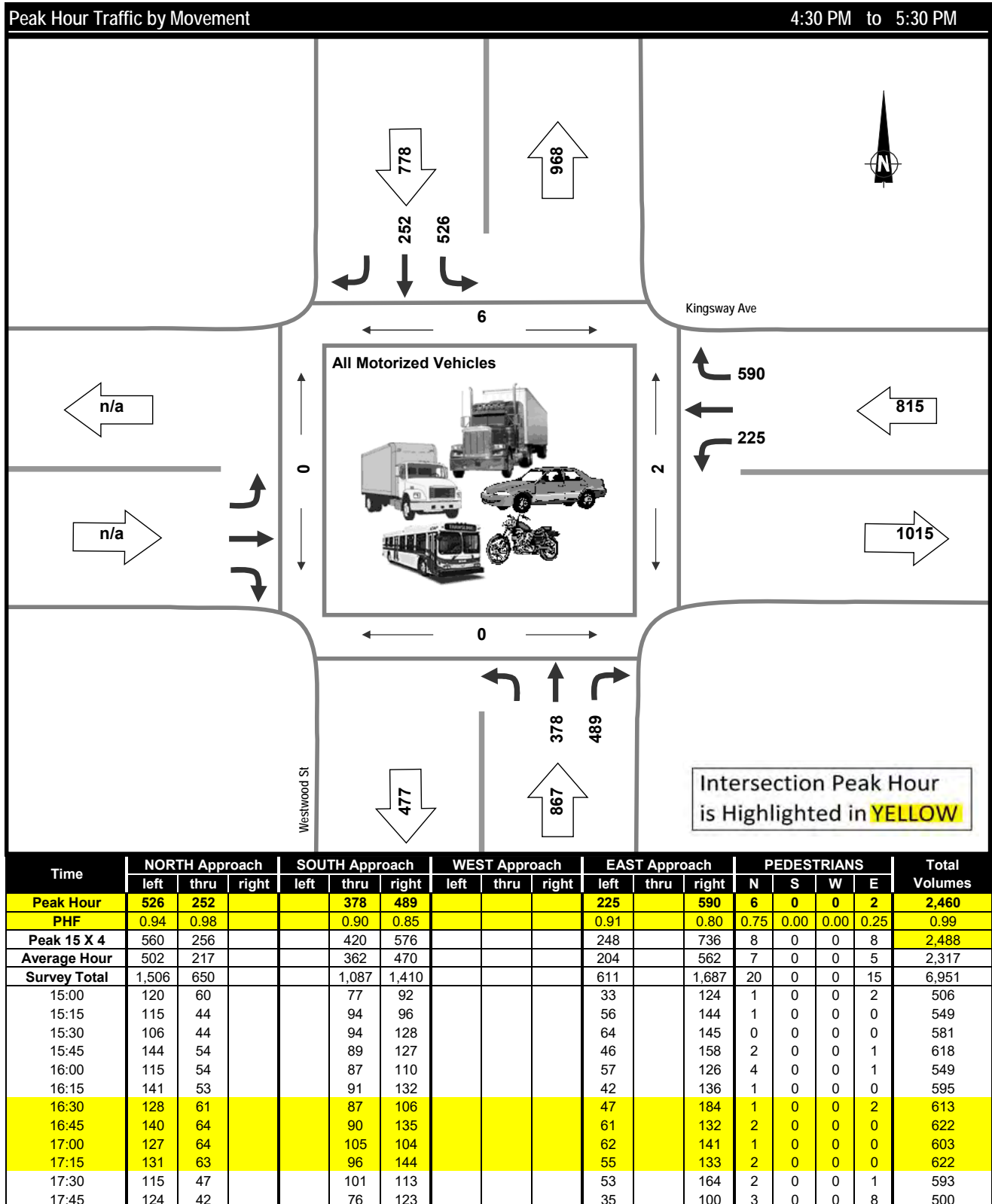
Morning Peak Period



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	294	269			226	222				345		583	2	0	1	4	1,939
PHF	0.80	0.93			0.82	0.82				0.85		0.92	0.25	0.00	0.25	0.33	0.94
Peak 15 X 4	368	288			276	272				404		632	8	0	4	12	2,068
Average Hour	280	291			166	209				353		490	2	0	1	3	1,789
Survey Total	560	582			332	417				706		979	4	0	1	6	3,576
7:00	43	45			24	36				76		80	0	0	0	0	304
7:15	66	102			17	45				85		90	0	0	0	0	405
7:30	63	70			31	52				103		106	0	0	0	0	425
7:45	94	96			34	62				97		120	2	0	0	2	503
8:00	56	67			50	53				94		149	0	0	0	0	469
8:15	75	67			54	61				101		147	0	0	0	1	505
8:30	71	63			53	40				63		158	2	0	0	3	448
8:45	92	72			69	68				87		129	0	0	1	0	517

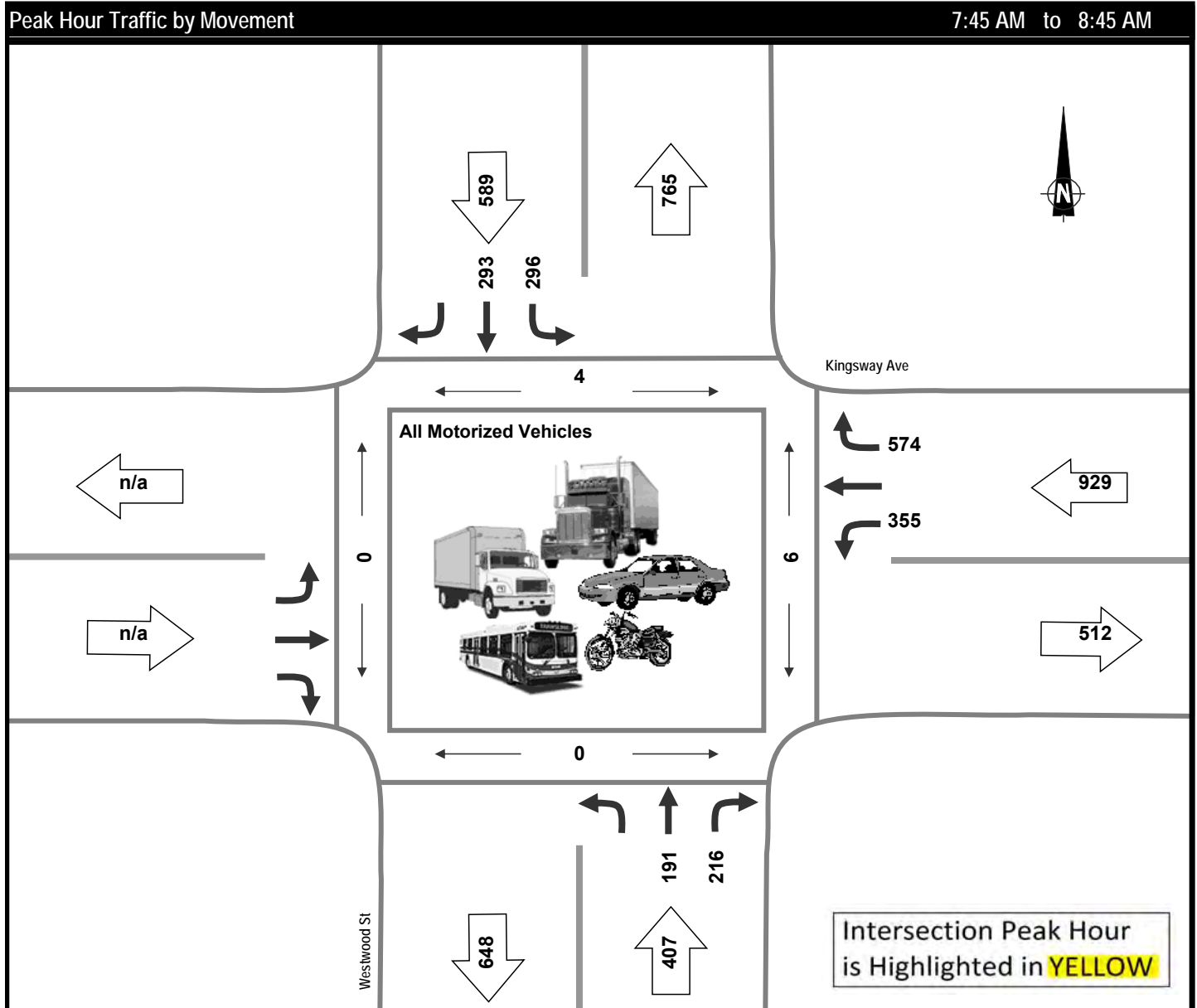
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles

Afternoon Peak Period



Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles
Note: Shifted Peak Hour

Morning Peak Period



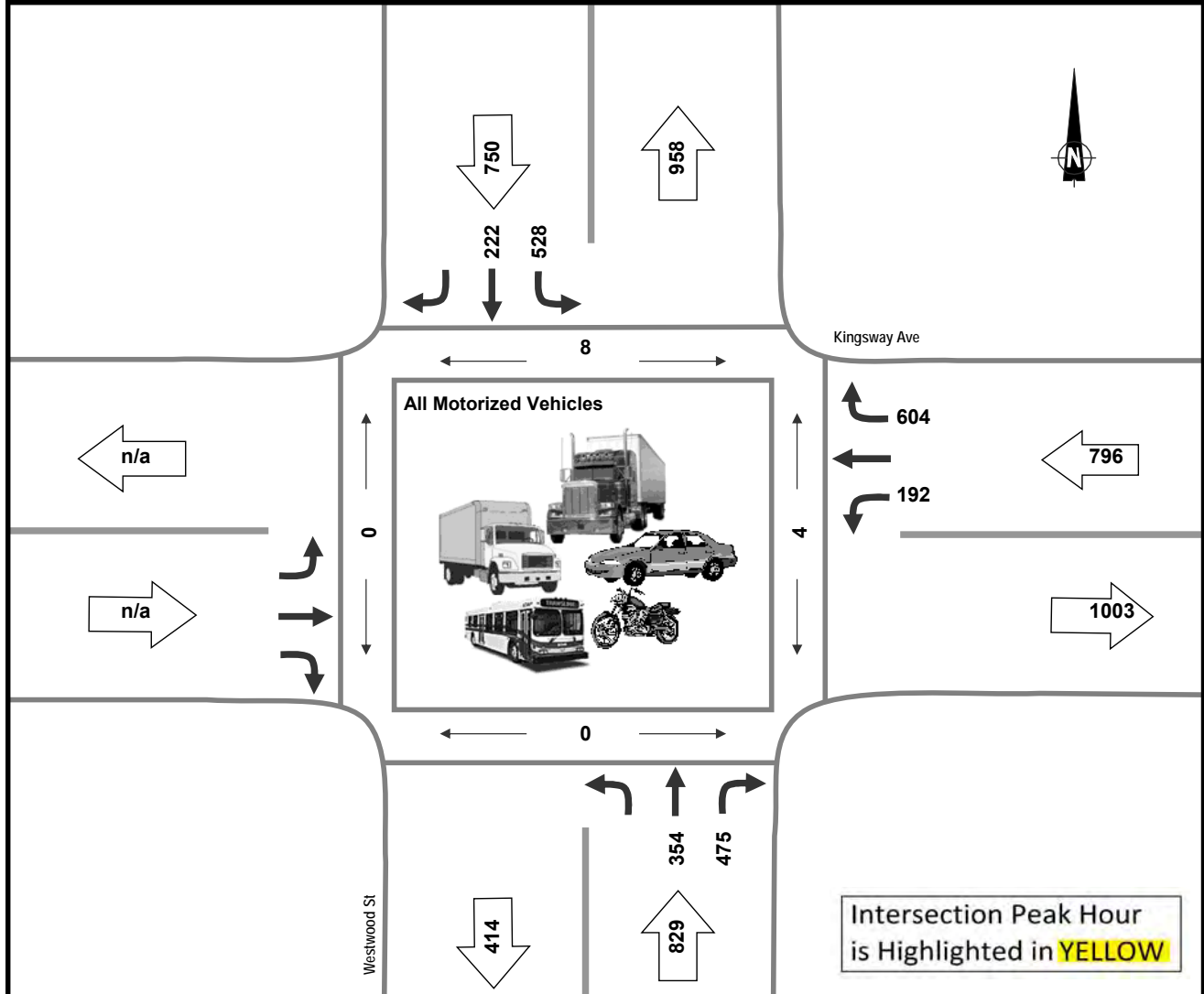
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	296	293			191	216				355		574	4	0	0	6	1,925
PHF	0.79	0.76			0.88	0.87				0.88		0.91	0.50	0.00	0.00	0.50	0.95
Peak 15 X 4	376	384			216	248				404		632	8	0	0	12	2,020
Average Hour	280	291			166	209				353		490	2	0	1	3	1,789
Survey Total	560	582			332	417				706		979	4	0	1	6	3,576
7:00	43	45			24	36				76		80	0	0	0	0	304
7:15	66	102			17	45				85		90	0	0	0	0	405
7:30	63	70			31	52				103		106	0	0	0	0	425
7:45	94	96			34	62				97		120	2	0	0	2	503
8:00	56	67			50	53				94		149	0	0	0	0	469
8:15	75	67			54	61				101		147	0	0	0	1	505
8:30	71	63			53	40				63		158	2	0	0	3	448
8:45	92	72			69	68				87		129	0	0	1	0	517

Afternoon Peak Period

Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles
Note: Shifted Peak Hour

Peak Hour Traffic by Movement

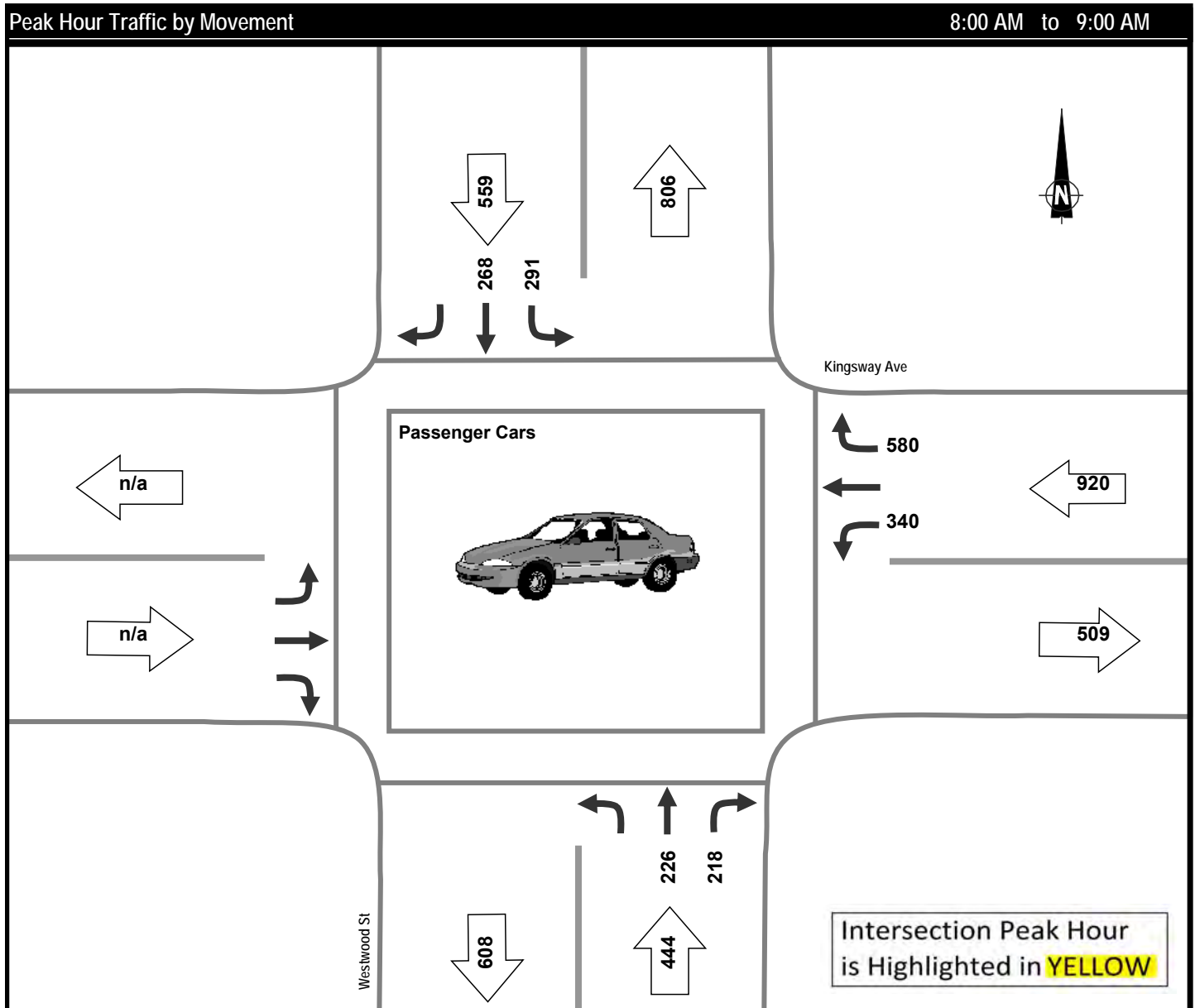
3:45 PM to 4:45 PM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	528	222			354	475				192		604	8	0	0	4	2,375
PHF	0.92	0.91			0.97	0.90				0.84		0.82	0.50	0.00	0.00	0.50	0.96
Peak 15 X 4	576	244			364	528				228		736	16	0	0	8	2,472
Average Hour	502	217			362	470				204		562	7	0	0	5	2,317
Survey Total	1,506	650			1,087	1,410				611		1,687	20	0	0	15	6,951
15:00	120	60			77	92				33		124	1	0	0	2	506
15:15	115	44			94	96				56		144	1	0	0	0	549
15:30	106	44			94	128				64		145	0	0	0	0	581
15:45	144	54			89	127				46		158	2	0	0	1	618
16:00	115	54			87	110				57		126	4	0	0	1	549
16:15	141	53			91	132				42		136	1	0	0	0	595
16:30	128	61			87	106				47		184	1	0	0	2	613
16:45	140	64			90	135				61		132	2	0	0	0	622
17:00	127	64			105	104				62		141	1	0	0	0	603
17:15	131	63			96	144				55		133	2	0	0	0	622
17:30	115	47			101	113				53		164	2	0	0	1	593
17:45	124	42			76	123				35		100	3	0	0	8	500

Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Passenger Cars

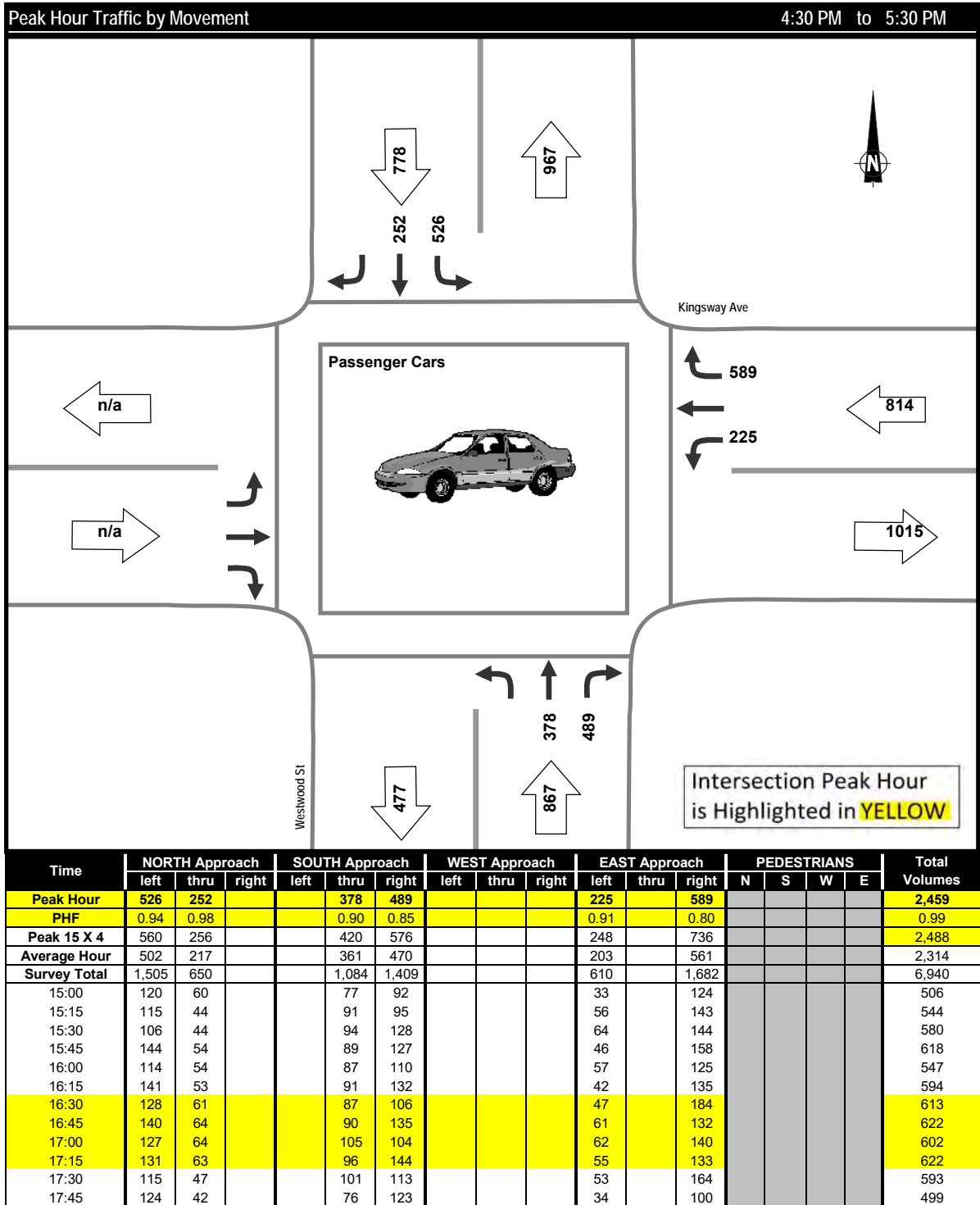
Morning Peak Period



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	291	268			226	218				340		580					1,923
PHF	0.80	0.93			0.82	0.80				0.85		0.92					0.94
Peak 15 X 4	364	288			276	272				400		628					2,056
Average Hour	278	290			166	205				349		487					1,775
Survey Total	556	580			332	409				697		973					3,547
7:00	43	44			24	35				74		79					299
7:15	66	102			17	45				84		90					404
7:30	62	70			31	52				102		105					422
7:45	94	96			34	59				97		119					499
8:00	55	67			50	51				93		148					464
8:15	75	66			54	60				100		146					501
8:30	70	63			53	39				62		157					444
8:45	91	72			69	68				85		129					514

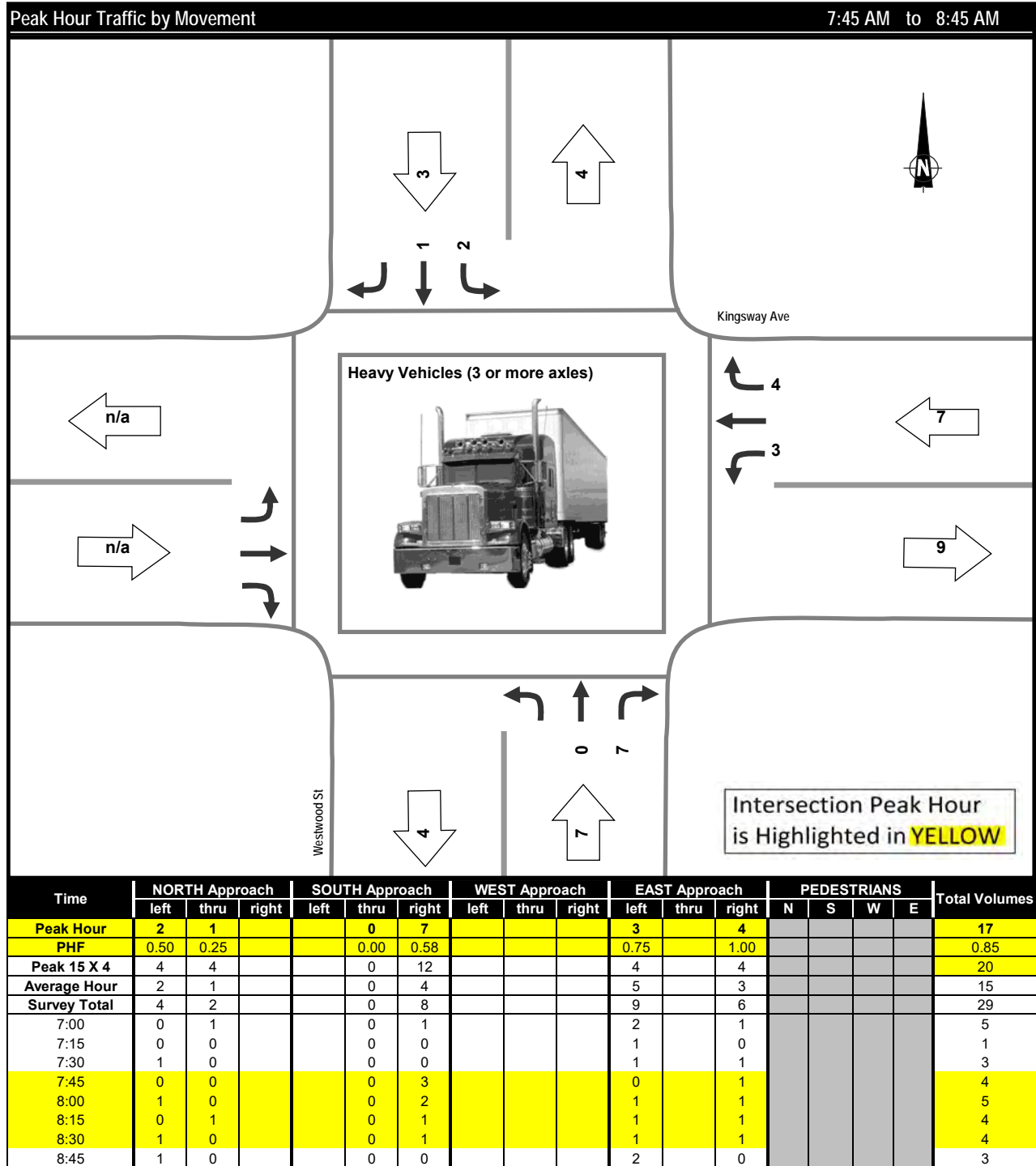
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Passenger Cars

Afternoon Peak Period



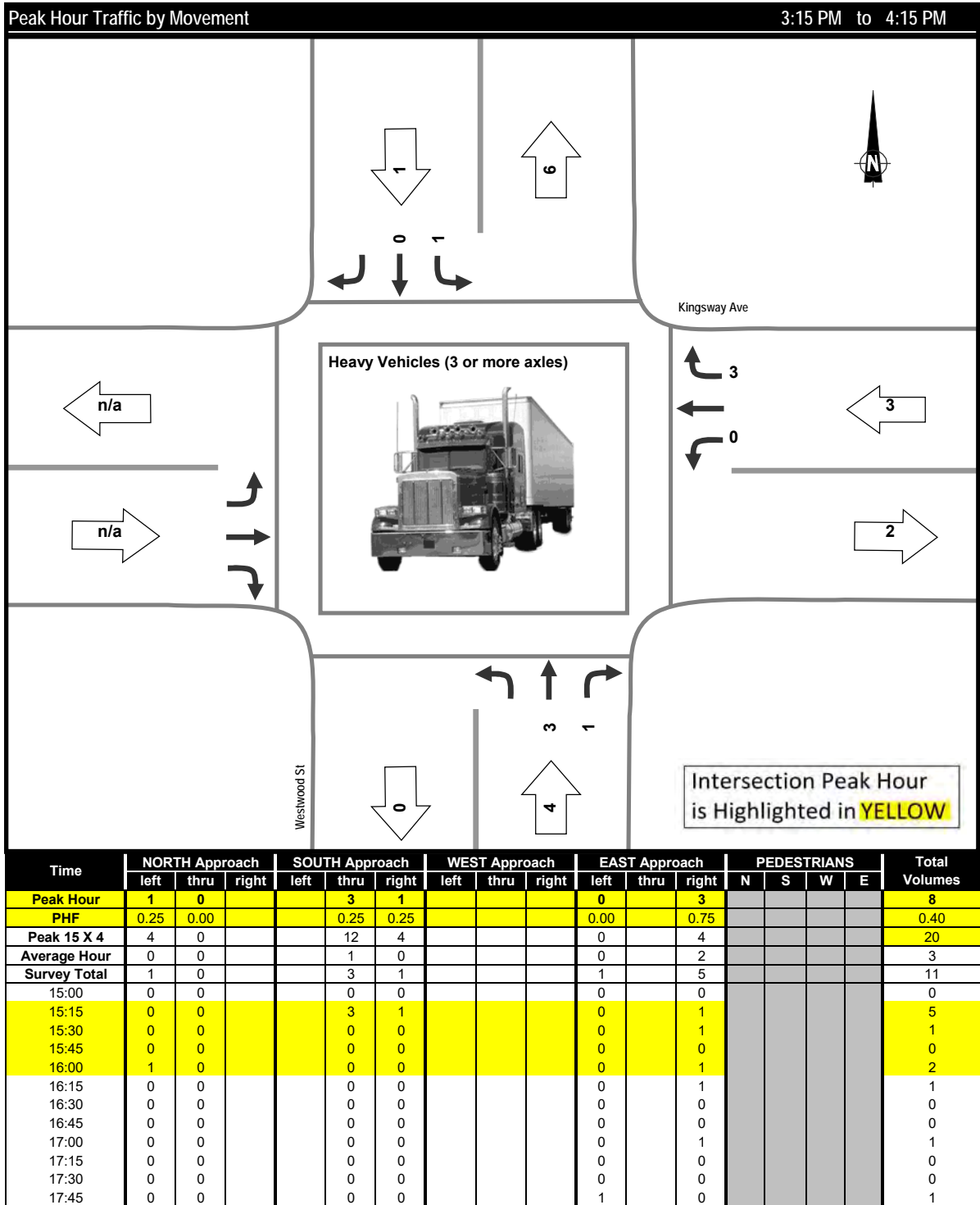
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Heavy Vehicles (3 or more axles)

Morning Peak Period



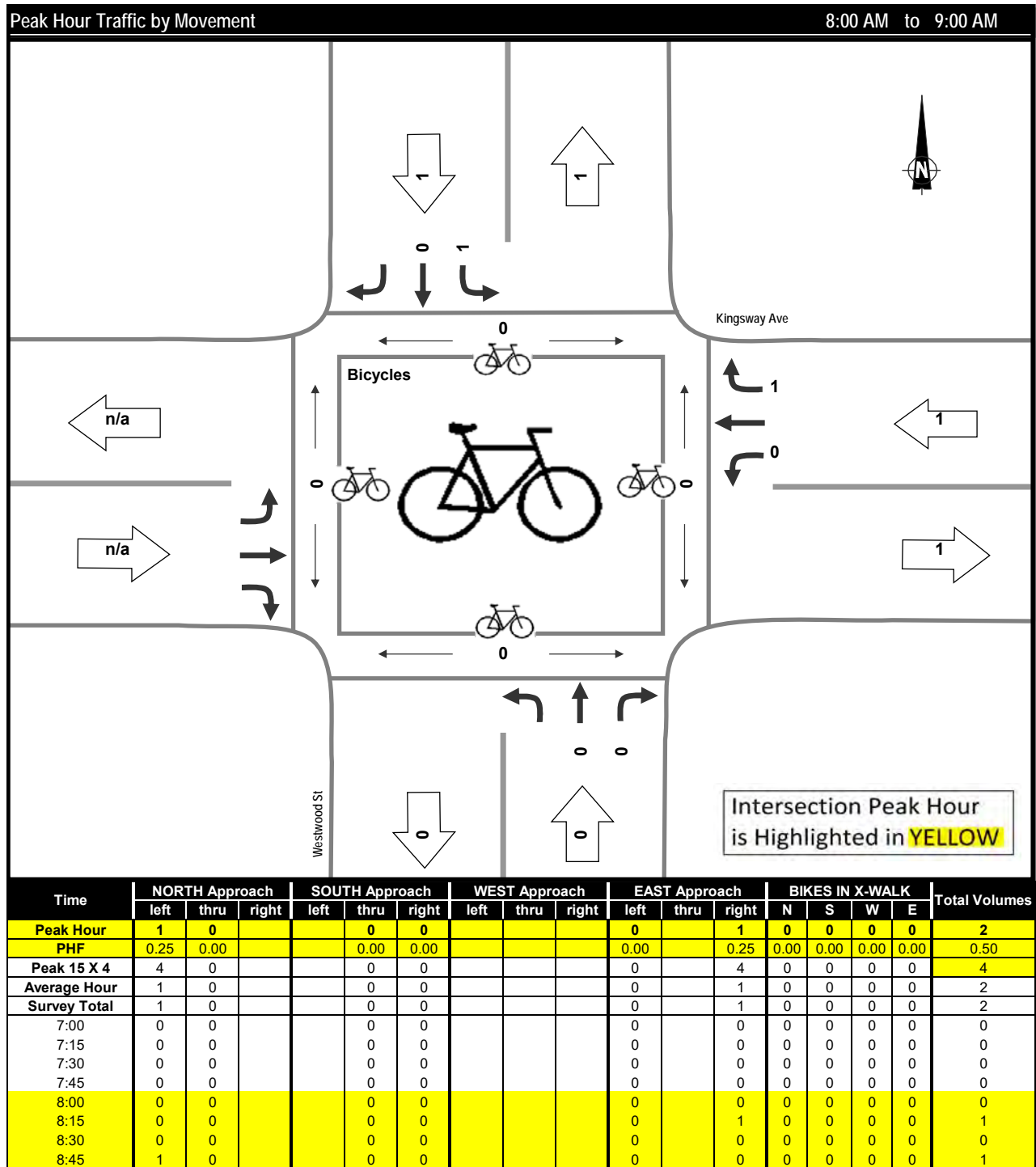
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Heavy Vehicles (3 or more axles)

Afternoon Peak Period



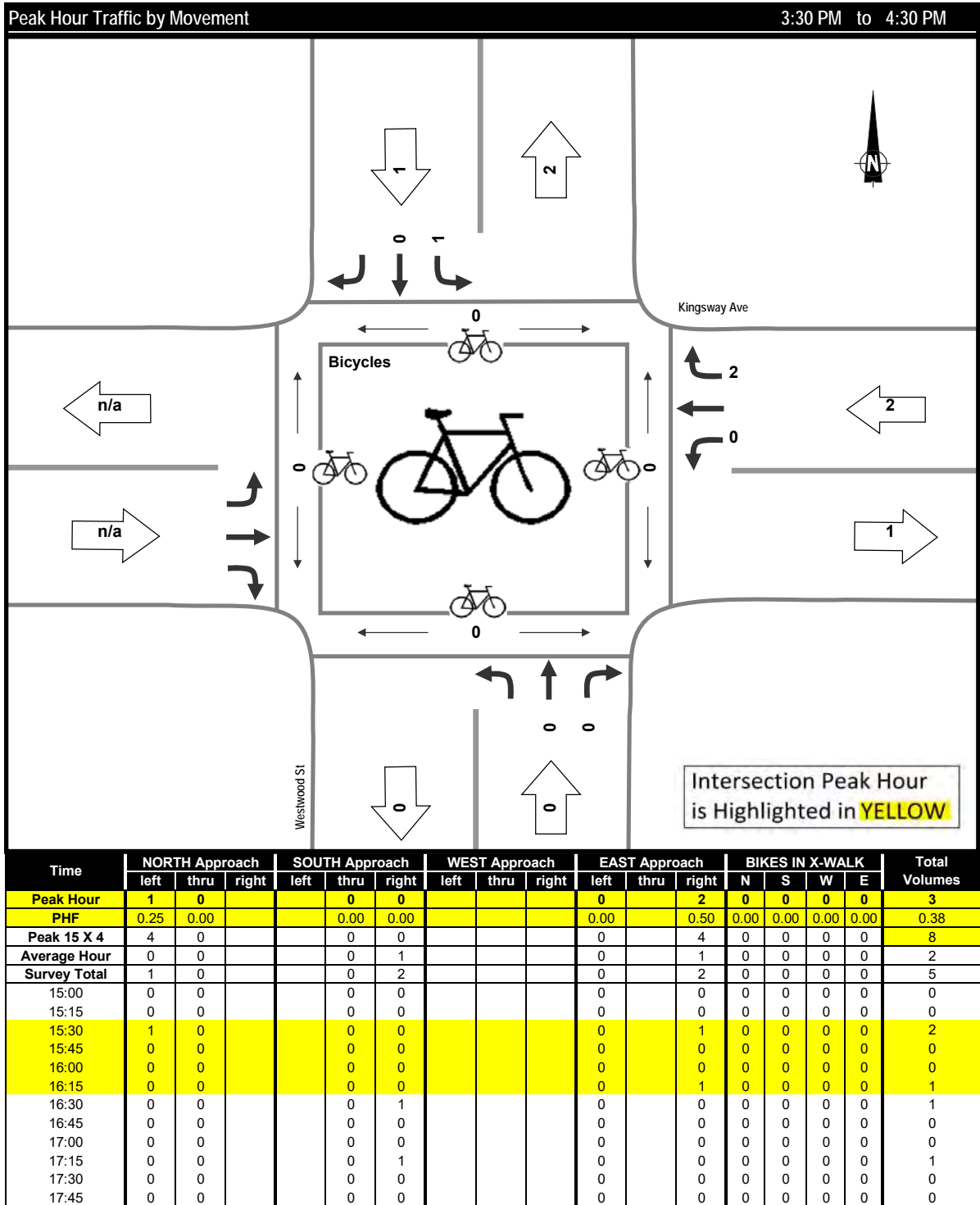
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Bicycles

Morning Peak Period



Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Bicycles

Afternoon Peak Period





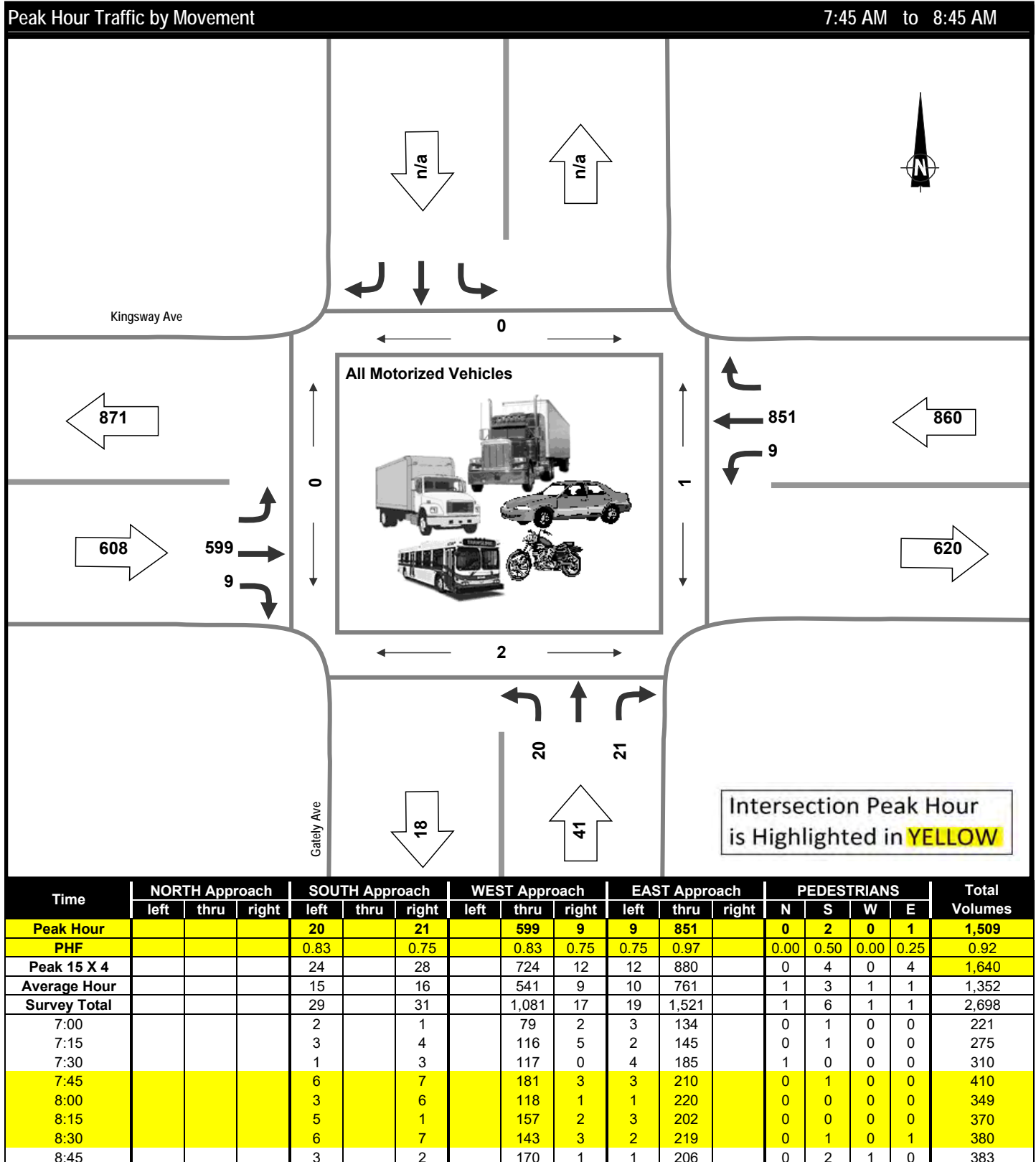
Vehicle Classification Summary

Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain

Time Period	Entering Intersection	Vehicle Classification					Total
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:00 - 09:00)	Volume	2,669	29				2,698
	%	98.9%	1.1%				100.0%
Midday (00:00 - 00:00)	Volume						
	%						
Afternoon (15:00 - 18:00)	Volume	5,542	11				5,553
	%	99.8%	0.2%				100.0%
Total (5 Hours)	Volume	8,211	40				8,251
	%	99.5%	0.5%				100.0%

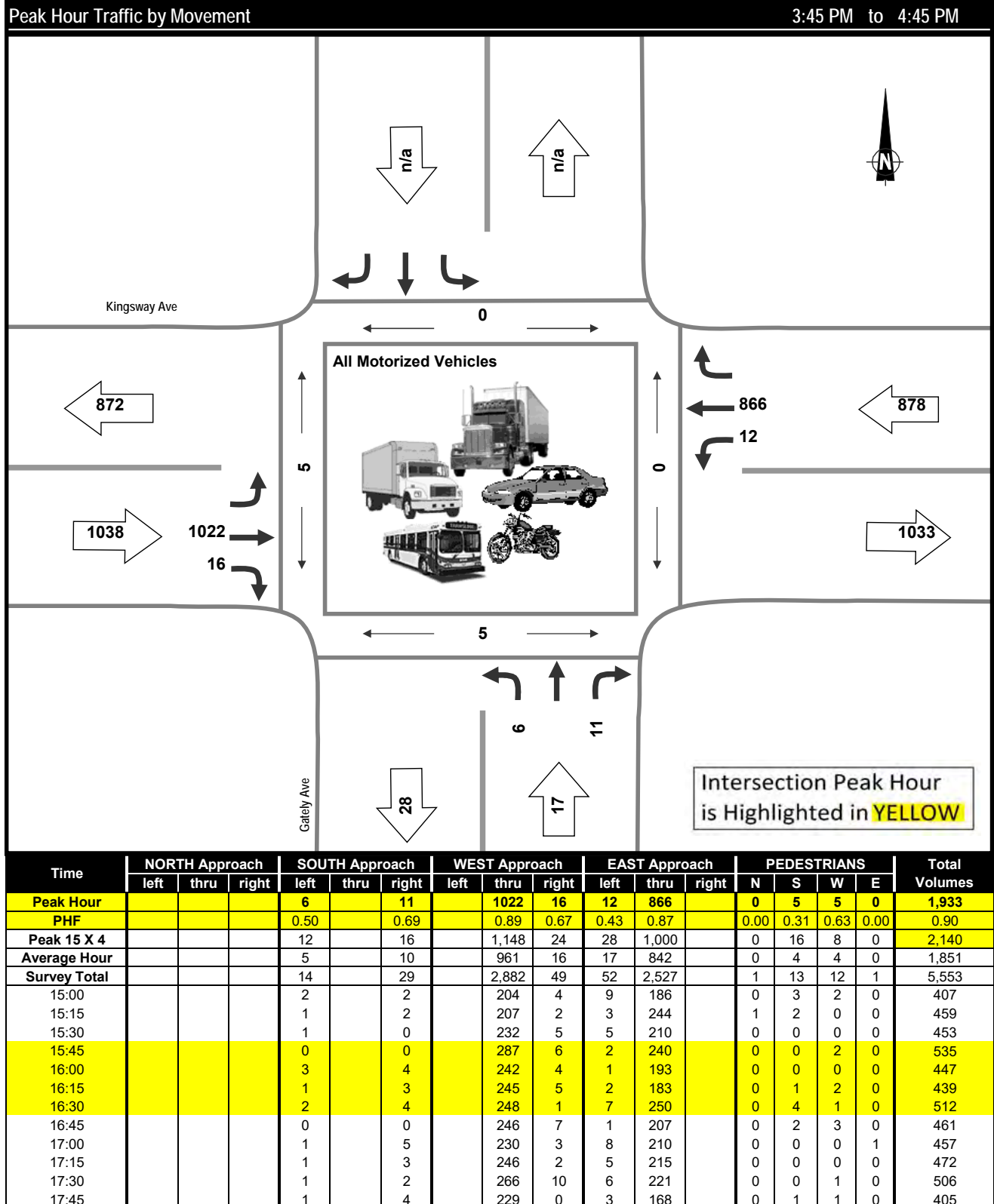
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles

Morning Peak Period



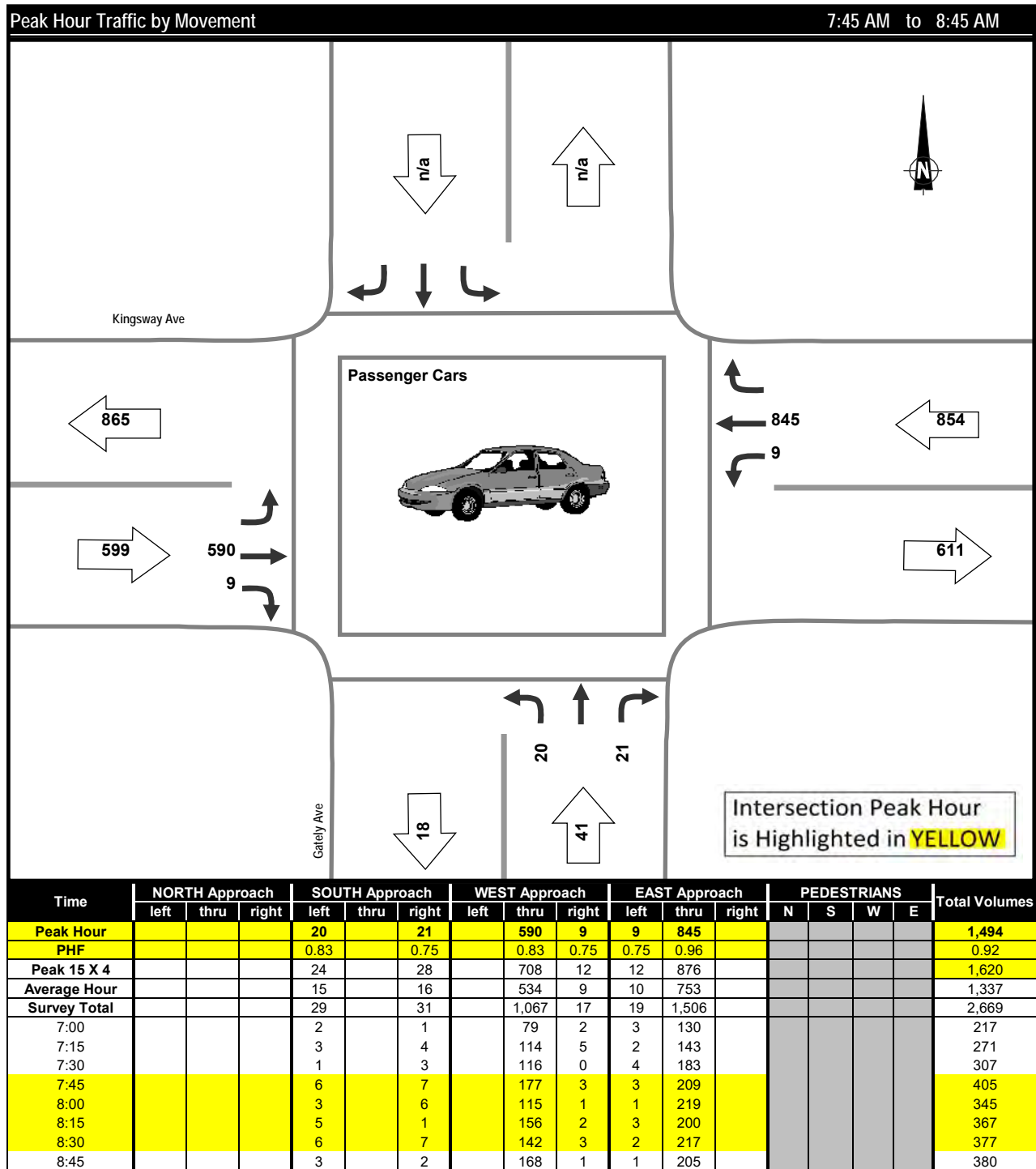
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles

Afternoon Peak Period



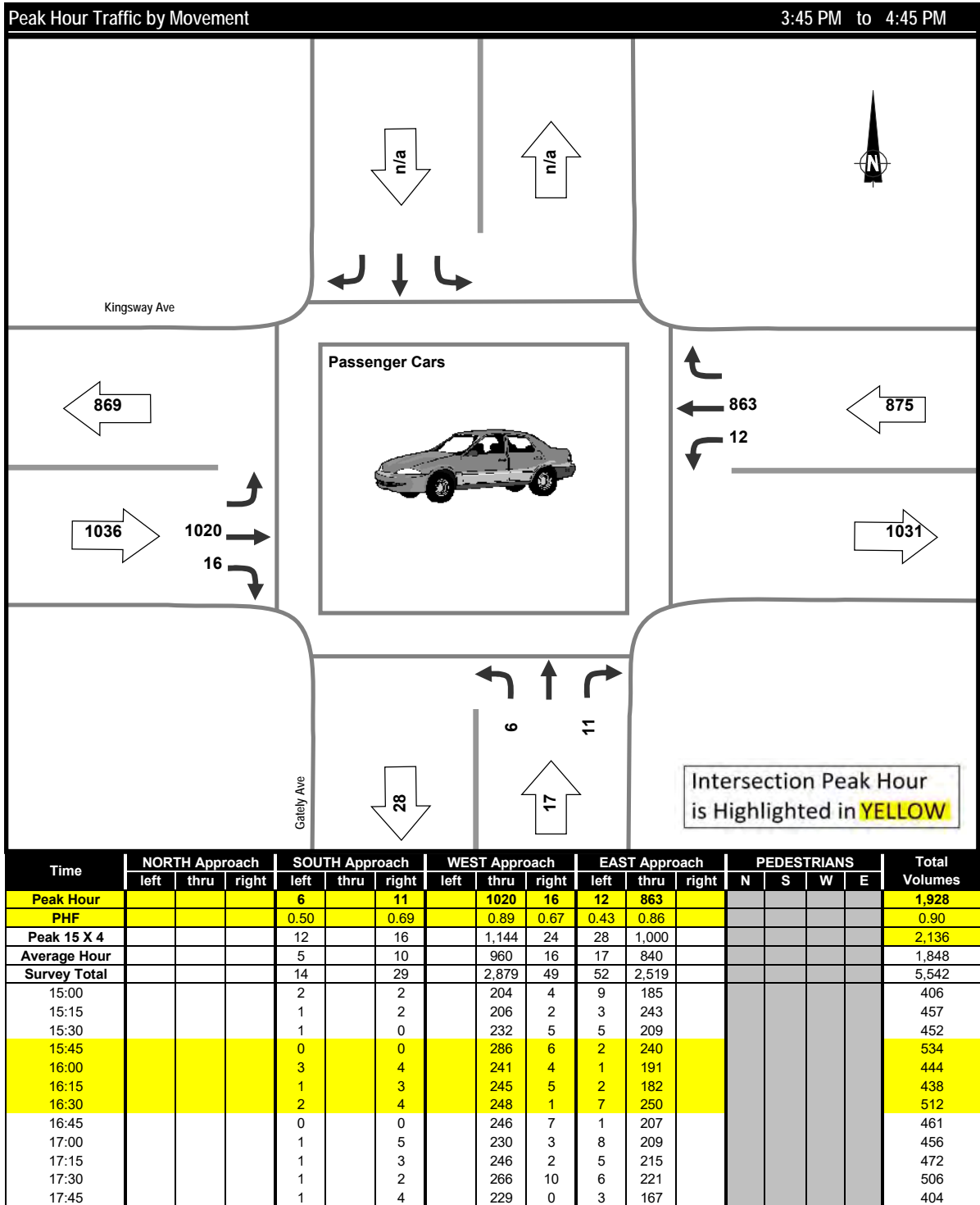
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Passenger Cars

Morning Peak Period



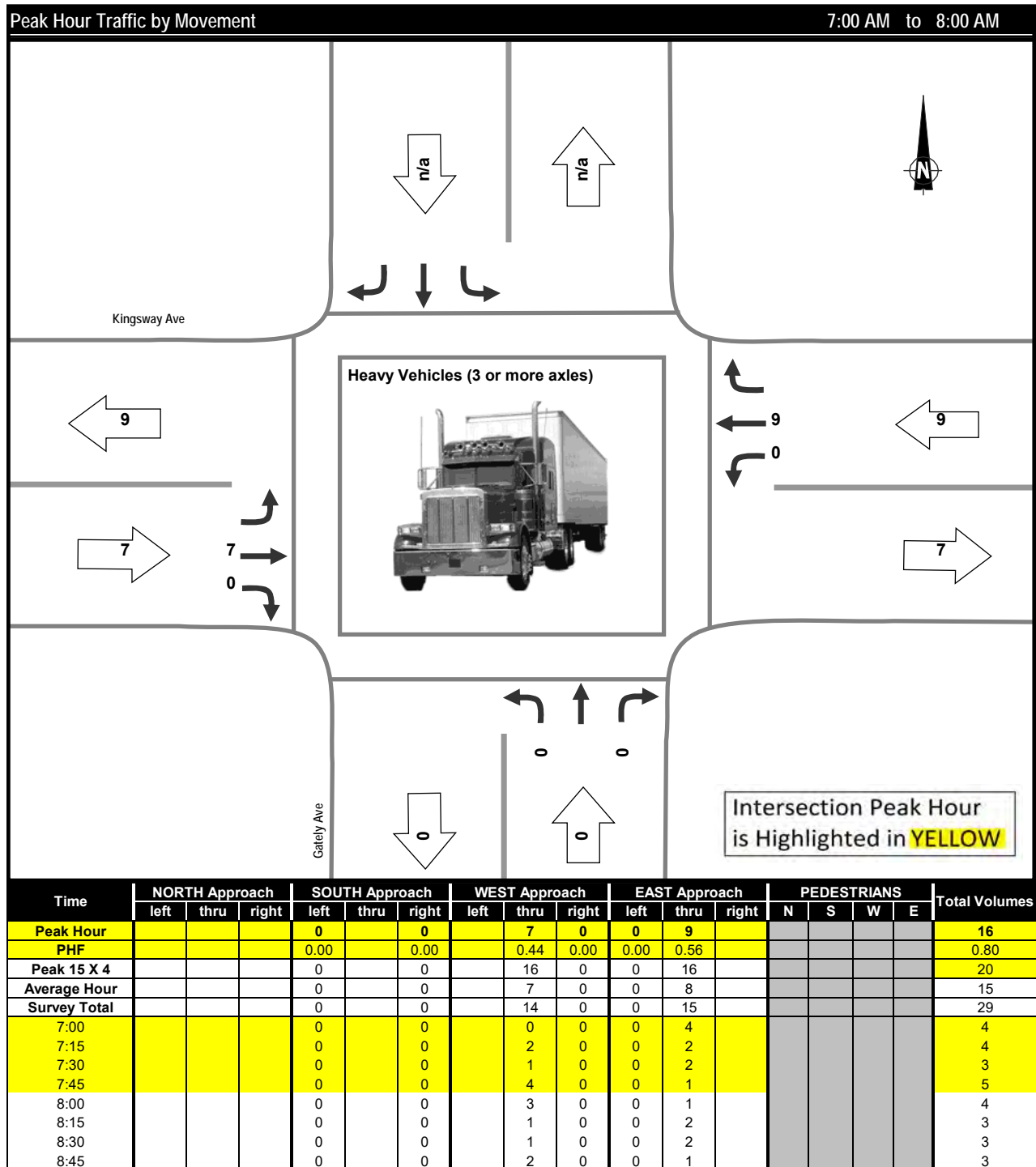
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Passenger Cars

Afternoon Peak Period



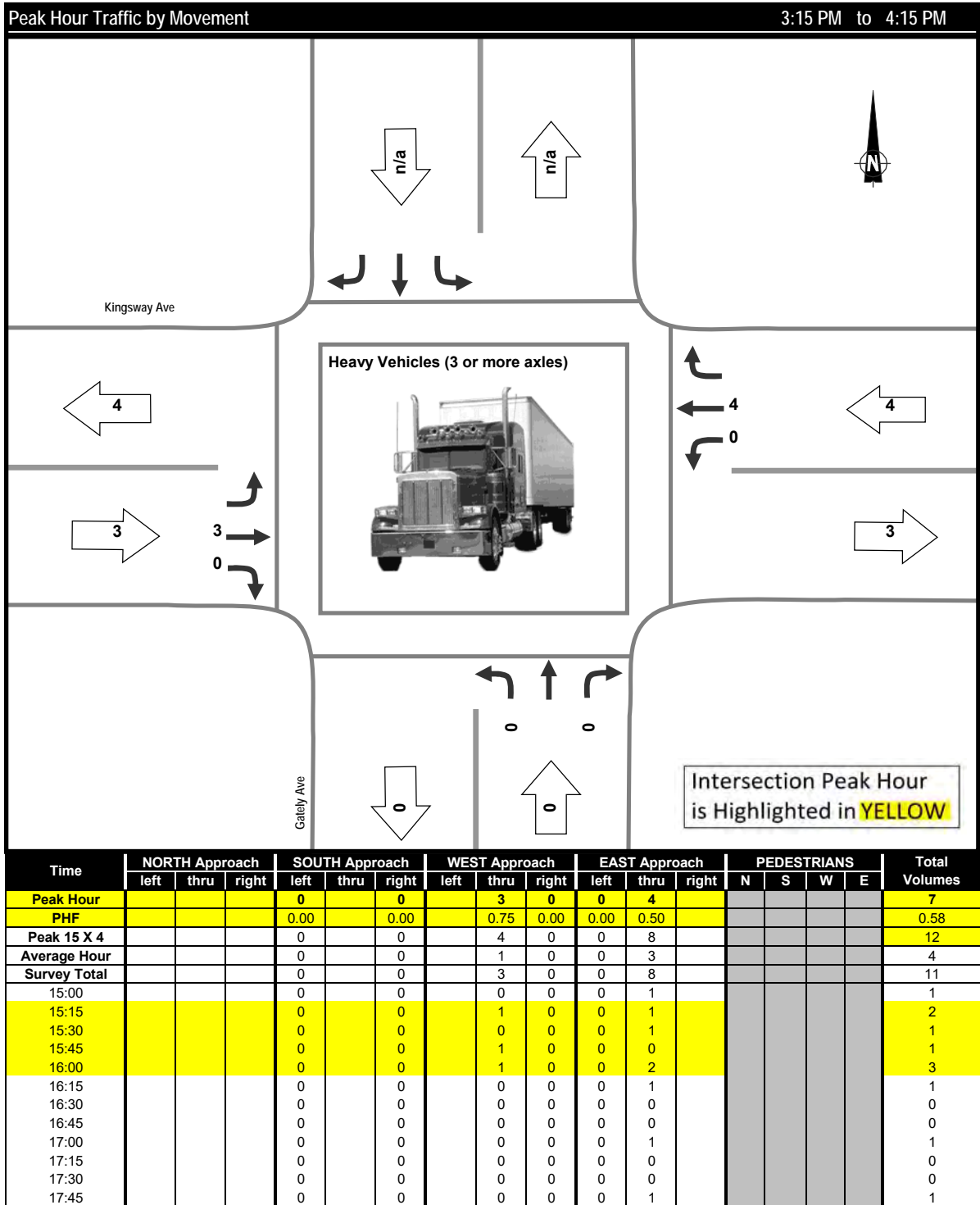
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Heavy Vehicles (3 or more axles)

Morning Peak Period



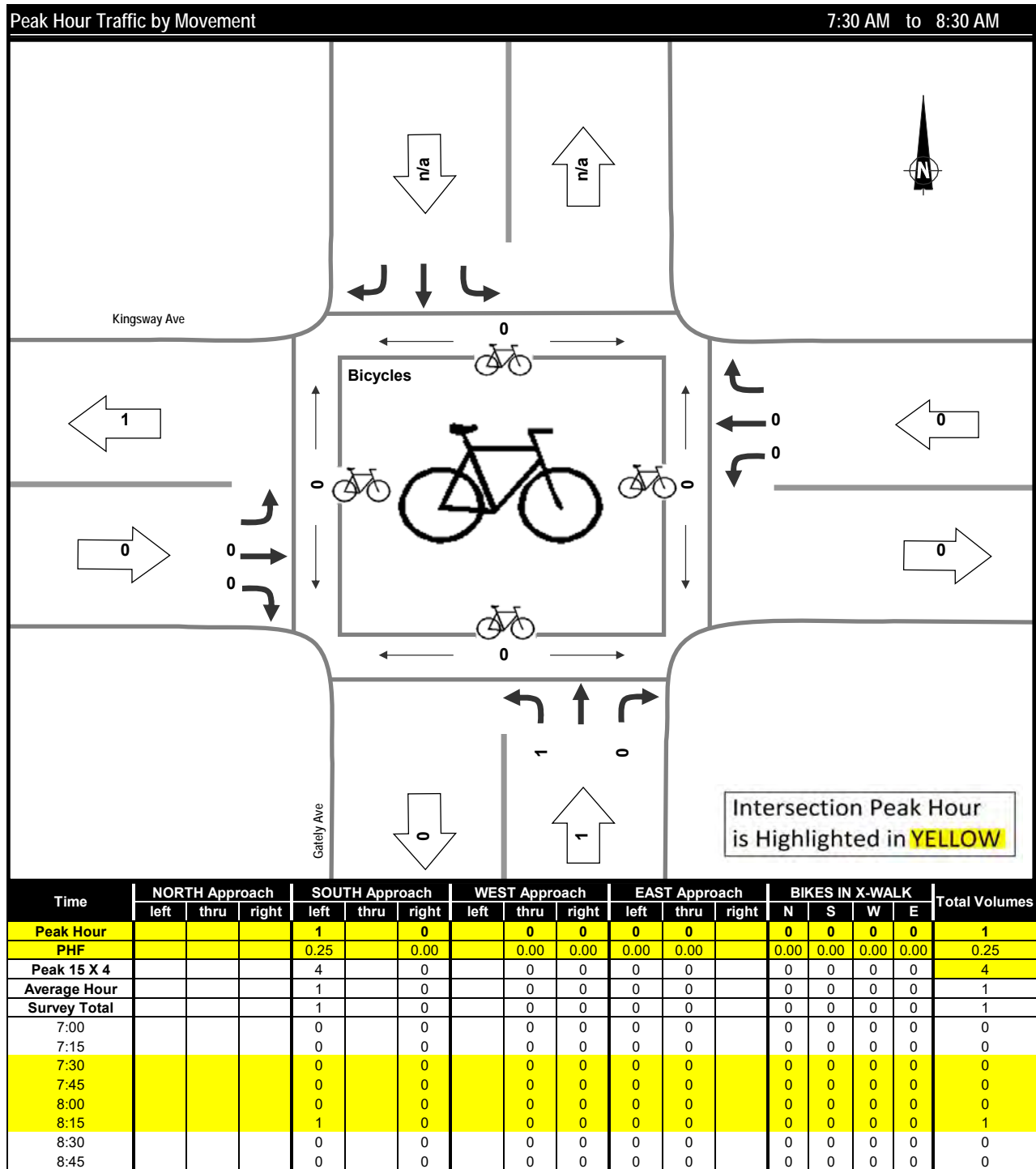
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Heavy Vehicles (3 or more axles)

Afternoon Peak Period



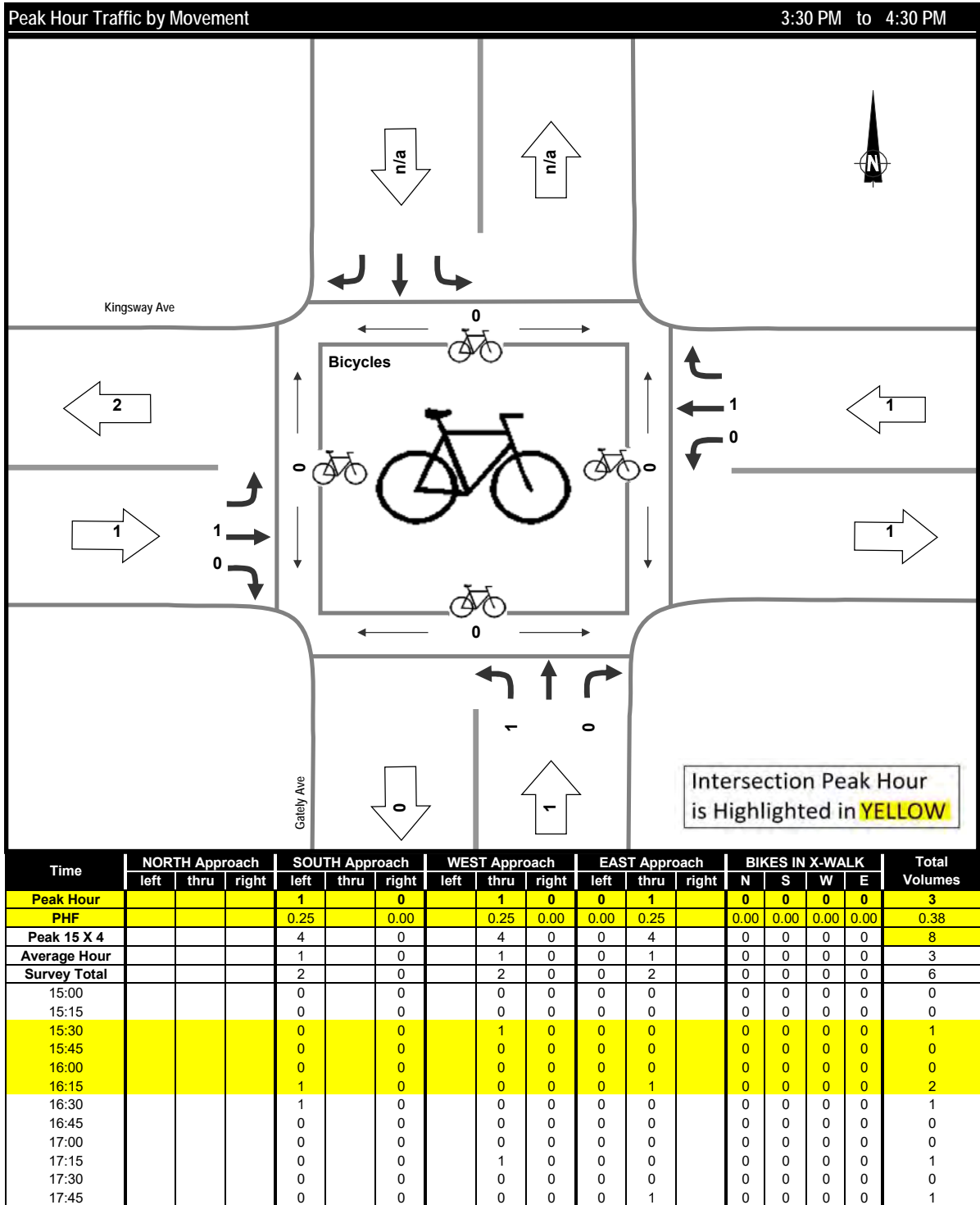
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Bicycles

Morning Peak Period



Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Bicycles

Afternoon Peak Period



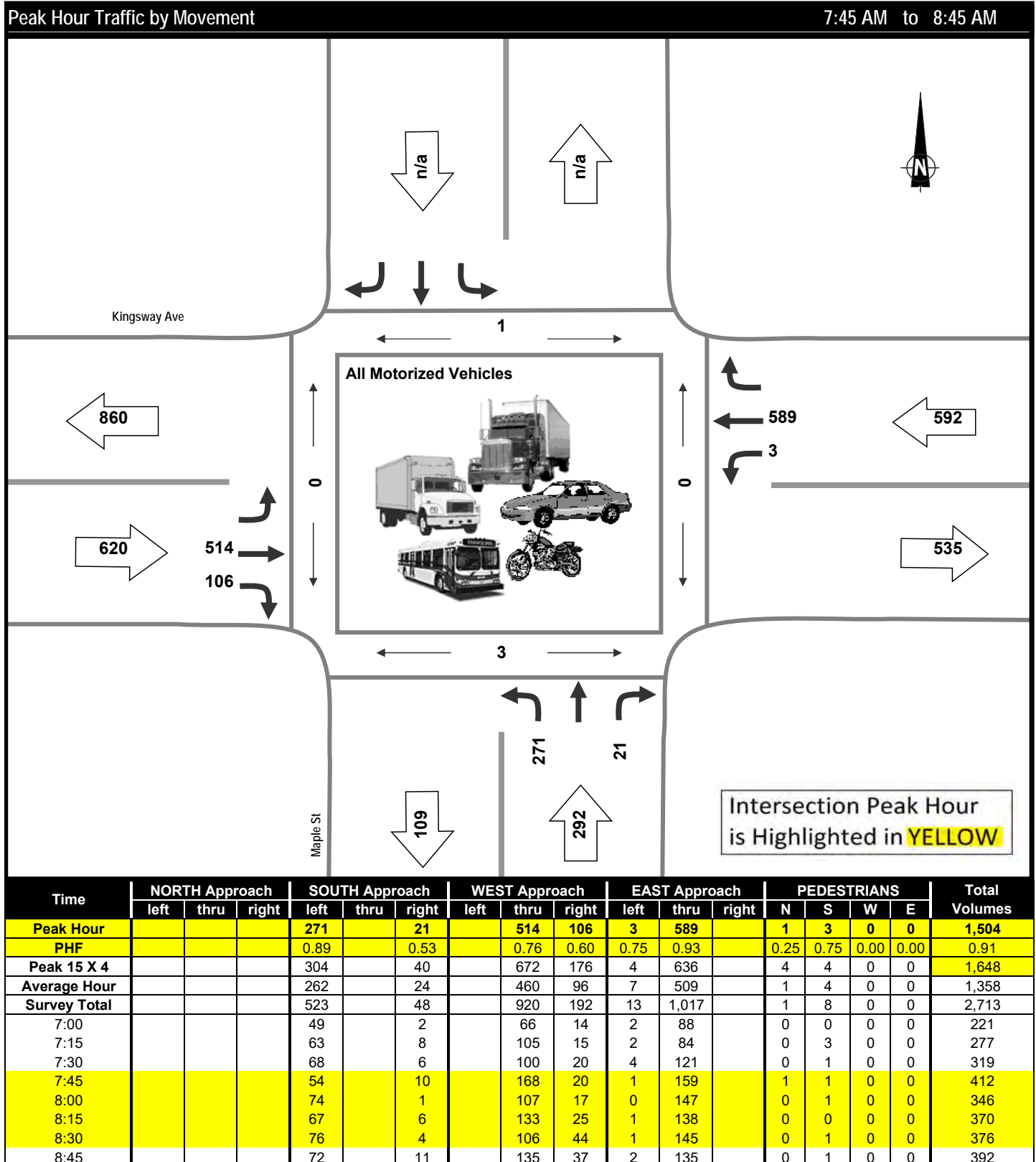
**Vehicle Classification Summary**

Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain

Time Period	Entering Intersection	Vehicle Classification					Total
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:00 - 09:00)	Volume	2,682	31				2,713
	%	98.9%	1.1%				100.0%
Midday (00:00 - 00:00)	Volume	0	0				0
	%	0.0%	0.0%				#DIV/0!
Afternoon (15:00 - 18:00)	Volume	5,617	11				5,628
	%	99.8%	0.2%				100.0%
Total (5 Hours)	Volume	8,299	42				8,341
	%	99.5%	0.5%				100.0%

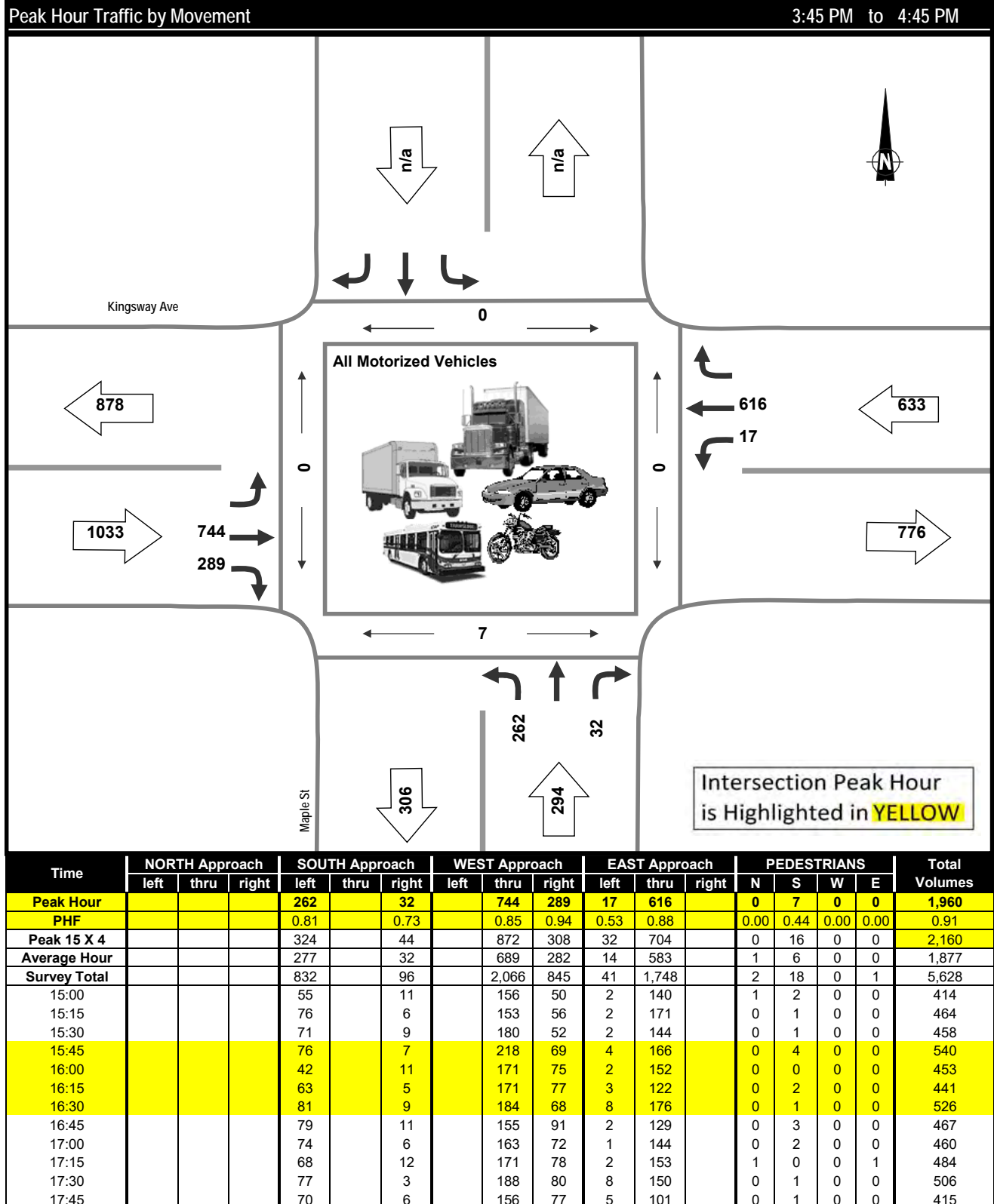
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles

Morning Peak Period



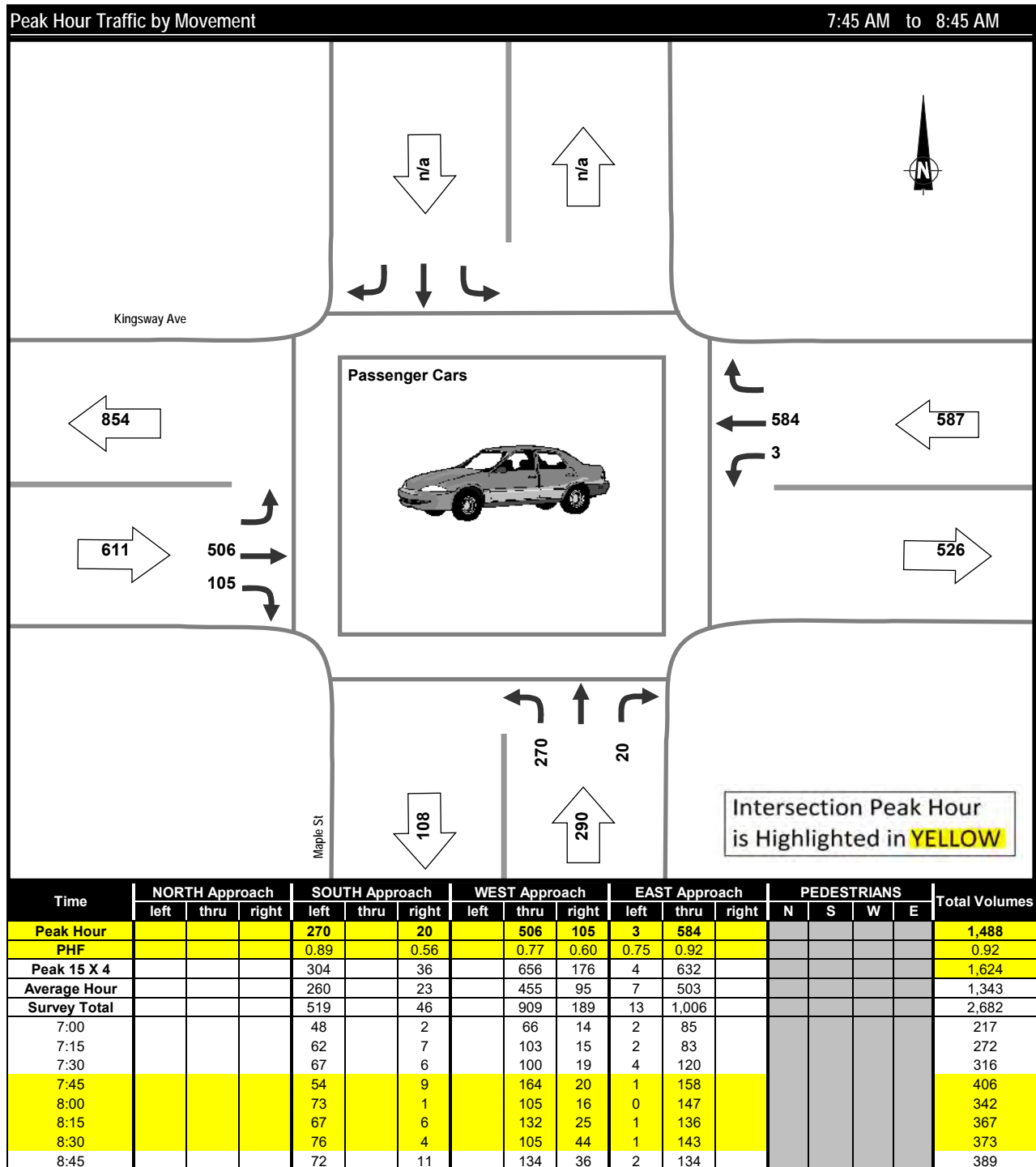
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: All Motorized Vehicles

Afternoon Peak Period



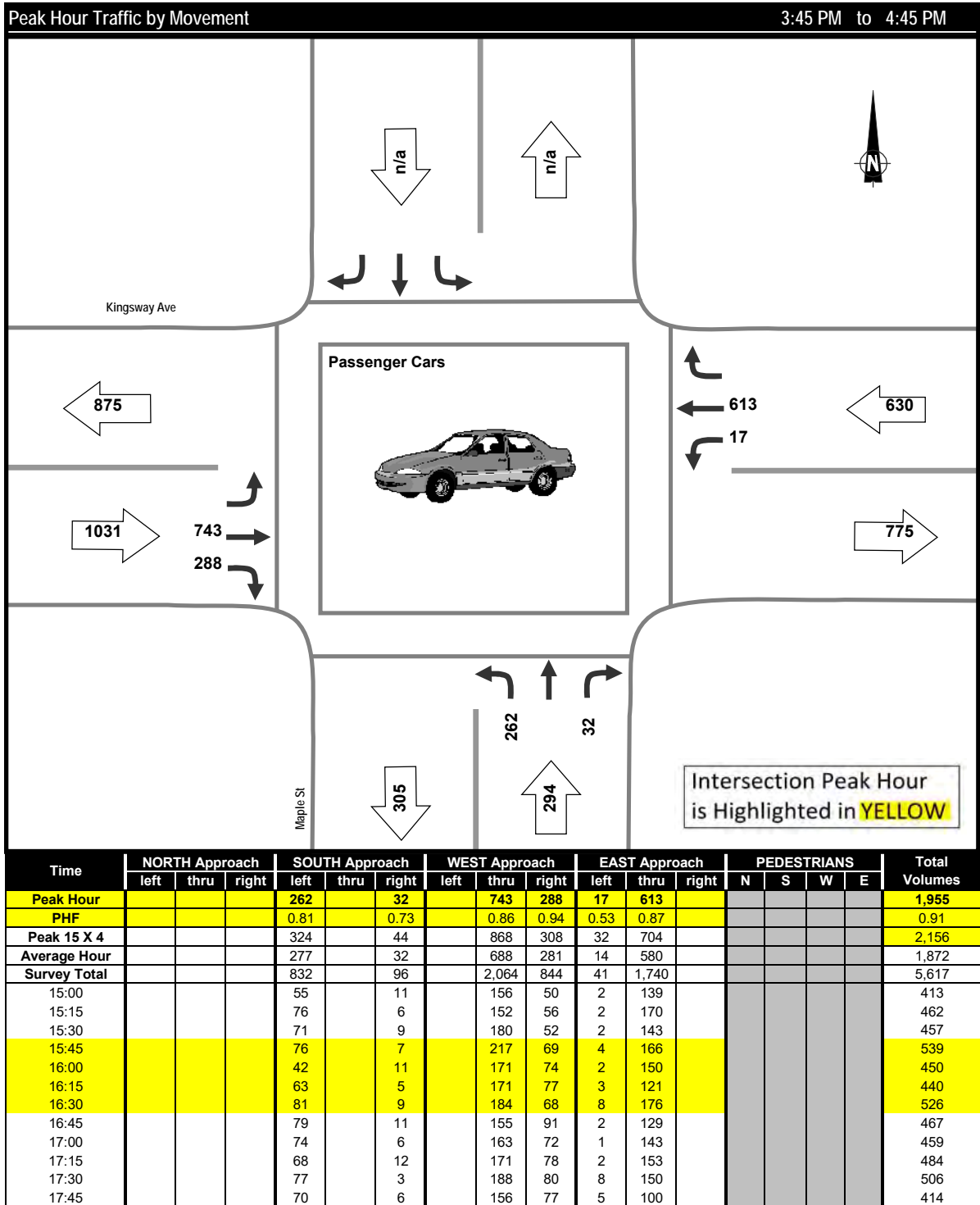
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Passenger Cars

Morning Peak Period



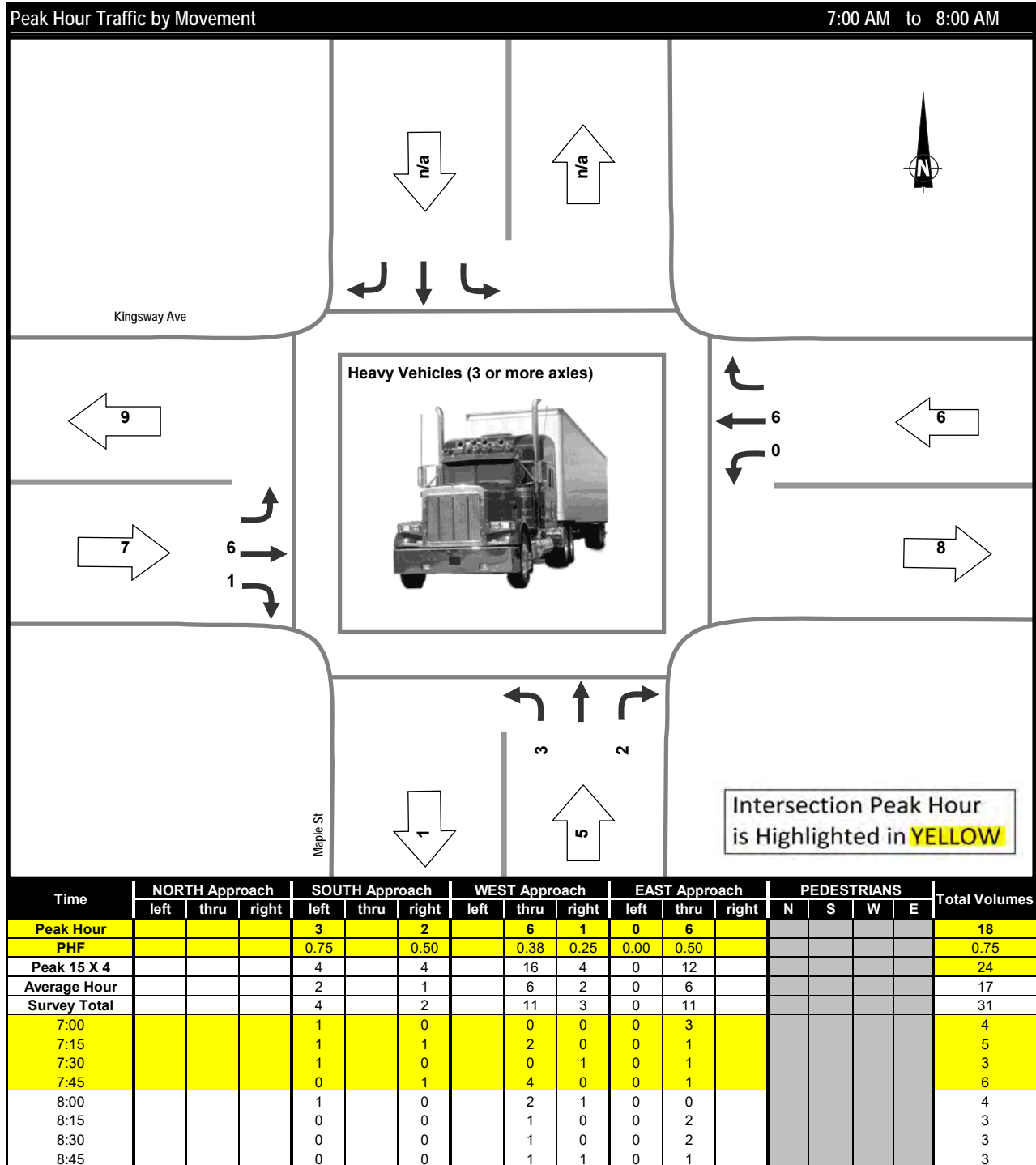
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Passenger Cars

Afternoon Peak Period



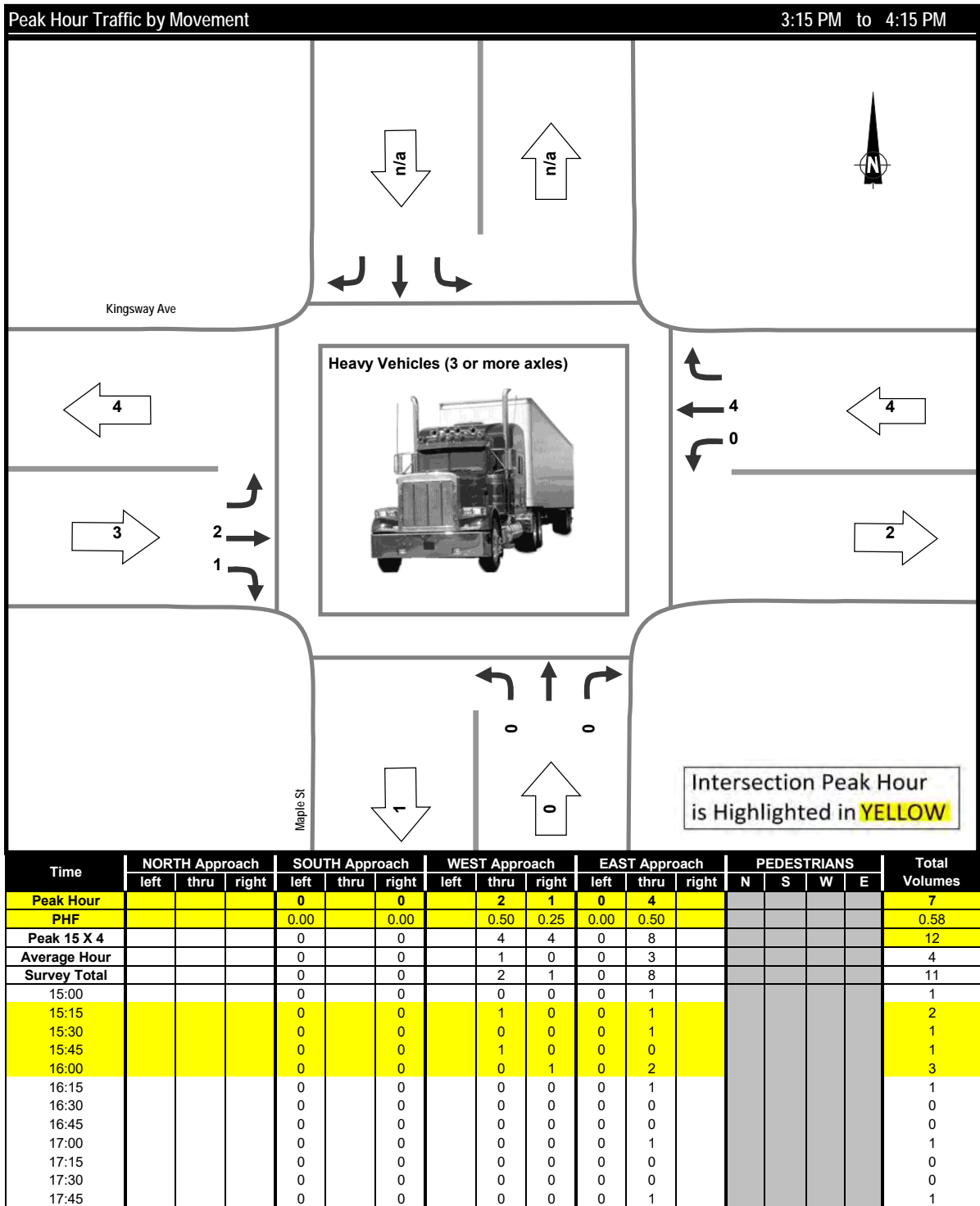
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Heavy Vehicles (3 or more axles)

Morning Peak Period



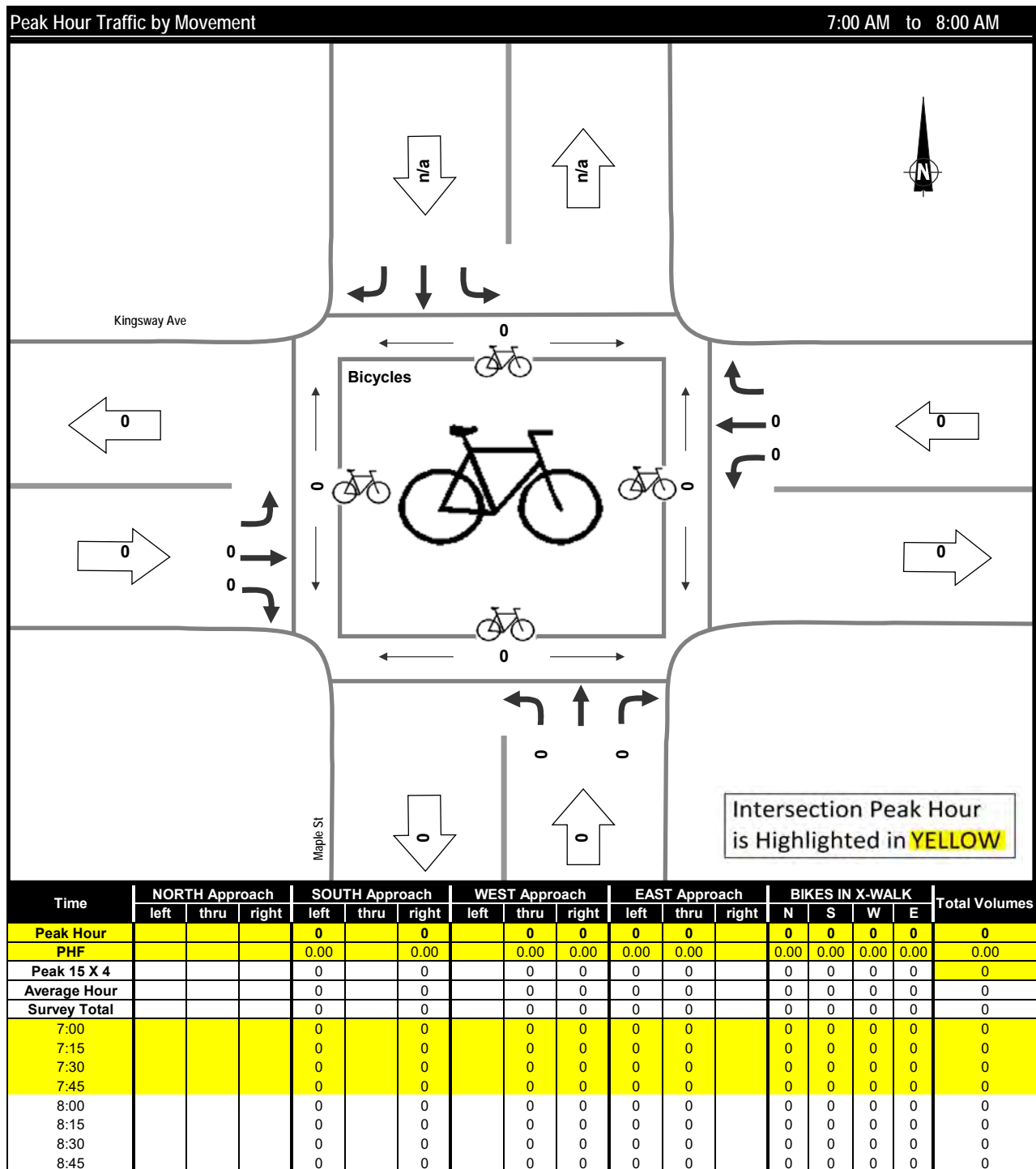
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Heavy Vehicles (3 or more axles)

Afternoon Peak Period



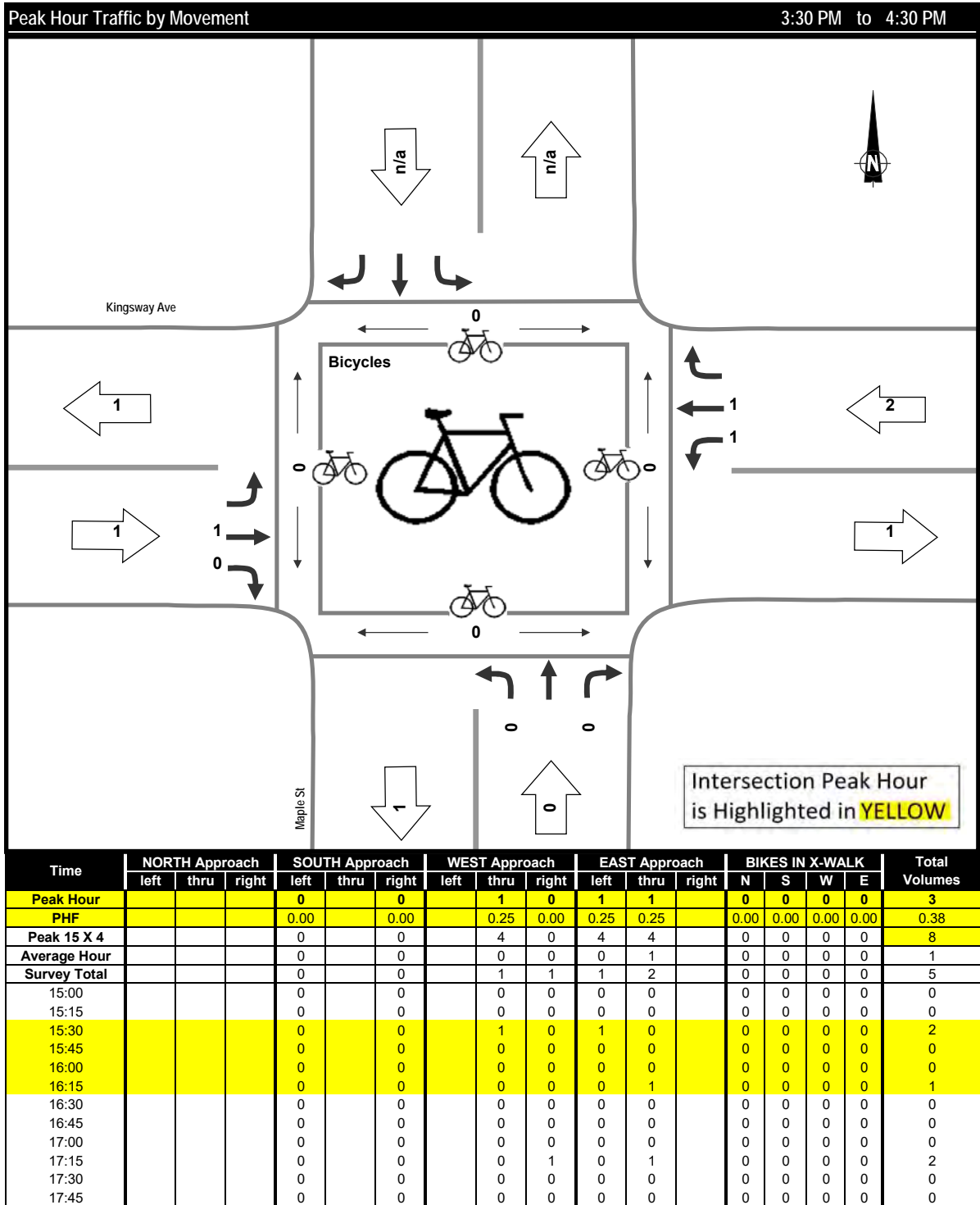
Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Bicycles

Morning Peak Period



Project: #7163: Affordable Housing Project Traffic Impact Study
Municipality: Port Coquitlam
Weather: Rain
Vehicle Class: Bicycles

Afternoon Peak Period















Appendix D

Capacity Analysis Summary Sheets

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2020 Base
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	355	574	296	293	191	216
Future Volume (vph)	355	574	296	293	191	216
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		617		272		232
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	382	617	318	315	205	232
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	47.0	47.0	42.0		31.0	31.0
Total Split (%)	39.2%	39.2%	35.0%		25.8%	25.8%
Maximum Green (s)	42.0	42.0	36.6		26.0	26.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	28.8	28.8	26.9	49.9	18.6	18.6
Actuated g/C Ratio	0.33	0.33	0.31	0.57	0.21	0.21
v/c Ratio	0.69	0.68	0.62	0.32	0.57	0.46
Control Delay	34.7	6.5	34.2	3.2	41.5	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	6.5	34.2	3.2	41.5	8.3
LOS	C	A	C	A	D	A
Approach Delay	17.3		18.7		23.9	
Approach LOS	B		B		C	
Queue Length 50th (m)	56.5	0.0	46.0	3.0	31.8	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2020 Base
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	113.2	28.3	98.0	17.4	70.9	20.9
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	896	1089	792	1124	563	658
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.57	0.40	0.28	0.36	0.35

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 87.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 59.2%

ICU Level of Service B













Analysis Period (min) 15

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	368	596	306	224	199	224
Future Volume (vph)	368	596	306	224	199	224
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		641		241		241
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	396	641	329	241	214	241
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	48.0	48.0	40.2		31.8	31.8
Total Split (%)	40.0%	40.0%	33.5%		26.5%	26.5%
Maximum Green (s)	43.0	43.0	34.8		26.8	26.8
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	30.0	30.0	27.4	50.6	18.9	18.9
Actuated g/C Ratio	0.34	0.34	0.31	0.57	0.21	0.21
v/c Ratio	0.70	0.69	0.64	0.25	0.60	0.48
Control Delay	35.1	6.5	36.0	2.2	43.1	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	6.5	36.0	2.2	43.1	8.3
LOS	D	A	D	A	D	A
Approach Delay	17.5		21.7		24.6	
Approach LOS	B		C		C	
Queue Length 50th (m)	61.9	0.0	51.2	0.0	35.6	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	116.7	28.1	104.2	11.2	73.2	21.2
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	894	1099	735	1105	565	665
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.58	0.45	0.22	0.38	0.36

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 89.3

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 20.2

Intersection LOS: C

Intersection Capacity Utilization 61.1%

ICU Level of Service B













Analysis Period (min) 15

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base + Site
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	403	638	323	236	199	236
Future Volume (vph)	403	638	323	236	199	236
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		686		233		254
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	433	686	347	254	214	254
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	48.0	48.0	42.0		30.0	30.0
Total Split (%)	40.0%	40.0%	35.0%		25.0%	25.0%
Maximum Green (s)	43.0	43.0	36.6		25.0	25.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	32.6	32.6	29.1	52.7	19.3	19.3
Actuated g/C Ratio	0.35	0.35	0.31	0.56	0.21	0.21
v/c Ratio	0.75	0.71	0.67	0.27	0.62	0.50
Control Delay	37.7	6.7	37.9	2.9	46.3	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	6.7	37.9	2.9	46.3	8.7
LOS	D	A	D	A	D	A
Approach Delay	18.7		23.1		25.9	
Approach LOS	B		C		C	
Queue Length 50th (m)	73.2	0.0	58.4	1.7	38.4	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base + Site
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	130.1	30.0	108.3	13.9	74.8	22.2
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	848	1098	733	1062	501	626
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.62	0.47	0.24	0.43	0.41

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 94

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 21.5

Intersection LOS: C

Intersection Capacity Utilization 64.1%

ICU Level of Service C













Analysis Period (min) 15

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	382	618	320	322	210	233
Future Volume (vph)	382	618	320	322	210	233
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		665		244		251
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	411	665	344	346	226	251
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	47.0	47.0	41.0		32.0	32.0
Total Split (%)	39.2%	39.2%	34.2%		26.7%	26.7%
Maximum Green (s)	42.0	42.0	35.6		27.0	27.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	31.5	31.5	29.3	53.9	20.3	20.3
Actuated g/C Ratio	0.34	0.34	0.31	0.57	0.22	0.22
v/c Ratio	0.73	0.70	0.66	0.36	0.63	0.48
Control Delay	37.9	6.8	37.6	4.8	45.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	6.8	37.6	4.8	45.0	8.2
LOS	D	A	D	A	D	A
Approach Delay	18.7		21.1		25.6	
Approach LOS	B		C		C	
Queue Length 50th (m)	69.8	0.0	57.5	8.5	40.6	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	124.1	29.4	108.5	26.9	77.1	21.7
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	824	1075	709	1095	537	651
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.62	0.49	0.32	0.42	0.39

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 94

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 20.9

Intersection LOS: C

Intersection Capacity Utilization 63.3%

ICU Level of Service B













Analysis Period (min) 15

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base + Site
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	455	705	350	322	210	254
Future Volume (vph)	455	705	350	322	210	254
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		758		205		273
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	489	758	376	346	226	273
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	50.0	50.0	41.0		29.0	29.0
Total Split (%)	41.7%	41.7%	34.2%		24.2%	24.2%
Maximum Green (s)	45.0	45.0	35.6		24.0	24.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	37.2	37.2	31.3	55.8	20.3	20.3
Actuated g/C Ratio	0.37	0.37	0.31	0.55	0.20	0.20
v/c Ratio	0.80	0.74	0.73	0.38	0.67	0.53
Control Delay	40.9	6.8	42.8	6.8	51.4	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	6.8	42.8	6.8	51.4	8.9
LOS	D	A	D	A	D	A
Approach Delay	20.2		25.6		28.1	
Approach LOS	C		C		C	
Queue Length 50th (m)	99.5	0.0	76.6	15.2	48.5	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base + Site
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	148.4	30.5	120.5	35.9	79.8	23.5
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	803	1113	645	989	436	592
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.68	0.58	0.35	0.52	0.46

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 101.4

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 23.4

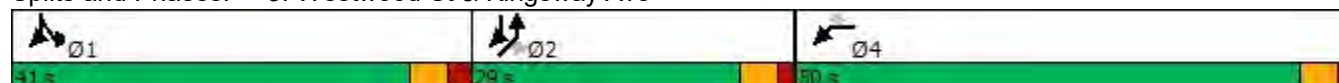
Intersection LOS: C

Intersection Capacity Utilization 69.4%

ICU Level of Service C













Analysis Period (min) 15

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	410	674	349	352	229	254
Future Volume (vph)	410	674	349	352	229	254
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		725		218		273
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	441	725	375	378	246	273
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	47.0	47.0	42.0		31.0	31.0
Total Split (%)	39.2%	39.2%	35.0%		25.8%	25.8%
Maximum Green (s)	42.0	42.0	36.6		26.0	26.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	33.8	33.8	31.3	57.0	21.4	21.4
Actuated g/C Ratio	0.34	0.34	0.32	0.57	0.22	0.22
v/c Ratio	0.77	0.73	0.71	0.40	0.68	0.51
Control Delay	41.2	7.2	40.8	6.4	49.2	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	7.2	40.8	6.4	49.2	8.3
LOS	D	A	D	A	D	A
Approach Delay	20.0		23.6		27.7	
Approach LOS	C		C		C	
Queue Length 50th (m)	86.1	0.0	72.0	15.6	49.8	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	135.3	31.9	118.3	37.6	85.0	22.8
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	771	1081	681	1045	484	627
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.67	0.55	0.36	0.51	0.44

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 99.3

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 22.8

Intersection LOS: C

Intersection Capacity Utilization 67.8%

ICU Level of Service C













Analysis Period (min) 15

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base + Site
Timing Plan: AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	489	761	379	352	229	275
Future Volume (vph)	489	761	379	352	229	275
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1500	1676	1500	1676	1500
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		746		180		296
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	526	818	408	378	246	296
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	50.0	50.0	41.0		29.0	29.0
Total Split (%)	41.7%	41.7%	34.2%		24.2%	24.2%
Maximum Green (s)	45.0	45.0	35.6		24.0	24.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	40.2	40.2	33.3	58.9	21.4	21.4
Actuated g/C Ratio	0.37	0.37	0.31	0.55	0.20	0.20
v/c Ratio	0.84	0.80	0.79	0.42	0.74	0.55
Control Delay	45.1	10.3	47.8	8.9	56.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	10.3	47.8	8.9	56.5	8.9
LOS	D	B	D	A	E	A
Approach Delay	23.9		29.1		30.5	
Approach LOS	C		C		C	
Queue Length 50th (m)	115.9	11.4	92.3	25.1	57.1	0.0

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base + Site
Timing Plan: AM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Queue Length 95th (m)	#174.7	66.7	#140.6	47.2	86.9	24.5
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	744	1081	598	958	404	586
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.76	0.68	0.39	0.61	0.51

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 107.4

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 74.2%

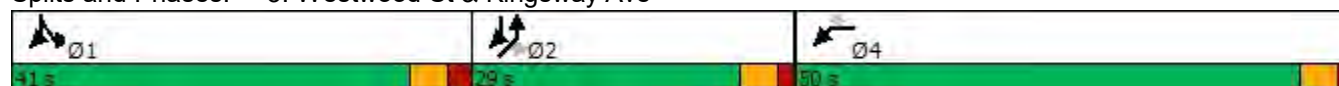
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2020 Base
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	192	604	528	222	354	475
Future Volume (vph)	192	604	528	222	354	475
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1458	1669	1500	1657	1470
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		657		241		480
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	657	574	241	385	516
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	29.0	29.0	52.0		39.0	39.0
Total Split (%)	24.2%	24.2%	43.3%		32.5%	32.5%
Maximum Green (s)	24.0	24.0	46.6		34.0	34.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	20.0	20.0	42.8	77.4	30.4	30.4
Actuated g/C Ratio	0.19	0.19	0.40	0.73	0.29	0.29
v/c Ratio	0.66	0.81	0.85	0.21	0.80	0.68
Control Delay	52.6	12.4	43.3	1.0	50.2	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	12.4	43.3	1.0	50.2	9.4
LOS	D	B	D	A	D	A
Approach Delay	22.1		30.8		26.9	

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2020 Base
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	C		C		C	
Queue Length 50th (m)	47.3	0.0	123.3	0.0	85.0	6.3
Queue Length 95th (m)	73.8	42.9 #	193.8	6.6 #	134.9	41.8
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	412	853	791	1233	576	820
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.77	0.73	0.20	0.67	0.63

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 105.8

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 73.7%

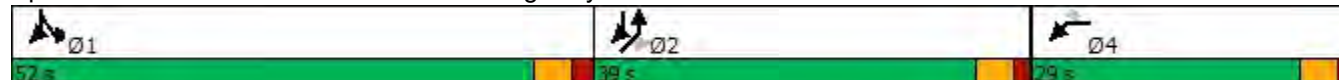
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	200	626	547	231	368	493
Future Volume (vph)	200	626	547	231	368	493
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1458	1669	1500	1658	1470
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		680		251		472
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	680	595	251	400	536
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	29.0	29.0	52.7		38.3	38.3
Total Split (%)	24.2%	24.2%	43.9%		31.9%	31.9%
Maximum Green (s)	24.0	24.0	47.3		33.3	33.3
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	20.8	20.8	44.6	79.7	31.0	31.0
Actuated g/C Ratio	0.19	0.19	0.41	0.73	0.29	0.29
v/c Ratio	0.68	0.82	0.86	0.22	0.84	0.71
Control Delay	54.0	12.6	45.0	1.0	54.6	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	12.6	45.0	1.0	54.6	11.5
LOS	D	B	D	A	D	B
Approach Delay	22.6		32.0		29.9	

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	C		C		C	
Queue Length 50th (m)	49.3	0.0	130.0	0.0	90.8	11.6
Queue Length 95th (m)	76.7	44.8	#203.2	6.7	#145.7	53.3
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	395	863	771	1214	543	795
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.79	0.77	0.21	0.74	0.67

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 108.7

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 28.1

Intersection LOS: C

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base + Site
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	214	658	581	231	368	530
Future Volume (vph)	214	658	581	231	368	530
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1458	1669	1500	1658	1470
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		715		213		451
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	715	632	251	400	576
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4			2	2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	28.0	28.0	54.0		38.0	38.0
Total Split (%)	23.3%	23.3%	45.0%		31.7%	31.7%
Maximum Green (s)	23.0	23.0	48.6		33.0	33.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	21.1	21.1	47.2	82.6	31.3	31.3
Actuated g/C Ratio	0.19	0.19	0.42	0.74	0.28	0.28
v/c Ratio	0.74	0.84	0.90	0.22	0.85	0.78
Control Delay	58.8	13.2	48.1	1.5	57.5	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.8	13.2	48.1	1.5	57.5	17.3
LOS	E	B	D	A	E	B
Approach Delay	24.4		34.8		33.8	

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2022 Base + Site
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	C		C		C	
Queue Length 50th (m)	54.2	0.0	144.3	2.3	93.4	26.8
Queue Length 95th (m)	83.4	47.7	#218.6	9.1	#146.8	78.8
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	366	877	763	1200	518	766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.82	0.83	0.21	0.77	0.75

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 111.9

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 31.0

Intersection LOS: C

Intersection Capacity Utilization 78.6%

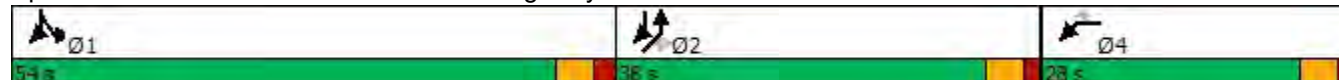
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

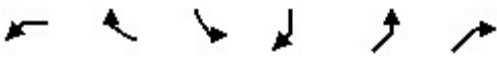






Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	210	659	572	244	389	514
Future Volume (vph)	210	659	572	244	389	514
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1458	1669	1500	1658	1470
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		696		236		464
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	716	622	265	423	559
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4				2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	29.0	29.0	52.0		39.0	39.0
Total Split (%)	24.2%	24.2%	43.3%		32.5%	32.5%
Maximum Green (s)	24.0	24.0	46.6		34.0	34.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	21.4	21.4	45.9	82.7	32.8	32.8
Actuated g/C Ratio	0.19	0.19	0.41	0.74	0.29	0.29
v/c Ratio	0.71	0.85	0.91	0.23	0.87	0.74
Control Delay	56.9	15.0	51.1	1.4	57.6	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	15.0	51.1	1.4	57.6	13.7
LOS	E	B	D	A	E	B
Approach Delay	25.1		36.3		32.6	

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	C		D		C	
Queue Length 50th (m)	52.2	4.0	142.9	1.7	98.1	17.6
Queue Length 95th (m)	80.7	#61.5	#220.1	8.9	#156.1	65.4
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	378	868	727	1198	530	782
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.82	0.86	0.22	0.80	0.71

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 112.2

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 31.2

Intersection LOS: C

Intersection Capacity Utilization 79.1%

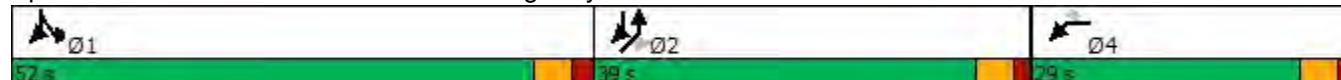
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base + Site
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	237	721	642	244	389	591
Future Volume (vph)	237	721	642	244	389	591
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1458	1669	1500	1658	1470
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		717		180		431
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	258	784	698	265	423	642
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4			2	2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	28.0	28.0	55.0		37.0	37.0
Total Split (%)	23.3%	23.3%	45.8%		30.8%	30.8%
Maximum Green (s)	23.0	23.0	49.6		32.0	32.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	22.5	22.5	51.1	87.3	32.2	32.2
Actuated g/C Ratio	0.19	0.19	0.43	0.74	0.27	0.27
v/c Ratio	0.81	0.91	0.96	0.23	0.92	0.90
Control Delay	65.5	21.9	59.0	2.1	69.4	30.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	21.9	59.0	2.1	69.4	30.5
LOS	E	C	E	A	E	C
Approach Delay	32.7		43.3		45.9	

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2025 Base + Site
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	C		D		D	
Queue Length 50th (m)	61.0	14.1	167.6	5.2	101.9	57.3
Queue Length 95th (m)	#100.8	#105.2	#250.6	12.7	#163.3	#136.3
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	342	868	726	1167	469	722
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.90	0.96	0.23	0.90	0.89

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 117.8

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 40.6

Intersection LOS: D

Intersection Capacity Utilization 84.4%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	229	719	624	266	425	560
Future Volume (vph)	229	719	624	266	425	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1458	1669	1500	1659	1470
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		692		191		437
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	249	782	678	289	462	609
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4			2	2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	28.0	28.0	53.2		38.8	38.8
Total Split (%)	23.3%	23.3%	44.3%		32.3%	32.3%
Maximum Green (s)	23.0	23.0	47.8		33.8	33.8
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	22.3	22.3	49.2	87.7	34.5	34.5
Actuated g/C Ratio	0.19	0.19	0.42	0.74	0.29	0.29
v/c Ratio	0.79	0.94	0.97	0.25	0.94	0.83
Control Delay	64.1	26.0	62.3	2.2	70.6	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	26.0	62.3	2.2	70.6	21.6
LOS	E	C	E	A	E	C
Approach Delay	35.2		44.3		42.7	

Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	D		D		D	
Queue Length 50th (m)	58.5	19.2	163.9	6.1	112.3	41.8
Queue Length 95th (m)	#95.1	#115.4	#246.8	13.9	#179.0	#105.9
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	341	848	699	1167	495	741
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.92	0.97	0.25	0.93	0.82

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 118

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 40.7

Intersection LOS: D

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



















Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base + Site
Timing Plan: PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	256	781	694	266	425	637
Future Volume (vph)	256	781	694	266	425	637
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97	1.00		0.99	0.98
Frt		0.850		0.850		0.850
Flt Protected	0.950		0.950		0.950	
Satd. Flow (prot)	1676	1500	1676	1500	1676	1500
Flt Permitted	0.950		0.950		0.950	
Satd. Flow (perm)	1676	1460	1670	1500	1660	1471
Right Turn on Red		Yes		Yes		Yes
Satd. Flow (RTOR)		715		157		416
Link Speed (k/h)	50		50		50	
Link Distance (m)	144.0		193.8		222.3	
Travel Time (s)	10.4		14.0		16.0	
Confl. Peds. (#/hr)		8	4		8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	278	849	754	289	462	692
Turn Type	Prot	Perm	Prot	pt+ov	Prot	Perm
Protected Phases	4		1	1 2	2	
Permitted Phases		4			2	2
Detector Phase	4	4	1	1 2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	23.0	23.0	10.4		23.0	23.0
Total Split (s)	26.0	26.0	51.0		33.0	33.0
Total Split (%)	23.6%	23.6%	46.4%		30.0%	30.0%
Maximum Green (s)	21.0	21.0	45.6		28.0	28.0
Yellow Time (s)	3.4	3.4	3.4		3.4	3.4
All-Red Time (s)	1.6	1.6	2.0		1.6	1.6
Lost Time Adjust (s)	-1.0	-1.0	-1.4		-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	5.0		3.0	3.0
Recall Mode	None	None	None		None	None
Walk Time (s)	10.0	10.0			10.0	10.0
Flash Dont Walk (s)	8.0	8.0			8.0	8.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	22.0	22.0	47.0	80.0	29.0	29.0
Actuated g/C Ratio	0.20	0.20	0.43	0.73	0.26	0.26
v/c Ratio	0.83	0.98	1.05	0.26	1.05	1.00
Control Delay	63.8	35.4	80.3	2.7	96.1	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	35.4	80.3	2.7	96.1	50.7
LOS	E	D	F	A	F	D
Approach Delay	42.4		58.8		68.9	












Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2020 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	579	6	15	853	3	37	2	25	4	0	6
Future Volume (vph)	4	579	6	15	853	3	37	2	25	4	0	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.999						0.947			0.919	
Flt Protected					0.999			0.972			0.980	
Satd. Flow (prot)	0	3349	0	0	3349	0	0	1613	0	0	1574	0
Flt Permitted		0.951			0.944			0.816			0.839	
Satd. Flow (perm)	0	3185	0	0	3165	0	0	1351	0	0	1345	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			1			27			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	633	0	0	936	0	0	69	0	0	10	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	39.9	39.9		19.9	59.8		25.2	25.2		25.2	25.2	
Total Split (%)	46.9%	46.9%		23.4%	70.4%		29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	35.0	35.0		15.0	54.9		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		31.6			31.6			8.4			8.3	
Actuated g/C Ratio		0.78			0.78			0.21			0.20	
v/c Ratio		0.26			0.38			0.23			0.03	
Control Delay		3.4			4.1			12.9			0.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.4			4.1			12.9			0.1	
LOS		A			A			B			A	
Approach Delay		3.4			4.1			12.9			0.1	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2020 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	9.4			15.7			3.3			0.0		
Queue Length 95th (m)	18.3			30.0			10.6			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2738			3165			747			771		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.23			0.30			0.09			0.01		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 40.6

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 4.2

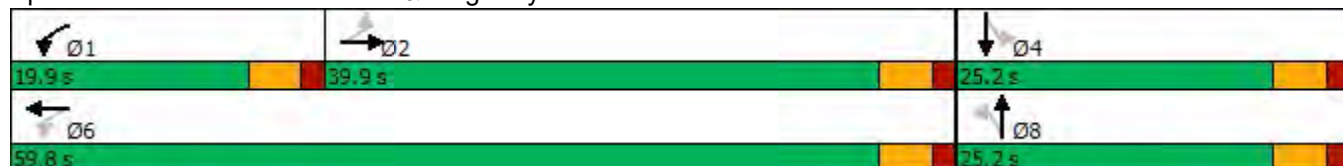
Intersection LOS: A

Intersection Capacity Utilization 50.1%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	599	6	16	885	3	38	2	26	4	0	6
Future Volume (vph)	4	599	6	16	885	3	38	2	26	4	0	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.999						0.947			0.919	
Flt Protected					0.999			0.972			0.980	
Satd. Flow (prot)	0	3349	0	0	3349	0	0	1613	0	0	1574	0
Flt Permitted		0.951			0.943			0.816			0.838	
Satd. Flow (perm)	0	3185	0	0	3161	0	0	1351	0	0	1343	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			1			28			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	654	0	0	972	0	0	71	0	0	10	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	48.1	48.1		9.9	58.0		27.0	27.0		27.0	27.0	
Total Split (%)	56.6%	56.6%		11.6%	68.2%		31.8%	31.8%		31.8%	31.8%	
Maximum Green (s)	43.2	43.2		5.0	53.1		21.8	21.8		21.8	21.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		32.1			32.1			8.5			8.5	
Actuated g/C Ratio		0.78			0.78			0.21			0.21	
v/c Ratio		0.26			0.39			0.24			0.03	
Control Delay		3.5			4.2			13.0			0.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			4.2			13.0			0.1	
LOS		A			A			B			A	
Approach Delay		3.5			4.2			13.0			0.1	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	9.8			17.0			3.4			0.0		
Queue Length 95th (m)	19.3			32.2			10.9			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	3047			3161			800			820		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.21			0.31			0.09			0.01		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 41.2

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 4.3

Intersection LOS: A

Intersection Capacity Utilization 52.0%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base + Site
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	628	6	16	962	3	38	2	26	4	0	6
Future Volume (vph)	4	628	6	16	962	3	38	2	26	4	0	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.999						0.947			0.919	
Flt Protected					0.999			0.972			0.980	
Satd. Flow (prot)	0	3349	0	0	3349	0	0	1613	0	0	1574	0
Flt Permitted		0.950			0.943			0.816			0.838	
Satd. Flow (perm)	0	3181	0	0	3161	0	0	1351	0	0	1343	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			1			28			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	685	0	0	1054	0	0	71	0	0	10	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	49.1	49.1		9.9	59.0		26.0	26.0		26.0	26.0	
Total Split (%)	57.8%	57.8%		11.6%	69.4%		30.6%	30.6%		30.6%	30.6%	
Maximum Green (s)	44.2	44.2		5.0	54.1		20.8	20.8		20.8	20.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		33.7			33.7			8.6			8.5	
Actuated g/C Ratio		0.79			0.79			0.20			0.20	
v/c Ratio		0.27			0.42			0.24			0.03	
Control Delay		3.4			4.2			13.9			0.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.4			4.2			13.9			0.1	
LOS		A			A			B			A	
Approach Delay		3.4			4.2			13.9			0.1	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base + Site
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	10.5			19.0			3.6			0.0		
Queue Length 95th (m)	20.4			36.2			11.6			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2999			3161			743			766		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.23			0.33			0.10			0.01		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 42.8

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 4.3

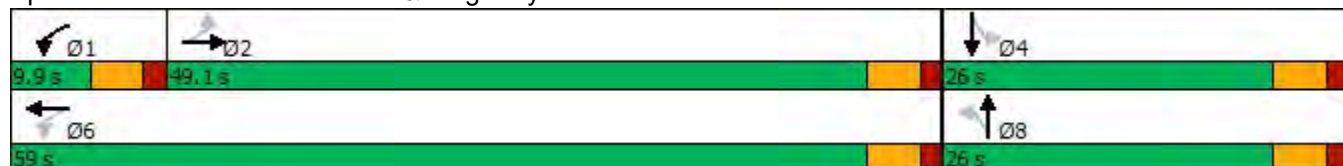
Intersection LOS: A

Intersection Capacity Utilization 54.2%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	627	7	17	916	3	41	2	28	4	0	7
Future Volume (vph)	4	627	7	17	916	3	41	2	28	4	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.998						0.947			0.910	
Flt Protected					0.999			0.972			0.984	
Satd. Flow (prot)	0	3345	0	0	3349	0	0	1613	0	0	1563	0
Flt Permitted		0.951			0.941			0.815			0.861	
Satd. Flow (perm)	0	3181	0	0	3155	0	0	1349	0	0	1366	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			1			30			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	686	0	0	1006	0	0	76	0	0	12	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	48.1	48.1		9.9	58.0		27.0	27.0		27.0	27.0	
Total Split (%)	56.6%	56.6%		11.6%	68.2%		31.8%	31.8%		31.8%	31.8%	
Maximum Green (s)	43.2	43.2		5.0	53.1		21.8	21.8		21.8	21.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		32.2			32.2			8.7			8.5	
Actuated g/C Ratio		0.78			0.78			0.21			0.21	
v/c Ratio		0.28			0.41			0.25			0.03	
Control Delay		3.6			4.3			13.1			0.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.6			4.3			13.1			0.2	
LOS		A			A			B			A	
Approach Delay		3.6			4.3			13.1			0.2	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	10.5			17.9			3.7			0.0		
Queue Length 95th (m)	20.8			34.6			11.5			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	3036			3155			795			829		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.23			0.32			0.10			0.01		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 41.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 4.4

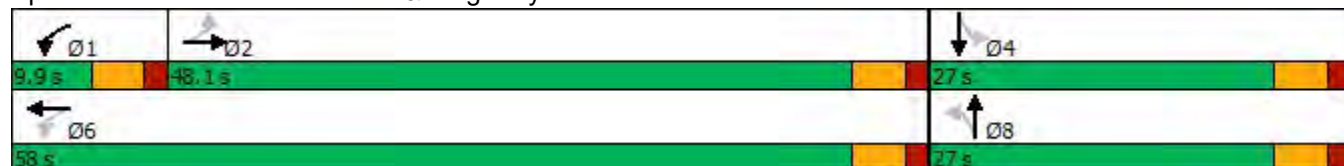
Intersection LOS: A

Intersection Capacity Utilization 54.4%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site (with Site Access on Dixon St)
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	652	22	27	995	3	122	2	46	4	0	7
Future Volume (vph)	4	652	22	27	995	3	122	2	46	4	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.995						0.964			0.910	
Flt Protected					0.999			0.965			0.984	
Satd. Flow (prot)	0	3333	0	0	3349	0	0	1634	0	0	1563	0
Flt Permitted		0.950			0.927			0.780			0.907	
Satd. Flow (perm)	0	3166	0	0	3108	0	0	1317	0	0	1439	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			1			22			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	729	0	0	1102	0	0	182	0	0	12	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	46.1	46.1		9.9	56.0		29.0	29.0		29.0	29.0	
Total Split (%)	54.2%	54.2%		11.6%	65.9%		34.1%	34.1%		34.1%	34.1%	
Maximum Green (s)	41.2	41.2		5.0	51.1		23.8	23.8		23.8	23.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		30.2			30.2			13.3			13.3	
Actuated g/C Ratio		0.58			0.58			0.26			0.26	
v/c Ratio		0.39			0.61			0.51			0.03	
Control Delay		7.0			9.2			20.3			0.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.0			9.2			20.3			0.1	
LOS		A			A			C			A	
Approach Delay		7.0			9.2			20.3			0.1	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site (with Site Access on Dixon St)
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			C			A		
Queue Length 50th (m)	16.0			29.3			11.2			0.0		
Queue Length 95th (m)	35.5			63.0			34.1			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2694			2952			663			756		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.27			0.37			0.27			0.02		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 51.7

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 9.4

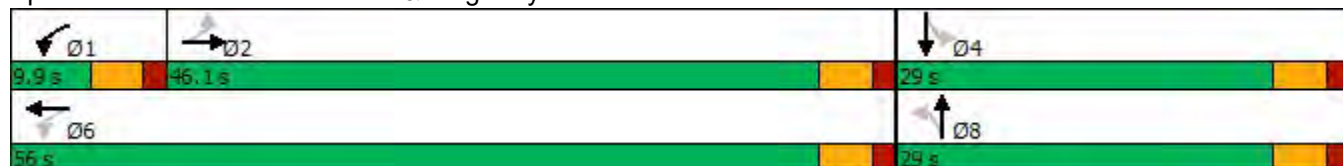
Intersection LOS: A

Intersection Capacity Utilization 73.3%

ICU Level of Service D

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	678	7	17	1076	3	41	2	28	4	0	7
Future Volume (vph)	4	678	7	17	1076	3	41	2	28	4	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.998						0.947			0.910	
Flt Protected					0.999			0.972			0.984	
Satd. Flow (prot)	0	3345	0	0	3349	0	0	1613	0	0	1563	0
Flt Permitted		0.950			0.942			0.815			0.889	
Satd. Flow (perm)	0	3178	0	0	3158	0	0	1349	0	0	1410	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			1			30			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	741	0	0	1178	0	0	76	0	0	12	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	50.0	50.0		10.0	60.0		25.0	25.0		25.0	25.0	
Total Split (%)	58.8%	58.8%		11.8%	70.6%		29.4%	29.4%		29.4%	29.4%	
Maximum Green (s)	45.1	45.1		5.1	55.1		19.8	19.8		19.8	19.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		36.2			36.2			8.9			8.7	
Actuated g/C Ratio		0.80			0.80			0.20			0.19	
v/c Ratio		0.29			0.47			0.26			0.04	
Control Delay		3.4			4.5			15.1			0.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.4			4.5			15.1			0.2	
LOS		A			A			B			A	
Approach Delay		3.4			4.5			15.1			0.2	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	12.0			23.3			4.1			0.0		
Queue Length 95th (m)	23.1			44.1			13.2			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2927			3158			670			729		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.25			0.37			0.11			0.02		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 45.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 4.5

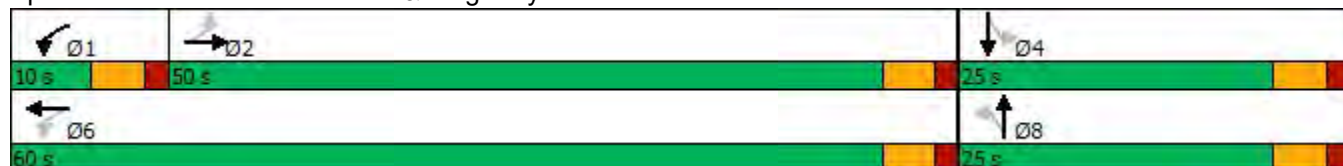
Intersection LOS: A

Intersection Capacity Utilization 59.0%

ICU Level of Service B

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	684	7	18	1000	4	44	2	30	5	0	7
Future Volume (vph)	5	684	7	18	1000	4	44	2	30	5	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.998			0.999			0.947			0.917	
Flt Protected					0.999			0.972			0.981	
Satd. Flow (prot)	0	3345	0	0	3346	0	0	1613	0	0	1572	0
Flt Permitted		0.949			0.940			0.814			0.876	
Satd. Flow (perm)	0	3175	0	0	3148	0	0	1348	0	0	1401	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			1			32			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	748	0	0	1098	0	0	81	0	0	13	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	49.0	49.0		10.0	59.0		26.0	26.0		26.0	26.0	
Total Split (%)	57.6%	57.6%		11.8%	69.4%		30.6%	30.6%		30.6%	30.6%	
Maximum Green (s)	44.1	44.1		5.1	54.1		20.8	20.8		20.8	20.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		34.1			34.1			8.9			8.7	
Actuated g/C Ratio		0.79			0.79			0.21			0.20	
v/c Ratio		0.30			0.44			0.27			0.04	
Control Delay		3.6			4.5			14.1			0.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.6			4.5			14.1			0.2	
LOS		A			A			B			A	
Approach Delay		3.6			4.5			14.1			0.2	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	12.1			20.8			4.2			0.0		
Queue Length 95th (m)	23.5			40.0			12.9			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2965			3148			734			788		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.25			0.35			0.11			0.02		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 43.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 4.5

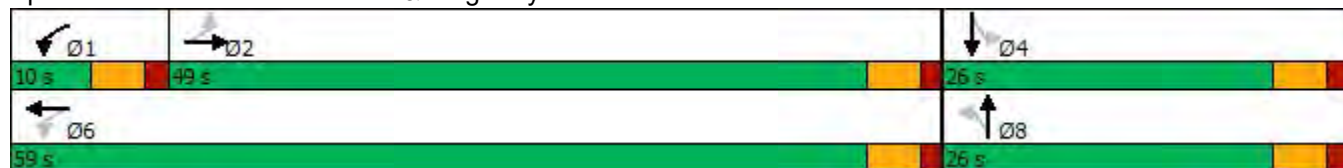
Intersection LOS: A

Intersection Capacity Utilization 57.5%

ICU Level of Service B

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base + Site
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	709	33	64	1000	4	240	2	48	5	0	7
Future Volume (vph)	5	709	33	64	1000	4	240	2	48	5	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.993			0.999			0.977			0.917	
Flt Protected					0.997			0.960			0.981	
Satd. Flow (prot)	0	3325	0	0	3339	0	0	1650	0	0	1572	0
Flt Permitted		0.949			0.853			0.754			0.896	
Satd. Flow (perm)	0	3156	0	0	2857	0	0	1292	0	0	1434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			1			13			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	2		3	3		2	3		4	4		3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	802	0	0	1148	0	0	312	0	0	13	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	20.9	20.9		9.9	17.9		23.2	23.2		23.2	23.2	
Total Split (s)	41.0	41.0		10.0	51.0		34.0	34.0		34.0	34.0	
Total Split (%)	48.2%	48.2%		11.8%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	36.1	36.1		5.1	46.1		28.8	28.8		28.8	28.8	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		36.7			36.7			22.0			22.0	
Actuated g/C Ratio		0.55			0.55			0.33			0.33	
v/c Ratio		0.46			0.74			0.72			0.02	
Control Delay		10.8			15.7			31.2			0.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.8			15.7			31.2			0.1	
LOS		B			B			C			A	
Approach Delay		10.8			15.7			31.2			0.1	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base + Site
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			C			A	
Queue Length 50th (m)		30.6			55.2			33.4			0.0	
Queue Length 95th (m)		54.0			97.0			73.0			0.0	
Internal Link Dist (m)		131.9			111.0			157.2			54.6	
Turn Bay Length (m)												
Base Capacity (vph)		1997			2096			619			725	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.40			0.55			0.50			0.02	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 67.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 16.0

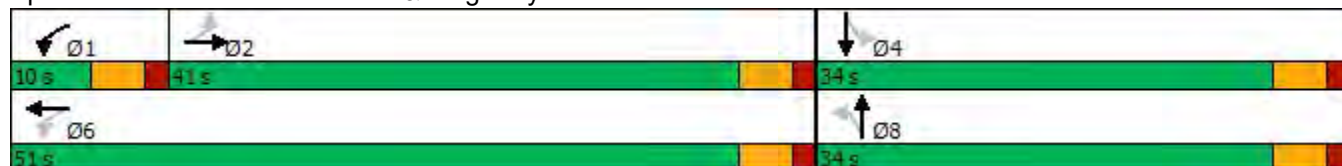
Intersection LOS: B

Intersection Capacity Utilization 87.2%

ICU Level of Service E






Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2020 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	993	15	29	841	2	25	0	34	11	0	13
Future Volume (vph)	10	993	15	29	841	2	25	0	34	11	0	13
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.98			0.98	
Frt		0.998						0.922			0.927	
Flt Protected					0.998			0.979			0.977	
Satd. Flow (prot)	0	3345	0	0	3346	0	0	1568	0	0	1583	0
Flt Permitted		0.946			0.902			0.851			0.821	
Satd. Flow (perm)	0	3164	0	0	3024	0	0	1360	0	0	1322	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1106	0	0	948	0	0	64	0	0	26	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	39.9	39.9		19.9	59.8		25.2	25.2		25.2	25.2	
Total Split (%)	46.9%	46.9%		23.4%	70.4%		29.6%	29.6%		29.6%	29.6%	
Maximum Green (s)	35.0	35.0		15.0	54.9		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		32.0			32.0			7.3			7.3	
Actuated g/C Ratio		0.80			0.80			0.18			0.18	
v/c Ratio		0.44			0.39			0.20			0.08	
Control Delay		3.7			3.5			5.2			0.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.7			3.5			5.2			0.5	
LOS		A			A			A			A	
Approach Delay		3.7			3.5			5.2			0.5	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2020 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			A			A		
Queue Length 50th (m)	17.2			14.1			0.0			0.0		
Queue Length 95th (m)	31.8			26.2			5.5			0.3		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2747			3024			790			769		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.40			0.31			0.08			0.03		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 40

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 3.6

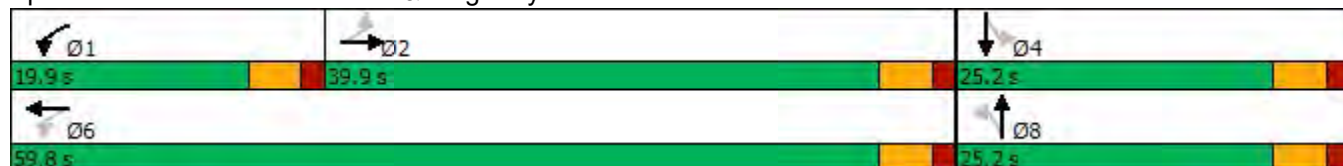
Intersection LOS: A

Intersection Capacity Utilization 61.7%

ICU Level of Service B

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1030	16	30	873	2	26	0	35	11	0	14
Future Volume (vph)	10	1030	16	30	873	2	26	0	35	11	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.98			0.98	
Frt		0.998						0.922			0.925	
Flt Protected					0.998			0.979			0.978	
Satd. Flow (prot)	0	3345	0	0	3346	0	0	1568	0	0	1581	0
Flt Permitted		0.946			0.899			0.850			0.825	
Satd. Flow (perm)	0	3164	0	0	3014	0	0	1358	0	0	1325	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			1			87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1148	0	0	984	0	0	66	0	0	27	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		33.1			33.1			7.3			7.3	
Actuated g/C Ratio		0.80			0.80			0.18			0.18	
v/c Ratio		0.45			0.41			0.21			0.09	
Control Delay		3.8			3.6			5.6			0.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.8			3.6			5.6			0.6	
LOS		A			A			A			A	
Approach Delay		3.8			3.6			5.6			0.6	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			A			A		
Queue Length 50th (m)	18.2			14.8			0.0			0.0		
Queue Length 95th (m)	34.7			28.5			5.8			0.4		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	3145			3014			694			678		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.37			0.33			0.10			0.04		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 41.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 3.7

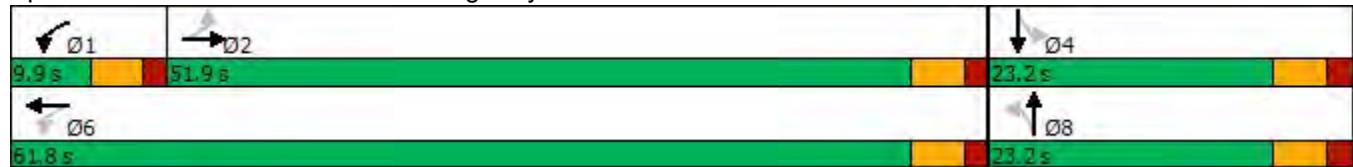
Intersection LOS: A

Intersection Capacity Utilization 63.6%

ICU Level of Service B

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base + Site
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1101	16	30	919	2	26	0	35	11	0	14
Future Volume (vph)	10	1101	16	30	919	2	26	0	35	11	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.98			0.98	
Frt		0.998						0.922			0.925	
Flt Protected					0.998			0.979			0.978	
Satd. Flow (prot)	0	3345	0	0	3346	0	0	1568	0	0	1581	0
Flt Permitted		0.946			0.896			0.850			0.825	
Satd. Flow (perm)	0	3164	0	0	3004	0	0	1358	0	0	1325	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1225	0	0	1034	0	0	66	0	0	27	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		35.0			35.0			7.4			7.4	
Actuated g/C Ratio		0.81			0.81			0.17			0.17	
v/c Ratio		0.48			0.43			0.22			0.09	
Control Delay		3.9			3.6			5.8			0.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.9			3.6			5.8			0.6	
LOS		A			A			A			A	
Approach Delay		3.9			3.6			5.8			0.6	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2022 Base + Site
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			A			A		
Queue Length 50th (m)	20.3			16.1			0.0			0.0		
Queue Length 95th (m)	38.5			30.8			6.0			0.3		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	3104			3004			672			657		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.39			0.34			0.10			0.04		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 43.2

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 3.8

Intersection LOS: A

Intersection Capacity Utilization 64.9%

ICU Level of Service C

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1075	17	32	919	2	28	0	37	12	0	14
Future Volume (vph)	11	1075	17	32	919	2	28	0	37	12	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.98			0.98	
Frt		0.998						0.923			0.928	
Flt Protected		0.999			0.998			0.979			0.977	
Satd. Flow (prot)	0	3341	0	0	3346	0	0	1570	0	0	1585	0
Flt Permitted		0.944			0.893			0.848			0.817	
Satd. Flow (perm)	0	3157	0	0	2994	0	0	1357	0	0	1317	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1198	0	0	1036	0	0	70	0	0	28	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		34.0			34.0			7.4			7.4	
Actuated g/C Ratio		0.80			0.80			0.17			0.17	
v/c Ratio		0.47			0.43			0.23			0.09	
Control Delay		4.0			3.7			6.1			0.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.0			3.7			6.1			0.6	
LOS		A			A			A			A	
Approach Delay		4.0			3.7			6.1			0.6	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			A			A		
Queue Length 50th (m)	19.6			16.1			0.0			0.0		
Queue Length 95th (m)	38.0			31.7			6.6			0.5		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	3121			2994			681			663		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.38			0.35			0.10			0.04		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 42.4

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 3.9

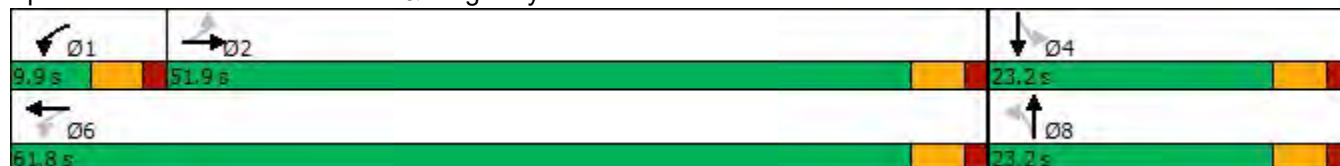
Intersection LOS: A

Intersection Capacity Utilization 66.6%

ICU Level of Service C

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site (with Site Access on Dixon St)
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1148	91	54	963	2	73	0	54	12	0	14
Future Volume (vph)	11	1148	91	54	963	2	73	0	54	12	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.989						0.942			0.928	
Flt Protected					0.997			0.972			0.977	
Satd. Flow (prot)	0	3308	0	0	3343	0	0	1597	0	0	1585	0
Flt Permitted		0.944			0.820			0.807			0.868	
Satd. Flow (perm)	0	3123	0	0	2749	0	0	1322	0	0	1401	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1359	0	0	1108	0	0	138	0	0	28	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		37.2			37.2			9.7			9.7	
Actuated g/C Ratio		0.73			0.73			0.19			0.19	
v/c Ratio		0.60			0.55			0.43			0.08	
Control Delay		6.5			6.3			14.1			0.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.5			6.3			14.1			0.5	
LOS		A			A			B			A	
Approach Delay		6.5			6.3			14.1			0.5	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site (with Site Access on Dixon St)
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	30.7			24.1			3.9			0.0		
Queue Length 95th (m)	65.7			53.0			19.8			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2858			2663			567			598		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.48			0.42			0.24			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 51.2

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 6.8

Intersection LOS: A

Intersection Capacity Utilization 89.2%

ICU Level of Service E






Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave














Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1222	17	32	1008	2	28	0	37	12	0	14
Future Volume (vph)	11	1222	17	32	1008	2	28	0	37	12	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.98			0.98	
Frt		0.998						0.923			0.928	
Flt Protected					0.998			0.979			0.977	
Satd. Flow (prot)	0	3345	0	0	3346	0	0	1570	0	0	1585	0
Flt Permitted		0.944			0.886			0.848			0.850	
Satd. Flow (perm)	0	3157	0	0	2970	0	0	1357	0	0	1370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1358	0	0	1133	0	0	70	0	0	28	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		37.2			37.2			7.5			7.5	
Actuated g/C Ratio		0.77			0.77			0.15			0.15	
v/c Ratio		0.56			0.50			0.25			0.10	
Control Delay		4.8			4.3			7.0			0.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.8			4.3			7.0			0.7	
LOS		A			A			A			A	
Approach Delay		4.8			4.3			7.0			0.7	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2025 Base + Site
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			A			A		
Queue Length 50th (m)	24.3			18.7			0.0			0.0		
Queue Length 95th (m)	45.5			35.5			7.2			0.1		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2933			2970			608			613		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.46			0.38			0.12			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 48.6

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 4.6

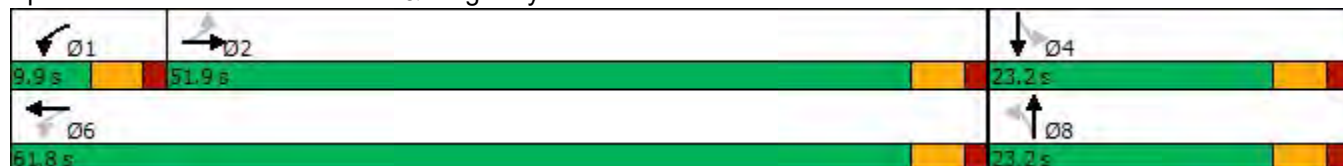
Intersection LOS: A

Intersection Capacity Utilization 69.1%

ICU Level of Service C






Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1172	18	35	1002	2	30	0	41	13	0	16
Future Volume (vph)	12	1172	18	35	1002	2	30	0	41	13	0	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.98			0.98	
Frt		0.998						0.922			0.926	
Flt Protected					0.998			0.979			0.978	
Satd. Flow (prot)	0	3345	0	0	3346	0	0	1568	0	0	1583	0
Flt Permitted		0.942			0.882			0.849			0.864	
Satd. Flow (perm)	0	3150	0	0	2957	0	0	1357	0	0	1390	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1307	0	0	1129	0	0	78	0	0	31	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		34.9			34.9			7.7			7.7	
Actuated g/C Ratio		0.75			0.75			0.17			0.17	
v/c Ratio		0.55			0.51			0.26			0.10	
Control Delay		5.0			4.7			7.5			0.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.0			4.7			7.5			0.9	
LOS		A			A			A			A	
Approach Delay		5.0			4.7			7.5			0.9	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			A			A		
Queue Length 50th (m)	22.7			18.6			0.0			0.0		
Queue Length 95th (m)	45.3			37.7			8.1			0.7		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	3028			2957			631			645		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.43			0.38			0.12			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 46.5

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 71.7%

ICU Level of Service C

















Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base + Site
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1245	92	122	1002	2	119	0	58	13	0	16
Future Volume (vph)	12	1245	92	122	1002	2	119	0	58	13	0	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.990						0.956			0.926	
Flt Protected					0.995			0.967			0.978	
Satd. Flow (prot)	0	3312	0	0	3336	0	0	1617	0	0	1583	0
Flt Permitted		0.941			0.610			0.779			0.867	
Satd. Flow (perm)	0	3117	0	0	2045	0	0	1298	0	0	1398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14						93			93	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1466	0	0	1224	0	0	192	0	0	31	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	46.9	46.9		9.9	56.8		23.2	23.2		23.2	23.2	
Total Split (%)	58.6%	58.6%		12.4%	71.0%		29.0%	29.0%		29.0%	29.0%	
Maximum Green (s)	42.0	42.0		5.0	51.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		52.7			52.7			12.5			12.5	
Actuated g/C Ratio		0.72			0.72			0.17			0.17	
v/c Ratio		0.65			0.83			0.64			0.10	
Control Delay		7.9			15.5			25.4			0.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.9			15.5			25.4			0.6	
LOS		A			B			C			A	
Approach Delay		7.9			15.5			25.4			0.6	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base + Site
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			B			C			A		
Queue Length 50th (m)	46.0			51.6			13.1			0.0		
Queue Length 95th (m)	91.8			#137.7			33.3			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2246			1494			411			437		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.65			0.82			0.47			0.07		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 73.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 99.6%

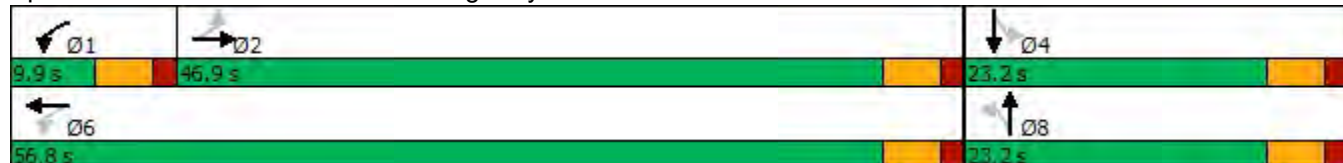
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Dixon St & Kingsway Ave



Lanes, Volumes, Timings
3: Westwood St & Kingsway Ave

2030 Base + Site
Timing Plan: PM Peak Hour



Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Approach LOS	D		E		E	
Queue Length 50th (m)	60.7	35.7	~186.6	7.7	~113.6	76.4
Queue Length 95th (m)	#105.8	#134.4	#260.6	15.8	#177.7	#161.6
Internal Link Dist (m)	120.0		169.8		198.3	
Turn Bay Length (m)						
Base Capacity (vph)	335	864	716	1133	441	694
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.98	1.05	0.26	1.05	1.00

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 56.7

Intersection LOS: E

Intersection Capacity Utilization 90.4%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Westwood St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2020 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	↗
Traffic Volume (vph)	514	106	3	589	271	21
Future Volume (vph)	514	106	3	589	271	21
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		1.00			
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.251		0.950	
Satd. Flow (perm)	1717	0	442	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	22					23
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	667	0	3	633	291	23
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	40.1		40.1	40.1	29.9	29.9
Total Split (%)	57.3%		57.3%	57.3%	42.7%	42.7%
Maximum Green (s)	35.0		35.0	35.0	25.0	25.0
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	25.2		25.2	25.2	15.5	15.5
Actuated g/C Ratio	0.51		0.51	0.51	0.31	0.31
v/c Ratio	0.75		0.01	0.70	0.55	0.05
Control Delay	16.2		7.3	14.8	19.8	7.1
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2020 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	16.2		7.3	14.8	19.8	7.1
LOS	B		A	B	B	A
Approach Delay	16.2			14.8	18.9	
Approach LOS	B			B	B	
Queue Length 50th (m)	40.0		0.1	37.8	21.0	0.0
Queue Length 95th (m)	99.9		1.3	92.2	51.5	4.3
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1320		338	1352	940	851
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.51		0.01	0.47	0.31	0.03

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 49.3

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 16.1

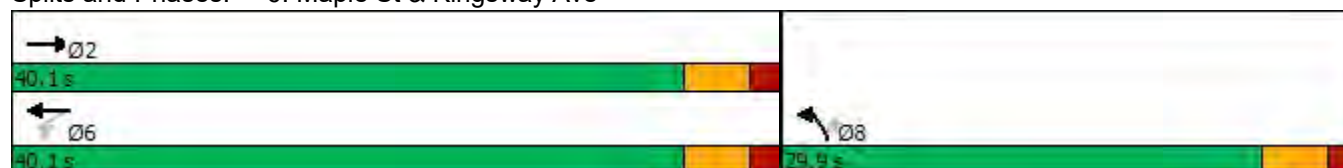
Intersection LOS: B

Intersection Capacity Utilization 57.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2022 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	532	109	3	610	281	32
Future Volume (vph)	532	109	3	610	281	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		1.00			
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.248		0.950	
Satd. Flow (perm)	1717	0	437	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	25					34
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	689	0	3	656	302	34
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	45.0		45.0	45.0	25.0	25.0
Total Split (%)	64.3%		64.3%	64.3%	35.7%	35.7%
Maximum Green (s)	39.9		39.9	39.9	20.1	20.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	27.0		27.0	27.0	15.2	15.2
Actuated g/C Ratio	0.53		0.53	0.53	0.30	0.30
v/c Ratio	0.75		0.01	0.70	0.60	0.07
Control Delay	15.0		6.3	13.8	23.0	7.3
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2022 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	15.0		6.3	13.8	23.0	7.3
LOS	B		A	B	C	A
Approach Delay	15.0			13.8	21.4	
Approach LOS	B			B	C	
Queue Length 50th (m)	41.7		0.1	39.7	23.5	0.0
Queue Length 95th (m)	93.2		1.1	86.1	60.0	5.9
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1405		356	1439	748	688
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.49		0.01	0.46	0.40	0.05

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 50.8

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.8

Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2022 Base + Site
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↱	↱
Traffic Volume (vph)	561	115	3	627	290	32
Future Volume (vph)	561	115	3	627	290	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		1.00			
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.223		0.950	
Satd. Flow (perm)	1717	0	393	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	26					34
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	727	0	3	674	312	34
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	45.0		45.0	45.0	25.0	25.0
Total Split (%)	64.3%		64.3%	64.3%	35.7%	35.7%
Maximum Green (s)	39.9		39.9	39.9	20.1	20.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	28.4		28.4	28.4	15.8	15.8
Actuated g/C Ratio	0.54		0.54	0.54	0.30	0.30
v/c Ratio	0.78		0.01	0.71	0.62	0.07
Control Delay	16.4		6.3	14.3	24.2	7.4
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2022 Base + Site
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	16.4		6.3	14.3	24.2	7.4
LOS	B		A	B	C	A
Approach Delay	16.4			14.2	22.5	
Approach LOS	B			B	C	
Queue Length 50th (m)	48.0		0.1	43.7	26.2	0.0
Queue Length 95th (m)	102.8		1.1	90.3	62.0	5.9
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1359		310	1391	719	663
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.53		0.01	0.48	0.43	0.05

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 52.8

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 16.8

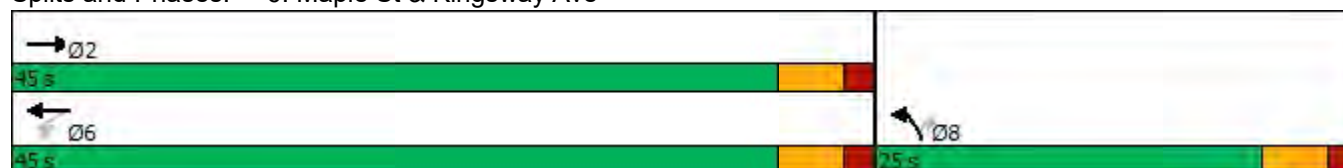
Intersection LOS: B

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2025 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	547	112	3	641	295	34
Future Volume (vph)	547	112	3	641	295	34
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		1.00			
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.233		0.950	
Satd. Flow (perm)	1717	0	411	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	25					37
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	708	0	3	689	317	37
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	45.0		45.0	45.0	25.0	25.0
Total Split (%)	64.3%		64.3%	64.3%	35.7%	35.7%
Maximum Green (s)	39.9		39.9	39.9	20.1	20.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	27.7		27.7	27.7	15.8	15.8
Actuated g/C Ratio	0.53		0.53	0.53	0.30	0.30
v/c Ratio	0.77		0.01	0.73	0.63	0.08
Control Delay	16.0		6.3	15.1	23.9	7.1
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2025 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	16.0		6.3	15.1	23.9	7.1
LOS	B		A	B	C	A
Approach Delay	16.0			15.0	22.2	
Approach LOS	B			B	C	
Queue Length 50th (m)	45.6		0.1	45.1	26.1	0.0
Queue Length 95th (m)	97.9		1.1	94.0	63.2	6.1
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1372		327	1405	730	674
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.52		0.01	0.49	0.43	0.05

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 52.1

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 16.9

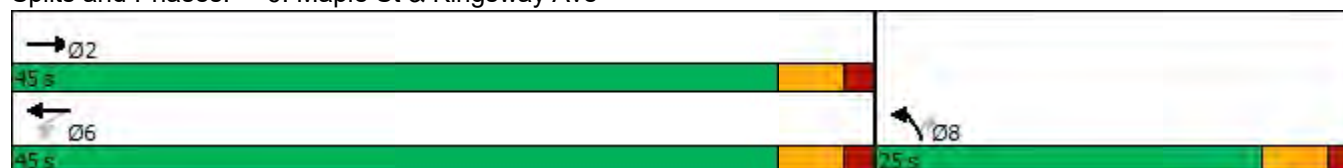
Intersection LOS: B

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2025 Base + Site
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↱	↱
Traffic Volume (vph)	607	124	3	671	311	34
Future Volume (vph)	607	124	3	671	311	34
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		1.00			
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.193		0.950	
Satd. Flow (perm)	1717	0	340	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	26					37
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	786	0	3	722	334	37
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	46.0		46.0	46.0	24.0	24.0
Total Split (%)	65.7%		65.7%	65.7%	34.3%	34.3%
Maximum Green (s)	40.9		40.9	40.9	19.1	19.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	31.3		31.3	31.3	16.4	16.4
Actuated g/C Ratio	0.56		0.56	0.56	0.29	0.29
v/c Ratio	0.81		0.02	0.74	0.68	0.08
Control Delay	17.9		6.0	14.8	28.4	7.6
Queue Delay	0.0		0.0	0.0	0.0	0.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	17.9		6.0	14.8	28.4	7.6
LOS	B		A	B	C	A
Approach Delay	17.9			14.7	26.4	
Approach LOS	B			B	C	
Queue Length 50th (m)	61.1		0.1	53.8	32.9	0.0
Queue Length 95th (m)	114.9		1.1	97.4	#75.0	6.2
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1309		258	1340	638	594
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.60		0.01	0.54	0.52	0.06

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 56.3

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.3

Intersection LOS: B

Intersection Capacity Utilization 66.6%

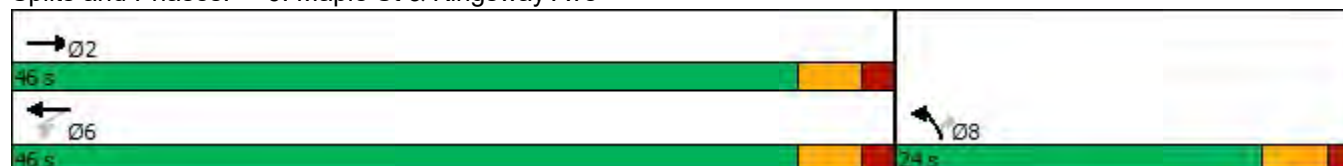
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2030 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	596	122	4	700	322	37
Future Volume (vph)	596	122	4	700	322	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		1.00			
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.195		0.950	
Satd. Flow (perm)	1717	0	344	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	25					40
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	772	0	4	753	346	40
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	45.0		45.0	45.0	25.0	25.0
Total Split (%)	64.3%		64.3%	64.3%	35.7%	35.7%
Maximum Green (s)	39.9		39.9	39.9	20.1	20.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	30.8		30.8	30.8	16.9	16.9
Actuated g/C Ratio	0.55		0.55	0.55	0.30	0.30
v/c Ratio	0.81		0.02	0.78	0.69	0.08
Control Delay	18.4		6.5	16.9	27.7	7.2
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2030 Base
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	18.4		6.5	16.9	27.7	7.2
LOS	B		A	B	C	A
Approach Delay	18.4			16.9	25.6	
Approach LOS	B			B	C	
Queue Length 50th (m)	60.6		0.2	59.0	33.9	0.0
Queue Length 95th (m)	115.8		1.4	109.9	#71.2	6.4
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1287		256	1316	670	624
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.60		0.02	0.57	0.52	0.06

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 56.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 19.2

Intersection LOS: B

Intersection Capacity Utilization 66.5%

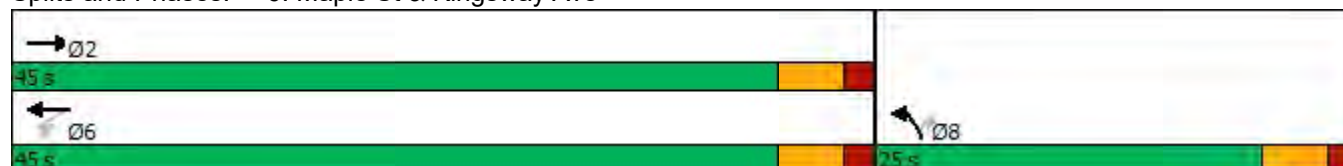
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2030 Base + Site
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	656	134	4	730	338	37
Future Volume (vph)	656	134	4	730	338	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1717	0	1676	1765	1676	1500
Flt Permitted			0.158		0.950	
Satd. Flow (perm)	1717	0	279	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	26					40
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	849	0	4	785	363	40
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	46.0		46.0	46.0	24.0	24.0
Total Split (%)	65.7%		65.7%	65.7%	34.3%	34.3%
Maximum Green (s)	40.9		40.9	40.9	19.1	19.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	34.6		34.6	34.6	17.5	17.5
Actuated g/C Ratio	0.57		0.57	0.57	0.29	0.29
v/c Ratio	0.86		0.03	0.78	0.75	0.09
Control Delay	21.3		6.2	16.6	33.0	7.4
Queue Delay	0.0		0.0	0.0	0.0	0.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	21.3		6.2	16.6	33.0	7.4
LOS	C		A	B	C	A
Approach Delay	21.3			16.6	30.4	
Approach LOS	C			B	C	
Queue Length 50th (m)	79.0		0.2	69.2	43.4	0.0
Queue Length 95th (m)#	161.2		1.3	114.1	#85.0	6.6
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1237		200	1264	581	546
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.69		0.02	0.62	0.62	0.07

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 60.5

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 21.3

Intersection LOS: C

Intersection Capacity Utilization 71.5%

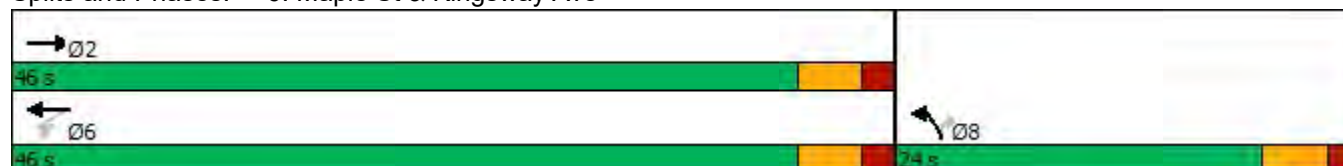
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2020 Base
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	744	289	17	616	262	32
Future Volume (vph)	744	289	17	616	262	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					
Frt	0.962					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1681	0	1676	1765	1676	1500
Flt Permitted			0.108		0.950	
Satd. Flow (perm)	1681	0	191	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	41					35
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		7	7			
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1123	0	18	670	285	35
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	40.1		40.1	40.1	29.9	29.9
Total Split (%)	57.3%		57.3%	57.3%	42.7%	42.7%
Maximum Green (s)	35.0		35.0	35.0	25.0	25.0
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	36.9		36.9	36.9	16.3	16.3
Actuated g/C Ratio	0.60		0.60	0.60	0.27	0.27
v/c Ratio	1.09		0.16	0.63	0.64	0.08
Control Delay	73.5		11.4	12.4	26.5	6.5

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	73.5		11.4	12.4	26.5	6.5
LOS	E		B	B	C	A
Approach Delay	73.5			12.3	24.3	
Approach LOS	E			B	C	
Queue Length 50th (m)	~151.4		0.8	43.6	29.1	0.0
Queue Length 95th (m)	#258.7		5.2	99.6	50.4	5.3
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1029		115	1063	712	657
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.09		0.16	0.63	0.40	0.05

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 61.2

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 46.4

Intersection LOS: D

Intersection Capacity Utilization 82.1%

ICU Level of Service E

Analysis Period (min) 15

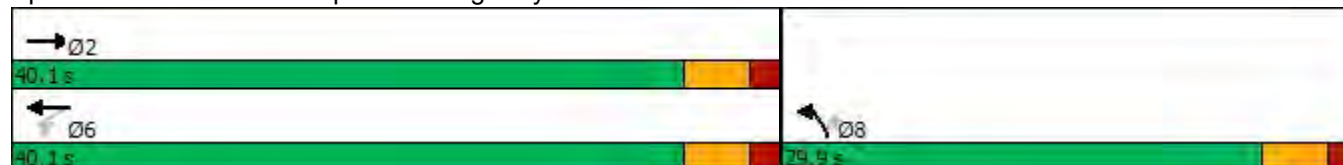
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2022 Base
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	↗
Traffic Volume (vph)	770	300	18	640	271	33
Future Volume (vph)	770	300	18	640	271	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					
Frt	0.962					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1682	0	1676	1765	1676	1500
Flt Permitted			0.082		0.950	
Satd. Flow (perm)	1682	0	145	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	64					36
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		7	7			
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1163	0	20	696	295	36
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	52.2		52.2	52.2	17.8	17.8
Total Split (%)	74.6%		74.6%	74.6%	25.4%	25.4%
Maximum Green (s)	47.1		47.1	47.1	12.9	12.9
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	48.6		48.6	48.6	13.8	13.8
Actuated g/C Ratio	0.69		0.69	0.69	0.20	0.20
v/c Ratio	0.98		0.20	0.57	0.90	0.11
Control Delay	35.5		9.6	7.9	60.4	9.8

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	35.5		9.6	7.9	60.4	9.8
LOS	D		A	A	E	A
Approach Delay	35.5			7.9	54.9	
Approach LOS	D			A	D	
Queue Length 50th (m)	122.6		0.8	40.5	40.0	0.0
Queue Length 95th (m)	#239.6		4.3	65.5	#83.0	7.0
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1181		99	1218	328	322
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.98		0.20	0.57	0.90	0.11

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70.4

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 84.8%

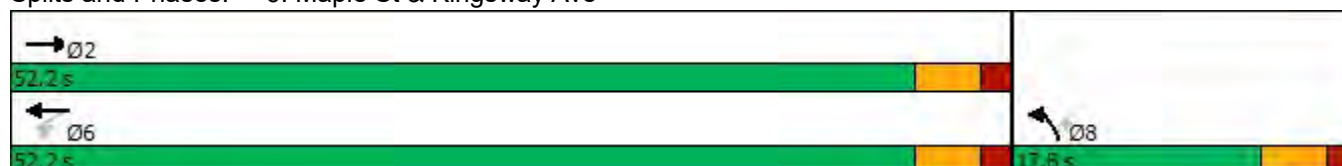
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2022 Base + Site
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	↗
Traffic Volume (vph)	796	310	18	669	284	33
Future Volume (vph)	796	310	18	669	284	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					
Frt	0.962					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1680	0	1676	1765	1676	1500
Flt Permitted			0.062		0.950	
Satd. Flow (perm)	1680	0	109	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	54					36
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		7	7			
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1202	0	20	727	309	36
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	68.0		68.0	68.0	22.0	22.0
Total Split (%)	75.6%		75.6%	75.6%	24.4%	24.4%
Maximum Green (s)	62.9		62.9	62.9	17.1	17.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	64.0		64.0	64.0	18.0	18.0
Actuated g/C Ratio	0.71		0.71	0.71	0.20	0.20
v/c Ratio	0.99		0.26	0.58	0.92	0.11
Control Delay	38.5		14.4	8.7	70.3	11.2

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.5		14.4	8.7	70.3	11.2
LOS	D		B	A	E	B
Approach Delay	38.5			8.8	64.1	
Approach LOS	D			A	E	
Queue Length 50th (m)	177.3		1.1	55.0	55.6	0.0
Queue Length 95th (m) #305.3			6.0	82.9	#105.3	7.9
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1210		77	1255	335	328
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.99		0.26	0.58	0.92	0.11

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 32.7

Intersection LOS: C

Intersection Capacity Utilization 87.6%

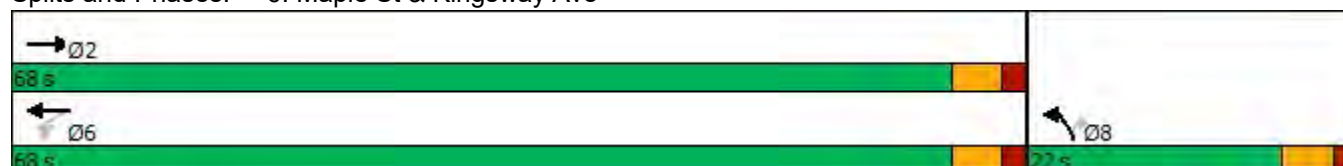
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2025 Base
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	810	315	19	669	284	35
Future Volume (vph)	810	315	19	669	284	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					
Frt	0.962					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1679	0	1676	1765	1676	1500
Flt Permitted			0.063		0.950	
Satd. Flow (perm)	1679	0	111	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	51					38
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		7	7			
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1222	0	21	727	309	38
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	76.6		76.6	76.6	23.4	23.4
Total Split (%)	76.6%		76.6%	76.6%	23.4%	23.4%
Maximum Green (s)	71.5		71.5	71.5	18.5	18.5
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	72.6		72.6	72.6	19.4	19.4
Actuated g/C Ratio	0.73		0.73	0.73	0.19	0.19
v/c Ratio	0.99		0.26	0.57	0.95	0.12
Control Delay	38.3		14.1	8.5	80.2	11.8

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.3		14.1	8.5	80.2	11.8
LOS	D		B	A	F	B
Approach Delay	38.3			8.7	72.8	
Approach LOS	D			A	E	
Queue Length 50th (m)	202.9		1.2	58.7	62.9	0.0
Queue Length 95th (m)	#337.2		6.0	86.3	#115.9	8.8
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1232		80	1281	325	321
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.99		0.26	0.57	0.95	0.12

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 33.9

Intersection LOS: C

Intersection Capacity Utilization 88.7%

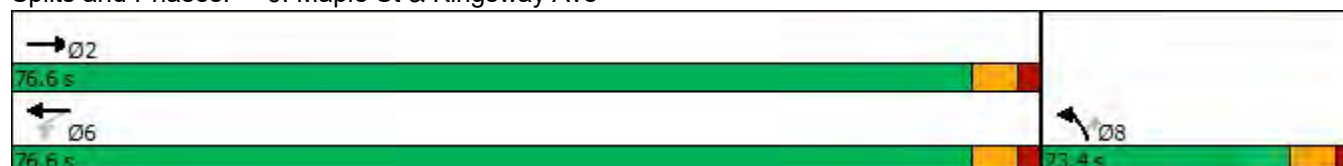
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2025 Base + Site
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↱	↱
Traffic Volume (vph)	860	335	19	729	311	35
Future Volume (vph)	860	335	19	729	311	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					
Frt	0.962					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1677	0	1676	1765	1676	1500
Flt Permitted			0.045		0.950	
Satd. Flow (perm)	1677	0	79	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	44					31
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		7	7			
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1299	0	21	792	338	38
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	92.0		92.0	92.0	28.0	28.0
Total Split (%)	76.7%		76.7%	76.7%	23.3%	23.3%
Maximum Green (s)	86.9		86.9	86.9	23.1	23.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	88.0		88.0	88.0	24.0	24.0
Actuated g/C Ratio	0.73		0.73	0.73	0.20	0.20
v/c Ratio	1.05		0.37	0.61	1.01	0.12
Control Delay	55.9		26.8	10.2	99.5	17.3

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	55.9		26.8	10.2	99.5	17.3
LOS	E		C	B	F	B
Approach Delay	55.9			10.7	91.2	
Approach LOS	E			B	F	
Queue Length 50th (m)~347.2			1.7	83.2	~85.6	1.4
Queue Length 95th (m)#432.7			11.1	116.6	#147.7	11.2
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1241		57	1294	335	324
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.05		0.37	0.61	1.01	0.12

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 46.5

Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

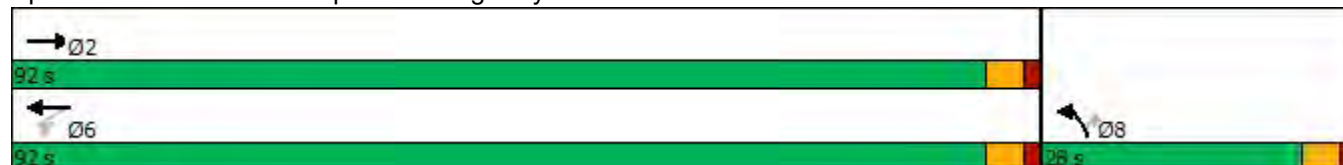
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

















Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave















Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1110	171	49	960	2	122	0	51	12	0	14
Future Volume (vph)	11	1110	171	49	960	2	122	0	51	12	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.980						0.961			0.928	
Flt Protected					0.998			0.966			0.977	
Satd. Flow (prot)	0	3272	0	0	3346	0	0	1625	0	0	1585	0
Flt Permitted		0.944			0.825			0.772			0.873	
Satd. Flow (perm)	0	3088	0	0	2766	0	0	1294	0	0	1410	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33						87			87	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		155.9			135.0			181.2			78.6	
Travel Time (s)		11.2			9.7			13.0			5.7	
Confl. Peds. (#/hr)	9		5	5		9	4		11	11		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1405	0	0	1098	0	0	188	0	0	28	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.9	22.9		9.9	24.5		23.2	23.2		23.2	23.2	
Total Split (s)	51.9	51.9		9.9	61.8		23.2	23.2		23.2	23.2	
Total Split (%)	61.1%	61.1%		11.6%	72.7%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	47.0	47.0		5.0	56.9		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.8	1.8		1.8	1.8	
Lost Time Adjust (s)		-0.9			-0.9			-1.2			-1.2	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0			6.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		36.6			36.6			12.1			12.1	
Actuated g/C Ratio		0.64			0.64			0.21			0.21	
v/c Ratio		0.70			0.62			0.55			0.08	
Control Delay		9.4			8.4			18.6			0.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.4			8.4			18.6			0.4	
LOS		A			A			B			A	
Approach Delay		9.4			8.4			18.6			0.4	

Lanes, Volumes, Timings
1: Dixon St & Kingsway Ave

2030 Base
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			B			A		
Queue Length 50th (m)	40.4			29.4			8.2			0.0		
Queue Length 95th (m)	85.6			63.4			31.0			0.0		
Internal Link Dist (m)	131.9			111.0			157.2			54.6		
Turn Bay Length (m)												
Base Capacity (vph)	2675			2599			506			547		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.53			0.42			0.37			0.05		

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 56.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 9.6

Intersection LOS: A

Intersection Capacity Utilization 89.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Dixon St & Kingsway Ave



Lanes, Volumes, Timings
6: Maple St & Kingsway Ave

2030 Base + Site
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	↗
Traffic Volume (vph)	933	363	20	790	337	38
Future Volume (vph)	933	363	20	790	337	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	55.0		0.0	50.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					
Frt	0.962					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1677	0	1676	1765	1676	1500
Flt Permitted			0.045		0.950	
Satd. Flow (perm)	1677	0	79	1765	1676	1500
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	45					30
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.1			211.7	342.5	
Travel Time (s)	18.8			15.2	24.7	
Confl. Peds. (#/hr)		7	7			
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1409	0	22	859	366	41
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	7.0	7.0
Minimum Split (s)	23.1		15.1	15.1	11.9	11.9
Total Split (s)	93.0		93.0	93.0	27.0	27.0
Total Split (%)	77.5%		77.5%	77.5%	22.5%	22.5%
Maximum Green (s)	87.9		87.9	87.9	22.1	22.1
Yellow Time (s)	3.4		3.4	3.4	3.4	3.4
All-Red Time (s)	1.7		1.7	1.7	1.5	1.5
Lost Time Adjust (s)	-1.1		-1.1	-1.1	-0.9	-0.9
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		Min	Min	None	None
Walk Time (s)	8.0					
Flash Dont Walk (s)	10.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	89.0		89.0	89.0	23.0	23.0
Actuated g/C Ratio	0.74		0.74	0.74	0.19	0.19
v/c Ratio	1.12		0.38	0.66	1.14	0.13
Control Delay	84.0		27.2	10.8	137.7	19.4

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	84.0		27.2	10.8	137.7	19.4
LOS	F		C	B	F	B
Approach Delay	84.0			11.2	125.8	
Approach LOS	F			B	F	
Queue Length 50th (m)	~401.2		1.7	92.9	~105.9	2.3
Queue Length 95th (m)	#486.7		12.1	131.5	#166.8	12.4
Internal Link Dist (m)	237.1			187.7	318.5	
Turn Bay Length (m)			55.0			50.0
Base Capacity (vph)	1255		58	1309	321	311
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.12		0.38	0.66	1.14	0.13

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 66.5

Intersection LOS: E

Intersection Capacity Utilization 101.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Maple St & Kingsway Ave



HCS7 Two-Way Stop-Control Report

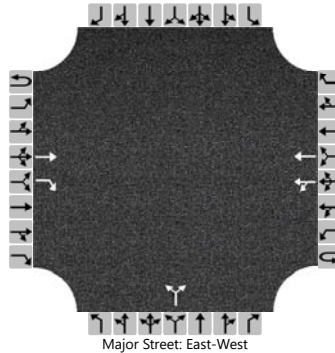
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2020
Time Analyzed	Base
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			599	9		9	851			20		21				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.5		6.9			
Critical Headway (sec)						4.14					6.84		6.94			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						10						44				
Capacity, c (veh/h)						927						267				
v/c Ratio						0.01						0.17				
95% Queue Length, Q ₉₅ (veh)						0.0						0.6				
Control Delay (s/veh)						8.9						21.1				
Level of Service (LOS)						A						C				
Approach Delay (s/veh)					0.2				21.1							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

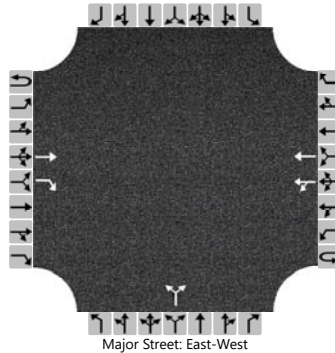
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2022
Time Analyzed	Base
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			623	6		6	885			19		19				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

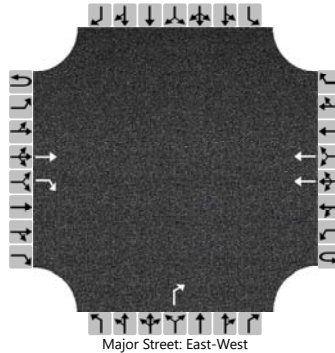
Flow Rate, v (veh/h)					6					41						
Capacity, c (veh/h)					909					253						
v/c Ratio					0.01					0.16						
95% Queue Length, Q ₉₅ (veh)					0.0					0.6						
Control Delay (s/veh)					9.0					22.0						
Level of Service (LOS)					A					C						
Approach Delay (s/veh)					0.1				22.0							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	AM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2022	North/South Street	Gately Avenue
Time Analyzed	Base+Site (RIRO & Dixon)	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			623	39			934					51				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												55				
Capacity, c (veh/h)												399				
v/c Ratio												0.14				
95% Queue Length, Q ₉₅ (veh)												0.5				
Control Delay (s/veh)												15.5				
Level of Service (LOS)												C				
Approach Delay (s/veh)									15.5							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

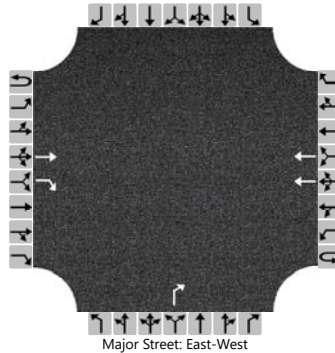
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2022
Time Analyzed	Base+Site (RIRO)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			623	63			934					140				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

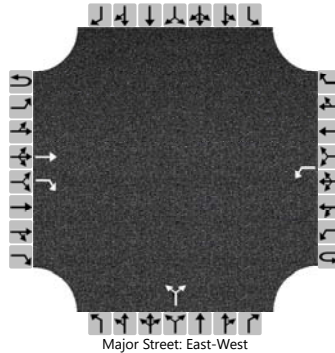
Flow Rate, v (veh/h)												151				
Capacity, c (veh/h)												399				
v/c Ratio												0.38				
95% Queue Length, Q ₉₅ (veh)												1.7				
Control Delay (s/veh)												19.4				
Level of Service (LOS)												C				
Approach Delay (s/veh)									19.4							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	AM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2022	North/South Street	Gately Avenue
Time Analyzed	Base+Site (WBLT & NBLT)	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	0	0		0	1	0		0	0	0
Configuration			T	R		L					LR					
Volume (veh/h)			623	33		30				89		51				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						32					151					
Capacity, c (veh/h)						891					422					
v/c Ratio						0.04					0.36					
95% Queue Length, Q ₉₅ (veh)						0.1					1.6					
Control Delay (s/veh)						9.2					18.2					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					9.2				18.2							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

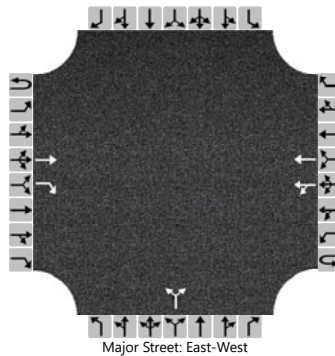
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2022
Time Analyzed	Base+Site (Existing Lane)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			623	33		30	885			89		51				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.5		6.9			
Critical Headway (sec)						4.14					6.84		6.94			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						32						151				
Capacity, c (veh/h)						887						205				
v/c Ratio						0.04						0.73				
95% Queue Length, Q ₉₅ (veh)						0.1						4.8				
Control Delay (s/veh)						9.2						59.7				
Level of Service (LOS)						A						F				
Approach Delay (s/veh)					0.6				59.7							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

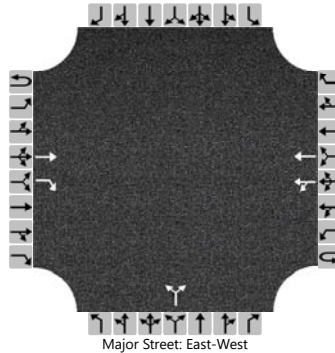
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2025
Time Analyzed	Base
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			659	0		0	936			0		0				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						884										
v/c Ratio						0.00										
95% Queue Length, Q ₉₅ (veh)						0.0										
Control Delay (s/veh)						9.1										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.0											
Approach LOS																

HCS7 Two-Way Stop-Control Report

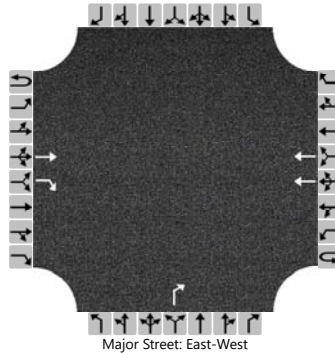
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2025
Time Analyzed	Base+Site (RIRO & Dixon)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			677	38			980					51				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												55				
Capacity, c (veh/h)												365				
v/c Ratio												0.15				
95% Queue Length, Q ₉₅ (veh)												0.5				
Control Delay (s/veh)												16.6				
Level of Service (LOS)												C				
Approach Delay (s/veh)									16.6							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

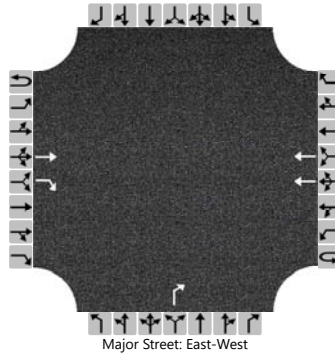
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2025
Time Analyzed	Base+Site (RIRO)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			659	93			980					222				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												239				
Capacity, c (veh/h)												376				
v/c Ratio												0.64				
95% Queue Length, Q ₉₅ (veh)												4.2				
Control Delay (s/veh)												29.8				
Level of Service (LOS)												D				
Approach Delay (s/veh)									29.8							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report

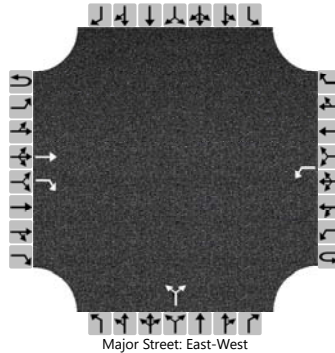
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2025
Time Analyzed	Base+Site (WBLT & NBLT)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	0	0		0	1	0		0	0	0
Configuration			T	R		L					LR					
Volume (veh/h)			659	49		44				153		69				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					239					
Capacity, c (veh/h)						849					393					
v/c Ratio						0.06					0.61					
95% Queue Length, Q ₉₅ (veh)						0.2					3.9					
Control Delay (s/veh)						9.5					27.4					
Level of Service (LOS)						A					D					
Approach Delay (s/veh)					9.5				27.4							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report

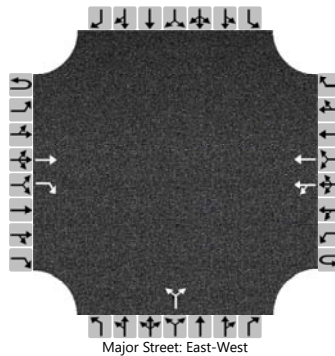
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2030
Time Analyzed	Base
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			719	0		0	1021			0		0				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.5		6.9			
Critical Headway (sec)						4.14					6.84		6.94			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						836										
v/c Ratio						0.00										
95% Queue Length, Q ₉₅ (veh)						0.0										
Control Delay (s/veh)						9.3										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.0											
Approach LOS																

HCS7 Two-Way Stop-Control Report

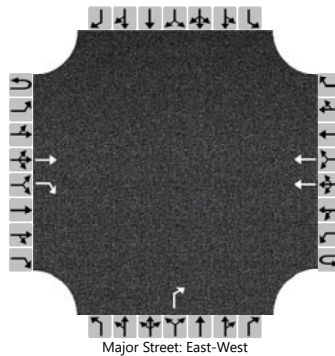
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2030
Time Analyzed	Base+Site (RIRO & Dixon)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			737	38			1065					51				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												55				
Capacity, c (veh/h)												331				
v/c Ratio												0.17				
95% Queue Length, Q ₉₅ (veh)												0.6				
Control Delay (s/veh)												18.0				
Level of Service (LOS)												C				
Approach Delay (s/veh)									18.0							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

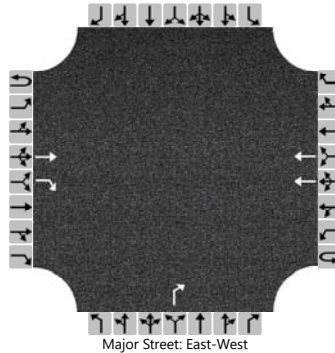
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	AM Peak Hr
Analysis Year	2030
Time Analyzed	Base+Site (RIRO)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			719	93			1021					222				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

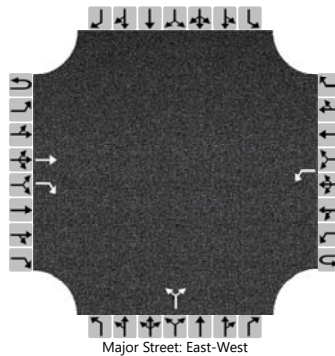
Flow Rate, v (veh/h)												239				
Capacity, c (veh/h)												341				
v/c Ratio												0.70				
95% Queue Length, Q ₉₅ (veh)												5.0				
Control Delay (s/veh)												36.9				
Level of Service (LOS)												E				
Approach Delay (s/veh)									36.9							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	AM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2030	North/South Street	Gately Avenue
Time Analyzed	Base+Site (WBLT & NBLT)	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	0	0		0	1	0		0	0	0
Configuration			T	R		L					LR					
Volume (veh/h)			719	49		44				153		69				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					239					
Capacity, c (veh/h)						803					359					
v/c Ratio						0.06					0.66					
95% Queue Length, Q ₉₅ (veh)						0.2					4.6					
Control Delay (s/veh)						9.8					32.8					
Level of Service (LOS)						A					D					
Approach Delay (s/veh)					9.8				32.8							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report

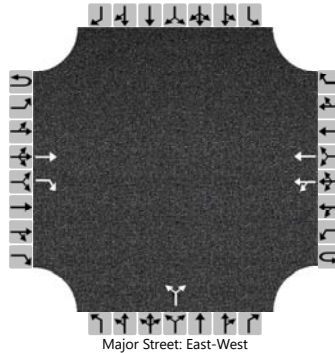
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2020
Time Analyzed	Base
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			1022	16		12	866			6		11				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						13					18					
Capacity, c (veh/h)						614					141					
v/c Ratio						0.02					0.13					
95% Queue Length, Q ₉₅ (veh)						0.1					0.4					
Control Delay (s/veh)						11.0					34.3					
Level of Service (LOS)						B					D					
Approach Delay (s/veh)					0.4				34.3							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report

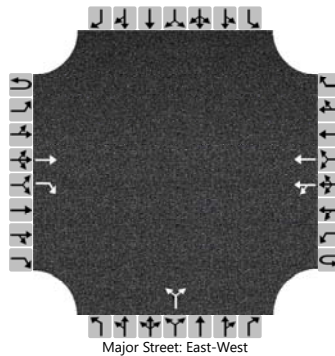
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2022
Time Analyzed	Base
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			1063	14		10	901			4		6				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.5		6.9			
Critical Headway (sec)						4.14					6.84		6.94			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11					11					
Capacity, c (veh/h)						591					125					
v/c Ratio						0.02					0.09					
95% Queue Length, Q ₉₅ (veh)						0.1					0.3					
Control Delay (s/veh)						11.2					36.4					
Level of Service (LOS)						B					E					
Approach Delay (s/veh)					0.3				36.4							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

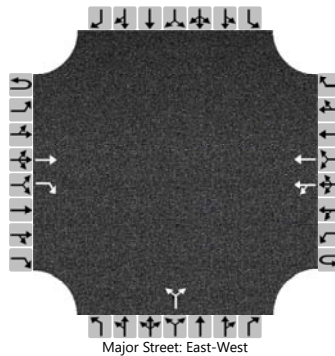
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2022
Time Analyzed	Base+Site (No Change)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			1063	78		48	901			47		39				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						52					93					
Capacity, c (veh/h)						556					88					
v/c Ratio						0.09					1.07					
95% Queue Length, Q ₉₅ (veh)						0.3					6.3					
Control Delay (s/veh)						12.1					202.2					
Level of Service (LOS)						B					F					
Approach Delay (s/veh)					1.7				202.2							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

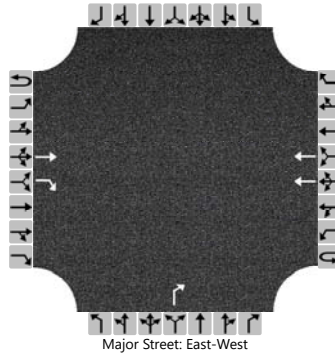
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2022
Time Analyzed	Base+Site (RIRO & Dixon)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			1063	88			953					39				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												42				
Capacity, c (veh/h)												190				
v/c Ratio												0.22				
95% Queue Length, Q ₉₅ (veh)												0.8				
Control Delay (s/veh)												29.4				
Level of Service (LOS)												D				
Approach Delay (s/veh)									29.4							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report

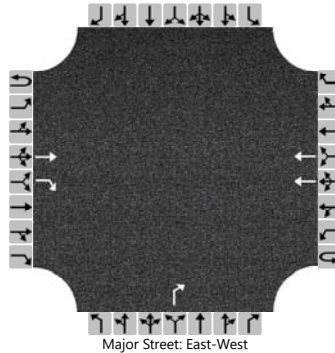
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2022
Time Analyzed	Base+Site (RIRO)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			1063	126			953					86				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												93				
Capacity, c (veh/h)												190				
v/c Ratio												0.49				
95% Queue Length, Q ₉₅ (veh)												2.4				
Control Delay (s/veh)												41.2				
Level of Service (LOS)												E				
Approach Delay (s/veh)									41.2							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

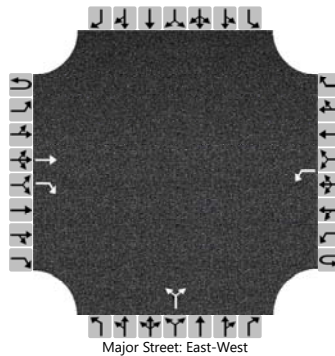
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2022
Time Analyzed	Base+Site (WBLT & NBLT)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	0	0		0	1	0		0	0	0
Configuration			T	R		L					LR					
Volume (veh/h)			1063	78		48				47		39				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

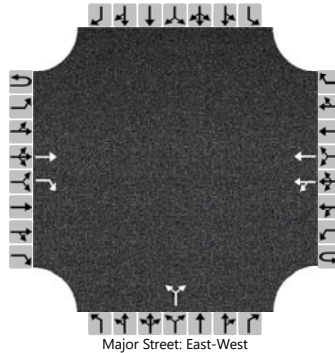
Flow Rate, v (veh/h)						52					93					
Capacity, c (veh/h)						560					214					
v/c Ratio						0.09					0.44					
95% Queue Length, Q ₉₅ (veh)						0.3					2.1					
Control Delay (s/veh)						12.1					34.3					
Level of Service (LOS)						B					D					
Approach Delay (s/veh)					12.1				34.3							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	PM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2025	North/South Street	Gately Avenue
Time Analyzed	Base	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			1124	0		0	953			0		0				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.5		6.9			
Critical Headway (sec)						4.14					6.84		6.94			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						565										
v/c Ratio						0.00										
95% Queue Length, Q ₉₅ (veh)						0.0										
Control Delay (s/veh)						11.4										
Level of Service (LOS)						B										
Approach Delay (s/veh)					0.0											
Approach LOS																

HCS7 Two-Way Stop-Control Report

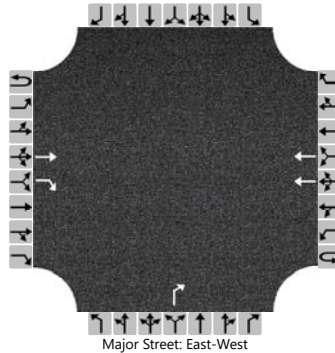
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2025
Time Analyzed	Base+Site (RIRO & Dixon)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			1141	102			1036					50				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												54				
Capacity, c (veh/h)												166				
v/c Ratio												0.33				
95% Queue Length, Q ₉₅ (veh)												1.3				
Control Delay (s/veh)												36.8				
Level of Service (LOS)												E				
Approach Delay (s/veh)									36.8							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

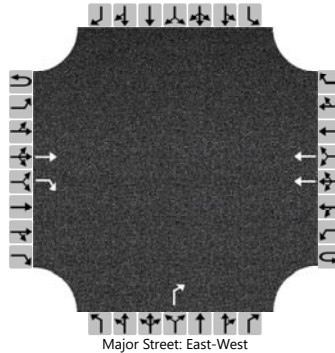
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	PM Peak Hr
Analysis Year	2025
Time Analyzed	Base+Site (RIRO)
Intersection Orientation	East-West
Project Description	7163 - Affordable Housing Project TIS

Site Information

Intersection	Gately Ave & Kingsway Ave
Jurisdiction	Port Coquitlam, BC
East/West Street	Kingsway Avenue
North/South Street	Gately Avenue
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			1124	223			1036					153				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

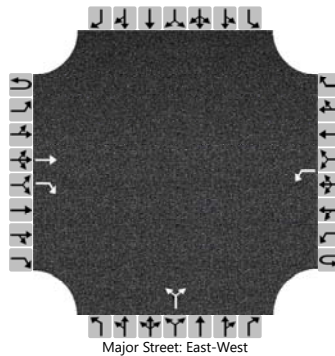
Flow Rate, v (veh/h)												166				
Capacity, c (veh/h)												171				
v/c Ratio												0.97				
95% Queue Length, Q ₉₅ (veh)												7.6				
Control Delay (s/veh)												116.0				
Level of Service (LOS)												F				
Approach Delay (s/veh)									116.0							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	PM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2025	North/South Street	Gately Avenue
Time Analyzed	Base+Site (WBLT & NBLT)	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	0	0		0	1	0		0	0	0
Configuration			T	R		L					LR					
Volume (veh/h)			1124	140		83				86		67				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

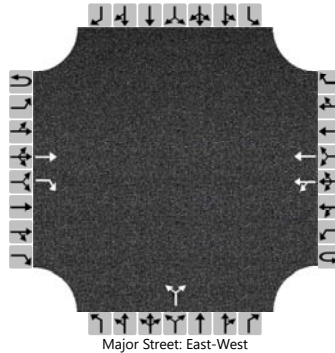
Flow Rate, v (veh/h)						90					166					
Capacity, c (veh/h)						498					183					
v/c Ratio						0.18					0.91					
95% Queue Length, Q ₉₅ (veh)						0.7					6.9					
Control Delay (s/veh)						13.8					96.8					
Level of Service (LOS)						B					F					
Approach Delay (s/veh)					13.8				96.8							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	PM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2030	North/South Street	Gately Avenue
Time Analyzed	Base	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	1	0		0	0	0
Configuration			T	R		LT	T				LR					
Volume (veh/h)			1226	0		0	1039			0		0				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

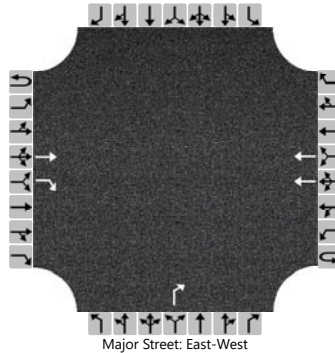
Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						513										
v/c Ratio						0.00										
95% Queue Length, Q ₉₅ (veh)						0.0										
Control Delay (s/veh)						12.0										
Level of Service (LOS)						B										
Approach Delay (s/veh)					0.0											
Approach LOS																

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	PM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2030	North/South Street	Gately Avenue
Time Analyzed	Base+Site (RIRO & Dixon)	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			1243	102			1122					50				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

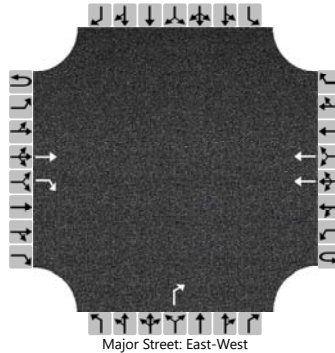
Flow Rate, v (veh/h)												54				
Capacity, c (veh/h)												140				
v/c Ratio												0.39				
95% Queue Length, Q ₉₅ (veh)												1.7				
Control Delay (s/veh)												46.2				
Level of Service (LOS)												E				
Approach Delay (s/veh)									46.2							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	PM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2030	North/South Street	Gately Avenue
Time Analyzed	Base+Site (RIRO)	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	0	2	0		0	0	1		0	0	0
Configuration			T	R			T					R				
Volume (veh/h)			1226	223			1122					153				
Percent Heavy Vehicles (%)												2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No								No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.94				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.32				

Delay, Queue Length, and Level of Service

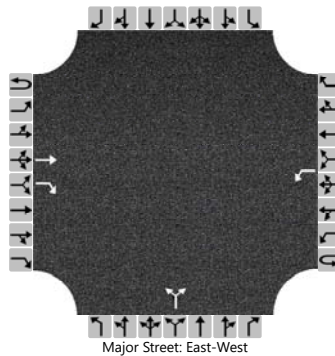
Flow Rate, v (veh/h)												166				
Capacity, c (veh/h)												144				
v/c Ratio												1.16				
95% Queue Length, Q ₉₅ (veh)												9.4				
Control Delay (s/veh)												184.2				
Level of Service (LOS)												F				
Approach Delay (s/veh)									184.2							
Approach LOS									F							

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RC	Intersection	Gately Ave & Kingsway Ave
Agency/Co.	CTS	Jurisdiction	Port Coquitlam, BC
Date Performed	PM Peak Hr	East/West Street	Kingsway Avenue
Analysis Year	2030	North/South Street	Gately Avenue
Time Analyzed	Base+Site (WBLT & NBLT)	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7163 - Affordable Housing Project TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	1	0	1	0	0		0	1	0		0	0	0
Configuration			T	R		L					LR					
Volume (veh/h)			1226	140		83				86		67				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						90					166					
Capacity, c (veh/h)						452					154					
v/c Ratio						0.20					1.08					
95% Queue Length, Q ₉₅ (veh)						0.7					8.7					
Control Delay (s/veh)						14.9					153.4					
Level of Service (LOS)						B					F					
Approach Delay (s/veh)					14.9				153.4							
Approach LOS									F							



#1-1001 Royal Avenue New Westminster, BC, V3M 1K3

AFFORDABLE HOUSING SOCIETIES
SERVING THE LOWER MAINLAND SINCE 1983

www.affordablehousingsocieties.ca

September 28th, 2020

To: Barry Weih, Architect, WA Architects Ltd.

Re: Parking Rationale for Proposed Kingsway and Gately Building

Dear Barry

The proposed Peak Towers/AHS development at Kingsway and Gately provides 294 parking stalls for 300 units of housing. While the proposed parking ratio comes a few spaces short of meeting the City of Port Coquitlam's recommended parking ratio for this type of building, the Affordable Housing Societies (AHS) is comfortable with this ratio and feels the number of parking stalls will exceed the needs of its tenants for the following reasons:

1. Across 63 properties and 3600 units of rental housing throughout the Lower Mainland, the parking ratio over the entire AHS portfolio is approximately 0.7. In many AHS buildings (especially those with walking distance access to public transit and amenities the parking spot usage is only 0.5).
2. The proposed building has excellent walking distance access to public transit, and the many amenities available in downtown Port Coquitlam. As such AHS will be marketing the property as one where certain tenants will be able to make a home without having to depend on a vehicle – and thus being able to make healthier and more environmentally friendly choices for them and their families.
3. AHS would expect that many of the bachelor and 1-bedroom units will be occupied by seniors who need an affordable rental option. AHS's experience in its current buildings suggests that seniors' units typically only require a 0.5 parking ratio. We would expect to experience a similar need in the proposed new building – especially as it provides such easy access to grocery stores, pharmacies, medical clinics, and many other amenities.
4. This building will provide an affordable rental option in Port Coquitlam for families and individuals whose income is less than the median income in Port Coquitlam. Our experience is that many of these individuals and families make economic choices not to have a vehicle – especially when they live in a building with excellent walkability and transit access.

Thank you,

Stephen Bennett, CEO

September 24, 2020

File: 4054-20A

Peak Towers Development Ltd
c/o WA Architects Inc.
#228-237 Keefer Street
Vancouver, BC
V6A 1X6

Attention: Barry Weih

Dear Barry:

**Re: Affordable Housing Project – 2492 Kingsway Avenue, Port Coquitlam, BC
Environmental Noise Study**

As requested, BKL Consultants Ltd. (BKL) has undertaken an environmental noise study of the affordable housing development proposed for the above project site. The site spans the area between the intersections of Gately Avenue, Kingsway Avenue, and the Coquitlam river. We have determined that the most significant exterior noise sources for this project are road traffic on Kingsway Avenue and rail noise from train movements on the CP railway corridor. The development includes three 6-story residential buildings, with the north facing facades of Building B and Building C having exposure to both road traffic on Kingsway Avenue and the rail corridor.

Our two-part analysis for this project first involved an assessment of the traffic noise exposure at the building facades. The second part was a review of the project design, including exterior facade construction. The interior noise levels were assessed according to ISO 12354.

Acoustical Criteria

We were provided with a list of comments from the City, which included the following note:

4. **Noise Mitigation:** In addition to the proximity of rail operations, Kingsway Avenue is an arterial road and a truck route which can have noise impacts to adjacent residential uses. Please submit a report from an acoustic consultant assessing the potential noise impacts to the future residents at the site along with proposed mitigation measures to address highway and train noise.

As you are aware, neither the City of Port Coquitlam noise or zoning bylaws currently include requirements for sound isolation of exterior building elements in residential developments (i.e., resulting indoor sound levels from exterior noise sources). While multiple internationally accepted standards for indoor sound levels exist, the Canada Mortgage and Housing Corporation (CMHC) indoor

noise level criteria would be most applicable, given their general acceptance within other municipalities in British Columbia. The interior sound level requirements are summarized below:

Table 1: CHMC Interior Noise Criteria

Portion of Dwelling Unit	Maximum Permissible Interior Noise Level ($L_{A,eq,24hr}$)
Bedrooms	35
Living, dining, recreation rooms, dens	40
Kitchen, bathrooms, hallways	45

Site Noise Exposure

A continuous 48-hour noise measurement was conducted at the site by BKL between September 8-10, 2020. A sound level meter was installed on the rooftop north east corner of an existing building at 2470 Kingsway Avenue (see attached site description and measurement locations). We observed, that 24-hour equivalent sound level ($L_{A,eq,24hr}$) moving averages over the full measurement period were mostly consistent at 70 dBA, when rounded to integer values. The measurements included shielding and reflection effects from surrounding buildings. When adjusting for the distance between the location of the proposed façade and the measurement position, the 24-hour noise impact for this development is **$L_{A,eq,24hr} = 69$ dBA.**

According to Canada Mortgage and Housing Corporation (CMHC) criteria, an outdoor noise level between 55 dBA and 75 dBA is considered to be "normally unacceptable" for housing. This generally means that adequate acoustical measures are required to achieve acceptable indoor noise levels.

The following detailed review of the project design is based on the above stated indoor noise level criteria and on project drawings received. We offer the following comments to satisfy the development requirements of the City:

Sound Isolation of Exterior Elements

The sound isolation requirements for the exterior elements are subject to two main factors: floor area and glazing/exterior wall ratios. Given typical exterior wall assemblies, greater ratios of glazing result in increased sound isolation requirements. The most-affected dwelling units of the development have been identified and assessed to determine the required minimum Outdoor-to-Indoor Transmission Class (OITC) acoustic performance to meet the internal noise design criteria. The residential units facing the inner yard of the development are not expected to be significantly impacted by road traffic noise and, therefore, any practical window assembly is considered appropriate.

Exterior Walls

The drawing set under review did not contain information regarding the exterior wall construction assemblies, although based on subsequent email communications with the project architect, it was confirmed that the predominant exterior assembly facing Kingsway Avenue is proposed to be:

- 1/2" Plywood sheathing
- 2 X 6 Wood Studs, with batt insulation filling the cavity
- 1 Layer of 5/8" GWB,

which will provide adequate noise isolation to interior spaces, with the exception of the Kingsway Avenue facing suites in Buildings B and C, where the highest noise exposures are experienced and, as such, the façade treatments should be upgraded to include a second layer of 1/2" plywood (on the exterior side lining), as well as a second layer of 5/8" GWB (on the interior side) of bedrooms and/or living rooms.

Exterior Windows and Balcony/Patio Doors

A standard glazing detail, assumed to be two layers of 3 mm glass separated by a 13 mm airspace (OITC 25) will provide adequate noise isolation to all interior spaces with the exception of the Kingsway Avenue facing suite windows, which will require glazing assemblies capable of an OITC 30 rating. For residential living, dining, recreation rooms, and dens, the requirement is OITC 25.

The following table summarizes the required minimum OITC rating, including an *example* window glazing:

Table 2: Example Window Glazing for Required Minimum OITC Ratings

Minimum OITC Rating	Example Window Glazing
30	6 _{Lam} -11-6 _{Lam} (one pane of 6 mm laminated glass separated by a minimum 11 mm airspace)

Sliding and outswing glass doors typically have lower OITC ratings compared to casement windows with the same airspace and glazing thicknesses. Therefore, OITC ratings should be confirmed by measurements conforming to ASTM E90.

All of the windows and doors should be specified to meet the A3 performance rating for Air Tightness found in the CSA standard CAN/CSA-A440-08, or latest revision. Any other windows or doors meeting the required OITC ratings are acceptable. Note that the OITC rating varies with panel dimensions. As such, any test data or predicted OITC performance must reasonably reflect the panel dimensions adopted for this project. Any increase in glazing thickness or separating airspace thickness beyond that shown above is also acceptable. Effective weatherstripping should be installed in the exterior doorways.

Ventilation

The rated facade noise isolation can only be achieved when the windows are tightly closed. When exterior noise levels exceed 55 dBA (as indicated above), alternative forms of ventilation for occupied spaces is typically required. Please note that the design of the ventilation system is within the scope of the mechanical consultant.

Additional Considerations

Given its surroundings, the site can be considered as a moderately high noise exposure area. In such locations, the required envelope treatments for acoustic isolation can be technically challenging and costly to the project.

While the CMHC acoustical requirements should be considered desirable for residential living and targeted for all spaces within the project, for non-acoustical reasons the municipality may consider that the need for housing could outweigh the acoustical requirements. In such cases, the layout of the noise-sensitive rooms may enable a slight relaxation in the CMHC standards for a limited number of rooms.

Closing

This report completes our environmental noise study of this project. Please note that recommendations contained herein address only the acoustical requirements with respect to exterior noise ingress. Other requirements should be examined for compatibility with our recommendations. Please let us know if you have any questions regarding this report.

Sincerely,

BKL Consultants Ltd.

per:


Joonas Niinivaara, MSc
Project Consultant
niinivaara@bkl.ca

Enclosures: Site Notes

Residential Site - Gately + Kingsway Avenue, Port Coquitlam

Project ID: 4054-20A

Start Date: September 9, 2020

Start Time: 12:00

Duration: 24 hours

Address: 2470 Kingsway Ave, Port Coquitlam

Instrument: 01dB DUO

Serial No: 11004

Measured by: ES

Location Description

The microphone was located 8.5 m above the ground on the northwest rooftop corner of the 2470 Kingsway Ave existing building. The microphone position is 14 m from the Kingsway Ave and 45 m from the rail line centrelines, respectively.

Ambient Noise Description

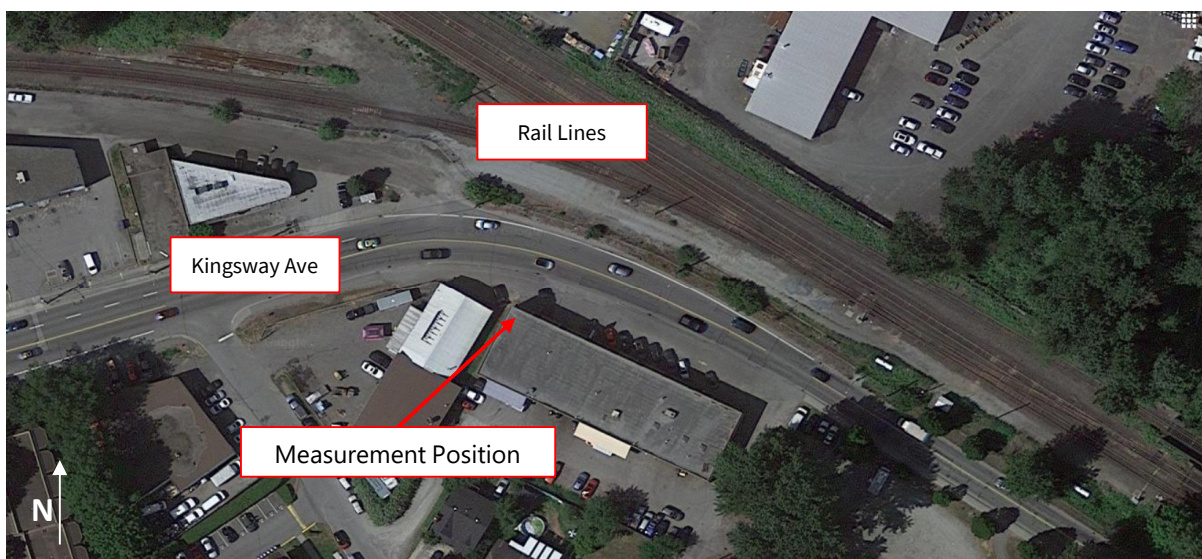
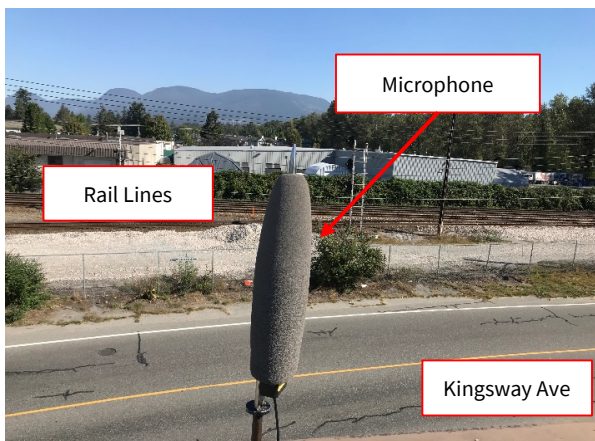
The dominant noise source was train and road traffic. Train whistles and emergency vehicle sirens can be heard.

Environmental Conditions

The weather was sunny throughout the measurement period with calm winds.

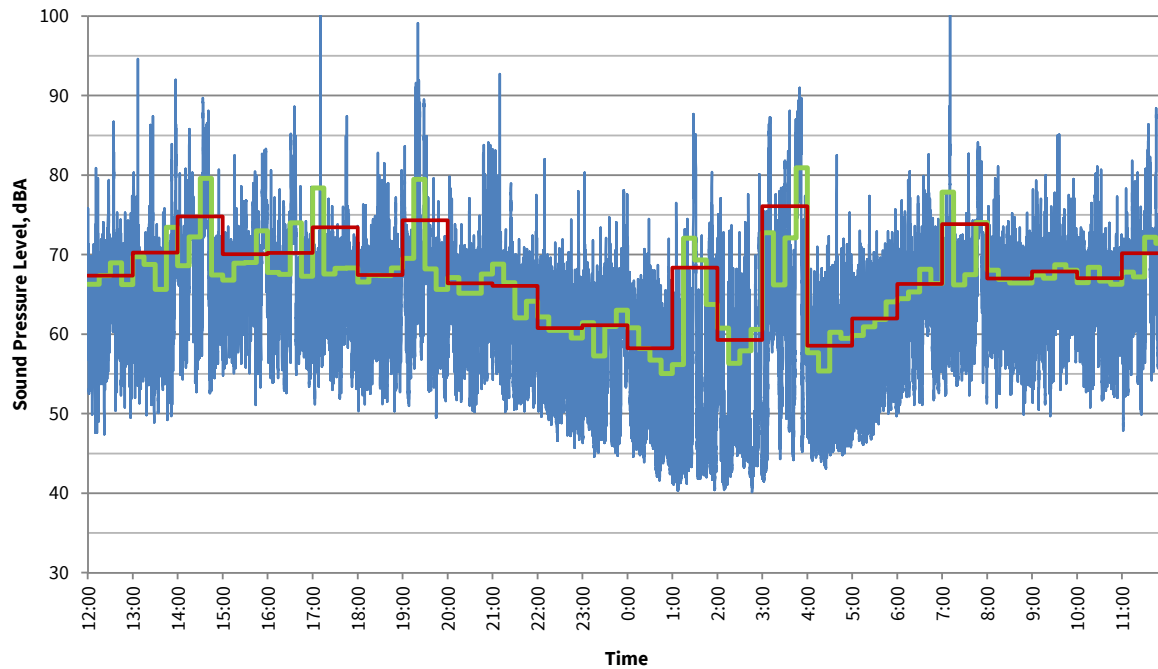
Purpose of Monitoring Location

This monitoring location is representative of the current environmental noise condition near 2470 Kingsway Ave, Port Coquitlam.



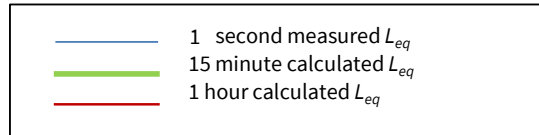
Residential Site - Gately + Kingsway Avenue, Port Coquitlam

The graph below shows the measured, and calculated time histories beginning on September 9, 2020



Hourly Interval Report starting at September 9, 2020

All Sound Pressure Levels presented in dBA



Date	Time	Duration	L_{eq}	L_{max}	L_{min}	L_1	L_5	L_{10}	L_{50}	L_{90}	L_{99}
Total	-	24:00:00	70	105	40	82	73	70	64	48	43
Sep 9	12:00:00	1:00:00	67	87	47	75	71	70	66	58	51
Sep 9	13:00:00	1:00:00	70	95	49	83	72	70	65	58	51
Sep 9	14:00:00	1:00:00	75	90	53	86	83	78	68	61	55
Sep 9	15:00:00	1:00:00	70	83	51	81	75	73	68	62	56
Sep 9	16:00:00	1:00:00	70	89	53	80	75	74	67	61	55
Sep 9	17:00:00	1:00:00	73	105	51	76	72	70	67	60	54
Sep 9	18:00:00	1:00:00	67	83	50	77	72	70	66	58	52
Sep 9	19:00:00	1:00:00	74	99	50	87	80	74	67	59	52
Sep 9	20:00:00	1:00:00	66	84	50	75	71	69	64	57	52
Sep 9	21:00:00	1:00:00	66	93	50	76	71	69	61	53	51
Sep 9	22:00:00	1:00:00	61	82	46	69	67	65	56	50	47
Sep 9	23:00:00	1:00:00	61	80	45	70	67	65	55	47	45
Sep 10	0:00:00	1:00:00	58	75	41	68	66	64	49	45	43
Sep 10	1:00:00	1:00:00	68	88	40	80	78	69	47	43	41
Sep 10	2:00:00	1:00:00	59	80	40	72	66	62	47	43	41
Sep 10	3:00:00	1:00:00	76	91	42	87	85	82	63	45	42
Sep 10	4:00:00	1:00:00	59	83	43	69	65	62	48	46	44
Sep 10	5:00:00	1:00:00	62	77	46	71	68	67	56	49	47
Sep 10	6:00:00	1:00:00	66	83	50	75	71	70	64	55	51
Sep 10	7:00:00	1:00:00	74	104	51	82	77	74	66	58	53
Sep 10	8:00:00	1:00:00	67	81	50	74	71	70	66	59	53
Sep 10	9:00:00	1:00:00	68	85	50	76	72	70	66	59	53
Sep 10	10:00:00	1:00:00	67	81	51	75	71	69	66	59	53
Sep 10	11:00:00	1:00:00	70	88	48	80	74	72	67	59	52

Consultation Summary

Input was received from 9 respondents over a 24 day consultation period beginning August 20th and ending September 13th. Thirteen issues were raised as noted below.

Issue	Frequency (number of respondents)
support for more non-market housing in the community	4
concern about the height of the buildings	1
concern about the density of the development	1
interest in opportunities for onsite gardening	1
concern about loss of tree canopy	1
support for the look of the project	2
desire to see social supports for low income families	1
concern about availability of on-street parking in the broader neighbourhood	1
concern about population growth on the neighbourhood/ecosystem/river	1
concern about parking impact of places of worship in the neighbourhood	1
concern about vehicle access to Kingsway Avenue	1
concern about homelessness and drug use in the neighbourhood	1
concern about resident behavior in the River Woods development	1

1835 McLean Avenue - Development Permit Application

RECOMMENDATION:

That Committee of Council approve Development Permit DP000423 to regulate an industrial development at 1835 McLean Avenue.

PREVIOUS COUNCIL/COMMITTEE ACTION

None.

REPORT SUMMARY

This report describes an application for a development permit to regulate a new industrial development and façade improvements to an existing accessory structure, mid-block, along McLean Avenue. The two-storey building proposal and site landscaping are designed to comply with the site's M1 General Industrial zoning and development permit designation. The development permit is recommended for approval.

BACKGROUND

Proposal: Sunwell Holdings Inc. has proposed the development of a two-storey industrial building with on-site parking and landscaping at 1835 McLean Avenue.

Context: The site is located between Pitt River Road and Kingsway Avenue, along McLean Avenue. The small 1869 m² (20,117 ft²) site is comprised of an older existing industrial building with outdoor storage. Surrounding land uses are largely industrial with the exception of residential along Taylor Street and commercial directly south of the site (Cat & Fiddle Pub). A statutory right-of-way runs along the west side of the site for sanitary sewer purposes.



Location map

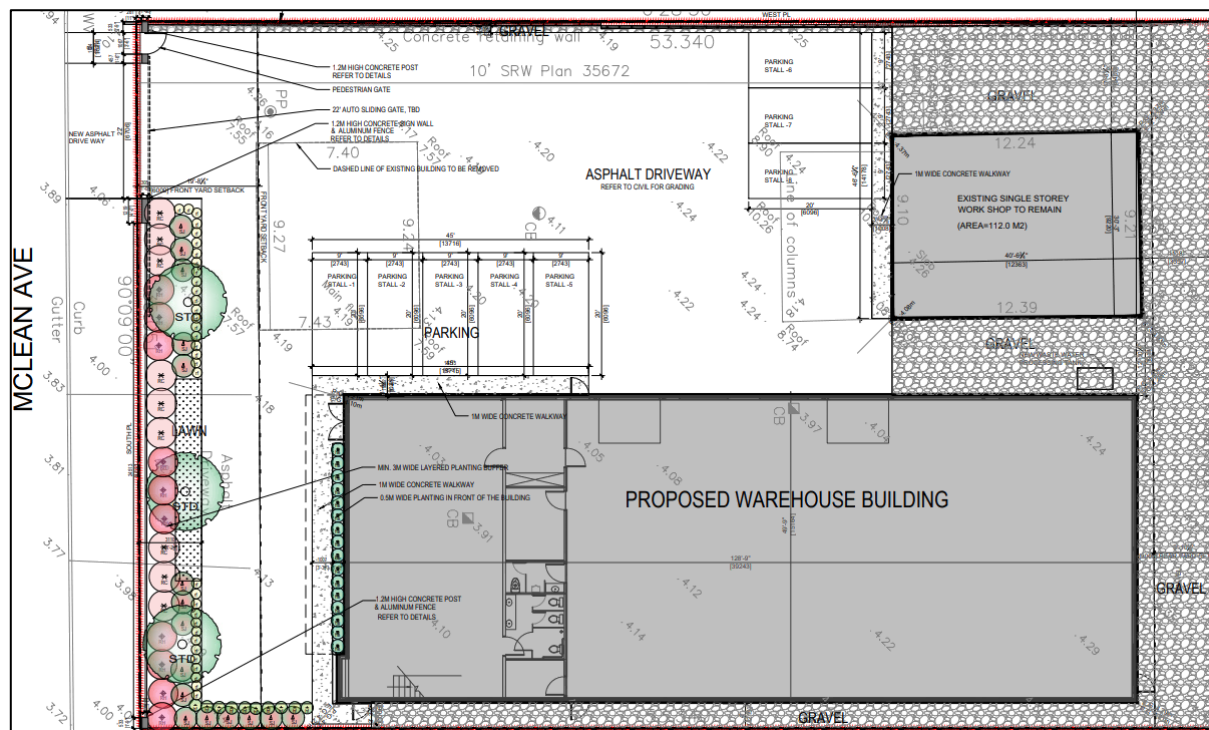
1835 McLean Avenue - Development Permit Application

Policy and Regulations: The land use designation in the Official Community Plan for the site is General Industrial; policies of the Plan promote economic development and job creation within this designation. The property is zoned M1 – General Industrial.

The objectives and guidelines of the site's industrial development permit area designation are intended to guide the form and character of industrial developments, promote orderly development, and control the interface between industrial and other land uses. The environmental conservation development permit area designation encourages sustainable development and building design, efficient use of energy, water and other resources, and the reduction of waste and pollution.

Project Description: The new 658m² (7,082 ft²) building will replace the existing industrial building. However, a small section of the existing building will remain as an accessory structure at the rear of the property and will be used for the storage of materials. The new building will be for the existing stone cutting business.

As shown in the site plan below, the new building is oriented towards McLean Avenue with the majority of parking and loading spaces against the west side of the building, screened from the street. Access to the site will be provided at the south west corner of the property.



Site plan at 1835 McLean Ave

The building design provides subtle articulation achieved through varied roof height, significant glazing, and horizontal architectural elements through the use of a glass canopy to break up the front of the building. The façade of the existing accessory building will be upgraded and co-

1835 McLean Avenue - Development Permit Application

ordinated with the new building to create a uniform and quality of character, using aluminum panel and micro-rib metal wall cladding and a varying colour palette of light and dark grays.



Rendering of the new building with the existing accessory structure

The landscape plan calls for a mixture of trees, shrubs, groundcovers and perennials. Three new Japanese Stewartia trees will be planted along the frontage of the site. A landscaped strip has also been proposed at the front of the building to enhance the entrance. A new 1.2 m automatic sliding gate is proposed for the front of the property, with a pedestrian entrance and new aluminum fencing. A significant amount of gravel is to be used at the rear of the property to increase the permeability of the site. There are no trees proposed to be removed from the site.

Project Profile

	Bylaw Regulations ¹	Proposed ²
Site Area	1,200 m ²	1,869 m ² (0.46 of an acre)
Total Building Area	n/a	775 m ² (8,343 ft ²)
Building Lot Coverage	n/a	38%
Setbacks:		
Front Setback (McLean)	6 m	9.74 m
Rear Setback	3 m	3.92 m
Interior Side Setback (West)	0 m	5.41 m
Interior Side Setback (East)	0 m	1.2 m
Building Height	n/a	9 m
Impervious surface	80%	78%
Parking (total)	8	8
Loading bays	2 minimum	2

Measures to comply with the environmental conservation objectives and guidelines include building practices and products to reduce energy and water consumption, promote stormwater

¹ Refer to Zoning Bylaw No. 3630 and Parking and Development Management Bylaw No. 4078 for specific regulations.

² Information provided by applicant.

management, and reduce greenhouse gas emissions. Gravel has been proposed for the rear of the property to increase site permeability. Other elements include high efficiency windows, energy star rated equipment, selection of native and drought tolerant plant species, a high-efficiency irrigation system in the front planting area, and adequate storage for garbage, recycling and organic materials. A complete list of conservation measures is included in Schedule A of the development permit.

Offsite Infrastructure and Services

Offsite requirements would include road and service upgrades as necessary in accordance with the Subdivision Servicing Bylaw and installation of a new letdown. These requirements would be confirmed at the time of building permit application.

DISCUSSION

The design of the proposed industrial building and landscaping meets the intent of the industrial design guidelines and environmental conservation designation guidelines. The proposal complies with applicable zoning and parking regulations and provides a quality of character consistent with other light industrial development along McLean Ave. The improved fencing and landscaping enhance the streetscape and the development is attractive and consistent with the expected high quality of character of the industrial area.

Staff recommend approval.


PUBLIC CONSULTATION

A sign providing notification of the application is posted on site. To date, no comments have been received.

FINANCIAL IMPLICATIONS

None.

OPTIONS (✓ = Staff Recommendation)

	#	Description
	1	Approve Development Permit DP000423.
	2	Request additional information or amendments if Committee is of the opinion that such information or amendment would assist in its evaluation of how the design complies with the development permit area designation or regulations.
	3	Refuse the application if the Committee is of the opinion the application does not conform to the design guidelines or regulations.

ATTACHMENT

Attachment 1: Draft Development Permit DP000423

Lead author(s): Graeme Muir

THE CORPORATION OF THE CITY OF PORT COQUITLAM
"DEVELOPMENT PROCEDURES BYLAW, 2013, NO. 3849"

DEVELOPMENT PERMIT

NO. DP000423

Issued to: Sunwell Holdings Inc., Inc.No. BC1071090

Address: 3221 Chartwell Lane
Coquitlam, B.C.
V3E 3N1

1. This Development Permit is issued subject to compliance with all of the bylaws of the Municipality applicable thereto, except as specifically varied by this Permit.
2. This Development Permit applies to and only to those lands within the Municipality described below, and any and all buildings, structures and other development thereon:

Address: 1835 McLean Ave

Legal Description: Lot 51 DISTRICT LOT 382 GROUP 1 NEW WESTMINSTER
DISTRICT PLAN 54525

P.I.D.: 005-268-940

3. The above property has been designated as a Development Permit Area under Section 9.0 – Development Permit Area in the "Official Community Plan Bylaw, 2013, No. 3838".
4. "Port Coquitlam Zoning Bylaw, 2008, No. 3630" and "Parking and Development Management Bylaw, 2005, No.3525" are varied, supplemented or both in accordance with the following:
 - a. The form and character of the building, including the siting, height and general design, shall be as shown on drawings numbered DP000423 (1) to DP000423 (12) which are attached hereto and form part of this permit.
 - b. The form and character of on-site landscaping shall be as shown on drawing numbered DP000423 (10) to DP000423 (11) and the following standards for landscaping are imposed:
 - (i) All landscaping works and planting materials shall be provided in accordance with the landscaping plan and specifications thereon, which form part of this permit and is attached hereto.
 - (ii) All planting materials shall be able to survive for a period of one year from the date of the site landscape approval by the Municipality.
 - c. The building and landscaping shall provide the energy conservation, water conservation and GHG emission reduction elements as shown on Schedule A to the drawings which are attached hereto and form part of this permit.

5. **Landscape Security**

- (a) As a condition of the issuance of this permit, the security set out below will be held by the Municipality prior to the issuance of a building permit to ensure satisfactory provision of landscaping in accordance with the terms and conditions as set forth in Clause 4 above. There is filed accordingly an irrevocable Letter of Credit or cash security in the amount **\$167,637.50** for the purpose of landscaping.
- (b) Should any interest be earned upon the security, it shall accrue to the Permittee and be paid to the Permittee if the security is returned. A condition of the posting of the security is that should the Permittee fail to carry out the works or services as hereinabove stated, according to the terms and conditions of this permit within the time provided, the Municipality may use the security to complete these works or services by its servants, agents or contractors, and any surplus shall be paid over to the Permittee.
- (c) The Permittee shall complete the landscaping works required by this permit within six months of the final inspection for the final phase of the development. Within the six month period, the required landscaping must be installed by the Permittee, and inspected and approved by the Municipality.

If the landscaping is not approved within the six month period, the Municipality has the option of continuing to hold the security until the required landscaping is completed or has the option of drawing the security and using the funds to complete the required landscaping, and recoup additional costs from the Permittee if necessary. In such a case, the Municipality or its agents have the irrevocable right to enter into the property to undertake the required landscaping for which the security was submitted.

- (d) Should the Permittee carry out the works and services permitted by this permit within the time set out above, the security shall be returned to the Permittee.
6. The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this permit and any plans and specifications attached to this permit, which shall form a part hereof.
7. This permit shall lapse if the Permittee does not substantially commence the construction permitted by this permit within two years of the (issuance) date of this permit.
8. The terms of this permit or any amendment to it, are binding on all persons who acquire an interest in the land affected by this permit.
9. This permit is not a building permit.

APPROVED BY THE COMMITTEE OF COUNCIL THE _____ DAY OF _____.

SIGNED THIS _____ DAY OF _____.

Mayor

Corporate Officer

I ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THE TERMS AND
CONDITIONS UPON WHICH THIS PERMIT IS ISSUED.

Applicant (or Authorized Agent or
Representative of Applicant)

NEW WAREHOUSE DEVELOPMENT

CIVIC ADDRESS: 1835 McLEAN AVE, PORT COQUITLAM BC

ARCHITECT
PACIFIC WEST ARCHITECTURE Inc.
1200 West 73rd Ave (Airport Square)
Suite 1100, Vancouver B.C. V6P 6G5
Tel: (604)-616-7892
Email: info@pwaarchitecture.com

LANDSCAPE ARCHITECT
Royal Pacific Landing Ltd.
916 Sperling Ave, Burnaby, B.C. V1Y 1J7
Tel: (604)-338-5035
Email: www. Royalpl.com

DRAWING INDEX	
A0.00	COVER SHEET
A1.00	SITE PLAN AND STATISTICS
A2.01	FLOOR PLANS
A2.02	FLOOR PLANS
A2.03	FLOOR PLANS
A3.01	ELEVATIONS
A3.02	ELEVATIONS AND SECTIONS
A3.03	EXISTING BUILDING ELEVATIONS
A4.01	3D MODELS



2 VIEW FROM SOUTHWEST
Scale: N.T.S.



3 VIEW FROM SOUTH
Scale: N.T.S.



4 VIEW FROM SOUTHEAST
Scale: N.T.S.



1 SITE CONTEXT
Scale: 3/32" = 1'-0"



1200 West 73rd Ave (Airport Square)
Suite 1100
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Office: 604 267 7892
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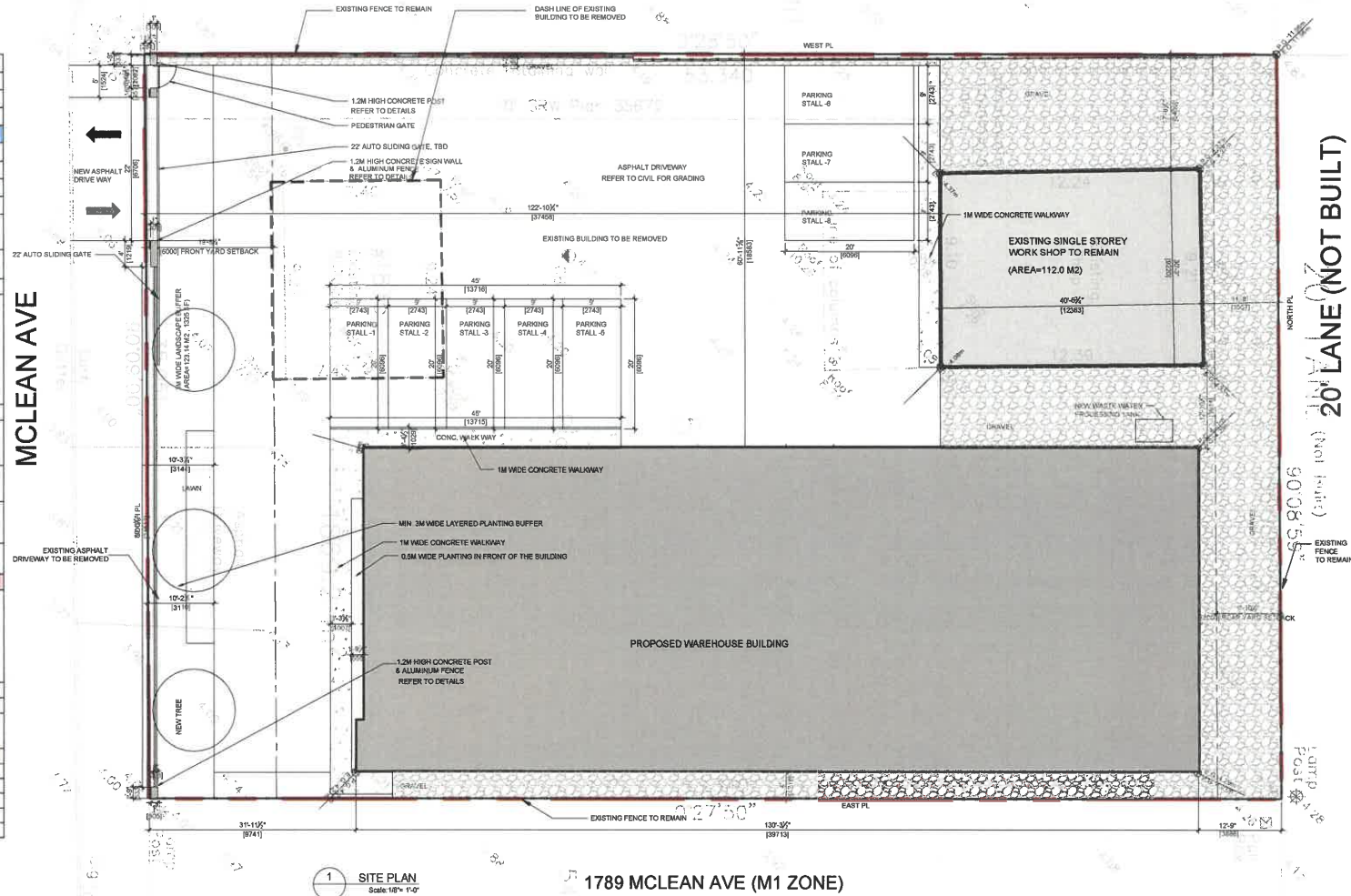
PROJECT	1835 McLEAN AVE PORT COQUITLAM, B.C.
DRAWING TITLE	COVER SHEET

DRAWING No.	A0.00
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DP000423 (1)

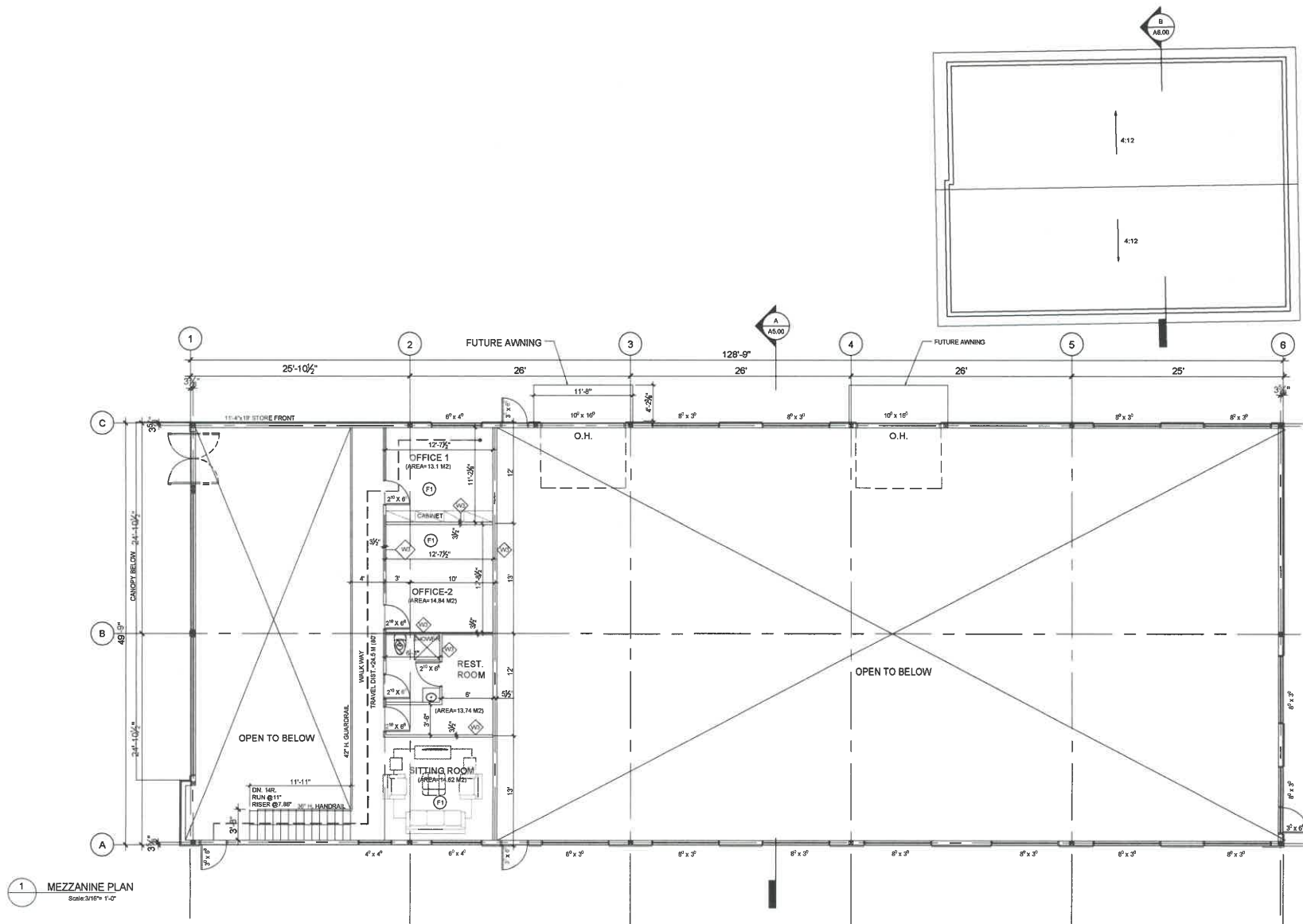
1865 MCLEAN AVE (M1 ZONE)

Zoning Analysis Table		
Civic Address	1835 McLean Ave, Port Coquitlam	
Legal Description	Lot 51 Plan NWP54525 District Lot 382 Land District 36	
CRITERIA	M1 ZONE REQUIREMENTS	PROPOSAL
Development Regulations		
Lot Dimension and Area	600 m ²	53.34m x 35.05m
	15m Minimum Parcel Frontage	1869.2 m ²
Height	No requirement	29'8"
Front Yard	6m (20')	9.74m
Side Yard	0 m, not abutting residential zone	5.41m (west) 1.2m (east)
Rear Yard	3m, not abutting residential zone	3.92m
Site coverage	No requirement	TBD
Impermeable Surface	80%	78% asphalt: 7528 sq.ft concrete: 582 existing building: 1200 sq.ft new building: 6414 sq.ft total: 15724 sq.ft
FAR	No requirement	0.4
Landscape Setback	A landscaped strip with a minimum width of 3 metres that includes a minimum of one tree per 10 lineal metres of all lot lines abutting a street	3m
	A landscaped strip with a minimum width of 1 metre adjacent to a building wall facing a street or park.	TBD
	In the parking area, one landscaped strip or island with a minimum area of 6 m ² for every eight parking stalls and includes a minimum of one tree. minimum 1 m landscape buffer adjacent to residentially-zoned parcels for screening.	TBD
Parking Regulations		
Minimum Parking Requirements	1 per 3 employees, or 1 per 95 m ² of gross floor area, whichever is greater	8 required 8 provided
	775.1 m ² (including existing accessory building) / 95=8	
	1 per 95 m ² gross floor area and/or parcel area used for display rental or retail sales purposes	
Parking Stall Dimension	Standard: 2.7m W x 5.5 m L Small: 2.5m W x 5.0 m L, 25% maximum	2.7m W x 5.5 m L
Minimum Drive Aisle Width	7.5m	7.5m or greater
Building Statistics		
Proposed New Building	Ground Floor	113.54 m ²
	Process Area	482.56 m ²
	Mezzanine (Office)	61.84 m ²
Existing Building		112 m ²
Total Floor Area	775.1 m ² / 8343 SF	



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DPO00423(2)



1 MEZZANINE PLAN
Scale 3/16" = 1'-0"



1300 West 73rd Ave (Airport Square)
Suite 1100
Vancouver B.C. V6P 6G5

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ISSUES	DATE	ISSUES	DATE
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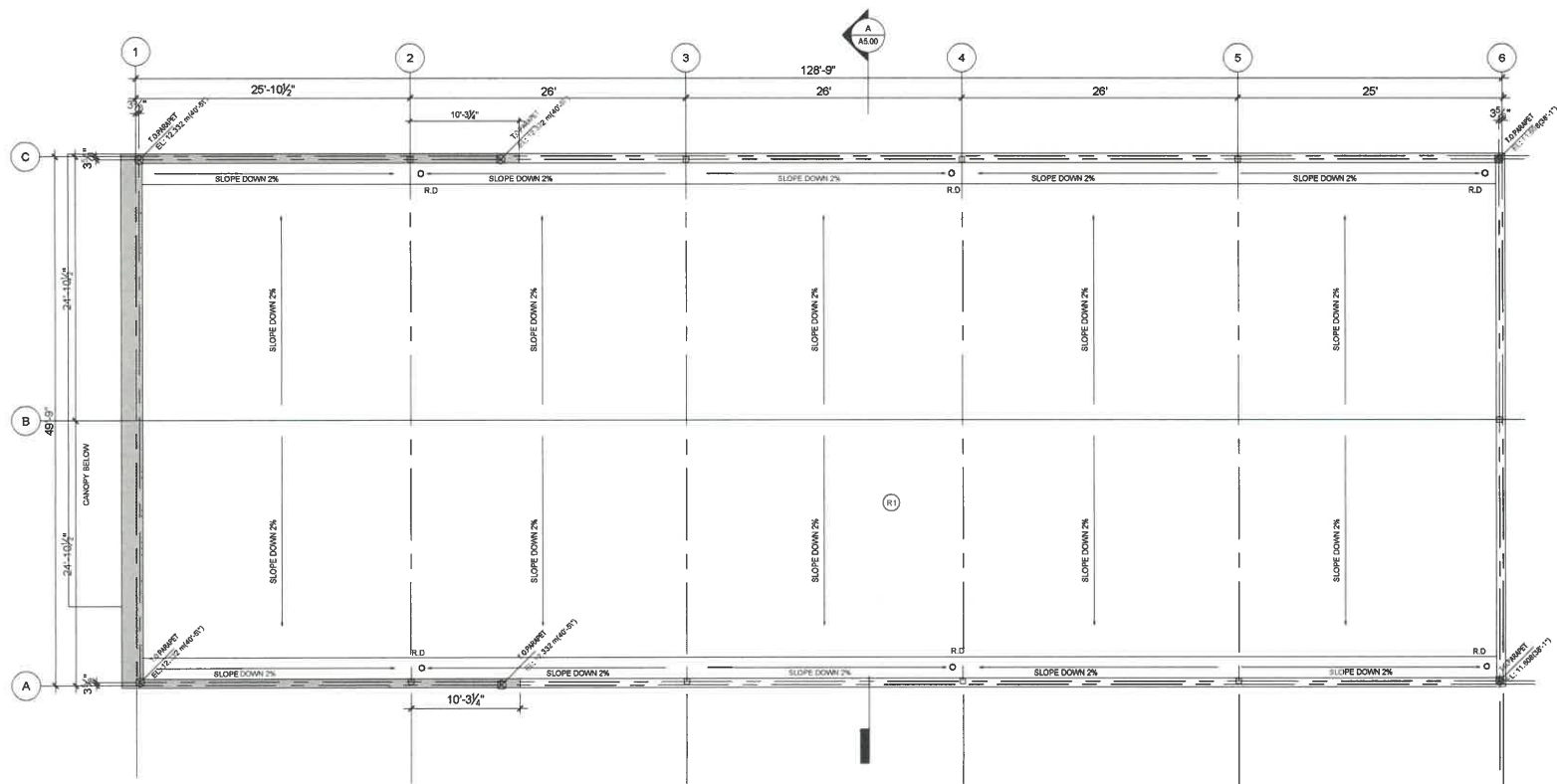
PROJECT
**1835 McLEAN AVE
PORT COQUITLAM, B.C.**

DRAWING TITLE
MEZZANINE PLAN

DRAWING NO.

A2.02

DP0003423(4)



1 ROOF PLAN
Scale: 3/16" = 1'-0"



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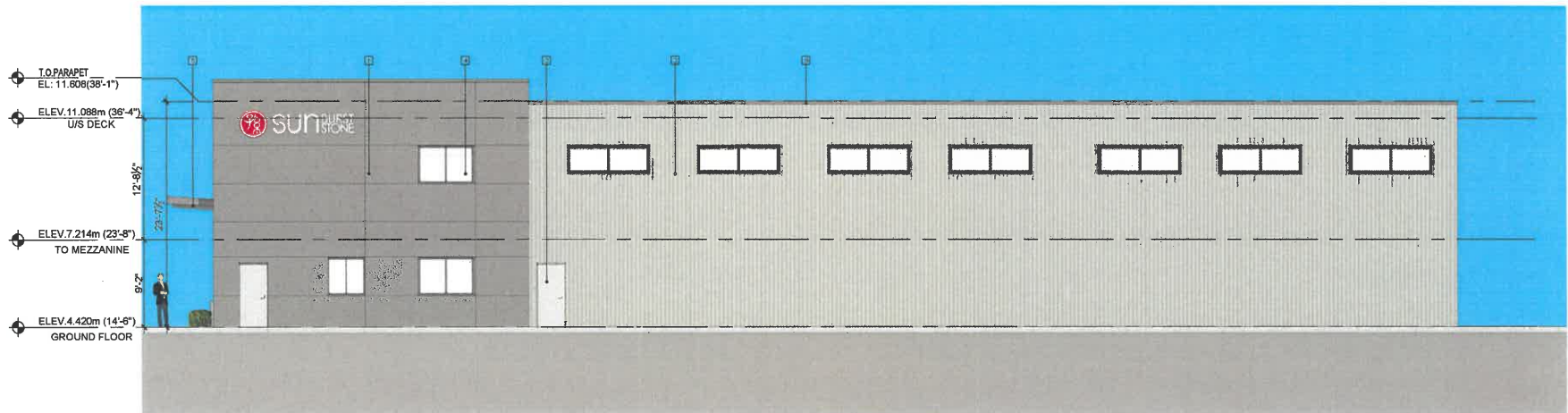
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PROJECT	1835 McLEAN AVE PORT COQUITLAM, B.C.
DRAWING TITLE	ROOF PLAN

DRAWING NO.	A2.03
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DP000423(5)



1 EAST ELEVATION
Scale: 3/16" = 1'-0"



2 SOUTH ELEVATION
Scale: 3/16" = 1'-0"

EXTERIOR MATERIAL LEGEND

- 1 MICRO-RIB METAL WALL CLADDING
COLOR: DARK GREY
- 2 METAL PANEL
COLOR: BENJAMIN MOORE GRAY (#2121-10)
- 3 METAL EXIT DOOR
- 4 DOUBLE GLAZED WINDOW / DOOR WITH METAL TRIM
- 5 GLASS CANOPY
- 6 METAL OVERHEAD DOOR
- 7 DOUBLE GLAZED ENTRY DOOR WITH METAL TRIM
- 8 CONCRETE PLANTER
- 9 PRE FINISHED METAL FLASHING
COLOR: BLACK



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PROJECT
**1835 McLEAN AVE
PORT COQUITLAM, B.C.**

DRAWING TITLE
ELEVATIONS

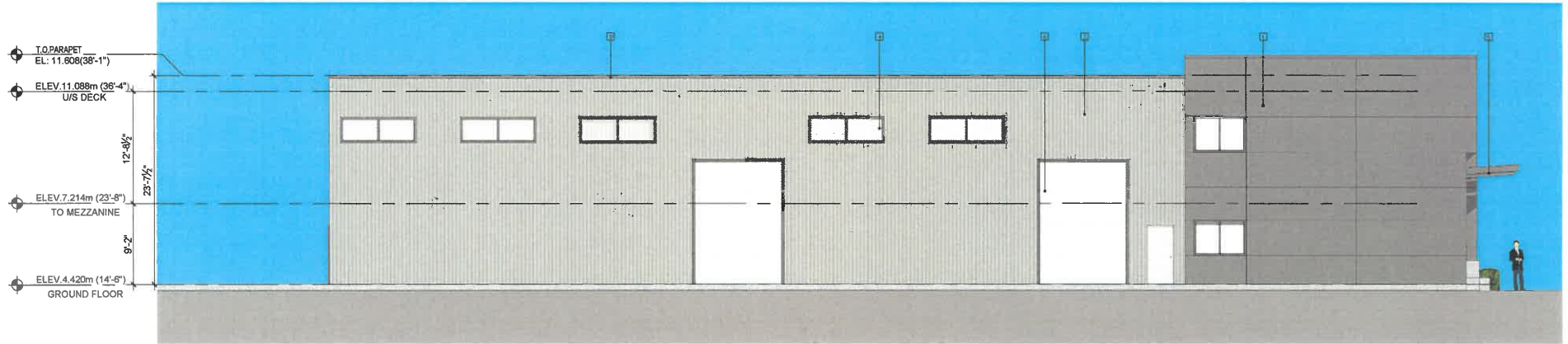
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A3.01

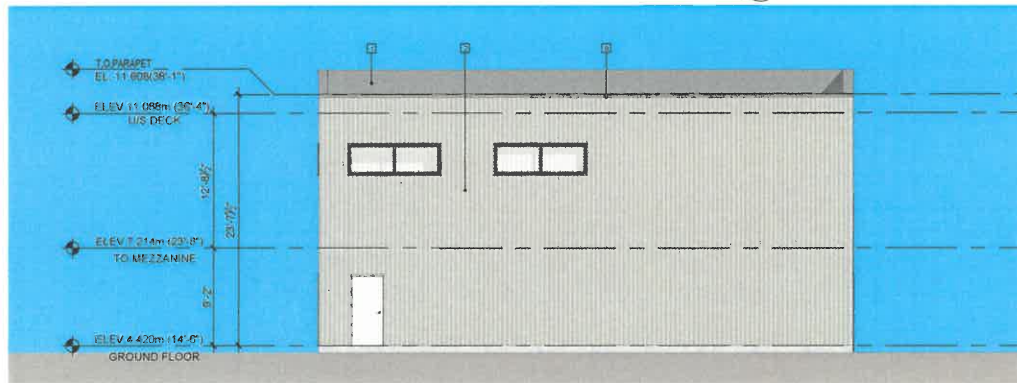
D8000423 (6)

EXTERIOR MATERIAL LEGEND

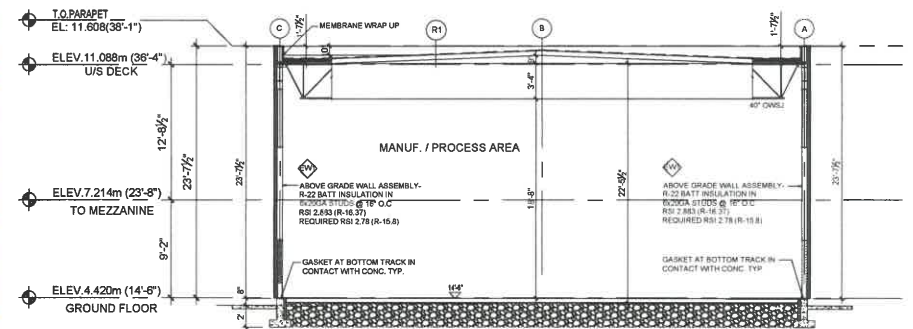
- 1 MICRO-RIB METAL WALL CLADDING
COLOR: DARK GREY
- 2 METAL PANEL
COLOR: BENJAMIN MOORE GRAY (#2121-10)
- 3 METAL EXIT DOOR
- 4 DOUBLE GLAZED WINDOW / DOOR WITH METAL TRIM
- 5 GLASS CANOPY
- 6 METAL OVERHEAD DOOR
- 7 DOUBLE GLAZED ENTRY DOOR WITH METAL TRIM
- 8 CONCRETE PLANTER
- 9 PRE FINISHED METAL FLASHING
COLOR: BLACK



1 WEST ELEVATION
Scale: 1/8" = 1'-0"



2 NORTH ELEVATION
Scale: 3/16" = 1'-0"



3 SECTION A
Scale: 3/16" = 1'-0"



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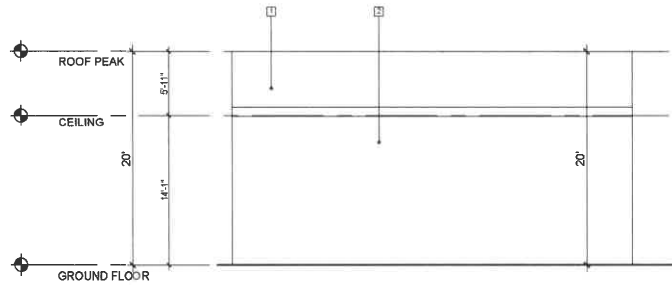
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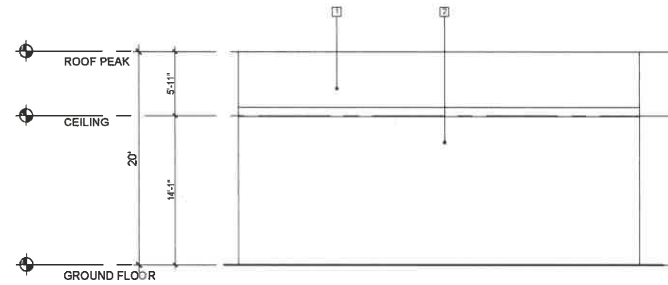
PROJECT	1835 McLEAN AVE PORT COQUITLAM, B.C.
DRAWING TITLE	ELEVATIONS AND SECTION

DRAWING NO.	A3.02
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D80008423(7)

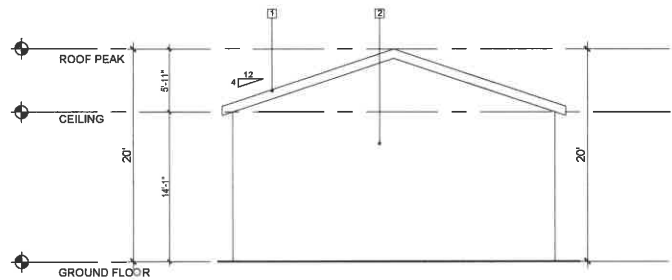


1 WEST ELEVATION
Scale: 3/16" = 1'-0"

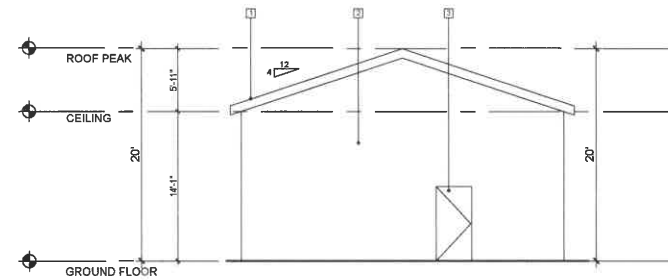


1 EAST ELEVATION
Scale: 3/16" = 1'-0"

- EXTERIOR MATERIAL LEGEND**
- 1 METAL ROOF
 - 2 METAL PANEL
COLOR: BENJAMIN MOORE GRAY (2121-10)
 - 3 METAL DOOR



3 NORTH ELEVATION
Scale: 3/16" = 1'-0"



4 SOUTH ELEVATION
Scale: 3/16" = 1'-0"



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1 ISSUED FOR OF APPLICATION	AUG 14, 2020

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PROJECT 1835 McLEAN AVE PORT COQUITLAM, B.C.
DRAWING TITLE EXISTING BUILDING ELEVATIONS

DRAWING NO. A3.02

DR000423(8)

MATERIAL BOARD



ALUMINUM PANEL
COLOR: BENJAMIN MOORE GRAY (#2121-10)



MICRO-RIB METAL WALL CLADDING
COLOR: DARK GREY



CLEAR GLASS



1 3D MODEL N.T.S.



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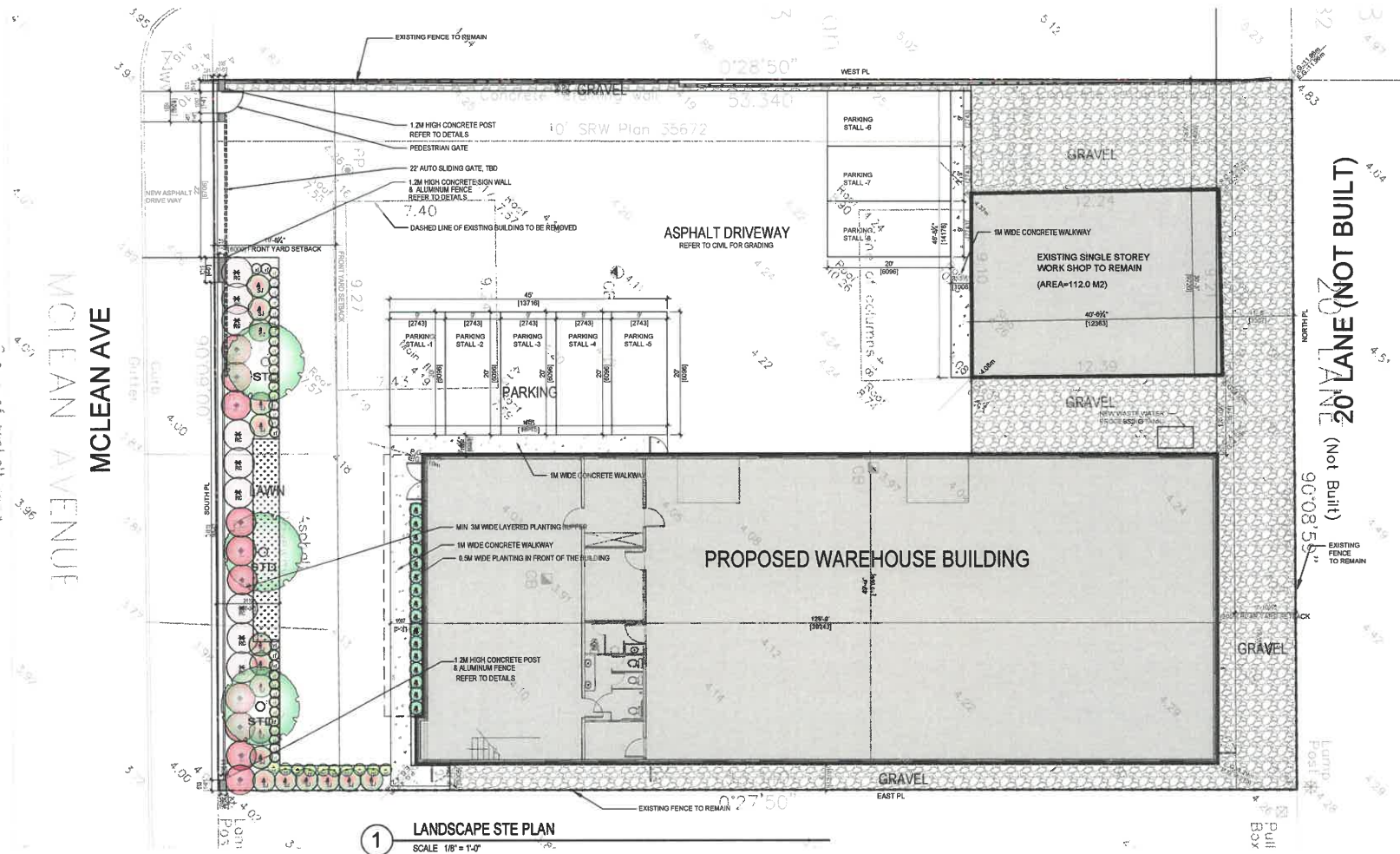
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1 ISSUED FOR DP APPLICATION	AUG 14, 2020

PROJECT NUMBER	ADN1
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PROJECT	1835 McLEAN AVE PORT COQUITLAM, B.C.
DRAWING TITLE	3D MODELS

DRAWING NO.	A4.01
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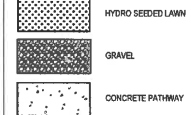
DP000423(a)



PLANT LIST:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE & COND.
TREES				
STD	3	STEWARTIA PSEUDOCAMELLIA	JAPANESE STEWARTIA	6CM CAL. B & B
SHRUBS				
RC	9	RHODODENDRON 'CHRISTMAS CHEER'	CHEER RHODO.(WHITE PINK)	#2 CONTAINER
RH	10	RHODODENDRON HACHMANN'S FANTASTICA	FANTASTIC RHODODENDRON(RED)	#2 CONTAINER
SJ	15	SKIMMIA JAPONICA RUBELLA	JAPANESE SKIMMIA	#2 CONTAINER
GROUNDCOVERS & PERENNIALS				
hf	11	HYPERICUM CALYCIUM	ST. JOHNS WORT	#1 CONTAINER
rf	34	RUDBECKIA FULGIDA var 'GOLDSTRUM'	BLACK EYED SUSAN	#1 CONTAINER
he	16	HELICTRICHON SEMPERVIRENS	BLUE OAT GRASS	#1 CONTAINER

LEGEND:



REVISIONS

ISSUES	DATE
8	
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3	ISSUED FOR DP PRIOR TO 2020.08.13
2	ISSUED FOR DP PRIOR TO 2020.04.15
1	CLIENT REVIEW 2019.12.06

PROJECT NUMBER	LEST
DRAWN BY	LX
CHECKED BY	LX
DATE CHECKED	
CONSULTANT	

PROJECT
1835 McLean Ave Warehouse
Port Coquitlam, BC

DRAWING TITLE
LANDSCAPE SITE PLAN

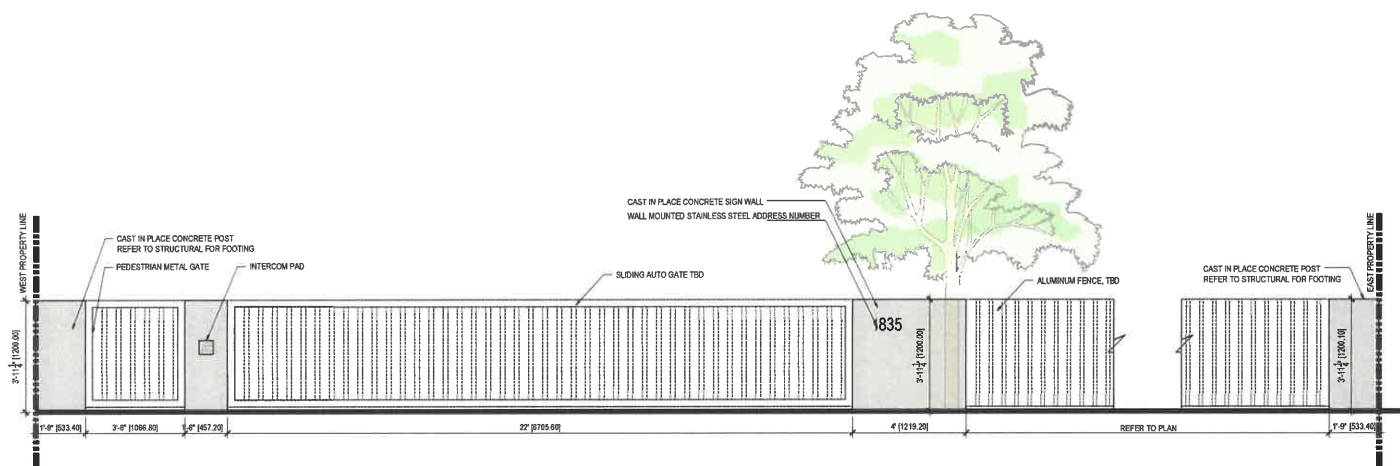
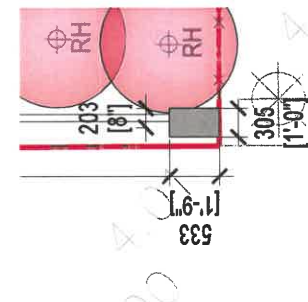
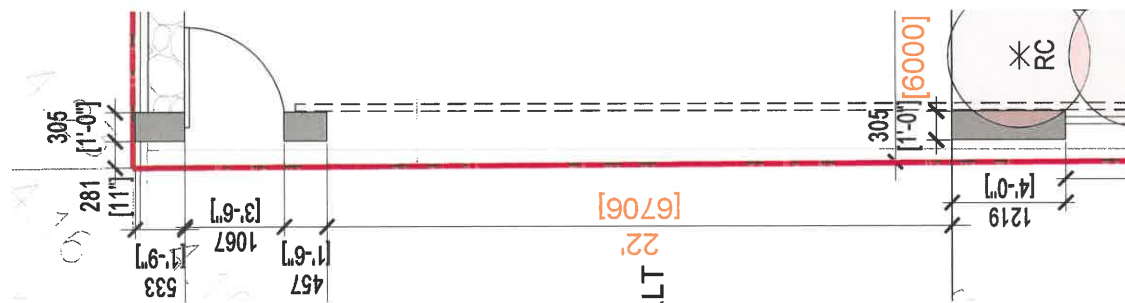
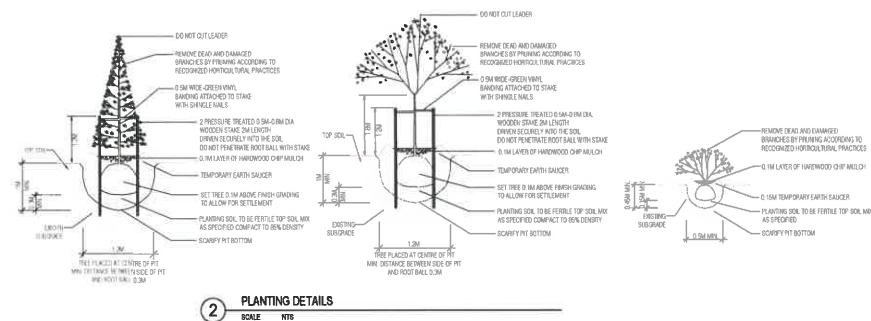
DRAWING No.
L1

DP000423(10)

NOTES:

1. ALL PLANT MATERIAL SHALL MEET OR EXCEED STANDARDS REQUIRED BY BCNTA OR BCSLA GUIDELINES.
2. TOPSOIL SUPPLIED SHALL BE FROM A REPUTABLE SOURCE. A FULL ANALYSIS OF THE TOPSOIL WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE. SUBMIT TO LANDSCAPE CONSULTANT FOR APPROVAL.
3. AMMEND TOPSOIL PER SOIL ANALYSIS RECOMMENDATIONS PRIOR TO SPREADING ON SITE. REJECTED TOPSOIL SHALL BE REMOVED OFF SITE IMMEDIATELY AT THE LANDSCAPE CONTRACTORS EXPENSE.
4. TOPSOIL DEPTHS FOR PLANTING AS FOLLOWS:

A. GRASSED AREAS:	150MM (6")
B. GROUND COVERS:	300MM (12")
C. SHRUBS:	450MM (18")
D. TREE PITS:	1000MM (40") WITH 300MM(12") (BELOW ROOT BALL)
5. LAWN AREAS SHALL BE SODDED WITH #1 PREMIUM RESIDENTIAL SOD.
6. ALL SHRUB PLANTING AREAS SHALL HAVE GROUND COVERS 350MM (14") O.C.
7. 1"MINUS BARK MULCH TO BE INSTALLED IN ALL SHRUB PLANTING AREAS.
8. ROAD GRADING AND OVERALL SITE GRADING BY CIVIL ENGINEERING/OR ARCHITECTURAL.



1 FRONT GATE & WALL DETAILS
SCALE 1/2" = 1'-0"

REVISIONS	
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ISSUES	DATE
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3 ISSUED FOR DP PRIOR TO	2020.08.13
2 ISSUED FOR DP PRIOR TO	2020.04.15
1 CLIENT REVIEW	2019.12.06

PROJECT NUMBER	LE37
DRAWN BY	LX
CHECKED BY	LX
DATE CHECKED	
CONSULTANT	

**1835 McLean Ave
Warehouse**
Port Coquitlam, BC

DRAWING TITLE

**LANDSCAPE
DETAILS**

DRAWING No.

L2

Schedule A

Energy Conservation:

Conservation Measure	Verification Method
High performance glazing or thermal breaks in windows, doors, and frames.	BP stage; written confirmation by applicant along with staff review of BP submission
Location and size of windows will increase natural ventilation and natural daylight	DP and BP stage; staff review of BP submission
Shading devices, overhangs, and landscaping to shelter peak summer exposure while enabling light penetration during winter months;	DP and BP stage; staff review of BP submission
Energy Star Rated appliances	BP stage; staff review of BP submission

Water conservation:

Conservation Measure	Verification Method
pervious surface areas and permeable or porous paving materials in ongrade parking areas	DP and BP stage; staff review of BP submission
Drought-tolerant and indigenous tree, shrub, and plant species	DP and BP stage; City arborist will review and complete landscape inspection
Automated, high-efficiency mechanical irrigation systems;	DP and BP stage; City arborist will review and complete landscape inspection

GHG Reduction:

Conservation Measure	Verification Method
Adequate storage space for garbage, recycling and organic materials provided in easily accessible, secure location.	DP and BP stage; staff review of BP submission

per OCP Sec. 9.11 Environmental Conservation DPA designation

D8008423(12)

RECOMMENDATION:

That Committee of Council recommend that Council adopt Property Standards and Nuisance Abatement Bylaw 4190.

REPORT SUMMARY

This report outlines a proposed new bylaw to replace the existing property maintenance bylaw. A nuisance abatement component has been added to the bylaw that enables the City to impose abatement fees allowing for cost recovery on recurring problem properties. The proposed bylaw provides more efficient and effective ways to gain compliance in property standards and address the issue of problem properties that require significant time and resources.

BACKGROUND

In recent years many municipalities (such as New Westminster, Maple Ridge, Kelowna, Nanaimo, Surrey and Kamloops) have adopted bylaws referred to as a Good Neighbour Bylaw or a Nuisance Abatement Bylaw. These bylaws set the framework for dealing with nuisance properties and set criteria for making sure that properties in Port Coquitlam are maintained to a specific standard. While most property owners maintain their properties to a high standard, a few do not. These bylaws help ensure that residents can enjoy their home and property without being negatively affected by neighbours. When a property becomes a chronic or significant problem, this Bylaw will add a process to address the issue.

Additionally, these types of bylaws typically replace existing property maintenance bylaws and often incorporate other items that may be considered nuisance activities such as noise, graffiti and lighting. These bylaws also often contain nuisance abatement fees that can be captured in cost recovery by attaching them to property taxes for recurring problem properties. While Port Coquitlam does not have the voluminous amount of problem properties that other municipality have, it is faced with a consistent handful of problem properties at any given time requiring considerable staff resources.

DISCUSSION

The proposed bylaw will repeal and replace the current Property Maintenance Bylaw No. 2945 by updating and expanding on current standards for property maintenance. For example, it provides more expansive and detailed stipulations for what can be kept on properties and specify where or how it can be kept. It regulates for general unsightliness and includes standards for yard maintenance, discarded materials, noxious weeds, dilapidated vehicles, buildings, and fences, accumulated pools of water and rubbish.

Property Standards and Nuisance Abatement Bylaw

The bylaw includes regulations for graffiti and its removal as well as the nuisance of lighting and the nuisance of noise. The nuisance of lighting is new and regulates lighting that is bothersome to others; however, it excludes street lights, vehicle lights, lights on playing fields and lights on school grounds.

The regulation of noise is intended to be specific to problem properties and recurring noise issues although it is not exclusive to problem properties. The proposed bylaw does not seek to replace the existing noise bylaw but rather to enhance the noise bylaw by providing another compliance tool. This can be managed by addressing common noises that result in police and bylaw attendance by increasing the fines and allowing abatement fees to be added.

Compliance orders

The proposed bylaw outlines a process for compliance orders that have been issued under the bylaw. This detailed process stipulates how a compliance order is issued, the appeal process and the timeline for appeals. It also details the City's authority to recover costs for cleanup or any remediation work. Compliance orders can be used for any property that is not in compliance including problem properties that have recurring issues.

In order for this process to follow procedural fairness an appeal is filed to the Bylaw Services Manager in written form 7 days before the expiration of the compliance date. The Bylaw Services Manager shall determine the appeal by confirming, amending, or rescinding the compliance order. The second and final step of an appeal against a compliance order is to Council. The property owner may appeal to Council in writing up to 72 hours prior to the expiration date given on the compliance order. The property owner may appear before Council or appeal in writing and Council shall determine the appeal by confirming, amending, or rescinding the compliance order.

Nuisance Service Calls

This Bylaw adds a new tool for addressing nuisance or problem properties by adding the definition of nuisance service calls and an abatement fee for repeated attendance by City Staff and RCMP. Nuisance service calls are defined in the bylaw as a response by a bylaw enforcement officer, building inspector, member of the fire department, or of the RCMP to, or abatement of, any activity, conduct or condition occurring on or near real property that is contrary to a provision within section 3, 4, 5, or 6 of this bylaw.

Repeat Nuisance Calls

In order for a property to fall under a repeat nuisance it must meet the following threshold:

- More than one (1) nuisance Service Call within a 24-hour period; or

Property Standards and Nuisance Abatement Bylaw

- More than (3) three Nuisance Service Calls within a 12-month period

If a property falls within the threshold outlined above, nuisance abatement fees will be applied to the property and if not paid within 30 days will be recoverable by attaching them to the property taxes on December 31 of the year that it is owing. Abatement fees are set at \$300.00 per attendance for the following:

Bylaw Enforcement Officers
Fire Inspectors
Building Inspectors
RCMP

The total fees if all individuals listed above were in attendance for the same incident would be \$1200 plus a 15% administration fee as outlined in the amendment to the Fees and Charges Bylaw (attachment 2). This is in addition to any fines that may be issued at the time of attendance.

The fees are calculated by multiplying the hourly rate, time spent, and equipment used. Other municipalities have either set fees at a flat fee with an average of \$250.00 while other municipalities list an hourly wage and charge by the hour. Most municipalities charge \$250.00 flat fee have not recently updated their abatement fees and may explain why the fee is slightly lower. Upon reviewing the abatement fees in other municipalities, it was determined that a flat fee is easier to task administratively.

Appeal Against Abatement Fees

As with compliance orders referred to in this bylaw, the appeal for abatement fees must also follow procedural fairness. The bylaw outlines an appeal process giving the property owner the right to appeal to Council within 14 days of a payment notice. The property owner must be given 72 hours notice of the meeting at which the appeal will be heard and may appeal in writing or in person. Council shall determine the appeal by confirming, amending, or rescinding the nuisance abatement Fees.

Fines

Fines in the Bylaw Notice Enforcement Bylaw and the ticket information Bylaw were established by reviewing fines in other Municipalities such as Coquitlam, New Westminster, Abbotsford, Maple Ridge and Pitt Meadows. The proposed fines summarized below are set higher than the fines in the existing Property Maintenance Bylaw No. 2945 and the existing Noise Bylaw No. 2891 which set out fines for offences at \$150.00 with a reduced fine amount of \$100.00 if paid within 14 days.

The proposed fines are summarized as follows and reflect the fine amount and a discounted amount if paid within 14 days:

Property Standards and Nuisance Abatement Bylaw

Nuisance at law	4.1	\$200.00	\$500.00
Act which unreasonably interferes	4.2	\$400.00	\$500.00
Offence under CDSA, CCC, LCLA	4.3	\$400.00	\$500.00
Lighting which creates nuisance	5.1	\$125.00	\$250.00
Storage of material	6.1(a)	\$200.00	\$250.00
Storage of vehicle	6.1(b)	\$200.00	\$250.00
Over height ground cover	6.1(c)	\$200.00	\$250.00
Dilapidated building	6.1(d)	\$200.00	\$250.00
Accumulated materials	6.1(e)	\$200.00	\$250.00
Dilapidated fence	6.1(f)	\$200.00	\$250.00
Noxious weeds	6.1(g)	\$200.00	\$250.00
Piles of natural material	6.1(h)	\$200.00	\$250.00
Graffiti	6.1(i)	\$200.00	\$250.00
Water collection	6.1(j)	\$200.00	\$250.00
Noise which disturbs	7.1	\$200.00	\$300.00
Noise from device which disturbs	7.2	\$200.00	\$300.00
Obstruct Officer	13.3	\$250.00	\$500.00
Provide false information to Officer	13.4	\$250.00	\$500.00

Staff recommends the following:

Property Maintenance Bylaw No. 2945 is repealed

Property Standards and Nuisance Abatement Bylaw No. 4190 (new)

Amendments to: Fees & Charges Bylaw No. 3892, Bylaw Notice Enforcement Bylaw No. 3814 & Ticket Information Bylaw 2743

FINANCIAL IMPLICATIONS

Revenue will likely be generated through fees and will go towards the City's general revenue.

OPTIONS (✓ = Staff Recommendation)

	#	Description
<input checked="" type="checkbox"/>	1	Recommend Council adopt the bylaw.
<input type="checkbox"/>	2	Request further information.

Property Standards and Nuisance Abatement Bylaw

	3	Take no action (maintain status quo).
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ATTACHMENTS

Att#1: Property Standards Nuisance Abatement Bylaw Draft

Att#2: Fees & Charges Amendment Draft

Att#3: Bylaw Notice Enforcement Bylaw Amendment draft

Att#4 Ticket Information Bylaw Amendment draft

Lead author(s): Paula Jones

Contributing author(s): Dominic Long

CITY OF PORT COQUITLAM

PROPERTY STANDARDS AND NUISANCE ABATEMENT BYLAW, 2020

Bylaw No. 4190

A Bylaw of the City of Port Coquitlam to regulate, prohibit, and impose requirements in relation to property maintenance, the abatement of nuisance, and to provide for recovery of the costs of nuisance abatement where undertaken by the City.

1. CITATION

This Bylaw is cited as “Property Standards and Nuisance Abatement Bylaw, 2020, No. 4190”.

2. INTERPRETATIONS

2.1 Words or phrases defined in the British Columbia *Interpretation Act*, *Motor Vehicle Act*, *Community Charter* or *Local Government Act* or any successor legislation, shall have the same meaning when used in this Bylaw unless otherwise defined in this Bylaw.

2.2 If any part of this Bylaw is for any reason held invalid by any court of competent jurisdiction, the invalid portion shall be severed and the severance shall not affect the validity of the remainder.

3. DEFINITIONS

3.1 In this Bylaw:

“Building Materials” means items used in the construction of structures or in landscaping, including, but not limited to lumber, gypsum board, windows, doors, roofing materials, scaffolding, equipment, tools, bricks, building blocks, fill, sand, and soil;

“Building Inspector” means any building inspector or official including Chief Building Inspector and Manager of Building;

“Bylaw Enforcement Officer” means every person employed by the City for the purpose of enforcement of the City's bylaws and includes members of the Royal Canadian Mounted Police;

“Bylaw Services Manager” means the person appointed as Bylaw Services Manager or their designate;

“Council” means the Municipal Council of the Corporation of the City of Port Coquitlam;

“Derelict” means

- a) physically wrecked or dilapidated;

- b) in the case of a Motor Vehicle, incapable of operating under its own power or lacking number plates for the current year pursuant to the regulations under the *Motor Vehicle Act*, RSBC 1996, c. 318; and
- c) in the case of a trailer, incapable of being towed in the manner a trailer is normally towed.

“Discarded Materials” include all materials not in use for the construction or maintenance of a building situated on that property, appliances, Motor Vehicle parts, machinery, firewood, unless it is neatly piled or stacked against a wall or fence, and any other chattels in a dismantled state or not in use for the purpose for which the manufacturer intended;

“Fire Inspector” means any Fire Prevention Officer including Fire Prevention Inspectors, Fire Prevention Captains or Deputy Fire Chief, Fire Protective Services & Public Education;

“Graffiti” includes one or more letters, symbols, writing, pictures or marks, however made, posted, scratched, etched, painted or drawn on any structure or thing but does not include any of the following:

- a) a sign, public notice or traffic control devices authorized by the Director of Engineering appointed by Council of the City of Port Coquitlam;
- b) a sign authorized by the Sign Bylaw, No. 2638 as amended or replaced from time to time;
- c) a public notice authorized by a City bylaw or by provincial or federal legislation; or
- d) a letter, symbol or mark on a building or structure for which the owner or tenant of the building or structure has given prior, written authorization, such as a mural;

“Public Place” includes every street, road, land, boulevard, sidewalk, lane, bridge, viaduct and any other way open to public use and any park, building, conveyance, private place or passageway to which the public has, or is permitted to have access or is invited;

“Motor Vehicle” means a device in, upon, or by which a person or thing is or may be transported or drawn upon a highway, except a device designed to be moved by human power or used exclusively upon stationary rails or tracks;

“Noxious Weed” means any weed designated by regulation to be a Noxious Weed pursuant to the *British Columbia Weed Control Act* RSBC 1996 Chapter 487;

“Nuisance Abatement Fees” means the fees, charges and amounts stated in the City's *Fees and Charges Bylaw No. 3892*;

“Nuisance at Law” means the essence of the tort of nuisance is interference with the enjoyment of land.

“Nuisance Service Call” means a response by a bylaw enforcement officer, building inspector member of the fire department or member of the RCMP to, or abatement of,

any activity, conduct or condition occurring on or near real property that is contrary to a provision within sections 3, 4, 5 or 6 of this bylaw;

“Rubbish” means solid and semi-solid wastes, dead animals, paper, trash, refuse, cardboard, waste material, demolition material, cans, bottles, yard clippings, wood, rubber, plastics, glass, bedding, mattresses, crates, pallets, rags, barrels, boxes, scrap iron and other metal, scrap paving material, broken flower pots, discarded tanks of fuel and propane, dilapidated motor vehicles, discarded household appliances, and discarded furniture.

4. GENERAL PROHIBITION

- 4.1 No owner or occupier of real property shall cause or permit any act to be done on that real property which constitutes a nuisance at law.
- 4.2 No owner or occupier of real property shall cause or permit any act which unreasonably interferes with another person or owner's use and enjoyment of their property or of a public place.
- 4.3 No owner or occupier of real property shall cause or permit any act which is an offence under the *Controlled Drugs and Substances Act*, 1996 chapter 19, *Criminal Code of Canada R.S.C., 1985, c. C-46*, or the *Liquor Control and Licensing Act, R.S.B.C., c. 267*.

5. LIGHTING

- 5.1 An owner or occupier of real property shall ensure that an outdoor light on the property is shielded by a shade or fixture such that the light source does not create a nuisance.
- 5.2 This section does not apply to outdoor lighting emanating from:
 - a) streetlights;
 - b) vehicle lights;
 - c) lights on playing fields;
 - d) lights on school playgrounds.

6. GENERAL PROPERTY MAINTENANCE

- 6.1 An owner or occupier of real property must not cause, allow or permit with respect to that real property:
 - a) the storage of Discarded Materials, Rubbish, Derelict Vehicles or Motor Vehicle parts, household chattels and fixtures, furniture, appliances, and other household items of value unless the item is in a closed building or permitted temporary structure;
 - b) the parking or storage of a Motor Vehicle, boat, trailer or recreational vehicle:

- (i) on a landscaped portion of real property; or
 - (ii) on a landscaped portion of a boulevard; or
 - (iii) in a dismantled condition or state of disrepair including, but not limited to, mould growth or one or more flat tires unless the item is in a closed building or permitted temporary structure;
- c) grass, weeds or similar ground cover to be over 15 centimeters in height;
- d) a building or structure or parts thereof to become dilapidated, collapsed or unfinished, including to have holes, breaks, rot, crumbling, cracking, peeling, rusting, missing siding, one or more tarps or plastic covering a roof, or any other evidence of physical decay or neglect or excessive use or lack of maintenance;
- e) the accumulation of building materials for more than 15 days in a calendar year unless they are in a closed building or structure such that they are not visible from any other property or public place;
- f) a fence, retaining wall, or wood ties to become unstable or unsafe, or be rotting, crumbling, cracking, leaning, peeling, or rusting;
- g) the accumulation or growth of Noxious Weeds;
- h) the accumulation of uncontrolled growth, cut tree branches, dead trees, leaves, dead bushes or other growth, unstacked firewood, dirt piles, or uncontained compost material;
- i) Graffiti to remain on Motor Vehicles, buildings, walls, fences or elsewhere in, or visible from a public place;
- j) water to collect or accumulate in a pond, swimming pool, hot tub or as surface water such that it becomes sufficiently stagnant to permit the breeding of mosquitoes, other insects, mould, algae or other similar organisms.

6.2 For the purpose of section 6.1, storage within a building or structure does not include covering an item with a tarp or other cover.

7. OBJECTIONABLE NOISE

- 7.1 No owner or occupier of real property shall allow or permit such real property to be used so that noise or sound which emanates therefrom is liable to disturb the quiet, peace, rest, enjoyment, comfort, or convenience of individuals or the public, including, but not limited to yelling, shouting, screaming or profane language.
- 7.2 No owner or occupier of real property shall make, cause, or permit to be made or caused, noise or bass sound of a radio, television, player, or other sound playback device, public address system, or any other music or voice amplification equipment, musical instrument, whether live or recorded or live, whether

amplified or not, in or on private property in such manner that is liable to disturb the quiet, peace, rest, enjoyment, comfort, or convenience of individuals or the public.

8. COMPLIANCE ORDER

- 8.1 If an owner or occupier of real property fails to comply with a requirement of this Bylaw, then a Bylaw Enforcement Officer may issue an order requiring that an owner or occupier of the real property bring the real property into compliance with the provisions of this Bylaw within such time as a Bylaw Enforcement Officer considers appropriate in the circumstances.
- 8.2 If an owner or occupier of real property fails to comply with the Bylaw Enforcement Officer's Compliance Order within the time period specified in such notice, the City, by its workers or others, may, at all reasonable times and in a reasonable manner, enter the real property and bring about such compliance at the cost of the defaulting owner or other responsible person.
- 8.3 Such costs shall consist of all costs and expenses incurred by the City to achieve compliance with Section 6 of this Bylaw including, without limitation, administrative costs, costs to attend property by City employees or its contractors as stipulated in Schedule N, of the City's Fees and Charges No. 3892 and the costs of removal, clean up and disposal.
- 8.4 If an owner or occupier of real property defaults in paying the cost referred to in Section 8.2 to the City within 30 days after receipt of a demand for payment from the City, the City may either recover from the owner or occupier, in any court of competent jurisdiction, the cost as a debt due to the City, or if such costs remain unpaid by December 31 of the year in which they are owing, the costs may be recovered as property taxes in arrears in accordance with Part 14 of the *Community Charter*.
- 8.5 Service of the Compliance Order referred to in Section 8 will be sufficient if a copy of the order is:
 - a) served personally or mailed by prepaid registered mail to the owner of the real property as shown on the current year's real property assessment roll;
 - b) regular mail; and
 - c) either posted on the real property or delivered to the occupier of the real property.
- 8.6 When an order is not served in accordance with Section 8.5 (a), such order is deemed to have been served on the third day after mailing in accordance with Section 8.5 (b).

9. FIRST APPEAL AGAINST COMPLIANCE ORDER

- 9.1 The owner of real property who may be subject to a Compliance Order, may appeal to the Bylaw Services Manager at least 7 days prior to the expiration of the time given in the Compliance Order.
- 9.2 The owner of the real property may only appeal in written form.
- 9.3 The Bylaw Services Manager shall determine the appeal by confirming, amending or rescinding the Compliance Order.

10. FINAL APPEAL AGAINST COMPLIANCE ORDER

- 10.1 The owner of real property who may be subject to a Compliance Order, may appeal to Council at least 72 hours prior to the expiration of the time given in the Compliance Order.
- 10.2 The owner of the real property must be given 72 hours advance notice of the meeting at which Council will hear an appeal.
- 10.3 The owner of the real property may appeal in person or in written form.
- 10.4 Council shall determine the appeal by confirming, amending or rescinding the Compliance Order.
- 10.5 Council's decision shall be final.

11. REPEAT NUISANCE SERVICE CALLS

- 11.1 Where a Bylaw Enforcement Officer, member of the fire department or member of the RCMP are required to respond to real property for:

- a) more than one Nuisance Service Call within a 24 hour period; or
- b) more than three Nuisance Service Calls within a 12 month period;

the owner of the real property shall be liable to pay Nuisance Abatement Fees in accordance with the amounts set out in the City's *Fees and Charges Bylaw No. 3892* or each additional Nuisance Service Call responded to at that same real property within the 12 month period following the date of the notice referred to in Section 11.3.

- 11.2 Despite section 11.1 of this Bylaw, where legal title to the real property is transferred, Nuisance Service Calls occurring before the date the new owner obtains legal title to the real property shall not apply to the determination under section 11.1 of this bylaw whether Nuisance Abatement Fees are payable or with respect to the amount that is payable. The new owner shall, in any event, be liable for all unpaid Nuisance Abatement Fees imposed against the real property in respect of past Nuisance Service Calls.

- 11.3 Before an owner of real property is liable to pay Nuisance Abatement Fees, the City shall provide written notice to the owner that:
- a) describes the nature of the contravention or nuisance conduct, activity or condition that have resulted in Nuisance Service Calls; and
 - b) advises the owner of Nuisance Abatement Fees and that such fees are in addition to the City's right to seek other legal remedies or actions for abatement of the nuisance or contravention.
- 11.4 Service of the notice referred to in 11.3 will be sufficient if the notice:
- a) in the case of service on an individual, is served personally or mailed by prepaid registered mail to the address of the owner shown on the current year's real property assessment roll for the real property for which the notice is issued;
 - b) in the case of service on a corporation, is served personally on a director, officer or manager of the corporation or by leaving it at or mailing it by prepaid registered mail to the registered office of the corporation.
- 11.5 Nuisance Abatement Fees shall be paid by the owner within 30 days of receipt of an invoice from the City.
- 11.6 If Nuisance Abatement Fees are imposed in relation to real property remains unpaid by December 31 of the year in which it is owing, the fee may be recovered as property taxes in arrears in accordance with the *Community Charter*.
- 11.7 The City may impose Nuisance Abatement Fees despite a person not being charged with an offence relating to a contravention of this Bylaw or the person being charged with an offence relating to a contravention of this Bylaw being acquitted of any or all charges, including because the charges are withdrawn, stayed or otherwise do not proceed.

12. APPEAL AGAINST NUISANCE ABATEMENTS FEES

- 11.1 The owner of real property who may be subject to Nuisance Abatement Fees may appeal to Council within 14 days of receipt of a notice to pay.
- 11.2 The owner of the real property must be given 72 hours advance notice of the meeting at which Council will hear an appeal.
- 11.3 The owner of the real property may appeal in person or in written form.
- 11.4 Council shall determine the appeal by confirming, amending or rescinding the Nuisance Abatement Fees.
- 11.5 Council's decision shall be final.

13. ENFORCEMENT & INSPECTIONS

- 13.1 The provisions of this Bylaw may be enforced by any Bylaw Enforcement Officer.
- 13.2 Any Bylaw Enforcement Officer may enter, in accordance with Section 16 of the *Community Charter*, upon any property subject to this Bylaw in order to inspect and determine whether all regulations, restrictions and requirements are being met.
- 13.3 No person shall interfere with, or attempt to obstruct a Bylaw Enforcement Officer who is conducting an inspection or enforcement action in relation to this Bylaw.
- 13.4 No person shall provide false or misleading information to a Bylaw Enforcement Officer.

14. OFFENCE AND PENALTIES

- 14.1 Notwithstanding the offence and penalties as provided under the *Community Charter* or *Local Government Act*, the following will apply:
 - a) a violation of any of the provisions identified in this Bylaw will result in liability for penalties and late payment amounts established in the City's Bylaw Notice Enforcement Bylaw.
 - b) a Person who:
 - (i) contravenes, violates or fails to comply with any provision of this Bylaw;
 - (ii) suffers or allows any act or thing to be done in contravention or violation of this Bylaw; or
 - (iii) fails or neglects to do anything required to be done under this Bylaw;is deemed to have committed an infraction of, or an offence against, this Bylaw; and is liable on summary conviction to a fine of not more than \$50,000.00; and
 - c) each day such infraction is caused, or allowed to continue, constitutes a separate offence.

15. NO DUTY OF CARE

Neither failure to enforce this Bylaw, nor any error, omission, or other neglect in relation to the enforcement of this Bylaw, shall be interpreted as giving rise to a cause of action in favour of any person.

16. REPEAL

The City of Port Coquitlam Property Maintenance Bylaw, No. 2943 as amended, is repealed.

READ A FIRST TIME this _____ day of _____, 2020

READ A SECOND TIME this _____ day of _____, 2020

READ A THIRD TIME this _____ day of _____, 2020

Mayor

Corporate Officer

CITY OF PORT COQUITLAM
FEES AND CHARGES AMENDMENT BYLAW, 2020

Bylaw No. 4191

1. CITATION

This Bylaw is cited as "Fees and Charges Bylaw, 2015, No. 3892, Amendment Bylaw, 2020, No. 4191".

2. ADMINISTRATION

2.1 Fees and Charges Amendment Bylaw, 2015, No. 3892 is amended by adding "Schedule N" which is attached hereto and forming part of this Bylaw.

READ A FIRST TIME this	day of	, 2020
READ A SECOND TIME this	day of	, 2020
READ A THIRD TIME this	day of	, 2020

Mayor

Corporate Officer

SCHEDULE "N"

Property Standards and Nuisance Abatement Fees & Charges

This Schedule to the Fees and Charges Bylaw implements costs referred to in Section 7 and 10 of the Property Standards and Nuisance Abatement Bylaw No. 4190 and are determined in part by a flat fee for each separate attendance, time spent and equipment used by individuals involved in the abatement of a nuisance. They are calculated in part by multiplying average hourly rates and vehicle costs.

	INSPECTION FEES
Bylaw Enforcement Officer	\$300.00
RCMP	\$300.00
Fire Inspector	\$300.00
Building Inspector	\$300.00
** An administrative fee of 15% will be added to the rates above	

BYLAW NOTICE ENFORCEMENT AMENDMENT BYLAW, 2020

This Bylaw is cited as "Bylaw Notice Enforcement Bylaw, 2020, No. 3814, Amendment Bylaw, 2020, No. 4192".

2. ADMINISTRATION

2.2 That Schedule "A" – Property Maintenance Bylaw No. 2945 (now repealed) be replaced with Schedule "A" - Property Standards and Nuisance Abatement Bylaw No. 4190 attached hereto and forming part of this Bylaw.

READ A FIRST TIME this _____ day of _____, 2020

READ A SECOND TIME this _____ day of _____, 2020

READ A THIRD TIME this _____ day of _____, 2020

Mayor

Corporate Officer

SCHEDULE "A"
Designated Bylaw Contraventions and Penalties

Property Standards and Nuisance Abatement Bylaw No. 4190

Column 1	Column 2	Column 3	Column 4	Column 5
OFFENCE	SECTION NO. IN BYLAW	DISCOUNTED PENALTY IN \$ (within 14 days)	FULL PENALTY IN \$ (after 14 days)	COMPLIANCE AGREEMENT DISCOUNT¹
Nuisance at law	4.1	\$200.00	\$250.00	N/A
Act which unreasonably interferes	4.2	\$400.00	\$500.00	N/A
Offence under CDSA, CCC, LCLA	4.3	\$400.00	\$500.00	N/A
Lighting which creates nuisance	5.1	\$125.00	\$250.00	N/A
Storage of material	6.1 (a)	\$200.00	\$250.00	N/A
Storage of vehicle	6.1 (b)	\$200.00	\$250.00	N/A
Over height ground cover	6.1 (c)	\$200.00	\$250.00	N/A
Dilapidated building	6.1 (d)	\$200.00	\$250.00	N/A
Accumulated materials	6.1 (e)	\$200.00	\$250.00	N/A
Dilapidated fence	6.1 (f)	\$200.00	\$250.00	N/A
Noxious weeds	6.1 (g)	\$200.00	\$250.00	N/A
Piles of natural material	6.1 (h)	\$200.00	\$250.00	N/A
Graffiti	6.1 (i)	\$200.00	\$250.00	N/A
Water collection	6.1 (j)	\$200.00	\$250.00	N/A
Noise which disturbs	7.1	\$200.00	\$300.00	N/A
Noise from device which disturbs	7.2	\$200.00	\$300.00	N/A
Obstruct Officer	13.3	\$250.00	\$500.00	N/A
Provide false information to Officer	13.4	\$250.00	\$500.00	N/A

TICKET INFORMATION UTILIZATION AMENDMENT BYLAW, 2020

1. CITATION

2. ADMINISTRATION

- READ A FIRST TIME this _____ day of _____, 2020
- READ A SECOND TIME this _____ day of _____, 2020
- READ A THIRD TIME this _____ day of _____, 2020

Corporate Officer

SCHEDULE 6

Property Standards & Nuisance Abatement Bylaw No. 4190

	<u>SECTION</u>	<u>FINE</u>	<u>REDUCED FINE</u>
			If paid within 30 Days of Service
Column 1	Column 2	Column 3	Column 4
• Nuisance at law	4.1	\$250.00	\$200.00
• Act which unreasonably interferes	4.2	\$500.00	\$400.00
• Offence under CDSA, CCC, LCLA	4.3	\$500.00	\$400.00
• Lighting which creates nuisance	5.1	\$250.00	\$125.00
• Storage of material	6.1 (a)	\$250.00	\$200.00
• Storage of vehicle	6.1 (b)	\$250.00	\$200.00
• Over height ground cover	6.1 (c)	\$250.00	\$200.00
• Dilapidated building	6.1 (d)	\$250.00	\$200.00
• Accumulated materials	6.1 (e)	\$250.00	\$200.00
• Dilapidated fence	6.1 (f)	\$250.00	\$200.00
• Noxious weeds	6.1 (g)	\$250.00	\$200.00
• Piles of natural material	6.1 (h)	\$250.00	\$200.00
• Graffiti	6.1 (i)	\$250.00	\$200.00
• Water collection	6.1 (j)	\$250.00	\$200.00
• Noise which disturbs	7.1	\$300.00	\$200.00
• Noise from device that disturbs	7.2	\$300.00	\$200.00
• Obstruct Officer	13.3	\$500.00	\$250.00
• Provide false information to Officer	13.4	\$500.00	\$250.00

Delegation of Authority Bylaw Amendment

RECOMMENDATION:

That Committee of Council recommend that Council adopt amendments to the Delegation of Authority Bylaw, No. 3876, as outlined in the October 13, 2020, staff report.

REPORT SUMMARY

This report recommends amendments to the Delegation of Authority Bylaw No. 3876 to allow Council or their delegate to appoint bylaw officers as “Peace Officers”. This will reinforce the current case law recognizing that bylaw officers are peace officers in the course of their duties.

BACKGROUND

While bylaw officers are not listed as peace officers in statute law, they are established as peace officers by case law. The current case law states that bylaw officers are considered peace officers in the course of their duties. Council is authorized to appoint bylaw officers as peace officers.

Some Municipalities (such as Coquitlam) designate their bylaw officers as peace officers by Council resolution while other designate their bylaw officers as peace officers by bylaw (such as Langford). Langford has adopted a stand-alone bylaw that establishes bylaw officers as peace officers and affords them authorities under the Police Act that include the use of force and executing search warrants. Staff does not recommend a stand alone bylaw outlining the powers of peace officers to this extent being cognizant that it may over extend municipal authority.

This proposed bylaw amendment recommends appointing bylaw officers as peace officer under the delegation bylaw and adding an oath to be sworn under the Police Act. This oath replaces the current resolution that appoints individuals as bylaw officers. Using a combined approach of amending the bylaw to appoint bylaw officers as peace officers with a sworn oath does not over extend the authority of bylaw officers but does reinforces the current case law.

DISCUSSION

Both of these processes recognize bylaw officers as peace officers and aid in reinforcing the existing case law. The proposed amendments to the Delegation of Authority Bylaw enable Council or their delegate to appoint bylaw officers as peace officers.

In essence, the proposed amendments do not afford officers any more authority, but does reinforce legal standing and possibly public perception. Additionally, it may aid in gaining compliance as RCMP may charge for obstruction of a peace officer although this would be unlikely for minor

Delegation of Authority Bylaw Amendment


infractions or failure to produce identification. Furthermore, should a bylaw officer be assaulted, a person may be charged with Assaulting a Peace Officer, which can carry a stronger sentence.

This report recommends amending the Delegation of Authority Bylaw, 2014, No. 3876 to allow Council or their delegate to appoint bylaw officers as peace officers and requires that officers take on oath under the Police Act.

FINANCIAL IMPLICATIONS

None.

OPTIONS (✓ = Staff Recommendation)

	#	Description
	1	Recommend that Council adopt amendments to the Delegation of Authority Bylaw.
	2	Request further information.
	3	Take no action (maintain the status quo).

ATTACHMENTS

Att#1: Resolution Oath Appendix A

Lead author(s): Paula Jones

CITY OF PORT COQUITLAM

DELEGATION OF AUTHORITY AMENDMENT BYLAW, 2020

Bylaw No. 4194

1. CITATION

This Bylaw is cited as “Delegation of Authority Bylaw, 2014, No. 3876, Amendment Bylaw, 2020, No. 4194”.

2. ADMINISTRATION

- 2.1 Delegation of Authority Bylaw, 2014, No. 3876 is amended by removing section 3 and replacing it with the following section 3:

BYLAW ENFORCEMENT

3. It is acknowledged by the Council of the City of port that by virtue of their appointment, Bylaw Officers are “Peace Officers” in the course of performing their duties. A Bylaw Enforcement Officer may exercise the following powers on behalf of the City:
- a) enforcement of the City’s regulatory bylaws and related policies;
 - b) entry onto or into private premises to verify compliance with the Council’s regulations, prohibitions or requirements pursuant to Section 16 of the *Community Charter*;
 - c) the service of summons pursuant to Section 28 of the *Offence Act*;
 - d) for certainty, the issuance of Municipal Ticket Information as provided by the Ticket Information Utilization Bylaw, 1992, No. 2743 and the Bylaw Notice Enforcement Bylaw, 2012, No. 3814.
 - e) in accordance with Section 70(1)(b) of the *Police Act* upon the appointment of a Bylaw Officer by the City of Port Coquitlam Council or delegate, each employee must complete the Oath/Affirmation in BC Regulation 136/2002M199/2002 (see Schedule A).
- 2.2 Delegation of Authority Bylaw, 2014, No. 3876 is amended by adding “Schedule A” attached hereto and forming part of this Bylaw.
- 2.3 Delegation of Authority Bylaw, 2014, No. 3876 is further amended in the LAND USE AND DEVELOPMENT APPROVALS section by:
- a) adding the words “or a temporary use permit” after ‘development variance permit’ in clause 9 (e);

- b) removing the words “issue and” in clause 9. (b); and
- c) removing the words “temporary use permits” in clause 19.

READ A FIRST TIME this _____ day of _____, 2020

READ A SECOND TIME this _____ day of _____, 2020

READ A THIRD TIME this _____ day of _____, 2020

Mayor

Corporate Officer

SCHEDULE A

PEACE OFFICER RESOLUTION

1. As per the authority at section 36 of the Police Act, R.S.B.C. 1996, c. 367, as amended, the City of Port Coquitlam ("City") through its Mayor and Council or delegate appoints **(INSERT NAME)** as a bylaw enforcement officer for the City commencing **(DATE)** for the purposes of enforcing all City's bylaws and in accordance with the statutory authority granted within the Community Charter, S.B.C. 2003, c. 26, as amended, is authorized to exercise such statutory authority.
2. For the purposes of this resolution the City also designates (insert full legal name here) as a peace officer, as that term is defined in section 29 of the Interpretation Act, R.S.B.C. 1996, c. 238, as amended, for the preservation and maintenance of public peace within the City, with the full powers, privileges and responsibilities of a peace officer while carrying out their duties for the City.
3. This appointment will expire immediately when (insert full legal name here) is either no longer employed by the City; is no longer appointed to the position of bylaw enforcement officer; or if City Council rescinds their appointment.

As per the oath of office, it is taken under the authority of section 70 of the *Police Act* and B.C. Reg. 136/2002. Consider the following:

I, **(insert full legal name here)**, do solemnly affirm that:

- a) I will be faithful and bear true allegiance to Her Majesty Queen Elizabeth the Second, Queen of Canada, Her Heirs and Successors; and
- b) I will faithfully, honestly and impartially perform my duties as bylaw enforcement officer for the City of Port Coquitlam.

Solemnly affirmed by me, at the City of Port Coquitlam, Province of British Columbia, on

(insert day, month, year here).

(Insert full legal name here), Bylaw Enforcement Officer

A Commissioner for Administering Oaths