Date: 23 October 2019

Our File No: 7130-01

BY EMAIL

Mr. Raghbir Gurm 1168620 BC Limited 13063 56 Ave Surrey BC V3X2Z3

Dear Mr. Gurm,

Re: Beachway 2 – Residential Development Traffic Impact Assessment White Rock, BC

Creative Transportation Solutions Ltd. (CTS) is pleased to submit this *DRAFT* report summarising our work on the above study. CTS was retained by Mr. Raghbir Gurm on September 26th, 2019 to undertake a traffic impact study for a proposed residential townhouse and condominium development in the City of White Rock. The primary objectives of this study are as follows:

- 1. To undertake a traffic impact assessment of the development site;
- 2. To provide a rationale for the proposed 30% parking variance;
- 3. To review the swept path requirements; and,
- 4. To document the results in a report suitable for submission to the City of White Rock.

This report documents our analyses and findings.

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1.0 BACKGROUND

1.1 The Site

1168620 BC Ltd is proposing to build a residential development, Beachway 2, at the following addresses in the City of White Rock, BC:

- 15704 North Bluff Road
- 15724 North Bluff Road
- 15728 North Bluff Road
- 15738 North Bluff Road
- 15748 North Bluff Road
- 15758 North Bluff Road
- 15770 North Bluff Road

The current zoning is RS-1 (One Unit Residential Zone) and the site is located in the east side large-lot infill redevelopment area. The proposed development location is illustrated in **FIGURE 1** below.

The residential development is proposed to be rezoned as a comprehensive development and will have 34 city homes and 113 condominium units for a total of 147 dwelling units. Of the 147 units, 46 are designated as non-market units with seven (7) of them being townhouse units, and 39 of them being condominium units.

Access to the site is proposed via a driveway on Lee Street. For the purposes of this study, development was assumed to be completed and fully occupied by 2021.

The study area and the existing roadways are illustrated in **FIGURE 2**. The referenced site plan is included in **APPENDIX A**.



FIGURE 1 SITE CONTEXT



Beachway 1, an adjacent residential development highlighted in orange in **FIGURE 1** above, was examined in a separate traffic impact assessment and is attached as **APPENDIX B**. The study site of this report, Beachway 2, is highlighted in yellow in **FIGURE 1** above.

The 400 metre radius illustrated in **FIGURE 1** above represents a five minute walk from the site.

As illustrated in **FIGURE 1**, the site has excellent walking access to significant commercial and retail areas.

The following attractions and destinations are all approximately a five (5) to fifteen (15) minute walk from the study site:

- Semiahmoo Shopping Centre
- Semiahmoo Public Library
- Peace Arch Hospital
- Commercial / retail developments all along Johnston Road
- White Rock Centre transit exchange
- Earl Marriott Secondary School
- Peach Arch Elementary
- Kent Street Activity Centre
- Maccaud Park



The study intersections analyzed within this traffic impact assessment include the following:

- Lee Street at North Bluff Road
- Lee Street at Russell Avenue

The following study intersections were counted and analyzed in the traffic impact assessment for Beachway 2 and may be referenced to in **APPENDIX B**:

- Maple Street at North Bluff Road
- Maple Street at Russell Avenue

FIGURE 2
STUDY AREA AND INTERSECTIONS





1.2 Site Visit/Road Network

A site visit was conducted in order to document current conditions. The following road network characteristics were confirmed.

North Bluff Road / 16th Avenue

- East-west arterial
- Centerline forms the municipal boundary between City of White Rock and City of Surrey.
- Four lanes.
- Truck Route.
- No Stopping on north side. 'Permit Parking Only' on south side.
- Concrete curb and gutter along both sides of the road.
- Street lighting.

Russell Avenue

- East / west primary collector
- Two lanes two through lanes with two parking lanes.
- 'Permit parking Only' on both sides
- Concrete curb and gutter along both sides of the road.
- Street lighting.

Lee Street

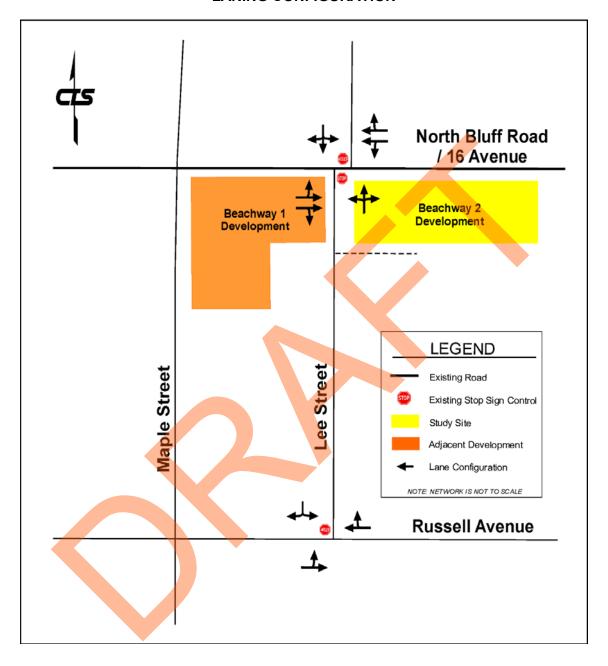
- North / south neighborhood local road.
- Two lanes.
- 'Permit parking Only' on both sides
- No curb or gutter.
- Street Lighting.

The laning configuration for the study intersections are illustrated in FIGURE 3.

It should be noted that due to the proximity of Peace Arch Hospital, on-street parking management is a key traffic management element for the City of White Rock.



FIGURE 3
LANING CONFIGURATION





1.3 Scope of Work

CTS selected the weekday morning and afternoon peak hours as the analysis design hours for this study as it represents the peak traffic time for the adjacent road network and the peak traffic times a residential development.

The following scenarios were used in this traffic impact assessment:

- 1. 2019 existing base traffic
- 2. 2021 future base traffic
- 3. 2026 future base traffic
- 4. 2021 future base traffic + proposed development traffic
- 5. 2026 future base traffic + proposed development traffic



2.0 BASE TRAFFIC VOLUMES

2.1 Existing Base Traffic Volumes

2019 Base Traffic Volumes

CTS conducted turning movement counts from 07:00 to 09:00, and 15:00 to 18:00 to document the typical weekday peak hour traffic volume for the following intersections on the following dates:

- Lee Street and North Bluff Road (Thursday, November 8th, 2018);
- Lee Street and Russell Avenue (Thursday, November 8th, 2018);

The traffic count data was summarized and reviewed to ensure data integrity and validity. The summarized traffic data sheets are included in **APPENDIX C.**

The 2018 base traffic volumes were factored up by a traffic volume growth rate of 2.0% to represent base year 2019 volumes.

From the collected data, the weekday morning peak hour was determined to occur from 7:45 to 8:45 and the afternoon peak hour was determined to occur from 15:00 to 16:00.

The 2019 base traffic volumes for the weekday morning and afternoon peak hours are illustrated in **FIGURE 4** and **FIGURE 5** respectively.





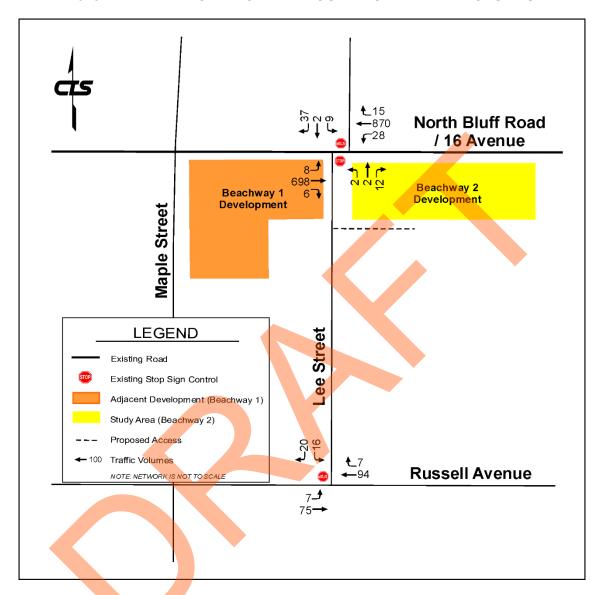
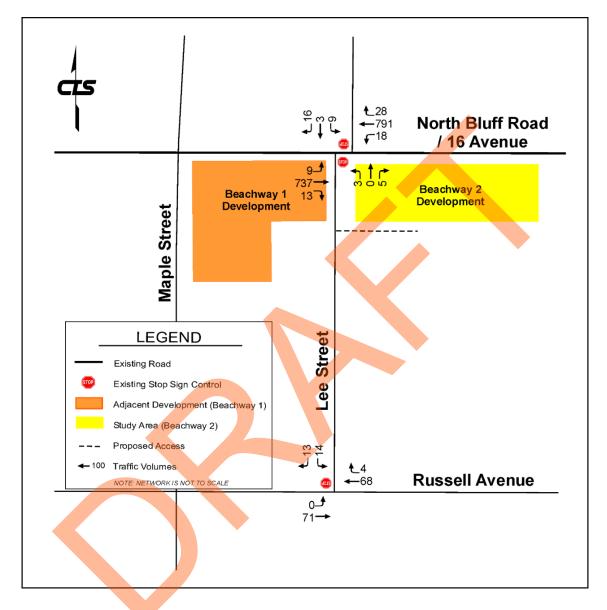


FIGURE 4
2019 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES



FIGURE 5
2019 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES





2.2 Future Base Traffic Volumes

The 2019 base volumes were factored up by a traffic volume growth rate of 2.0% to the 2021 and 2026 horizon years.

2021 Future Base Traffic Volumes

2021 is anticipated to be the year of full buildout for the proposed development. The 2018 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent base year 2021 volumes.

FIGURE 6 and FIGURE 7 illustrate the weekday morning and afternoon peak hour vehicle volumes, respectively.

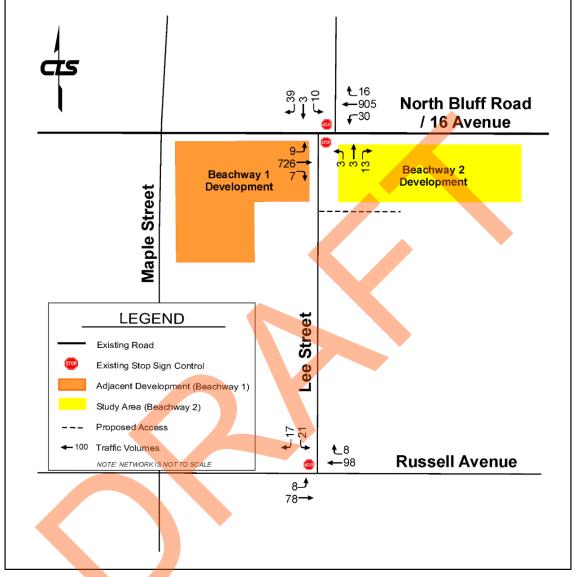
2026 Future Base Traffic Volumes

2026 is ten years after the anticipated year of full buildout for the proposed development, and is a scenario requested by the City of White Rock. The 2019 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent base year 2026 volumes.

FIGURE 8 and FIGURE 9 illustrate the weekday morning and afternoon peak hour vehicle volumes, respectively.



FIGURE 6
2021 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES





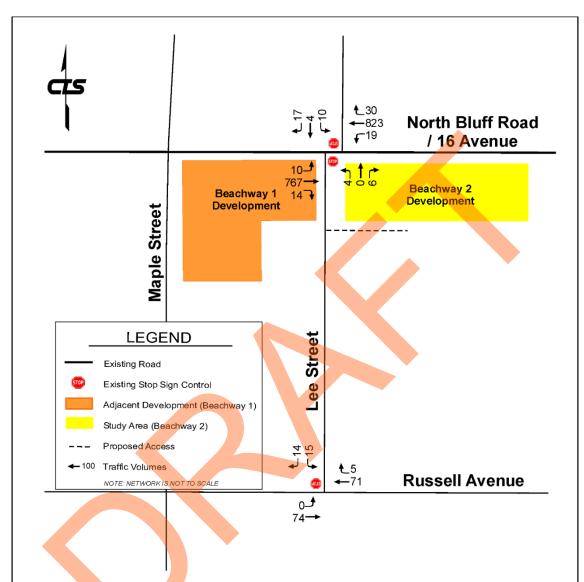


FIGURE 7
2021 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES



FIGURE 8
2026 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES

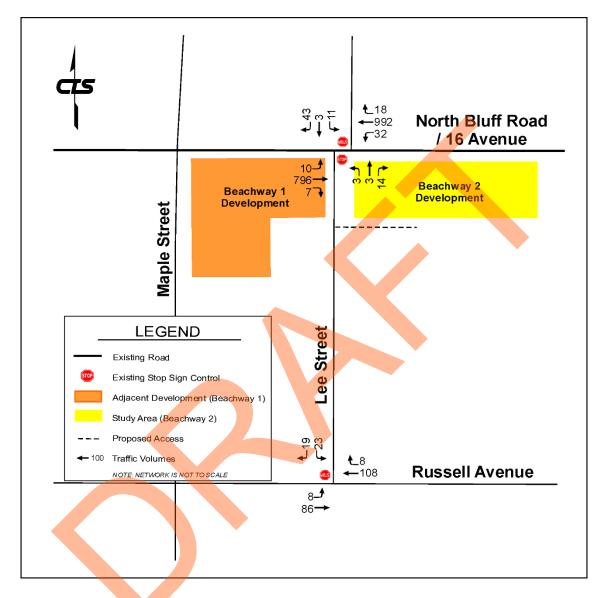
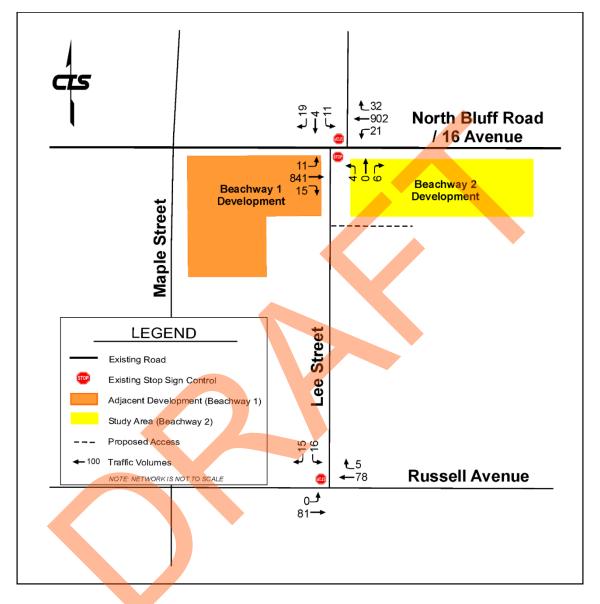




FIGURE 9 2026 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES





3.0 SITE TRAFFIC VOLUMES

3.1 Trip Generation

The published vehicle trip rates from *the Institute of Transportation Engineers (ITE)* 10th Edition were used to forecast the site generated traffic volumes. The proposed residential development consists of 34 townhouse units and 113 condominium units.

TABLE 1 summarizes the estimated site generated traffic for the existing apartment building as well as the forecast site generated traffic from the proposed development.

TABLE 1
SUMMARY OF SITE GENERATED TRAFFIC

Land Use	Trip Generation Variable	Scope of Development	Trip Rate Source	Peak Hour	Vehicle Trip Generation	Directi	onal Split	Peak H	es (vph)	
	v allable	Development	Source		Rate	% in % ou		in	out	total
Multifamily Housing	Dwelling Units	34	ITE 10th Edition - Code 220	Weekday Morning	0.46	23%	77%	3	13	16
(Low-Rise)	Dwelling Office	34		Weekday Afternoon	0.56	63%	37%	12	8	20
Multifamily Housing	Dwelling Units	113	ITE 10th Edition -	Weekday Morning	0.36	26%	74%	10	31	41
(Mid-Rise)	Dwelling Office	110	Code 220	Weekday Afternoon	0.44	61%	39%	30	20	50
	W	EEKDAY MORNI	ING PEAK HOUR	TRAFFIC VOLUME	S			13	44	57
	WE	EKDAY AFTERN	OON PEAK HOU	R TRAFFIC VOLUM	ES			42	28	70

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have three or more levels (floors). The Vehicle Trip Generation Rate was selected using the General Urban/Suburban setting.

From **TABLE 1**, the proposed development is forecasted to generate a total of 57 vehicle trips (13 inbound, 44 outbound) during the weekday morning peak hour and 70 vehicle trips (42 inbound, 28 outbound) during the weekday afternoon peak hour. This is the equivalent of approximately one vehicle movement every 1.1 minutes during the weekday morning peak hour and one vehicle movement every 57 seconds during the weekday afternoon peak hour.

3.2 Trip Distribution

The trip distribution parameters for distributing site generated vehicle trips to / from the site were developed from existing traffic patterns entering and exiting the study area. The traffic volume assignment is summarized in **TABLE 2**.



TABLE 2
TRIP DISTRIBUTION VEHICLE VOLUMES
FOR SITE GENERATED TRAFFIC

From / To	Weekday Al	M Peak Hour	Weekday PM Peak Hour						
FIGHT 10	Inbound	Outbound	Inbound	Outbound					
North Bluff Road (W)	9	19	20	13					
Lee St (N)	1	1	1	1					
North Bluff Road (E)	1	20	17	12					
Russell Ave (E)	1	2	2	1					
Russell Ave (W)	1	2	2	1					
TOTAL	13	44	42	28					
IOIAL	5	57	70						

The weekday morning and afternoon peak hour site generated traffic volumes of the proposed development for the build-out year of 2021 are illustrated in **FIGURE 10** and **FIGURE 11**.





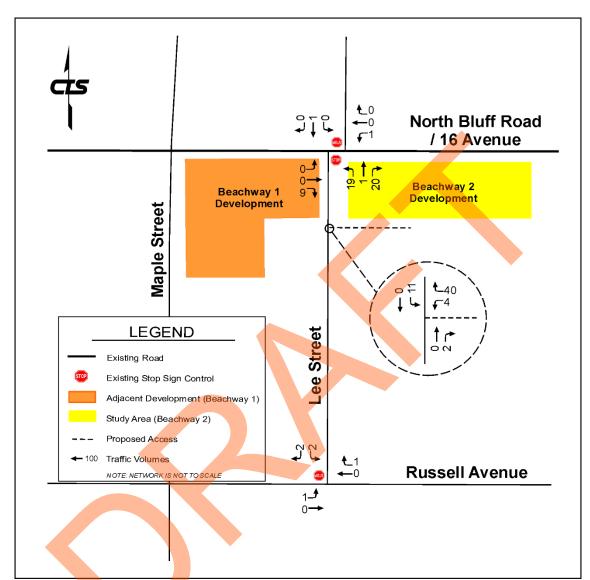


FIGURE 10
WEEKDAY MORNING PEAK HOUR SITE TRAFFIC VOLUMES



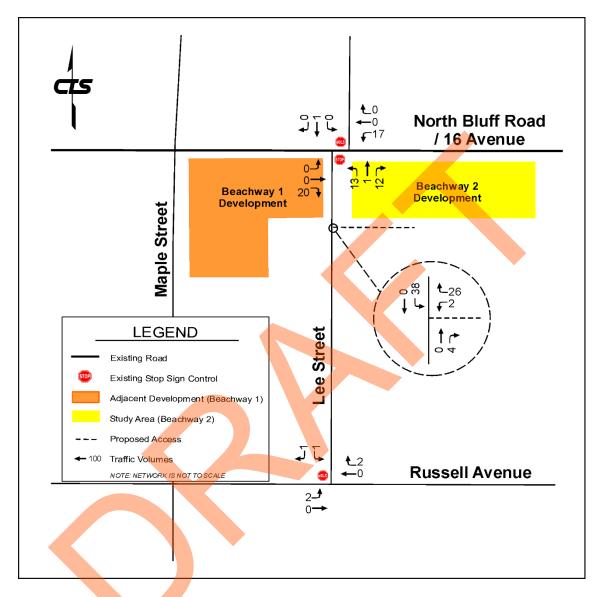


FIGURE 11
WEEKDAY AFTERNOON PEAK HOUR SITE TRAFFIC VOLUMES



4.0 BASE + SITE TRAFFIC VOLUMES

2021 Future Base + Site Traffic Volumes

For the purposes of this study, the proposed development is assumed to be fully built-out and occupied by the year 2021. The 2021 future base plus proposed development traffic volumes were calculated by first factoring up the 2019 base traffic volumes up by the approved volume growth rate of 2.0% per annum (simple-straight line) to the year 2021. Then, the forecast traffic generated by the proposed development were added to the 2021 base traffic volumes.

FIGURE 12 illustrates the total projected traffic for the 2021 weekday morning peak hour consisting of the future base plus the proposed development site generated traffic.

FIGURE 13 illustrates the total projected traffic for the 2021 weekday afternoon peak hour consisting of the future base plus the proposed development site generated traffic.

2026 Future Base + Site Traffic Volumes

For the purposes of this study, the proposed development is assumed to have been fully built-out and occupied for five years by the year 2026. The 2026 future base plus proposed development traffic volumes were calculated by first factoring up the 2019 base traffic volumes up by the approved volume growth rate of 2.0% per annum (simple-straight line) to the year 2026. Then, the forecast traffic generated by the proposed development were added to the 2026 base traffic volumes.

FIGURE 14 illustrates the total projected traffic for the 2026 weekday morning peak hour consisting of the future base plus the proposed development site generated traffic.

FIGURE 15 illustrates the total projected traffic for the 2026 weekday afternoon peak hour consisting of the future base plus the proposed development site generated traffic.



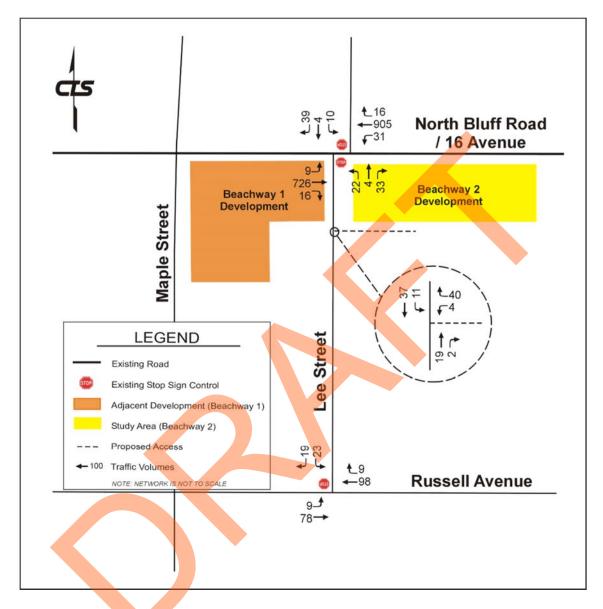


FIGURE 12 2021 WEEKDAY MORNING PEAK HOUR BASE + SITE TRAFFIC VOLUMES



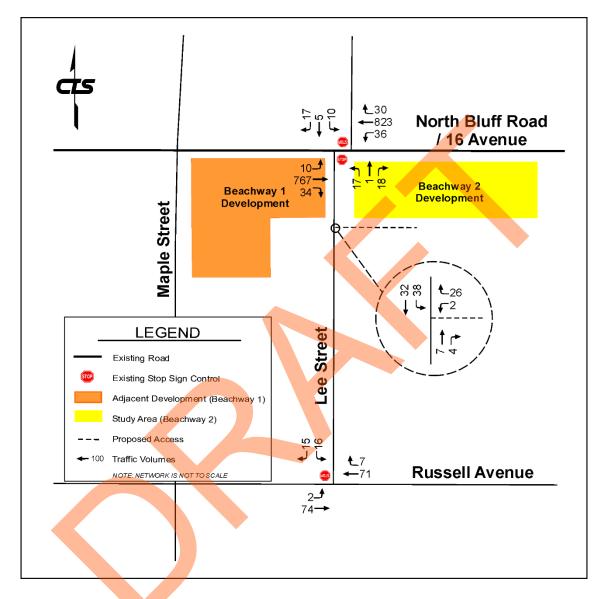


FIGURE 13 2021 WEEKDAY AFTERNOON PEAK HOUR BASE + SITE TRAFFIC VOLUMES



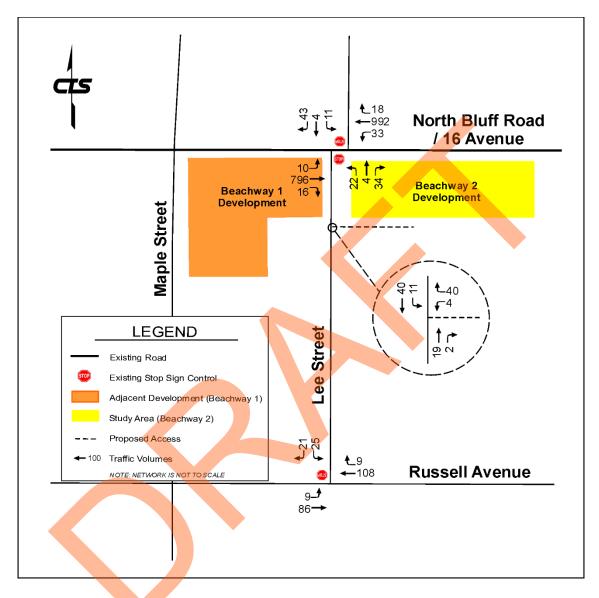


FIGURE 14 2026 WEEKDAY MORNING PEAK HOUR BASE + SITE TRAFFIC VOLUMES



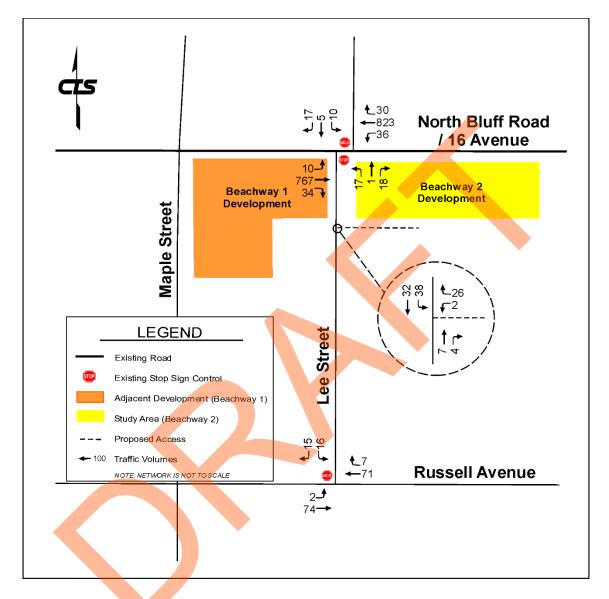


FIGURE 15
2026 WEEKDAY AFTERNOON PEAK HOUR BASE + SITE TRAFFIC VOLUMES



5.0 INTERSECTION CAPACITY ANALYSIS

5.1 Capacity Analysis

Capacity analysis was performed at each of the locations in order to determine the intersection levels of service (LOS) that is provided to motorists. The LOS for intersections and 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 "F" (Fail). See **TABLE 3**. A LOS of "F" (Fail) indicates that an intersection or movement is failing because the intersection or movement is over capacity and delays are considered excessive. A LOS of "D" during the critical peak hours is considered acceptable by many public agencies in large urban areas for overall intersection operation and a LOS of "E" or better is considered acceptable for left turn movements as it recognizes that the intersections normally perform much better the remaining 90% of the day.

TABLE 3
LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Excellent
В	Good
C	Fair
D	Poor
E	Very Poor
F	Fail

Highway Capacity Software (HCS 7.8.5) was used for the analysis of the unsignalized intersections.

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

- Saturation flow rate = 1,900 passenger cars/hour of green time/lane (pcphgpl)
- Peak hour factor (PHF) = 0.83 (weekday morning peak hour) and 0.85 (weekday afternoon peak hour) were the weighted average factors observed from the surveyed intersections.
- Heavy vehicle percentage for roads = 2%

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



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

TABLE 4 to **TABLE 6** summarizes and compares the main performance parameters of the intersection capacity analysis for the <u>unsignalized</u> intersections.

For unsignalized intersections, the delay time in seconds for each lane group is summarized. Delay is additional travel time experienced by a driver, passenger, bicyclist, or pedestrian beyond that required to travel at the desired speed.

This analysis does not include the effects of upstream signals. In addition, it is assumed that all of through movements travelling eastbound and westbound on North Bluff Road will experience the same delay as the eastbound and westbound left turn movements. Hence, the results of this analysis are more conservative. The capacity analysis worksheets with level of services for each individual movement are included in **APPENDIX D**.





TABLE 4 CAPACITY ANALYSIS FOR UNSIGNALIZED INTERSECTION LEE ST AT NORTH BLUFF RD

NTERSECTION	TIME OF	SCENARIO	PERFORMANCE	EA	STBOU	ND	WE	STBOU	ND	NO	RTHBO	UND	so	UTHBO	JND	LOS	NOTES
NIERSECTION	DAY	COLIVATO	MEASURE	Left	Thru	Right		110120									
		2019 Base	Volumes	8	698	6	28	870	15	2	2	12	9	2	37		NB and SB
			Delay	10.7	10.7	0.0	10.6	10.6	0.0		33.0			35.4		В	approaches are experiencing medium delays
			95% Queue (m)	0.0	0.0	0.0	0.2	0.2	0.0		0.4			1.4			
			Volumes	9	726	7	30	905	16	3	3	13	10	3	39		NB and SB
		2021 Base	Delay	11.0	11.0	0.0	10.8	10.8	0.0		46.6			48.7		В	approaches are experiencing
			95% Queue (m)	0.1	0.1	0.0	0.2	0.2	0.0		0.7			2.0			medium delays
	Weekday		Volumes	10	796	7	32	992	18	3	3	14	11	3	43		NB and SB
	Morning Peak Hour	2026 Base	Delay	11.6	11.6	0.0	11.3	11.3	0.0		65.0			84.2		В	approaches are experiencing hig
	Peak Hour		95% Queue (m)	0.1	0.1	0.0	0.2	0.2	0.0		1.1			3.2			delays.
			Volumes	9	726	16	31	905	16	22	4	33	10	4	39		NB and SB
		2021 Base + Site	Delay	11.0	11.0	0.0	10.8	10.8	0.0		129.7			58.6		С	approaches are experiencing high delays.
			95% Queue (m)	0.1	0.1	0.1	0.2	0.2	0.0		4.2			58.6			
			Volumes	10	796	16	33	992	18	22	4	34	11	4	43		NB and SB approaches are experiencing high delays.
		2026 Base + Site	Delay	11.6	11.6	0.0	11.3	11.3	0.0		260.3			110.5		С	
Lee Street (N/S) and North Bluff			95% Queue (m)	0.1	0.1	0.0	0.2	0.2	0.0		5.7			3.8			
Road (E/W)			Volumes	9	737	13	18	791	28	3	0	5	9	3	16		NB and SB
		2019 Base	Delay	10.2	10.2	0.0	10.3	10.3	0.0		28.7			36.6		В	approaches are experiencing
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.2			8.0			medium delays
			Volumes	10	767	14	19	823	30	4	0	6	10	4	17		NB and SB
		2021 Base	Delay	10.4	10.4	0.0	10.5	10.5	0.0		33.9			45.4		В	approaches are experiencing
			95% Queue (m)	0.1	0.1	0.0	0.1	0.1	0.0		0.3			1.1			medium delays
	Weekday		Volumes	11	841	15	21	902	32	4	0	6	11	4	19		experiencing
	Afternoon Peak Hour	2026 Base	Delay	10.9	10.9	0.0	10.9	10.9	0.0	/	44.1			64.8		В	medium delays. approach is
	Реак ноиг		95% Queue (m)	0.1	0.1	0.0	0.1	0.1	0.0	1	0.4			1.7			experiencing his
			Volumes	10	767	34	36	823	30	17	1	18	10	5	17		NB and SB
		2021 Base + Site	Delay	10.4	10.4	0.0	10.8	10.8	0.0		68.8			59.5		В	approaches ar experiencing his
			95% Queue (m)	0.1	0.1	0.0	0.2	0.2	0.0		1.8			1.5			delays.
			Volumes	11	841	35	38	902	32	17	1	18	11	5	19		NB and SB
		2026 Base + Site	Delay	10.9	10.9	0.0	11.3	11.3	0.0		114.5			93.0		В	approaches ar experiencing his
			95% Queue (m)	0.1	0.1	0.0	0.2	0.2	0.0		2.6			2.2			delays.

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)

UNSIGNALIZED QUEUE IS PER VEHICLE

From **TABLE 4**, the following observations can be made:

Lee Street at North Bluff Road:

- During the weekday morning peak hour:
 - The intersection is forecast to operate at LOS B (Good) for the 2019, 2021, and 2026 base years. However, the northbound and southbound approaches are expected to experience medium delays for the 2019 and 2021 base years and high delays for the 2026 base year.
 - The intersection is forecast to operate at LOS C (Fair) for the 2021 and 2026 base + site years. However, the northbound and southbound approaches are expected to experience high delays for the 2021 and 2026 base + site years.



- During the weekday afternoon peak hour:
 - The intersection is forecast to operate at LOS B (Good) for all horizon years and scenarios. However, the northbound and southbound approaches are expected to experience medium delays for the 2019 and 2021 base years and high delays for the 2026 base, 2021 base + site, and 2026 base + site years.

TABLE 5
CAPACITY ANALYSIS FOR UNSIGNALIZED INTERSECTION
LEE ST AT RUSSELL AVE

INTERSECTION	TIME OF	SCENARIO	PERFORMANCE	EA	STBOU	ND	WE	STBOU	IND (NO	RTHBO	JND	SO	UTHBO	JND	LOS	NOTES
INTERSECTION	DAY	SCENARIO	MEASURE	Left	Thru	Right		NOTES									
		2019 Base	Volumes	7	75			94	7				20		16		
			Delay	7.5				0	0.0					9.7		Α	Okay.
			95% Queue (m)	0.0				0	.0					0.2			
			Volumes	8	78			98	8				21		17		
		2021 Base	Delay	7	.5			0	.0					9.8		Α	Okay.
			95% Queue (m)	0	.0			0	.0					0.2			
	Weekday		Volumes	8	86			108	8				23		19		
	Morning Peak Hour	2026 Base	Delay	7	.6			0	.0					9.9		Α	Okay.
	reak Houl		95% Queue (m)	0	.0			0	.0					0.2			
			Volumes	9	78			98	9				23		19		
		2021 Base + Site	Delay	7	.5			0	.0					9.8		Α	Okay.
			95% Queue (m)	0	.0	V		0	.0					0.2			
			Volumes	9	86			108	9				25		21		
		2026 Base + Site	Delay	7	.6			0	.0					10.0		Α	Okay
Lee Street (N/S) and Russell			95% Queue (m)	0	.0			0	.0					0.2			
Avenue (E/W)			Volumes	0	71			68	4				14		13		Okay.
		2019 Base	Delay	7	.5			0	.0					9.4		Α	
			95% Queue (m)	0	.0			0	.0					0.1			
			Volumes	0	74			71	5				15		14		
		2021 Base	Delay	7	.5			0	.0					9.4		Α	Okay.
			95% Queue (m)	0	.0			0	.0					0.1			
	Weekday		Volumes	0	81			78	5				16		15		
	Afternoon Peak Hour	2026 Base	Delay	7	.5			0	.0					9.5		Α	Okay.
	reak Houl		95 <mark>% Q</mark> ueue (m)	0	.0			0	.0					0.1			
			Volumes	2	74			71	7				16		15		
		2021 Base + Site	Delay	7	.5			0	.0					9.5		Α	Okay.
			95% Queue (m)	0	.0			0	.0					0.1			
			Volumes	2	81			78	7				17		16		
		2026 Base + Site	Delay	7	.5			0	.0					9.6		Α	Okay
			95% Queue (m)	0	.0			0	.0					0.1			

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)

UNSIGNALIZED QUEUE IS PER VEHICLE



From **TABLE 5**, the following observations can be made:

George Lane at Russell Avenue:

- During the weekday morning peak hour:
 - The intersection is forecast to continue to operate at LOS A (Excellent) for all horizon years and scenarios.
- During the weekday afternoon peak hour:
 - The intersection is forecast to continue to operate at LOS A (Excellent) for all horizon years and scenarios.

TABLE 6 CAPACITY ANALYSIS FOR UNSIGNALIZED INTERSECTION LEE ST AT SITE ACCESS

INTERSECTION	TIME OF	SCENARIO	SCENARIO	PERFORMANCE	EA	STBOU	ND	WE	STBOU	ND	NO	RTHBO	JND	SO	UTHBO	JND	LOS	NOTES
	DAY		MEASURE	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		110120	
			Volumes				4		40		19	2	11	37				
		2021 Base + Site	Delay					8.7			0	.0	7	.3		Α	Okay	
	Weekday		95% Queue (m)					0.2			0	.0	0	.0				
	Morning Peak Hour	2026 Base + Site	Volumes				4		40		19	2	11	40			Okay	
			Delay					8.7			0	.0	7	.3		Α		
Lee Street (N/S) &			95% Queue (m)					0.2			0	.0	0	.0				
Site Access (E/W)			Volumes				2		26		7	4	38	32				
		2021 Base + Site	Delay					8.6			0	.0	7	.3		Α	Okay	
	Weekday		95% Queue (m)					0.1			0	.0	0	.1				
	Afternoon Peak Hour		Volumes				2		26		7	4	38	35			Okay	
		2026 Base + Site	Delay					8.6			0	.0	7	.3		Α		
			95% Queue (m)					0.1			0	.0	0	.1				

elay = 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)

UNSIGNALIZED QUEUE IS PER VEHICLE

From **TABLE 6**, the following observations can be made:

Lee Street at Site Access

- During the weekday morning peak hour:
 - The intersection is forecast to continue to operate at LOS A (Excellent) for all horizon years and scenarios.
- During the weekday afternoon peak hour:
 - The intersection is forecast to continue to operate at LOS A (Excellent) for all horizon years and scenarios.



6.0 2045 LINK VOLUMES

The City of White Rock requested that estimates for the 2045 vehicle traffic volumes within the study network be made in order to provide a point of reference for the City of White Rock 2045 OCP.

As this scenario is 26 years into the future, it is difficult to accurately forecast vehicle volumes in the context of intersection analysis. Therefore, peak hour road link volumes were determined to provide an estimated magnitude of vehicle volumes.

FIGURE 16 and **FIGURE 17** show the estimated 2-way link volumes for the morning and afternoon peak hour based on an approved growth rate of 2.0% per annum (simple-straight line) factored up from the 2019 turning movement counts with the proposed site traffic included.

2500 2500 **North Bluff Road** / 16 Avenue Beachway 2 Beachway 1 Development Development Street 1 100 Lee Street LEGEND Existing Road Existing Stop Sign Control Adjacent Development (Beachway 1) Study Area (Beachway 2) 300 Proposed Access Russell Avenue - 100 Traffic Volumes NOTE: NETWORK IS NOT TO SCALE

FIGURE 16
2045 WEEKDAY MORNING PEAK HOUR LINK VOLUMES



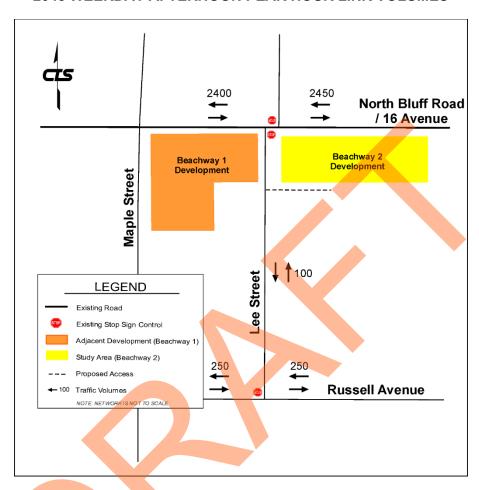


FIGURE 17 2045 WEEKDAY AFTERNOON PEAK HOUR LINK VOLUMES

In the morning peak hour, the estimated 2-way link volume on North Bluff Road, Lee Street, and Russell Avenue, are 2500, 100, and 300 vehicles, respectively.

In the afternoon peak hour, the estimated 2-way link volume on North Bluff Road, Lee Street, and Russell Avenue, are 2450, 100, and 250 vehicles, respectively.

As the theoretical capacity for North Bluff Road is 3200 vehicles per hour (two-way), the road network is deemed to have sufficient capacity for the forecasted traffic volumes in the year 2045.



7.0 TRANSPORTATION DEMAND MANAGEMENT

In support of the requested 30% parking variance, the proposed land uses, existing nearby amenities and infrastructure, and opportunities for alternative modes of travel were considered.

7.1 City of White Rock Policy

With reference to the City of White Rock 2045 OCP, Objective 11.2 is "to support rental housing and a range of non-market housing options and needs along the housing spectrum". Building 1 of the three buildings is proposed to be a non-market affordable rental development which aligns with the City's OCP objectives and a parking relaxation should be considered given Policy 11.2.1 g) recommends "reviewing parking requirements to determine the extent to which they can be relaxed for non-market and rental housing within walking distance of frequent transit service and / or commercial areas.

The proposed residential development is a 15 minute walk to Semiahmoo Shopping Centre and White Rock Centre transit exchange, which connects to Translink's Frequent Transit Network.

7.2 Adjacent Land Uses and Amenities

As previously noted in **Section 1.0**, the site is conveniently located near amenities and public transit. The following attractions and destinations are all approximately a five (5) to fifteen (15) minute walk from the study site:

- Semiahmoo Shopping Centre
- Semiahmoo Public Library
- Peace Arch Hospital
- Commercial / retail developments all along Johnston Road
- White Rock Centre transit exchange
- Earl Marriott Secondary School
- Peach Arch Elementary
- Kent Street Activity Centre
- Maccaud Park



7.3 Alternative Modes of Travel

The study area has good connectivity to transit, as well as cycling and pedestrian infrastructure. The alternative modes of travel are illustrated in **FIGURE 18** below.

North Bluff Road / 16th Avenue

Rusself Avenue

Rusself Avenue

Rusself Avenue

Rusself Avenue

Adjacent Development

Adjacent Development

FIGURE 18
ALTERNATIVE MODES OF TRAVEL WITHIN 400 METRES

Transit Network

The study area has good connectivity to transit with several options for regular busses and community shuttles. The White Rock Centre transit exchange, located at 152nd Street at North Bluff Road, is within a fifteen (15) minute walk from the site and 152nd Street is part of Translink's Frequent Transit Network.

The following bus route are within a five (5) minute walk from the proposed development:

- Route #375 White Rock South Guildford During peak travel times, this bus operates in half hour intervals. Bus stop is on North Bluff Road.
- Route #321 Surrey Central Station Newton Exchange/White Rock Centre/White Rock South – During peak travel times, this bus operates in fifteen-minute intervals. Bus Stop is on North Bluff Road.

The following route is serviced on Russell Avenue to the south.



 Route #361 White Rock Centre - Ocean Park – During weekday peak travel times, this bus operates in half hour intervals. On the weekend peak travel times, this bus operates in one-hour intervals. Bus Stop is on Thrift Avenue.

The above bus routes can be used to connect to the nearby Frequent Transit Network at White Rock Centre, which provides connections to Surrey, Richmond, and Langley. Routes along the Frequent Transit Network have headway times of 15 minutes of better throughout the day, seven days a week.

The following routes are accessible just west of Finlay Street on either North Bluff Road or Russell Avenue. These bus stops are located adjacent to the Peach Arch Hospital, which is within a 5-minute walking distance of the proposed development.

- Route #360 Ocean Park Peace Arch Hospital During weekday peak travel times, this bus operates in half hour intervals. On the weekend peak travel times, this bus operates in one-hour intervals. Bus Stop is on Thrift Avenue, west of Finlay Street.
- Route #363 South Point Peace Arch Hospital During peak travel times, this bus operates in half hour intervals. Bus Stop is on Thrift Avenue, west of Finlay Street.

The bus stop locations within a 400 metre radius (or five (5) minute walking distance) are illustrated in **FIGURE 18** above.

The City of Surrey is in discussion with Translink to bring B-Line rapid bus service to North Bluff Road between Johnston Road and Finlay Street. The addition of a B-Line would upgrade this section of North Bluff Road to part of the Frequent Transit Network which has headway times of 15 minutes or better throughout the day, seven days a week.



Bicycle Network

According to the City of White Rock Strategic Transportation Plan:

- North Bluff Road is proposed in the future to be designated as a bicycle route;
- Finlay Street is currently designated as a shared use lane; and
- Thrift Avenue is currently designated as a shared use lane.

The proposed development is exceeding the bylaw requirement in its provision of 156 secured Class I parking spaces and 26 publically accessible bike share parking spaces within the proposed shared mobility hub, yielding a total of 182 bicycle parking spaces. This provision encourages residents and visitors to utilise the existing bicycle infrastructure in the study network.

The bicycle routes within the study area are illustrated in **FIGURE 18** above.

Pedestrian Network

It is noted in the *City of White Rock Strategic Transportation Plan*, that walking in the City is the most popular form of transportation aside from the use of motor vehicles. This is attributed to the dense and walkable built form within the City. With the City of White Rock Town Centre and Semiahmoo Town Centre being located within a 12-minute walk of the proposed development, there is significant opportunity for residents to take advantage of the pedestrian infrastructure that is offered.

The study area is well connected with sidewalks. All arterial and collector roads have a sidewalk on at least one side. Some local roads also have sidewalks on one side. Currently, there are no sidewalks on Maple Street or Lee Street.

The proposed development will be including enhanced sidewalks on the frontage and also a greenway through the property.

In consideration of the intended land use and the available nearby amenities and infrastructure, the proposed development is anticipated to have a good utilization of alternative modes of travel, particularly walking.

The existing sidewalks are illustrated in **FIGURE 18** above.



7.4 Transportation Demand Management Initiatives

7.4.1 Pedestrian Facilities and Initiatives

Walking is the primary mode of transportation for nearly everyone whether linking with cycling, transit or vehicle modes. People will generally walk for up to fifteen minutes or within a distance of 400 to 800 meters (five to ten minute walk) to connect with another mode or access local amenities.

To encourage transportation by walking, the following initiatives may be considered:

 Directional signage within the lobby or at the main entrance for the nearest bus stops and estimated walking times to popular destinations

7.4.2 Bicycle Facilities and Initiatives

People will generally travel by bicycle up to five kilometers to their place of work, for recreation, or personal reasons.

To encourage transportation by bicycling, the applicant has committed to providing the following initiatives:

- Residents will receive a welcome package containing transit and cycling information.
- A car and bike share hub
 - Public access will be granted by security code access via the Building 2 stairs and elevators.
 - Equipped with 26 bicycles and bicycle spaces will be located within the parkade on P1.
 - A bicycle wash station will be provided within the bicycle share hub located within parkade level 1.
- The bicycle space bylaw requirement of 176 bicycle spaces is exceeded via the provision of 182 bicycle spaces.
- All 156 secured Class I bicycle parking spaces and all 26 bicycle share spaces are conveniently located close to elevators within the parkade on P1.
- Gently sloped ramps leading up to the main entrance for cyclist comfort.

7.4.3 Transit Facilities and Initiatives

To encourage the use of public transit, the provision of the following initiatives may be considered:

- Directional signage within the lobby or at the main entrance for the nearest bus stops and estimated walking times to popular destinations.
- A pre-loaded compass card (e.g. \$100) for each dwelling unit.
- Residents will receive a welcome package containing transit and cycling information.
- A live screen within the lobby displaying current bus route schedules



7.4.4 Vehicle Facilities and Initiatives

To encourage more sustainable transportation, the applicant has committed to providing the following initiatives:

- Electrical vehicle charing parking spaces
 - o Four (4) non-market residential EV parking spaces
 - o Two (2) non-market visitor EV parking spaces
 - o 20 market residential EV parking spaces
- Car and bike share hub consisting of:
 - o 17 EV car share parking spaces
 - 100% electric vehicle fleet
 - Public access will be granted by security code access via the Building 2 stairs and elevators.
 - Exit via the two vehicular gates in the parkade will be granted via the same access code





8.0 PARKING ANALYSIS

8.1 Parking Requirements and Provision

8.1.1 Vehicle Parking Requirements

The required parking rates and spaces for the proposed development are summarized in **TABLE 7** and are based on meetings the applicant has had with the City of White Rock.

TABLE 7
CITY OF WHITE ROCK VEHICLE PARKING SPACE REQUIREMENTS

Land Use Description	Parking Space Type	CoWR Required Parking Rate	# of Units	Parking Stalls Required
Non-Market Units	Residential Spaces	1 space per Dwelling Unit	46	46
Market Units	Residential Spaces	1.2 per Dwelling Unit	101	121
Warker Office	Visitor Spaces	0.3 per Dwelling Unit	101	30
	198			

As shown in **TABLE 11** above, the total number of required parking spaces for the proposed development is 198 parking spaces. The proposed development is providing a total of 138 parking spaces as per the project summary page in **APPENDIX A**, resulting in a variance of 60 parking spaces, or 30.3%.

It should be noted that the City of White Rock visitor parking rate of 0.3 spaces per dwelling unit is higher than other municipalities' rate of 0.2 spaces per dwelling unit.

With reference to the Information Data sheet in **APPENDIX A**, the proposed development is providing 46 non-market residential parking spaces, two (2) non-market visitor parking spaces, 63 market residential parking spaces, 10 market visitor parking spaces, 12 market car share spaces, and 5 market visitor car share spaces, resulting in a total of 138 parking spaces.

With reference to the *City of White Rock Zoning Bylaw Section 4.17.1*, "a minimum of 1 of every 10 off-street parking spaces shall feature an energized outlet capable of providing Level 2 charging...[and] an additional 1 of every 10 off-street parking spaces shall feature roughed-in electric vehicle charging infrastructure, including an electrical outlet box located within 3 metres of the parking space". The proposed development will be exceeding the bylaw requirement in its provision of 43 electrical vehicle (EV) charging parking spaces – four (4) non-market EV parking spaces, two (2) non-market visitor EV parking spaces, 20 market EV parking spaces, and 17 EV car share parking spaces.



8.1.2 Car Share Provision

The proposed residential development is providing 17 electric vehicle car share spaces through the car and bicycle share hub located on P1 of the parkade as per the architectural drawings attached as **APPENDIX A**. While the City of White Rock does not have direction in the bylaw with regards to the provision of shared vehicles, the City of Surrey Zoning Bylaw 12000 states that the "required residential parking spaces may be reduced by 5 parking spaces for each shared vehicle that is provided for multiple unit residential buildings with underground parking on lots located within City Centre." Additionally, "required residential parking spaces may be reduced by 1 additional parking space for each shared vehicle parking space provided that features an energized outlet capable of providing Level 2 charging, as defined by SAE International's 11772 standard, as amended or higher, and where an electric vehicle and electric vehicle supply equipment are provided in accordance with the shared vehicle development permit requirements."

To summarize the above City of Surrey bylaw, five (5) parking spaces may be reduced for each car share space, plus one (1) additional parking space may be reduced for electric vehicle car share space, for a total ratio of one (1) electric vehicle car share space equating to six (6) regular parking spaces. Since the proposed residential development is providing 17 electric vehicle charging car share spaces, this is the City of Surrey bylaw equivalent of 102 regular parking spaces.

If the car share ratio of one (1) to six (6) parking spaces is applied, the proposed development is providing a bylaw equivalent of a total of 223 parking spaces, which is in excess of the City of White Rock requirement of 198 parking spaces.

8.1.3 Bicycle Parking Requirements

The required bicycle parking spaces for the proposed development are summarized in **TABLE 8** with reference to the *City of White Rock Zoning Bylaw Section 4: General Provisions & Regulations*.

TABLE 8
BYLAW BICYCLE PARKING SPACE REQUIREMENTS

Bylaw Land Use Classification	Bicycle Space Type	Required Bicycle Space Rate	# of Units	Bicycle Space Required
Table 4.16.3 - Apartment,	Class I	1 per Dwelling Unit	147	147
Townhouse	Class II	0.2 per Dwelling Unit	147	29
Total Required Parking Spaces			176	

As summarized in **TABLE 8** above, the total number of required bicycle parking spaces for the proposed development is 176 bicycle parking spaces – 147 Class I parking spaces and 29 Class II parking spaces. The proposed development is exceeding the bylaw



requirement in its provision of 156 secured Class I bicycle parking spaces and 26 publically accessible bicycle share parking spaces within the proposed shared mobility hub, yielding a total of 182 bicycle parking spaces.

8.1.4 Loading Space Requirements

With reference to the *City of White Rock Zoning Bylaw Section 4.15.2*, "one (1) off-street loading space shall be provided for every apartment complex...Where the apartment complex...is provided in more than one principal building with separate elevators for each building, one (1) off-street loading space shall be provided for each principal building containing more than ten (10) dwelling units". **TABLE 9** below summarizes the bylaw requirement.

TABLE 9
BYLAW LOADING SPACE REQUIREMENTS

Bylaw Land Use Classification	Bylaw Required Loading Bay Rate	# of Buildings	Loading Bays Required
Residential	1 per Building	3	3
	Total Required Loading Bays		3

The proposed development is providing one (1) loading space for the non-market dwelling units in building 1 and one (1) loading space for the market units in building 2 and 3. The proposed development is not able to provide a loading space exclusively for building 3 because of the City's request that no access be provided off of North Bluff Road.

8.2 Average Parking Demand

In order to consider the peak parking demand of the proposed development, the Institute of Transportation Engineers (ITE) Parking Generation Manual 5th Edition is referenced.

The parking generation manual contains observed data for common land uses, along with an average peak parking demand based on variables such as gross floor area, number of dwelling units, or number of bedrooms.

Lane Use Code 221 – Multifamily Housing (Mid-Rise), provides data that represents multifamily developments, that include apartments, townhouses, and condominiums located within the same building, and are between three and ten levels (floor). This land use describes the proposed market dwelling units in Building 2 and Building 3 of the proposed residential development.

Land Use Code 223 – Affordable Housing, provides data that represents all kinds of multifamily housing that is rented at below market rate. The land use describes the non-market affordable rental dwelling units in Building 1 of the proposed residential development.



For the parking demand analysis, CTS considered data only in the general urban/suburban scenario, and data according to the number of dwelling units.

General urban/sub-urban areas are associated with almost homogenous vehicle centered access. Although the proposed development is located in an area with good alternative transportation infrastructure, this setting is applied as it is more applicable than other settings, and will provide a conservative analysis.

TABLE 10 summarizes the average peak parking demand for each of the two considered land uses. It is noted that for both of these land uses, the peak period is between 10:00 PM and 5:00 AM, for a weekday.

TABLE 10
AVERAGE PEAK PARKING DEMAND

Land Use Description	Setting/Location	Period	Average Peak Period Parking Demand	Applicable To:	Number of Units	Average Peak Parking Demand
Land Use: 222 Multi Family (Mid-Rise)	General Urban/Suburban	Weekday	1.31 Per Dwelling Unit	Market Dwelling Units	101	132.3
Land Use: 223 Affordable Housing (Income Limits)	General Urban/Suburban	Weekday	0.99 Per Dwelling Unit	Non-Market Dwelling Units	46	45.5
				Total	147	178

As summarized in **TABLE 10** above, the average peak parking demand expected for midrise (market) land uses is 1.31 parked vehicles per dwelling unit, and for affordable (non-market) land uses is 0.99 parked vehicles per dwelling unit. The average peak parking demand for the proposed development is forecasted to be approximately 178 parked vehicles, which is 10% (or 20 parking spaces) lower than the City of White Rock parking requirements summarized previously in **TABLE 7**. This does not consider site specific conditions that may reduce parking demand, such local data trends, requirements for non-market rental, or available alternative modes of transportation.

8.3 Parking Supply in Metro Vancouver

The data collected as part of *The 2018 Regional Parking Study*, was also considered for its representation of local data. The key findings of this report emphasize that generally within the Metro Vancouver area, parking is typically oversupplied for strata sites in the range of 32 percent to 58 percent. For rental sites, the oversupply of parking ranges from 24 percent to 44 percent.

This study also provides some data specifically for non-market (affordable) rental units in the region. Data was observed at one site showing that for non-market rental units, a parking demand of 0.14 vehicles per dwelling unit was observed via a parkade facility survey. A household questionnaire style survey was conducted that received 28 responses for non-market rental units, which determined the number of parked vehicles per dwelling unit to be 0.43. Although these sample sizes are small, they are consistent



with the expectation for affordable rental units to generally have significantly less parking demand.

8.4 Parking Space Allocation

Based on the above analysis, it is determined that non-market (affordable) rental dwelling units require less than one parking space per unit. The site plan attached as **APPENDIX A** show that 46 residential parking spaces and 2 visitor parking spaces are being provided to the non-market dwelling units. The reallocation of half (or 23) of the non-market residential parking spaces and the two (2) non-market visitor parking spaces to the market dwelling units should be considered to aid in meeting the parking demand of the market dwelling units.

8.5 Parking Space Summary and Recommendation

Based on the above analysis, CTS recommends that the proposed residential development provide one (1) parking space for every two (2) non-market (affordable) rental dwelling units, one (1) parking spaces for every market dwelling unit, and 0.2 visitor parking spaces for every market dwelling. This would result in a provision of 23 non-market residential parking spaces, 101 market residential parking spaces, and 20 market visitor parking spaces, for a total of 144 parking spaces.





9.0 LOADING SWEPT PATH ANALYSIS

Two (2) loading bays are proposed to be provided accessed off Lee Street and the proposed east-west lane as per the architectural drawings included in **APPENDIX A**.

Swept path analysis was conducted to test the viability of the loading bays using an MSU-TAC as the design vehicle. This is a standard medium single unit vehicle described by the Transportation Association of Canada, and is what would typically be expected for basic deliveries or people moving in and out. It has an overall length of 10 metres and a width of 2.6 meters.

It is recommended that any vehicles using the loading bay always reverse in and drive forward out. This will be a safer combination of maneuvers as drivers will have clear vision while exiting, driving forward. Drivers will also have clear vision of the driveway and adjacent sidewalks before reversing in.

FIGURE 19 illustrates the MSU-TAC reversing into loading bay 1 without any conflicts.

FIGURE 20 illustrates the MSU-TAC exiting from loading bay 1 without any conflicts.

FIGURE 21 illustrates the MSU-TAC reversing into loading bay 2 without any conflicts. There is not sufficient space for the MSUTAC to turn-around on-site. Therefore, trucks should reverse into the east-west laneway, into loading bay 2, in order to forward exit.

FIGURE 22 illustrates the MSU-TAC exiting from loading bay 2 without any conflicts.





FIGURE 19 MSU ENTERING LOADING BAY 1

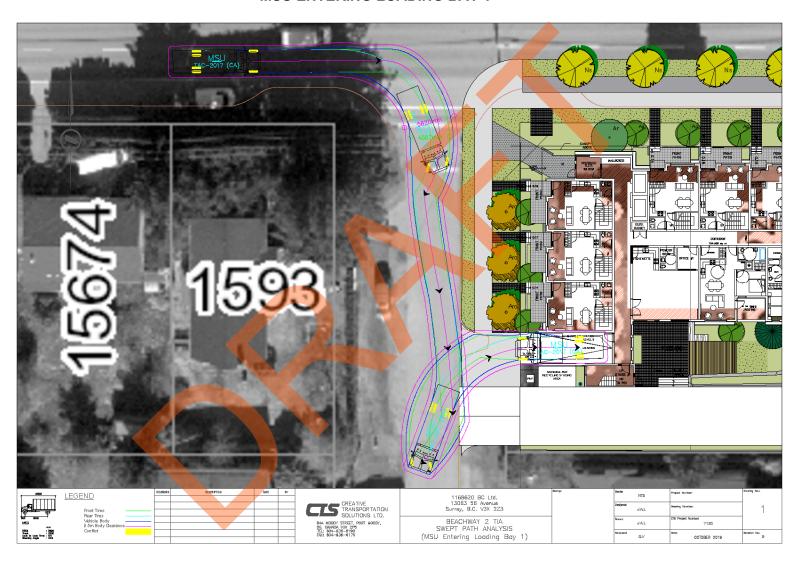




FIGURE 20 MSU EXITING LOADING BAY 1

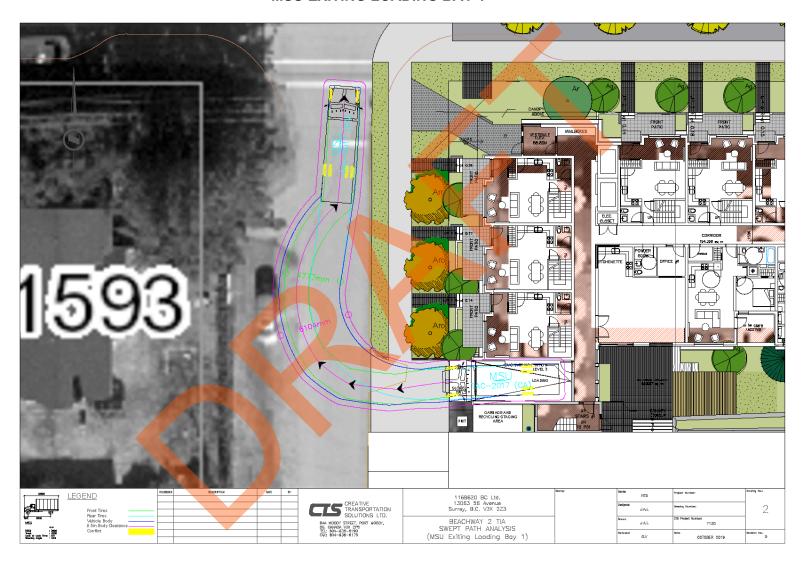


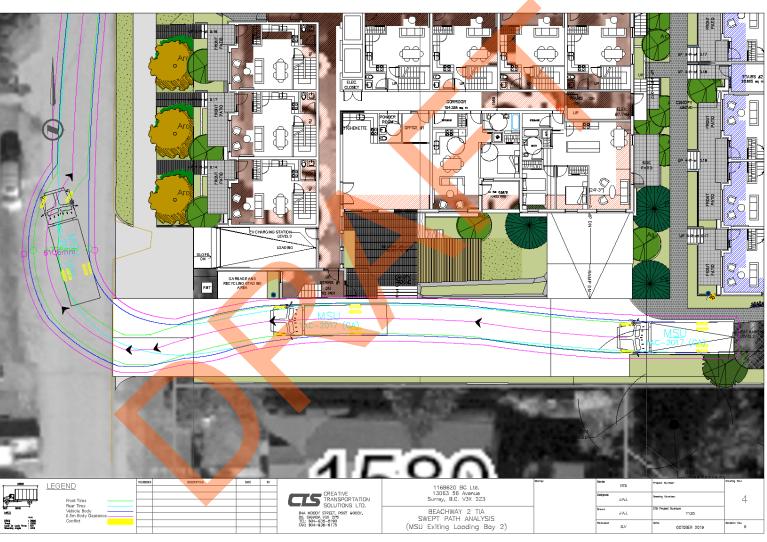




FIGURE 21
MSU ENTERING LOADING BAY 2



FIGURE 22 MSU EXITING LOADING BAY 2





10.0 CONCLUSIONS & RECOMMENDATIONS

10.1 Conclusions

- 1) 1168620 BC Ltd is proposing to build a residential development, Beachway 2, at 15704, 15724, 15728, 15738, 15748, 15758, 15770 North Bluff Road in the City of White Rock. The proposed development is to consist of 34 city homes and 113 condominium units for a total of 147 dwelling units. Of the 147 units, 46 are designated as non-market (affordable) rental units with seven (7) of them being city homes and 39 of them being condominium units.
- 2) CTS staff performed weekday traffic volume surveys on Thursday, November 8th, 2018 in order to document existing conditions. Future base traffic volumes were projected using a 2.0% annual traffic volumes growth rate (simple straight line) and then the proposed development traffic was superimposed on top to estimate future baseline conditions. The design hours of analysis were the weekday morning and afternoon peak hours.
- 3) Upon the full build-out, the overall development is forecasted to generate a total of 57 vehicle trips (13 inbound, 44 outbound) during the weekday morning peak hour and 70 vehicle trips (42 inbound, 28 outbound) during the weekday afternoon peak hour.
- 4) The capacity analysis for the unsignalized intersections and the site accesses determined that the road network can accommodate the projected increase in traffic volumes without any operational and/or geometrical improvements.
- 5) 2045 peak hour link volumes are estimated using collected turning movement counts. This is provided to give an estimated magnitude of vehicle volumes in the context of the City of White Rock 2045 OCP.
- 6) The City of White Rock parking requirements of 1 space per non-market dwelling unit and 1.5 spaces per market dwelling unit results in a total requirement of 198 parking spaces. The proposed residential development is providing 138 parking spaces, resulting in a 30% or 60 parking space variance.
- 7) In support of a 30% parking variance, reference was made to the intended land use, nearby amenities and infrastructure to encourage alternative modes of travel:
 - Proposed development will have 46 non-market (affordable) rental units
 - Within a 10-15 minute walk of Semiahmoo Shopping Centre and White Rock Centre where the Frequent Transit Network connects
 - Within a 5 minute walk of 5 different bus routes
 - Nearby destinations include Peach Arch Hospital, Earl Marriott Secondary School, Peach Arch Elementary School, Kent Street Activity Centre in Maccaud Park
 - Provision of a car and bike share hub on P1 of the parkade
 - Provision of 186 bicycle spaces, exceeding the 176 bicycle space bylaw requirement
 - Provision of a total of 43 electric vehicle charging parking spaces



- Proposed development will include enhanced sidewalks on the frontage and a greenway through the property.
- 8) The proposed loading bay was reviewed to assess its viability and impact on the adjacent road and curb. The swept path analysis shows that a design vehicle of a MSUTAC can be accommodated without any conflicts. Impacts on the adjacent road way can be minimized and truck turning maneuvering can be safer, if vehicles enter by reversing in while traveling northbound and by exiting forward to travel southbound.

10.2 Recommendations

Based on this transportation impact assessment, CTS recommends the following:

- 1) The applicant work with the City to ensure any improvements to the fronting sidewalks align with the City of White Rock *Strategic Transportation Plan;*
- 2) That the proposed residential development provide one (1) parking space for every two (2) non-market (affordable) rental dwelling units, one (1) parking spaces for every market dwelling unit, and 0.2 visitor parking spaces for every market dwelling. This would result in a provision of 23 non-market residential parking spaces, 101 market residential parking spaces, and 20 market visitor parking spaces, for a total of 144 parking spaces.
- 3) That trucks using the loading bay be instructed to reverse into the east-west lane, and forward exit out from the loading bay.



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

Yours truly,

CREATIVE TRANSPORTATION SOLUTIONS LTD.

Reviewed by: Prepared by:

Gary Vlieg, P.Eng. Engineering Group Manager Jacqueline Lee, EIT Junior Traffic Engineer

Attachment



Appendix A Architectural Drawing



BEACHWAY 2 - ISSUED FOR DP APPLICATION

2019.10.24



STREET VIEW FROM NORTH BLUFF ROAD & LEE STREET INTERSECTION



STREET VIEW FROM NORTH BLUFF ROAD LOOKING SOUTH

PROJECT TEAM

ARCHITECTURAL:
URBAN ARTS ARCHITECTURE
#300-111 WATER STREET
VANCOUVER, BC V6B 1A7
604-683-5060

604-683-5060 PARTNER-IN-CHARGE: SHELLEY CRAIG

LANDSCAPE:
ETA LANDSCAPE ARCHITECTURE
1690 WEST 2ND AVENUE
VANCOUVER, BC V6J 1H4
604-683-1456
CONTACT: DARYL TYACKE

ARBORIST:
VDZ+A

102-355 KINGSWAY
VANCOUVER, BC V5T 3J7
604-882-0024
CONTACT: KAYLEE KOZNIAK

TRAFFIC:
CREATIVE TRANSPORTATION SOLUTIONS LTD
84A MOODY STREET
PORT MOODY, BC V3H 2P5
604-936-6190
CONTACT: GARY VLIEG/JACQUELINE LEE

SURVEYOR: H.Y. ASSOCIATES LAND SURVEYING LTD. #200, 9126 - 152ND STREET SURREY, B.C. V3R 4E7 604-583-1616 CONTACT: EUGENE WONG

GEOTECH:
GEOWEST ENGINEERING.
#200, 34425 - MCCONNELL ROAD
ABBOSTSFORD, B.C. V2S 7P1
604-852-9088
CONTACT: JOHN CARTER

DRAWING	LIST		
SULET NO		2011	2.55
SHEET NO A000	SHEET NAME Cover Page	NTS SCALE	DATE 2019.10.24
A000	Information Data 1	NTS	2019.10.24
A002	Information Data 2 FAR per building	NTS	2019.10.24
A101	Site Plan	1:200	2019.10.24
A102	Parkade LVL 01	1:200	2019.10.24
A103	Parkade LVL 02.0	1:200	2019.10.24
A105	Preliminary slab plan	1:200	2019.10.24
A106	Site Plan Coverage	1:200	2019.10.24
A107	Average Natural Grade Calculation	1:200	2019.10.24
A201 A201 area	Non-Market LVL 01 (Building#1) Non-Market LVL 01 (Building#1)	1:100 1:100	2019.10.24
A201 area	Non-Market LVL 02 (Building#1)	1:100	2019.10.24
A202 area	Non-Market LVL 02 (Building#1)	1:100	2019.10.24
A203	Non-Market LVL 03 (Building#1)	1:100	2019.10.24
A203 area	Non-Market LVL 03 (Building#1)	1:100	2019.10.24
A204	Non-Market LVL 04 (Building#1)	1:100	2019.10.24
A204 area	Non-Market LVL 04 (Building#1)	1:100	2019.10.24
A205	Non-Market LVL 05 (Building#1)	1:100	2019.10.24
A205 area	Non-Market LVL 05 (Building#1)	1:100	2019.10.24
A206 A206 area	Non-Market LVL 06 (Building#1)	1:100 1:100	2019.10.24
A206 area A207	Non-Market LVL 06 (Building#1) Non-Market Roof (Building#1)	1:100	2019.10.24
A208	Market LVL 01 (Building#2)	1:100	2019.10.24
A208 area	Market LVL 01 (Building#2)	1:100	2019.10.24
A209	Market LVL 1.5 Mezzanine (Building#2)	1:100	2019.10.24
A210	Market LVL 02 (Building#2)	1:100	2019.10.24
A210 area	Market LVL 02 (Building#2)	1:100	2019.10.24
A211	Market LVL 03 (Building#2)	1:100	2019.10.24
A211 area	Market LVL 03 (Building#2)	1:100	2019.10.24
A212	Market LVL 04 (Building#2)	1:100	2019.10.24
A212 area A213	Market LVL 04 (Building#2) Market LVL 05 (Building#2)	1:100 1:100	2019.10.24
A213 area	Market LVL 05 (Building#2)	1:100	2019.10.24
A214	Market LVL 06/Roof (Building#2)	1:100	2019.10.24
A214 area	Market LVL 06 (Building#2)	1:100	2019.10.24
A215	Roof (Building#2)	1:100	2019.10.24
A216	Market LVL 01 (Building#3)	1:100	2019.10.24
A216 area	Market LVL 01 (Building#3)	1:100	2019.10.24
A217	Market LVL 1.5 (Building#3)	1:100	2019.10.24
A217 area	Market LVL 1.5 (Building#3)	1:100	2019.10.24
A218 A218 area	Market LVL 02 (Building#3) Market LVL 02 (Building#3)	1:100 1:100	2019.10.24
A219	Market LVL 03 (Building#3)	1:100	2019.10.24
A219 area	Market LVL 03 (Building#3)	1:100	2019.10.24
A220	Market LVL 04 (Building#3)	1:100	2019.10.24
A220 area	Market LVL 04 (Building#3)	1:100	2019.10.24
A221	Market LVL 05 (Building#3)	1:100	2019.10.24
A221 area	Market LVL 05 (Building#3)	1:100	2019.10.24
A222	Market LVL 06 (Building#3)	1:100	2019.10.24
A222 area	Market LVL 06 (Building#3)	1:100 1:100	2019.10.24
A223 A400	Roof (Building#3) Elevation	1:100	2019.10.24
A400 A401	Elevation	1:200	2019.10.24
A402	Streetscapes	NTS	2019.10.24
A403	Bird's Eye Views 1	NTS	2019.10.24
A404	Bird's Eye Views 2	NTS	2019.10.24
A405	3D Perspective Views	NTS	2019.10.24
A406	3D Perspective Views	NTS	2019.10.24
A407	3D Perspective Views	NTS	2019.10.24
A408	Car & Bike Share Hub	NTS	2019.10.24
A501	Section	1:200	2019.10.24
A502 A503	Section Section	1:200 1:100	2019.10.24
A503	Section	1:100	2019.10.24
/AJU#	Joechon	1.100	2017.10.24



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A 2019-10-23 Issued for DP Application

REV. DATE ISS

WR-NBR-2
BEACHWAY 2

Cover Page

A000

PLOT DATE: 2019.10.24 SCALE: NTS

DRAWN BY: OEM

Part	SITE DATA:								
Control Cont	CIVIC ADRESS:	15728 North Bluff Road, White Rock, BC (Lot Rem 15748 North Bluff Road, White Rock, BC (Lot 305)	n1),15738 North Bluff Road, \	White Rock, BC (Lot Rem2)					
1875 1876	LEGAL ADRESS:	Lots 1 to 2, New Westminster District, Plan 18697							
Marie Mari	LOT AREA:	5,366.241 sq.m.	57761.684 sq f	t					
March Marc	LOT COVERAGE:	2,788.209 sq.m.	. 30012 sq f	t 51.958%					
March Marc	DEVELOPMENT STATISTICS:								
March Marc	ZONING:								
March Marc	USES:	Multi-Residential							
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NUMBER OF UNITS:								
Section Sect									
March Marc			·		RESIDENTIAL SQ.M.	RESIDENTIAL SQ.FT.	FAR		
March Marc		13,413.003 sq.m.	144,404.207 Sq.1t.	2.5					
March Marc	BUILDING #1 (NON-MARKET)	·	· ·		·				
### PACK PROPERTY AND PROPERTY		'	,		'	· ·			
NECONSTRUCTION NECO	TOTAL	: 13,413.4 sq.m.	144,380.0 sq.ft.	2.5 FAR	10,939.8 sq.m.	118,084.0 sq.ft.	2.044 FAR		
SECOND S	EFFICIENCY (RESIDENTIAL/GROSS)	: 82%							
Self-regin	PROPOSED UNIT AREAS:	(Refer to A004)							
### PART OF CASE 1	INDOOR AMENITY								
1923 1923 1923 1923 1924									
### 1									
ACCUSING AMAILEMENT A 274 mg w	TOTAL	: 266.46 sq.m.	2,868.153 sq ft						
TOTAL 0 5.00 tops. 0 5000 feb. 0 5000 feb. 0 5000 feb. 0 5.00 feb.	PARKING:								
TOTAL \$ \$28 lags. \$ \$5,810 70 wg 1.	PARKING AREA LEVEL 1	4,224 sq.m.	45464.657 sq ft						
MON ### 17 cm for			11376.312 sq ft						
NON-MARKET (1) per 48 umind 10 10 10 10 10 10 10 1		5,281 sq.m.	56,840.969 sq ft						
MARKET VISTOR'S 0.3 per **Cl ure tal	PARKING SPACES REQUIRED:								
### RELAKATION RATION ACTION A									
NON-MARKET 46 - 46 - 46 NON-MARKET 63 - 2 - 2 - 2 - 3 - 46 NON-MARKET 510 5 Parking Species = 1 car abuse 40 MARKET CAR STARR 17 5 Parking Species = 1 car abuse 40 MARKET CAR STARR 188 205 Franking Species = 1 car abuse 40 MARKET CAR STARR 188 205 Franking Species = 1 car abuse 40 MARKET CAR STARR 188 205 Franking Species = 1 car abuse 40 MARKET CAR STARR 188 205 Franking Species = 1 car abuse 40 MARKET CAR STARR 198 198 MARKET CAR STARR 198 MARKET CAR STARR 198 198 MARKET CAR STARR 198 MARKET CAR STARR 198 MARKET CAR STARR 198 198 MARKET CAR STARR 19		TOTAL:	197.5						
NON-MARKET MSTORE 2	PARKING SPACES PROPOSED:			RELAXATION RATIONALE					
MARKET VISITOR CAR SHARE 12 5 5 Parking Spaces - 1 car share 60 60 5 Parking Spaces - 1 car share 60 60 60 60 60 60 60 60 60 60 60 60 60		NON-MARKET VISITOR	2	-	2				
MARKET VISITOR CAR SHARE 5 5 Perking Spaces = 1 car share 25		MARKET VISITOR		-	10				
NON-MARKET (CLASS 1) 51 MARKET (CLASS 1) 105 MARKET BIKL SHARE 26 Added to relax the number of parking TOTAL: 182 UNIT DISTRIBUTION BY TYPE OF UNIT: BUILDING #1 (NON-MARKET) 6 1 31 80 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0									
NON-MARKET (CLASS 1) 51 105		TOTAL:	138		206				
MARKET BIKE SHARE 105 MARKET BIKE SHARE 105 TOTAL: 182 NOTAL: 182	BIKES								
TOTAL 182			105						
UNIT DISTRIBUTION BY TYPE OF UNIT: 2 BED TOWNHOUSE 3 BED TOWNHOUSE 1 BED APARTMENT 2 BED APARTMENT TOP UNIT (3 BED) TOP UNIT (1 BED) STUDIO				Added to relax the number of par	king				
2 BED TOWNHOUSE 1 BED APARTMENT 2 BED APARTMENT TOP UNIT (3 BED) TOP UNIT (1 BED) STUDIO			182						
BUILDING #1 (NON-MARKET) 6 1 31 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	UNIT DISTRIBUTION BY TYPE OF UNIT								
BUILDING #3 (MARKET) 6 9 16 23 6 0 0 0 0 TOTAL: 20 14 64 35 11 1 1 1 1 1 PERCENTAGE: (13.6%) (9.5%) (43.5%) (23.8%) (7.5%) (0.7%) (0.7%) (0.7%) UNIT DISTRIBUTION BY BEDROOM: TOTAL PERCENTAGE ONE BEDROOM: 65 (44.2%) TWO BEDROOMS: 56 (38.1%) THREE BEDROOMS: 25 (17.0%) STUDIO: 1 (0.7%)	BUILDING #1 (NON-MARKET)	,	3 BED TOWNHOUSE		2 BED APARTMENT 8				
TOTAL: 20 14 64 35 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		8	4		4	_	1	1	1
PERCENTAGE: (13.6%) (9.5%) (43.5%) (23.8%) (7.5%) (0.7%) (0.7%) (0.7%) (0.7%) UNIT DISTRIBUTION BY BEDROOM: TOTAL PERCENTAGE ONE BEDROOM: 65 (44.2%) TWO BEDROOMS: 56 (38.1%) THREE BEDROOMS: 25 (17.0%) STUDIO: 1 (0.7%)		6	,				0	0	0
TOTAL PERCENTAGE ONE BEDROOM: 65 (44.2%) TWO BEDROOMS: 56 (38.1%) THREE BEDROOMS: 25 (17.0%) STUDIO: 1 (0.7%)							1 (0.7%)	1 (0.7%)	1 (0.7%)
ONE BEDROOM: 65 (44.2%) TWO BEDROOMS: 56 (38.1%) THREE BEDROOMS: 25 (17.0%) STUDIO: 1 (0.7%)	UNIT DISTRIBUTION BY BEDROOM:								
TWO BEDROOMS: 56 (38.1%) THREE BEDROOMS: 25 (17.0%) STUDIO: 1 (0.7%)									
STUDIO: 1 (0.7%)		: 65							
			(38.1%)						
	TWO BEDROOMS THREE BEDROOMS	: 56 : 25	(17.0%)						



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Consultant Name



A 2019-10-23 Issued for DP Application

REV DATE ISSUE

WR-NBR-2

BEACHWAY 2

Information Data 1

A001

PLOT DATE: 2019.10.24 SCALE: NTS

DRAWN BY: OEM

FAR CALCULATION BUILDING #1

Description 1972 1981	# OF BUILDING	# UNIT	TYPE UNIT	LEVEL OF UNIT	AREA OF UNIT SQ M	AREA OF UNIT SQ F
191			TYPE UNIT	LEVEL OF UNIT	AREA OF UNIT SQ M	AREA OF UNIT SQ F
1972 UNIT A C AREA 1973 UNIT A C AREA 1974 UNIT A C AREA	DOLDING II (NOIV-MARKET)					
1.01					· ·	462.321 sq f
125 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 139 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 131 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 131 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 132 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 133 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 134 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 135 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 136 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 137 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 137 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 130 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 131 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 132 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 133 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 133 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 134 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 135 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 135 UNIT A DUES OF THE TOTAL NUMBERS OF HATTS 136 UNIT A DUES OF THE TOTAL NUMBERS OF THE TOTAL NUM					·	
100 UNIT A D REST PROPERTY OF THE ADMINISTRATION OF THE ADMINISTRA					'	462.321 sq f
10174			UNIT A (2 BED)			462.321 sq f
100 101 101 102 103		109	UNIT A (2 BED)	Level 1 B1	42.951 sq m	462.321 sq f
197				TOTAL:	257.706 sa m	2773.923 sa f
102 UST A D PRE 2017 A DOM					•	
1073 UNIT A DIRECTOR Local 2 34,889 27,000 100						375.543 sq f
1948 UNIT A 2 JULIS 2010 LOCKS Lock 2						
100						375.543 sq f
TOTAL NUMBER OF UNITS: 1						375.543 sq f
197		109	UNIT A (2 BED) 2ND FLOOR	Level 2 B1	34.889	375.543 sq f
TOTAL NUMBER OF UNITS 1	TOTAL NUMBER OF UNITS:	6		TOTAL:	209.335 sq m	2253.26 sq f
TOTAL NUMBER OF UNITS: 1 UNIT A (1987) 2NO FLOOR 1 UNIT B (1980) 1 UNIT B (1980) 1 UNIT B (1980) 1 UNIT B (1980) 200 UNIT B (1980) 201 UNIT B (1980) 201 UNIT B (1980) 201 UNIT B (1980) 202 UNIT B (1980) 203 UNIT B (1980) 204 UNIT B (1980) 205 UNIT B (1980) 206 UNIT B (1980) 207 UNIT B (1980) 208 UNIT B (1980) 209 UNIT B (1980) 200 UNIT B (1980) 200 UNIT B (1980) 200 UNIT B (1980) 201 UNIT B (1980) 201 UNIT B (1980) 202 UNIT B (1980) 203 UNIT B (1980) 204 UNIT B (1980) 205 UNIT B (1980) 206 UNIT B (1980) 207 UNIT B (1980) 208 UNIT B (1980) 209 UNIT B (1980) 200 UNIT		107			10.051	440.004
TOTAL NUMBER OF UNITS: 1						
106			ONIT AT (3 BED) ZND I LOOK	Level 2 DT	32.017	300.30 34 1
MUT	TOTAL NUMBER OF UNITS:	1		TOTAL:	95.568 sq m	1028.681 sq f
MUT		106	LINIT B (1 BED)	l evel 1 R1	57 033	613 901 sa f
203			' '			613.901 sq f
300 UNITED IN BEDD LEWER SET 97.033 CLID 901 to 100			UNIT B (1 BED)	Level 2 B1	57.033	613.901 sq f
300 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 306 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 307 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 307 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 3 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 4 B1 67 033 (13 90 to 308 UNITE (1 BED) Level 5 B1 67 033 (13 90 to 308 UNITE (1 BED) Leve			l l			613.901 sq f
300 UNIT 6 (1 BRD) Low 3 36			l l			
306 UNIT 6 (1 BCD) Level 3 BT		305				613.901 sq fi
100 100			UNIT B (1 BED)			613.901 sq ft
Month of It BED Level 3 B1 57.033 G1.300 fee G1.200 fee G			· ' '			613.901 sq ft
MODE Limit Limit Limit Limit Limit MODE			' '			613.901 sq ft 613.901 sq ft
MODE Lowel 481 57,033 611,970 18			l l			613.901 sq ft
466 UNIT B (1 BED) Lovel 4 B1 57,033 613,070 to 466 UNIT B (1 BED) Lovel 4 B1 57,033 613,070 to 466 UNIT B (1 BED) Lovel 4 B1 57,033 613,070 to 466 UNIT B (1 BED) Lovel 4 B1 57,033 613,070 to 466 UNIT B (1 BED) Lovel 4 B1 57,033 613,070 to 57,033 613,070 to 47,033						613.901 sq ft
400			l l			
407						
Month Mont		407	· ' '			613.901 sq fi
SOI			·			613.901 sq ft
S02			l l			613.901 sq ft
503			l l			
S0B		503	, /			613.901 sq ft
S07			' ' '			613.901 sq ft
SOB			` ′			
Sog						
B02		509	l l			613.901 sq f
B03						613.901 sq fi
TOTAL NUMBER OF UNITS: 105						613.901 sq ft
TOTAL NUMBER OF UNITS: 31						
105 TYPE C2 (2BED) Level 1 B1 78.585 86.5.76 sq. 201 UNIT C (2 BED) Level 2 B1 71.206 766.453 sq. 404 UNIT C (2 BED) Level 3 B1 71.206 766.453 sq. 404 UNIT C (2 BED) Level 4 B1 71.206 766.453 sq. 604 UNIT C (2 BED) Level 6 B1 71.206 766.453 sq. 604 UNIT C (2 BED) Level 6 B1 71.206 766.453 sq. 766.453 sq. 404 UNIT C (2 BED) Level 6 B1 71.206 766.453 sq. 766.453 sq. 469.814 sq. m 4678.413 sq. 606 UNIT C (2 BED) Level 6 B1 71.206 766.453 sq. 607 UNIT C (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq. 823.			OMIT D (T DED)		07.000	
201	TOTAL NUMBER OF UNITS:	31		TOTAL:	1768.034 sq m	19030.937 sq f
201		105	TYPE C2 (2BED)	Level 1 B1	78.585	845.876 sq f
404 UNIT C (2 BED) Level 4 B1 71.206 76.453 sq 604 UNIT C (2 BED) Level 5 B1 71.206 76.453 sq 604 UNIT C (2 BED) Level 6 B1 71.206 76.453 sq 604 UNIT C (2 BED) Level 6 B1 71.206 76.453 sq 604 UNIT C (2 BED) Level 6 B1 71.206 76.453 sq 604 UNIT C (2 BED) Level 6 B1 71.206 76.453 sq 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq 607 UNIT D (2 BED) Level 6 B1 76.5 823.433 sq 76.5 823.433				Level 2 B1	71.206	766.453 sq ft
S04			1			766.453 sq ft
TOTAL NUMBER OF UNITS: 6						
TOTAL NUMBER OF UNITS: 6						766.453 sq fi
Control Con		0	, , ,			
TOTAL NUMBER OF UNITS: 2	TOTAL NUMBER OF UNITS:	О		TOTAL:	434.614 sq m	46/8.141 sq f
TOTAL NUMBER OF UNITS: 2				Level 6 B1	76.5	823.433 sq f
Σ TOTAL NUMBER OF UNITS: 46 100-A CIRCULATION LEVEL 1 Level 1 B1 186.994 sq m 2012.779 sq 200 CIRCULATION LEVEL 2 Level 2 B1 124.268 sq m 1337.607 sq 300 CIRCULATION Level 3 B1 124.015 sq m 1334.89 sq 400 CIRCULATION Level 4 B1 124.015 sq m 1334.89 sq 600 CIRCULATION Level 5 B1 124.015 sq m 1334.89 sq 600 CIRCULATION Level 6 B1 127.972 sq m 1377.475 sq 1377.475 sq 1477.475		607		Level 6 B1	76.5	823.433 sq ft
Σ TOTAL NUMBER OF UNITS: 46 100-A CIRCULATION LEVEL 1 Level 1 B1 186.994 sq m 2012.779 sq 200 CIRCULATION LEVEL 2 Level 2 B1 124.268 sq m 1337.607 sq 300 CIRCULATION Level 3 B1 124.015 sq m 1334.89 sq 500 CIRCULATION Level 4 B1 124.015 sq m 1334.89 sq 500 CIRCULATION Level 5 B1 124.015 sq m 1334.89 sq 600 CIRCULATION Level 6 B1 127.972 sq m 1377.475 sq 1377.475	TOTAL NUMBER OF UNITS:	2		TOTAL:	152.999 sq m	1646.867 sq ft
100-A 200 CIRCULATION LEVEL 1 Level 1 B1 186.994 sq m 2012.779 sq 200 CIRCULATION LEVEL 2 Level 2 B1 124.268 sq m 1337.607 sq 300 CIRCULATION Level 3 B1 124.015 sq m 1334.89 sq 600 CIRCULATION Level 5 B1 124.015 sq m 1334.89 sq 600 CIRCULATION Level 6 B1 127.972 sq m 1377.475 sq 600 CIRCULATION LEVEL 06 Level 6 B1 127.972 sq m 1377.475 sq 707AL: 811.28 sq m 8732.532 sq 100-B INDOOR AMENITY Level 1 B1 54.167 sq m 583.049 sq TOTAL: 54.167 sq m 583.049 sq GROSS FLOOR AREA: GROSS FLOOR AREA: GROSS FLOOR FARE: 0.71 0.78					-	
200 CIRCULATION LEVEL 2 Level 2 B1 124.268 sq m 1337.607 sq m 300 CIRCULATION Level 3 B1 124.015 sq m 1334.89 sq m 1337.475 sq m 1334.89 sq m 1334.89 sq m 1337.475 sq m 1334.89 sq m 1334.89 sq m 1337.475 sq m 1334.89 s	> TOTAL NUMBER OF UNITS:	46				
200 CIRCULATION LEVEL 2 Level 2 B1 124.268 sq m 1337.607 sq m 300 CIRCULATION Level 3 B1 124.015 sq m 1334.89 sq m 1337.475 sq m 1334.89 sq m 1334.89 sq m 1337.475 sq m 1334.89 sq m 1334.89 sq m 1337.475 sq m 1334.89 s						
300 CIRCULATION Level 3 B1 124.015 sq m 1334.89 sq 13348 sq 1334.89 sq 1334.89 sq 1334.89 sq 1334.89 sq 1334.89 sq 1334.						2012.779 sq ft
400 CIRCULATION Level 4 B1 124.015 sq m 1334.89 sq 600 CIRCULATION Level 5 B1 124.015 sq m 1334.89 sq 13348.8					-	
Solid Control Level 5 B1 124.015 sq m 1334.89 sq m 1377.475 sq m			1		·	1334.89 sq ft
TOTAL: 811.28 sq m 8732.532 sq m 8732.532 sq m 8732.532 sq m 583.049 sq TOTAL: 54.167 sq m 583.049 sq TOTAL: 54.167 sq m 583.049 sq TOTAL: 54.167 sq m 40727.39 sq GROSS FLOOR AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR FAR: 0.71 0.00 creation of the square of the squ			CIRCULATION	Level 5 B1	124.015 sq m	1334.89 sq ft
100-B INDOOR AMENITY Level 1 B1 54.167 sq m 583.049 sq TOTAL: 54.167 sq m 583.049 sq \$\frac{\text{\text{TOTAL AREA:}}}{\text{TOTAL AREA:}} \frac{3783.702 sq m}{3783.702 sq m} \frac{40727.39 sq}{40727.39 sq} \$\text{GROSS FLOOR AREA:} \frac{3783.702 sq m}{0.71} \frac{40727.39 sq}{0.71} \$\text{RESIDENTIAL FLOOR AREA:} \frac{2918.255 sq m}{31411.809 sq} \frac{31411.809 sq}{31411.809 sq}		600	CIRCULATION LEVEL 06	Level 6 B1	127.972 sq m	1377.475 sq ft
100-B INDOOR AMENITY Level 1 B1 54.167 sq m 583.049 sq TOTAL: 54.167 sq m 583.049 sq \$\frac{\text{\text{TOTAL AREA:}}}{\text{TOTAL AREA:}} \frac{3783.702 sq m}{3783.702 sq m} \frac{40727.39 sq}{40727.39 sq} \$\text{GROSS FLOOR AREA:} \frac{3783.702 sq m}{0.71} \frac{40727.39 sq}{0.71} \$\text{RESIDENTIAL FLOOR AREA:} \frac{2918.255 sq m}{31411.809 sq} \frac{31411.809 sq}{31411.809 sq}				TOTAL:	811.28 sq m	8732.532 sq ft
TOTAL: 54.167 sq m 583.049 sq Σ TOTAL AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR FAR: 0.71 0. RESIDENTIAL FLOOR AREA: 2918.255 sq m 31411.809 sq						
TOTAL: 54.167 sq m 583.049 sq \$\frac{\textbf{\sigma}}{\textbf{\sigma}} \text{TOTAL AREA:} 3783.702 sq m 40727.39 sq m \$\text{GROSS FLOOR AREA:} 3783.702 sq m 40727.39 sq m \$\text{GROSS FLOOR FAR:} 0.71 0. \$\text{RESIDENTIAL FLOOR AREA:} 2918.255 sq m 31411.809 sq m		100-B	INDOOR AMENITY	Level 1 B1	54 167 sa m	583.049 sq ft
Σ TOTAL AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR FAR: 0.71 0.71 RESIDENTIAL FLOOR AREA: 2918.255 sq m 31411.809 sq			III DOTT WILLIAM		•	<u>'</u>
GROSS FLOOR AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR FAR: 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71				TOTAL:	54.167 sq m	583.049 sq ft
GROSS FLOOR AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR FAR: 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71						
GROSS FLOOR AREA: 3783.702 sq m 40727.39 sq GROSS FLOOR FAR: 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71				TOTAL ADEA	2702 700	40727.20 G
GROSS FLOOR FAR: 0.71 0.				Z IOIAL AKEA:	3/03./UZ sq m	40/2/.37 sq ft
RESIDENTIAL FLOOR AREA: 2918.255 sq m 31411.809 sq					·	40727.39 sq f
				GROSS FLOOR FAR:	0.71	0.71
				RESIDENTIAL FLOOR AREA	2918.255 sa mi	31411.809 sq ft
			GROSS RESID		· ·	0.54

FAR CALCULATION BUILDING #2

# OF BUILDING	# UNIT	TYPE UNIT	LEVEL OF UNIT	AREA OF UNIT SQ M	AREA OF UNIT SQ F
BUILDING #2 (MARKET)	# ONII	TIPE OINII	LEVEL OF UNIT	AREA OF UNIT 3Q W	AREA OF UNIT 3Q F
	101A	TVDE 24 (2DED)	Level 1 B2	40.11	F20 / 10
	101A 102A	TYPE 2A (2BED) TYPE 2A3 (2BED)	Level 1 B2	49.11 sq m 50.862 sq m	· '
	103A	TYPE 2A3 (2BED)	Level 1 B2	50.862 sq m	· '
	108A	TYPE 2A3 (2BED)	Level 1 B2	50.862 sq m	547.47 sq
	109A	TYPE 2A3 (2BED)	Level 1 B2	50.862 sq m	i '
	110A 111A	TYPE 2A (2BED) TYPE 2A (2BED)	Level 1 B2 Level 1 B2	49.11 sq m 49.11 sq m	· ·
	111A 112A	TYPE 2A (2BED)	Level 1 B2	49.11 sq m 49.11 sq m	· ·
				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3231317 39
			TOTAL:	399.888 sq m	4304.356 sq
	101A 102A	TYPE 2A2	Level 2 B2	54.705 sq m	· '
	102A 103A	TYPE 2A3 LEVEL 2 TYPE 2A (LEVEL 2)	Level 2 B2 Level 2 B2	46.15 sq m 44.919 sq m	· ·
	108A	TYPE 2A (LEVEL 2)	Level 2 B2	44.919 sq m	'
	109A	TYPE 2A (LEVEL 2)	Level 2 B2	44.919 sq m	· ·
	110A	TYPE 2A (LEVEL 2)	Level 2 B2	44.919 sq m	
	111A 112A	TYPE 2A (LEVEL 2)	Level 2 B2	44.919 sq m	l '
	TIZA	TYPE 2A (LEVEL 2)	Level 2 B2	44.919 sq m	483.501 sq
TOTAL NUMBER OF UNITS:	8		TOTAL:	370.368 sq m	3986.6 sq
	104A	TYPE 2A2 (2BED+MEZZ)	Level 1 B2	50.862 sq m	547.47 sq
	105A	TYPE 2A1 (2BED+MEZZ)	Level 1 B2	50.862 sq m	
	106A 107A	TYPE 2A2 (2BED+MEZZ)	Level 1 B2 Level 1 B2	50.862 sq m	· '
	10/A	TYPE 2A2 (2BED+MEZZ)	Level 1 B2	50.862 sq m	547.47 sq
			TOTAL:	203.447 sq m	2189.879 sq
	4054				
	105A 107A	TYPE 2A1 MEZZANINE	Level 1.5 B2 Level 1.5 B2	17.904 sq m	· ·
	107A 106A	TYPE 2A2 MEZZANINE TYPE 2A2 MEZZANINE	Level 1.5 B2 Level 1.5 B2	17.48 sq m 17.48 sq m	
	104A	TYPE 2A2 MEZZANINE	Level 1.5 B2	17.48 sq m	
			TOTA!	70.245	757.10
			TOTAL:	70.345 sq m	757.19 sq
	105A	TYPE 2A1 LEVEL 2	Level 2 B2	65.233 sq m	
	106A	TYPE 2A2 LEVEL 2	Level 2 B2	44.919 sq m	
	107A 104A	TYPE 2A2 LEVEL 2	Level 2 B2	44.919 sq m	
	104A	TYPE 2A2 LEVEL 2	Level 2 B2	44.919 sq m	483.501 sq
TOTAL NUMBER OF UNITS:	4		TOTAL:	199.989 sq m	2152.66 sq
	302A 303A	TYPE 2B (1 BED TYP.)	Level 3 B2	54.44 sq m	
	304A	TYPE 2B (1 BED TYP.) TYPE 2B1 (1BED & DEN)	Level 3 B2 Level 3 B2	54.44 sq m 71.767 sq m	585.986 sq 772.49 sq
	305A	TYPE 2B (1 BED TYP.)	Level 3 B2	54.44 sq m	
	306A	TYPE 2B (1 BED TYP.)	Level 3 B2	54.44 sq m	'
	307A	TYPE 2B (1 BED TYP.)	Level 3 B2	54.44 sq m	585.986 sq
	308A 402A	TYPE 2C (1 BED)	Level 3 B2	42.981 sq m	462.643 sq
	402A 403A	TYPE 2B (1 BED TYP.) TYPE 2B (1 BED TYP.)	Level 4 B2 Level 4 B2	54.44 sq m 54.44 sq m	585.986 sq 585.986 sq
	404A	TYPE 2B2 (1 BED+DEN)	Level 4 B2	70.755 sq m	761.601 sq
	405A	TYPE 2B (1 BED TYP.)	Level 4 B2	54.44 sq m	585.986 sq
	406A	TYPE 2B (1 BED TYP.)	Level 4 B2	54.44 sq m	
	407A 408A	TYPE 2B (1 BED TYP.)	Level 4 B2	54.44 sq m	
	507A	TYPE 2C (1 BED) TYPE 2B (1 BED TYP.)	Level 4 B2 Level 5 B2	42.981 sq m 54.44 sq m	
	508A	TYPE 2B (1 BED TYP.)	Level 5 B2	54.44 sq m	
	509A	TYPE 2B (1 BED TYP.)	Level 5 B2	54.44 sq m	585.986 sq
TOTAL NUMBER OF UNITS:	17		TOTAL:	936.204 sq m	10077.202 sq
					1
	301A	TYPE 2D (2BED)	Level 3 B2	70.666	
	309A 401A	TYPE 2Ē (2BED) TYPE 2D (2BED)	Level 3 B2 Level 4 B2	84.629 70.666	910.942 sq 760.639 sq
	409A	TYPE 2E (2BED)	Level 4 B2	84.629	
TOTAL NUMBER OF UNITS:	4		TOTAL:	310.59 sq m	3343.163 sq
TOTAL NUMBER OF UNITS:			TOTAL:	310.59 sq m	3343.163 sq
	502A	TYPE 2F1 (3BED)	Level 5 B2	46.241	497.736 sq
	502A 503A	TYPE 2F LEVEL 2	Level 6 B2	73.012	785.892 sq
	503A	TYPE 2F			404 4/ 5
	504A		Level 5 B2	45.008 73.012	
	00 11 1	TYPE 2F LEVEL 2 TYPE 2F	Level 5 B2 Level 6 B2 Level 5 B2	45.008 73.012 45.008	785.892 sq
	504A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2	Level 6 B2 Level 5 B2 Level 6 B2	73.012	785.892 sq 484.465 sq 785.892 sq
	504A 505A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F	Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008	785.892 sq 484.465 sq 785.892 sq 484.465 sq
	504A 505A 505A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2	Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq
	504A 505A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F	Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq
TOTAL NUMBER OF LINUTE.	504A 505A 505A 511A 511A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED)	Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL:	73.012 45.008 73.012 45.008 73.012 62.927 62.855	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED)	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL:	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 5 5	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED)	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL:	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq
	504A 505A 505A 511A 511A 511A 5 5 501A 501A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED)	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 5 501A 501A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED)	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq
	504A 505A 505A 511A 511A 511A 5 5 501A 501A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED)	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 5 501A 501A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq
	504A 505A 505A 511A 511A 511A 5 5 501A 501A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 5 501A 501A 506A 506A 2 510A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq
TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 5 501A 501A 506A 506A 2 510A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 5 501A 501A 506A 506A 2 510A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 5 501A 501A 506A 506A 2 510A	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO)	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 5 B2 Level 5 B2 Level 5 B2 TOTAL:	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO)	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 1075.036 sq 438.373 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1 41	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) LEVEL 01 B2 CIRCULATION LEVEL 02 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 484.465 sq 677.339 sq 676.566 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 1075.036 sq 438.373 sq 1348.024 sq 1345.845 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) LEVEL01 B2 CIRCULATION LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 8 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 99.874 sq m 40.726 sq m 125.236 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1075.036 sq 438.373 sq 1348.024 sq 1345.845 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1 41	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J (LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL 2 B2 CIRCULATION LEVEL 3 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 04 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL:	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 99.874 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.033 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 1075.036 sq 438.373 sq 1348.024 sq 1345.845 sq 1458.701 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1 41 41	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) LEVEL 2 TYPE 2C1 (STUDIO) LEVEL 3B 2 CIRCULATION LEVEL 3B 2 CIRCULATION LEVEL 4B 2 CIRCULATION LEVEL 5 B 2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 TOTAL:	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1075.036 sq 438.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J (LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 2 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1348.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1 41 41	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2H LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) LEVEL 2 TYPE 2C1 (STUDIO) LEVEL 3B 2 CIRCULATION LEVEL 3B 2 CIRCULATION LEVEL 4B 2 CIRCULATION LEVEL 5 B 2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 5 B2 Level 5 B2 Level 5 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1348.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 2 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1348.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 5 B2 Level 5 B2 Level 5 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 99.874 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.236 sq m 135.518 sq m 34.753 sq m 14.487 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1348.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 5 B2 Level 5 B2 Level 5 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 99.874 sq m 40.726 sq m 125.236 sq m 125.236 sq m 125.236 sq m 135.518 sq m 34.753 sq m 14.487 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 487.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq 374.074 sq 155.932 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 8 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 5 B2 Level 5 B2 Level 5 B2 TOTAL: Level 1 B2 Level 2 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 sq m 39.719 sq m 125.236 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m 34.753 sq m 14.487 sq m 49.239 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 438.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq 374.074 sq 155.932 sq 41949.299 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 2 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 125.236 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m 34.753 sq m 14.487 sq m 49.239 sq m 49.239 sq m 3897.221 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1075.036 sq 438.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq 374.074 sq 155.932 sq 41949.299 sq 41949.299 sq
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2J LEVEL 2 TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) TYPE 2C1 (STUDIO) LEVEL02 B2 CIRCULATION LEVEL03 B2 CIRCULATION LEVEL 04 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION	Level 6 B2 Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 8 B2 Level 6 B2 TOTAL: Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 Level 5 B2 Level 5 B2 Level 5 B2 TOTAL: Level 1 B2 Level 2 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 sq m 39.719 sq m 125.236 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m 34.753 sq m 14.487 sq m 49.239 sq m 3897.221 sq m 0.73	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 487.5892 sq 677.339 sq 676.566 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 438.373 sq 1348.024 sq 1345.845 sq 1458.701 sq 5665.979 sq 374.074 sq 155.932 sq 41949.299 sq 41949.299 sq 0.7
TOTAL NUMBER OF UNITS: TOTAL NUMBER OF UNITS:	504A 505A 505A 511A 511A 511A 5 501A 501A 506A 506A 506A 1	TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2F TYPE 2F LEVEL 2 TYPE 2J (3BED) TYPE 2J LEVEL 2 TYPE 2H (2BED) TYPE 2I (1BED) TYPE 2I LEVEL 2 TYPE 2I (STUDIO) LEVEL 2 B2 CIRCULATION LEVEL 3 B2 CIRCULATION LEVEL 3 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 5 B2 CIRCULATION LEVEL 1 GUEST ROOM GUEST ROOM MEZZ	Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 Level 5 B2 Level 6 B2 TOTAL: Level 5 B2 TOTAL: Level 1 B2 Level 2 B2 Level 3 B2 Level 4 B2 Level 5 B2 TOTAL: Level 1 B2 Level 5 B2	73.012 45.008 73.012 45.008 73.012 62.927 62.855 599.095 sq m 42.226 69.928 32.296 47.501 191.95 sq m 39.719 39.719 sq m 125.236 sq m 125.236 sq m 125.236 sq m 125.033 sq m 135.518 sq m 34.753 sq m 14.487 sq m 49.239 sq m 49.239 sq m 3897.221 sq m	785.892 sq 484.465 sq 785.892 sq 484.465 sq 785.892 sq 677.339 sq 676.566 sq 6448.602 sq 454.512 sq 752.698 sq 347.63 sq 511.294 sq 2066.133 sq 427.529 sq 427.529 sq 1075.036 sq 438.373 sq 1348.024 sq 1345.845 sq 1345.8701 sq 5665.979 sq 374.074 sq 155.932 sq 41949.299 sq 41949.299 sq 0.7

FAR CALCULATION BUILDING #3

STATE TOTAL NUMBER OF INNTS. STATE STA	471.582 sq i 471.965 sq i 471.97 sq i 547.47 sq
100	471.582 sq i 528.619 sq i 2886.529 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 449.002 sq i 526.619 sq i 547.47 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 172.57 sq i
1004	471.582 sq i 471.582 sq i 528.619 sq i 2886.529 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 489.002 sq ii 2648.826 sq ii 547.47 sq i 190.085 sq i 172.57 sq ii 172.5
1004	471.582 sq i 528.619 sq i 2886.529 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 431.965 sq i 489.002 sq i 2648.826 sq i 547.47 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 172.57 sq i
NOTE 100	2886.529 sq i 431.965 sq i 489.002 sq i 2648.826 sq i 547.47 sq i 547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 4735.175 sq i 190.085 sq i 172.57 sq i
1978 1979	431.965 sq i 489.002 sq i 2648.826 sq i 547.47 sq i 547.47 sq i 547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 4735.175 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 172.57 sq i
TOTAL NUMBER OF LANTS TOTAL LOVEL Lord 2 20 40.13	431.965 sq i 489.002 sq i 2648.826 sq i 528.619 sq i 547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 4735.175 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 172.57 sq i
1065	431.965 sq i 431.965 sq i 431.965 sq i 489.002 sq i 2648.826 sq i 528.619 sq i 547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 4735.175 sq i 190.085 sq i 172.57 sq i
### TOTAL 244.05% 5-41 ### TOTAL 244.05%	489.002 sq f 2648.826 sq f 528.619 sq f 547.47 sq f 547.47 sq f 547.47 sq f 460.869 sq f 460.869 sq f 4735.175 sq f 190.085 sq f 172.57 sq f
TOTAL TYPE 243 (7 RPD 1 MPZ/7)	528.619 sq ii 547.47 sq ii 547.47 sq ii 547.47 sq ii 547.47 sq ii 460.869 sq ii 460.869 sq ii 547.47 sq ii 547.47 sq ii 190.085 sq ii 172.57 sq ii
1988 TYPE 3A ISSEM-MEZZ	547.47 sq i 547.47 sq i 547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 547.47 sq i 547.47 sq i 190.085 sq i 172.57 sq i
1098	547.47 sq i 547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 547.47 sq i 547.47 sq i 190.085 sq i 172.57 sq i
1988	547.47 sq i 547.47 sq i 460.869 sq i 460.869 sq i 547.47 sq i 547.47 sq i 4735.175 sq i 190.085 sq i 190.085 sq i 190.085 sq i 190.085 sq i 172.57 sq i
1155 TYPE 20 (2005)—MEZIZ Love 1 50 42.61 10.1146 170 42.61 10.1146 170 42.61 10.1146 170 50.62 10.114	460.869 sq f 460.869 sq f 547.47 sq f 547.47 sq f 4735.175 sq f 190.085 sq f 172.57 sq f
1488	547.47 sq t 547.47 sq t 4735.175 sq t 190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t 172.57 sq t
1076	4735.175 sq t 190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t 172.57 sq t
1078 TYPE 3A MEZANINE Level 15 85 17.66 1008 TYPE 3A MEZANINE Level 15 85 15.032 TYPE 3A MEZANINE Level 15 85 15.032 TYPE 3A MEZANINE Level 15 85 15.032 TYPE 3A MEZANINE Level 15 85 16.032 TYPE 3A MEZANINE Level 15 85 17.66 TYPE 3A MEZANINE Level 15 85 17.66 TYPE 3A MEZANINE Level 15 85 17.66 TYPE 3A MEZANINE Level 15 85 TYPE 3A LEVEL 2 Level 2 85 45.62 TYPE 3A LEVEL 2 Level 2 85 45.63 TYPE 3A LEVEL 2 Level 2 85 54.63 TYPE 3A LEVEL 2 Level 3 85 54.63 TYPE 3A LEVEL	190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t
1988	190.085 sq t 190.085 sq t 190.085 sq t 190.085 sq t 172.57 sq t
11-06	190.085 sq f 190.085 sq f 172.57 sq f
11728 11789 11796 2A MEZZANINE 1189 11796 3A MEZZANINE 11796 3A MEZZANINE 11796 3A MEZZANINE 11796 3A	172.57 sq
1138	
1158	190.085 sq f
1078	190.085 sq 1
1088	1675.737 sq t
1098 TYPE 3A LEVEL 2 Level 2 B3 45,43 1198 TYPE 3A LEVEL 2 Level 2 B3 45,43 1118 TYPE 3A LEVEL 2 Level 2 B3 45,43 1118 TYPE 3A LEVEL 2 Level 2 B3 37,541 1128 TYPE 3A LEVEL 2 Level 2 B3 37,541 1128 TYPE 3A LEVEL 2 Level 2 B3 37,541 1138 TYPE 3A2 LEVEL 2 Level 2 B3 37,541 1148 TYPE 3A LEVEL 2 Level 2 B3 45,43 1159 TYPE 3A LEVEL 2 Level 2 B3 45,43 1159 TYPE 3A LEVEL 2 Level 2 B3 45,43 1159 TYPE 3A LEVEL 2 Level 2 B3 45,43 1159 TYPE 3A LEVEL 2 Level 2 B3 45,43 1159 TYPE 3A LEVEL 2 Level 2 B3 45,43 1159 TYPE 3A LEVEL 2 Level 2 B3 54,438 1159 Level 2 B3 10,560 Level 3 B3 54,438 1159 Level 4 B3 54	489.002 sq t 489.002 sq t
1118 TYPE 3A LEVEL 2 Lovel 2 B3 45-43 179E 3A 124F2 1 Lovel 2 B3 37-941 113B TYPE 3A LEVEL 2 Lovel 2 B3 37-941 113B TYPE 3A LEVEL 2 Lovel 2 B3 37-941 114B TYPE 3A LEVEL 2 Lovel 2 B3 45-43 115B TYPE 3A LEVEL 2 Lovel 2 B3 45-43 115B TYPE 3A LEVEL 2 Lovel 2 B3 45-43 115B TYPE 3A LEVEL 2 Lovel 2 B3 45-43 15B TYPE 3A LEVEL 2 Lovel 2 B3 45-43 15B TYPE 3A LEVEL 2 Lovel 2 B3 45-43 15B TYPE 3B (18ED Lovel 2 B3 56-438 15B S5 15B	489.002 sq t 489.002 sq t
1138	489.002 sq t
TOTAL NUMBER OF UNITS: 9	408.396 sq t 408.396 sq t
2018 TYPE 3K (18ED+DEN) Level 2 B3 81,985 2028 TYPE 3B (18ED) Lovel 2 B3 54,438 302B TYPE 3B (18ED) Level 3 B3 54,438 303B TYPE 3B (18ED) Level 3 B3 54,438 304B TYPE 3B (18ED) Level 3 B3 54,438 304B TYPE 3B (18ED) Level 3 B3 54,438 307B TYPE 3B (18ED) Level 3 B3 54,438 310B TYPE 3B (18ED) Level 3 B3 54,438 312B TYPE 3B (18ED) Level 3 B3 54,438 402B TYPE 3B (18ED) Level 4 B3 54,438 403B TYPE 3B (18ED) Level 4 B3 54,438 403B TYPE 3B (18ED) Level 4 B3 54,438 404B TYPE 3B (18ED) Level 4 B3 54,438 404B TYPE 3B (18ED) Level 4 B3 54,438 410B TYPE 3B (18ED) Level 4 B3 54,438 552B TYPE 3B (18ED) Level 4 B3 68,154 552B TYPE 3B (18ED) Level 4 B3 68,154 552B TYPE 3B (18ED) Level 3 B3 66,279 558B TYPE 3B (18ED) Level 3 B3 66,279 558B TYPE 3B (18ED) Level 4 B3 72,272 558B TYPE 3B (18ED) Level 4 B3 66,279 55B TYPE 3B (18ED) Level 6 B3 79,706 55B TYPE 3B (18ED) Level 6 B3 79,706 55B TYPE 3B (18ED) Level 6 B3 79,706	489.002 sq f 489.002 sq f
2028	4239.806 sq
302B TYPE 3B (18ED) Level 3 B3 54.438 303B TYPE 3B (18ED) Level 3 B3 54.438 304B TYPE 3B (18ED) Level 3 B3 54.438 307B TYPE 3B (18ED) Level 3 B3 54.438 310B TYPE 3B (18ED) Level 3 B3 54.438 310B TYPE 3B (18ED) Level 3 B3 54.438 312B TYPE 3B (18ED) Level 3 B3 54.438 402B TYPE 3B (18ED) Level 4 B3 54.438 402B TYPE 3B (18ED) Level 4 B3 54.438 403B TYPE 3B (18ED) Level 4 B3 54.438 404B TYPE 3B (18ED) Level 4 B3 54.438 404B TYPE 3B (18ED) Level 4 B3 54.438 407B TYPE 3B (18ED) Level 4 B3 54.438 410B TYPE 3B (18ED) Level 4 B3 54.438 412B TYPE 3B (18ED) Level 6 B3 54.438 412B TYPE 3B (18ED) Level 6 B3 54.438 502B TYPE 3B (18ED) Level 6 B3 54.438 502B TYPE 3B (18ED) Level 6 B3 54.438 502B TYPE 3B (18ED) Level 6 B3 68.154 305B TYPE 3B (28ED) Level 3 B3 72.672 305B TYPE 3B (28ED) Level 3 B3 72.672 305B TYPE 3B (28ED) Level 3 B3 66.279 305B TYPE 3B (28ED) Level 3 B3 66.279 305B TYPE 3B (28ED) Level 3 B3 66.279 311B TYPE 3H (28ED) Level 4 B3 66.279 311B TYPE 3H (28ED) Level 6 B3 79.706 311B TYPE 3F (28ED) Level 6 B3 79.706	882.48 sq
3038	585.969 sq f 585.969 sq f
307B TYPE 3B (1BED) Level 3 B3 54.438 310B TYPE 3B (1BED) Level 3 B3 54.438 312B TYPE 3B (1BED) Level 3 B3 54.438 402B TYPE 3B (1BED) Level 4 B3 54.438 402B TYPE 3B (1BED) Level 4 B3 54.438 403B TYPE 3B (1BED) Level 4 B3 54.438 404B TYPE 3B (1BED) Level 4 B3 54.438 404B TYPE 3B (1BED) Level 4 B3 54.438 407B TYPE 3B (1BED) Level 4 B3 54.438 410B TYPE 3B (1BED) Level 5 B3 54.438 502B TYPE 3B (1BED) Level 5 B3 54.438 502B TYPE 3B (1BED) Level 6 B3 54.438 TOTAL NUMBER OF UNITS: 16 TOTAL SP8.561 sq m TOTAL SP	585.969 sq t
312B TYPE 3B (1BED) Level 3 B 54.438 402B TYPE 3B (1BED) Level 4 B 554.438 403B TYPE 3B (1BED) Level 4 B 554.438 404B TYPE 3B (1BED) Level 4 B 554.438 404B TYPE 3B (1BED) Level 4 B 554.438 407B TYPE 3B (1BED) Level 4 B 554.438 407B TYPE 3B (1BED) Level 4 B 554.438 410B TYPE 3B (1BED) Level 4 B 554.438 410B TYPE 3B (1BED) Level 4 B 554.438 412B TYPE 3B (1BED) Level 5 B 54.438 502B TYPE 3B (1BED) Level 6 B 554.438 TOTAL NUMBER OF UNITS: 16 TOTAL S98.561 sq m TOTAL S98.561 sq m TYPE 3H (2BED) Level 3 B 368.154 305B TYPE 3H (2BED) Level 3 B 373.22 306B TYPE 3H (2BED) Level 3 B 366.279 309B TYPE 3H (2BED) Level 3 B 366.279 309B TYPE 3H (2BED) Level 3 B 366.279 311B TYPE 3H (2BED) Level 3 B 364.493 401B TYPE 3H (2BED) Level 3 B 364.493 401B TYPE 3H (2BED) Level 4 B 364.493 401B TYPE 3H (2BED) Level 4 B 366.279 406B TYPE 3D (2BED) Level 4 B 366.279 406B TYPE 3D (2BED) Level 4 B 366.279 406B TYPE 3D (2BED) Level 4 B 366.279 408B TYPE 3H (2BED) Level 4 B 366.279 411B TYPE 3H (2BED) Level 6 B 379.706 601B TYPE 3F (2BED) Level 6 B 379.706	585.969 sq t
### ### ##############################	585.969 sq t 585.969 sq t
4048	585.969 sq t 585.969 sq t
A 10B	585.969 sq t
Type 3B (1BED)	585.969 sq f
TOTAL NUMBER OF UNITS: 16 TOTAL: 898.561 sq m 203B TYPE 3H (2BED) Level 2 B3 64.493 301B TYPE 3H2 (2BED) Level 3 B3 68.154 305B TYPE 3I (2BED) Level 3 B3 72.672 306B TYPE 3D (2BED) Level 3 B3 66.279 309B TYPE 3H1 (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 64.493 401B TYPE 3H (2BED) Level 4 B3 64.493 401B TYPE 3H2 (2BED) Level 4 B3 68.154 405B TYPE 3H2 (2BED) Level 4 B3 72.672 406B TYPE 3D (2BED) Level 4 B3 72.672 408B TYPE 3D (2BED) Level 4 B3 73.22 408B TYPE 3H (2BED) Level 4 B3 66.279 409B TYPE 3H (2BED) Level 4 B3 66.279 409B TYPE 3H (2BED) Level 4 B3 66.279 411B TYPE 3H (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	585.969 sq f
203B TYPE 3H (2BED) Level 2 B3 64.493 301B TYPE 3H2 (2BED) Level 3 B3 68.154 305B TYPE 3I (2BED) Level 3 B3 72.672 306B TYPE 3D (2BED) Level 3 B3 73.22 308B TYPE 3H1 (2BED) Level 3 B3 66.279 309B TYPE 3H1 (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 64.493 401B TYPE 3H (2BED) Level 4 B3 64.493 401B TYPE 3H (2BED) Level 4 B3 72.672 406B TYPE 3I (2BED) Level 4 B3 73.22 406B TYPE 3D (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3H (2BED) Level 4 B3 64.493 507B TYPE 3H (2BED) Level 6 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	585.969 sq t
301B TYPE 3H2 (2BED) Level 3 B3 68.154 305B TYPE 3I (2BED) Level 3 B3 72.672 306B TYPE 3D (2BED) Level 3 B3 73.22 308B TYPE 3H1 (2BED) Level 3 B3 66.279 309B TYPE 3H1 (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 66.279 311B TYPE 3H (2BED) Level 3 B3 64.493 401B TYPE 3H (2BED) Level 4 B3 68.154 405B TYPE 3H2 (2BED) Level 4 B3 72.672 406B TYPE 3I (2BED) Level 4 B3 73.22 406B TYPE 3H (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 64.493 507B TYPE 3J (2BED) Level 4 B3 64.493 507B TYPE 3J (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	9672.016 sq t
306B TYPE 3D (2BED) Level 3 B3 73.22 308B TYPE 3H1 (2BED) Level 3 B3 66.279 309B TYPE 3H1 (2BED) Level 3 B3 66.279 311B TYPE 3J (2BED) Level 3 B3 87.14 313B TYPE 3H (2BED) Level 3 B3 64.493 401B TYPE 3H2 (2BED) Level 4 B3 68.154 405B TYPE 3I (2BED) Level 4 B3 72.672 406B TYPE 3D (2BED) Level 4 B3 73.22 408B TYPE 3H1 (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 67.14 601B TYPE 3J (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	694.196 sq f 733.604 sq f
309B TYPE 3H1 (2BED) Level 3 B3 66.279 311B TYPE 3J (2BED) Level 3 B3 87.14 313B TYPE 3H (2BED) Level 3 B3 64.493 401B TYPE 3H2 (2BED) Level 4 B3 68.154 405B TYPE 3I (2BED) Level 4 B3 72.672 406B TYPE 3D (2BED) Level 4 B3 73.22 408B TYPE 3H1 (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3J (2BED) Level 4 B3 64.493 507B TYPE 3J (2BED) Level 5 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	782.238 sq f 788.13 sq f
311B TYPE 3J (2BED) Level 3 B3 87.14 313B TYPE 3H (2BED) Level 3 B3 64.493 401B TYPE 3H2 (2BED) Level 4 B3 68.154 405B TYPE 3I (2BED) Level 4 B3 72.672 406B TYPE 3D (2BED) Level 4 B3 73.22 408B TYPE 3H1 (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3H (2BED) Level 4 B3 87.14 413B TYPE 3H (2BED) Level 4 B3 64.493 507B TYPE 3J (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	713.424 sq f 713.424 sq f
401B TYPE 3H2 (2BED) Level 4 B3 68.154 405B TYPE 3I (2BED) Level 4 B3 72.672 406B TYPE 3D (2BED) Level 4 B3 73.22 408B TYPE 3H1 (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3J (2BED) Level 4 B3 87.14 601B TYPE 3J (2BED) Level 5 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706	937.965 sq t 694.196 sq t
406B TYPE 3D (2BED) Level 4 B3 73.22 408B TYPE 3H1 (2BED) Level 4 B3 66.279 409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3H (2BED) Level 4 B3 87.14 507B TYPE 3J (2BED) Level 5 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	733.604 sq f
409B TYPE 3H1 (2BED) Level 4 B3 66.279 411B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3H (2BED) Level 4 B3 64.493 507B TYPE 3J (2BED) Level 5 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	782.238 sq t 788.13 sq t
411B TYPE 3J (2BED) Level 4 B3 87.14 413B TYPE 3H (2BED) Level 4 B3 64.493 507B TYPE 3J (2BED) Level 5 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	713.424 sq t 713.424 sq t
507B TYPE 3J (2BED) Level 5 B3 87.14 601B TYPE 3F (2BED) Level 6 B3 79.706 603B TYPE 3F (2BED) Level 6 B3 79.706	937.965 sq t 694.196 sq t
603B TYPE 3F (2BED) Level 6 B3 79.706	937.965 sq t 857.949 sq t
COAD	857.949 sq f
604B TYPE 3F3 (2BED) Level 6 B3 77.441 605B TYPE 3F4 (2BED) Level 6 B3 76.644	833.568 sq t 824.985 sq t
606B TYPE 3F2 (2BED) Level 6 B3 78.33 607B TYPE 3J (2BED) Level 6 B3 87.14	843.134 sq t 937.965 sq t
608B TYPE 3F1 (2BED) Level 6 B3 76.957	828.357 sq t
TOTAL NUMBER OF UNITS: 23 TOTAL: 1704.032 sq m 501B TYPE 3E (3BED) Level 5 B3 101.017	18342.032 sq
503B TYPE 3E2 (3BED) Level 5 B3 98.657	1087.342 sq t
504B TYPE 3E2 (3BED) Level 5 B3 98.657 505B TYPE 3E3 (3BED) Level 5 B3 96.012	1061.934 sq t 1033.46 sq t
506B TYPE 3E4 (3BED) Level 5 B3 103.058 508B TYPE 3E1 (3BED) Level 5 B3 96.187	1109.302 sq f 1035.343 sq f
6 TOTAL: 593.587 sq m	6389.316 sq t
Σ TOTAL NUMBERS OF UNITS: 60	
100B-A LEVEL 1 B3 CIRCULATION Level 1 B3 173.778 sq m 200B LEVEL 2 B3 CIRCULATION Level 2 B3 125.729 sq m	1870.531 sq t 1353.33 sq t
300B	1570.527 sq
500B LEVEL 5 B3 CIRCULATION Level 5 B3 154.495 sq m	1570.527 sq t 1662.97 sq t
22.22.020.0002.0000	1330.873 sq f
100B-B LEVEL 1 B3 AMENITY Level 1 B3 163.054 sq m	9358.756 sq t
TOTAL: 163.054 sq m	
Σ TOTAL AREA: 5732.429 sq m	1755.099 sad
GROSS FLOOR AREA: 5732.429 sq m	1755.099 sq t
GROSS FLOOR FAR: 1.07	61703.292 sq
RESIDENTIAL FLOOR AREA: 4699.917 sq m GROSS FLOOR RESIDENTIAL FAR: 0.88	



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WR-NBR-2

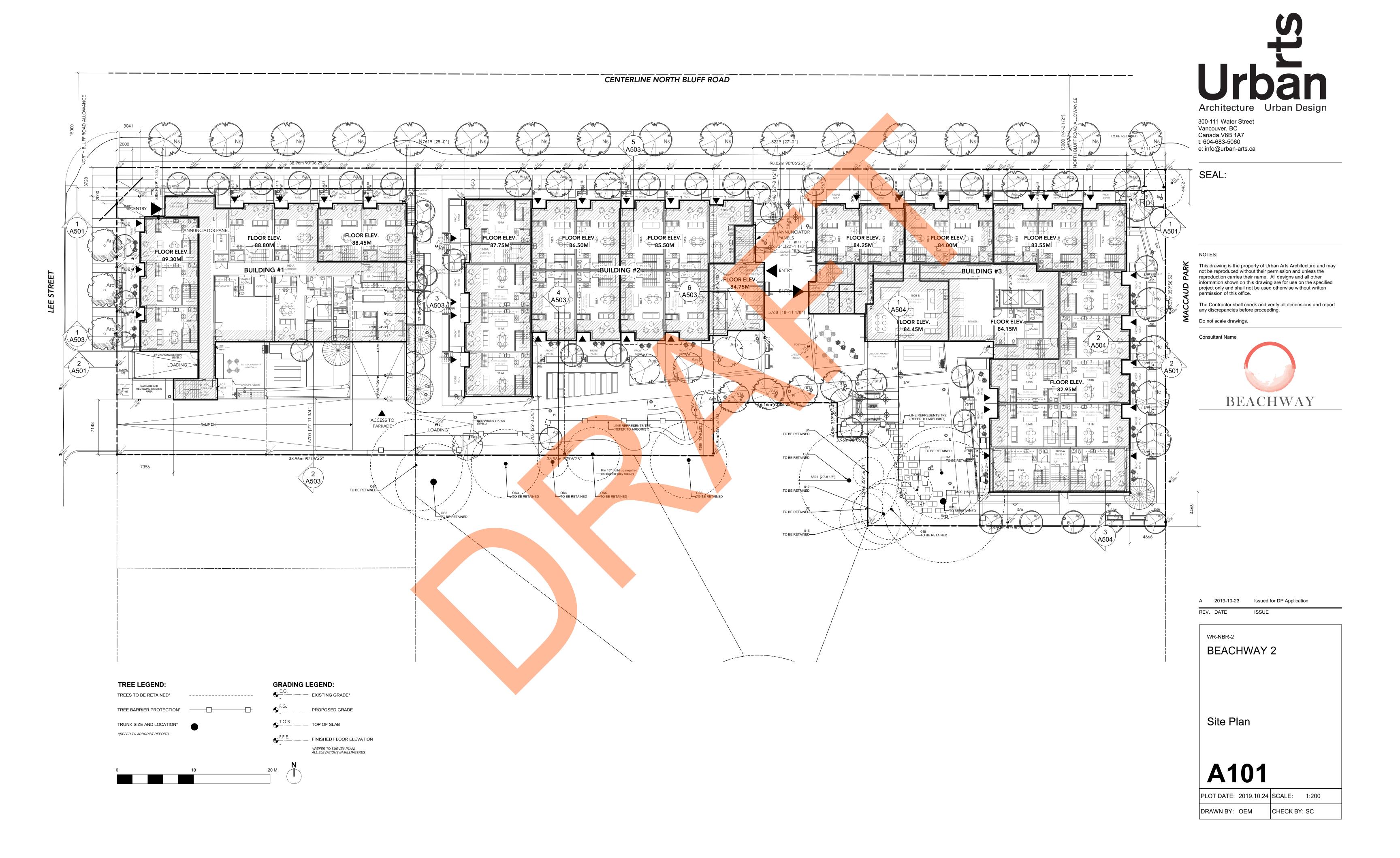
BEACHWAY 2

Information Data 2 FAR per building

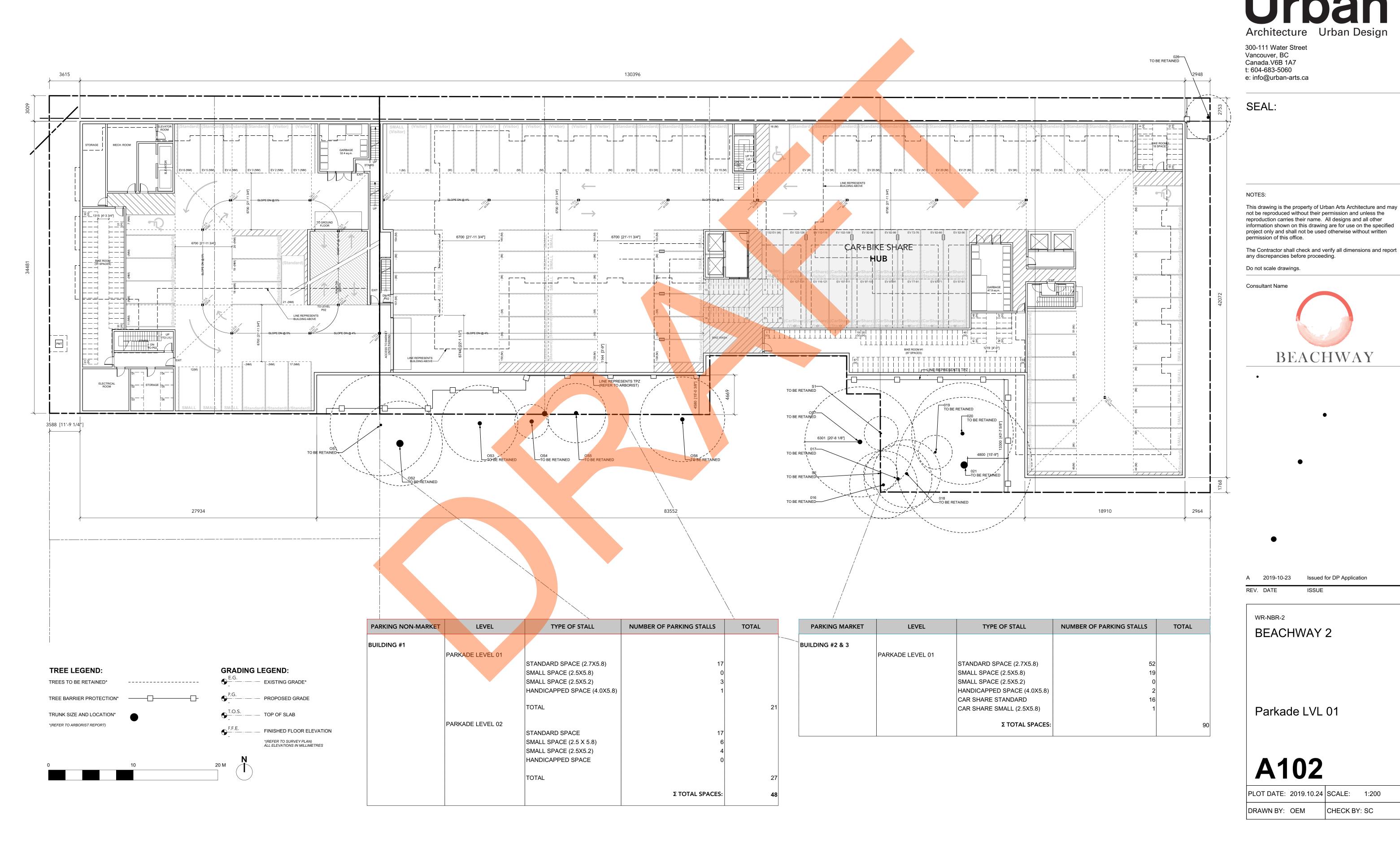
A002

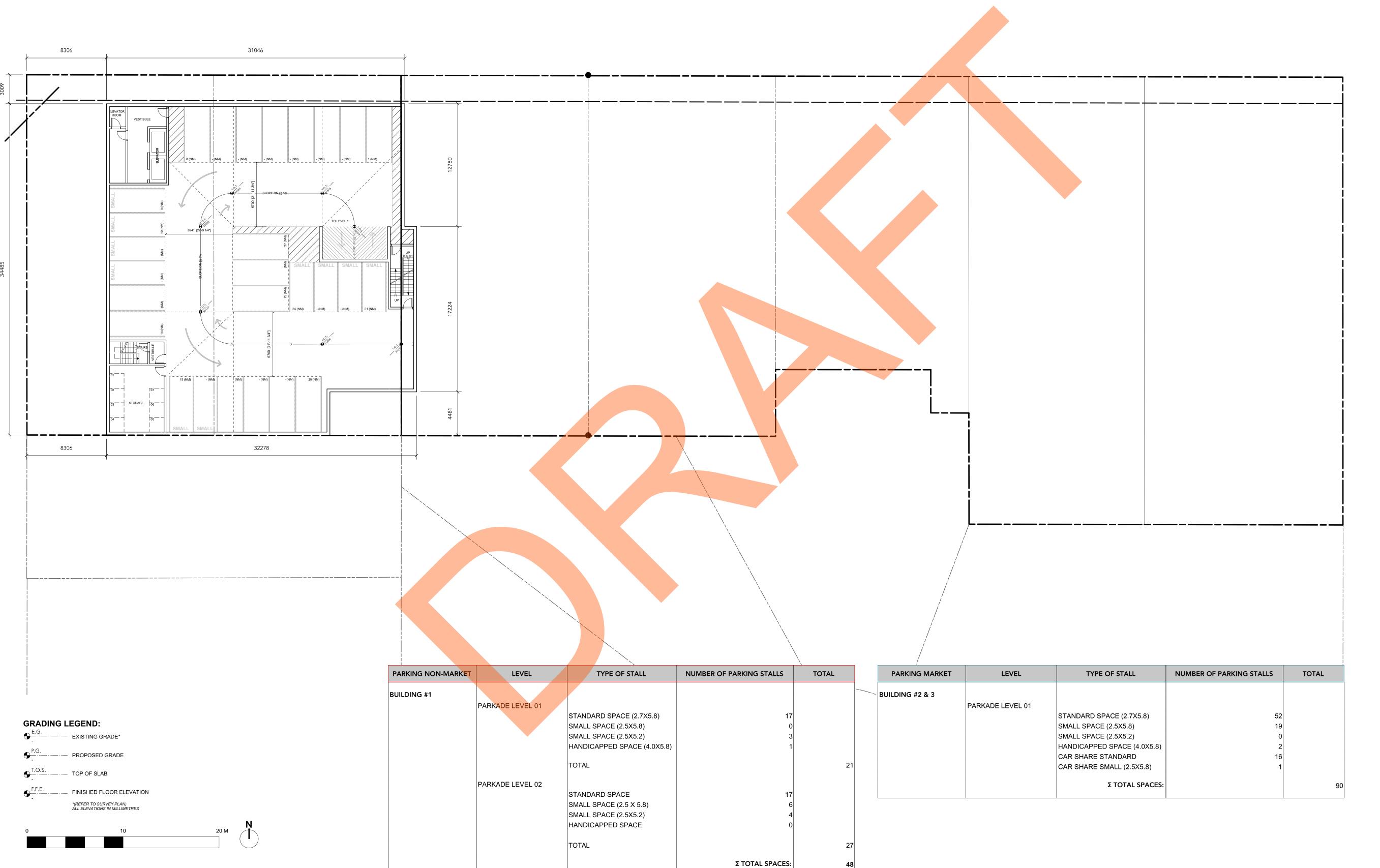
PLOT DATE: 2019.10.24 SCALE: NTS

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NORTH BLUFF ROAD







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WR-NBR-2

BEACHWAY 2

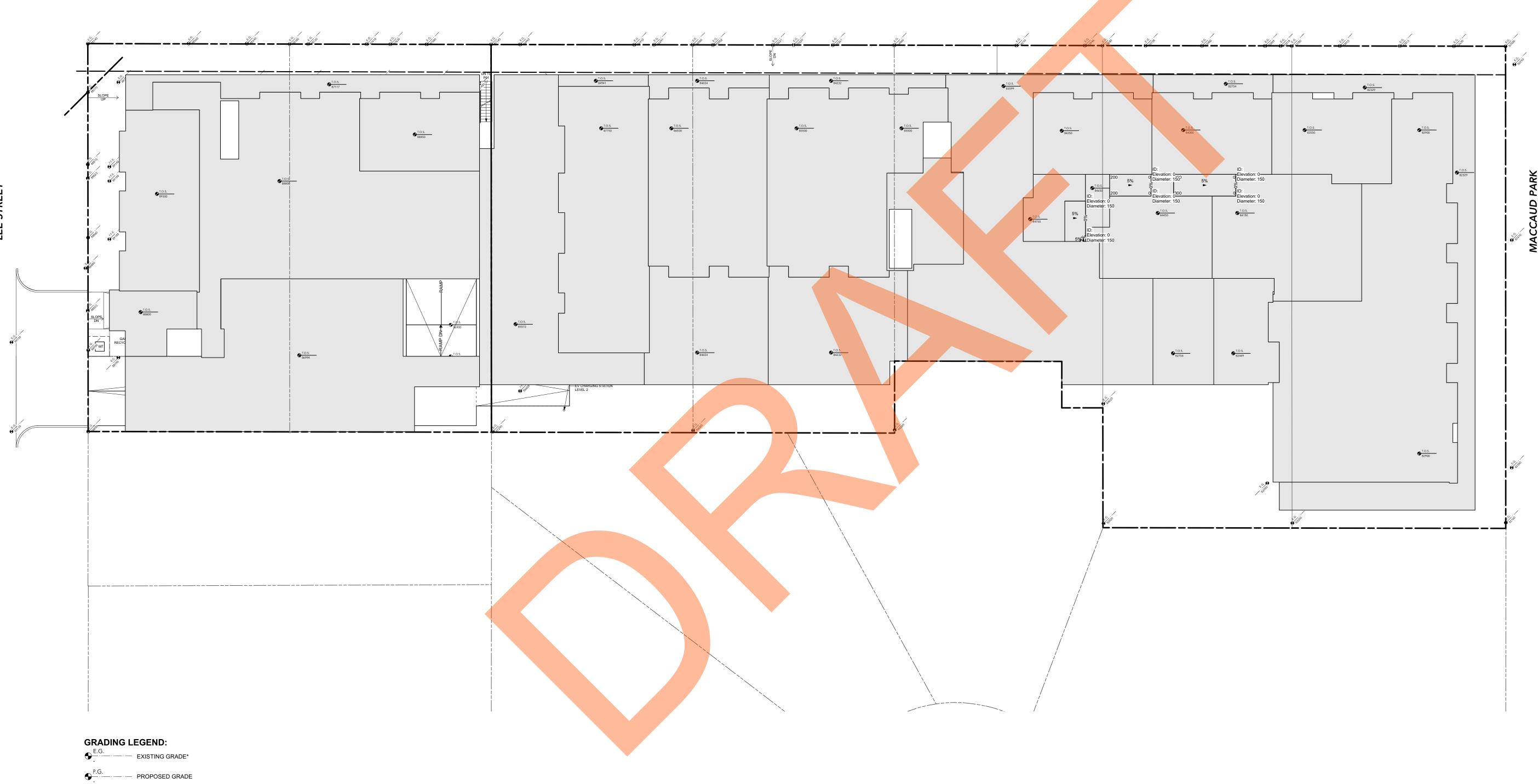
Parkade LVL 02.0

A103

PLOT DATE: 2019.10.24 SCALE: 1:200

DRAWN BY: OEM

CENTERLINE NORTH BLUFF ROAD



T.O.S. TOP OF SLAB

F.F.E. FINISHED FLOOR ELEVATION

*(REFER TO SURVEY PLAN) ALL ELEVATIONS IN MILLIMETRES Urban

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BEACHWAY 2

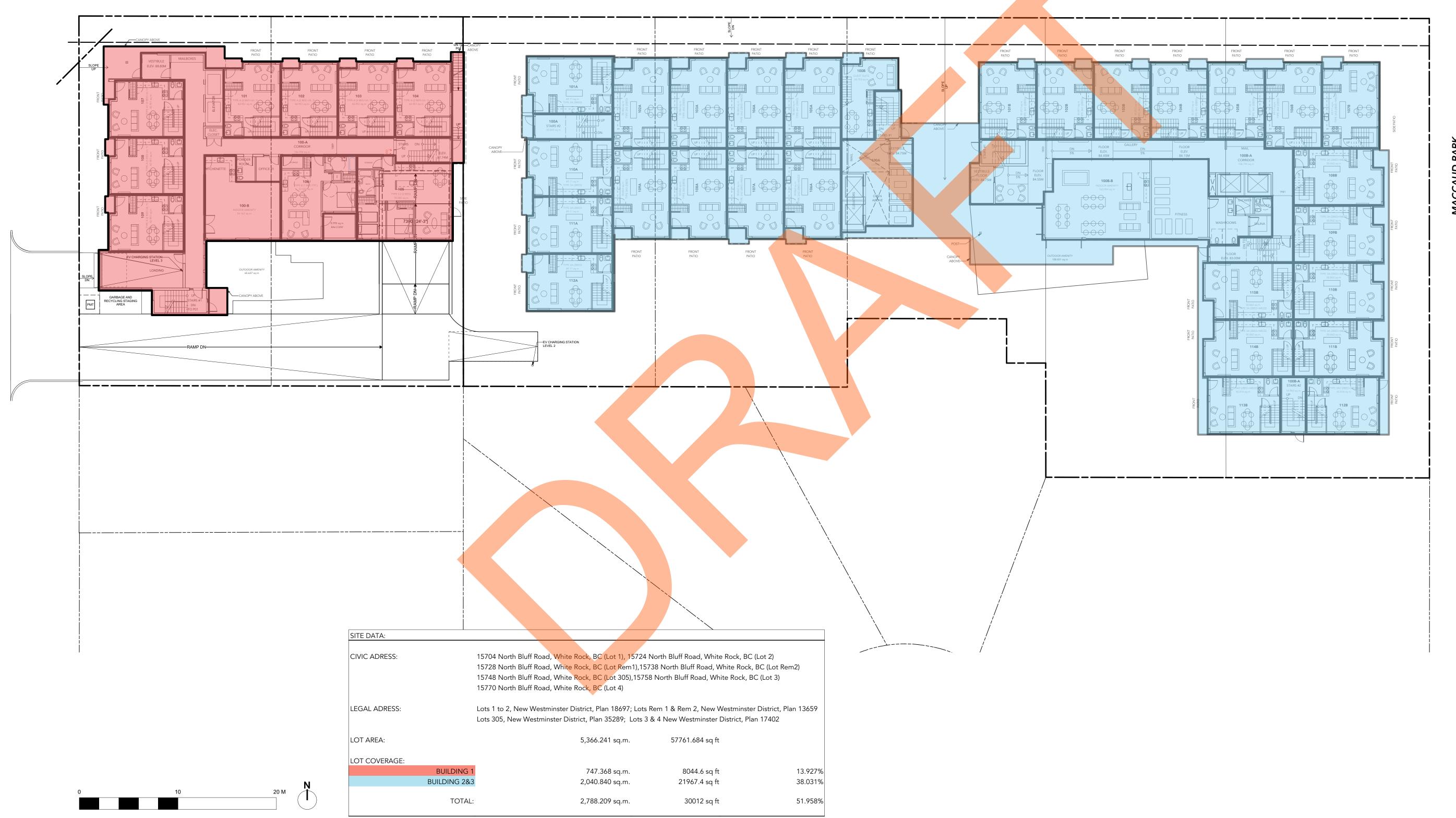
Preliminary slab plan

A105

PLOT DATE: 2019.10.24 SCALE: 1:200

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CENTERLINE NORTH BLUFF ROAD





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BEACHWAY 2

Site Plan Coverage

A106

PLOT DATE: 2019.10.24 SCALE: 1:200

DRAWN BY: OEM

Appendix B Beachway 1 Draft Traffic Impact Assessment



Date: 19 December 2018

Our File No: 5935-01

BY EMAIL

Mr. Raghbir Gurm 1168620 BC Limited 13063 56 Ave Surrey BC V3X2Z3

Dear Mr. Gurm,

Re: Traffic Impact Assessment Study – Beachway Residential Development White Rock, BC

Creative Transportation Solutions Ltd. (CTS) is pleased to submit this *DRAFT* report summarising our work on the above study. CTS was retained by **Mr. Raghbir Gurm** on 9 October 2018 to undertake a traffic impact study for a residential townhouse and condominium development at Maple Street, Lee Street, and North Bluff Road in the City of White Rock, BC. The primary objectives of this study are as follows:

- 1. To conduct a traffic impact assessment of the proposed development; and,
- 2. To document the analyses, findings and recommendations in a report that satisfies that requirements of the City of White Rock.

This report documents our analyses and findings.

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1.0 BACKGROUND

1.1 The Site

It is being proposed to build a residential development at the following addresses in White Rock, BC:

- 15654 North Bluff Road
- 15664 North Bluff Road
- 15674 North Bluff Road
- 1593 Lee Street
- 1580 Maple Street
- 1570 Maple Street

The current zoning is RS-1 (One Unit Residential Zone) and the site is located in the east side large-lot infill redevelopment area (Please see FIGURE 1). The development area is noted in the City of White Rock OCP as a potential affordable market housing. A section of the property is noted as suitable for Small Lot & Street-Front Townhouse, and the remaining section is noted as suitable for Multi-Unit Residential (Low Density).

FIGURE 1 SITE CONTEXT





The residential development is proposed to be rezoned as a comprehensive development and will have 14 townhouse units and 76 condominium units for a total of 90 dwelling units. 25 of the condominium units will be non-market rental.

Access to the site is proposed via a driveway on Maple Street and a driveway on Lee Street. For the purposes of this study, development was assumed to be completed and fully occupied by 2020.

The study area and the existing roadways are illustrated in **FIGURE 2**. The referenced site plan is included in **APPENDIX A**.

FIGURE 2
STUDY AREA AND INTERSECTIONS





1.2 Site Visit / Road Network

A site visit was conducted in order to document current conditions. The following road network characteristics were confirmed.

North Bluff Road / 16th Avenue

- East-west arterial
- Centerline forms the municipal boundary between City of White Rock and City of Surrey.
- Four lanes.
- Truck Route.
- No Stopping on north side. 'Permit Parking Only' on south side.
- Concrete curb and gutter along both sides of the road.
- Street lighting.

Russell Avenue

- East / west primary collector
- Two lanes two through lanes with two parking lanes.
- 'Permit parking Only' on both sides
- Concrete curb and gutter along both sides of the road.
- Street lighting.

Lee Street

- North / south neighborhood local road.
- Two lanes.
- 'Permit parking Only' on both sides
- No curb or gutter.
- Street Lighting.

Maple Street

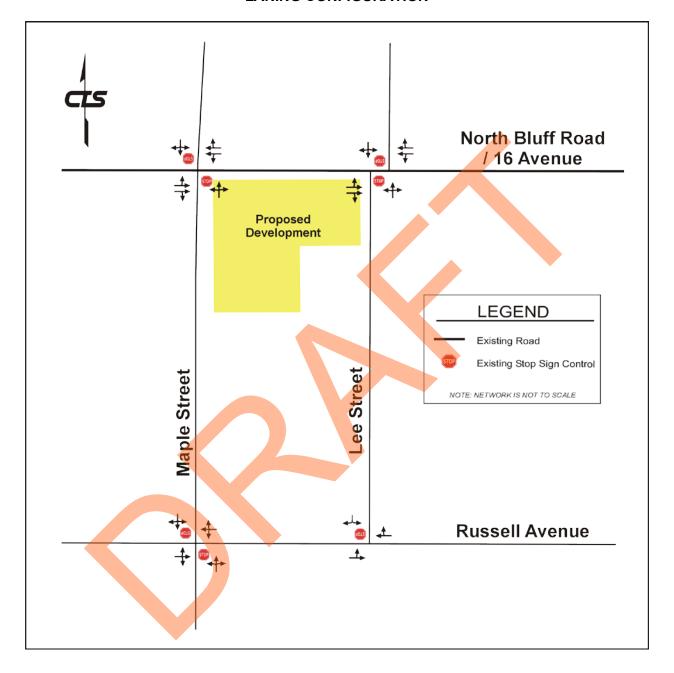
- North / south neighborhood local road.
- Two lanes.
- 'Permit parking Only' on both sides
- No curb or gutter.
- Street Lighting.

The laning configuration for the study intersections are illustrated in FIGURE 3.

It should be noted that due to the proximity of Peace Arch Hospital, on-street parking management is a key traffic management element for the City of White Rock.



FIGURE 3
LANING CONFIGURATION





1.3 Scope of Work

CTS selected the weekday morning and afternoon peak hours as the design hours of analysis for this study as they represent the peak trip generation period for a residential development.

The following scenarios were used in this traffic impact assessment:

- 1. 2018 (i.e. existing base)
- 2. 2020 (future base)
- 3. 2030 (future base)
- 4. 2020 (future base + site generated)





2.0 BASE TRAFFIC VOLUMES

2018 Base Traffic Volumes

CTS conducted turning movement counts from 07:00 to 09:00, and 15:00 to 18:00 to document the typical weekday peak hour traffic volume for the following intersections on the following dates:

- Lee Street and North Bluff Road (Thursday, November 8th, 2018);
- Lee Street and Russell Avenue (Thursday, November 8th, 2018);
- Maple Street and North Bluff Road (Friday, September 22th, 2017); and
- Maple Street and Russell Avenue (Friday, September 22th, 2017)

The traffic count data was summarized and reviewed to ensure data integrity and validity. The summarized traffic data sheets are included in **APPENDIX B**.

The 2017 base traffic volumes were factored up by a traffic volume growth rate of 2.0% to represent base year 2018 volumes.

From the collected data, the weekday morning peak hour was determined to occur from 7:45 to 8:45 and the afternoon peak hour was determined to occur from 15:00 to 16:00.

The 2018 base traffic volumes for the weekday morning and afternoon peak hours are illustrated in **FIGURE 4** and **FIGURE 5** respectively.

2020 Future Base Traffic Volumes

2020 is anticipated to be the year of full buildout for the proposed development. The 2018 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent base year 2020 volumes.

FIGURE 6 and FIGURE 7 illustrate the weekday morning and afternoon peak hour vehicle volumes, respectively.

2030 Future Base Traffic Volumes

2030 is ten years after the anticipated year of full buildout for the proposed development, and is a scenario requested by the City of White Rock. The 2018 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent base year 2030 volumes.

FIGURE 8 and FIGURE 9 illustrate the weekday morning and afternoon peak hour vehicle volumes, respectively.



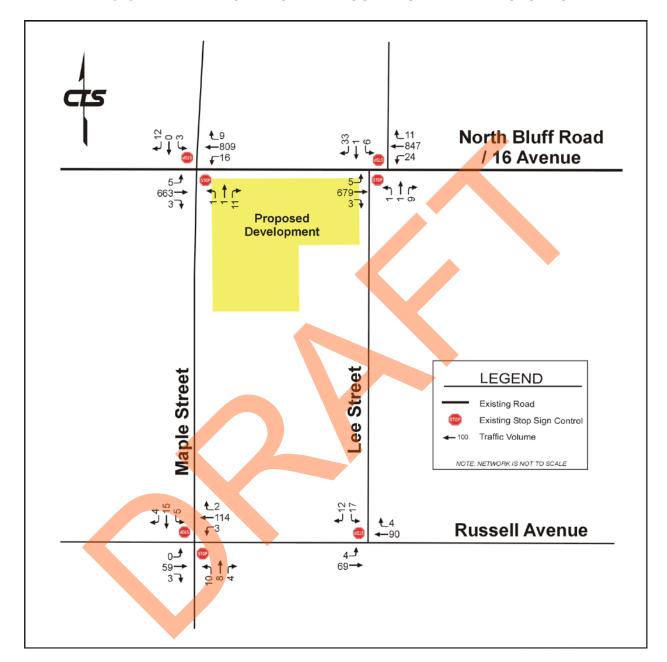


FIGURE 4
2018 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES



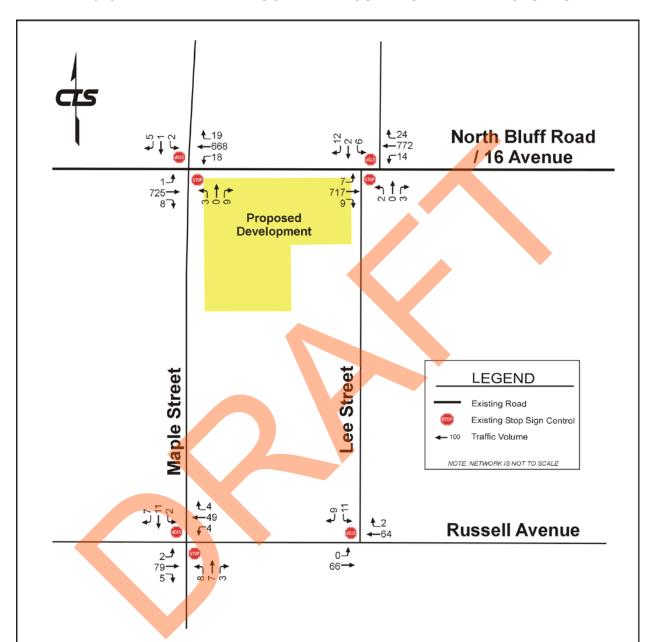


FIGURE 5
2018 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES



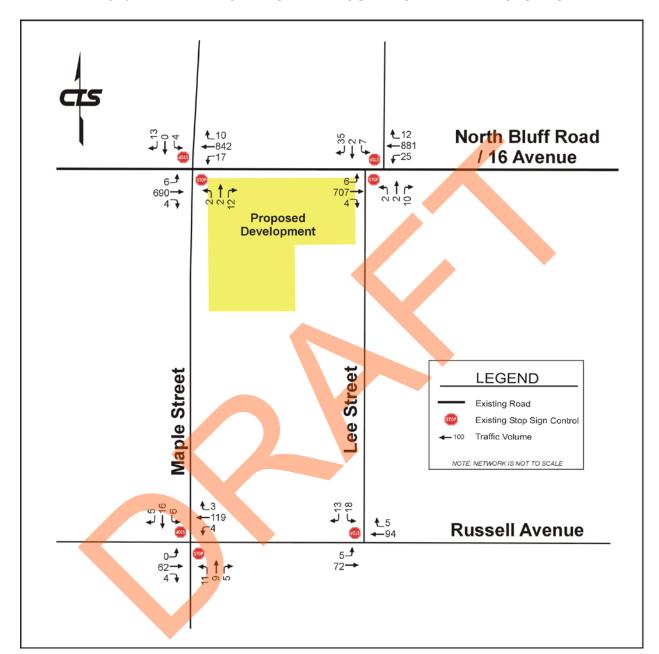


FIGURE 6
2020 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES



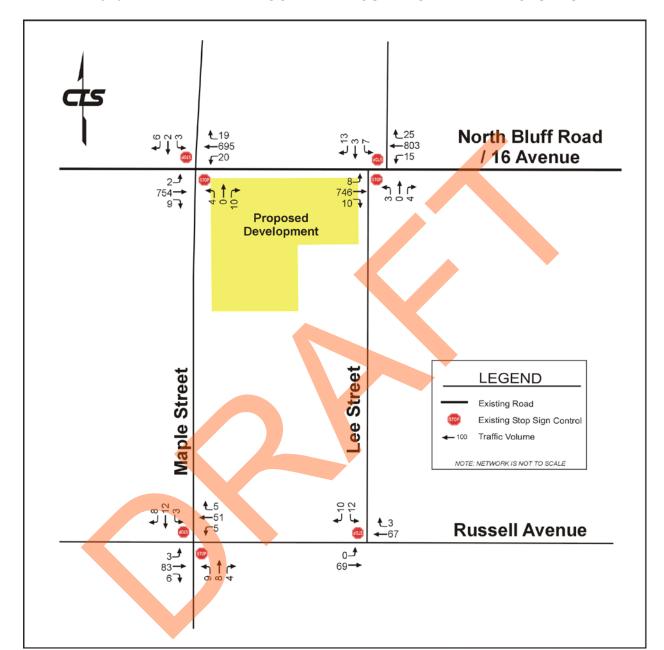


FIGURE 7
2020 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES



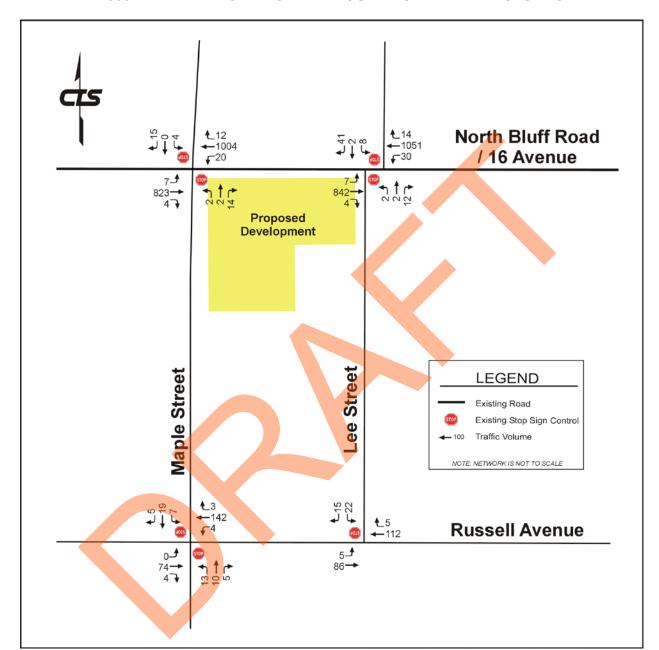


FIGURE 8
2030 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES



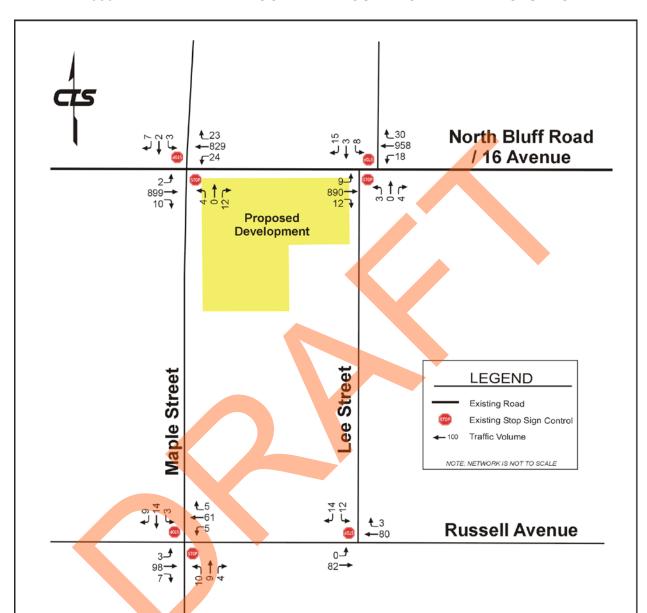


FIGURE 9
2030 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES



3.0 SITE TRAFFIC VOLUMES

3.1 Trip Generation

The published vehicle trip rates from the Institute of Transportation Engineers (ITE) 10th Edition were used to forecast the site generated traffic volumes. **TABLE 1** summarizes the forecast site generated traffic for the proposed residential development.

TABLE 1
SUMMARY OF SITE GENERATED TRAFFIC

Land Use	Peak Hour	Trip Generation	Scope of	Vehicle Trip Generation	Trip Rate Source	Directi	onal Split	Peak Hour Volumes (vph)		
		Variable	Development	Rate	Source	% in	% out	in	out	total
Multifamily Housing (Mid-Rise)	Moming Peak	Dwelling Units	14.00	0.36	ITE 10th Edition -	26%	74%	1	4	5
Townhomes	Afternoon Peak	Dwelling Office	14.00	0.44	Code 221	61%	39%	3	3	6
Multifamily Housing (Mid-Rise)	Moming Peak	Dwelling Units	76.00	0.36	ITE 10th Edition -	26%	74%	7	21	28
Condominium	Afternoon Peak	Dwelling Office	70.00	0.44	Code 221	61%	39%	20	14	34
Total		N	Norning Peak H	26%	74%	8	25	33		
Total			Afternoon Peak He	61%	39%	23	17	40		

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). The Vehicle Trip Generation Rate was selected using the General Urban/Suburban setting.

From **TABLE 1**, the site is forecasted to generate a total of 33 vehicle trips (8 inbound, and 25 outbound) during the weekday morning peak hour and 40 vehicle trips (23 inbound and 17 outbound) during the weekday afternoon peak hour.

The morning peak hour volume is equivalent to 1 vehicle movement approximately every 2.8 minutes. The afternoon peak hour volume is equivalent to 1 vehicle movement approximately every 1.5 minutes.

For reference, the Ministry of Transportation and Infrastructure threshold for undertaking traffic impact assessments is site vehicle trip generation in excess of 100 vehicle trips in any hour.

3.2 Trip Distribution

The trip distribution parameters for distributing site generated vehicle trips to / from the site were developed from existing traffic patterns entering and exiting the study area for the afternoon peak hour. The traffic volume assignment is summarized in **TABLE 2**.



TABLE 2
TRIP DISTRIBUTION VEHICLE VOLUMES
FOR SITE GENERATED TRAFFIC

FROM / TO	WEEKDAY AI INBOUND	M PEAK HOUR OUTBOUND	WEEKDAY PM PEAK HOUR INBOUND OUTBOUND					
Lee St (N)	0	0	0	0				
Maple St (N)	0	0	0	0				
Maple St (S)	0	0	0	0				
North Bluff Rd (E)	4	10	11	8				
North Bluff Rd (W)	4	12	10	7				
Russell Ave (E)	0	1	1	1				
Russell Ave (W)	0	2	1	1				
TOTAL	8	25	23	17				
IOIAL	3	33	4	0				

3.3 Traffic Assignment

The additional vehicle trips generated from the development were subsequently assigned to the road network using the trip distribution parameters in **TABLE 2**. **FIGURE 10** and **FIGURE 11** illustrate the <u>site</u> generated traffic volumes on the road network for the weekday morning and afternoon peak hours.

It is noted that the access off of Maple Street is for parking for the townhouses, and access off of Lee Street is for parking in the condominiums. Driveway usage is based on the proportional trip generation of each of these land uses as previously noted in **TABLE 1**.



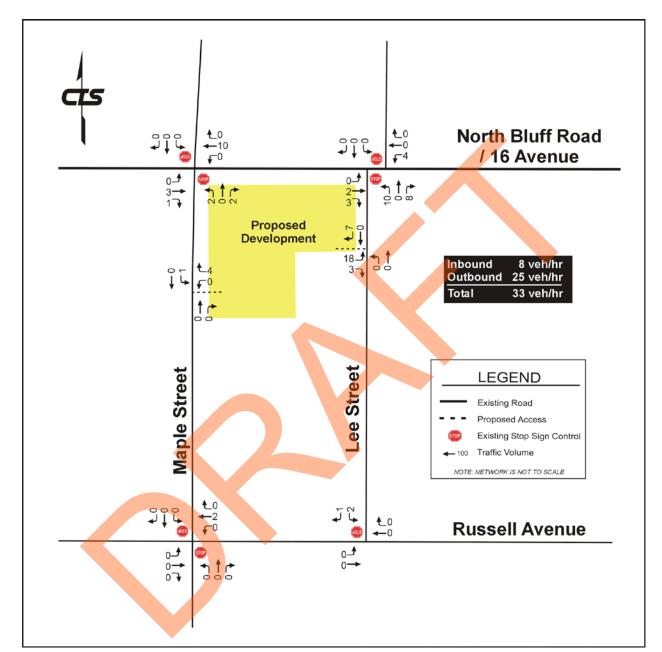


FIGURE 10 SITE TRAFFIC VOLUMES FOR THE WEEKDAY MORNING PEAK HOUR



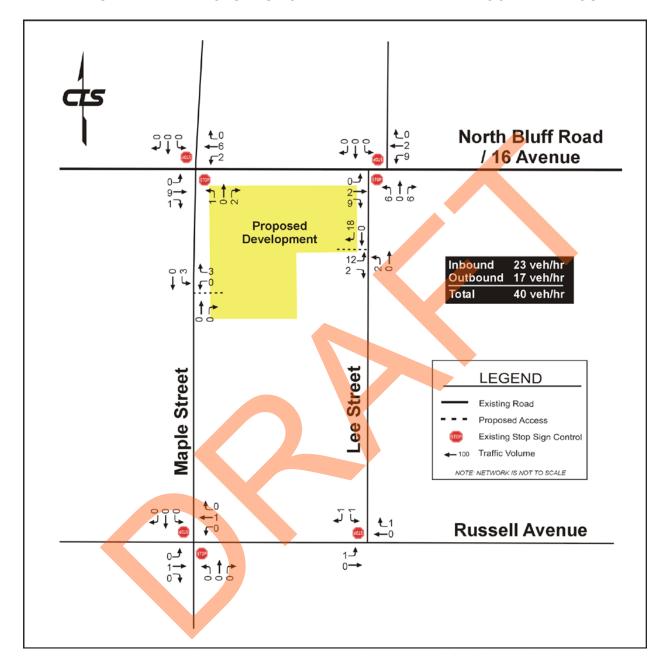


FIGURE 11
SITE TRAFFIC VOLUMES FOR THE WEEKDAY AFTERNOON PEAK HOUR



4.0 TOTAL PROJECTED TRAFFIC VOLUMES

FIGURE 12 illustrates the total projected traffic for the year <u>2020</u> weekday morning peak hour consisting of both future base and site traffic resulting from the proposed development. It is the result of superimposing **FIGURE 10** onto **FIGURE 6**.

FIGURE 13 illustrates the total projected traffic for the year <u>2020</u> weekday afternoon peak hour consisting of both future base and site traffic resulting from the proposed development. It is the result of superimposing **FIGURE 11** onto **FIGURE 7**.

FIGURE 14 illustrates the total projected traffic for the year 2030 weekday morning peak hour consisting of both future base and site traffic resulting from the proposed development. It is the result of superimposing FIGURE 10 onto Figure 8.

FIGURE 15 illustrates the total projected traffic for the year <u>2030</u> weekday afternoon peak hour consisting of both future base and site traffic resulting from the proposed development. It is the result of superimposing **FIGURE 11** onto **Figure 9**.





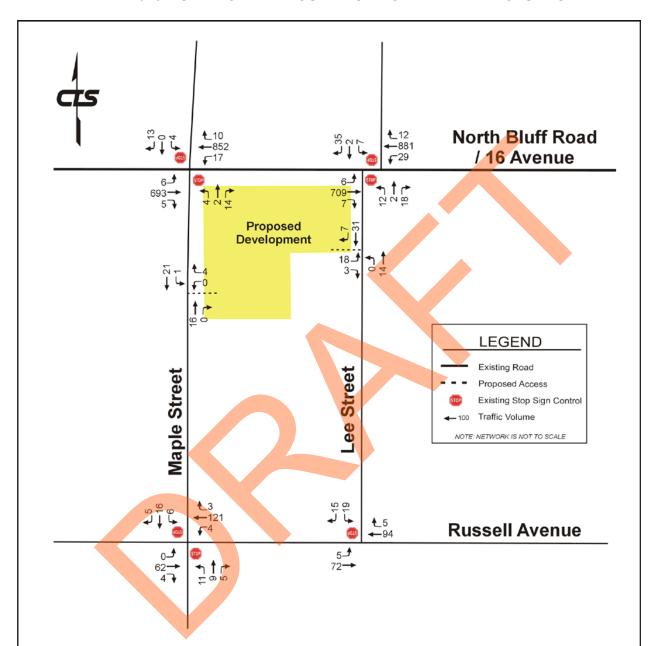


FIGURE 12 2020 MORNING PEAK HOUR BASE + SITE TRAFFIC VOLUMES



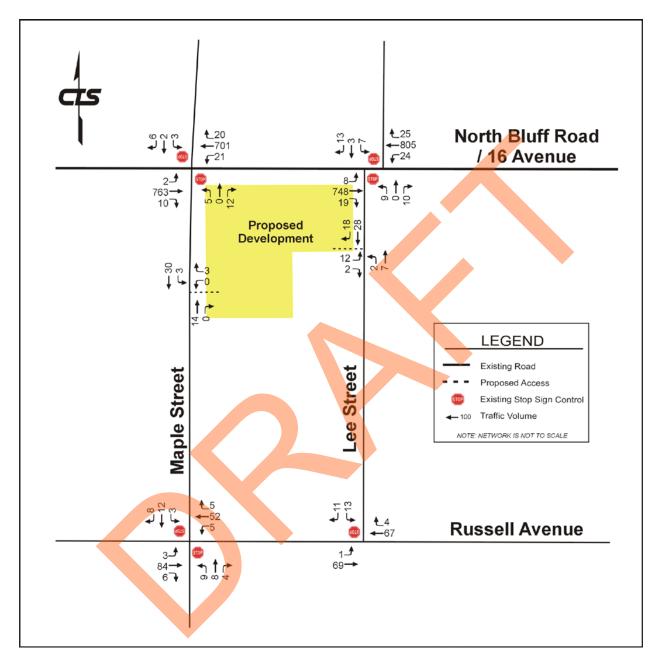


FIGURE 13 2020 AFTERNOON PEAK HOUR BASE + SITE TRAFFIC VOLUMES



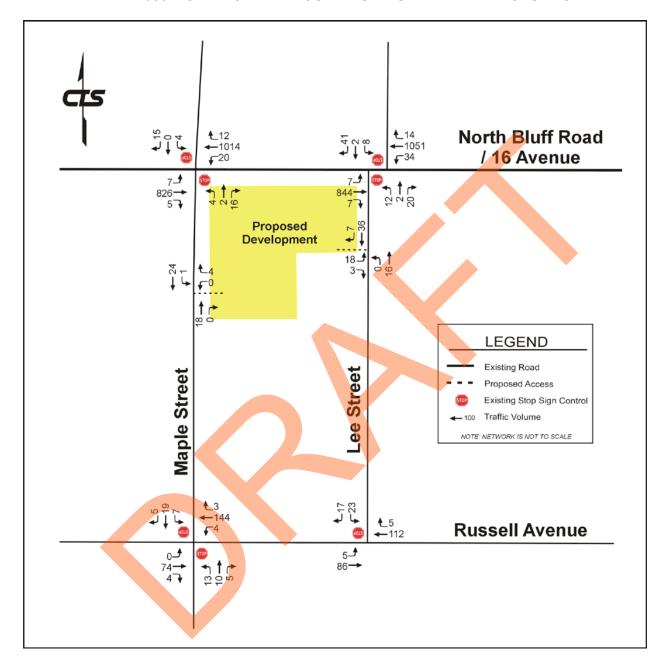


FIGURE 14 2030 MORNING PEAK HOUR BASE + SITE TRAFFIC VOLUMES



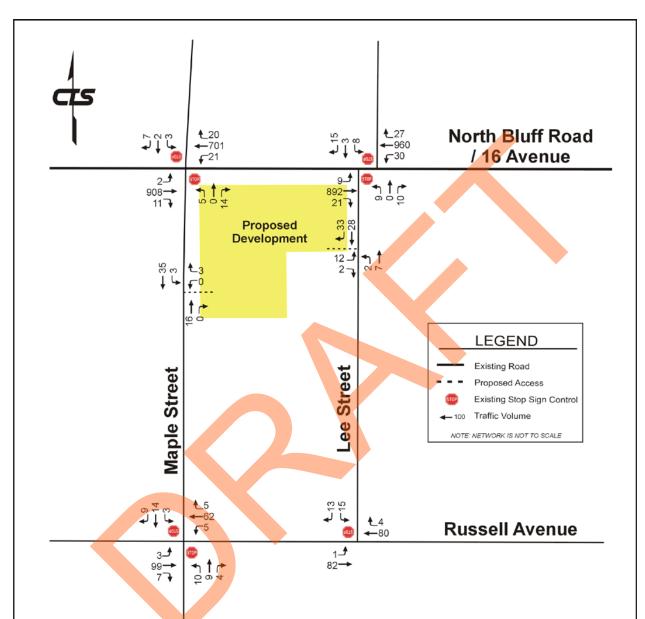


FIGURE 15 2030 AFTERNOON PEAK HOUR BASE + SITE TRAFFIC VOLUMES



5.0 TRAFFIC ENGINEERING ANALYSIS

5.1 Capacity Analysis

Capacity analysis was performed at each of the locations in order to determine the intersection levels of service (LOS) that is provided to motorists. The LOS for intersections and 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 "F" (Fail). See **Table 3.** A LOS of "F" (Fail) indicates that an intersection or movement is failing because the intersection or movement is over capacity and delays are excessive. A LOS of "D" during the critical peak hours is considered acceptable by many public agencies in large urban areas for overall intersection operation and a LOS of "E" or better is considered acceptable for left turn movements as it recognizes that the intersections normally perform much better the remaining 90% of the day.

TABLE 3
LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Excellent
В	Good
С	Fair
D	Poor
E	Very Poor
F	Fail

Highway Capacity Software (HCS 7) was used for the analysis of the unsignalized intersections.

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

- Saturation flow rate = 1,900 passenger cars/hour of green time/lane (pcphgpl)
- Peak hour factor (PHF) = 0.80 (morning peak) and 0.91 (afternoon peak), which
 is the average factor observed from the surveyed intersections on North Bluff
 Road.
- Heavy vehicle percentage for roads = 2%

Saturation flow rate is the equivalent hourly rate at which previously queued vehicles can traverse an intersection approach under prevailing conditions, assuming that the green signal is available at all times and no lost times are experienced.

Peak Hour Factor is a measure of traffic demand fluctuation within the analysis hour.



TABLE 4 summarizes and compares the main performance parameters of the intersection capacity analysis for unsignalized intersections.

For unsignalized intersections, the delay time in seconds for each lane group is summarized. Delay is additional travel time experienced by a driver, passenger, bicyclist, or pedestrian beyond that required to travel at the desired speed.

Wherever necessary, attempts at improvements have been made to maintain intersection and approach movement level of service standards for each of the post-development scenarios. The capacity analysis worksheets with level of services for each individual movement are included in **APPENDIX C**.

This analysis does not include the effects of upstream signals. In addition, it is assumed that all of through movements travelling eastbound and westbound on North Bluff Road will experience the same delay as the eastbound and westbound left turn movements. The results of this analysis are more conservative.

TABLE 4
CAPACITY ANALYSIS FOR UNSIGNALIZED INTERSECTIONS

NTERSECTION	TIME OF	SCENARIO	PERFORMANCE	EA	STBOU	ND	WE	STBOU	IND	NO	RTHBO	JND	so	UTHBO	JND	LOS	NOTES	
	DAY		MEASURE	Left	Thru	Right	LUS	NOTES										
			Volumes	5	663	3	16	809	9	1	1	11	3	0	12			
		2018 Base	Delay	11.1	11.1	0.0	9.7	9.7	0.0		19.6			24.8		В	Okay.	
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.1		0.2			0.3				
			Volumes	6	690	4	17	842	10	2	2	12	4	0	13		Northbound and southboun	
		2020 Base	Delay	11.4	11.4	0.0	9.9	9.9	0.0		28.0			30.1		В	approach will experience	
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.4			0.4			medium delay	
	Weekday		Volumes	7	823	4	20	1004	12	2	2	14	4	0	15		Northbound and southbour	
	Morning	2030 Base	Delay	12.7	12.7	0.0	10.7	10.7	0.0		43.2			47.4		В	approach will experience medium delay	
	Peak Hour		95% Queue (m)	0.1	0.1	0.0	0.1	0.1	0.0		0.7			0.8				
			Volumes	6	693	5	17	852	10	4	2	14	4	0	13		Northbound and southbound approach will experience	
		2020 Base + Site	Delay	11.5	11.5	0.0	9.9	9.9	0.0		30.7			30.9		В		
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.5			0.4			medium delay	
			Volumes	7	826	5	20	1014	12	4	2	16	4	0	15		Northbound approach will	
		2030 Base+ Site	Delay	12.8	12.8	0.0	10.7	10.7	0.0		50.2			49.0		В	experience high delays. Southbound approach wil	
aple Street (N/S) and North Bluff			95% Queue (m)	0.1	0.1	0.0	0.1	0.1	0.0		1.0			0.8			experience medium delay	
Road (E/W)		2018 Base	Volumes	1	725	8	18	668	19	3	0	9	2	1	5		Okay.	
			Delay	9.4	9.4	0.0	9.6	9.6	0.0		17.3			21.5		Α		
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.1			0.1				
			Volumes	2	754	9	19	695	20	4	0	10	3	2	6			
		2020 Base	Delay	9.6	9.6	0.0	9.8	9.8	0.0		19.5			26.3		Α	Southbound approach will experience medium delay	
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.2			0.2			,	
	Weekday		Volumes	2	899	10	23	829	24	4	0	12	3	2	7			
	Afternoon	2030 Base	Delay	10.2	10.2	0.0	10.5	10.5	0.0		24.6			36.2		В	Southbound approach will experience medium delay	
P	Peak Hour		95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.3			0.3			,	
			Volumes	2	763	10	21	701	20	5	0	12	3	2	6			
		2020 Base + Site	Delay	9.6	9.6	0.0	9.8	9.8	0.0		20.3			27.0		Α	Southbound approach will experience medium delay	
			95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.2			0.2			experience medium delay	
			Volumes	2	908	11	25	835	24	5	0	14	3	2	7		Northbound and southbour	
		2030 Base+ Site	Delay	10.2	10.2	0.0	10.6	10.6	0.0		26.3			37.4		В	Northbound and southbound approach will experience medium delay	
		0.00	95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.4			0.3				





TABLE 4 CONTINUED CAPACITY ANALYSIS FOR <u>UNSIGNALIZED</u> INTERSECTIONS

No continue		TIME OF	SCENARIO	PERFORMANCE	EASTBOUND		WESTBOUND			NORTHBOUND			SOUTHBOUND				W0770	
March Marc	INTERSECTION				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	LOS	NOTES
Mary Not Color 10 10 10 10 10 10 10 1				Volumes	0	59	3	3	114	2	10	8	4	5	15	4		
Very			2018 Base	Delay		7.6			7.4			10.4			10.6		Α	Okay.
Marting Mart				95% Queue (m)		0.0			0.0			0.1			0.1			
Meritary				Volumes	0	62	4	4	119	3	11	9	5	6	16	5		
Marcing Plank Marcing Plan			2020 Base	Delay		7.6			7.4			10.5			10.7		Α	Okay.
Marting				95% Queue (m)		0.0			0.0			0.1			0.2			
Pack Hard Pack				Volumes	0	74	4	4	142	3	13	10	5	7	19	5		
Mary Colored NO 100			2030 Base												-		Α	Okay.
Maje Sheet (No)						_						_						
Select Map Sele			2020 Base +		0		4	4		3	11		5	6	$\overline{}$	5		
Major Street (Note)			Site												_		А	Окау.
More Device (NAS) Section Sec					0	_	4	4		3	13	_	5	7	$\overline{}$	5		
Mode Stand Flate Mode					- 0		4	4		3	13		3			3	A	Okay
Memore (CHY) Policy Poli	Maple Street (N/S)		Site									$\overline{}$						J,
March Marc					2	_	5	4		4	8		3	2		7	7	
Volumes 3 83 6 6 61 74 74 10.0 9.8 4 3 12 6 74 74 74 74 74 74 74	,		2018 Base	Delay		7.4		-	7.4			9.9			9.8		Α	Okay.
Veleviday Affermoor Peak Hour Peak				95% Queue (m)		0.0			0.0			0.1			0.1			*
Methods Meth				Volumes	3	83	6	5	51	5	9	8	4	3	12	8		
Velocity			2020 Base	Delay		7.4			7.4			10.0			9.8		Α	Okay.
Membroof Peak Hour Peak Ho				95% Queue (m)		0.0			0.0			0.1			0.1			
Mathematical Registration Peak House P		Weekday		Volumes	3	98	7	5	61	5	10	9	4	3	14	9		Okay.
Medical Reserved Medical Res		Afternoon		Delay		7.4			7.5			10.2			10.0		Α	
Medical Part Silve				95% Queue (m)		_	_						_					
Melikation Mel			2020 Base +		3		6	5		5	9		4	3		8		
Volumes										4							Α	Okay.
Delay Pase Site Delay Pase						_	_			-	40	$\overline{}$	_	_				
Site			2030 Base+		3		/	5		5	10		4	3		9		Olean
Volumes			Site			$\overline{}$			_								^	Okay
Pelay			2018 Base		5	_	3	24	$\overline{}$	11	1	_	q	6	_	33		
Signature									$\overline{}$		·			Ů		_ ==	В	
Delay 11.8 11.8 0.0 10.1 10.1 0.0 36.6 42.9 16.8 16.5					_				$\overline{}$									
Lee Sirect (NIS) A			2020 Base		-	707					2	2	10	7	2	35		
Volumes Volu				Delay	11.8	11.8	0.0	10.1	10.1	0.0		36.6			42.9		В	
Delay 13.2 13.2 13.2 13.2 13.2 13.2 13.3 13.2 13.3 13.3 13.5				95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.4			1.6			
Morning Peak Hour Morning Peak Hour Morning Peak Hour Sym Queue (m) 0.1 0.1 0.0 0.2 0.2 0.0 0.9 3.7		Weekday	2030 Base	Volumes	7	842	4	30	1051	14	2	2	12	8	2	41		approach will experience
Volumes 6 709 7 29 828 12 12 2 18 7 2 35 35 20 35 35 35 35 35 35 35 3		Morning		Delay	13.2	13.2	0.0	11.0	11.0	0.0		66.4			118.9		В	
Delay 11.8 11.8 0.0 10.2 10.2 0.0 57.8 45.1 B Experience high delays. Southbound approach will experience medium delays. Southbound appro		Peak Hour		95% Queue (m)	0.1	0.1	0.0	0.2	0.2	0.0		0.9			3.7			nigh delay
Site Delay 11.8 11.8 0.0 10.2 10.2 10.2 0.0 57.8 45.1 B Southbound approach will experience medium delay			2020 Bass I	Volumes	6	709	7	29	881	12	12	2	18	7	2	35		
Volumes 7 844 7 34 1051 14 12 2 20 8 2 41 41 2 2 20 8 2 41 41 2 2 20 8 2 41 41 2 2 20 8 2 41 41 2 2 20 8 2 41 41 2 2 20 8 2 41 41 2 2 20 8 2 41 41 2 2 20 8 2 41 41 41 2 2 20 8 2 41 41 41 41 41 41 41				Delay	11.8	11.8		10.2	10.2	0.0		57.8			45.1		В	Southbound approach will
Lee Street (N/S) and North Bluff Road (E/M)																		experience medium delay
Lee Street (NS) and North Bluff Road (E/M)			2030 Base+			_					12		20	8		41		
Volumes Volu	Loo Stroot (N/S)																С	
Delay 10.1 10.1 0.0 9.5 9.5 0.0 21.8 27.4 A Southbound approach will experience medium delay	and North Bluff					_		_			_	_		_				
Meekday Aftermoon Peak Hour Peak Hou	Road (E/W)		2019 Page								2		3	ь		12	,	Southbound approach will
Volumes 8 746 10 15 803 25 3 0 4 7 3 13 13 24 2020 Base Delay 10.3 10.3 0.0 9.7 9.7 0.0 24.7 32.6 B B Southbound approach will experience medium delay Southbound approach will experience high delay Southbound approach will experience medium delay Southbound appr			2010 Dase														^	experience medium delay
Veekday Aftermoon Peak Hour						_		_			3		4	7		13		
Weekday Aftermoon Peak Hour			2020 Base										-			10	В	
Volumes 9 890 12 18 958 30 3 0 4 8 3 15 B Northbound approach will experience medium delays.			2020 2000															experience medium delay
Delay 11.2 11.2 0.0 10.4 10.4 0.0 36.3 53.1 B Experience medium delays. Southbound approach will experience medium delays.						_		_			3		4	8		15		Northbound approach will
Peak Hour		Afternoon	2030 Base													'	В	experience medium delays.
Volumes 8 748 19 24 805 25 9 0 10 7 3 13		Peak Hour																
Delay 10.3 10.3 0.0 9.8 9.8 0.0 29.5 34.6 Bapproach will experience medium delay											9		10	7		13		Northbound and couthbound
95% Queue (m) 0.0 0.0 0.0 0.1 0.1 0.0 0.4 0.6 Inequal in department of the control of the contro				Delay	10.3	10.3	0.0	9.8	9.8	0.0		29.5			34.6		В	approach will experience
2030 Base+ Site Delay 11.2 11.2 0.0 10.5 10.5 0.0 47.4 58.2 B experience medium delays. Southbound approach will			Sile	95% Queue (m)	0.0	0.0	0.0	0.1	0.1	0.0		0.4			0.6			
Site Delay 11.2 11.2 0.0 10.5 10.5 0.0 47.4 55.2 B Southbound approach will			2030 Base+	Volumes	9	892	21	27	960	30	9	0	10	8	3	15		B experience medium delays. Southbound approach will
				Delay	11.2	11.2	0.0	10.5	10.5	0.0		47.4			58.2		В	
				95% Queue (m)	0.1	0.1	0.0	0.1	0.1	0.0		0.7			1.1			





TABLE 4 CONTINUED CAPACITY ANALYSIS FOR <u>UNSIGNALIZED</u> INTERSECTIONS

INTERSECTION	TIME OF	SCENARIO	PERFORMANCE	EA	STBOU	ND	WE	STBOU	ND	NOI	RTHBOL	JND	SO	UTHBOU	UND	LOS	NOTES
INTERSECTION	DAY		MEASURE	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	203	
			Volumes	4	69			90	4				17		12		
		2018 Base	Delay	7.	.5			0	.0					9.6		Α	Okay.
			95% Queue (m)	0	.0			0.	.0					0.1			
			Volumes	5	72			94	5				18		13		
		2020 Base	Delay	7.	.5			0.	0					9.7	-	Α	Okay.
			95% Queue (m)	0	.0			0.	.0					0.2			
	Weekday		Volumes	5	86			112	5				22		15		
	Morning	2030 Base	Delay	7.	.6			0.	.0					10.0		Α	Okay.
	Peak Hour		95% Queue (m)	0.	.0			0.	.0					0.2			
			Volumes	5	72			94	5				19		15		
		2020 Base + Site	Delay	7.	.5			0.	.0					9.7		Α	Okay.
		Ono	95% Queue (m)	0	.0			0.	.0					0.2			
			Volumes	5	86			112	5				23		17		
		2030 Base+ Site	Delay	7.	.6			0.	0.0					10.0		Α	Okay
Lee Street (N/S)		Site	95% Queue (m)	0.	.0			0.	.0					0.2			
and Russell Avenue (E/W)			Volumes	0	66			64	2				11		9	7	
		2018 Base	Delay	7.	.4			0.	0	7				9.2	,	А	Okay.
			95% Queue (m)	0	.0			0.	0					0.1			•
			Volumes	0	69			67	3				12		10		
		2020 Base	Delay		.4			0.						9.3		Α	Okay.
			95% Queue (m)		.0			0.						0.1			
		2030 Base	Volumes	0	82	_		80	3				14		12		
	Weekday Afternoon Peak Hour		Delay		.5			0.					9.4		9.4	А	Okay.
		2000 2000	95% Queue (m)		.0				0				0.1		0.1	,,	J,.
			Volumes	1	69			67	4				13		11		
		2020 Base +	Delay	7.				0.	\sim				9.3		9.3	А	Okay.
		Site	95% Queue (m)		.0			0.					0.1		0.1	^	Olay.
		2030 Base+ Site	Volumes	1	82		\rightarrow	80	4				15		13		Okay
				7	.5		\rightarrow	0.					9.5		9.5	А	
			Delay	$\overline{}$	\rightarrow								0.1		_	Α	Okay
			95% Queue (m)	0	.0		0	0.			40	_		04	0.1		
		2020 Base +	Volumes				8.4	0.0	8.4		16 0.0	0.0	1	21			Okay.
	Weekday	Site	Delay				0.0	0.0			0.0	0.0	7.3	7.3		Α	Окау.
	Morning		95% Queue (m)	4			_	_ '	0.0				0.0				
	Peak Hour	2030 Base+	Volumes				0	0	4		18	0	1	24			Oliveri
Maple Street (N/S)		Site	Delay				8.4	0.0	8.4		0.0	0.0	7.3	7.3		Α	Okay
& Site Access			95% Queue (m)				0.0	0.0	0.0		0.0	0.0	0.0	0.0			
(EW)		2020 Base +	Volumes				0	0	3		14	0	3	30		,	
	Madula	Site	Delay				8.4	0.0	8.4		0.0	0.0	7.3	7.3		Α	Okay
	Weekday Afternoon		95% Queue (m)				0.0	0.0	0.0		0.0	0.0	0.0	0.0			
	Peak Hour	2030 Base+	Volumes		*		0	0	3		16	0	3	35			
		Site	Delay				8.4	0.0	8.4		0.0	0.0	7.3	7.3		Α	Okay
			95% Queue (m)				0.0	0.0	0.0		0.0	0.0	0.0	0.0			
		2020 Base +	Volumes	18	0	3				0	14			31	7		
		Site	Delay	8.9	0.0	8.9				7.3	7.3			0.0	0.0	Α	Okay
	Weekday Morning		95% Queue (m)	0.0	0.0	0.0				0.0	0.0			0.0	0.0		
	Peak Hour	2030 Base+	Volumes	18	0	3				0	16			36	7		
		Site	Delay	8.9	0.0	8.9				7.3	7.3			0.0	0.0	Α	Okay
Lee Street (N/S) &			95% Queue (m)	0.0	0.0	0.0				0.0	0.0			0.0	0.0		
Site Access (E/W)		0000 5	Volumes	12	0	2				2	7			28	18		
		2020 Base + Site	Delay	8.8	0.0	8.8				7.3	7.3			0.0	0.0	Α	Okay
	Weekday Afternoon		95% Queue (m)	0.0	0.0	0.0				0.0	0.0			0.0	0.0		
	Peak Hour		Volumes	12	0	2				2	7			33	18		Okay
		2030 Base+ Site	Delay	8.8	0.0	8.8				7.3	7.3			0.0	0.0	Α	
		SAC.	95% Queue (m)	0.0	0.0	0.0				0.0	0.0			0.0	0.0		
Dalas	Average Del	ay (seconds/vehicl	٩١														

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)



From **TABLE 4**, the following observations can be made:

Maple & North Bluff Road

- In the morning peak hour this intersection is forecasted to operate at a LOS B (Good) for all horizon years and scenarios. Starting at the 2020 Base scenario, the northbound approach and southbound approach will experience medium delays. In the 2030 Base + Site scenario, the northbound approach and southbound approach will experience high and medium delays.
- In the afternoon peak hour this intersection is forecasted to operate at a LOS A
 (Excellent) and LOS B (Good) for all horizon years and scenarios. In the 2020
 Base scenario, the southbound approach will experience medium delays. In the
 2030 Base + Site scenario, the northbound approach and southbound approach
 will experience medium delays.
- Note that the northbound and southbound approaches will experience medium and high delays primarily due to the northbound and southbound approach through and left turn movements. The analysis assumes a consistent trip distribution using the existing and observed turning movements. It is expected that as vehicle volumes continue to grow on the major street, North Bluff Road, making through and left movements from the side street will be less desirable during the peak periods. It is anticipated that traffic seeking to make these movements will find alternative routes.
- No operational and/or geometrical improvements are recommended for this location.

Maple Street & Russell Avenue

- In the morning and afternoon peak hour this intersection is forecasted to operate at a LOS A (Excellent) for all horizon years and scenarios. No operational or capacity issues were identified.
- No operational and/or geometrical improvements are recommended for this location.

Lee Street & North Bluff Road

- In the morning peak hour this intersection is forecasted to operate at LOS B (Good) or LOS C (Fair) for all horizon years and scenarios. Starting in the 2020 Base scenario, the northbound approach and southbound approach will experience medium delays. In the 2030 Base + Site scenario, the northbound approach and southbound approach will experience high delays.
- In the afternoon peak hour this intersection is forecasted to operate at LOS A (Excellent) or LOS B (Good) for all horizon years and scenarios. In the 2018 Base scenario, the southbound approach will experience medium delays. In the



- 2030 Base + Site scenario, the northbound approach and southbound approach will experience medium and high delays.
- Note that the northbound and southbound approaches will experience medium and high delays primarily due to the northbound and southbound approach through and left turn movements. The analysis assumes a consistent trip distribution using the existing turning movements. It is expected that as vehicle volumes continue to grow on the major street, North Bluff Road, making through and left movements from the side street will be less desirable during the peak periods. It is anticipated that traffic seeking to make these movements will find alternative routes.
- No operational and/or geometrical improvements are recommended for this location.

Lee Street & Russell Avenue

- In the morning and afternoon peak hour this intersection is forecasted to operate at a LOS A (Excellent) for all horizon years and scenarios. No operational or capacity issues were identified.
- No operational and/or geometrical improvements are recommended for this location.

Maple Street & Site Access

- In the morning and afternoon peak hour this intersection is forecasted to operate at a LOS A (Excellent) for all horizon years and scenarios. No operational or capacity issues were identified.
- No operational and/or geometrical improvements are recommended for this location.

Lee Street & Site Access

- In the morning and afternoon peak hour this intersection is forecasted to operate at a LOS A (Excellent) for all horizon years and scenarios. No operational or capacity issues were identified.
- No operational and/or geometrical improvements are recommended for this location.

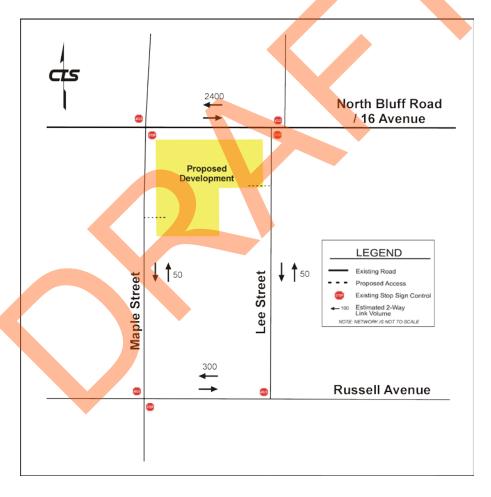


6.0 2045 LINK VOLUMES

It was requested by the City of White Rock that vehicle link volumes for the year 2045 be considered as part of this Traffic Impact Assessment Study. This is to provide vehicle volume information, relative to the City of White Rock 2045 OCP.

This scenario is 25 years post buildout of the proposed development. It is difficult to accurately forecast vehicle volumes, in the context of intersection analysis. For this reason, peak hour link volumes are determined, to provide an estimated magnitude of vehicle volumes. **FIGURE 16** and **FIGURE 17** show the estimated 2-way link volumes for the morning peak hour and afternoon peak hour.

FIGURE 16
2045 ESTIMATED VEHICLE LINK VOLUMES FOR MORNING PEAK HOUR





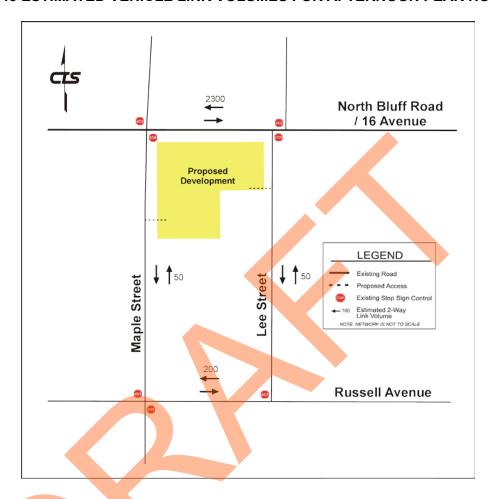


FIGURE 17 2045 ESTIMATED VEHICLE LINK VOLUMES FOR AFTERNOON PEAK HOUR

In the morning peak hour, the estimated 2-way link volume on North Bluff Road, Maple Street, Lee Street, and Russell Avenue, are 2400, 50, 50, and 300 vehicles, respectively.

In the afternoon peak hour, the estimated 2-way link volume on North Bluff Road, Maple Street, Lee Street, and Russell Avenue, are 2300, 50, 50, and 200 vehicles, respectively.

It should be noted that the theoretical capacity for North Bluff Road is 3200 vehicles per hour (two-way).



7.0 PARKING REVIEW

7.1 Parking Requirements

The required parking spaces are summarized in **TABLE 5** with reference to the *City of White Rock Zoning Bylaw Section 4: General Provisions & Regulations*. The unit descriptions and numbers are based on information provided on architectural drawings.

TABLE 5
VEHICLE PARKING REQUIREMENTS FOR PROPOSED DEVLEOPMENT

Land Use Description	Land Use Bylaw Classification	Required Parking Rate	# of Units	Parking Stalls Required
Townhouse	Townhouse	2 per Dwelling Unit	14.0	28
Condominium	Apartment	1.5 per Dwelling Unit	76.0	114
Total			90.0	142

The total required amount of parking for the entire development is 142 vehicle parking spaces. The proposed development is planned to provide a total of 129 vehicle parking spaces. It is noted that the townhouse parking is arranged as tandem parking. A parking variance of 10% or 13 parking spaces is required.

The required bicycle parking is noted as 1 Class I bicycle parking space per unit, and 0.2 Class II bicycle parking spaces per unit. The proposed development will be meeting this requirement by providing a total of 90 Class I and 18 Class II bicycle parking spaces.

In addition to these requirements, it is also noted that electric vehicle charging stations are required for any new multi-unit residential developments (4.17.1). It is noted that a minimum of 1 of every 10 off-street parking spaces shall feature an energized outlet capable of providing Level 2 charging and in addition, that 1 of every 10 off-street parking spaces shall feature roughed-in electric vehicle charging infrastructure. The proposed development will be providing this for the condominium units.

7.2 Parking Variance

In support of a 10% parking variance, the proposed land uses, existing nearby amenities and infrastructure, and opportunities for alternative modes of travel are considered.

Objective 11.2 of the City of White Rock 2045 OCP notes its policy that new non-market housing be supported by reviewing parking requirements for relaxation, when they are within walking distance of frequent transit service and/or commercial areas. The proposed development will be providing 25 non-market units.



As noted previously in **FIGURE 1**, the Semiahmoo Shopping Centre is within a 10-15 minute walking distance from the proposed development. Also within a 10-15 minute walking distance, at White Rock Centre, is a connection to the Frequent Transit Network along 152nd Street. Within a 5 minute walking distance of the proposed development, are bus stops with routes that operate in fifteen minute and half hour intervals.

Other nearby destinations of note include the Peach Arch Hospital, Earl Marriott Secondary School, Peach Arch Elementary School, and the Kent Street Activity Centre in Maccaud Park which is home to the Kent Street Seniors Activity groups.

The study area has good connectivity to transit, as well as cycling and pedestrian infrastructure. The below summarizes these alternative modes of travel:

Transit Network

The proposed development is well connected to transit with options for regular busses and community shuttles. The site is serviced by the following routes:

- Route #375 White Rock South Guildford During peak travel times, this bus operates in half hour intervals. Bus stop is on North Bluff Road.
- Route #321 Surrey Central Station Newton Exchange/White Rock Centre/White Rock South – During peak travel times, this bus operates in fifteen-minute intervals. Bus Stop is on North Bluff Road.
- Route #361 White Rock Centre Ocean Park During weekday peak travel times, this bus operates in half hour intervals. On the weekend peak travel times, this bus operates in one-hour intervals. Bus Stop is on Thrift Avenue.

The above bus routes can be used to connect to the nearby Frequent Transit Network at White Rock Centre.

- Route #360 Ocean Park Peace Arch Hospital During weekday peak travel times, this bus operates in half hour intervals. On the weekend peak travel times, this bus operates in one-hour intervals. Bus Stop is on Thrift Avenue, west of Finlay Street.
- Route #363 South Point Peace Arch Hospital During peak travel times, this
 bus operates in half hour intervals. Bus Stop is on Thrift Avenue, west of Finlay
 Street.

Bus stop locations are illustrated in **FIGURE 4**.



Bicycle Network

According to the City of White Rock Strategic Transportation Plan:

- North Bluff Road is proposed in the future to be designated as a bicycle route;
- Finlay Street is currently designated as a shared use lane; and
- Thrift Avenue is currently designated as a shared use lane.

The proposed development will be providing 90 Class I and 18 Class II bicycle parking spaces, which will help to facilitate this mode of travel for residents or visitors.

The bicycle routes within the study area are illustrated in FIGURE 4.

Pedestrian Network

The study area is well connected with sidewalks. All arterial and collector roads have a sidewalk on at least one side. Some local roads also have sidewalks on one side. Currently, there are no sidewalks on Maple Street or Lee Street.

The proposed development will be including enhanced sidewalks on the frontage and also a greenway through the property.

The existing sidewalks are illustrated in **FIGURE 18**.





FIGURE 18 ALTERNATIVE MODES OF TRAVEL



In consideration of the intended land use and the available nearby amenities and infrastructure to encourage alternative modes of travel, it is expected that the proposed number of off-street vehicle parking stalls is sufficient to fully support the development.



8.0 LOADING SWEPT PATH ANALYSIS

A loading bay is proposed to be provided on Maple Street and is shown in the Architectural Drawings included in **APPENDIX A**.

In order to assess the viability of the proposed loading bay, a swept path analysis was conducted to determine the impact on the adjacent road and curb.

The design vehicle used is the MSU-TAC. This is a standard medium single unit vehicle described by the Transportation Association of Canada, and is what would typically be expected for basic deliveries or people moving in and out. It has an overall length of 10 metres and a width of 2.6 meters.

It is recommended that any vehicles using the loading bay always reverse in and drive forward out. This will be a safer combination of maneuvers as drivers will have clear vision while exiting, driving forward. Drivers will also have clear vision of the driveway and adjacent sidewalks before reversing in.

Reversing into the loading bay from the northbound lane is preferred, as it will have a lower overall impact on vehicle traffic on Maple Street. The swept path of a truck travelling northbound, entering the loading bay, is illustrated in **FIGURE 19**.

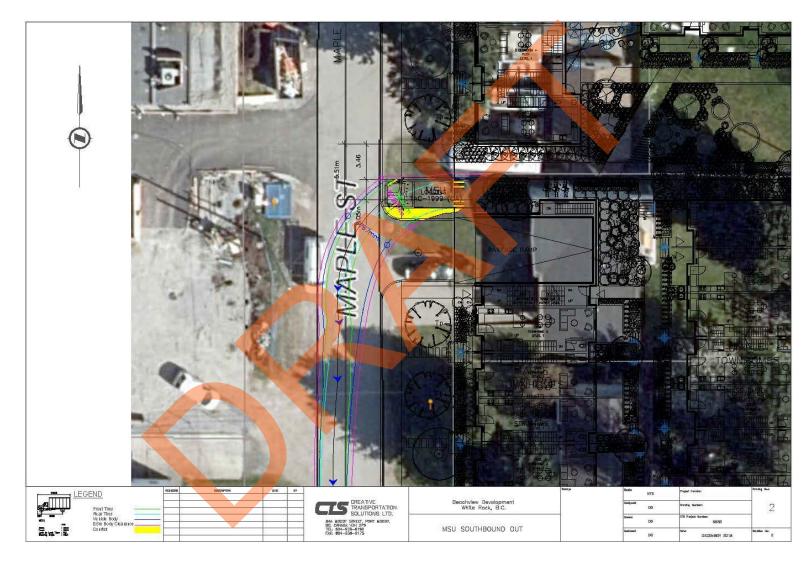
When a truck is exiting the loading bay, it is recommended that it travel southbound. As a left turn maneuver, it is already expected to cross both lanes. The truck is able to comfortably wait for a safe gap in traffic to exit. This is preferred over making a right turn, and requiring a wider turn that may not be expected. **FIGURE 20** illustrates an MSU exiting the loading bay and travelling southbound.



FIGURE 19
MSU INGRESSING TRAVELLING NORTHBOUND



FIGURE 21 MSU EGRESSING TRAVELLING SOUTHBOUND



The swept path analysis shows that a design vehicle of a MSUTAC can be accommodated with some widening at the throat of the proposed loading zone.

The truck turning manoeuvres illustrated are one- and two-point turns that are not expected to require a lot of time to complete.

Based on the 2020 Base + Site vehicle volumes forecasted for Maple Street, the two-way vehicle volume is 42 vehicles in the morning peak hour, and 50 vehicles in the afternoon peak hour. This is equivalent to one vehicle every 1.4 minutes in the morning peak hour, and one vehicle every 1.2 minutes in the afternoon peak hour. Both turning maneuvers to enter and exit the loading bay require the northbound and southbound lanes on Maple Street, however, gaps in traffic are not expected to be difficult to find.

Impacts on the adjacent road way can be minimized, and truck turning maneuvering can be safer, if vehicles enter by reversing in while traveling northbound and by exiting forward to travel southbound.





9.0 CONCLUSIONS & RECOMMENDATIONS

9.1 Conclusions

- 1) The proposed development is to be located at 15654, 15664, 15674 North Bluff Road, 1593 Lee Street, and 1580, 1570 Maple Street, in the City of White Rock. The residential development is proposed to be rezoned as a comprehensive development consisting of 14 townhouse units and 76 condominium units for a total of 90 dwelling units. 25 of the condominium units will be non-market rental.
- 2) CTS staff performed weekday traffic volume surveys on Friday, 22 September 2017 and on Thursday 22 November 2018 in order to document existing conditions. Future base traffic volumes were projected using a 2.0% annual traffic volumes growth rate (simple straight line) and then the proposed development traffic was superimposed on top to estimate future baseline conditions. The design hours of analysis were the weekday morning and afternoon peak hours.
- 3) Upon the full build-out, the overall development is forecasted to generate a total of 33 vehicle trips (8 inbound, and 25 outbound) during the morning peak hour and a total of 40 vehicle trips (23 inbound, and 17 outbound) during the afternoon peak hour.
- 4) The capacity analysis for the unsignalized intersections and the site accesses determined that the road network can accommodate the projected increase in traffic volumes without any operational and/or geometrical improvements.
- 5) 2045 peak hour link volumes are estimated using collected turning movement counts. This is provided to give an estimated magnitude of vehicle volumes in the context of the City of White Rock 2045 OCP.
- 6) As per the City of White Rock Zoning Bylaw, for a development with 14 townhomes and 76 condominium units, the overall required parking is 142 stalls. The proposed development is providing 129 vehicle parking spaces and will require a parking variance of 10% or 13 parking spaces.
- 7) In support of a 10% parking variance, reference was made to the intended land use, nearby amenities and infrastructure to encourage alternative modes of travel:
 - Proposed development will have 25 non-market units
 - Within a 10-15 minute walk of Semiahmoo Shopping Centre and White Rock Centre where the Frequent Transit Network connects
 - Within a 5 minute walk of 5 different bus routes
 - Nearby destinations include Peach Arch Hospital, Earl Marriott Secondary School, Peach Arch Elementary School, Kent Street Activity Centre in Maccaud Park
 - Providing 90 Class I and 18 Class II bicycle parking spaces
 - Proposed development will include enhanced sidewalks on the frontage and a greenway through the property.



8) The proposed loading bay was reviewed to assess its viability and impact on the adjacent road and curb. The swept path analysis shows that a design vehicle of a MSUTAC can be accommodated with some widening at the throat of the proposed loading zone. Impacts on the adjacent road way can be minimized and truck turning maneuvering can be safer, if vehicles enter by reversing in while traveling northbound and by exiting forward to travel southbound.

9.2 Recommendations

It is recommended that the development consider the following transportation related item for the benefit of the development as well as that of the surrounding community.

- 1) The developer work with the City to ensure any improvements to the fronting sidewalks align with the City of White Rock *Strategic Transportation Plan*;
- 2) That the City grant a vehicle parking variance of 10% or 13 vehicle parking stalls, based on the supporting information provided in this report;
- 3) The driveway for the proposed loading zone throat be widened as noted in this report, to accommodate for a MSUTAC design vehicle;
- 4) That trucks using the loading bay be instructed to enter from the northbound lane via reversing in, and exit to the southbound lane by driving forward out.

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

Yours truly,

CREATIVE TRANSPORTATION SOLUTIONS LTD.

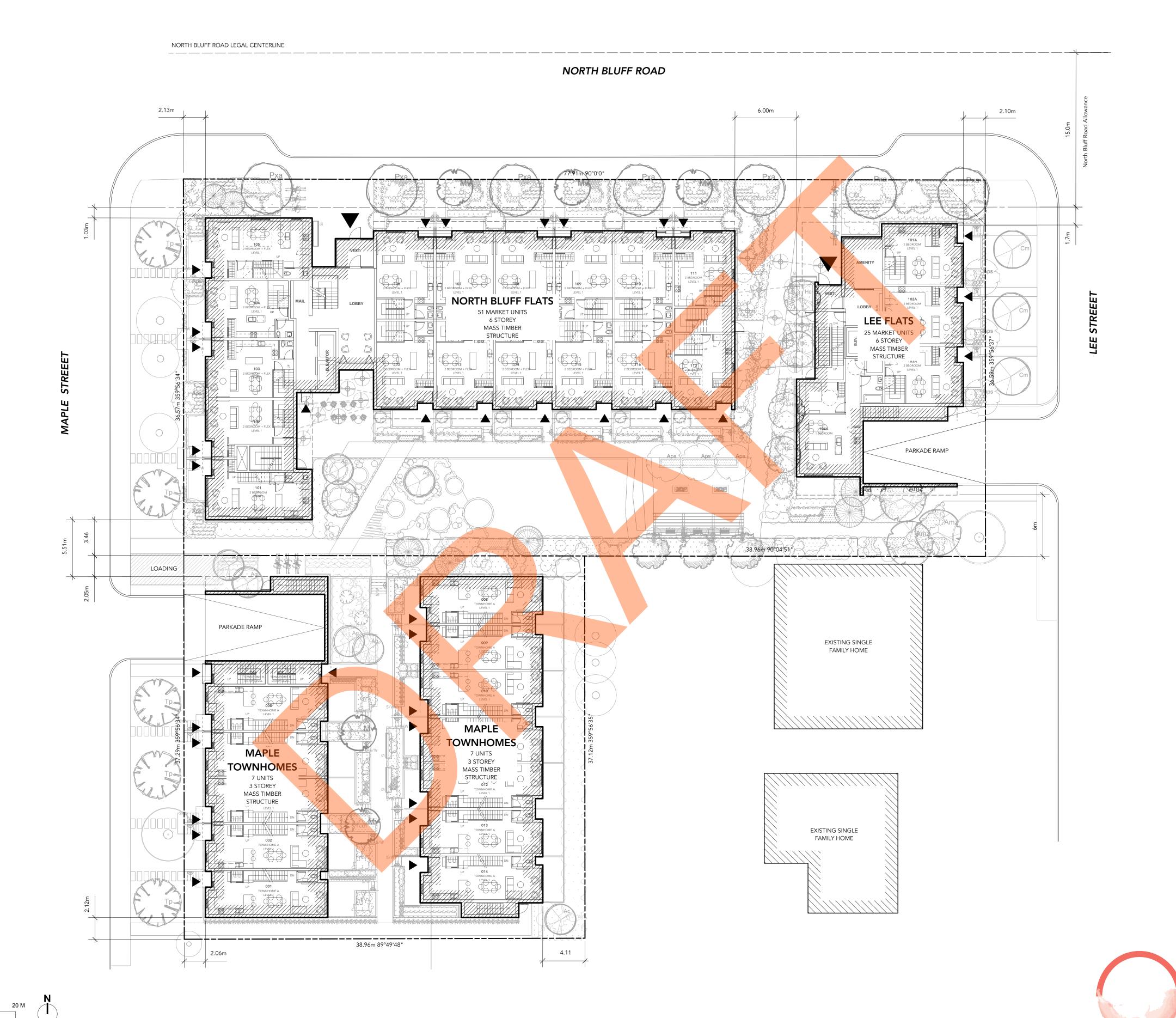
Reviewed by: Prepared by:

Gary Vlieg, P.Eng. Engineering Group Manager **Dominique Bram Guevarra**, EIT Junior Traffic Engineer

Attachment



Appendix A Architectural Drawing





BEACHWAY

issued for DP 2018.10.15

> **Beachway** White Rock, BC

SITE PLAN

Appendix B Turning Movement Counts







Friday, September 22, 2017 Vehicle Classification Summary

#5740: Russell Ave TIA

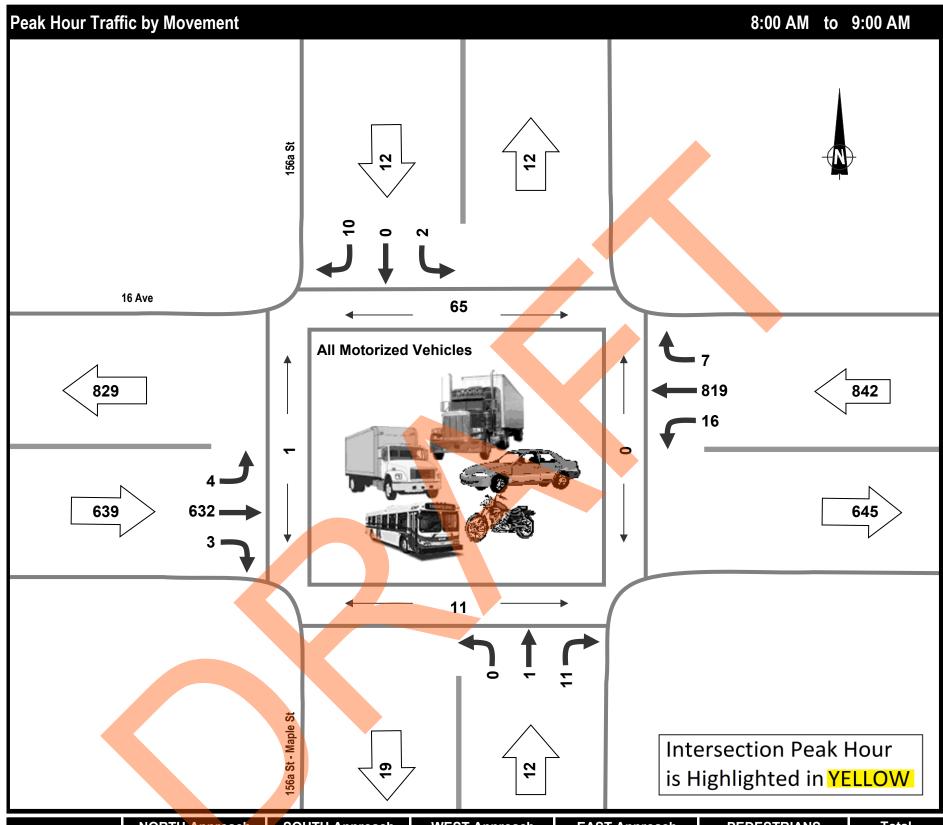
Project: Municipality: Weather: White Rock Clear, Sunny

			Vel	nicle Classificat	ion	
Time Period	Entering Intersection	Passenger Cars	Heavy Vehicles (3 or more axles)			Total
Morning	Volume	2,264	52			2,316
(07:00 - 09:00)	%	97.8%	2.2%			100.0%
Midday	Volume					
(00:00 - 00:00)	%					
Afternoon	Volume	4,006	24			4,030
(15:00 - 18:00)	%	99.4%	0.6%			100.0%
Total	Volume	6,270	76			6,346
(5 Hours)	%	98.8%	1.2%			100.0%





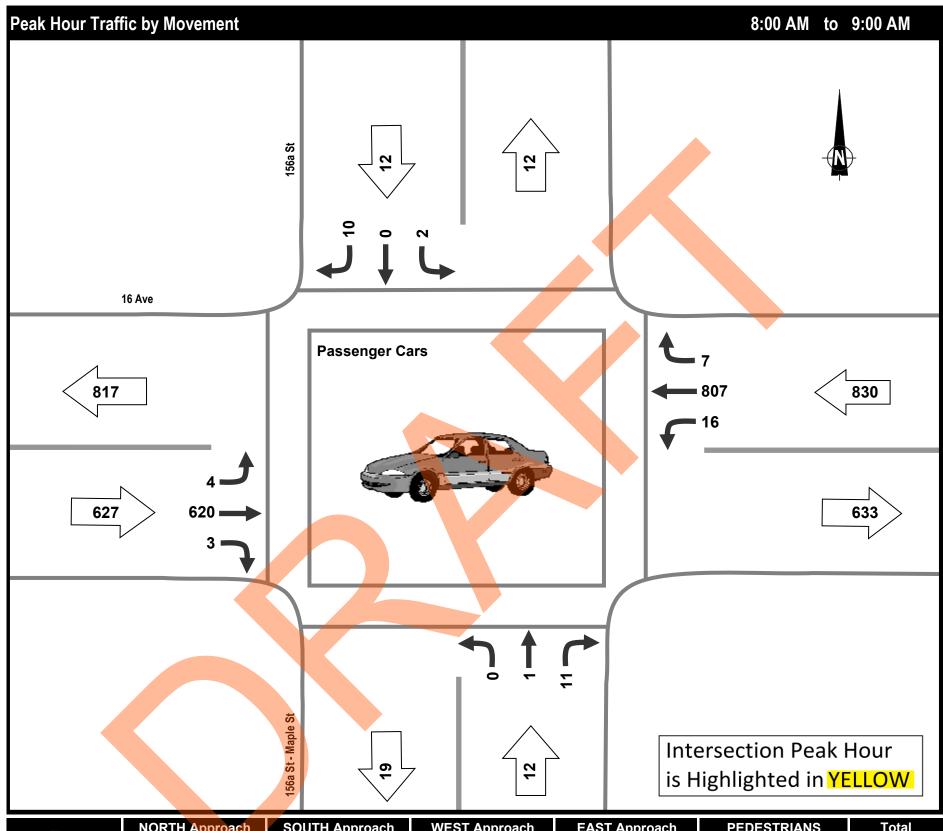
Municipality: White Rock
Weather: Clear, Sunny
Vehicle Class: All Motorized Vehicles



Time	NOR'	TH Appi	roach	SOU	ТН Аррг	oach	WES	ST Appre	oach	EAS	T Appro	oach	Р	EDES"	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	2	0	10	0	1	11	4	632	3	16	819	7	65	11	1	0	1,505
PHF	0.50	0.00	0.63	0.00	0.25	0.34	0.50	0.73	0.75	0.57	0.78	0.35	0.56	0.55	0.25	0.00	0.75
Peak 15 X 4	4	0	16	0	4	32	8	864	4	28	1,044	20	116	20	4	0	2,016
Average Hour	3	1	8	1	1	9	4	529	3	8	589	5	42	8	2	0	1,161
Survey Total	5	1	16	1	2	18	7	1,058	5	16	1,178	9	84	15	3	0	2,316
7:00	2	0	0	0	0	0	0	96	1	0	69	0	2	0	0	0	168
7:15	0	0	1	0	1	2	1	99	0	0	82	0	2	1	0	0	186
7:30	0	1	2	0	0	4	0	111	0	0	78	0	7	2	0	0	196
7:45	1	0	3	1	0	1	2	120	1	0	130	2	8	1	2	0	261
8:00	1	0	3	0	0	1	1	140	1	4	184	0	19	3	1	0	335
8:15	1	0	4	0	0	8	2	216	0	7	261	5	29	5	0	0	504
8:30	0	0	2	0	1	1	0	174	1	5	218	2	14	0	0	0	404
8:45	0	0	1	0	0	1	1	102	1	0	156	0	3	3	0	0	262



Municipality: White Rock
Weather: Clear, Sunny
Vehicle Class: Passenger Cars

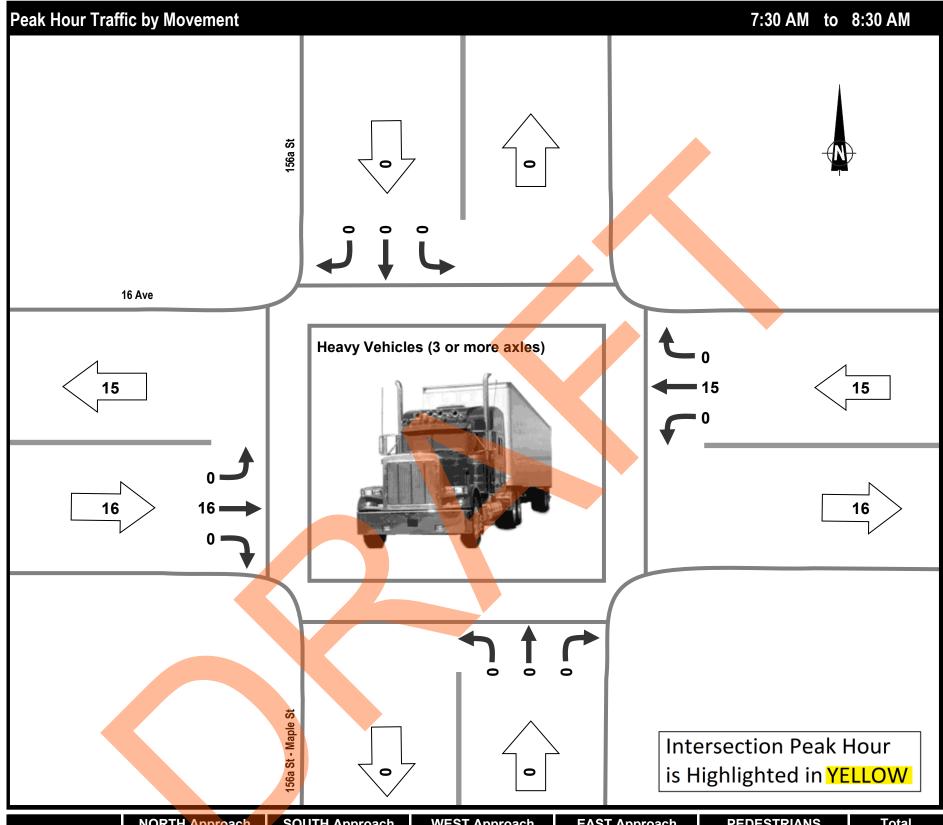


Time	NOR	TH App	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	P	EDES	TRIAN	S	Total
illie	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Ε	Volumes
Peak Hour	2	0	10	0	1	11	4	620	3	16	807	7					1,481
PHF	0.50	0.00	0.63	0.00	0.25	0.34	0.50	0.72	0.75	0.57	0.79	0.35					0.75
Peak 15 X 4	4	0	16	0	4	32	8	856	4	28	1,020	20					1,984
Average Hour	3	1	8	1	1	9	4	515	3	8	577	5					1,135
Survey Total	5	1	16	1	2	18	7	1,030	5	16	1,154	9					2,264
7:00	2	0	0	0	0	0	0	93	1	0	68	0					164
7:15	0	0	1	0	1	2	1	97	0	0	78	0					180
7:30	0	1	2	0	0	4	0	104	0	0	76	0					187
7:45	1	0	3	1	0	1	2	116	1	0	125	2					252
8:00	1	0	3	0	0	1	1	137	1	4	182	0					330
8:15	1	0	4	0	0	8	2	214	0	7	255	5					496
8:30	0	0	2	0	1	1	0	170	1	5	216	2					398
8:45	0	0	1	0	0	1	1	99	1	0	154	0					257



Municipality: White Rock Weather: Clear, Sunny

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	TH Appi	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDEST	TRIAN	S	Total
Tillie	left	thru	right	N	S	W	Е	Volumes									
Peak Hour	0	0	0	0	0	0	0	16	0	0	15	0					31
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.63	0.00					0.86
Peak 15 X 4	0	0	0	0	0	0	0	28	0	0	24	0					36
Average Hour	0	0	0	0	0	0	0	14	0	0	12	0					26
Survey Total	0	0	0	0	0	0	0	28	0	0	24	0					52
7:00	0	0	0	0	0	0	0	3	0	0	1	0					4
7:15	0	0	0	0	0	0	0	2	0	0	4	0					6
7:30	0	0	0	0	0	0	0	7	0	0	2	0					9
7:45	0	0	0	0	0	0	0	4	0	0	5	0					9
8:00	0	0	0	0	0	0	0	3	0	0	2	0					5
8:15	0	0	0	0	0	0	0	2	0	0	6	0					8
8:30	0	0	0	0	0	0	0	4	0	0	2	0					6
8:45	0	0	0	0	0	0	0	3	0	0	2	0					5



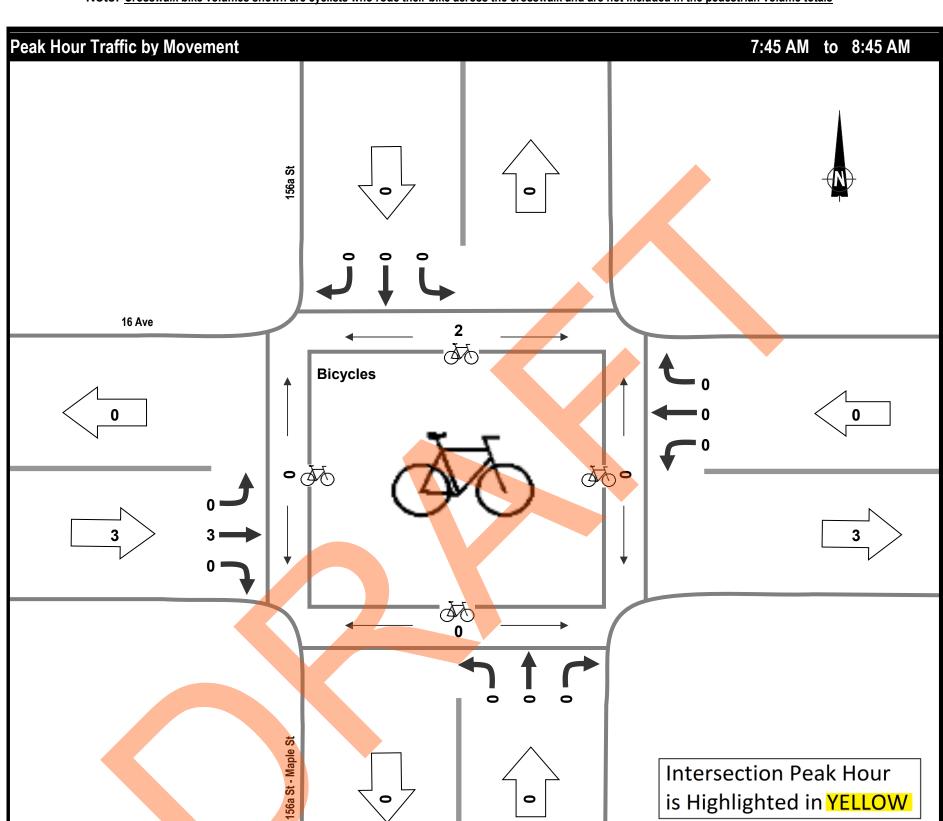
Morning Peak Period



Project: #5740: Russell Ave TIA

Municipality: White Rock Weather: Clear, Sunny Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



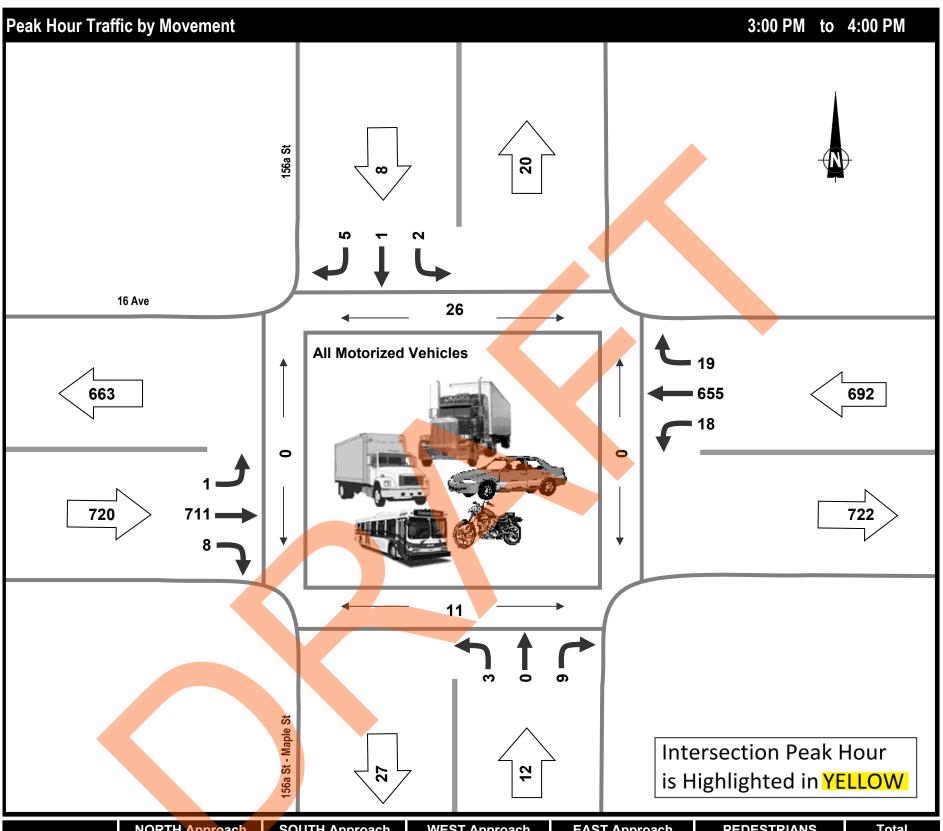
Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appre	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	_KS	Total
Tillie	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Ε	Volumes
Peak Hour	0	0	0	0	0	0	0	3	0	0	0	0	2	0	0	0	5
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.31
Peak 15 X 4	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	16
Average Hour	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	3
Survey Total	0	0	0	0	0	0	0	3	0	0	0	0	2	0	0	0	5
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:30	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	4
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0





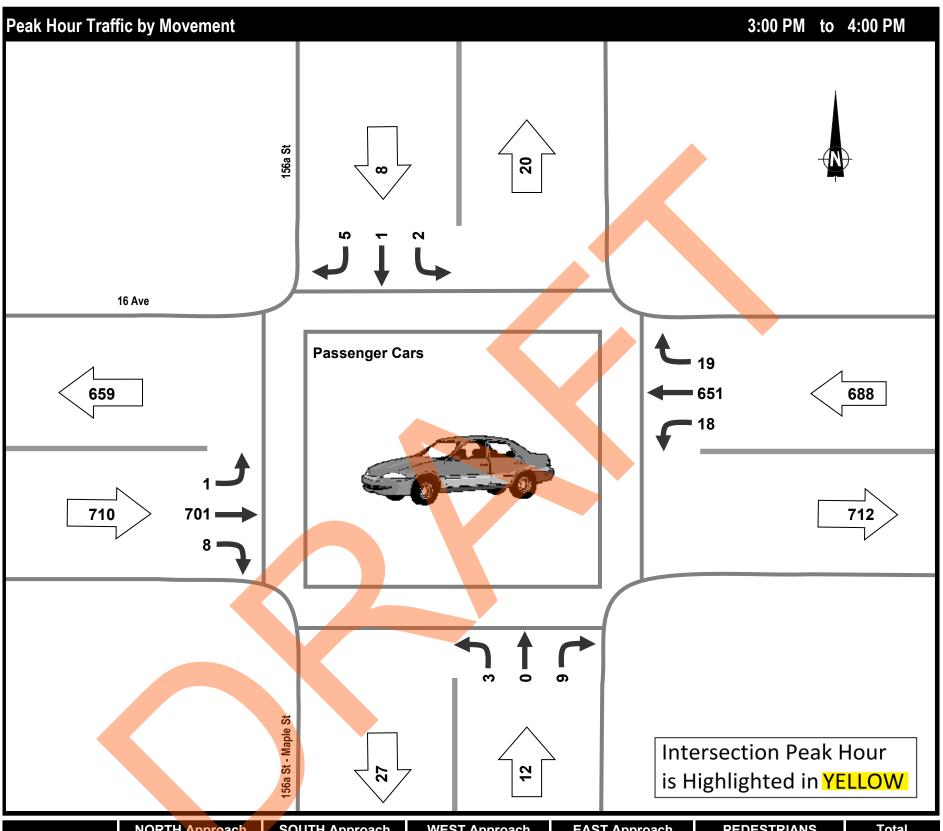
Municipality: White Rock
Weather: Clear, Sunny
Vehicle Class: All Motorized Vehicles



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appro	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Ε	Volumes
Peak Hour	2	1	5	3	0	9	1	711	8	18	655	19	26	11	0	0	1,432
PHF	0.50	0.25	0.42	0.38	0.00	0.56	0.25	0.88	0.67	0.75	0.94	0.37	0.50	0.69	0.00	0.00	0.95
Peak 15 X 4	4	4	12	8	0	16	4	812	12	24	700	52	52	16	0	0	1,512
Average Hour	2	1	5	2	2	8	4	649	5	13	641	11	13	9	0	0	1,343
Survey Total	6	2	15	7	5	24	11	1,948	16	40	1,922	34	38	26	1	1	4,030
15:00	0	0	2	0	0	2	0	203	2	4	163	2	13	3	0	0	378
15:15	1	0	0	1	0	4	0	159	2	5	175	13	7	1	0	0	360
15:30	0	1	3	0	0	0	1	180	3	3	162	3	4	3	0	0	356
15:45	1	0	0	2	0	3	0	169	1	6	155	1	2	4	0	0	338
16:00	0	0	0	2	0	2	0	177	0	1	150	1	1	3	0	0	333
16:15	0	0	2	0	0	4	2	165	0	2	192	4	6	1	0	0	371
16:30	1	0	0	0	2	2	1	195	1	0	170	1	3	1	0	0	373
16:45	0	0	2	0	1	2	1	156	1	6	144	4	1	0	0	0	317
17:00	0	0	4	0	0	2	2	176	2	6	131	1	1	1	0	0	324
17:15	1	0	0	0	0	1	1	122	2	3	165	1	0	4	1	0	296
17:30	0	0	2	0	0	0	2	124	0	1	161	3	0	0	0	1	293
17:45	2	1	0	2	2	2	1	122	2	3	154	0	0	5	0	0	291



Municipality: White Rock
Weather: Clear, Sunny
Vehicle Class: Passenger Cars



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	oach	WES	ST Appre	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	2	1	5	3	0	9	1	701	8	18	651	19					1,418
PHF	0.50	0.25	0.42	0.38	0.00	0.56	0.25	0.88	0.67	0.75	0.93	0.37					0.95
Peak 15 X 4	4	4	12	8	0	16	4	800	12	24	700	52					1,488
Average Hour	2	1	5	2	2	8	4	645	5	13	637	11					1,335
Survey Total	6	2	15	7	5	24	11	1,935	16	40	1,911	34					4,006
15:00	0	0	2	0	0	2	0	200	2	4	160	2					372
15:15	1	0	0	1	0	4	0	156	2	5	175	13					357
15:30	0	1	3	0	0	0	1	178	3	3	161	3					353
15:45	1	0	0	2	0	3	0	167	1	6	155	1					336
16:00	0	0	0	2	0	2	0	176	0	1	149	1					331
16:15	0	0	2	0	0	4	2	165	0	2	192	4					371
16:30	1	0	0	0	2	2	1	195	1	0	170	1					373
16:45	0	0	2	0	1	2	1	156	1	6	143	4					316
17:00	0	0	4	0	0	2	2	176	2	6	130	1					323
17:15	1	0	0	0	0	1	1	122	2	3	163	1					294
17:30	0	0	2	0	0	0	2	123	0	1	160	3					291
17:45	2	1	0	2	2	2	1	121	2	3	153	0					289

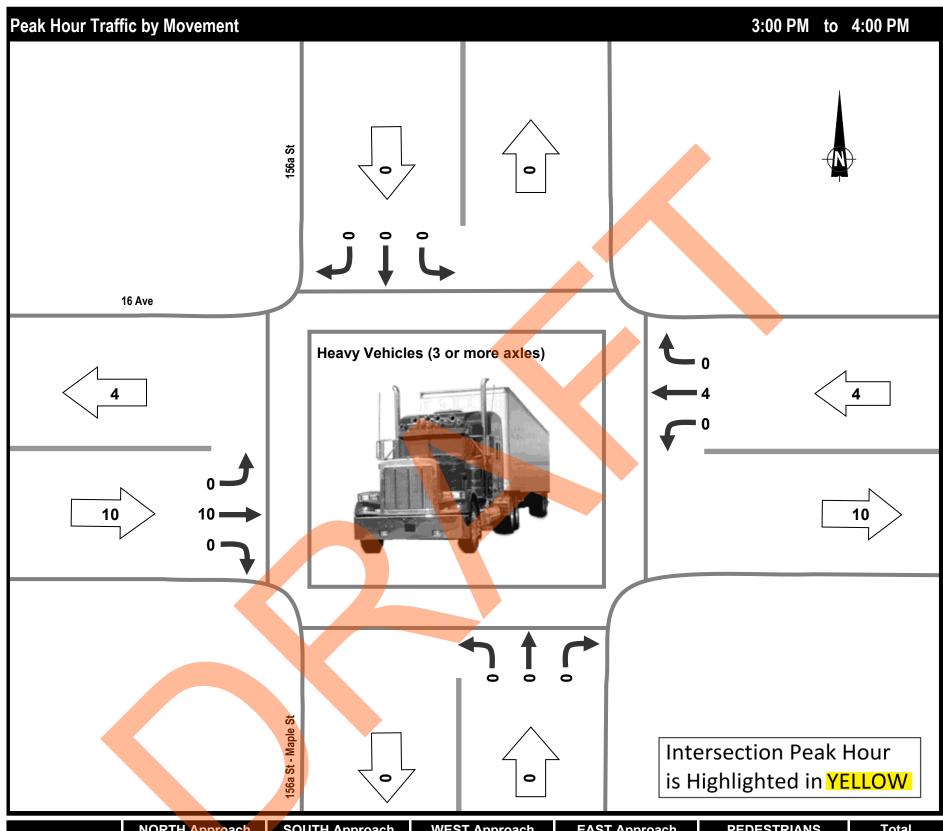


Friday, September 22, 2017

Project: #5740: Russell Ave TIA

Municipality: White Rock Weather: Clear, Sunny

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	N	S	W	Е	Volumes									
Peak Hour	0	0	0	0	0	0	0	10	0	0	4	0					14
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.33	0.00					0.58
Peak 15 X 4	0	0	0	0	0	0	0	12	0	0	12	0					24
Average Hour	0	0	0	0	0	0	0	4	0	0	4	0					8
Survey Total	0	0	0	0	0	0	0	13	0	0	11	0					24
15:00	0	0	0	0	0	0	0	3	0	0	3	0					6
15:15	0	0	0	0	0	0	0	3	0	0	0	0					3
15:30	0	0	0	0	0	0	0	2	0	0	1	0					3
15:45	0	0	0	0	0	0	0	2	0	0	0	0					2
16:00	0	0	0	0	0	0	0	1	0	0	1	0					2
16:15	0	0	0	0	0	0	0	0	0	0	0	0					0
16:30	0	0	0	0	0	0	0	0	0	0	0	0					0
16:45	0	0	0	0	0	0	0	0	0	0	1	0					1
17:00	0	0	0	0	0	0	0	0	0	0	1	0					1
17:15	0	0	0	0	0	0	0	0	0	0	2	0					2
17:30	0	0	0	0	0	0	0	1	0	0	1	0					2
17:45	0	0	0	0	0	0	0	1	0	0	1	0					2



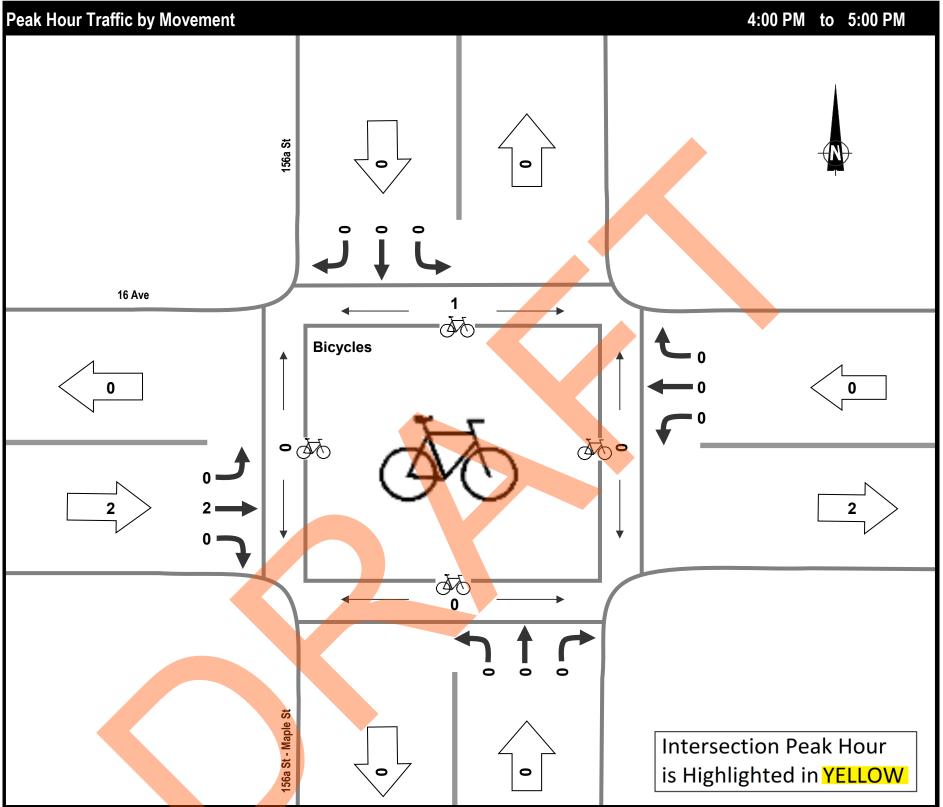
Friday, September 22, 2017

Afternoon Peak Period

Project: #5740: Russell Ave TIA

Municipality: White Rock Weather: Clear, Sunny Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



Time	NOR	ТН Арр			ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	LKS	Total
Tillie	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Ш	Volumes
Peak Hour	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	3
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.38
Peak 15 X 4	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	8
Average Hour	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Survey Total	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	4
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
16:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Lee St & North Bluff Rd

Thursday, November 08, 2018 Vehicle Classification Summary

#5935: Beachway Traffic Impact Assessment

Project: Municipality: White Rock Weather: Cloudy

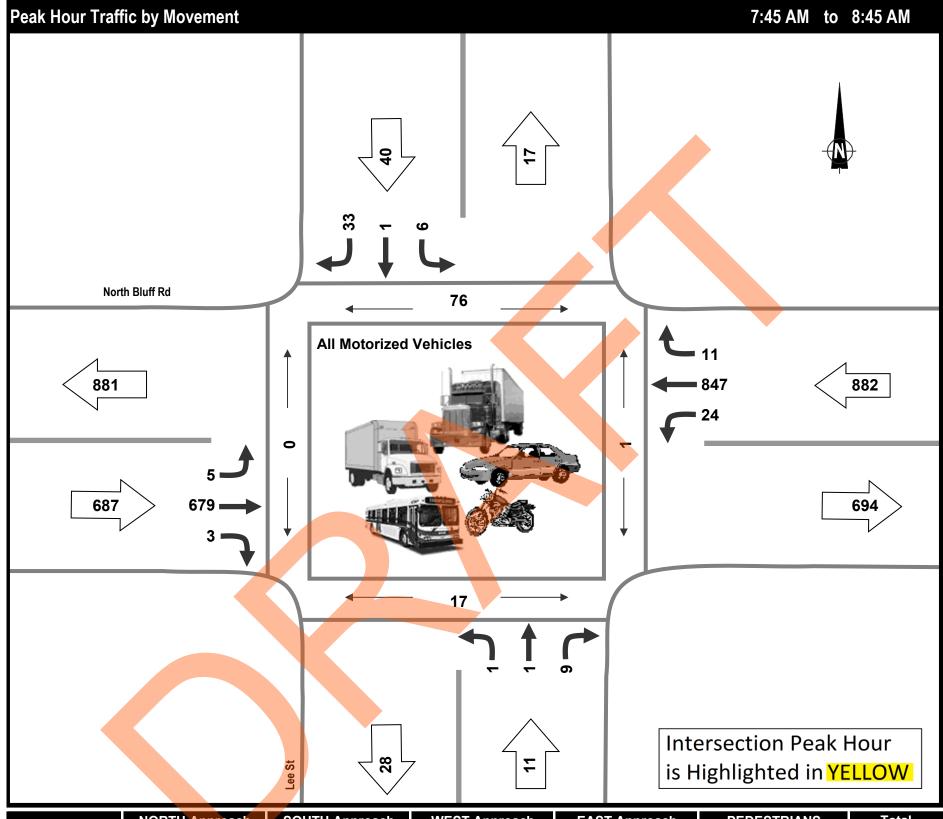
			Vel	nicle Classificat	ion	
Time Period	Entering Intersection	Passenger Cars	Heavy Vehicles (3 or more axles)			Total
Morning	Volume	2,538	34			2,572
(07:00 - 09:00)	%	98.7%	1.3%			100.0%
Midday	Volume					
	%					
Afternoon	Volume	4,528	17			4,545
(15:00 - 18:00)	%	99.6%	0.4%			100.0%
Total	Volume	7,066	51			7,117
(5 Hours)	%	99.3%	0.7%			100.0%





Municipality: White Rock Weather: Cloudy

Vehicle Class: All Motorized Vehicles

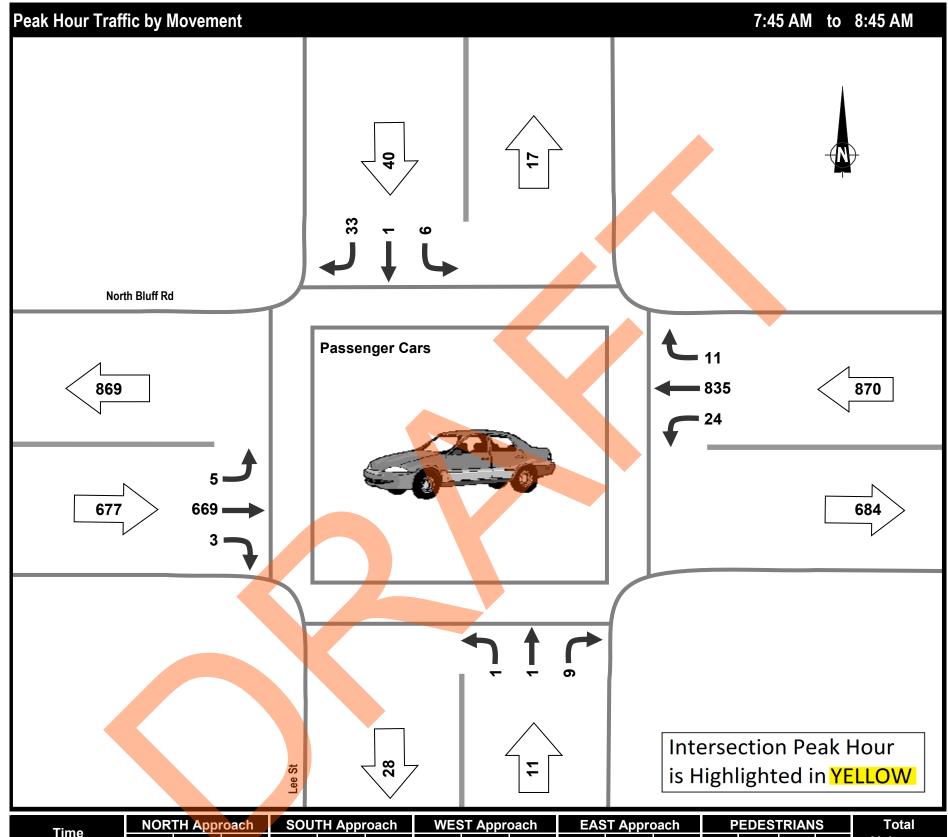


Time	NOR'	TH Appi	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	N	S	W	Е	Volumes									
Peak Hour	6	1	33	1	1	9	5	679	3	24	847	11	76	17	0	1	1,620
PHF	0.50	0.25	0.52	0.25	0.25	0.56	0.42	0.91	0.75	0.60	0.81	0.55	0.61	0.39	0.00	0.25	0.85
Peak 15 X 4	12	4	64	4	4	16	12	744	4	40	1,040	20	124	44	0	4	1,916
Average Hour	11	1	21	1	1	5	3	565	3	13	660	6	48	11	0	1	1,290
Survey Total	21	1	41	1	1	10	5	1,130	5	26	1,319	12	95	21	0	1	2,572
7:00	2	0	2	0	0	0	0	99	0	0	86	0	0	0	0	0	189
7:15	4	0	2	0	0	0	0	89	0	1	94	0	1	0	0	0	190
7:30	6	0	1	0	0	1	0	137	0	0	120	1	1	4	0	0	266
7:45	2	0	2	0	0	0	0	160	0	2	162	1	8	2	0	0	329
8:00	1	0	6	1	0	2	1	181	1	5	189	5	13	3	0	1	392
8:15	0	1	16	0	0	3	3	186	1	7	260	2	31	11	0	0	479
8:30	3	0	9	0	1	4	1	152	1	10	236	3	24	1	0	0	420
8:45	3	0	3	0	0	0	0	126	2	1	172	0	17	0	0	0	307





Municipality: White Rock Weather: Cloudy Vehicle Class: Passenger Cars

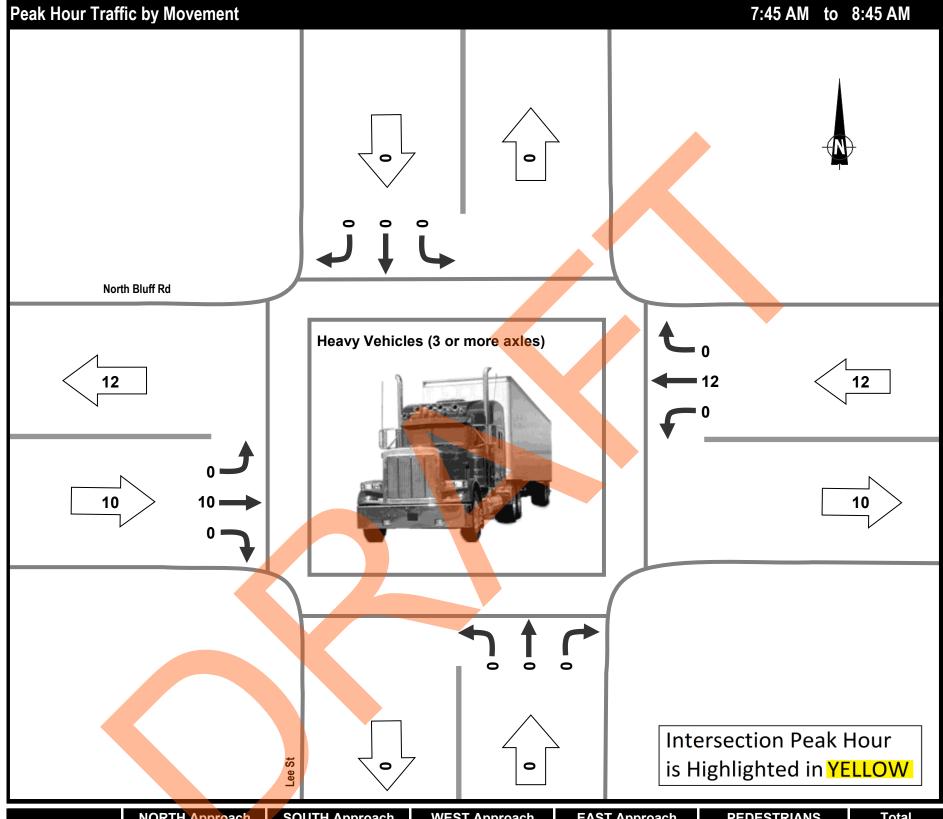


Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	P	EDES	ΓRIAN	S	Total
Hille	left	thru	right	Ν	S	W	Ε	Volumes									
Peak Hour	6	1	33	1	1	9	5	669	3	24	835	11					1,598
PHF	0.50	0.25	0.52	0.25	0.25	0.56	0.42	0.92	0.75	0.60	0.81	0.55					0.84
Peak 15 X 4	12	4	64	4	4	16	12	728	4	40	1,036	20					1,896
Average Hour	11	1	21	1	1	5	3	560	3	13	648	6					1,273
Survey Total	21	1	41	1	1	10	5	1,119	5	26	1,296	12					2,538
7:00	2	0	2	0	0	0	0	99	0	0	81	0					184
7:15	4	0	2	0	0	0	0	89	0	1	93	0					189
7:30	6	0	1	0	0	1	0	136	0	0	116	1					261
7:45	2	0	2	0	0	0	0	159	0	2	158	1					324
8:00	1	0	6	1	0	2	1	180	1	5	186	5					388
8:15	0	1	16	0	0	3	3	182	1	7	259	2					474
8:30	3	0	9	0	1	4	1	148	1	10	232	3					412
8:45	3	0	3	0	0	0	0	126	2	1	171	0					306



Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillie	left	thru	right	N	S	W	Ε	Volumes									
Peak Hour	0	0	0	0	0	0	0	10	0	0	12	0					22
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.75	0.00					0.69
Peak 15 X 4	0	0	0	0	0	0	0	16	0	0	16	0					32
Average Hour	0	0	0	0	0	0	0	6	0	0	12	0					18
Survey Total	0	0	0	0	0	0	0	11	0	0	23	0					34
7:00	0	0	0	0	0	0	0	0	0	0	5	0					5
7:15	0	0	0	0	0	0	0	0	0	0	1	0					1
7:30	0	0	0	0	0	0	0	1	0	0	4	0					5
7:45	0	0	0	0	0	0	0	1	0	0	4	0					5
8:00	0	0	0	0	0	0	0	1	0	0	3	0					4
8:15	0	0	0	0	0	0	0	4	0	0	1	0					5
8:30	0	0	0	0	0	0	0	4	0	0	4	0					8
8:45	0	0	0	0	0	0	0	0	0	0	1	0					1



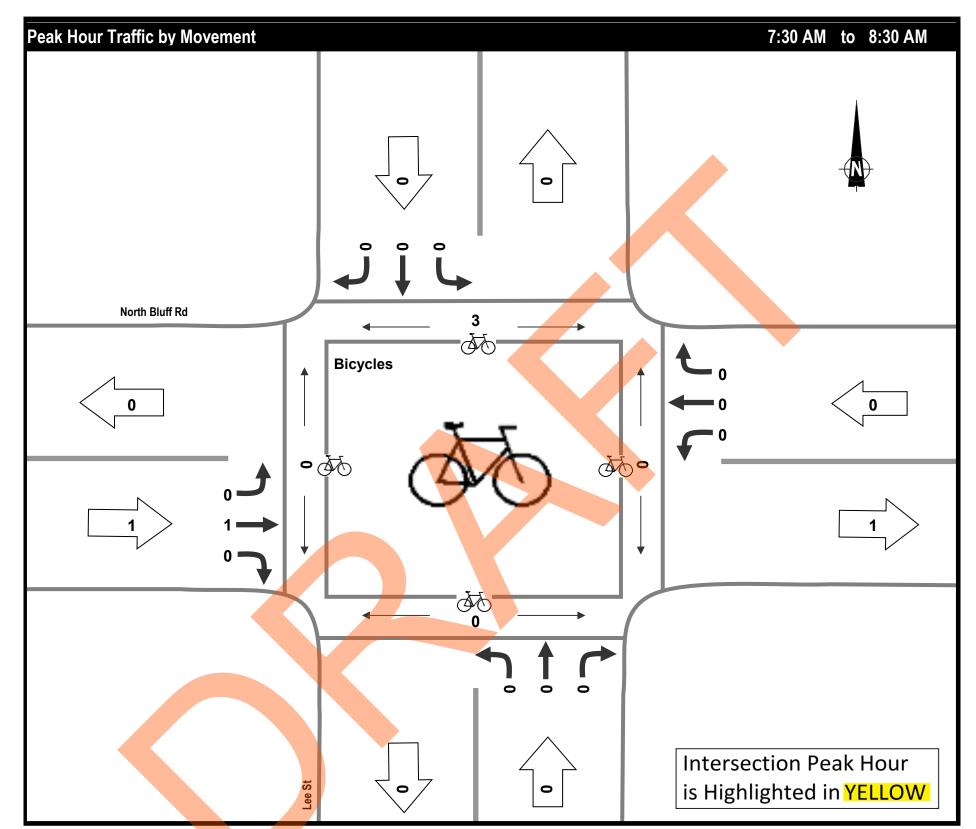
Morning Peak Period



Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	LKS	Total
Tillie	left	thru	right	Ν	S	W	Е	Volumes									
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	4
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.50
Peak 15 X 4	0	0	0	0	0	0	0	4	0	0	0	0	8	0	0	0	8
Average Hour	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	3
Survey Total	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	5
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
8:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



16:45

17:00

17:15

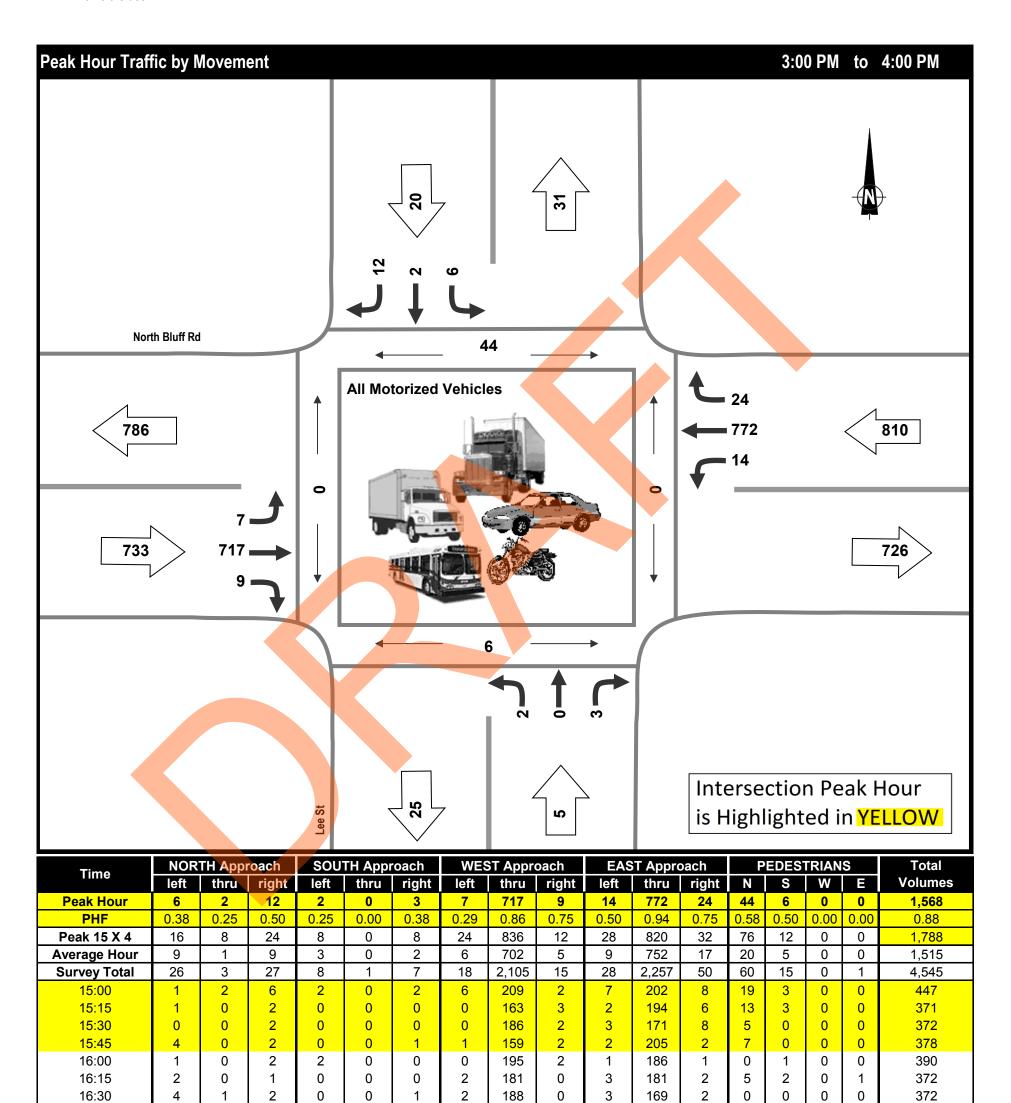
17:30

17:45

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy

Vehicle Class: All Motorized Vehicles



is Highlighted in YELLOW

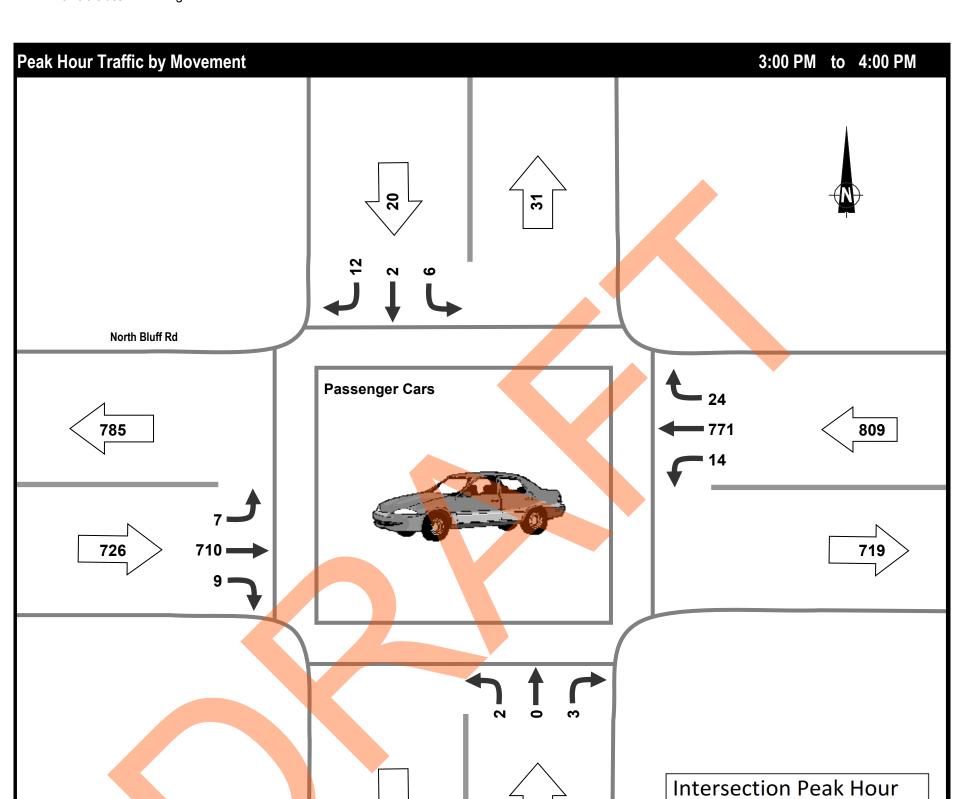


Thursday, November 08, 2018

Afternoon Peak Period

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Passenger Cars



								_									
Time	NOR	ТН Арр	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	P	EDES	TRIAN	S	Total
Tille	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Ε	Volumes
Peak Hour	6	2	12	2	0	3	7	710	9	14	771	24					1,560
PHF	0.38	0.25	0.50	0.25	0.00	0.38	0.29	0.85	0.75	0.50	0.94	0.75					0.87
Peak 15 X 4	16	8	24	8	0	8	24	832	12	28	820	32					1,784
Average Hour	9	1	9	3	0	2	6	698	5	9	751	17					1,510
Survey Total	26	3	27	8	1	7	18	2,093	15	28	2,252	50					4,528
15:00	1	2	6	2	0	2	6	208	2	7	202	8					446
15:15	1	0	2	0	0	0	0	160	3	2	193	6					367
15:30	0	0	2	0	0	0	0	183	2	3	171	8					369
15:45	4	0	2	0	0	1	1	159	2	2	205	2					378
16:00	1	0	2	2	0	0	0	195	2	1	182	1					386
16:15	2	0	1	0	0	0	2	180	0	3	181	2					371
16:30	4	1	2	0	0	1	2	187	0	3	169	2					371
16:45	3	0	2	1	0	1	3	184	1	0	212	5					412
17:00	2	0	2	1	0	0	0	204	2	2	186	6					405
17:15	2	0	2	0	1	2	2	153	1	1	203	1					368
17:30	3	0	2	1	0	0	0	146	0	1	171	4					328
17:45	3	0	2	1	0	0	2	134	0	3	177	5					327

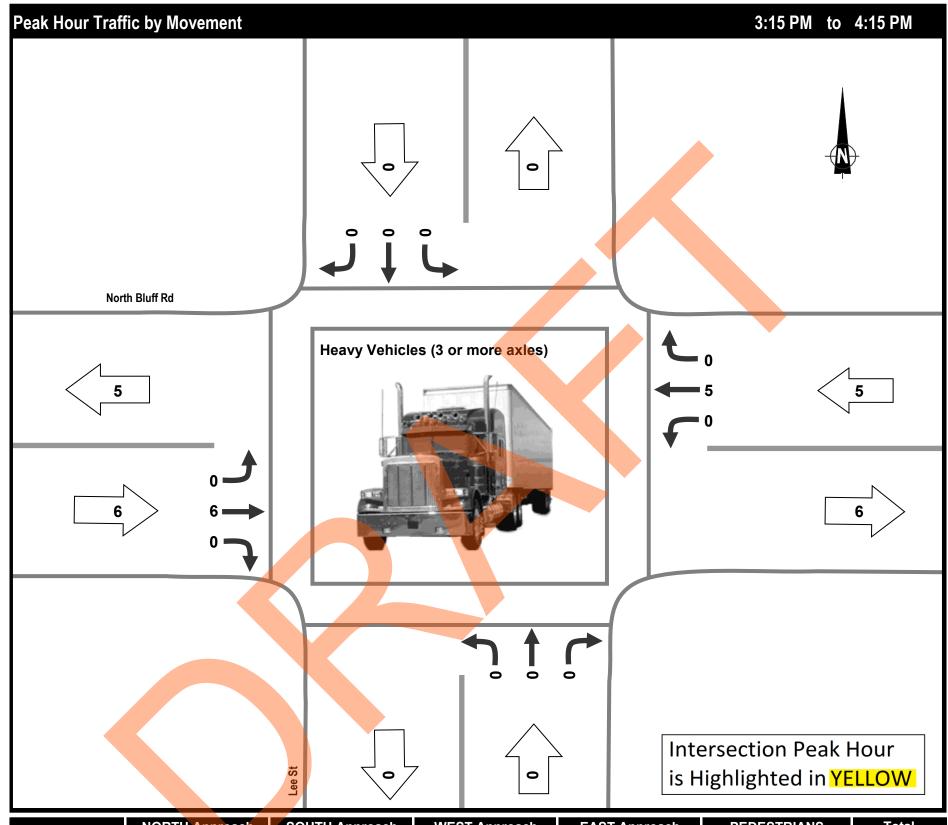


Thursday, November 08, 2018

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	Ν	S	W	Ε	Volumes									
Peak Hour	0	0	0	0	0	0	0	6	0	0	5	0					11
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.31	0.00					0.69
Peak 15 X 4	0	0	0	0	0	0	0	12	0	0	16	0					16
Average Hour	0	0	0	0	0	0	0	4	0	0	2	0					6
Survey Total	0	0	0	0	0	0	0	12	0	0	5	0					17
15:00	0	0	0	0	0	0	0	1	0	0	0	0					1
15:15	0	0	0	0	0	0	0	3	0	0	1	0					4
15:30	0	0	0	0	0	0	0	3	0	0	0	0					3
15:45	0	0	0	0	0	0	0	0	0	0	0	0					0
16:00	0	0	0	0	0	0	0	0	0	0	4	0					4
16:15	0	0	0	0	0	0	0	1	0	0	0	0					1
16:30	0	0	0	0	0	0	0	1	0	0	0	0					1
16:45	0	0	0	0	0	0	0	0	0	0	0	0					0
17:00	0	0	0	0	0	0	0	2	0	0	0	0					2
17:15	0	0	0	0	0	0	0	0	0	0	0	0					0
17:30	0	0	0	0	0	0	0	1	0	0	0	0					1
17:45	0	0	0	0	0	0	0	0	0	0	0	0					0



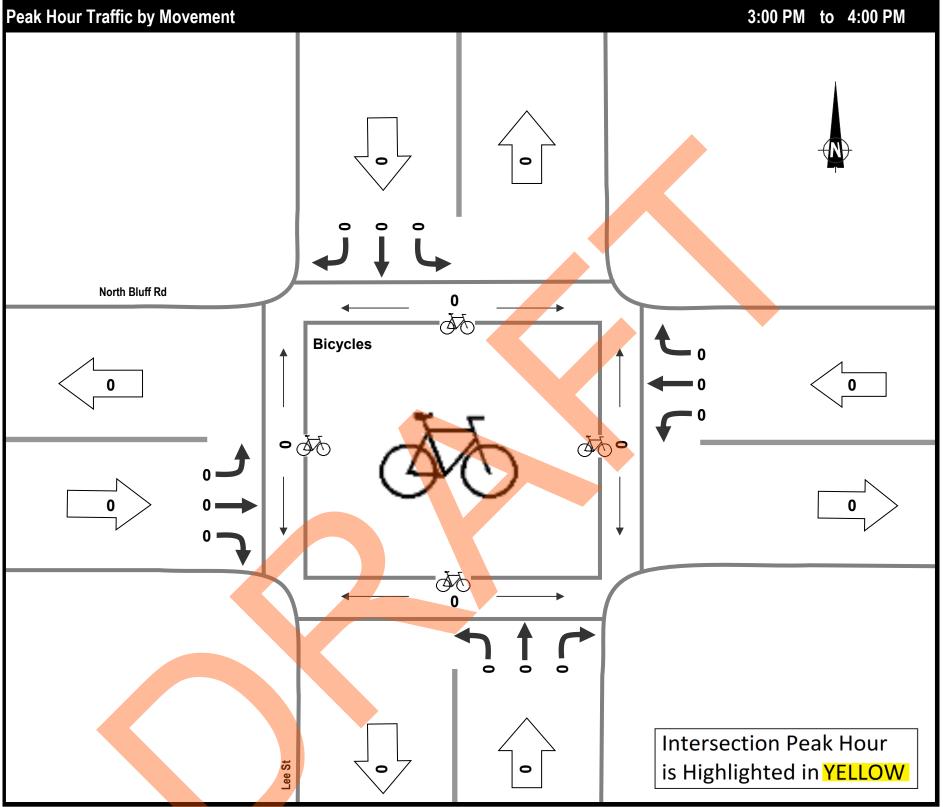
Thursday, November 08, 2018

Afternoon Peak Period

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



											_						
Time	NOR	ТН Арр	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	_KS	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peak 15 X 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Survey Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Thursday, November 08, 2018 Vehicle Classification Summary

#5935: Beachway Traffic Impact Assessment

Project: Municipality: Weather: White Rock Cloudy

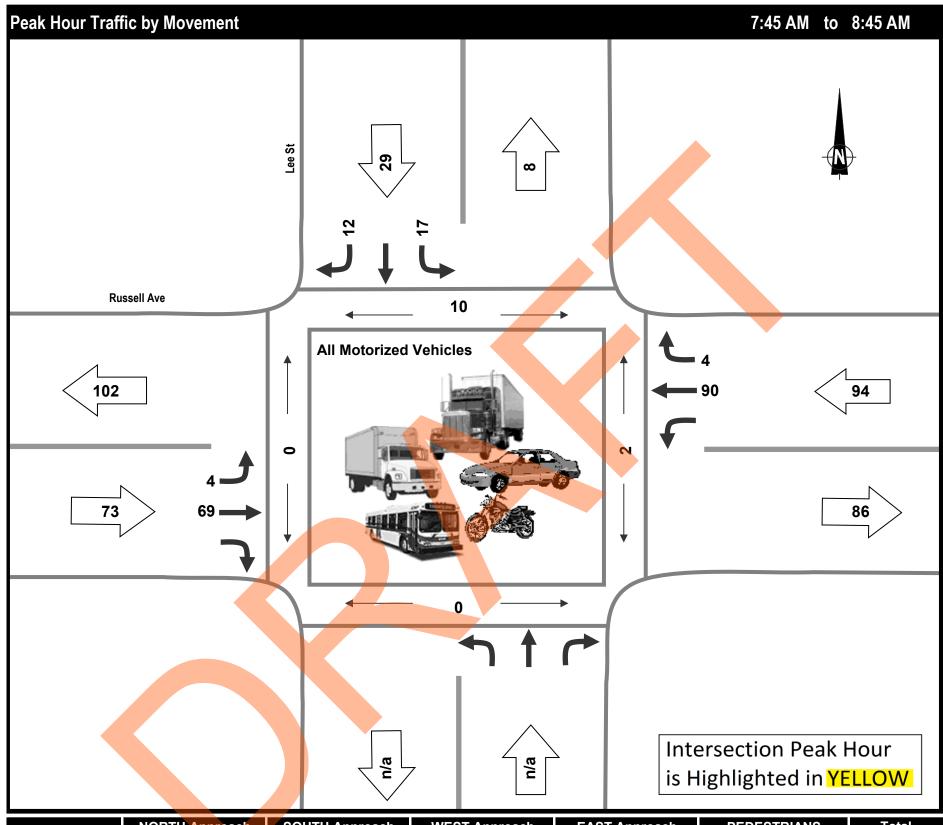
			Ve	hicle Classificat	ion	
Time Period	Entering Intersection	Passenger Cars	Heavy Vehicles (3 or more axles)			Total
Morning	Volume	259	3			262
(07:00 - 09:00)	%	98.9%	1.1%			100.0%
Midday	Volume					
	%					
Afternoon	Volume	374	3			377
(15:00 - 18:00)	%	99.2%	0.8%			100.0%
Total	Volume	633	6			639
(5 Hours)	%	99.1%	0.9%			100.0%





Municipality: White Rock Weather: Cloudy

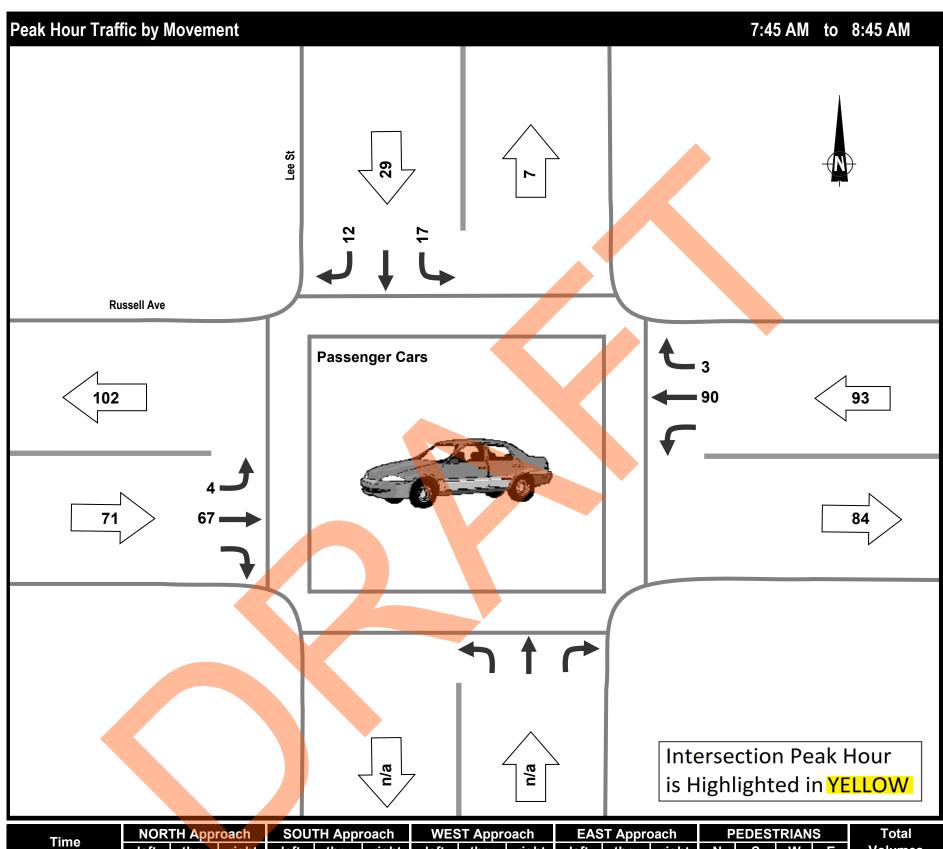
Vehicle Class: All Motorized Vehicles



Time	NOR'	TH Appr	oach	SOU	ТН Аррг	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES'	TRIAN	S	Total
Tillle	left	thru	right	N	S	W	Е	Volumes									
Peak Hour	17		12				4	69			90	4	10	0	0	2	196
PHF	0.61		0.60				0.50	0.69			0.56	0.50	0.36	0.00	0.00	0.25	0.63
Peak 15 X 4	28		20				8	100			160	8	28	0	0	8	312
Average Hour	10		8				3	49			60	3	6	0	0	1	133
Survey Total	19		15				5	98			120	5	11	0	0	2	262
7:00	0		0				0	6			3	0	0	0	0	0	9
7:15	0		1				0	13			5	0	0	0	0	0	19
7:30	0		1				1	6			7	0	0	0	0	0	15
7:45	0		1				0	13			18	0	3	0	0	0	32
8:00	4		5				1	13			15	0	0	0	0	0	38
8:15	6		4				1	25			40	2	7	0	0	0	78
8:30	7		2				2	18			17	2	0	0	0	2	48
8:45	2		1				0	4			15	1	1	0	0	0	23



Municipality: White Rock Weather: Cloudy Vehicle Class: Passenger Cars

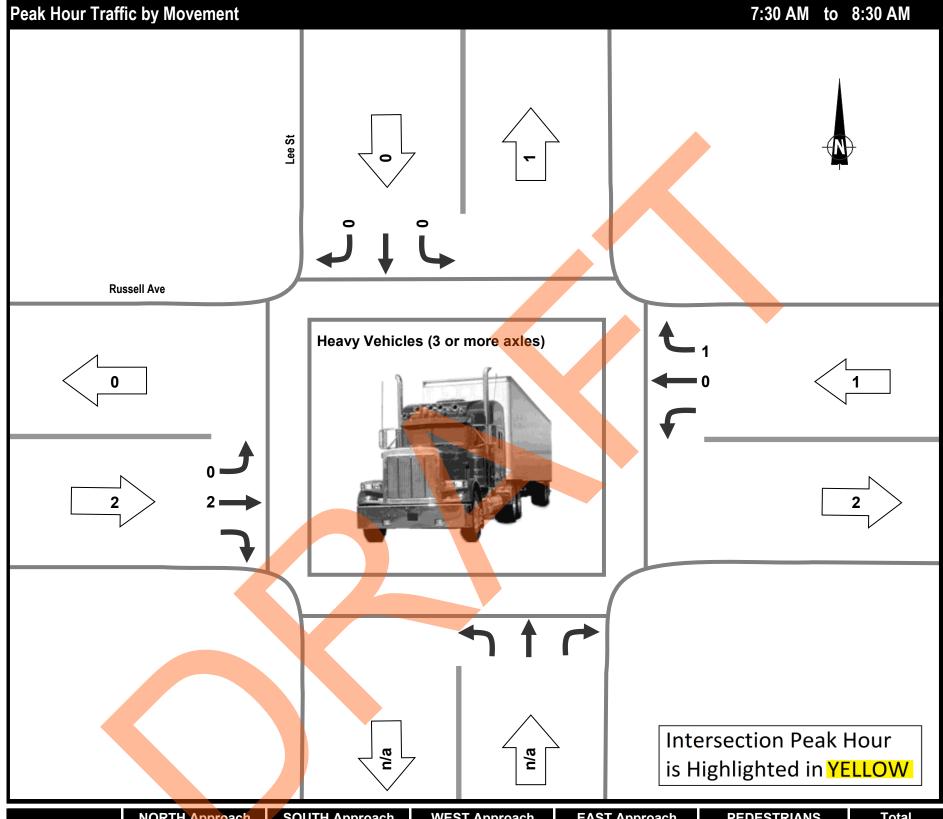


Time	NOR'	TH Appr	roach	SOU	ТН Аррг	roach	WES	ST Appro	oach	EAS	T Appro	oach	P	EDES	TRIAN	S	Total
Tille	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	Volumes
Peak Hour	17		12				4	67			90	3					193
PHF	0.61		0.60				0.50	0.70			0.56	0.38					0.63
Peak 15 X 4	28		20				8	96			160	8					304
Average Hour	10		8				3	48			60	2					131
Survey Total	19		15				5	96			120	4					259
7:00	0		0				0	6			3	0					9
7:15	0		1				0	13			5	0					19
7:30	0		1				1	6			7	0					15
7:45	0		1				0	13			18	0					32
8:00	4		5				1	12			15	0					37
8:15	6		4				1	24			40	1					76
8:30	7		2				2	18			17	2					48
8:45	2		1				0	4			15	1					23



Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	TH Appr	roach	SOU	ТН Аррг	roach	WES	ST Appr	oach	EAS	T Appro	oach	P	EDES	TRIAN	S	Total
Tille	left	thru	right	Ν	S	W	Ε	Volumes									
Peak Hour	0		0				0	2			0	1					3
PHF	0.00		0.00				0.00	0.50			0.00	0.25					0.38
Peak 15 X 4	0		0				0	4			0	4					8
Average Hour	0		0				0	1			0	1					2
Survey Total	0		0				0	2			0	1					3
7:00	0		0				0	0			0	0					0
7:15	0		0				0	0			0	0					0
7:30	0		0				0	0			0	0					0
7:45	0		0				0	0			0	0					0
8:00	0		0				0	1			0	0					1
8:15	0		0				0	1			0	1					2
8:30	0		0				0	0			0	0					0
8:45	0		0				0	0			0	0					0

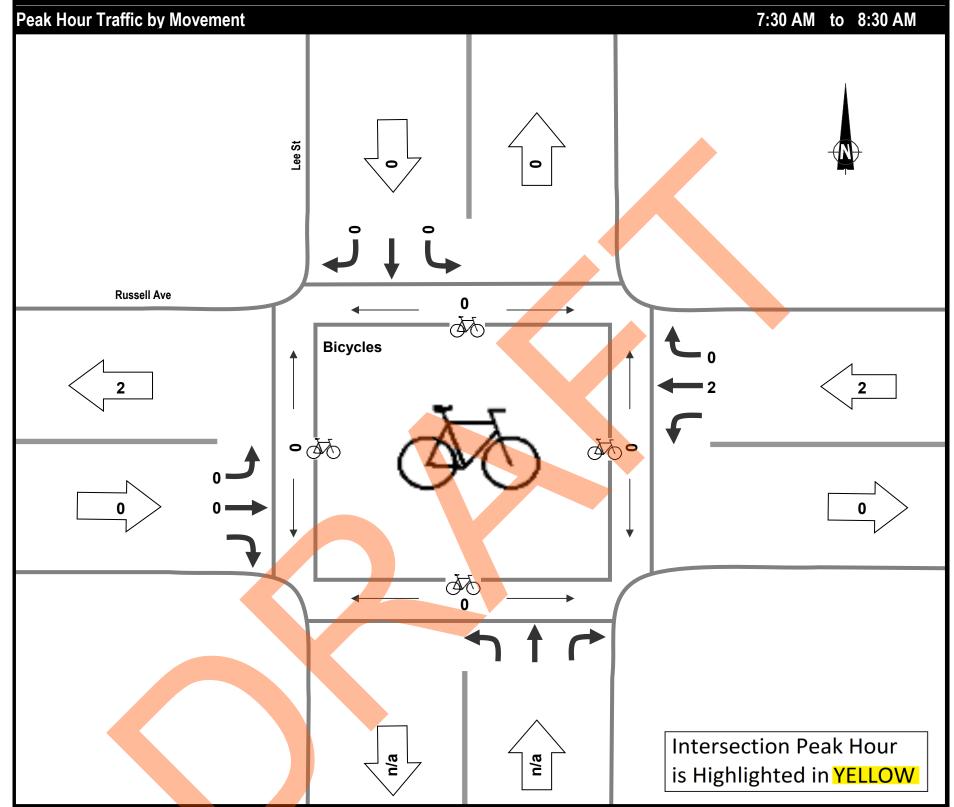
Morning Peak Period



Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



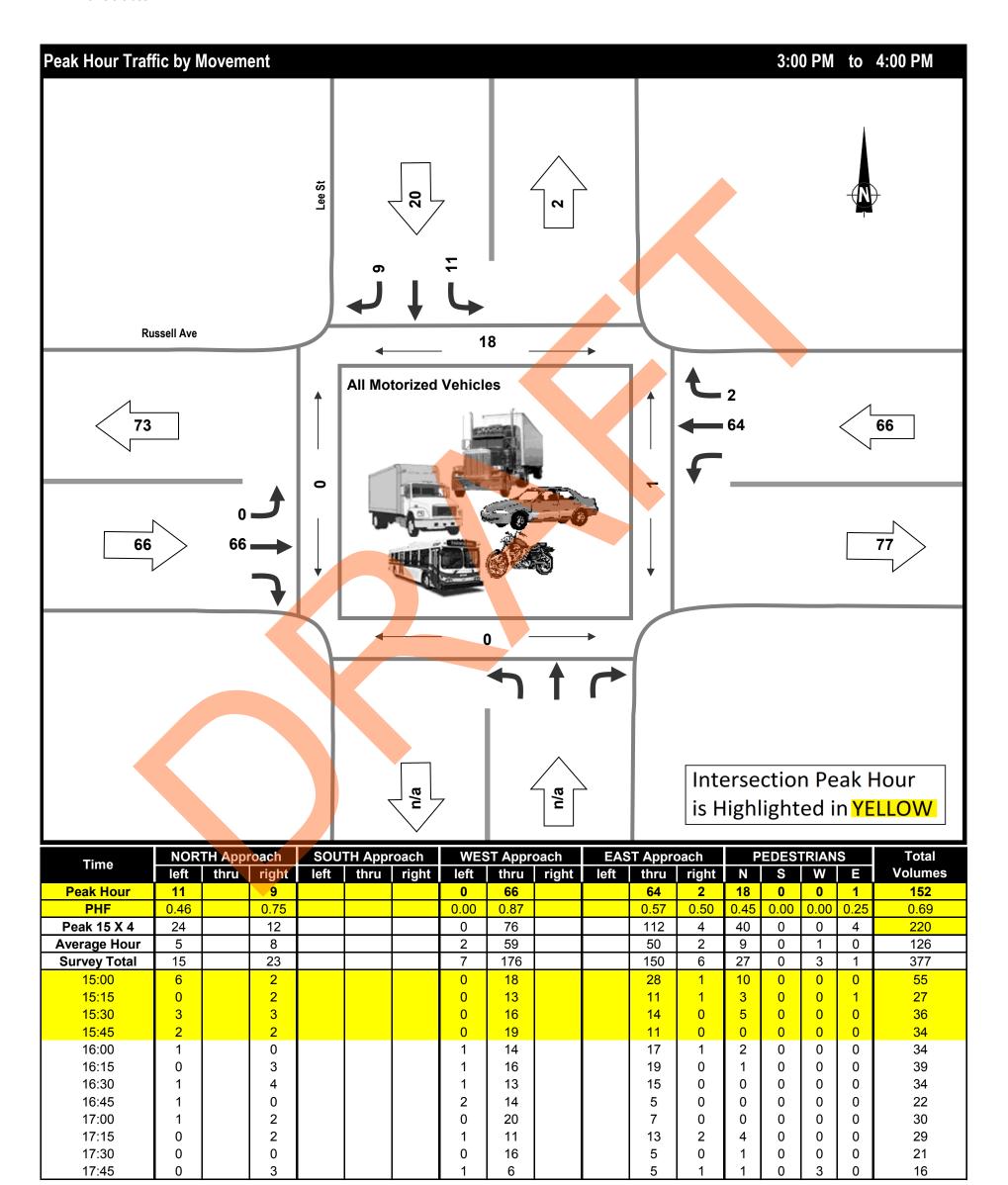
Time	NOR	TH App	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	LKS	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	0		0				0	0			2	0	0	0	0	0	2
PHF	0.00		0.00				0.00	0.00			0.50	0.00	0.00	0.00	0.00	0.00	0.50
Peak 15 X 4	0		0				0	0			4	0	0	0	0	0	4
Average Hour	0		0				0	0			1	0	0	0	0	0	1
Survey Total	0		0				0	0			2	0	0	0	0	0	2
7:00	0		0				0	0			0	0	0	0	0	0	0
7:15	0		0				0	0			0	0	0	0	0	0	0
7:30	0		0				0	0			0	0	0	0	0	0	0
7:45	0		0				0	0			0	0	0	0	0	0	0
8:00	0		0				0	0			1	0	0	0	0	0	1
8:15	0		0				0	0			1	0	0	0	0	0	1
8:30	0		0				0	0			0	0	0	0	0	0	0
8:45	0		0				0	0			0	0	0	0	0	0	n





Municipality: White Rock Weather: Cloudy

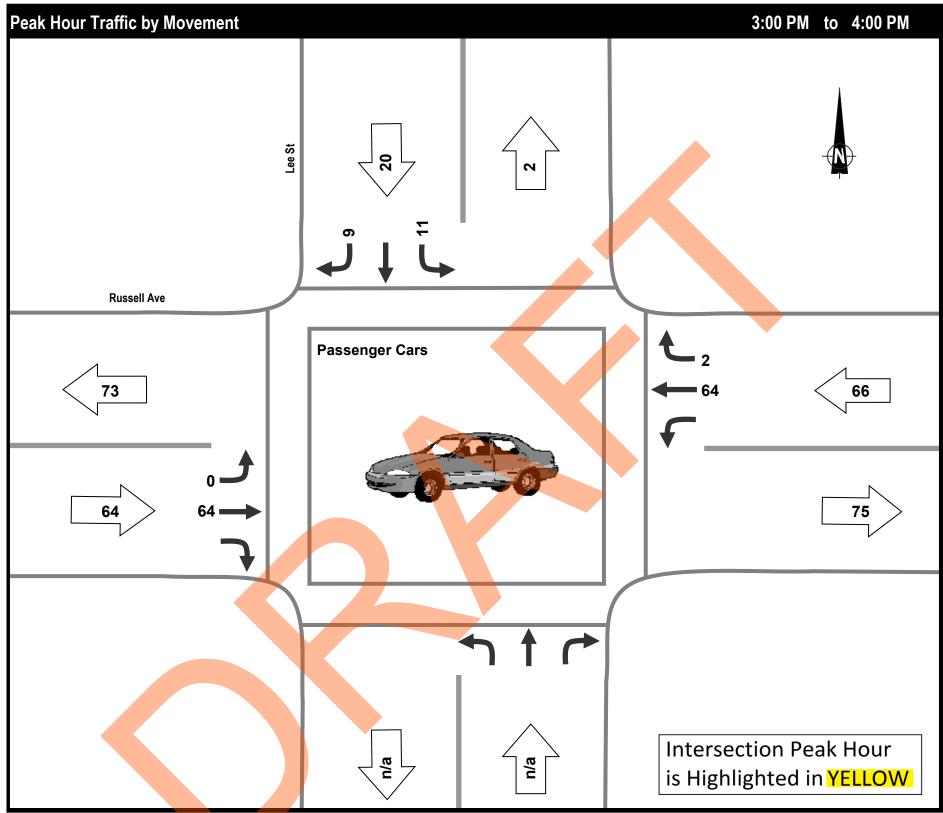
Vehicle Class: All Motorized Vehicles







Municipality: White Rock
Weather: Cloudy
Vehicle Class: Passenger Cars



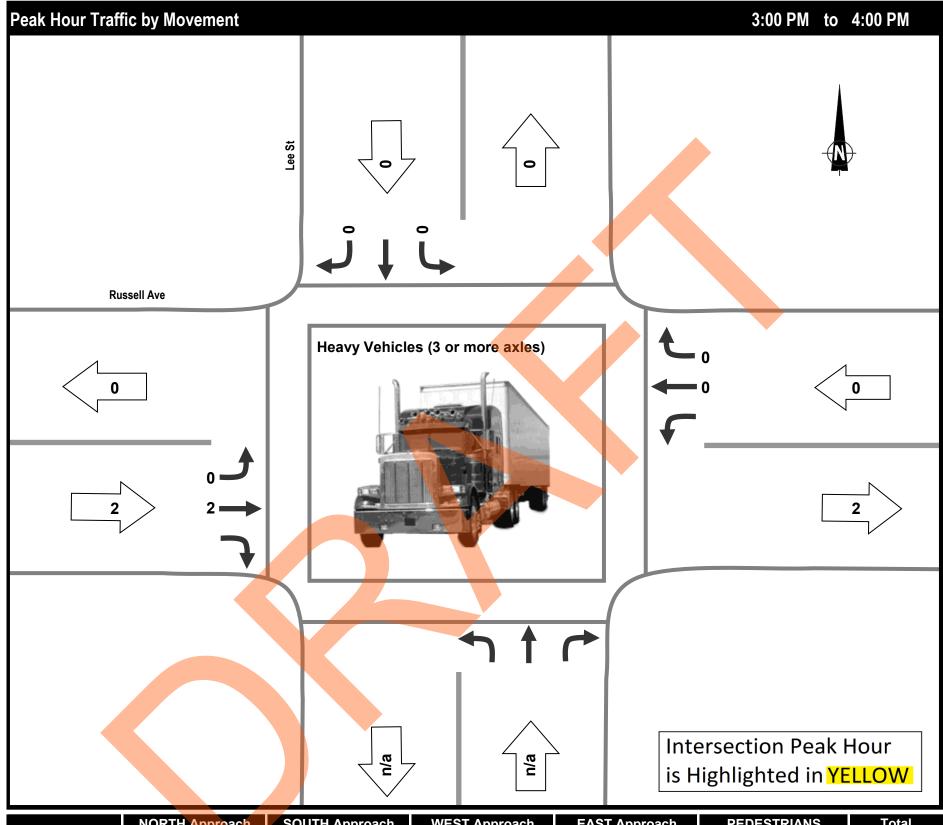
											_						
Time	NOR	TH App	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	ST Appre	oach	P	EDES	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Ε	Volumes
Peak Hour	11		9				0	64			64	2					150
PHF	0.46		0.75				0.00	0.84			0.57	0.50					0.71
Peak 15 X 4	24		12				0	76			112	4					212
Average Hour	5		8				2	58			50	2					125
Survey Total	15		23				7	173			150	6					374
15:00	6		2				0	16			28	1					53
15:15	0		2				0	13			11	1					27
15:30	3		3				0	16			14	0					36
15:45	2		2				0	19			11	0					34
16:00	1		0				1	14			17	1					34
16:15	0		3				1	16			19	0					39
16:30	1		4				1	13			15	0					34
16:45	1		0				2	13			5	0					21
17:00	1		2				0	20			7	0					30
17:15	0		2				1	11			13	2					29
17:30	0		0				0	16			5	0					21
17:45	0		3				1	6			5	1					16





Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)



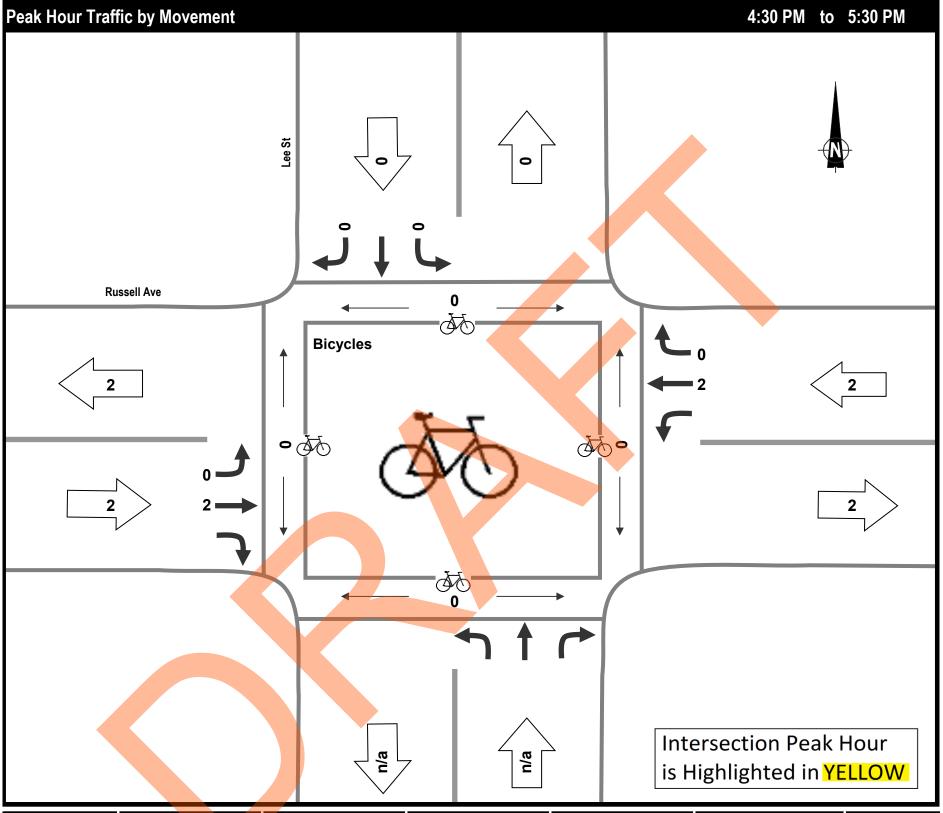
Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	Ν	S	W	Е	Volumes									
Peak Hour	0		0				0	2			0	0					2
PHF	0.00		0.00				0.00	0.25			0.00	0.00					0.25
Peak 15 X 4	0		0				0	8			0	0					8
Average Hour	0		0				0	1			0	0					1
Survey Total	0		0				0	3			0	0					3
15:00	0		0				0	2			0	0					2
15:15	0		0				0	0			0	0					0
15:30	0		0				0	0			0	0					0
15:45	0		0				0	0			0	0					0
16:00	0		0				0	0			0	0					0
16:15	0		0				0	0			0	0					0
16:30	0		0				0	0			0	0					0
16:45	0		0				0	1			0	0					1
17:00	0		0				0	0			0	0					0
17:15	0		0				0	0			0	0					0
17:30	0		0				0	0			0	0					0
17:45	0		0				0	0			0	0					0





Municipality: White Rock Weather: Cloudy Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



Time	NOR	TH App	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	ST Appre	oach	BIK	ES in	X-WA	LKS	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Е	Volumes
Peak Hour	0		0				0	2			2	0	0	0	0	0	4
PHF	0.00		0.00				0.00	0.50			0.50	0.00	0.00	0.00	0.00	0.00	0.50
Peak 15 X 4	0		0				0	4			4	0	0	0	0	0	8
Average Hour	0		0				0	1			1	0	0	0	0	0	2
Survey Total	0		0				0	4			2	0	0	0	0	0	6
15:00	0		0				0	0			0	0	0	0	0	0	0
15:15	0		0				0	0			0	0	0	0	0	0	0
15:30	0		0				0	0			0	0	0	0	0	0	0
15:45	0		0				0	2			0	0	0	0	0	0	2
16:00	0		0				0	0			0	0	0	0	0	0	0
16:15	0		0				0	0			0	0	0	0	0	0	0
16:30	0		0				0	0			0	0	0	0	0	0	0
16:45	0		0				0	0			1	0	0	0	0	0	1
17:00	0		0				0	1			1	0	0	0	0	0	2
17:15	0		0				0	1			0	0	0	0	0	0	1
17:30	0		0				0	0			0	0	0	0	0	0	0
17:45	0		0				0	0			0	0	0	0	0	0	0



Maple St & Russell Ave

Friday, September 22, 2017 Vehicle Classification Summary

#5740: Russell Ave TIA

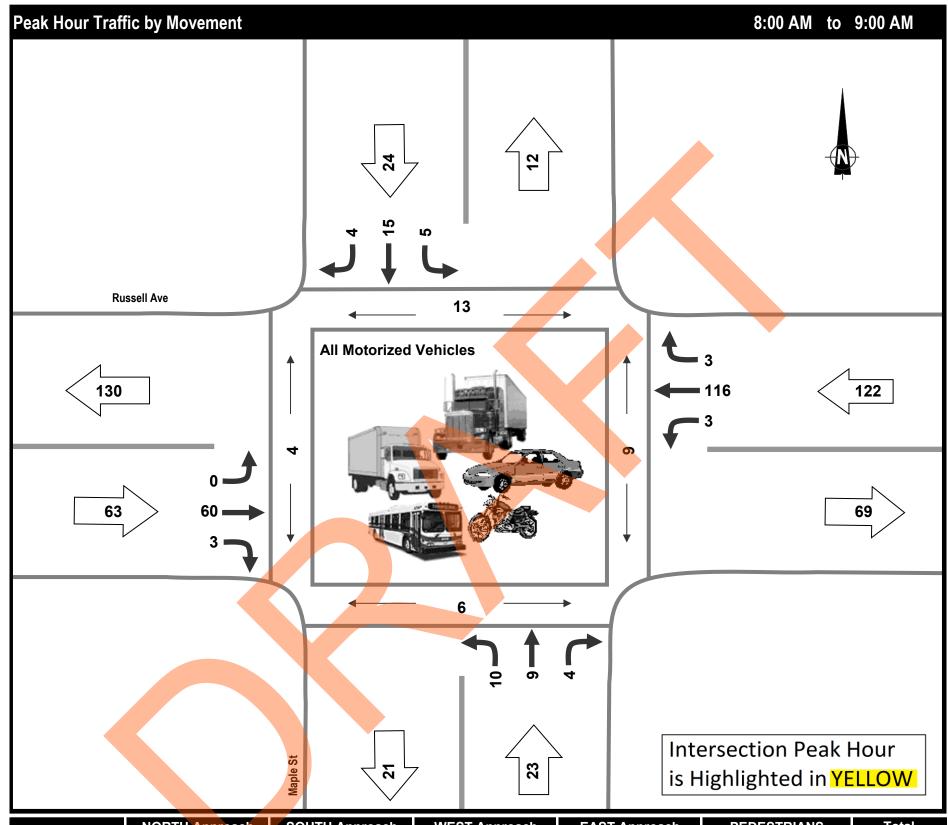
Project: Municipality: Weather: White Rock Clear, Cloudy

			Vel	nicle Classificat	ion	
Time Period	Entering Intersection	Passenger Cars	Heavy Vehicles (3 or more axles)			Total
Morning	Volume	316	0			316
(07:00 - 09:00)	%	100.0%	0.0%			100.0%
Midday	Volume					
(00:00 - 00:00)	%					
Afternoon	Volume	448	0			448
(15:00 - 18:00)	%	100.0%	0.0%			100.0%
Total	Volume	764	0			764
(5 Hours)	%	100.0%	0.0%			100.0%



Project: #5740: Russell Ave TIA Municipality: White Rock

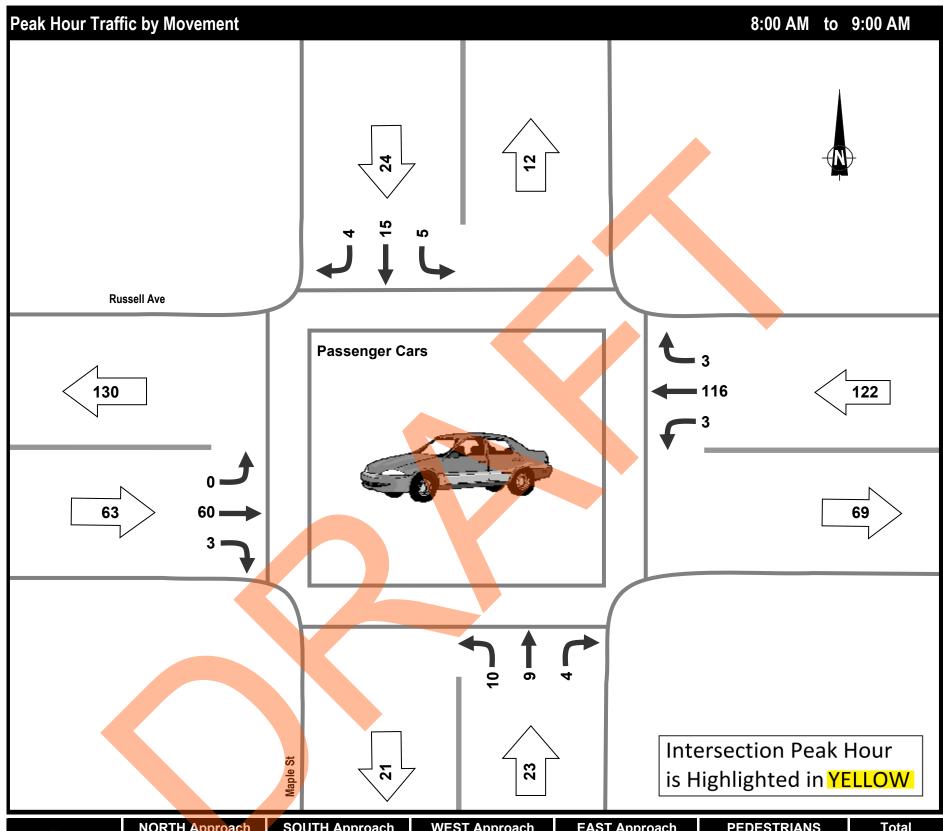
Weather: Clear, Cloudy
Vehicle Class: All Motorized Vehicles



Time	NOR	TH Appi	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	ΓRIAN	S	Total
Tille	left	thru	right	Ν	S	W	Е	Volumes									
Peak Hour	5	15	4	10	9	4	0	60	3	3	116	3	13	6	4	9	232
PHF	0.63	0.42	0.33	0.50	0.45	0.50	0.00	0.63	0.75	0.38	0.55	0.75	0.65	0.50	0.33	0.38	0.59
Peak 15 X 4	8	36	12	20	20	8	0	96	4	8	212	4	20	12	12	24	396
Average Hour	3	9	2	9	9	3	0	46	3	3	72	2	9	4	4	5	161
Survey Total	5	18	4	17	17	5	0	92	5	5	144	4	17	8	7	10	316
7:00	0	1	0	1	1	1	0	8	1	0	1	0	0	1	0	0	14
7:15	0	0	0	3	2	0	0	2	0	0	7	1	1	1	0	1	15
7:30	0	1	0	2	5	0	0	10	0	2	11	0	0	0	0	0	31
7:45	0	1	0	1	0	0	0	12	1	0	9	0	3	0	3	0	24
8:00	2	1	3	0	1	2	0	9	1	0	19	0	3	3	0	1	38
8:15	2	4	1	5	5	2	0	24	0	2	53	1	5	2	3	6	99
8:30	1	9	0	4	2	0	0	13	1	1	31	1	2	1	1	1	63
8:45	0	1	0	1	1	0	0	14	1	0	13	1	3	0	0	1	32



Municipality: White Rock
Weather: Clear, Cloudy
Vehicle Class: Passenger Cars

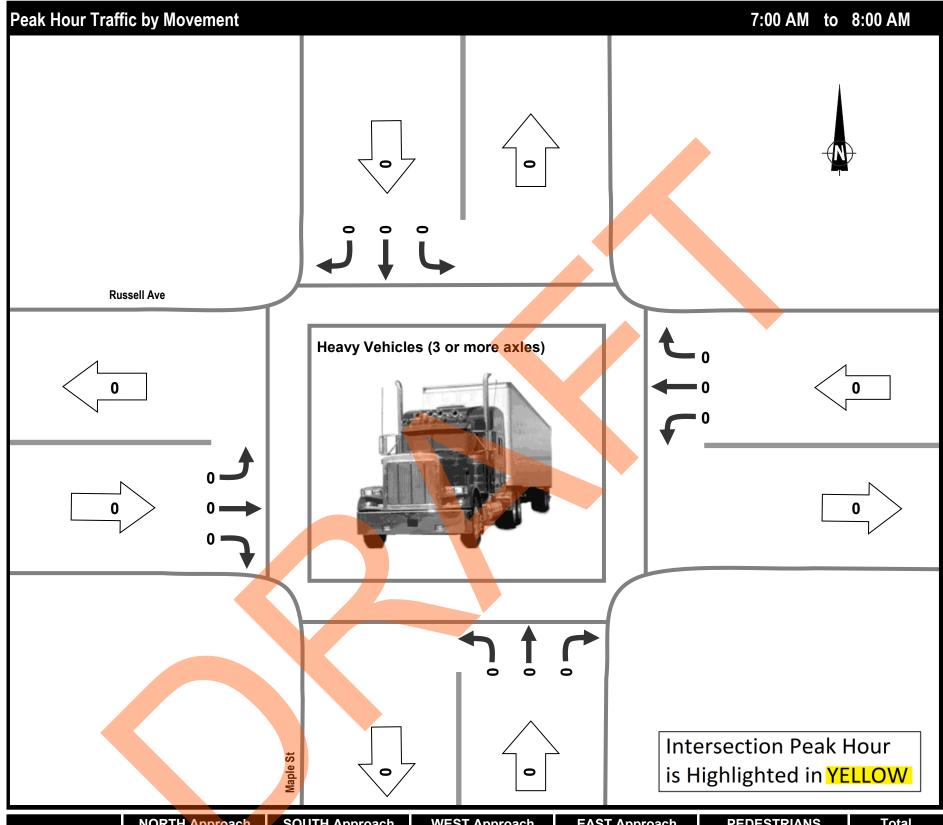


Time	NOR	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	N	S	W	Ε	Volumes									
Peak Hour	5	15	4	10	9	4	0	60	3	3	116	3					232
PHF	0.63	0.42	0.33	0.50	0.45	0.50	0.00	0.63	0.75	0.38	0.55	0.75					0.59
Peak 15 X 4	8	36	12	20	20	8	0	96	4	8	212	4					396
Average Hour	3	9	2	9	9	3	0	46	3	3	72	2					161
Survey Total	5	18	4	17	17	5	0	92	5	5	144	4					316
7:00	0	1	0	1	1	1	0	8	1	0	1	0					14
7:15	0	0	0	3	2	0	0	2	0	0	7	1					15
7:30	0	1	0	2	5	0	0	10	0	2	11	0					31
7:45	0	1	0	1	0	0	0	12	1	0	9	0					24
8:00	2	1	3	0	1	2	0	9	1	0	19	0					38
8:15	2	4	1	5	5	2	0	24	0	2	53	1					99
8:30	1	9	0	4	2	0	0	13	1	1	31	1					63
8:45	0	1	0	1	1	0	0	14	1	0	13	1					32



Municipality: White Rock Weather: Clear, Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	N	S	W	Е	Volumes									
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0					0
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
Peak 15 X 4	0	0	0	0	0	0	0	0	0	0	0	0					0
Average Hour	0	0	0	0	0	0	0	0	0	0	0	0					0
Survey Total	0	0	0	0	0	0	0	0	0	0	0	0					0
7:00	0	0	0	0	0	0	0	0	0	0	0	0					0
7:15	0	0	0	0	0	0	0	0	0	0	0	0					0
7:30	0	0	0	0	0	0	0	0	0	0	0	0					0
7:45	0	0	0	0	0	0	0	0	0	0	0	0					0
8:00	0	0	0	0	0	0	0	0	0	0	0	0					0
8:15	0	0	0	0	0	0	0	0	0	0	0	0					0
8:30	0	0	0	0	0	0	0	0	0	0	0	0					0
8:45	0	0	0	0	0	0	0	0	0	0	0	0					0

Intersection Peak Hour

is Highlighted in YELLOW



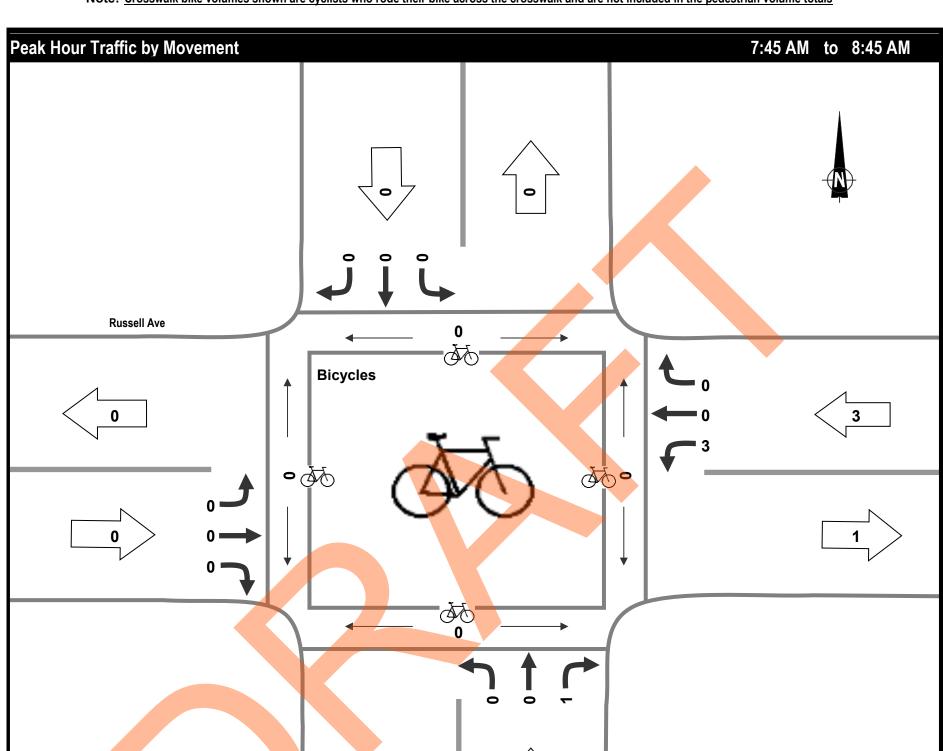
Morning Peak Period



Project: #5740: Russell Ave TIA

Municipality: White Rock Weather: Clear, Cloudy Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals

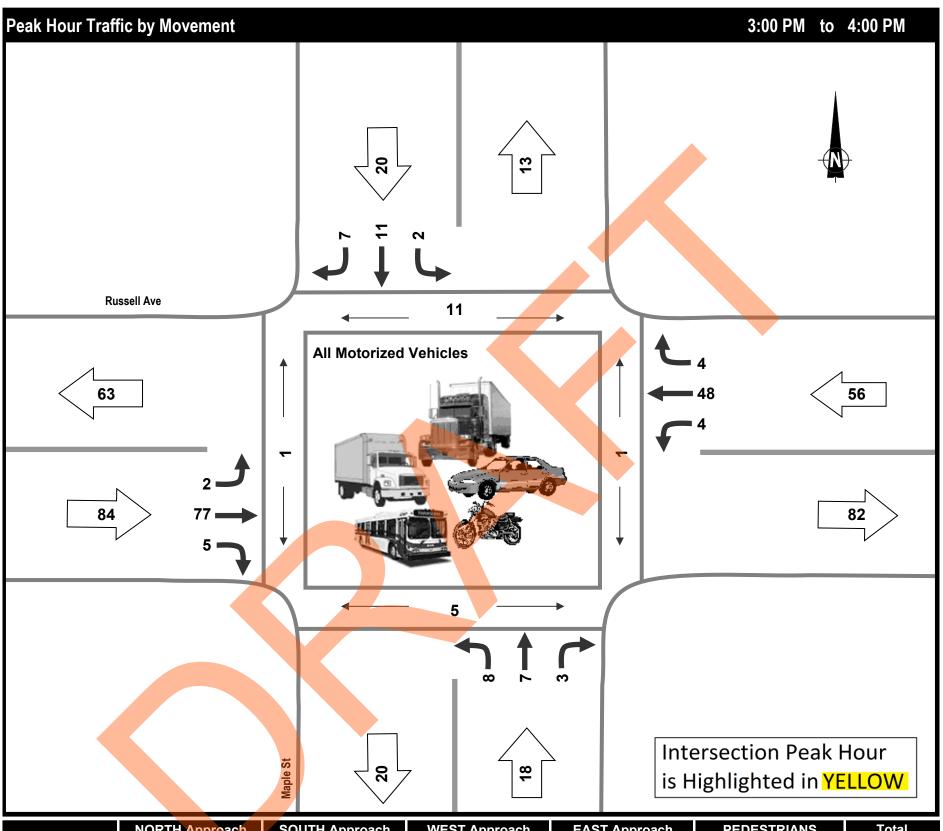


Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	roach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	LKS	Total
Tille	left	thru	right	N	S	W	Е	Volumes									
Peak Hour	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	4
PHF	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.33
Peak 15 X 4	0	0	0	0	0	4	0	0	0	12	0	0	0	0	0	0	12
Average Hour	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	3
Survey Total	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	4
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Municipality: White Rock
Weather: Clear, Cloudy
Vehicle Class: All Motorized Vehicles

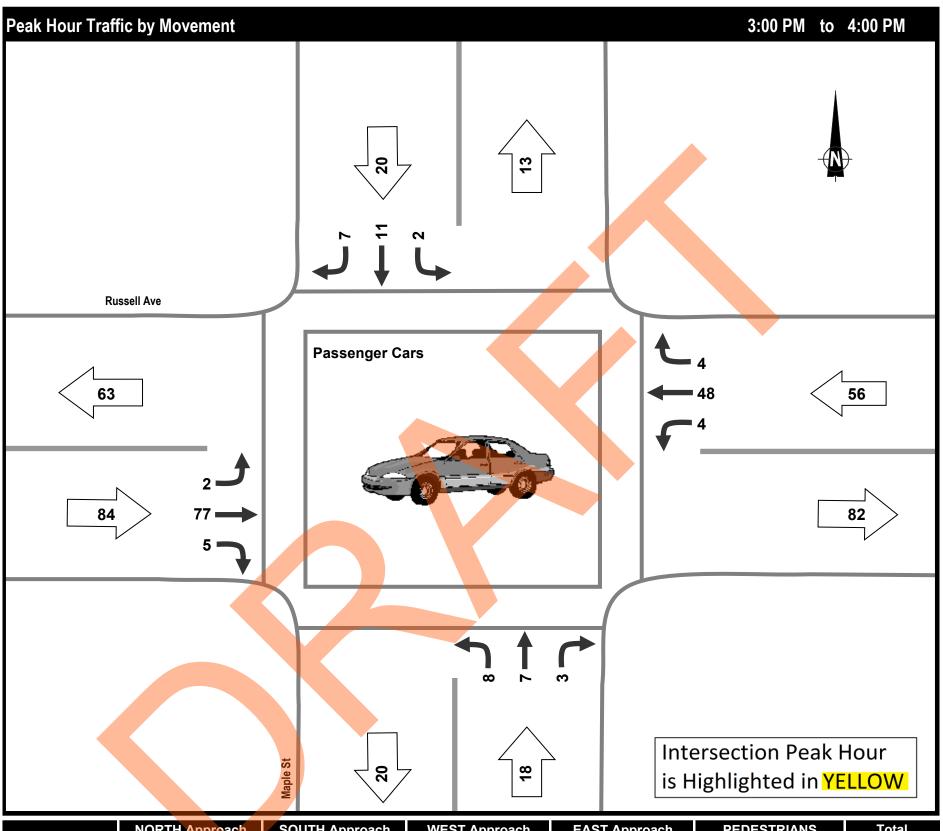


Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillie	left	thru	right	Ν	S	W	Ε	Volumes									
Peak Hour	2	11	7	8	7	3	2	77	5	4	48	4	11	5	1	1	178
PHF	0.50	0.69	0.58	1.00	0.58	0.38	0.50	0.88	0.63	0.50	0.86	0.50	0.46	0.63	0.25	0.25	0.89
Peak 15 X 4	4	16	12	8	12	8	4	88	8	8	56	8	24	8	4	4	200
Average Hour	1	9	6	7	7	1	2	61	8	2	44	1	6	4	3	2	149
Survey Total	3	28	17	21	20	4	5	184	23	7	132	4	18	11	8	7	448
15:00	1	4	0	2	3	1	0	22	0	1	14	1	1	1	0	1	49
15:15	1	2	1	2	1	2	1	20	2	2	14	2	1	2	0	0	50
15:30	0	2	3	2	0	0	0	19	1	0	11	0	3	1	1	0	38
15:45	0	3	3	2	3	0	1	16	2	1	9	1	6	1	0	0	41
16:00	0	2	2	1	3	1	0	9	4	0	14	0	0	3	3	1	36
16:15	0	1	1	5	2	0	0	11	1	1	6	0	0	0	1	0	28
16:30	0	1	1	3	2	0	1	16	3	0	12	0	0	0	0	0	39
16:45	0	4	2	1	2	0	0	13	2	1	14	0	3	0	0	2	39
17:00	0	6	2	3	2	0	0	21	0	0	10	0	2	0	0	1	44
17:15	0	2	1	0	0	0	1	10	2	0	13	0	0	1	1	1	29
17:30	0	1	0	0	0	0	0	14	2	1	8	0	0	1	0	0	26
17:45	1	0	1	0	2	0	1	13	4	0	7	0	2	1	2	1	29





Municipality: White Rock
Weather: Clear, Cloudy
Vehicle Class: Passenger Cars



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES [*]	TRIAN	IS	Total
Tillie	left	thru	right	N	S	W	Ε	Volumes									
Peak Hour	2	11	7	8	7	3	2	77	5	4	48	4					178
PHF	0.50	0.69	0.58	1.00	0.58	0.38	0.50	0.88	0.63	0.50	0.86	0.50					0.89
Peak 15 X 4	4	16	12	8	12	8	4	88	8	8	56	8					200
Average Hour	1	9	6	7	7	1	2	61	8	2	44	1					149
Survey Total	3	28	17	21	20	4	5	184	23	7	132	4					448
15:00	1	4	0	2	3	1	0	22	0	1	14	1					49
15:15	1	2	1	2	1	2	1	20	2	2	14	2					50
15:30	0	2	3	2	0	0	0	19	1	0	11	0					38
15:45	0	3	3	2	3	0	1	16	2	1	9	1					41
16:00	0	2	2	1	3	1	0	9	4	0	14	0					36
16:15	0	1	1	5	2	0	0	11	1	1	6	0					28
16:30	0	1	1	3	2	0	1	16	3	0	12	0					39
16:45	0	4	2	1	2	0	0	13	2	1	14	0					39
17:00	0	6	2	3	2	0	0	21	0	0	10	0					44
17:15	0	2	1	0	0	0	1	10	2	0	13	0					29
17:30	0	1	0	0	0	0	0	14	2	1	8	0					26
17:45	1	0	1	0	2	0	1	13	4	0	7	0					29

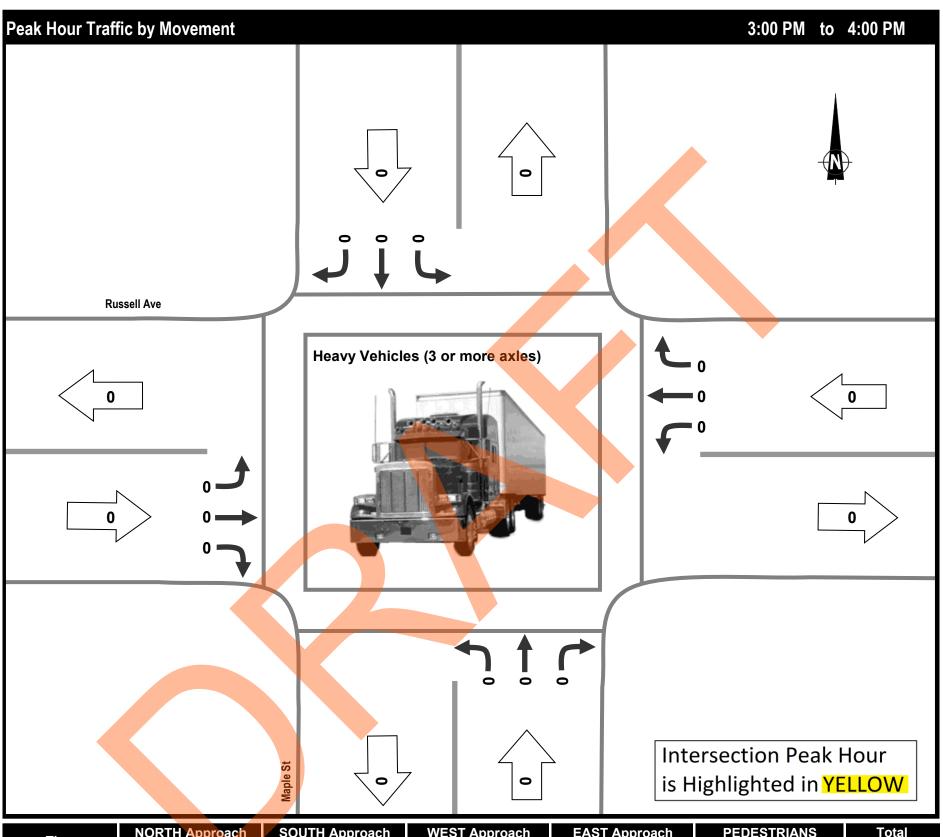


Friday, September 22, 2017

Project: #5740: Russell Ave TIA

Municipality: White Rock
Weather: Clear, Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES"	TRIAN	IS	Total
Tillle	left	thru	right	N	S	W	Ε	Volumes									
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0					0
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
Peak 15 X 4	0	0	0	0	0	0	0	0	0	0	0	0					0
Average Hour	0	0	0	0	0	0	0	0	0	0	0	0					0
Survey Total	0	0	0	0	0	0	0	0	0	0	0	0					0
15:00	0	0	0	0	0	0	0	0	0	0	0	0					0
15:15	0	0	0	0	0	0	0	0	0	0	0	0					0
15:30	0	0	0	0	0	0	0	0	0	0	0	0					0
15:45	0	0	0	0	0	0	0	0	0	0	0	0					0
16:00	0	0	0	0	0	0	0	0	0	0	0	0					0
16:15	0	0	0	0	0	0	0	0	0	0	0	0					0
16:30	0	0	0	0	0	0	0	0	0	0	0	0					0
16:45	0	0	0	0	0	0	0	0	0	0	0	0					0
17:00	0	0	0	0	0	0	0	0	0	0	0	0					0
17:15	0	0	0	0	0	0	0	0	0	0	0	0					0
17:30	0	0	0	0	0	0	0	0	0	0	0	0					0
17:45	0	0	0	0	0	0	0	0	0	0	0	0					0



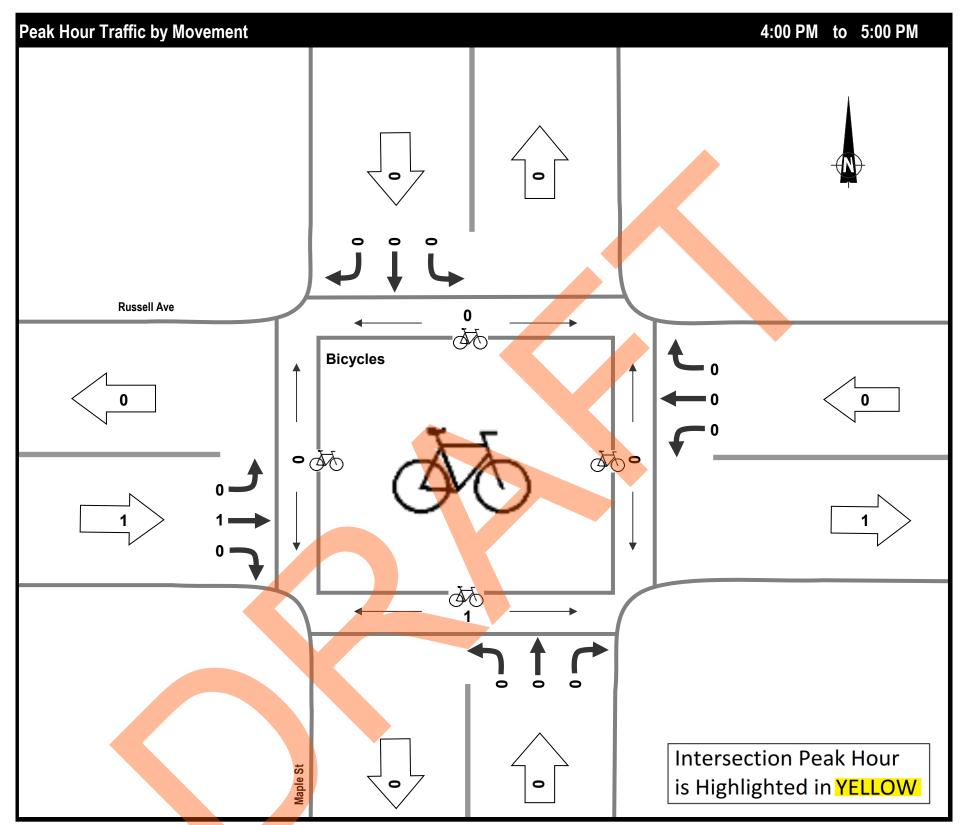
Friday, September 22, 2017

Afternoon Peak Period

Project: #5740: Russell Ave TIA

Municipality: White Rock Weather: Clear, Cloudy Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals

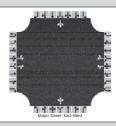


Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	LKS	Total
Tillie	left	thru	right	Ν	S	W	Е	Volumes									
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.50
Peak 15 X 4	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0	4
Average Hour	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Survey Total	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	3
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix C Capacity Analysis Worksheets



	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2018	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	ound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	Т	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	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		5	679	3		24	847	11		1	1	9		6	1	33
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										())	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		6				30					14				50	
Capacity, c (veh/h)		560				758					203				185	
v/c Ratio		0.01				0.04					0.07				0.27	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				1.0	
Control Delay (s/veh)		11.5				9.9					24.0				31.6	
Level of Service (LOS)		В				Α					C				D	
Approach Delay (s/veh)		0	.2			0	.7			24	1.0					
Approach LOS	C D)					

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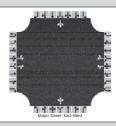
HCS1000 TWSC Version 7.6 Lee St & North Bluff Rd 2018_AM_B.xtw

Generated: 12/19/2018 3:19:30 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information	_	_			_		Site	Inforr	natio	n	_	_		_		
Analyst	DG						Inters	ection			Lee S	t & Nort	h Bluff F	Rd		
Agency/Co.	CTS						Juriso	liction				of White				
Date Performed	12/18	3/2018					East/	West Stre	eet		-	Bluff Ro				
Analysis Year	2020						North	n/South !	Street		Lee S	t				
Time Analyzed	AM B	ase					Peak	Hour Fac	tor		0.80					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	nview														
Lanes																
				18 8 7 8 7	n K Maj	or Street: Ea	ist-West	4 1 4 4 4 4 4 4								
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		6	707	4		25	881	12		2	2	10		7	2	35
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		8				31					18				55	
Capacity, c (veh/h)		539				735					131				148	
v/c Ratio		0.01				0.04					0.13				0.37	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4				1.6	
Control Delay (s/veh)		11.8				10.1					36.6				42.9	
Level of Service (LOS)		В				В					Е				Е	
Approach Delay (s/veh)		0	.2			0	.7			30	5.6			42	2.9	
Approach LOS											E				E	
Copyright © 2018 University of Florida	All Righ	ts Reser	ved.		HCS 1000 1	TWSC Ve	rsion 7.6	5				Gene	erated: 1	2/19/20	18 3:19:0	9 PM

HCSTMI TWSC Version 7.6 Lee St & North Bluff Rd 2020_AM_B.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2020	North/South Street	Lee St
Time Analyzed	AM Base+S	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			Westl	ound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		6	709	7		29	881	12		12	2	18		7	2	35
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)))	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		8				36					40				55	
Capacity, c (veh/h)		539				731					107				143	
v/c Ratio		0.01				0.05					0.38				0.38	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					1.5				1.6	
Control Delay (s/veh)		11.8				10.2					57.8				45.1	
Level of Service (LOS)		В				В					F				Е	
Approach Delay (s/veh)		0	.2			0	.9			57	7.8					
Approach LOS	F E										E					

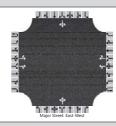
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HCS 1000 TWSC Version 7.6 Lee St & North Bluff Rd 2020_AM_B+S.xtw Generated: 12/19/2018 3:18:53 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n						
Analyst	DG						Inters	ection			Lee S	t & Nort	h Bluff R	ld		
Agency/Co.	CTS						Jurisd	iction			City o	of White	ROck			
Date Performed	12/18	3/2018					East/\	Nest Stre	et		-	n Bluff Ro				
Analysis Year	2030						North	/South S	Street		Lee S	t				
Time Analyzed	AM B	ase					Peak	Hour Fac	tor		0.80					
Intersection Orientation	East-	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	nview														
Lanes																
				14 44 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TI N	or Street: Ea	ist-West	4 4 4 4 4 10								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		7	842	4		30	1051	14		2	2	12		8	2	41
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		9				38					20				64	
Capacity, c (veh/h)		446				634					78				87	
v/c Ratio		0.02				0.06					0.26				0.74	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					0.9				3.7	
Control Delay (s/veh)		13.2				11.0					66.4				118.9	
Level of Service (LOS)		В				В					F				F	
Approach Delay (s/veh)		0	.4			1	.3			61	5.4			11	8.9	
Approach LOS											F				F	
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HCS TIMI TWSC Version 7.6 Lee St & North Bluff Rd 2030_AM_B.xtw

	HCS7 Two-Way Sto	o-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2030	North/South Street	Lee St
Time Analyzed	AM Base + S	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		7	844	7		34	1051	14		12	2	20		8	2	41
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided									7		
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		9				43					43				64	
Capacity, c (veh/h)		446				631					57		7		82	
v/c Ratio		0.02				0.07					0.74				0.78	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					3.2				3.9	
Control Delay (s/veh)		13.2				11.1					164.8				133.1	
Level of Service (LOS)		В				В					F				F	
Approach Delay (s/veh)		0	.4			1	.5			16	4.8			13	3.1	
Approach LOS											F				F	

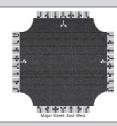
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HCS 1000 TWSC Version 7.6 Lee St & North Bluff Rd 2030_AM_B+S.xtw Generated: 12/19/2018 3:19:55 PM

Movement	1 T 2 1 1 1 69	R R 3	ns	Westl L 4	Inters Jurisd East/\ North Peak Analy	ection liction West Stre J/South S	Street	nrs)	City o	e St & Ri H R R P P P P P P P P P P P P P P P P P			bound T 11 11 LR	R 12 0
Agency/Co. CTS Date Performed 12/18/2018 Analysis Year 2018 Time Analyzed AM Base Intersection Orientation East-West. Project Description Beachview Lanes Vehicle Volumes and Adjustments Approach Ea Movement U L Priority 1U 1 Number of Lanes 0 0 Configuration LT Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	T 2 1 1	R 3	Maj U 4U	Westi	Jurisd East/North Peak Analyy	R 6 0	Street tor Period (I	North L 7	City of Russes Lee S 0.80 0.25	of White	ROck	South L 10	T 11	12
Date Performed 12/18/2018 Analysis Year 2018 Time Analyzed AM Base Intersection Orientation East-West Project Description Beachview Lanes Vehicle Volumes and Adjustments Approach Ea Movement U L Priority 1U 1 Number of Lanes 0 0 Configuration LIT Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	T 2 1 1	R 3	Maj U 4U	Westi	East/North Peak Analys Analys T Sat-West T S	West Street V/South 9 Hour Face R R G 0	Street tor Period (I	North L 7	Russes Lee S 0.80 0.25	t R 9 9		L 10	T 11	12
Analysis Year Time Analyzed AM Base Intersection Orientation Fast-West Project Description Beachview Lanes Vehicle Volumes and Adjustments Approach Movement U L Priority 1U 1 Number of Lanes Configuration U Velume (veh/h) Percent Heavy Vehicles (%) Percent Grade (%) Right Turn Channelized Median Type Storage	T 2 1 1	R 3	Maj U 4U	Westi	North Peak Analysis Sar-West T	R R G 0	Street tor Period (I	North L 7	Lee S 0.80 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.2	k R 9 9	U	L 10	T 11	12
Time Analyzed AM Base Intersection Orientation East-West. Project Description Beachview Lanes Vehicle Volumes and Adjustments Approach Ea Movement U L Priority 1U 1 Number of Lanes 0 0 0 Configuration LT Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	T 2	R 3	Maj U 4U	Westi	Peak Analys	R R G 0	etor Period (I	North L 7	0.80 0.25	R 9	U	L 10	T 11	12
Intersection Orientation East-West. Project Description Beachwiew Lanes Vehicle Volumes and Adjustments Approach Ea Movement U L Priority 1U 1 Number of Lanes 0 0 Configuration LIT Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	T 2	R 3	Maj U 4U	Westi	Analysis Ana	R 6 0	Period (I	North L 7	0.25 bound T 8	9	U	L 10	T 11	12
Project Description Lanes Vehicle Volumes and Adjustments Approach Approach Priority 1U Number of Lanes Configuration Uolume (veh/h) Percent Heavy Vehicles (%) Percent Grade (%) Right Turn Channelized Median Type Storage	T 2	R 3	Maj U 4U	Westi	st-West	R 6 0		North L 7	bound T	9	U	L 10	T 11	12
Vehicle Volumes and Adjustments Approach Ea Movement U L Priority 1U 1 Number of Lanes Configuration U Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	T 2	R 3	Maj U 4U	Westi	st-West Dound T 5	6	U	L 7	T 8	9	U	L 10	T 11	12
Vehicle Volumes and Adjustments Approach Ea Movement U L Priority 1U 1 Number of Lanes 0 0 Configuration LIT Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage Median Type Storage	T 2	R 3	Maj U 4U	Westi	st-West Dound T 5	6	U	L 7	T 8	9	U	L 10	T 11	12
Approach Ea	T 2	R 3	Maj U 4U	Westi	st-West Dound T 5	6	U	L 7	T 8	9	U	L 10	T 11	12
Approach Ea	T 2	3	4U	L 4	T 5	6	U	L 7	T 8	9	U	L 10	T 11	12
Movement	T 2	3	4U	L 4	T 5	6	U	L 7	T 8	9	U	L 10	T 11	12
Priority	2	3	4U	4	5	6	U	7	8	9	U	10	11	12
Number of Lanes	1		-	_		0				-		_	1	
Configuration LT Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage		0	0	0	1			0	0	0		0		0
Volume (veh/h) 4 Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	69					TR							I D	
Percent Heavy Vehicles (%) 2 Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage	69												LK	
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type Storage					90	4						17		12
Percent Grade (%) Right Turn Channelized Median Type Storage												2		2
Right Turn Channelized Median Type Storage														
Median Type Storage													0	
		Und	ivided											
Critical and Follow-up Headways														
Base Critical Headway (sec) 4.1			Π									7.1		6.2
Critical Headway (sec) 4.13	2											6.42		6.22
Base Follow-Up Headway (sec) 2.2												3.5		3.3
Follow-Up Headway (sec) 2.2	2											3.52		3.32
Delay, Queue Length, and Level of	Servic	e												
Flow Rate, v (veh/h) 5													36	
Capacity, c (veh/h) 144	5												813	
v/c Ratio 0.00													0.04	
95% Queue Length, Q ₉₅ (veh) 0.0													0.1	
Control Delay (s/veh) 7.5													9.6	
Level of Service (LOS) A													А	
Approach Delay (s/veh)	0.4											9	0.6	
Approach LOS												,	A	

HCSTMI TWSC Version 7.6 Lee St & Russell Ave 2018AM_B.xtw

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2020	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	72				94	5						18		13
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	ivided											
Critical and Follow-up H	eadwa	ys														
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						K						3.52		3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		6													39	
Capacity, c (veh/h)		1437											7		804	
v/c Ratio		0.00													0.05	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.5													9.7	
Level of Service (LOS)		А													А	
Approach Delay (s/veh)	0.5 9.7															
Approach LOS														,	A	

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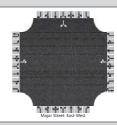
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General Information Analyst Agency/Co.																
Agency/Co.							Site	Inforn	natior	n						
	DG						Inters	ection			Maple	e St & Ru	ıssell Av	e		
	CTS						Jurisd	iction			_	f White				
Date Performed	12/18	/2018					East/\	Vest Stre	eet		Russe					
Analysis Year	2020						North	/South S	Street		Lee S	t				
Time Analyzed	AM Ba	se +S					Peak	Hour Fac	tor		0.80					
Intersection Orientation	East-V	Vest					Analy	sis Time	Period (l	hrs)	0.25					
Project Description	Beach	view														
Lanes																
	•			N N N N N		or Street: Ea		114471								
Vehicle Volumes and Adju	ıstmeı	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
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	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	72				94	5						19		15
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														()	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adway	ys														
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 Se	ervice													
Flow Rate, v (veh/h)		6													43	
Capacity, c (veh/h)		1437													807	
v/c Ratio		0.00													0.05	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.5													9.7	
Level of Service (LOS)		Α													А	
Approach Delay (s/veh)		0.	.5											9	.7	
Approach LOS														A	A	

Lee St & Russell Ave 2020AM_B+S.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2030	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	86				112	5						22		15
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage		Undivided												7		
Critical and Follow-up H	eadwa	ys														
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, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		6													46	
Capacity, c (veh/h)		1410											7		767	
v/c Ratio		0.00													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.6													10.0	
Level of Service (LOS)		А													Α	
Approach Delay (s/veh)		0	.4											10	0.0	
Approach LOS															A	

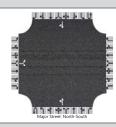
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		Н	CS7	Two-	-Way	Sto	o-Co	ntrol	Rep	ort						
General Information	_	_		_	_		Site	Inforr	natio	1	_	_			_	
Analyst	DG						Inters	ection			Maple	e St & Ri	ıssell Av	e		
Agency/Co.	CTS						Jurisd	iction			_	of White				
Date Performed	12/18	/2018						Nest Stre	eet		Russe					
Analysis Year	2030						North	/South :	Street		Lee S	t				
Time Analyzed	AM B	ase+S					Peak	Hour Fac	tor		0.80					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	view														
Lanes																
				OKINANIA O		or Street. Ea	P C	AND STATE OF								
Vehicle Volumes and Adj	ustme	nts			14115)	or succe ea	J. W.J.									
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	Т	R	U	L	Т	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	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	86				112	5						23		17
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
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	d Leve	_	ervice													
Flow Rate, v (veh/h)		6													50	
Capacity, c (veh/h)		1410													770	
v/c Ratio		0.00													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.6													10.0	
Level of Service (LOS)		А													А	
Approach Delay (s/veh)		0	.4											10	0.0	
Approach LOS															A	

HCS TIMI TWSC Version 7.6 Lee St & Russell Ave 2030AM_B+S.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & Site Access
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Site Access
Analysis Year	2020	North/South Street	Lee St
Time Analyzed	AM Base+S	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		18		3						0	14				31	7
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		(0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)			26							0						
Capacity, c (veh/h)			957							1560			7			
v/c Ratio			0.03							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0		1				
Control Delay (s/veh)			8.9							7.3						
Level of Service (LOS)			Α							А						
Approach Delay (s/veh)		8	.9							0	.0					
Approach LOS	i –		۸													

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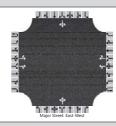
HCS TIMI TWSC Version 7.6 Lee St & Site Access 2020AM_B+S.xtw

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		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n						
Analyst	DG						Inters	ection			Lee S	t & Site	Access			
Agency/Co.	CTS						Jurisd	iction				of White				
Date Performed	12/18	/2018					East/\	Nest Stre	eet		Site A					
Analysis Year	2030						North	/South S	Street		Lee S	t				
Time Analyzed	AM B	ase+S					Peak	Hour Fac	tor		0.80					
Intersection Orientation	North	-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	view														
Lanes																
				UKINAKIN Y	A h	Y Street: Nor	† † C	4 4 4 4 4								
Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		18		3						0	16				36	7
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		()													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)			26							0						
Capacity, c (veh/h)			946							1552						
v/c Ratio			0.03							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			8.9							7.3						
Level of Service (LOS)			А							А						
		0	.9							0	0					
Approach Delay (s/veh)		0	.5		l					0	.0					

Lee St & Site Access 2030AM_B+S.xtw

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2018	North/South Street	Maple
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		5	663	3		16	809	9		1	1	11		3	0	12
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										() (0	
Right Turn Channelized																
Median Type Storage				Undi	vided								7			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		6				20					16				19	
Capacity, c (veh/h)		592				783					262		7		201	
v/c Ratio		0.01				0.03					0.06				0.09	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				0.3	
Control Delay (s/veh)		11.1				9.7					19.6				24.8	
Level of Service (LOS)		В				Α					C				С	
Approach Delay (s/veh)		0	.2			0	.4			19	9.6			24	4.8	
Approach LOS										(2				С	

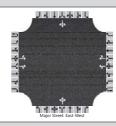
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HCS 1000 TWSC Version 7.6 Maple St & North Bluff Rd 2018_AM_B.xtw Generated: 12/19/2018 3:23:39 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information	_	_				_	Site	Inforn	natio	n		_			_	
Analyst	DG						Inters	ection			Maple	e St & N	orth Blut	ff Rd		
Agency/Co.	CTS						Jurisd	iction			_	of White				
Date Performed	12/18	/2018					East/\	Nest Stre	eet		North	Bluff Ro	ı			
Analysis Year	2020						North	/South 9	Street		Maple	e				
Time Analyzed	AM B	ase					Peak	Hour Fac	tor		0.80					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	view														
Lanes																
Wehicle Volumes and Adjustments																
Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		6	690	4		17	842	10		2	2	12		4	0	13
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		8				21					20				21	
Capacity, c (veh/h)		571				760					177				164	
v/c Ratio		0.01				0.03					0.11				0.13	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4				0.4	
Control Delay (s/veh)		11.4				9.9					28.0				30.1	
Level of Service (LOS)		В				А					D				D	
Approach Delay (s/veh)		0	.2			0	.5				3.0				0.1	
Approach LOS										[)				D	

HCS TIM TWSC Version 7.6 Maple St & North Bluff Rd 2020_AM_B.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2020	North/South Street	Maple
Time Analyzed	AM Base+S	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		6	693	5		17	852	10		4	2	14		4	0	13
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										() (0	
Right Turn Channelized																
Median Type Storage				Undi	vided									7		
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		8				21					25				21	
Capacity, c (veh/h)		564				756					165		7		160	
v/c Ratio		0.01				0.03					0.15				0.13	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.5				0.4	
Control Delay (s/veh)		11.5				9.9					30.7				30.9	
Level of Service (LOS)		В				Α					D				D	
Approach Delay (s/veh)		0	.2			0	.5			30).7			31	0.9	
Approach LOS										[)				D	

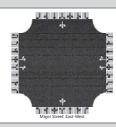
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HCS1000 TWSC Version 7.6 Maple St & North Bluff Rd 2020_AM_B+S.xtw Generated: 12/19/2018 3:25:19 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n						
Analyst	DG							ection			Maple	e St & N	orth Blut	ff Rd		
Agency/Co.	CTS							iction			_	of White				
Date Performed	12/18	3/2018					East/\	Nest Stre	et		-	Bluff Ro				
Analysis Year	2020						North	/South S	Street		Maple	e				
Time Analyzed	AM B	ase					Peak	Hour Fac	tor		0.80					
Intersection Orientation	East-\							sis Time		hrs)	0.25					
Project Description	Beach															
Lanes																
				PASSES AND PASSES	h H	or Street Ea	ist-West	THE STATE OF								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
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	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		7	823	4		20	1004	12		2	2	14		4	0	15
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Ho	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve		ervice													
Flow Rate, v (veh/h)		9				25					23				24	
Capacity, c (veh/h)		476				657					116				108	
v/c Ratio		0.02				0.04					0.19				0.22	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					0.7				0.8	
Control Delay (s/veh)		12.7				10.7					43.2				47.4	
Level of Service (LOS)		В				В					E				E	
Approach Delay (s/veh)		0	.4			0	.8			43	3.2			4	7.4	
Approach LOS											E				E	
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HCS TIM TWSC Version 7.6 Maple St & North Bluff Rd 2030_AM_B.xtw

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2020	North/South Street	Maple
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		7	826	5		20	1014	12		4	2	16		4	0	15
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		9				25					28				24	
Capacity, c (veh/h)		471				654					107		7		105	
v/c Ratio		0.02				0.04					0.26				0.23	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					1.0				0.8	
Control Delay (s/veh)		12.8				10.7					50.2				49.0	
Level of Service (LOS)		В				В					F				E	
Approach Delay (s/veh)		0	.4			0	.8			50	0.2			4	9.0	
Approach LOS											F				E	

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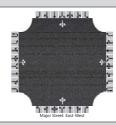
HCS 1000 TWSC Version 7.6 Maple St & North Bluff Rd 2030_AM_B+S.xtw Generated: 12/19/2018 3:23:11 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information	_	_				_	Site	Inforr	natio	n	_	_			_	
Analyst	DG						Inters	ection			Maple	e St & Ri	ussell Av	e		
Agency/Co.	CTS						Jurisd	iction				of White				
Date Performed		3/2018						Nest Stre	eet		-	II Ave				
Analysis Year	2018						_	/South !			Maple					
Time Analyzed	AM B	ase						Hour Fac			0.80					
Intersection Orientation	East-						Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach						. ,			,						
Lanes																
Vehicle Volumes and Adjustments Approach Eastbound Westbound Northbound Southbound																
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	Т	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	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	59	3		3	114	2		10	8	4		5	15	4
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0			(0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0				4					28				30	
Capacity, c (veh/h)		1404				1505					698				677	
v/c Ratio		0.00				0.00					0.04				0.04	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.6				7.4					10.4				10.6	
Level of Service (LOS)		А				Α					В				В	
Approach Delay (s/veh)		0	.0			0	.2			10	0.4			10).6	
Approach LOS											В			ı	В	

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HCS TIMI TWSC Version 7.6 Maple St & Russell Ave 2018AM_B.xtw Generated: 12/19/2018 3:27:25 PM

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2020	North/South Street	Maple St
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	62	4		4	119	3		11	9	5		6	16	5
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																/
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0				5					31				34	
Capacity, c (veh/h)		1395				1498					687		7		667	
v/c Ratio		0.00				0.00					0.05				0.05	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.2	
Control Delay (s/veh)		7.6				7.4					10.5				10.7	
Level of Service (LOS)		А				А					В				В	
Approach Delay (s/veh)		0	.0			0	.3			10).5			10	0.7	
Approach LOS										-	3				В	

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HCS TIM TWSC Version 7.6 Maple St & Russell Ave 2020AM_B.xtw Generated: 12/19/2018 3:26:57 PM

		Н	CS7	Two-	-Way	, Stop	o-Co	ntrol	Rep	ort						
General Information								Inforr								
Analyst	DG							ection			Maple	e St & Ri	ıssell Av	e		
Agency/Co.	CTS							liction			_	of White				
Date Performed		3/2018						West Stre	eet		Russe					
Analysis Year	2020						_	n/South !			Maple					
Time Analyzed		ase + S						Hour Fac			0.80					
Intersection Orientation	East-\						Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach															
Lanes	l.															
	Major Street: East-West															
Vehicle Volumes and Adju	ıstme	nts			,											
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	Т	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	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	62	4		4	121	3		11	9	5		6	16	5
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0)	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0				5					31				34	
Capacity, c (veh/h)		1392				1498					685				665	
v/c Ratio		0.00				0.00					0.05				0.05	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.2	
Control Delay (s/veh)		7.6				7.4					10.5				10.7	
Level of Service (LOS)		А				А					В				В	
Approach Delay (s/veh)		0	.0			0	.3			10	0.5			10).7	
Approach LOS											В			ı	В	

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HCSTMI TWSC Version 7.6 Maple St & Russell Ave 2020AM_B+S.xtw Generated: 12/19/2018 3:26:19 PM

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2030	North/South Street	Maple St
Time Analyzed	AM Base	Peak Hour Factor	0.80
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	74	4		4	142	3		13	10	5		7	19	5
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0				5					35				39	
Capacity, c (veh/h)		1362				1480					642		7		626	
v/c Ratio		0.00				0.00					0.05				0.06	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2				0.2	
Control Delay (s/veh)		7.6				7.4					10.9				11.1	
Level of Service (LOS)		А				А					В				В	
Approach Delay (s/veh)		0	.0			0	.2			10	0.9			1	1.1	
Approach LOS											R				R	

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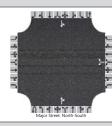
HCS TIM TWSC Version 7.6 Maple St & Russell Ave 2030AM_B.xtw Generated: 12/19/2018 3:27:59 PM

		Н	CS7	Two-	-Wav	, Stop	n-Co	ntrol	Rep	ort						
General Information				100	vvay	310		Inforr								
									natio	1						
Analyst	DG							ection			_	e St & Ri		e		
Agency/Co.	CTS	10010					-	iction			-	of White	ROck			
Date Performed	_	8/2018						Nest Stre				ell Ave				
Analysis Year	2030							/South !			Maple	e St				
Time Analyzed Intersection Orientation	East-	ase + S						Hour Fac		le seal	0.80					
	Beach						Anaiy	sis Time	Perioa (nrs)	0.25					
Project Description	веаст	iview														
Lanes																
	Mgor Street East-West															
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
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	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	74	4		4	144	3		13	10	5		7	19	5
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0)	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0				5					35				39	
Capacity, c (veh/h)		1359				1480					640				624	
v/c Ratio		0.00				0.00					0.05				0.06	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2				0.2	
Control Delay (s/veh)		7.6				7.4					10.9				11.1	
Level of Service (LOS)		А				А					В				В	
Approach Delay (s/veh)		0	.0			0	.2				0.9				1.1	
Approach LOS											В				В	

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HCSTMI TWSC Version 7.6 Maple St & Russell Ave 2030AM_B+S.xtw Generated: 12/19/2018 3:27:45 PM

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple & Site Access
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Site Access
Analysis Year	2020	North/South Street	Maple St
Time Analyzed	AM Base+S	Peak Hour Factor	0.80
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		4			16	0		1	21	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)						(0									
Right Turn Channelized																
Median Type Storage				Undi	ivided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.42		6.22						4.12		
Base Follow-Up Headway (sec)						3.5		3.3			·			2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							5							1		
Capacity, c (veh/h)							1055							1593		
v/c Ratio							0.00							0.00		
95% Queue Length, Q ₉₅ (veh)							0.0							0.0		
Control Delay (s/veh)							8.4							7.3		
Level of Service (LOS)							Α							Α		
Approach Delay (s/veh)						8	.4							0	.3	
Approach LOS						,	Д									

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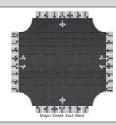
HCS1000 TWSC Version 7.6 Maple St & Site Access 2020AM_B+S.xtw

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		Н	CS7	Two-	-Way	, Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	1						
Analyst	DG						Inters	ection			Maple	e & Site	Access			
Agency/Co.	CTS						Jurisd	iction			_	of White				
Date Performed		/2018						Nest Stre	et		Site A					
Analysis Year	2030							/South S			Maple					
Time Analyzed		ase+S					_	Hour Fac			0.80					
Intersection Orientation	_	-South						sis Time		hrs)	0.25					
Project Description	Beach	\rightarrow								,	0.20					
Lanes																
Vehicle Volumes and Adjustments																
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		4			18	0		1	24	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%))									
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)	1					7.1		6.2			Π			4.1		
Critical Headway (sec)						6.42		6.22						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							5							1		
Capacity, c (veh/h)							1052							1590		
v/c Ratio							0.00							0.00		
95% Queue Length, Q ₉₅ (veh)							0.0							0.0		
Control Delay (s/veh)							8.4							7.3		
Level of Service (LOS)							А							А		
Approach Delay (s/veh)						8	.4							0	.3	
Approach LOS						,	Α									
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HCSTM TWSC Version 7.6
Maple St & Site Access 2030AM_B+S.xtw

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2018	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westb	ound			North	bound			South	bound	
Movement	U	L	T	R	U	L	Т	R	U	L	Т	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	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		7	717	9		14	772	24		2	0	3		6	2	12
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																7
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		8				15					5				22	
Capacity, c (veh/h)		708				811					220		7		182	
v/c Ratio		0.01				0.02					0.02				0.12	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.1				0.4	
Control Delay (s/veh)		10.1				9.5					21.8				27.4	
Level of Service (LOS)		В				А					C				D	
Approach Delay (s/veh)		0	.2			0.	.3			21	1.8			27	7.4	
Approach LOS										(2			- 1	D	

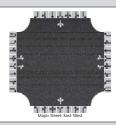
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HCS1000 TWSC Version 7.6 Lee St & North Bluff Rd 2018_PM_B.xtw Generated: 12/19/2018 3:03:11 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n						
Analyst	DG							ection			Lee S	t & Nort	h Bluff R	d		
Agency/Co.	CTS							iction				of White				
Date Performed	12/18	/2018					East/\	Nest Stre	et		-	Bluff Ro				
Analysis Year	2020						North	/South S	Street		Lee S	t				
Time Analyzed	PM B	ase						Hour Fac			0.91					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach															
Lanes	-															
Vehicle Volumes and Adjustments																
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	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	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		8	746	10		15	803	25		3	0	4		7	3	13
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										-	0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		9				16					8				25	
Capacity, c (veh/h)		686				788					191				156	
v/c Ratio		0.01				0.02					0.04				0.16	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.1				0.6	
Control Delay (s/veh)		10.3				9.7					24.7				32.6	
Level of Service (LOS)		В				Α					С				D	
Approach Delay (s/veh)		0	.2			0	.3			24	1.7			32	2.6	
Approach LOS										(2			- 1)	
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HCS TIMU TWSC Version 7.6 Lee St & North Bluff Rd 2020_PM_B.xtw Generated: 12/19/2018 3:02:11 PM

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2020	North/South Street	Lee St
Time Analyzed	PM Base+S	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		8	748	19		24	805	25		9	0	10		7	3	13
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										() (0	
Right Turn Channelized																
Median Type Storage				Undi	vided								7			
Critical and Follow-up H	llow-up Headways															
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		9				26					21				25	
Capacity, c (veh/h)		685				780					168		7		146	
v/c Ratio		0.01				0.03					0.12				0.17	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4				0.6	
Control Delay (s/veh)		10.3				9.8					29.5				34.6	
Level of Service (LOS)		В				Α					D				D	
Approach Delay (s/veh)		0	.2			0	.6			29	9.5			3-	4.6	
Approach LOS										[)				D	

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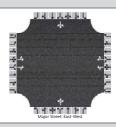
HCS1000 TWSC Version 7.6 Lee St & North Bluff Rd 2020_PM_B+S.xtw

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		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DG						Inters	ection			Lee S	t & Nort	h Bluff R	d		
Agency/Co.	CTS						Jurisd	iction			City o	of White	ROck			
Date Performed	12/18	/2018					East/\	Vest Stre	et		North	Bluff Ro	t			
Analysis Year	2030						North	/South !	Street		Lee S	t				
Time Analyzed	PM B	ase					Peak	Hour Fac	tor		0.91					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	nview														
Lanes																
Vehicle Volumes and Adjustments																
Vehicle Volumes and Adju	stme	nts			or Street: Ea	st-West										
Approach		Eastb	ound			Westl	oound			North	bound		Π	South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		9	890	12		18	958	30		3	0	4		8	3	15
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Hea	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		10				20					8				29	
Capacity, c (veh/h)		588				686					123				103	
v/c Ratio		0.02				0.03					0.06				0.28	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					0.2				1.0	
Control Delay (s/veh)		11.2				10.4					36.3				53.1	
Level of Service (LOS)		В				В					Е				F	
Approach Delay (s/veh)		0	.3			0	.5			36	5.3			53	3.1	
Approach LOS										1	E				F	
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HCS100 TWSC Version 7.6 Lee St & North Bluff Rd 2030_PM_B.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2030	North/South Street	Lee St
Time Analyzed	PM Base+S	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach	Π	Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		9	892	21		27	960	30		9	0	10		8	3	15
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		10				30					21				29	
Capacity, c (veh/h)		587				678					105		7		95	
v/c Ratio		0.02				0.04					0.20				0.30	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					0.7				1.1	
Control Delay (s/veh)	İ	11.2				10.5					47.4				58.2	
Level of Service (LOS)		В				В					E				F	
Approach Delay (s/veh)		0	.3			0	.8			4	7.4			5	8.2	
Approach LOS	1										F				F	

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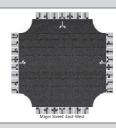
HCS TIM TWSC Version 7.6 Lee St & North Bluff Rd 2030_PM_B+S.xtw Generated: 12/19/2018 3:02:37 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DG						Inters	ection			Maple	e St & R	ussell Av	'e		
Agency/Co.	CTS						Jurisd	iction			City o	of White	ROck			
Date Performed	12/18	3/2018					East/\	Vest Stre	eet		Russe	ell Ave				
Analysis Year	2018						North	/South !	Street		Lee S	t				
Time Analyzed	РМ В	ase					Peak	Hour Fac	tor		0.91					
Intersection Orientation	East-	West					Analy	sis Time	Period ((hrs)	0.25					
Project Description	Beach	nview														
Lanes																
				TA FASTAGE		, Y		74 + 44 + 40								
Walista Walion as and Adi					Majo	or Street: Ea	st-West									
Vehicle Volumes and Adj	ustme					144										
Approach	1	Eastb	ound				oound				bound			South	bound	
Movement	U		T	R 3	U 4U	L 4	T	R	U	L 7	T	R 9	U	10	T	R
Priority	1U 0	0	2	0	0	0	5 1	6		0	8	0		0	11	12
Number of Lanes Configuration	U	LT	'	0	0	U	'	TR		0	0	0		0	LR	0
Volume (veh/h)		0	66				64	2						11	- Lix	9
Percent Heavy Vehicles (%)		2	00				0-7	-						2		2
Proportion Time Blocked		_												-		_
Percent Grade (%)))	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	vs		Ondi	vided											
Base Critical Headway (sec)	T	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	d Lovo		rvico	_										3.32	_	3.32
Flow Rate, v (veh/h)	a Leve	0	VICE		Г	Γ	Π	Γ	Π	Г	Γ	Γ	Ι	Г	22	Π
		1479													870	
Capacity, c (veh/h) v/c Ratio		0.00													0.03	
95% Queue Length, Q ₉₅ (veh)		0.00													0.03	
Control Delay (s/veh)		7.4													9.2	
Level of Service (LOS)		7.4 A													9.2 A	
			.0												.2	
Approach Delay (s/veh) Approach LOS		U	.0												. Z A	
Approach LOS Copyright © 2018 University of Florida					HCS17001 T									2/19/20		

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HCS TITAL TWSC Version 7.6 Lee St & Russell Ave 2018PM_B.xtw Generated: 12/19/2018 3:06:35 PM

	HCS7 Two-Way Sto	o-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2020	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	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	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	69				67	3						12		10
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
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, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0													24	
Capacity, c (veh/h)		1473											7		864	
v/c Ratio		0.00													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		А													Α	
Approach Delay (s/veh)		0	.0											9	.3	
Approach LOS															Δ.	

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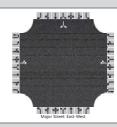
HCS TIM TWSC Version 7.6 Lee St & Russell Ave 2020PM_B.xtw

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		Н	CS7	Two-	·Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n n						
Analyst	DG						Inters	ection			Maple	e St & Ri	ussell Av	e		
Agency/Co.	CTS						Jurisd	iction			_	of White				
Date Performed	12/18	/2018						Vest Stre	eet		Russe					
Analysis Year	2020						North	/South S	Street		Lee St	t				
Time Analyzed	PM Ba	se+S					Peak	Hour Fac	tor		0.91					
Intersection Orientation	East-V	Vest					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	view														
Lanes																
				AK WY I Y		or Street. Ea	14	4 1 4 4 4 1 0								
Vehicle Volumes and Adju	stme	nts			iviaji	or street, ta	st-west									
Approach		Eastb	ound			Westh	oound			North	bound			South	oound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	69				67	4						13		11
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														()	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Hea	adway	/s														
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 Se	ervice													
Flow Rate, v (veh/h)		1													26	
Capacity, c (veh/h)		1472													862	
v/c Ratio		0.00													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.4													9.3	
Level of Service (LOS)		Α													Α	
Approach Delay (s/veh)		0.	.1											9	3	
Approach LOS														A	١	
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Lee St & Russell Ave 2020PM_B+S.xtw

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2030	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	82				80	3						14		12
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
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	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		0													29	
Capacity, c (veh/h)		1456											7		840	
v/c Ratio		0.00													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.4	
Level of Service (LOS)		А													А	
Approach Delay (s/veh)		0.0												9	0.4	
Approach LOS															٨	

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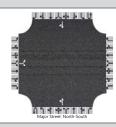
HCSTMI TWSC Version 7.6 Lee St & Russell Ave 2030PM_B.xtw

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		Н	CS7	Two	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DG						Inters	ection			Mapl	e St & Ri	ussell Av	re		
Agency/Co.	CTS						Jurisc	liction				of White				
Date Performed	12/18	3/2018					East/	West Stre	eet		Russe	ell Ave				
Analysis Year	2030						North	n/South !	Street		Lee S	t				
Time Analyzed	PM B	ase+S					Peak	Hour Fac	tor		0.91					
Intersection Orientation	East-	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	nview														
Lanes																
				74 4 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Maj	or Street: Ea	st-West	OBSESSION S								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	82				80	4						15		13
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Und	vided											
Critical and Follow-up He	eadwa	ys														
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	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		1													31	
Capacity, c (veh/h)		1454													838	
v/c Ratio		0.00													0.04	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.5	
		А														
Level of Service (LOS)		A													Α	
Level of Service (LOS) Approach Delay (s/veh)		0	.1											9	.5	<u> </u>

HCSTMI TWSC Version 7.6 Lee St & Russell Ave 2030PM_B+S.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Lee St & Site Access
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Site Access
Analysis Year	2020	North/South Street	Lee St
Time Analyzed	PM Base+S	Peak Hour Factor	0.91
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		12		2						2	7				28	18
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)			15							2						
Capacity, c (veh/h)			964							1556			7			
v/c Ratio			0.02							0.00	<u> </u>					
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			8.8							7.3						
Level of Service (LOS)			Α							А						
Approach Delay (s/veh)		8	.8							1	.6					
Approach LOS			۸													

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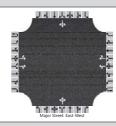
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		Н	CS7	Two-	·Way	Stop	o-Co	ntrol	Rep	ort						
General Information	_	_	_	_	_	_	Site	Inforr	natio	n	_	_		_	_	_
Analyst	DG							ection			Lee S	t & Site	Access			
Agency/Co.	CTS						_	iction				of White				
Date Performed	12/18	1/2018						Nest Stre	et		Site A					
Analysis Year	2030						_	/South !			Lee S					
Time Analyzed	PM B	ase+S						Hour Fac			0.91	-				
Intersection Orientation		-South							Period (hrs)	0.25					
Project Description	Beach									,						
Lanes																
	•			JA LAMBU	ብታ	- - - - - - - - - - - - - - - - - - -	126	MANAGEN								
Vehicle Volumes and Adju	stme	nts			iwajoi	Street, INO	ui-souui									
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		12		2						2	7				33	18
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		()													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)			15							2						
Capacity, c (veh/h)			958							1549						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			8.8							7.3						
Level of Service (LOS)			А							А						
Approach Delay (s/veh)		8	.8							1	.6					
Approach LOS		,	A													
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HCS TMI TWSC Version 7.6 Lee St & Site Access 2030PM_B+S.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2018	North/South Street	Maple
Time Analyzed	PM Base	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	725	8		18	668	19		3	0	9		2	1	5
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										() 🔵				0	
Right Turn Channelized																
Median Type Storage				Undi												
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		1				20					13				9	
Capacity, c (veh/h)		812				799					305				227	
v/c Ratio		0.00				0.02					0.04				0.04	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.1				0.1	
Control Delay (s/veh)		9.4				9.6					17.3				21.5	
Level of Service (LOS)		A A C C														
Approach Delay (s/veh)		0	.0			0	.4			17	7.3			2	1.5	
Approach LOS										(2			(С	

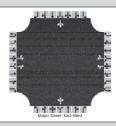
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HCS 1000 TWSC Version 7.6 Maple St & North Bluff Rd 2018_PM_B.xtw Generated: 12/19/2018 3:10:50 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n						
Analyst	DG							ection			Maple	e St & N	orth Blut	ff Rd		
Agency/Co.	CTS							iction			_	of White				
Date Performed		3/2018						Nest Stre	et		-	Bluff Ro				
Analysis Year	2020						_	/South S			Maple					
Time Analyzed	PM B	ase						Hour Fac			0.91	-				
Intersection Orientation	East-\							sis Time		hrs)	0.25					
Project Description	Beach						.,			-,						
Lanes		-														
	/ehicle Volumes and Adjustments Approach Eastbound Westbound Northbound Southbound															
Vehicle Volumes and Adj	ustme	nts			Majo	or street to	J. West									
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		2	754	9		19	695	20		4	0	10		3	2	6
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Ho	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		2				21					15				12	
Capacity, c (veh/h)		790				776					264				181	
v/c Ratio		0.00				0.03					0.06				0.07	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				0.2	
Control Delay (s/veh)		9.6				9.8					19.5				26.3	
Level of Service (LOS)		А				А					С				D	
Approach Delay (s/veh)		0	.0			0	.5			19	9.5			26	5.3	
Approach LOS										(2			ı)	
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HCS TIM TWSC Version 7.6 Maple St & North Bluff Rd 2020_PM_B.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2020	North/South Street	Maple
Time Analyzed	PM Base+S	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		2	763	10		21	701	20		5	0	12		3	2	6
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Ho																
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		2				23					19				12	
Capacity, c (veh/h)		786				769					253		7		176	
v/c Ratio		0.00				0.03					0.07				0.07	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				0.2	
Control Delay (s/veh)		9.6				9.8					20.3				27.0	
Level of Service (LOS)		А				А					C				D	
Approach Delay (s/veh)		0.0				0	.5			20	0.3			2	7.0	
Approach LOS											r		İ		D	

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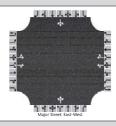
HCS 1000 TWSC Version 7.6 Maple St & North Bluff Rd 2020_PM_B+S.xtw

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General Information Analyst Agency/Co. Date Performed Analysis Year Time Analyzed Intersection Orientation Project Description	DG CTS 12/18 2030 PM Ba East-V						Site	Inforn	natio	1						
Agency/Co. Date Performed Analysis Year Time Analyzed Intersection Orientation Project Description	CTS 12/18, 2030 PM Ba															
Agency/Co. Date Performed Analysis Year Time Analyzed Intersection Orientation Project Description	12/18, 2030 PM Ba						Inters	ection			Maple	e St & N	orth Blut	ff Rd		
Date Performed Analysis Year Time Analyzed Intersection Orientation Project Description	2030 PM Ba						Jurisd	iction			_	f White				
Time Analyzed Intersection Orientation Project Description	РМ Ва						East/\	Nest Stre	eet		-	Bluff Ro				
Intersection Orientation Project Description							North	/South S	Street		Maple	9				
Project Description	East-V	se					Peak	Hour Fac	tor		0.91					
		Vest					Analy	sis Time	Period (hrs)	0.25					
	Beach	view														
Lanes																
	•			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	n H	or Street: Ea	st-West	4 1 4 4 4 4 6 10								
Vehicle Volumes and Adjus	stmei	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		2	899	10		23	829	24		4	0	12		3	2	7
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(0			()	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Hea	adway	/s														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	Level	of Se	ervice													
Flow Rate, v (veh/h)		2				25					18				13	
Capacity, c (veh/h)		693				675					201				128	
v/c Ratio		0.00				0.04					0.09				0.10	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.3				0.3	
Control Delay (s/veh)		10.2				10.5					24.6				36.2	
Level of Service (LOS)		В				В					С				Е	
Approach Delay (s/veh)		0.	.1			0	.6			24	1.6			36	5.2	
Approach LOS										(2					

Maple St & North Bluff Rd 2030_PM_B.xtw

	HCS7 Two-Way Sto	o-Control Report	
General Information	, , , , , , , , , , , , , , , , , , ,	Site Information	
Analyst	DG	Intersection	Maple St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	North Bluff Rd
Analysis Year	2030	North/South Street	Maple
Time Analyzed	PM Base+S	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	justme	nts															
Approach		Eastb	ound			Westl	oound			North	bound			South	bound		
Movement	U	L	Т	R	U	L	T	R	U	L	Т	R	U	L	Т	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0	
Configuration		LT		TR		LT		TR			LTR				LTR		
Volume (veh/h)		2	908	11		25	835	24		5	0	14		3	2	7	
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2	
Proportion Time Blocked															/		
Percent Grade (%)											0				0		
Right Turn Channelized																	
Median Type Storage		Uni															
Critical and Follow-up H	eadwa	adways															
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9	
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94	
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3	
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32	
Delay, Queue Length, an	d Leve	l of S	ervice														
Flow Rate, v (veh/h)		2				27					21				13		
Capacity, c (veh/h)		689				668					189		7		124		
v/c Ratio		0.00				0.04					0.11				0.11		
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4				0.3		
Control Delay (s/veh)		10.2				10.6					26.3				37.4		
Level of Service (LOS)		В				В					D				Е		
Approach Delay (s/veh)		0.1				0.7			26.3					37.4			
Approach LOS		0.1								D					E		

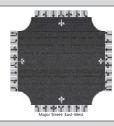
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HCS100 TWSC Version 7.6 Maple St & North Bluff Rd 2030_PM_B+S.xtw Generated: 12/19/2018 3:10:31 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information	_	_	_		_	_	Site	Inforr	natio	n	_	_	_	_	_	
Analyst	DG							ection			Maple	e St & Ru	ussell Av	e		
Agency/Co.	CTS							liction			_	of White				
Date Performed		/2018						West Stre	eet		-	ell Ave				
Analysis Year	2018						_	/South			Maple					
Time Analyzed	PM							Hour Fac			0.91					
Intersection Orientation	East-\	West						sis Time		hrs)	0.25					
Project Description	Beach						1				0.20					
Lanes																
				MARKET	NIS	*	1 11	DATE STORY								
Vehicle Volumes and Adj	ustme	nts			May	or Street: La	ist-west									
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	79	5		4	49	4		8	7	3		2	11	7
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve															
Flow Rate, v (veh/h)		2				4					20				22	
Capacity, c (veh/h)		1510				1486					754				778	
v/c Ratio		0.00				0.00					0.03				0.03	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.4				7.4					9.9				9.8	
Level of Service (LOS)		А				Α					А				А	
Approach Delay (s/veh)		0	.2			0	.5			9	.9		9.8			
Approach LOS										A A						
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HCS TIMI TWSC Version 7.6 Maple St & Russell Ave 2018PM_B.xtw

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2020	North/South Street	Maple St
Time Analyzed	PM	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts															
Approach		Eastb	ound			West	oound			North	bound			South	bound		
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		3	83	6		5	51	5		9	8	4		3	12	8	
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2	
Proportion Time Blocked																	
Percent Grade (%)									0 0								
Right Turn Channelized																	
Median Type Storage		Undivided															
Critical and Follow-up H	eadwa	dways															
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2	
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22	
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3	
Follow-Up Headway (sec)		2.22				2.22		K		3.52	4.02	3.32		3.52	4.02	3.32	
Delay, Queue Length, an	d Leve	l of Se	ervice														
Flow Rate, v (veh/h)		3				5					23				25		
Capacity, c (veh/h)		1506				1479					744		7		769		
v/c Ratio		0.00				0.00					0.03				0.03		
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.1		
Control Delay (s/veh)		7.4				7.4					10.0				9.8		
Level of Service (LOS)		Α				А					A				Α		
Approach Delay (s/veh)		0.3 0.6						10.0 9.8									
Approach LOS								A A									

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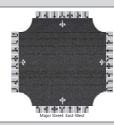
HCS TIM TWSC Version 7.6 Maple St & Russell Ave 2020PM_B.xtw Generated: 12/19/2018 3:12:55 PM

		Н	CS7	Two-	-Way	, Stop	o-Co	ntrol	Rep	ort						
General Information	_	_					Site	Inforr	natio	n		_		_	_	_
Analyst	DG							ection			Mapl	e St & Ri	ussell Av	'e		
Agency/Co.	CTS						Jurisd	liction			-	of White				
Date Performed		/2018						West Stre	eet		-	ell Ave				
Analysis Year	2020							n/South 5			Mapl					
Time Analyzed	PM+S							Hour Fac			0.91					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	Beach	view														
Lanes																
	•			DARKSING	Maj	† †	st-West	JAHAARU								
Vehicle Volumes and Adju																
Approach							oound				bound				bound	
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	0	0	0	1	0		0	1	0		0	1	0
Configuration		_	LTR	-		-	LTR	5			LTR			-	LTR	
Volume (veh/h)		3	84	6		5	52	5		9	8	2		3	12	8
Percent Heavy Vehicles (%)											2					
Proportion Time Blocked																
Percent Grade (%) Right Turn Channelized											0			· '	0	
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	V.C		Ondi	vided											
	auwa				1	4.1	1		1	7.1	6.5	6.2	1	7.1	6.5	6.2
Base Critical Headway (sec)		4.12				4.1				_					_	6.2
Critical Headway (sec)		2.2				4.12				7.12	6.52 4.0	6.22		7.12	6.52 4.0	6.22
Base Follow-Up Headway (sec) Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
	Lave			_		2.22				3.32	4.02	3.32		3.32	4.02	3.32
Delay, Queue Length, and					-									25		
Flow Rate, v (veh/h)		3 1505				5 1478					23 742				25 767	
Capacity, c (veh/h)		0.00				0.00					0.03				0.03	
v/c Ratio		0.00				0.00					0.03				0.03	
95% Queue Length, Q ₉₅ (veh)		7.4				7.4					10.0				9.9	
Control Delay (s/veh)		_														
Level of Service (LOS) Approach Delay (s/yeh)	0.3					A B				9.9						
					0.6 10.0											
	pproach LOS vright © 2018 University of Florida All Rights Reserved					HCSTMI TWSC Version 7.6				B A Generated: 12/19/2018 3:12:38 P					0.014	

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HCSTMI TWSC Version 7.6 Maple St & Russell Ave 2020PM_B+S.xtw Generated: 12/19/2018 3:12:38 PM

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple St & Russell Ave
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Russell Ave
Analysis Year	2030	North/South Street	Maple St
Time Analyzed	PM	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		3	98	7		5	61	5		10	9	4		3	14	9
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked															/	
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up He	eadwa	dways														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)	T	3				5					25				29	
Capacity, c (veh/h)		1492				1458					712		7		744	
v/c Ratio		0.00				0.00					0.04				0.04	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.1	
Control Delay (s/veh)	T T	7.4				7.5					10.2				10.0	
Level of Service (LOS)		А				А					В				В	
Approach Delay (s/veh)		0.2				0.6			10.2					10	0.0	
Approach LOS		0.2 0.6							P				B			

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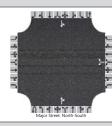
HCS TIM TWSC Version 7.6 Maple St & Russell Ave 2030PM_B.xtw Generated: 12/19/2018 3:12:21 PM

Agency/Co. Date Performed Analysis Year Time Analyzed Intersection Orientation	DG CTS 12/18/ 2030 PM+S East-W Beach	Vest					Inters	Inforn ection	nation	1	Maple	e St & Ru	vA Ilezzı			
Analyst Agency/Co. Date Performed Analysis Year Time Analyzed Intersection Orientation	CTS 12/18/ 2030 PM+S East-W	Vest					Inters			-	Maple	e St & Ru	ıssell Av	2		
Agency/Co. Date Performed Analysis Year Time Analyzed Intersection Orientation	CTS 12/18/ 2030 PM+S East-W	Vest					Jurisd	Intersection				Maple St & Russell Ave				
Date Performed Analysis Year Time Analyzed Intersection Orientation	12/18/ 2030 PM+S East-W	Vest									City o	f White		-		
Analysis Year Time Analyzed Intersection Orientation	2030 PM+S East-W	Vest					East/\		et		Russe					
Time Analyzed Intersection Orientation	East-W							/South S			Maple					
	_							Hour Fac			0.91					
Project Description	Beachy	view					Analy	sis Time	Period (nrs)	0.25					
Lanes																
	Tehicle Volumes and Adjustments Approach Eastbound Westbound Northbound Southbound															
Vehicle Volumes and Adjust																
Approach						_										
Movement	U	L	T	R	U	L	Т	R	U	L	T	R	U	L	T	R
,	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR	_		_	LTR				LTR				LTR	
Volume (veh/h)		3	99	7		5	62	5		10	9	4		3	14	9
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										()			()	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Head	dway	/S														
Base Critical Headway (sec)	_	4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)	_	2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and L	Queue Length, and Level of Service															
Flow Rate, v (veh/h)		3				5					25				29	
Capacity, c (veh/h)		1491				1456					710				742	
v/c Ratio		0.00				0.00					0.04				0.04	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.1	
Control Delay (s/veh)		7.4				7.5					10.3				10.0	
Level of Service (LOS)	A					А				В					В	
Approach Delay (s/veh) 0.2						0.5			1.3	10.0						
Approach LOS									В В							

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HCSTMI TWSC Version 7.6 Maple St & Russell Ave 2030PM_B+S.xtw Generated: 12/19/2018 3:13:35 PM

	HCS7 Two-Way Stop	p-Control Report	
General Information		Site Information	
Analyst	DG	Intersection	Maple & Site Access
Agency/Co.	CTS	Jurisdiction	City of White ROck
Date Performed	12/18/2018	East/West Street	Site Access
Analysis Year	2020	North/South Street	Maple St
Time Analyzed	PM Base+S	Peak Hour Factor	0.91
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Beachview		



Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		3			14	0		3	30	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)						(0									
Right Turn Channelized																
Median Type Storage				Undi	ivided											
Critical and Follow-up H	eadwa	-														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.42		6.22						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							3							3		
Capacity, c (veh/h)							1062						7	1599		
v/c Ratio							0.00							0.00		
95% Queue Length, Q ₉₅ (veh)							0.0							0.0		
Control Delay (s/veh)							8.4							7.3		
Level of Service (LOS)							А							А		
Approach Delay (s/veh)		8.4											0	.7		
Approach LOS		A														

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HCS TIM TWSC Version 7.6 Maple St & Site Access 2020PM_B+S.xtw

Generated: 12/19/2018 3:14:07 PM

Priority 10 11 12 7 8 9 1	Report						
Agency/Co. CTS	ation						
Agency/Co. CTS	Ma	aple & Site	Access				
Date Performed 12/18/2018 East/West Street Analysis Year 2030 North/South Street North/South Street North/South Street North/South Street North/South Street North/South Street North/South North-South Analysis Time Periot Project Description Beachview Beachvie		ty of White					
Time Analyzed		te Access					
Time Analyzed		aple St					
North-South Ranalysis Time Period		•					
Project Description							
Vehicle Volumes and Adjustments Approach Eastbound Westbound Movement U L T R U L T R U L T R U L T R 9 1 Priority 10 11 12 7 8 9 1 Number of Lanes 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 3 1 0 0 0 0 3 1 0							
Vehicle Volumes and Adjustments Approach Eastbound Westbound Movement Priority 10 11 12 7 8 9 1 Number of Lanes 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 3 0							
Approach Eastbound Westbound							
Number of Lanes							
Priority	Northbound	nd		South	bound		
Number of Lanes	U L T R U L T						
Configuration	1U 1 2	3	4U	4	5	6	
Volume (veh/h)	0 0 1	0	0	0	1	0	
Percent Heavy Vehicles (%) 2 2 2 Proportion Time Blocked 0 0 0 Right Turn Channelized 0 0 0 0 Median Type Storage 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		TR		LT			
Proportion Time Blocked	16	5 0		3	35		
Percent Grade (%) 0				2			
Right Turn Channelized Undivided Undivided Critical and Follow-up Headways							
Median Type Storage							
Critical and Follow-up Headways Base Critical Headway (sec) 7.1 6.2 Critical Headway (sec) 6.42 6.22 Base Follow-Up Headway (sec) 3.5 3.3 Follow-Up Headway (sec) 3.52 3.32 Delay, Queue Length, and Level of Service Flow Rate, v (veh/h) 3 3 Capacity, c (veh/h) 1059 0.00 v/c Ratio 0.00 0.00 95% Queue Length, Q ₉₅ (veh) 0.0 0.0 Control Delay (s/veh) 8.4 8.4							
Base Critical Headway (sec) 7.1 6.2							
Critical Headway (sec) 6.42 6.22 Base Follow-Up Headway (sec) 3.5 3.3 Follow-Up Headway (sec) 3.52 3.32 Delay, Queue Length, and Level of Service Flow Rate, v (veh/h) 3 3 Capacity, c (veh/h) 1059 0.00 v/c Ratio 0.00 0.00 95% Queue Length, Q ₈₅ (veh) 0.0 0.0 Control Delay (s/veh) 8.4 0.0							
Base Follow-Up Headway (sec) 3.5 3.3 Follow-Up Headway (sec) 3.52 3.32 Delay, Queue Length, and Level of Service				4.1			
Sollow-Up Headway (sec) Sollow-Up Headwa				4.12			
Delay, Queue Length, and Level of Service Flow Rate, v (veh/h) 3 Capacity, c (veh/h) 1059 v/c Ratio 0.00 95% Queue Length, Q ₉₅ (veh) 0.0 Control Delay (s/veh) 8.4				2.2			
Flow Rate, v (veh/h) 3 3 Capacity, c (veh/h) 1059 105				2.22			
Capacity, c (veh/h) 1059 v/c Ratio 0.00 95% Queue Length, Q ₉₅ (veh) 0.0 Control Delay (s/veh) 8.4	nd Level of Service						
v/c Ratio 0.00 95% Queue Length, Q ₉₅ (veh) 0.0 Control Delay (s/veh) 8.4				3			
95% Queue Length, Q ₉₅ (veh) 0.0 Control Delay (s/veh) 8.4				1597			
Control Delay (s/veh) 8.4				0.00			
				0.0			
Level of Service (LOS)				7.3			
				Α			
Approach Delay (s/veh) 8.4				0.	.6		
Approach LOS A							

HCSTMI TWSC Version 7.6
Maple St & Site Access 2030PM_B+S.xtw

Appendix C Traffic Count Data





Thursday, November 08, 2018 Vehicle Classification Summary

#5935: Beachway Traffic Impact Assessment

Project: Municipality: Weather: White Rock Cloudy

			Ve	hicle Classificat	ion	
Time Period	Entering Intersection	Passenger Cars	Heavy Vehicles (3 or more axles)			Total
Morning	Volume	259	3			262
(07:00 - 09:00)	%	98.9%	1.1%			100.0%
Midday	Volume					
	%					
Afternoon	Volume	374	3			377
(15:00 - 18:00)	%	99.2%	0.8%			100.0%
Total	Volume	633	6			639
(5 Hours)	%	99.1%	0.9%			100.0%

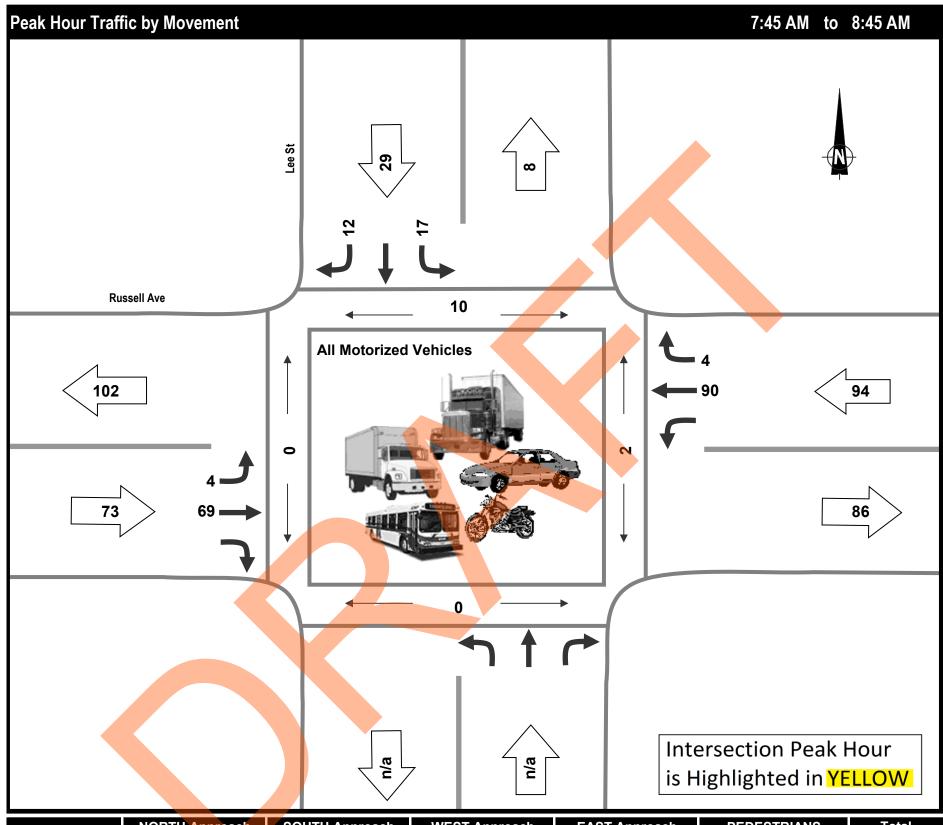




Municipality: White Rock Weather: Cloudy

Vehicle Class: All Motorized Vehicles

Morning Peak Period

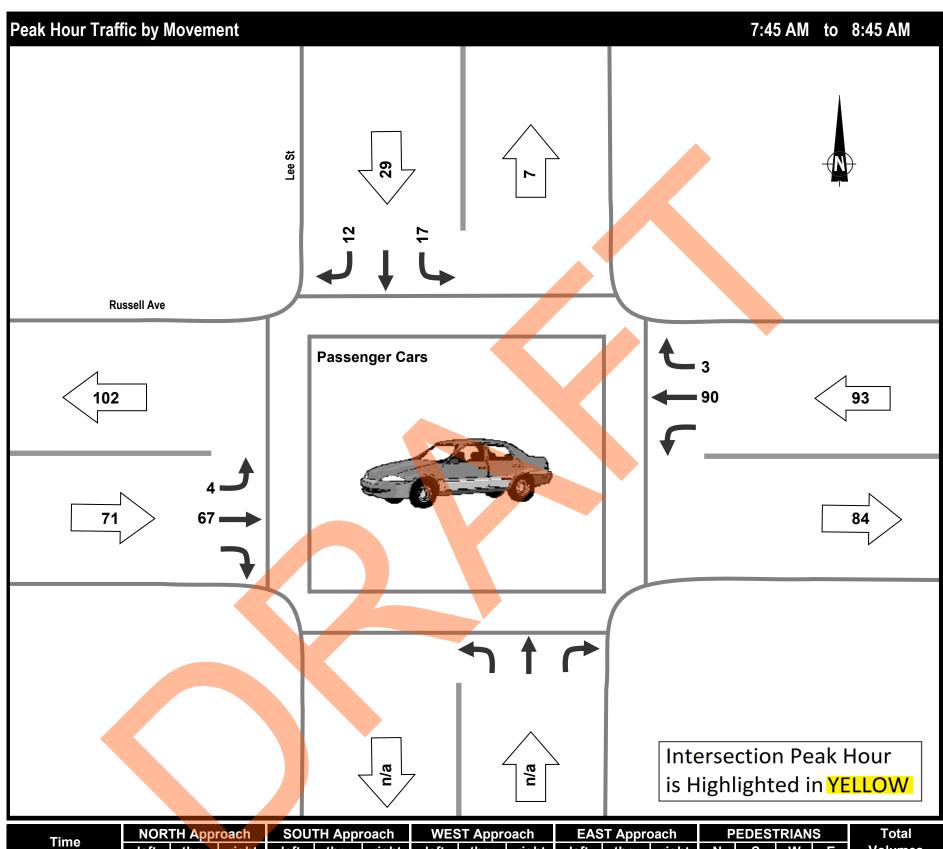


Time	NOR'	NORTH Approach		SOU	SOUTH Approach			WEST Approach			EAST Approach			EDES'	S	Total	
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	17		12				4	69			90	4	10	0	0	2	196
PHF	0.61		0.60				0.50	0.69			0.56	0.50	0.36	0.00	0.00	0.25	0.63
Peak 15 X 4	28		20				8	100			160	8	28	0	0	8	312
Average Hour	10		8				3	49			60	3	6	0	0	1	133
Survey Total	19		15				5	98			120	5	11	0	0	2	262
7:00	0		0				0	6			3	0	0	0	0	0	9
7:15	0		1				0	13			5	0	0	0	0	0	19
7:30	0		1				1	6			7	0	0	0	0	0	15
7:45	0		1				0	13			18	0	3	0	0	0	32
8:00	4		5				1	13			15	0	0	0	0	0	38
8:15	6		4				1	25			40	2	7	0	0	0	78
8:30	7		2				2	18			17	2	0	0	0	2	48
8:45	2		1				0	4			15	1	1	0	0	0	23



Municipality: White Rock Weather: Cloudy Vehicle Class: Passenger Cars

Morning Peak Period



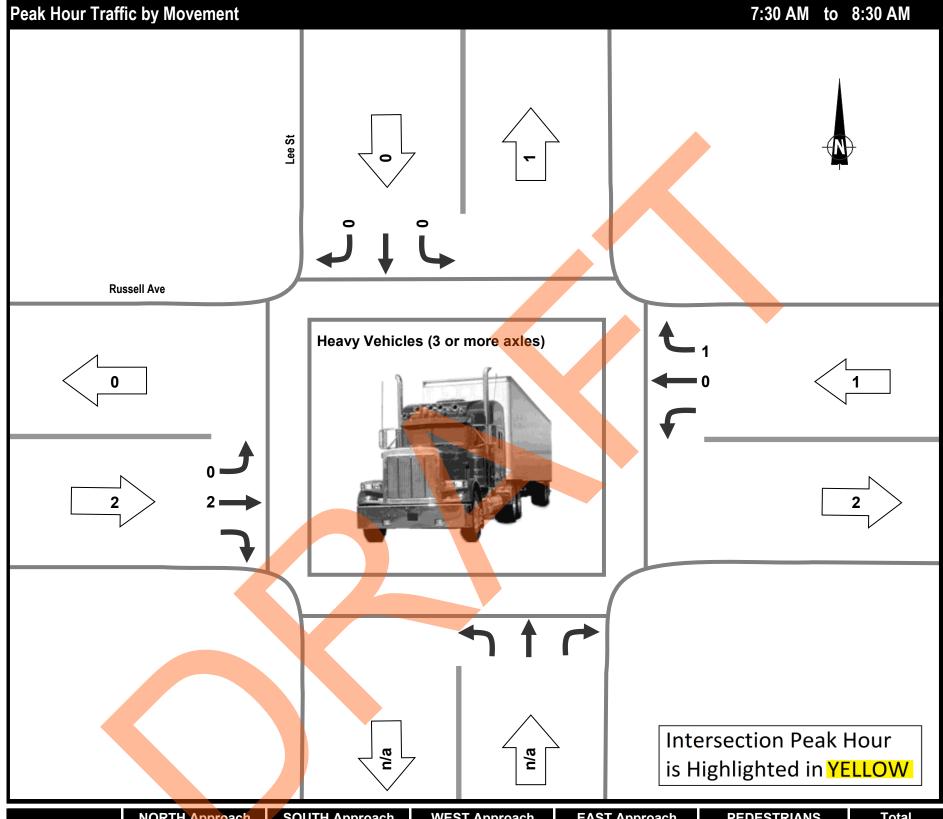
Time	NOR'	TH Appr	roach	SOUTH Approach			WES	ST Appro	oach	EAST Approach			P	EDES	S	Total	
Tille	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	Volumes
Peak Hour	17		12				4	67			90	3					193
PHF	0.61		0.60				0.50	0.70			0.56	0.38					0.63
Peak 15 X 4	28		20				8	96			160	8					304
Average Hour	10		8				3	48			60	2					131
Survey Total	19		15				5	96			120	4					259
7:00	0		0				0	6			3	0					9
7:15	0		1				0	13			5	0					19
7:30	0		1				1	6			7	0					15
7:45	0		1				0	13			18	0					32
8:00	4		5				1	12			15	0					37
8:15	6		4				1	24			40	1					76
8:30	7		2				2	18			17	2					48
8:45	2		1				0	4			15	1					23



Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)

Morning Peak Period



Time	NOR'				SOUTH Approach			WEST Approach			EAST Approach			EDES	S	Total	
Tille	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Ε	Volumes
Peak Hour	0		0				0	2			0	1					3
PHF	0.00		0.00				0.00	0.50			0.00	0.25					0.38
Peak 15 X 4	0		0				0	4			0	4					8
Average Hour	0		0				0	1			0	1					2
Survey Total	0		0				0	2			0	1					3
7:00	0		0				0	0			0	0					0
7:15	0		0				0	0			0	0					0
7:30	0		0				0	0			0	0					0
7:45	0		0				0	0			0	0					0
8:00	0		0				0	1			0	0					1
8:15	0		0				0	1			0	1					2
8:30	0		0				0	0			0	0					0
8:45	0		0				0	0			0	0					0

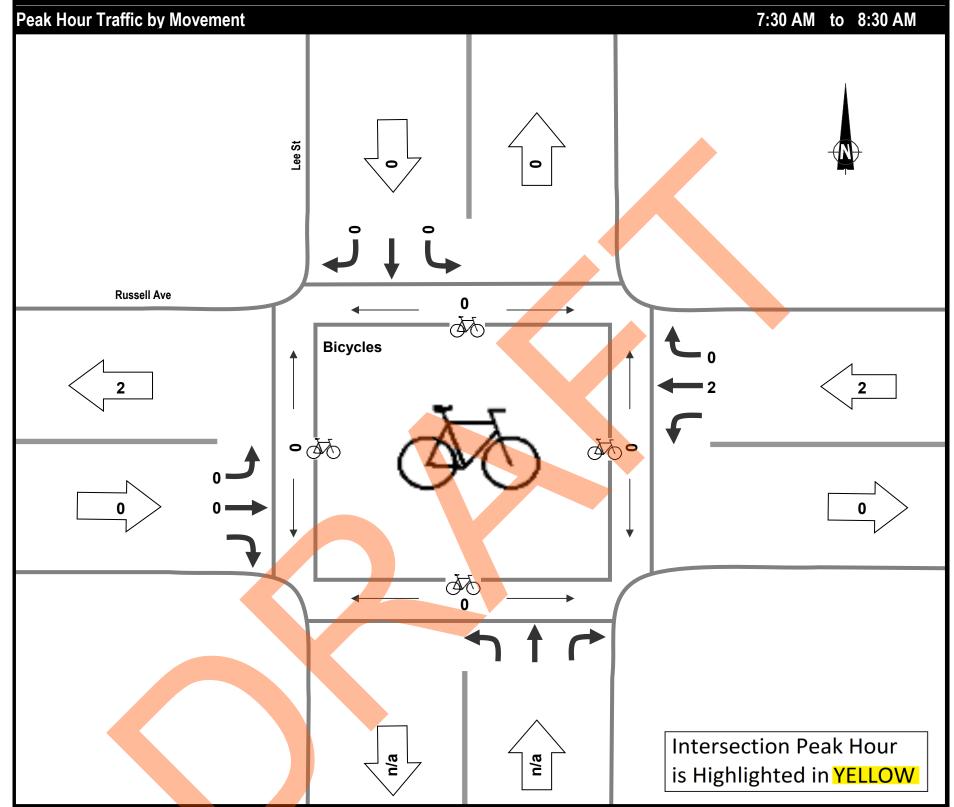
Morning Peak Period



Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



Time	NOR	ТН Аррі	roach	SOUTH Approach			WEST Approach			EAST Approach			BIK	ES in	LKS	Total	
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	0		0				0	0			2	0	0	0	0	0	2
PHF	0.00		0.00				0.00	0.00			0.50	0.00	0.00	0.00	0.00	0.00	0.50
Peak 15 X 4	0		0				0	0			4	0	0	0	0	0	4
Average Hour	0		0				0	0			1	0	0	0	0	0	1
Survey Total	0		0				0	0			2	0	0	0	0	0	2
7:00	0		0				0	0			0	0	0	0	0	0	0
7:15	0		0				0	0			0	0	0	0	0	0	0
7:30	0		0				0	0			0	0	0	0	0	0	0
7:45	0		0				0	0			0	0	0	0	0	0	0
8:00	0		0				0	0			1	0	0	0	0	0	1
8:15	0		0				0	0			1	0	0	0	0	0	1
8:30	0		0				0	0			0	0	0	0	0	0	0
8:45	0		0				0	0			0	0	0	0	0	0	0

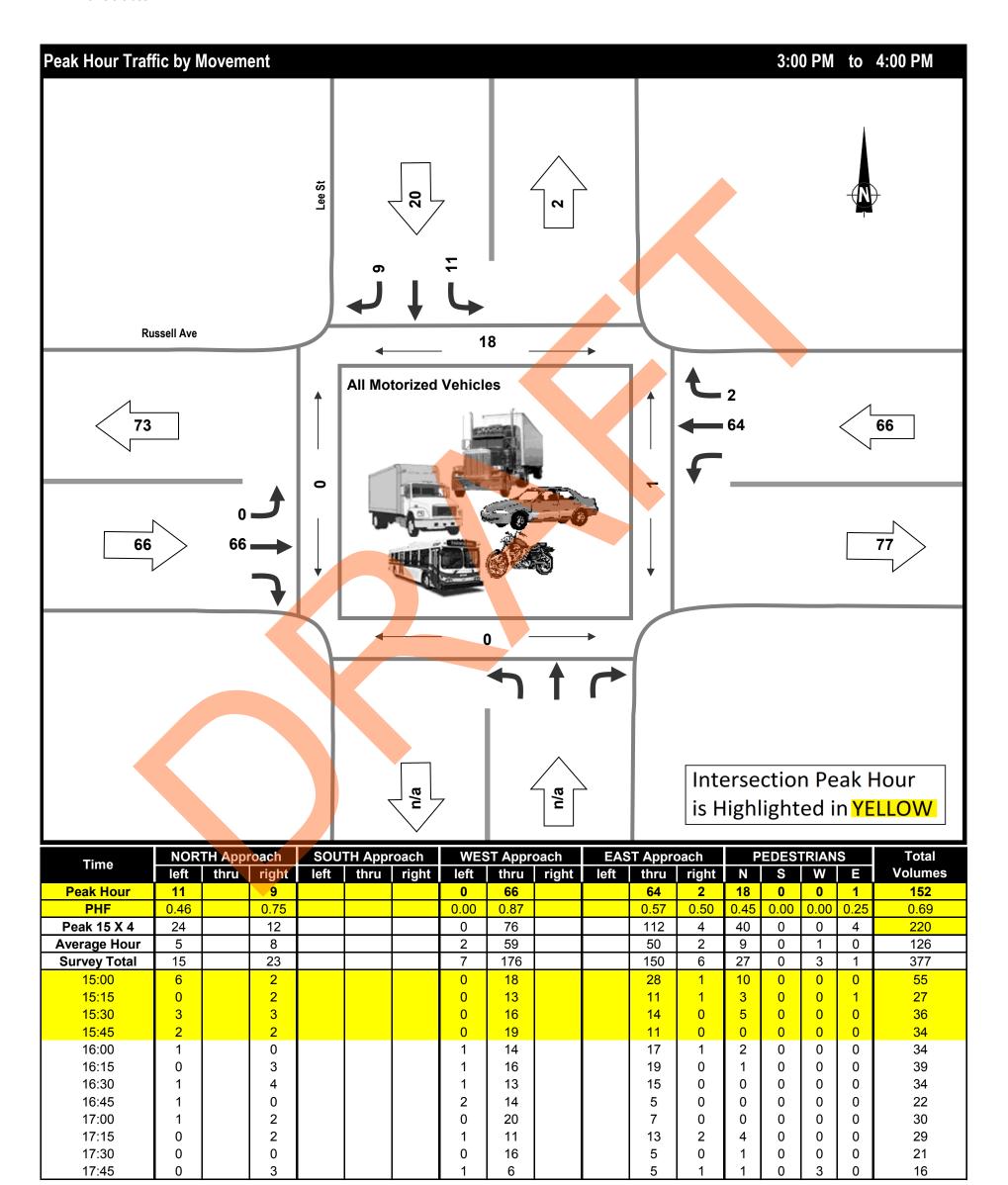




Municipality: White Rock Weather: Cloudy

Vehicle Class: All Motorized Vehicles

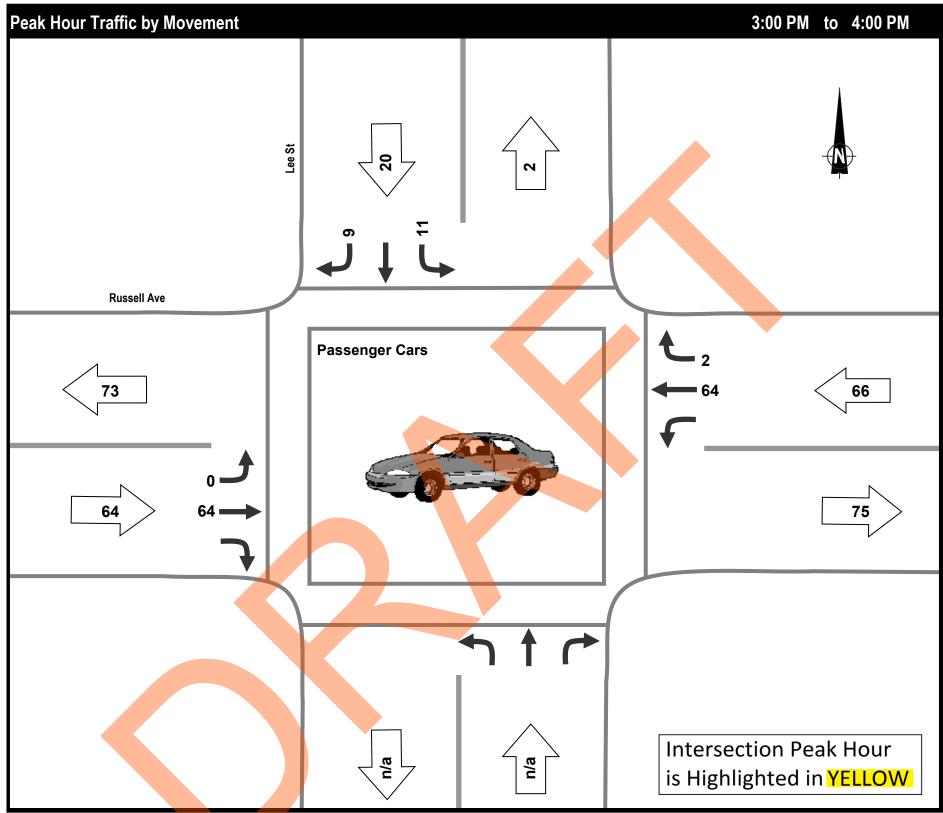
Afternoon Peak Period







Municipality: White Rock
Weather: Cloudy
Vehicle Class: Passenger Cars



											_						
Time	NOR	TH App	roach	SOU	SOUTH Approach			ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	E	Volumes
Peak Hour	11		9				0	64			64	2					150
PHF	0.46		0.75				0.00	0.84			0.57	0.50					0.71
Peak 15 X 4	24		12				0	76			112	4					212
Average Hour	5		8				2	58			50	2					125
Survey Total	15		23				7	173			150	6					374
15:00	6		2				0	16			28	1					53
15:15	0		2				0	13			11	1					27
15:30	3		3				0	16			14	0					36
15:45	2		2				0	19			11	0					34
16:00	1		0				1	14			17	1					34
16:15	0		3				1	16			19	0					39
16:30	1		4				1	13			15	0					34
16:45	1		0				2	13			5	0					21
17:00	1		2				0	20			7	0					30
17:15	0		2				1	11			13	2					29
17:30	0		0				0	16			5	0					21
17:45	0		3				1	6			5	1					16

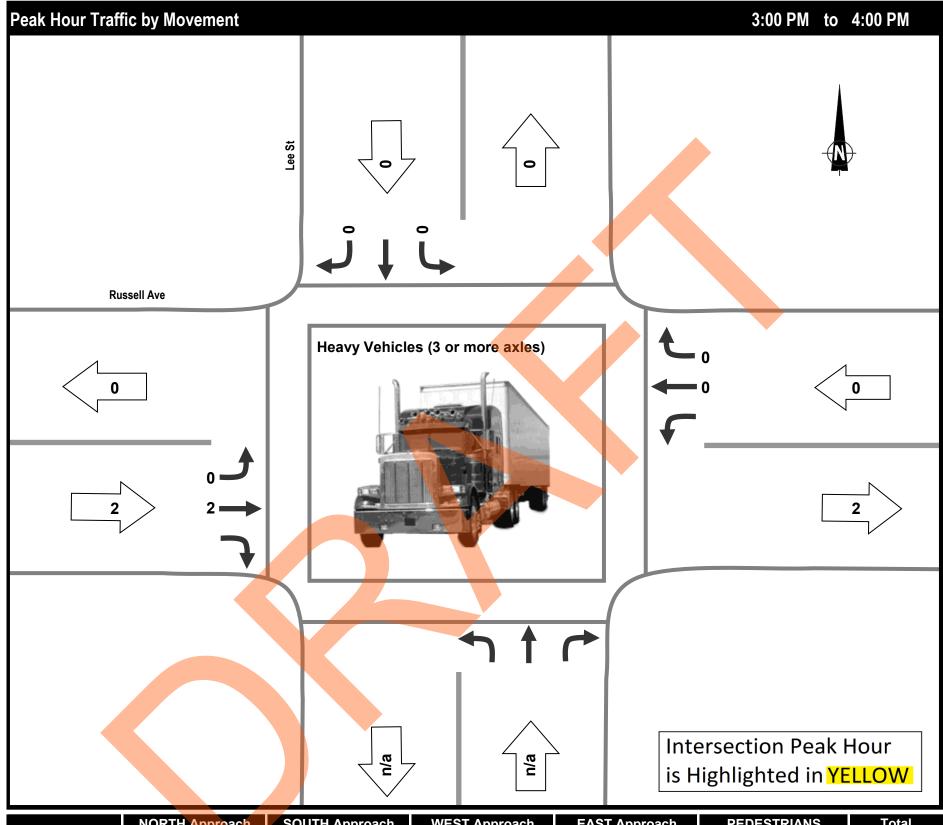




Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)

Afternoon Peak Period



Time	NOR'	ТН Аррі	roach	SOUTH Approach			WEST Approach			EAST Approach			Р	EDES	S	Total	
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Е	Volumes
Peak Hour	0		0				0	2			0	0					2
PHF	0.00		0.00				0.00	0.25			0.00	0.00					0.25
Peak 15 X 4	0		0				0	8			0	0					8
Average Hour	0		0				0	1			0	0					1
Survey Total	0		0				0	3			0	0					3
15:00	0		0				0	2			0	0					2
15:15	0		0				0	0			0	0					0
15:30	0		0				0	0			0	0					0
15:45	0		0				0	0			0	0					0
16:00	0		0				0	0			0	0					0
16:15	0		0				0	0			0	0					0
16:30	0		0				0	0			0	0					0
16:45	0		0				0	1			0	0					1
17:00	0		0				0	0			0	0					0
17:15	0		0				0	0			0	0					0
17:30	0		0				0	0			0	0					0
17:45	0		0				0	0			0	0					0



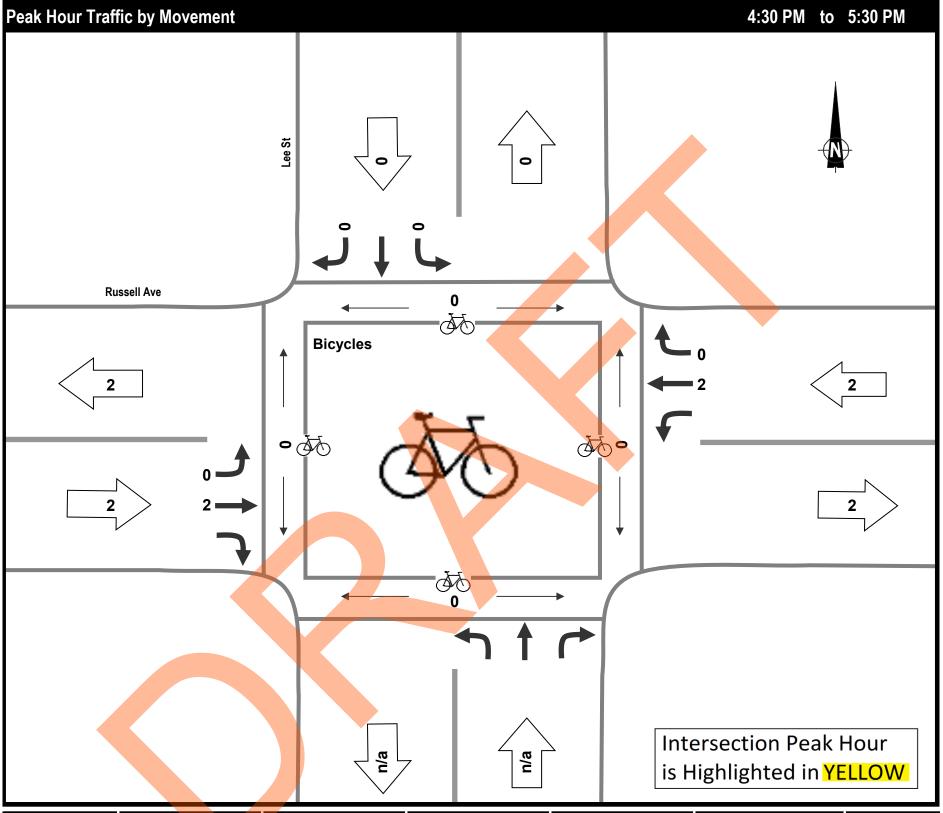
Afternoon Peak Period



Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



Time	NOR	ТН Аррі	roach	SOUTH Approach			WES	ST Appr	oach	EAST Approach			BIK	ES in	X-WAI	LKS	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	Volumes
Peak Hour	0		0				0	2			2	0	0	0	0	0	4
PHF	0.00		0.00				0.00	0.50			0.50	0.00	0.00	0.00	0.00	0.00	0.50
Peak 15 X 4	0		0				0	4			4	0	0	0	0	0	8
Average Hour	0		0				0	1			1	0	0	0	0	0	2
Survey Total	0		0				0	4			2	0	0	0	0	0	6
15:00	0		0				0	0			0	0	0	0	0	0	0
15:15	0		0				0	0			0	0	0	0	0	0	0
15:30	0		0				0	0			0	0	0	0	0	0	0
15:45	0		0				0	2			0	0	0	0	0	0	2
16:00	0		0				0	0			0	0	0	0	0	0	0
16:15	0		0				0	0			0	0	0	0	0	0	0
16:30	0		0				0	0			0	0	0	0	0	0	0
16:45	0		0				0	0			1	0	0	0	0	0	1
17:00	0		0				0	1			1	0	0	0	0	0	2
17:15	0		0				0	1			0	0	0	0	0	0	1
17:30	0		0				0	0			0	0	0	0	0	0	0
17:45	0		0				0	0			0	0	0	0	0	0	0



Lee St & North Bluff Rd

Thursday, November 08, 2018 Vehicle Classification Summary

#5935: Beachway Traffic Impact Assessment

Project: Municipality: White Rock Weather: Cloudy

			Vel	nicle Classificat	ion	
Time Period	Entering Intersection	Passenger Cars	Heavy Vehicles (3 or more axles)			Total
Morning	Volume	2,538	34			2,572
(07:00 - 09:00)	%	98.7%	1.3%			100.0%
Midday	Volume					
	%					
Afternoon	Volume	4,528	17			4,545
(15:00 - 18:00)	%	99.6%	0.4%			100.0%
Total	Volume	7,066	51			7,117
(5 Hours)	%	99.3%	0.7%			100.0%



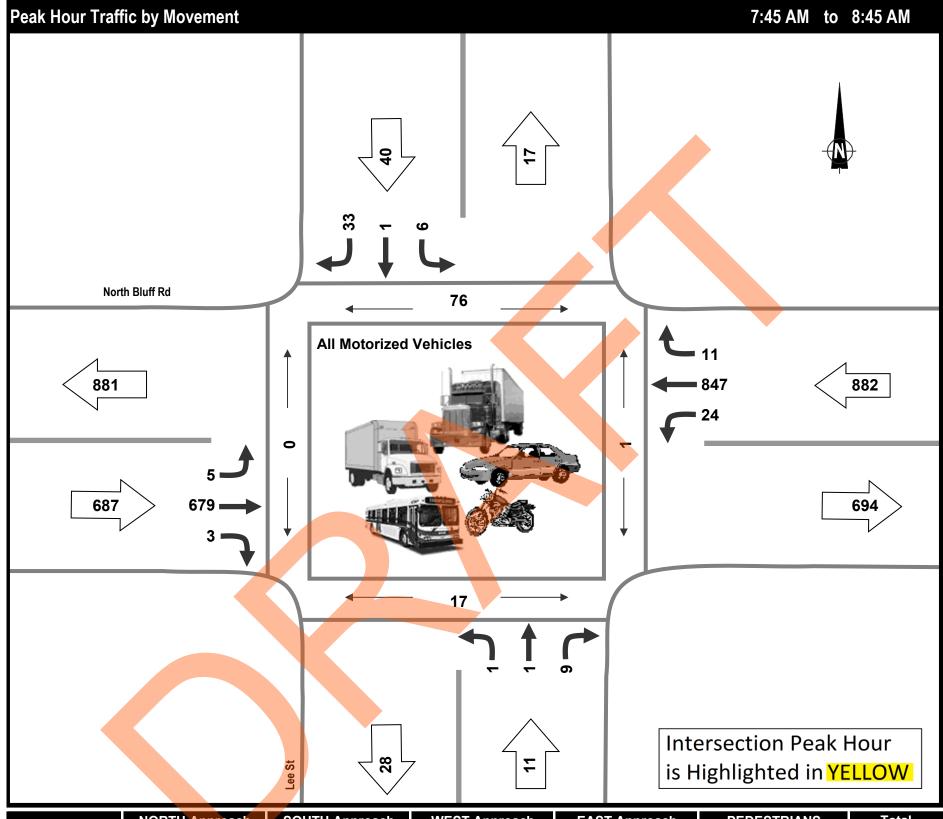


Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy

Vehicle Class: All Motorized Vehicles

Morning Peak Period



Time	NOR'	TH Appi	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Е	Volumes
Peak Hour	6	1	33	1	1	9	5	679	3	24	847	11	76	17	0	1	1,620
PHF	0.50	0.25	0.52	0.25	0.25	0.56	0.42	0.91	0.75	0.60	0.81	0.55	0.61	0.39	0.00	0.25	0.85
Peak 15 X 4	12	4	64	4	4	16	12	744	4	40	1,040	20	124	44	0	4	1,916
Average Hour	11	1	21	1	1	5	3	565	3	13	660	6	48	11	0	1	1,290
Survey Total	21	1	41	1	1	10	5	1,130	5	26	1,319	12	95	21	0	1	2,572
7:00	2	0	2	0	0	0	0	99	0	0	86	0	0	0	0	0	189
7:15	4	0	2	0	0	0	0	89	0	1	94	0	1	0	0	0	190
7:30	6	0	1	0	0	1	0	137	0	0	120	1	1	4	0	0	266
7:45	2	0	2	0	0	0	0	160	0	2	162	1	8	2	0	0	329
8:00	1	0	6	1	0	2	1	181	1	5	189	5	13	3	0	1	392
8:15	0	1	16	0	0	3	3	186	1	7	260	2	31	11	0	0	479
8:30	3	0	9	0	1	4	1	152	1	10	236	3	24	1	0	0	420
8:45	3	0	3	0	0	0	0	126	2	1	172	0	17	0	0	0	307

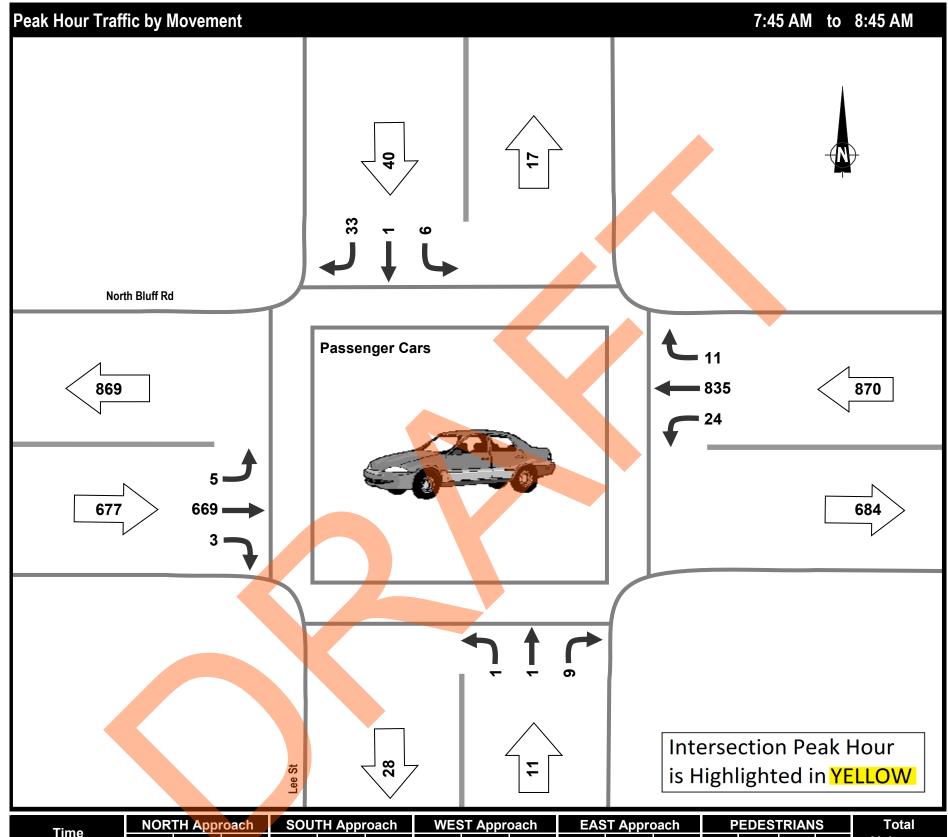




Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy Vehicle Class: Passenger Cars

Morning Peak Period



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	P	EDES	ΓRIAN	S	Total
Hille	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Ε	Volumes
Peak Hour	6	1	33	1	1	9	5	669	3	24	835	11					1,598
PHF	0.50	0.25	0.52	0.25	0.25	0.56	0.42	0.92	0.75	0.60	0.81	0.55					0.84
Peak 15 X 4	12	4	64	4	4	16	12	728	4	40	1,036	20					1,896
Average Hour	11	1	21	1	1	5	3	560	3	13	648	6					1,273
Survey Total	21	1	41	1	1	10	5	1,119	5	26	1,296	12					2,538
7:00	2	0	2	0	0	0	0	99	0	0	81	0					184
7:15	4	0	2	0	0	0	0	89	0	1	93	0					189
7:30	6	0	1	0	0	1	0	136	0	0	116	1					261
7:45	2	0	2	0	0	0	0	159	0	2	158	1					324
8:00	1	0	6	1	0	2	1	180	1	5	186	5					388
8:15	0	1	16	0	0	3	3	182	1	7	259	2					474
8:30	3	0	9	0	1	4	1	148	1	10	232	3					412
8:45	3	0	3	0	0	0	0	126	2	1	171	0					306

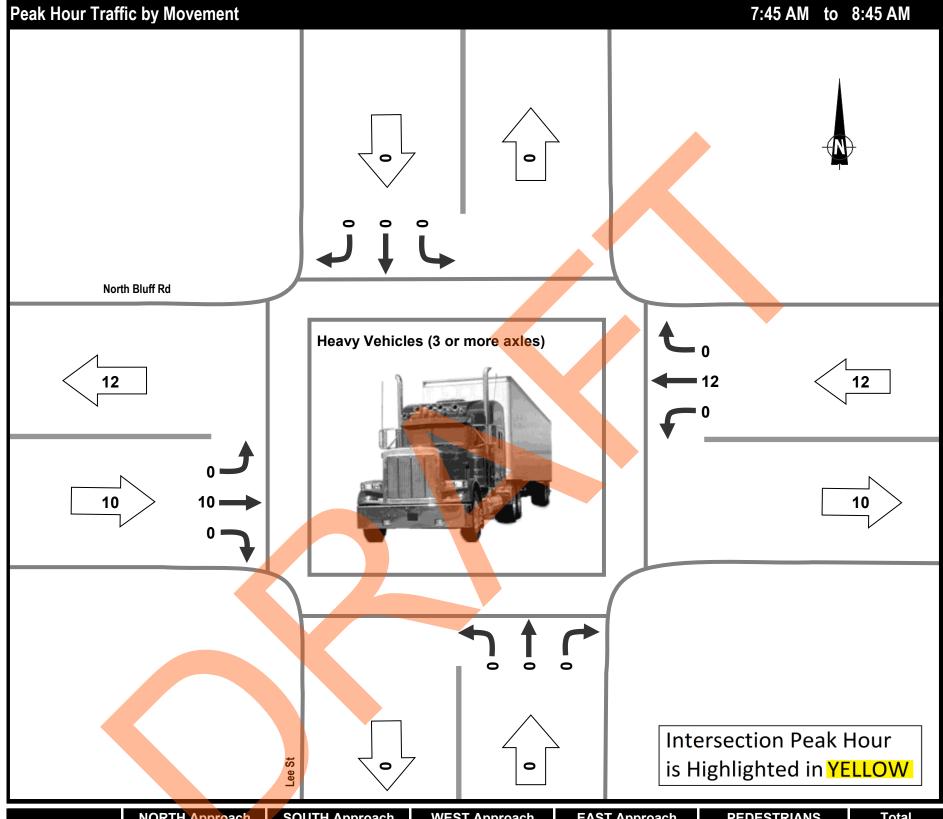


Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)

Morning Peak Period



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillie	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	Ε	Volumes
Peak Hour	0	0	0	0	0	0	0	10	0	0	12	0					22
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.75	0.00					0.69
Peak 15 X 4	0	0	0	0	0	0	0	16	0	0	16	0					32
Average Hour	0	0	0	0	0	0	0	6	0	0	12	0					18
Survey Total	0	0	0	0	0	0	0	11	0	0	23	0					34
7:00	0	0	0	0	0	0	0	0	0	0	5	0					5
7:15	0	0	0	0	0	0	0	0	0	0	1	0					1
7:30	0	0	0	0	0	0	0	1	0	0	4	0					5
7:45	0	0	0	0	0	0	0	1	0	0	4	0					5
8:00	0	0	0	0	0	0	0	1	0	0	3	0					4
8:15	0	0	0	0	0	0	0	4	0	0	1	0					5
8:30	0	0	0	0	0	0	0	4	0	0	4	0					8
8:45	0	0	0	0	0	0	0	0	0	0	1	0					1



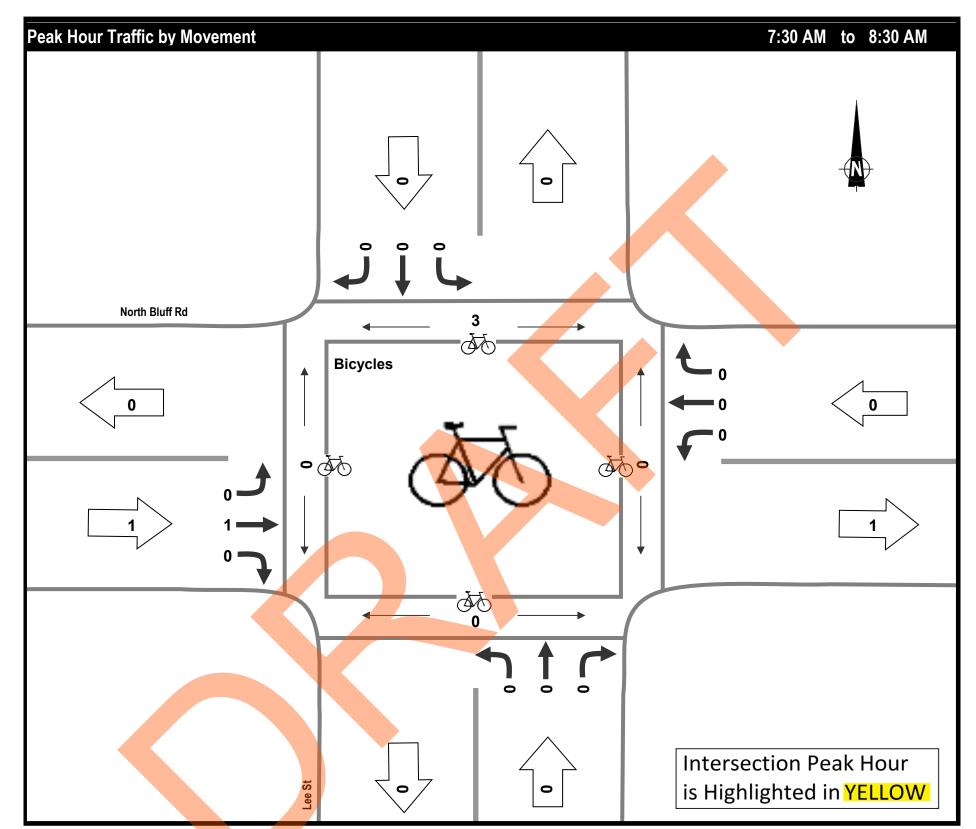
Morning Peak Period



Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррг	oach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	LKS	Total
Tillie	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Е	Volumes
Peak Hour	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	4
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.50
Peak 15 X 4	0	0	0	0	0	0	0	4	0	0	0	0	8	0	0	0	8
Average Hour	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	3
Survey Total	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	5
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
8:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



16:45

17:00

17:15

17:30

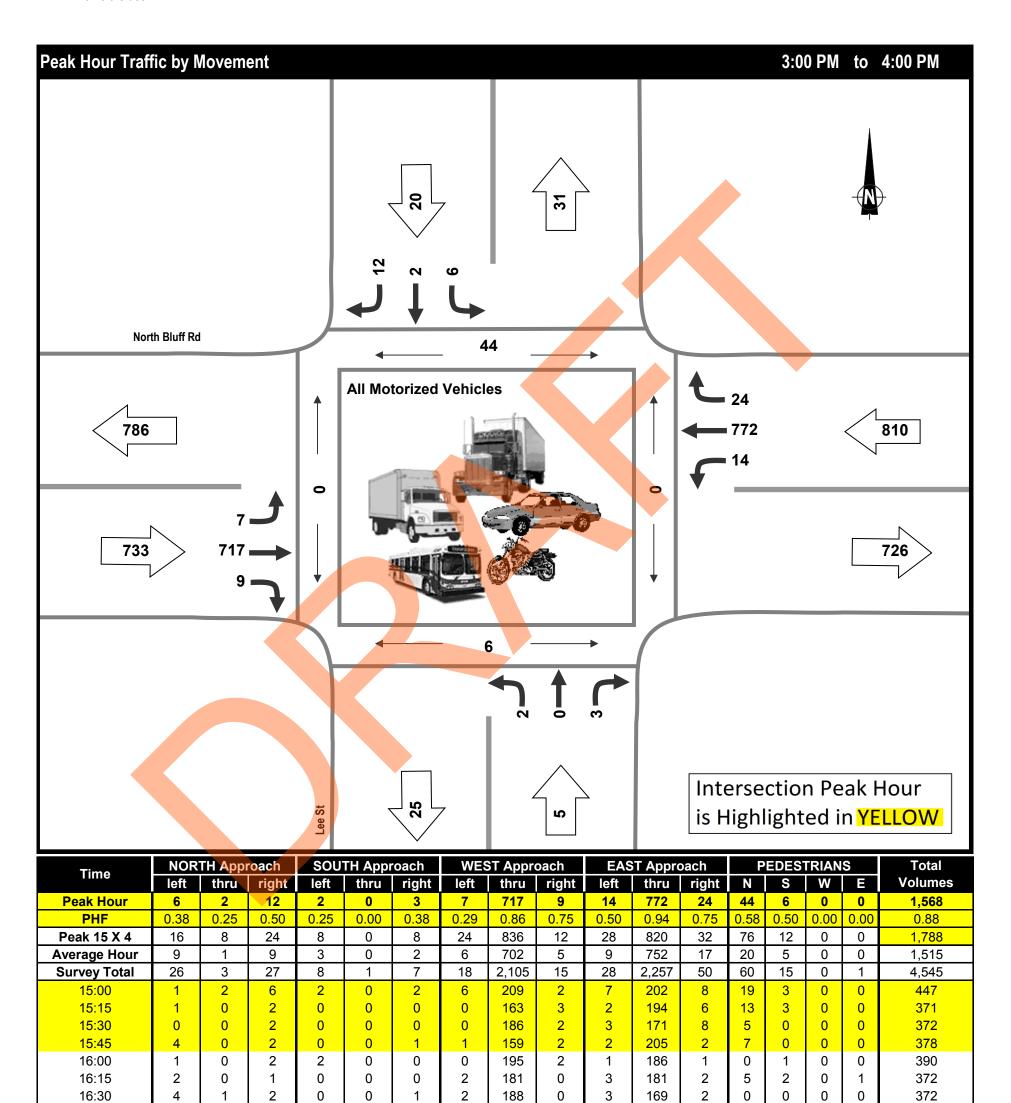
17:45

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy

Vehicle Class: All Motorized Vehicles

Afternoon Peak Period



is Highlighted in YELLOW

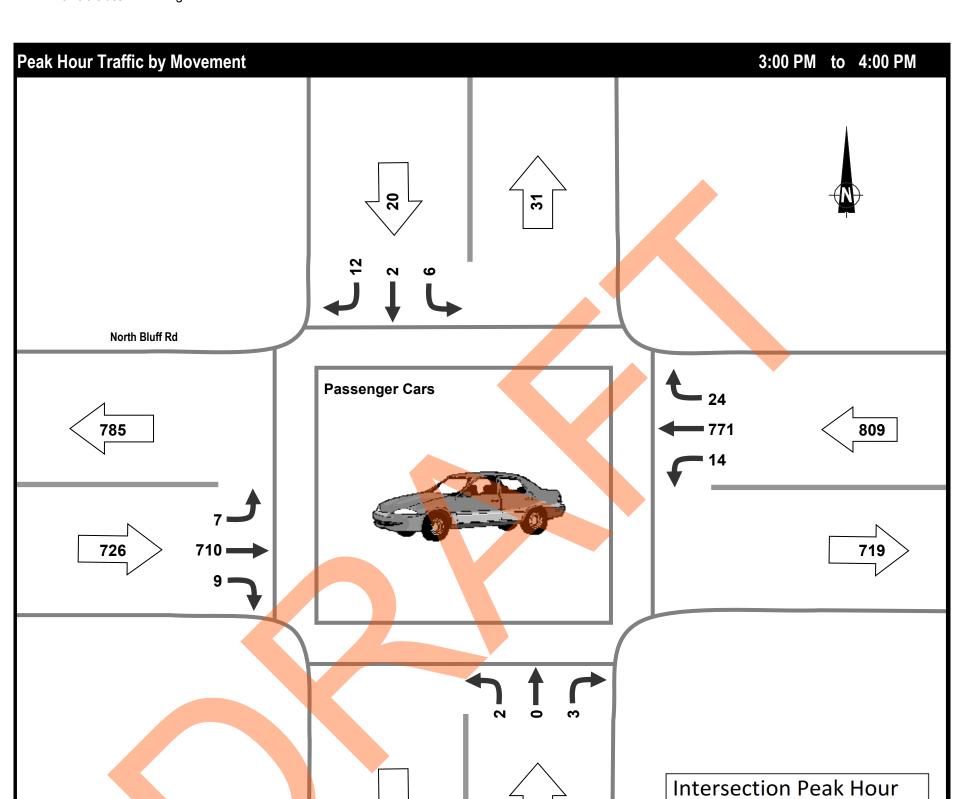


Thursday, November 08, 2018

Afternoon Peak Period

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Passenger Cars



								_									
Time	NOR	ТН Арр	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	P	EDES	TRIAN	S	Total
Tille	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Ε	Volumes
Peak Hour	6	2	12	2	0	3	7	710	9	14	771	24					1,560
PHF	0.38	0.25	0.50	0.25	0.00	0.38	0.29	0.85	0.75	0.50	0.94	0.75					0.87
Peak 15 X 4	16	8	24	8	0	8	24	832	12	28	820	32					1,784
Average Hour	9	1	9	3	0	2	6	698	5	9	751	17					1,510
Survey Total	26	3	27	8	1	7	18	2,093	15	28	2,252	50					4,528
15:00	1	2	6	2	0	2	6	208	2	7	202	8					446
15:15	1	0	2	0	0	0	0	160	3	2	193	6					367
15:30	0	0	2	0	0	0	0	183	2	3	171	8					369
15:45	4	0	2	0	0	1	1	159	2	2	205	2					378
16:00	1	0	2	2	0	0	0	195	2	1	182	1					386
16:15	2	0	1	0	0	0	2	180	0	3	181	2					371
16:30	4	1	2	0	0	1	2	187	0	3	169	2					371
16:45	3	0	2	1	0	1	3	184	1	0	212	5					412
17:00	2	0	2	1	0	0	0	204	2	2	186	6					405
17:15	2	0	2	0	1	2	2	153	1	1	203	1					368
17:30	3	0	2	1	0	0	0	146	0	1	171	4					328
17:45	3	0	2	1	0	0	2	134	0	3	177	5					327



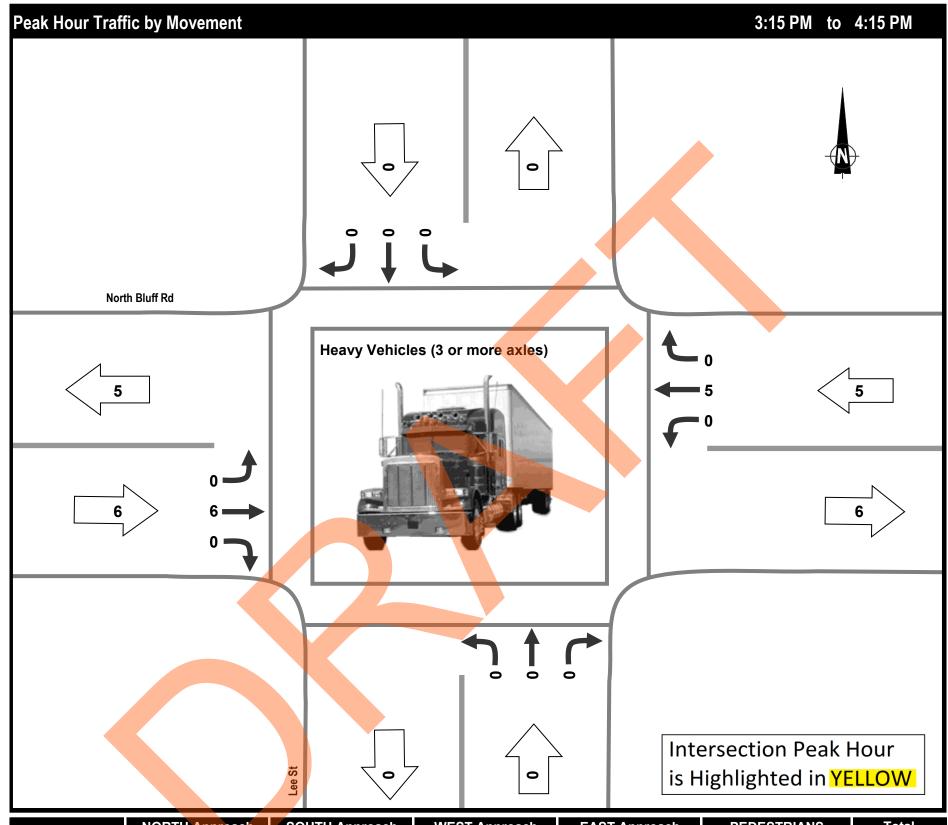
Thursday, November 08, 2018

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock Weather: Cloudy

Vehicle Class: Heavy Vehicles (3 or more axles)

Afternoon Peak Period



Time	NOR'	ТН Аррі	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	Р	EDES	TRIAN	S	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Ε	Volumes
Peak Hour	0	0	0	0	0	0	0	6	0	0	5	0					11
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.31	0.00					0.69
Peak 15 X 4	0	0	0	0	0	0	0	12	0	0	16	0					16
Average Hour	0	0	0	0	0	0	0	4	0	0	2	0					6
Survey Total	0	0	0	0	0	0	0	12	0	0	5	0					17
15:00	0	0	0	0	0	0	0	1	0	0	0	0					1
15:15	0	0	0	0	0	0	0	3	0	0	1	0					4
15:30	0	0	0	0	0	0	0	3	0	0	0	0					3
15:45	0	0	0	0	0	0	0	0	0	0	0	0					0
16:00	0	0	0	0	0	0	0	0	0	0	4	0					4
16:15	0	0	0	0	0	0	0	1	0	0	0	0					1
16:30	0	0	0	0	0	0	0	1	0	0	0	0					1
16:45	0	0	0	0	0	0	0	0	0	0	0	0					0
17:00	0	0	0	0	0	0	0	2	0	0	0	0					2
17:15	0	0	0	0	0	0	0	0	0	0	0	0					0
17:30	0	0	0	0	0	0	0	1	0	0	0	0					1
17:45	0	0	0	0	0	0	0	0	0	0	0	0					0



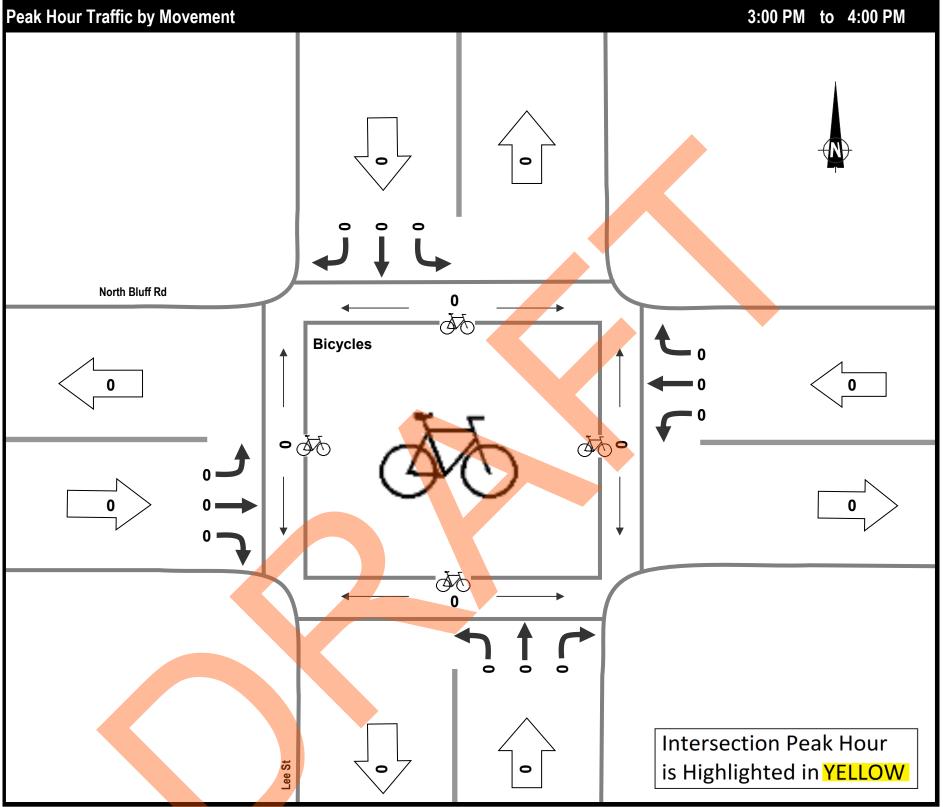
Thursday, November 08, 2018

Afternoon Peak Period

Project: #5935: Beachway Traffic Impact Assessment

Municipality: White Rock
Weather: Cloudy
Vehicle Class: Bicycles

Note: Crosswalk bike volumes shown are cyclists who rode their bike across the crosswalk and are not included in the pedestrian volume totals

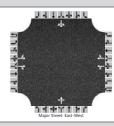


											_						
Time	NOR	ТН Арр	roach	SOU	ТН Аррі	roach	WES	ST Appr	oach	EAS	T Appro	oach	BIK	ES in	X-WAI	_KS	Total
Tillle	left	thru	right	left	thru	right	left	thru	right	left	thru	right	Ν	S	W	Е	Volumes
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peak 15 X 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Survey Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D Intersection Capacity Analysis



	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	North Bluff Rd
Analysis Year	2019	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		8	698	6		28	870	15		2	2	12		9	2	37
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked															/	
Percent Grade (%)										()					
Right Turn Channelized																
Median Type Storage		Undivided adways														
Critical and Follow-up H	eadwa	adways														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		10				34					19				58	
Capacity, c (veh/h)		636				682					148		7		175	
v/c Ratio		0.02				0.05					0.13				0.33	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.4				1.4	
Control Delay (s/veh)		10.7				10.6					33.0				35.4	
Level of Service (LOS)		В				В					D				Е	
Approach Delay (s/veh)		0	.3			0	.9			33	3.0			35	5.4	
Approach LOS										[)			-	E	

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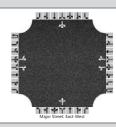
HCS™ TWSC Version 7.8.5 Lee N Bluff - 2019 amb.xtw Generated: 10/16/2019 3:05:26 PM

		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	JAL						Inters	ection			Lee S	t & Nort	h Bluff F	Rd		
Agency/Co.	CTS						Jurisd	iction			White	e Rock				
Date Performed	10/10	/2019					East/\	Vest Str	eet		North	n Bluff Ro	d			
Analysis Year	2019						North	/South :	Street		Lee S	t				
Time Analyzed	PM B	ase					Peak	Hour Fa	tor		0.85					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beachy	vay 2 TIA	4												_
Lanes																
	•			MARKANO		+		74 1 A 4 1 U								
Vehicle Volumes and Adj	ustme															
Approach		Eastb					oound				bound				bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		9	737	13		18	791	28		3	0	5		9	3	16
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										- 1	0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	l Leve	l of S	ervice													
Flow Rate, v (veh/h)		11		Π		21				Π	9	П	Π	Π	33	П
Capacity, c (veh/h)		702				703					161				146	
v/c Ratio		0.02				0.03					0.06				0.22	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				0.8	
Control Delay (s/veh)		10.2				10.3					28.7				36.6	
Level of Service (LOS)		В				В					D				E	
Approach Delay (s/veh)		0	.3			0	.5			28				3(5.6	

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HCS™ TWSC Version 7.8.5 Lee N Bluff - 2019 pmb.xtw Generated: 10/16/2019 3:05:52 PM

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	North Bluff Rd
Analysis Year	2021	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		9	726	7		30	905	16		3	3	13		10	3	39
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa															
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		11				36					23				63	
Capacity, c (veh/h)		613				661					109		7		143	
v/c Ratio		0.02				0.05					0.21				0.44	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					0.7				2.0	
Control Delay (s/veh)		11.0				10.8					46.6				48.7	
Level of Service (LOS)		В				В					E				Е	
Approach Delay (s/veh)		0	.3			1	.0			46	5.6			48	3.7	
Approach LOS															E	

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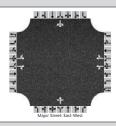
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		Н	CS7	Two-	-Way	Sto	p-Co	ntrol	Rep	ort_						
General Information							Site	Inforn	natio	n						
Analyst	JAL						Inters	ection			Lee S	t & Nort	h Bluff F	ld		
Agency/Co.	CTS						Jurisd	liction			White	e Rock				
Date Performed	10/10	/2019						Nest Stre	eet		North	n Bluff Ro	<u> </u>			
Analysis Year	2021						North	/South S	Street		Lee S	t				
Time Analyzed	AM B	ase + Sit	te					Hour Fac			0.83					
Intersection Orientation	East-\							sis Time		hrs)	0.25					
Project Description		- Beach	vay 2 TI	Α												
Lanes																
				14 14 4 14 6		†	st-West	4 4 4 4 4 4 6 10								
Vehicle Volumes and Ad	ustme															
Approach			ound				bound				bound				bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		9	726	16		31	905	16		22	4	33		10	4	39
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Und	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		11				37					71	П			64	Π
Capacity, c (veh/h)		613				655					89				128	
v/c Ratio		0.02				0.06					0.80				0.50	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					4.2				2.3	
Control Delay (s/veh)		11.0				10.8					129.7				58.6	
Level of Service (LOS)	В В					В					F				F	
Approach Delay (s/veh)		0	.3			1	0			12	9.7			5	B.6	
		0.5														

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HCS™ TWSC Version 7.8.5 Lee N Bluff - 2021 ambs.xtw

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	North Bluff Rd
Analysis Year	2021	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.85
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach	Τ	Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		10	767	14		19	823	30		4	0	6		10	4	17
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																/
Percent Grade (%)) (0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22		K		3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	Τ	12				22					12				36	
Capacity, c (veh/h)		678				681					136		7		125	
v/c Ratio		0.02				0.03					0.09				0.29	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					0.3				1.1	
Control Delay (s/veh)		10.4				10.5					33.9				45.4	
Level of Service (LOS)		В				В					D				Е	
Approach Delay (s/veh)		0.3				0	.6			33	3.9			4!	5.4	
Approach LOS	1)				F	

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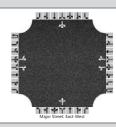
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		Н	CS7	Two	-Way	Sto	p-Co	ntrol	Rep	ort						
General Information							Site	Inforn	natio	n						
Analyst	JAL						Inters	ection			Lee S	t & Nort	h Bluff F	ld		
Agency/Co.	CTS						Jurisd	liction			White	Rock				
Date Performed	10/10	/2019					East/\	Nest Stre	eet		North	Bluff Ro	i			
Analysis Year	2021	7					North	/South S	Street		Lee S	t				
Time Analyzed	PM B	se + Sit	te				Peak	Hour Fac	tor		0.85					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beach	way 2 TI	Α												
Lanes																
				14444	n R Mair	**		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		10	767	34		36	823	30		17	1	18		10	5	17
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										- (0				0	
Right Turn Channelized																
Median Type Storage				Und	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		12				42					42				38	
Capacity, c (veh/h)		678				667					96				102	
v/c Ratio		0.02				0.06					0.44				0.37	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					1.8				1.5	
Control Delay (s/veh)		10.4				10.8					68.8				59.5	
Level of Service (LOS)		В									F				F	
Approach Delay (s/veh)		0.3				1	.1			68	3.8			5	9.5	
	_										F				F	

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	HCS7 Two-Way Sto	o-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	North Bluff Rd
Analysis Year	2026	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		10	796	7		32	992	18		3	3	14		11	3	43
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22		K		3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		12				39					24				69	
Capacity, c (veh/h)		557				614					83		7		108	
v/c Ratio		0.02				0.06					0.29				0.64	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					1.1				3.2	
Control Delay (s/veh)		11.6				11.3					65.0				84.2	
Level of Service (LOS)		В				В					F				F	
Approach Delay (s/veh)		0	.4			1	.2			65	5.0			84	1.2	
Approach LOS		<u> </u>								- 1	F				F	

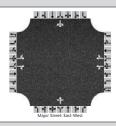
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		Н	CS7	Two-	-Way	' Stop	р-Со	ntrol	Rep	ort						
General Information	_						Site	Inforn	natio	n						
Analyst	JAL						Inters	ection			Lee S	t & Nort	h Bluff R	ld		
Agency/Co.	CTS						Jurisd	liction			White	Rock				
Date Performed	10/10	/2019					East/\	Nest Stre	eet		North	Bluff Ro	i			
Analysis Year	2026						North	/South S	Street		Lee S	t				
Time Analyzed	AM B	ase + Sit	te				Peak	Hour Fac	tor		0.83					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beach	vay 2 TIA	λ												
Lanes																
				24 + A & B C C		†		14 144 100								
Vehicle Volumes and Adj	ustme	ents														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		10	796	16		33	992	18		22	4	34		11	4	43
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										(0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)	T	4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		12				40					72				70	
Capacity, c (veh/h)		557				609					64				95	
v/c Ratio		0.02				0.07					1.13				0.74	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					5.7				3.8	
Control Delay (s/veh)		11.6				11.3					260.3				110.5	
Level of Service (LOS)		В									F				F	
Approach Delay (s/veh)		0.4				1	3			26	0.3			11	0.5	
Approach LOS											F				F	
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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & North Bluff Rd
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	North Bluff Rd
Analysis Year	2026	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.85
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		11	841	15		21	902	32		4	0	6		11	4	19
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)										()				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22		K		3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	T	13				25					12				40	
Capacity, c (veh/h)		624				630					104		7		98	
v/c Ratio		0.02				0.04					0.11				0.41	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					0.4				1.7	
Control Delay (s/veh)		10.9				10.9					44.1				64.8	
Level of Service (LOS)		В				В					E				F	
Approach Delay (s/veh)		0	.4			0	.7			44	1.1			64	1.8	
Approach LOS											E				F	

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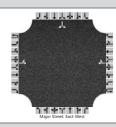
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		Н	CS <u>7</u>	Two-	-Way	/ Sto	р-Со	ntrol	Rep	ort_						
General Information	_							Inforr								
Analyst	JAL						Inters	ection			Lee S	t & Nort	h Bluff R	ld.		
Agency/Co.	CTS						Jurisc	liction				e Rock				
Date Performed		/2019						West Str	eet			n Bluff Ro	1			
Analysis Year	2026							n/South !			Lee S					
Time Analyzed	_	ase + Sit	P					Hour Fac			0.85					
Intersection Orientation	East-							sis Time		hrs)	0.25					
Project Description		- Beach	vav 2 TI				ruidiy	313 111110	T CHOO (,,,,	0.23					
Lanes	7150	Dedein		`												
				7444410		†	11810	4 5								
Vehicle Volumes and Ad	justme	nts			Maji	or Street: Ea	st-west									
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		11	841	35		38	902	32		17	1	18		11	5	19
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		13				45				I	42	I			41	
Capacity, c (veh/h)		624				618					70				79	
v/c Ratio		0.02				0.07					0.60				0.52	
95% Queue Length, Q ₉₅ (veh)		0.02				0.07					2.6				2.2	
Control Delay (s/veh)		10.9				11.3					114.5				93.0	
Level of Service (LOS)		B B									F				F F	
Approach Delay (s/veh)			4			B 1	3			11	4.5			Q:	3.0	
Approach LOS		0.4									F				F	
, tpp. cacii 205															40.2001	

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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & Russell Ave
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	Russell Ave
Analysis Year	2019	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	ljustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		7	75				94	7						20		16
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	ivided											
Critical and Follow-up H	eadwa	ys														
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						K						3.52		3.32
Delay, Queue Length, an	nd Leve	l of S	ervice													
Flow Rate, v (veh/h)		8													43	
Capacity, c (veh/h)		1440											7		807	
v/c Ratio		0.01													0.05	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.5													9.7	
Level of Service (LOS)		А													Α	
Approach Delay (s/veh)		0.7												9	.7	
Approach LOS															Ą	

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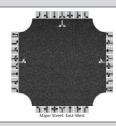
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		Н	CS7	Two-	-Way	Sto	p-Co	ntrol	Rep	ort_						
General Information		_			_		Site	Inforr	natio	1	_	_		_	_	
Analyst	JAL						Inters	ection			Lee S	t & Russ	ell Ave			
Agency/Co.	CTS						Jurisc	liction			White	e Rock				
Date Performed	10/10	/2019					East/	West Str	eet		Russe	ell Ave				
Analysis Year	2019						North	n/South !	Street		Lee S	t				
Time Analyzed	PM B	ase					Peak	Hour Fa	ctor		0.85					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beachy	vay 2 TIA	Α												
Lanes																
				14 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Majo	or Street: Ea	st-West	7								
Vehicle Volumes and Adju	ıstme	nts														
Approach			ound				bound				bound				bound	
Movement	U	L	T	R	U	L	T	R	U	L	Т	R	U	L	T	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	71				68	4						14		13
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
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	Leve	l of S	ervice													
Flow Rate, v (veh/h)		0													32	
Capacity, c (veh/h)		1464													855	
v/c Ratio		0.00													0.04	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.4	
Level of Service (LOS)		А													А	
Approach Delay (s/veh)		0	.0											9	.4	
Approach LOS															A	
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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & Russell Ave
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	Russell Ave
Analysis Year	2021	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		8	78				98	8						21		17
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
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						K						3.52		3.32
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)		10													46	
Capacity, c (veh/h)		1432											7		798	
v/c Ratio		0.01													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.5													9.8	
Level of Service (LOS)		Α													А	
Approach Delay (s/veh)		0	.7											9	.8	
Approach LOS															Д	

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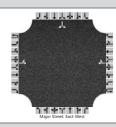
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		Н	CS7	Two-	-Way	Sto	p-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	JAL						Inters	ection			Lee S	it & Russ	ell Ave			
Agency/Co.	CTS						Jurisc	liction			White	e Rock				
Date Performed	10/10	/2019					East/	West Str	eet		Russe	ell Ave				
Analysis Year	2021						North	/South !	Street		Lee S	it				
Time Analyzed	AM B	ase + Sit	:e				Peak	Hour Fa	ctor		0.83					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beachy	vay 2 TI	Α												
Lanes																
				TALLANDU		or Street: Ea		24 144 140								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound				bound				bound				bound	
Movement	U	L	T	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	_
Volume (veh/h)		9	78				98	9						23		19
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
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, an	d Leve	_	ervice													
Flow Rate, v (veh/h)		11													51	
Capacity, c (veh/h)		1431													796	
v/c Ratio		0.01													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.5													9.8	_
Level of Service (LOS)		А													А	
Approach Delay (s/veh)		0	.8												.8	
Approach LOS															A	

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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & Russell Ave
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	Russell Ave
Analysis Year	2021	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.85
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	74				71	5						15		14
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked															/	
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	ivided											
Critical and Follow-up H	eadwa	ys														
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						K						3.52		3.32
Delay, Queue Length, an	nd Leve	l of S	ervice													
Flow Rate, v (veh/h)		0													34	
Capacity, c (veh/h)		1458											7		849	
v/c Ratio		0.00													0.04	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.4	
Level of Service (LOS)		Α													А	
Approach Delay (s/veh)		0.0												9	.4	
Approach LOS															Д	

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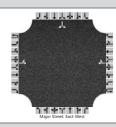
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		Н	CS7	Two-	-Way	' Sto _l	p-Co	ntrol	Rep	ort_						
General Information							Site	Inforr	natio	n						
Analyst	JAL						Inters	ection			Lee S	t & Russ	ell Ave			
Agency/Co.	CTS						Jurisc	liction			White	e Rock				
Date Performed	10/10	/2019					East/	West Str	eet		Russe	ell Ave				
Analysis Year	2021						North	/South !	Street		Lee S	t				
Time Analyzed	РМ В	ase + Sit	e				Peak	Hour Fa	ctor		0.85					
Intersection Orientation	East-	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beach	vay 2 TL	4												
Lanes																
				74 4 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	h H Majo		t t st-West	4 4 4 4 4 6 10								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		2	74				71	7						16		15
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Und	vided											
Critical and Follow-up He	eadwa	ys														
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	d Leve		ervice													
Flow Rate, v (veh/h)		2													36	
Capacity, c (veh/h)		1455													844	
v/c Ratio		0.00													0.04	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.5	
Level of Service (LOS)		Α													Α	
Approach Delay (s/veh)		0	.2											9	.5	

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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & Russell Ave
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	Russell Ave
Analysis Year	2026	North/South Street	Lee St
Time Analyzed	AM Base	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		8	86				108	8						23		19
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked															/	/
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	ivided											
Critical and Follow-up H	eadwa	ys														
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						K						3.52		3.32
Delay, Queue Length, an	nd Leve	l of S	ervice													
Flow Rate, v (veh/h)		10													51	
Capacity, c (veh/h)		1418											7		780	
v/c Ratio		0.01													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.6													9.9	
Level of Service (LOS)		А													А	
Approach Delay (s/veh)		0	.7											9	.9	
Approach LOS															Д	

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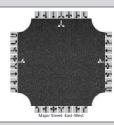
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		Н	CS7	Two-	-Way	Sto	p-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	JAL						Inters	ection			Lee S	t & Russ	ell Ave			
Agency/Co.	CTS						Jurisd	liction			White	e Rock				
Date Performed	10/10	/2019					East/\	Nest Str	eet		Russe	ell Ave				
Analysis Year	2026						North	/South !	Street		Lee S	t				
Time Analyzed	AM B	ase + Sit	:e				Peak	Hour Fa	tor		0.83					
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25					
Project Description	7130	- Beachy	vay 2 TI	Α												
Lanes																
				TRIVABLE		or Street: Ea		24179860								
Vehicle Volumes and Ad	justme												1			
Approach		_	ound				bound				bound				bound	
Movement	U	L	T	R	U	L	T	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		9	86				108	9						25		21
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)															0	
Right Turn Channelized				11	vided											
Median Type Storage	٠.			Unai	viaea											
Critical and Follow-up H	eadwa	_														
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, an	d Leve	_	ervice													
Flow Rate, v (veh/h)		11													55	
Capacity, c (veh/h)		1416													778	
v/c Ratio		0.01													0.07	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.6													10.0	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		0	.8												0.0	
Approach LOS															A	

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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	JAL	Intersection	Lee St & Russell Ave
Agency/Co.	CTS	Jurisdiction	White Rock
Date Performed	10/10/2019	East/West Street	Russell Ave
Analysis Year	2026	North/South Street	Lee St
Time Analyzed	PM Base	Peak Hour Factor	0.85
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	7130 - Beachway 2 TIA		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	81				78	5						16		15
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																7
Percent Grade (%)															0	
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
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, an	nd Leve	l of S	ervice	,												
Flow Rate, v (veh/h)		0													36	
Capacity, c (veh/h)		1448											7		835	
v/c Ratio		0.00													0.04	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.5	
Level of Service (LOS)		А													А	
Approach Delay (s/veh)		0.0												9	.5	
Approach LOS															Ą	

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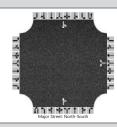
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		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort									
General Information							Site Information												
Analyst	JAL						Inters	ection			t & Russ	& Russell Ave							
Agency/Co.	CTS						Jurisd	liction			White	Rock							
Date Performed	10/10	/2019					East/\	Nest Stre	eet		Russe	ell Ave							
Analysis Year	2026						North	/South S	Street		Lee S	t							
Time Analyzed	PM B	ase + Sit	e				Peak	Hour Fac	ctor		0.85								
Intersection Orientation	East-\	West					Analy	sis Time	Period (hrs)	0.25								
Project Description	7130	- Beachy	vay 2 TI	Α															
Lanes																			
	•			ANWYIE	Majo	or Street: Ea		4 4 4 4 4 0											
Vehicle Volumes and Adj	ustme	nts																	
Approach		Eastb	ound			Westl	oound			North	bound			South	bound				
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R			
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12			
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0			
Configuration		LT						TR							LR				
Volume (veh/h)		2	81				78	7						17		16			
Percent Heavy Vehicles (%)		2												2		2			
Proportion Time Blocked																			
Percent Grade (%)															0				
Right Turn Channelized																			
Median Type Storage				Undi	vided														
Critical and Follow-up He	adwa	ys																	
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	Leve	l of S	ervice																
Flow Rate, v (veh/h)		2													39				
Capacity, c (veh/h)		1445													830				
v/c Ratio		0.00													0.05				
95% Queue Length, Q ₉₅ (veh)		0.0													0.1				
Control Delay (s/veh)		7.5													9.6				
Level of Service (LOS)		А													Α				
Approach Delay (s/veh)		0	.2											9	.6				
Approach LOS															A				
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	HCS7 Two-Way Sto	p-Control Report								
General Information		Site Information								
Analyst	JAL	Intersection	Lee St & Access							
Agency/Co.	CTS	Jurisdiction	White Rock							
Date Performed	10/10/2019	East/West Street	Access							
Analysis Year	2021	North/South Street	Lee St							
Time Analyzed	AM Base + Site	Peak Hour Factor	0.83							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	7130 - Beachway 2 TIA									



Vehicle Volumes and Ad	justme	nts																	
Approach		Eastb	ound			Westl	oound			North	bound		Southbound						
Movement	U	L	Т	R	U	L	T	R	U	L	Т	R	U	L	Т	R			
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6			
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0			
Configuration							LR					TR		LT					
Volume (veh/h)						4		40			17	2		11	37				
Percent Heavy Vehicles (%)						2		3						2					
Proportion Time Blocked																			
Percent Grade (%)						(0												
Right Turn Channelized																			
Median Type Storage		Undivided																	
Critical and Follow-up H	eadwa	ys																	
Base Critical Headway (sec)						7.1		6.2						4.1					
Critical Headway (sec)						6.42		6.23						4.12					
Base Follow-Up Headway (sec)						3.5		3.3						2.2					
Follow-Up Headway (sec)						3.52		3.33						2.22					
Delay, Queue Length, ar	d Leve	l of S	ervice																
Flow Rate, v (veh/h)							53							13					
Capacity, c (veh/h)							1037						7	1592					
v/c Ratio							0.05							0.01					
95% Queue Length, Q ₉₅ (veh)							0.2							0.0					
Control Delay (s/veh)							8.7							7.3					
Level of Service (LOS)							Α							Α					
Approach Delay (s/veh)						. 8	.7					1.7							
Approach LOS						,	Α												

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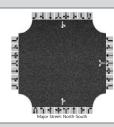
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		Н	CS7	Two-	Way	' Stol	р-Со	ntrol	Rep	ort_									
General Information							Site	Inforn	natio	n									
Analyst	JAL							ection			Lee S	Lee St & Access							
Agency/Co.	CTS						Jurisd				White Rock								
Date Performed		/2019						Nest Stre	eet		Acces								
Analysis Year	2021							/South S			Lee S								
Time Analyzed		ase + Sit	te					Hour Fac			0.85								
Intersection Orientation	North	-South						sis Time		hrs)	0.25								
Project Description			way 2 TL	Α			.,			,									
Lanes																			
				74 1 74 54		†	th-South	74474											
Vehicle Volumes and Adj	ustme	nts			,														
Approach		Eastb	ound			West	bound			North	bound			South	bound				
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R			
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6			
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0			
Configuration							LR					TR		LT					
Volume (veh/h)						2		26			7	4		38	32				
Percent Heavy Vehicles (%)						2		3						2					
Proportion Time Blocked																			
Percent Grade (%)							0												
Right Turn Channelized																			
Median Type Storage				Undi	vided														
Critical and Follow-up He	eadwa	ys																	
Base Critical Headway (sec)			П			7.1		6.2		П			П	4.1					
Critical Headway (sec)						6.42		6.23						4.12					
Base Follow-Up Headway (sec)						3.5		3.3						2.2					
Follow-Up Headway (sec)						3.52		3.33						2.22					
Delay, Queue Length, an	d Leve	l of S	ervice																
Flow Rate, v (veh/h)			Π	Π		П	33			Π	Π	Г	Π	45					
Capacity, c (veh/h)							1046							1606					
v/c Ratio							0.03							0.03					
95% Queue Length, Q ₉₅ (veh)							0.1							0.1					
Control Delay (s/veh)							8.6							7.3					
Level of Service (LOS)							А							А					
Approach Delay (s/veh)						8	.6							4	.1				
Approach LOS							A						1.2						
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	HCS7 Two-Way Sto	p-Control Report								
General Information		Site Information								
Analyst	JAL	Intersection	Lee St & Access							
Agency/Co.	CTS	Jurisdiction	White Rock							
Date Performed	10/10/2019	East/West Street	Access							
Analysis Year	2026	North/South Street	Lee St							
Time Analyzed	AM Base + Site	Peak Hour Factor	0.83							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	7130 - Beachway 2 TIA									



Vehicle Volumes and Ad	justme	ents																
Approach		Eastb	oound			Westl	bound			North	bound		Southbound					
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0		
Configuration							LR					TR		LT				
Volume (veh/h)						4		40			19	2		11	40			
Percent Heavy Vehicles (%)						2		3						2				
Proportion Time Blocked															/			
Percent Grade (%)						-	0											
Right Turn Channelized																		
Median Type Storage				Undi	ivided													
Critical and Follow-up H	eadwa	ys																
Base Critical Headway (sec)						7.1		6.2						4.1				
Critical Headway (sec)						6.42		6.23						4.12				
Base Follow-Up Headway (sec)						3.5		3.3						2.2				
Follow-Up Headway (sec)						3.52		3.33						2.22				
Delay, Queue Length, an	d Leve	l of S	ervice	•														
Flow Rate, v (veh/h)	T						53							13				
Capacity, c (veh/h)							1033						7	1589				
v/c Ratio							0.05							0.01				
95% Queue Length, Q ₉₅ (veh)							0.2							0.0				
Control Delay (s/veh)							8.7							7.3				
Level of Service (LOS)							А							Α				
Approach Delay (s/veh)						8	.7						1.6					
Approach LOS						,	Ą											

Approach LOS

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		Н	CS7	Two-	-Way	' Sto _l	p-Co	ntrol	Rep	ort							
General Information							Site	Inforn	natio	n							
Analyst	JAL						Inters	ection			Lee St & Access						
Agency/Co.	CTS						Jurisd	liction			White Rock						
Date Performed	10/10	/2019					East/\	Nest Stre	eet		Acces	is					
Analysis Year	2026						North	/South S	Street		Lee S	t					
Time Analyzed	PM B	ase + Sit	te				Peak	Hour Fac	tor		0.85						
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25						
Project Description	7130	- Beach	way 2 TL	Ą													
Lanes																	
				444116	A h	†	† † ř	74 477									
Vehicle Volumes and Ad	justme																
Approach		_	ound				bound				nbound				bound		
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6	
Number of Lanes	_	0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR				_	TR		LT			
Volume (veh/h)						2		26			7	4		38	35		
Percent Heavy Vehicles (%)						2		3						2			
Proportion Time Blocked																	
Percent Grade (%)							0										
Right Turn Channelized																	
Median Type Storage				Undi	vided												
Critical and Follow-up H	eadwa	ys															
Base Critical Headway (sec)						7.1		6.2						4.1			
Critical Headway (sec)						6.42		6.23						4.12			
Base Follow-Up Headway (sec)						3.5		3.3						2.2			
Follow-Up Headway (sec)						3.52		3.33						2.22			
Delay, Queue Length, ar	id Leve	l of S	ervice											45			
Flow Rate, v (veh/h)							33							45			
Capacity, c (veh/h)							1046							1606			
v/c Ratio							0.03							0.03			
95% Queue Length, Q ₉₅ (veh)							0.1							0.1			
	1						8.6							7.3			
Control Delay (s/veh)																	
Control Delay (s/veh) Level of Service (LOS)						<u> </u>	A		_					A			
Control Delay (s/veh)							A A								.9		

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