



2501 Richmond Transportation Impact Assessment (Version 2)

June 2024

Background

Bunt & Associates, a licensed third-party engineer, submitted a Version 1 Transportation Impact Assessment (TIA) for the 2501 Richmond project in November 2023. The initial TIA evaluated up to 2,500 residential units on the site and indicated the development could be accommodated with several upgrades to the road network.

The City of Calgary provided formal comments in February 2024 and requested further analysis to answer key questions and evaluate additional scenarios. The following Version 2 TIA was conducted to evaluate if 2,500 residential units could be accommodated on the site.

Updated Capacity Findings

Version 2 TIA determined that 2,500 units of development can be accommodated at the subject site with several upgrades to the road network. These findings are consistent with those of the Version 1 TIA.

The June 2024 revised concept that is being prepared for resubmission this summer proposes 1,250 residential units, which is the 50% build-out scenario for the site.

Key Terms

50% build out: 1,250 units

75% build out: 1,875 units

100% build out: 2,500 units

2028 Horizon: Refers to the year 2028

2048 Horizon: Refers to the year 2048

Next Steps

City of Calgary engineers will review the Version 2 TIA and provide further comments in due course as revised applications at the site progress.



2501 Richmond

Transportation Impact Assessment

Version 2

Prepared for
Minto Communities

Date
April 25, 2024

Project Number
02-22-0203

City File Number
LOC2023-0359

CORPORATE AUTHORIZATION

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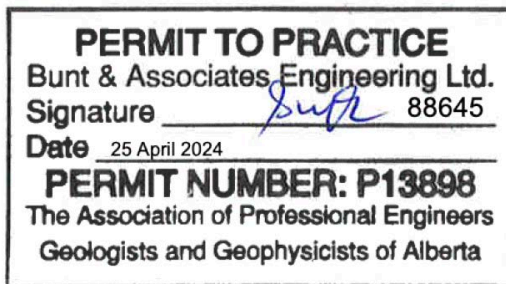
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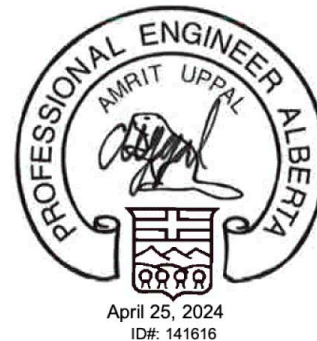
Date: 2024-04-25

Project #: 02-22-0203

Status: Version 2



APEGA Company Permit to Practice



Engineer's Stamp

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TABLE OF CONTENTS

- 1. EXECUTIVE SUMMARY 1
- 2. INTRODUCTION 3
 - 2.1 Scope of Work 3
 - 2.2 Site Context 4
- 3. DEVELOPMENT 5
 - 3.1 Historical Site Use 5
 - 3.2 Proposed Use 6
 - 3.3 Sensitivity Analysis 7
 - 3.4 Access 7
 - 3.5 Bylaw Parking Requirements 8
- 4. VEHICLES 11
 - 4.1 Road Network 11
 - 4.2 Intersections 12
 - 4.3 2028 Horizon Volumes 13
 - 4.3.1 Existing 13
 - 4.3.2 Background (2028) 13
 - 4.3.3 After Development (2028) 14
 - 4.3.4 Historical Comparison 14
 - 4.4 2048 Forecast 21
 - 4.4.1 Network Assumptions 21
 - 4.4.2 Unadjusted Volumes 22
 - 4.4.3 Volume Calibration 23
 - 4.5 With 25 Street Connection (Volumes) 26
 - 4.6 2028 Horizon Analysis 29
 - 4.6.1 Intersection Analysis 29
 - 4.6.2 Signal Warrant Analysis 36
 - 4.6.3 Daily Volumes 36
 - 4.7 2048 Horizon Analysis 37
 - 4.8 With 25 Street Connection (Analysis) 41
 - 4.9 Collision History 46
- 5. ACTIVE TRANSPORTATION 47
 - 5.1 Walking 47
 - 5.1.1 Sidewalks 47
 - 5.1.2 Crosswalk Warrants 48
 - 5.1.3 Crowchild Trail Crossings 49
 - 5.1.4 Summary 49
 - 5.2 Cycling 50
 - 5.3 Transit 51

APPENDIX A Traffic Data

APPENDIX B Synchro & Sidra Reports

APPENDIX C Signal Warrants

APPENDIX D Sensitivity Analysis

EXHIBITS

Exhibit 3.1: Site Traffic Distribution..... 9

Exhibit 3.2: Site Traffic Volumes..... 10

Exhibit 4.1: Existing Intersection Configurations 15

Exhibit 4.2: Existing Traffic Volumes 16

Exhibit 4.3: 2028 Background Traffic Volumes 17

Exhibit 4.4: 2028 After Development Traffic Volumes (50% Build Out) 18

Exhibit 4.5: 2028 After Development Traffic Volumes (75% Build Out) 19

Exhibit 4.6: 2028 After Development Traffic Volumes (100% Build Out) 20

Exhibit 4.7: 2048 Forecast Volumes (Baseline)..... 24

Exhibit 4.8: 2048 Forecast Volumes (After Development) 25

Exhibit 4.9: 2028 After Development (100% Build Out) – With 25 Street Connection Scenario 27

Exhibit 4.10: 2048 Forecast (After Development) – With 25 Street Connection Scenario 28

FIGURES

Figure 2.1: Site Context..... 4

Figure 3.1: Land Use Plan 5

Figure 4.1: Roadway Classifications..... 11

Figure 4.2: Existing Roadway (Richmond Road SW) 12

Figure 4.3: Existing Roadway (25 Street SW) 12

Figure 4.4: Existing Roadway (26 Avenue SW)..... 12

Figure 4.5: Historical vs. After Development Intersection Volumes 14

Figure 4.6: Existing vs. 2048 Forecast (Unadjusted) Intersection Volumes 23

Figure 4.7: 25 Street SW Historic Connection..... 26

Figure 5.1: Pedestrian Network 47

Figure 5.2: TAC Pedestrian Crossing Control – Treatment Selection Matrix 48

Figure 5.3: Crossing – 25 Street & Richmond Road SW..... 49

Figure 5.4: Pedestrian Accommodation – Crowchild Trail & 33 Avenue SW Bridge (West Intersection)..... 49

Figure 5.5: Existing Cycling Network 50

Figure 5.6: BRT Stops 51

Figure 5.7: Existing Transit Service..... 52

TABLES

Table 1.1: 2028 Intersection Analysis Summary 2

Table 1.2: 2048 Intersection Analysis Summary 2

Table 3.1: Previous Site Uses 5

Table 3.2: Trip Generation Rates (School) 6

Table 3.3: Vehicle Trip Generation (Historical) 6

Table 3.4: Trip Generation Rates (Multi-Family) 6

Table 3.5: Vehicle Trip Generation (Main Analysis) 6

Table 3.6: Vehicle Trip Generation (Sensitivity Analysis) 7

Table 3.7: Bylaw Minimum Parking Requirements 8

Table 4.1: Existing Roadway Characteristics 11

Table 4.2: Background Development (24A Street SW) 13

Table 4.3: Background Development (Richmond Green) 13

Table 4.4: Historical vs. After Development Intersection Volumes 14

Table 4.5: Forecast Population & Jobs 21

Table 4.6: Forecast Transit Line Assumptions 22

Table 4.7: Forecast Mode Splits 22

Table 4.8: Existing vs. 2048 Forecast (Unadjusted) Intersection Volumes 23

Table 4.9: 2028 Intersection Analysis Summary 29

Table 4.10: 2028 Intersection Analysis (29 Street SW – Richmond Road and 31 Avenue) 30

Table 4.11: 2028 Intersection Analysis (29 Street SW – 33 Avenue) 31

Table 4.12: 2028 Intersection Analysis (28 Street SW – Richmond Road) 32

Table 4.13: 2028 Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road) 33

Table 4.14: 2028 Intersection Analysis (25 Street SW – 26 Avenue) 34

Table 4.15: 2028 Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue) 35

Table 4.16: Signal Warrant Analysis 36

Table 4.17: Daily Link Volume Analysis 36

Table 4.18: 2048 Intersection Analysis Summary 37

Table 4.19: 2048 Intersection Analysis (29 Street SW – Richmond Road and 31 Avenue) 37

Table 4.20: 2048 Intersection Analysis (29 Street SW – 33 Avenue) 38

Table 4.21: 2048 Intersection Analysis (28 Street SW – Richmond Road) 38

Table 4.22: 2048 Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road) 39

Table 4.23: 2048 Intersection Analysis (25 Street SW – 26 Avenue) 39

Table 4.24: 2048 Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue) 40

Table 4.25: SimTraffic Queueing Analysis Summary (29 Street & Richmond Road – Westbound Left) 41

Table 4.26: Intersection Analysis (29 Street SW – Richmond Road and 31 Avenue) – With 25 Street Connection 42

Table 4.27: Intersection Analysis (29 Street SW – 33 Avenue) – With 25 Street Connection 42

Table 4.28: Intersection Analysis (28 Street SW – Richmond Road) – With 25 Street Connection 43

Table 4.29: Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road) – With 25 Street Connection .. 43

Table 4.30: Intersection Analysis (25 Street SW – 26 Avenue) – With 25 Street Connection 44

Table 4.31: Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue) – With 25 Street Connection 45

Table 4.32: Collision History 46

Table 5.1: Sidewalk Review 47

Table 5.2: TAC Pedestrian Crossing Control – Preliminary Assessment (Existing Volumes) 48

Table 5.3: Existing Transit Stops 51

Table 5.4: Existing Transit Frequency 52

CHANGE LOG

This report has been updated to address comments provided by the City of Calgary in relation to Bunt & Associates' *Viscount Bennett Transportation Impact Assessment* (Version 1). City of Calgary comments are identified in *italics*. Our responses are outlined below.

Overarching comment

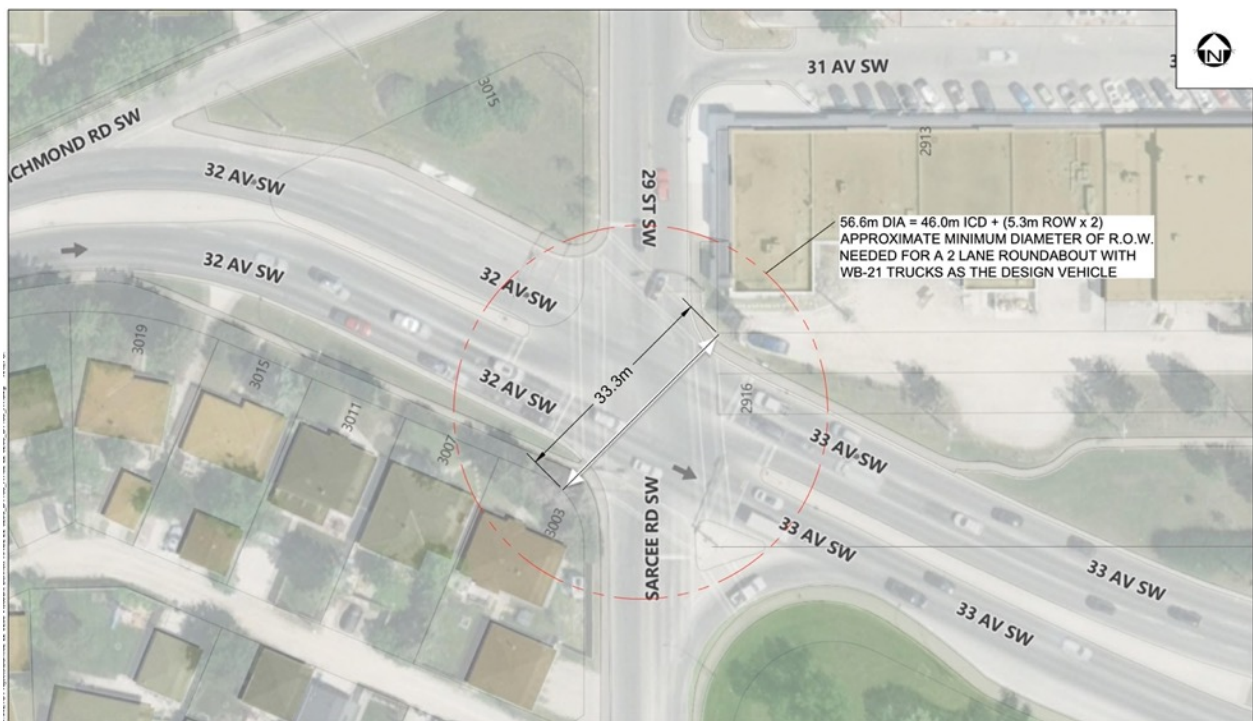
As we discussed at our meeting on December 19th, an updated horizon of the TIA will be required using the forecasting data that was discussed during that meeting and as outlined in your December 20th e-mail.

This TIA includes additional traffic analysis with 2048 City traffic forecasts.

Also as discussed, we want to see a scenario with the 25th Street connection to 33rd Avenue, and perhaps a different intersection type at 29th Street / 33rd Avenue. Please reach out to discuss this further.

A scenario with 25 Street SW connecting to 33 Avenue is provided in this study.

The feasibility of providing a roundabout was reviewed for 29 Street & 33 Avenue SW. The minimum dimensions required to accommodate a dual-lane roundabout could not be provided within the available roadway right-of-way. The high-level review considered only minimum dimensions. Actual requirements would likely be higher due to roadway angles and spacing of accesses. Therefore, analysis is completed only with the existing traffic signal control in place.



TIA Comments

Table 4.7, Intersection of 29th Street and 33rd Avenue SW

Can you provide a bit more discussion about the performance of this intersection. I measure that it has approximately 40m of storage for the queue. The existing horizon shows queue lengths for the southbound left turn of 75m in the AM peak, and 45m in the PM peak. Does this queue clear every cycle? Table 4.6 shows there is no impact to the performance of 29th Street and Richmond Road. There also is no queue for the SB movement at 29th/Sarcee in the AM peak, despite the 75m length for the 29th Street / 33rd Ave intersection extending past this intersection. Can you please provide a bit more explanation on how the 75m queue in the AM peak impacts the intersection of 29th and Sarcee?

Synchro analysis does not fully account for upstream queuing impacts. Therefore, the operation at 29 Street & Richmond Road SW is not fully accurate. To account for this, SimTraffic analysis is added to the report. The SimTraffic analysis identifies higher congestion at 29 Street & Richmond Road SW associated with southbound left turn queue.

For the 100% build-out scenario, the Eastbound Left degrades to a LOS F, with a queue jumping to 96m vs. LOS D and 51m queue in the 50% build-out scenario for the PM peak. However, the volumes for this movement only go from 210 (50% build-out, per Exhibit 4.4) to 253 (100% build-out, per Exhibit 4.5). Is this caused by a change in signal timing, to give more time/priority to the southbound movement for this leg? Just looking for clarity.

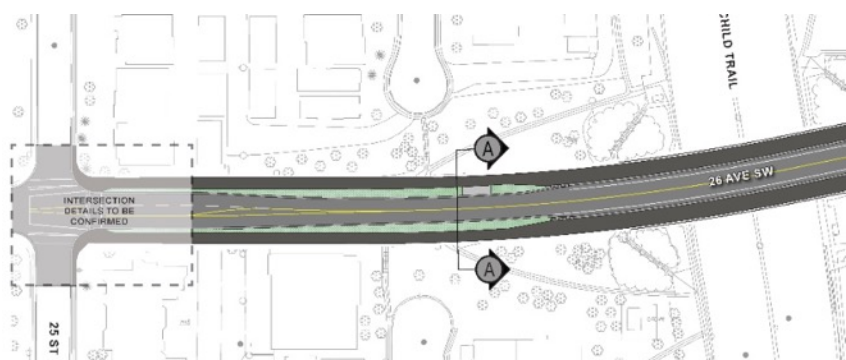
It's a combination of southbound movement signal priority, the eastbound left turn movement having only a 10 second maximum protected green phase, and increased westbound volumes conflicting with permitted left turn movements. The three factors combine to result in the increased delay. A similar condition occurs during the 2048 horizon analysis.

Table 4.10, Intersection of 25th Street and 26th Avenue SW

Can the signal timing for the 100% build-out scenario be timed to give more time to the WB movement? Perhaps a leading left turn for a longer cycle length? How would that impact the performance of the other legs? I note that you recommend as a solution is to put in turning lanes, but I think with the planned upgrades to 26th Avenue (should have a finalized design in the next couple months I hear) we won't be able to fit left turn lanes in. We may need to see a different solution proposed here.

Signal timing scenarios (e.g. split phasing, leading left turn arrow) were analyzed for the westbound movement. However, these were not sufficient to accommodate the volume expected.

The recent phase 2 renderings include a westbound left turn bay subject to detailed design.



Section 5.1.3 Crowchild Trail Crossings

More discussion on this bridge should likely occur. I lean towards putting that investment into upgrading/enhancing the pedestrian realm on the existing 33rd Avenue bridge. I would have concerns about the origin/destination points on the east side of Crowchild, as well as any sort of available physical landing area for the bridge itself. I would assume the destination for pedestrians coming from the Viscount Bennet site is the retail in Marda Loop, in which case it may make more sense to upgrade/enhance the 33rd Ave structure.

Discussion regarding a new Crowchild Trail pedestrian overpass remains, but the section has been revised to address draw and 33 Avenue interchange pedestrian realm improvements.

Section 5.2

I note that our 5A network plans both on-street cycling infrastructure, as well as a recommended pathway for Richmond Road. I am unsure why they recommend dual cycling infrastructure, hopefully we can get a design/plan confirmed for at least the frontage portion of Richmond Road for this project determined through this application process.

Noted. Minor wording revision provided. The client has indicated that detailed street sections with pathway integration will be included in a future Outline Plan submission.

Section 6.2

This is interesting information, but ultimately not really relevant to the application unless Minto proposed to create a DC with separate bicycle parking requirements than what the stock districts contain. Otherwise if deviations from the bylaw requirements are desired, it can be discussed at DP with supporting information.

If this information will be used in support of a relaxation, we will need to see more details, such as occupancy rates of the buildings, do they charge for bicycle parking, etc....

Section has been removed. Minto is not seeking any relaxations related to bicycle parkign.

1. EXECUTIVE SUMMARY

Minto communities is planning a 2,500 unit residential development at 2501 Richmond Road SW on the former Viscount Bennett High School site. The City of Calgary requested a Transportation Impact Assessment (TIA). Study findings are detailed below.

Vehicle

- **Volumes** – When compared to the historical school use, anticipated site traffic generation is lower during the weekday AM peak hour and higher during the weekday PM peak hour.
- **Intersection Analysis** – Analysis results are summarized in **Table 1.1** (2028) and **Table 1.2** (2048).
 - **2048 Analysis** – The analysis identifies several intersection improvements are required to accommodate forecasted 2048 baseline volumes (without development on 2501 Richmond). The net increase in traffic forecasted (with development on 2501 Richmond) does not result in additional intersection improvements being required.
 - **25 Street SW Connection** – Peak hour intersection analysis based on the current road network identified the southbound left turn movement at 29 Street & 33 Avenue SW would operate at capacity with 100% build out resulting in vehicles needing to wait one or more signal cycles. This has upstream impacts on Richmond Road SW. Scenario analysis with 25 Street SW connecting to 33 Avenue SW identified a significant improvement in operations at 29 Street & 33 Avenue SW. Based on analysis results, introducing a roadway connection of 25 Street SW to 33 Avenue SW is not required at 50% or 75% build out. However, at 100% build out, operations on 29 Street SW should be monitored to determine if anticipated delays materialize and compare those delays with the impact of this connection. The connection would result in an increase in traffic volumes along the 25 Street SW corridor, which is currently a Residential Street south of Richmond Road SW.
- **Signal Warrants** – The addition of the development requires new signals at:
 - 25 Street & 26 Avenue SW
 - 29 Street & Richmond Road SW
- **Road Classifications** – Upgrades to 25 Street SW (26 to 30 Avenue) will be required with development. Richmond Road SW will continue to operate within guidelines.
- **Collisions** – The addition of signals would address collision history at two intersections (25 Street & 26 Avenue SW and 29 Street & Richmond Road SW). Curb extensions at 25 Street & Richmond Road SW would address collisions occurring due the intersection angle.

Active

- **Sidewalk** – Frontage improvements will be provided.
- **Crosswalks** – Current controls meet guidelines. Curb extensions are recommended at 25 Street & Richmond Road SW.
- **Crowchild Trail Overpass** – Improvements to the 33 Avenue SW interchange and/or a new pedestrian overpass should be considered to provide enhanced pedestrian connectivity.
- **Cycling** – The site is serviced by bike lanes on 26 Ave SW. An upgraded pathway will be integrated through the site and tie-in to planned 5A network improvements on 26 Avenue SW.
- **Transit** – The site is serviced by bus stops on 26 Avenue SW (#6) and Crowchild Trail SW (Max Yellow BRT, #20, #66). Shifting the southbound Crowchild Trail SW stop closer to the site and adding BRT shelters would improve transit access.

Table 1.1: 2028 Intersection Analysis Summary

INTERSECTION		ANALYSIS SUMMARY			
		Background	50% Build Out	75% Build Out	100% Build Out
29 Street &	Richmond Rd SW	Operates acceptably.	Signal beneficial for westbound left. Impacted by 33 Avenue queuing*.	Signal required with turn lane (northbound right). Impacted by 33 Avenue queuing*.	
	31 Avenue SW	Impacted by 33 Avenue queuing during peak periods.		Due to queue spillback from 33 Ave, southbound left turn restrictions should be provided (peak hours or all times).	
	33 Avenue SW	Operates acceptably.	Southbound left turn arrow required.	Southbound left turn arrow required. Some movements near capacity.	Southbound left turn arrow required. Southbound left will operate at capacity with drivers waiting at least one cycle.
28 Street &	Richmond Rd SW	Operates acceptably.			
25A Street &	26 Avenue SW	Operates acceptably.			
	Richmond Rd SW	Operates acceptably.			
25 Street &	26 Avenue SW	Operates acceptably.	Signal required.	Signal required with turn lane (westbound left).	Signal required with turn lanes (westbound left + northbound right).
	Richmond Rd SW	Operates acceptably.			All-way stop required.
	30 Avenue SW	Operates acceptably.			

Table 1.2: 2048 Intersection Analysis Summary

INTERSECTION		ANALYSIS SUMMARY	
		Baseline	After Development
29 Street &	Richmond Rd SW	Signal required.	
	31 Avenue SW	Southbound left turn restrictions should be provided either through signage (peak hours) or at all times (median).	
	33 Avenue SW	Southbound left turn arrow required. Westbound through will operate at capacity during the PM.	
28 Street &	Richmond Rd SW	Operates acceptably.	
25A Street &	26 Avenue SW	Signal required.	
	Richmond Rd SW	Operates acceptably.	
25 Street &	26 Avenue SW	Signal required with turn lanes (westbound left + northbound right).	
	Richmond Rd SW	Operates acceptably.	
	30 Avenue SW	Operates acceptably.	

2. INTRODUCTION

2.1 Scope of Work

Based on discussions with the City of Calgary, the scope of work for this TIA is:

Development

- *Trip Generation* – Calculate development generated trips based on anticipated and sensitivity rates. Distribute to the network based on forecasted distributions.
- *Bylaw Parking* – Identify vehicle and bicycle parking requirements.

Vehicles

- *Volumes* – Identify weekday AM & PM peak hour traffic volumes for the following horizons:
 - *Existing* – Current volumes (Viscount Bennett Centre closed).
 - *2028 Horizon*
 - *Background* – With planned area developments.
 - *After Development* – With development traffic distributed per select zone forecasts.
 - *After Development Sensitivity* – With sensitivity development traffic scenarios.
 - *2048 Forecast*
 - *Baseline* – Without any development on Viscount Bennett.
 - *After Development* – With development on Viscount Bennett.
- *Intersection Capacity Analysis* – Complete weekday peak hour analysis at:
 - 29 Street & Richmond Road SW
 - 29 Street & 31 Avenue SW
 - 29 Street & 33 Avenue SW
 - 28 Street & Richmond Road SW
 - 25A Street & 26 Avenue SW
 - 25A Street & Richmond Road SW
 - 25 Street & 26 Avenue SW
 - 25 Street & Richmond Road SW
 - 25 Street & 30 Avenue SW
- *Signal Warrant Analysis* – Review needs for traffic signals:
 - 29 Street & Richmond Road SW
 - 25 Street & 26 Avenue SW.
- *Roadway Classifications* – Compare daily volumes with guidelines for 25 St SW and Richmond Rd SW.
- *Safety Analysis* – Review collision history at 29 Street study intersections.
- *25 Street Connection* – Assess impact of connecting 25 Street SW to 33 Avenue SW

Active Transportation

- *Pedestrians* – Review connectivity. Provide crossing warrants on Richmond Rd SW at 25 and 28 Street.
- *Cycling* – Review connectivity to cycling facilities. Identify improvements.
- *Transit* – Review service levels and connectivity to transit stops. Identify improvements.

2.2 Site Context

The site is in the community of Richmond bounded by Richmond Road SW to the north, Crowchild Trail SW to the east, 30 Avenue SW to the south, and 25 Street SW to the west. The site context is illustrated in Figure 2.1.

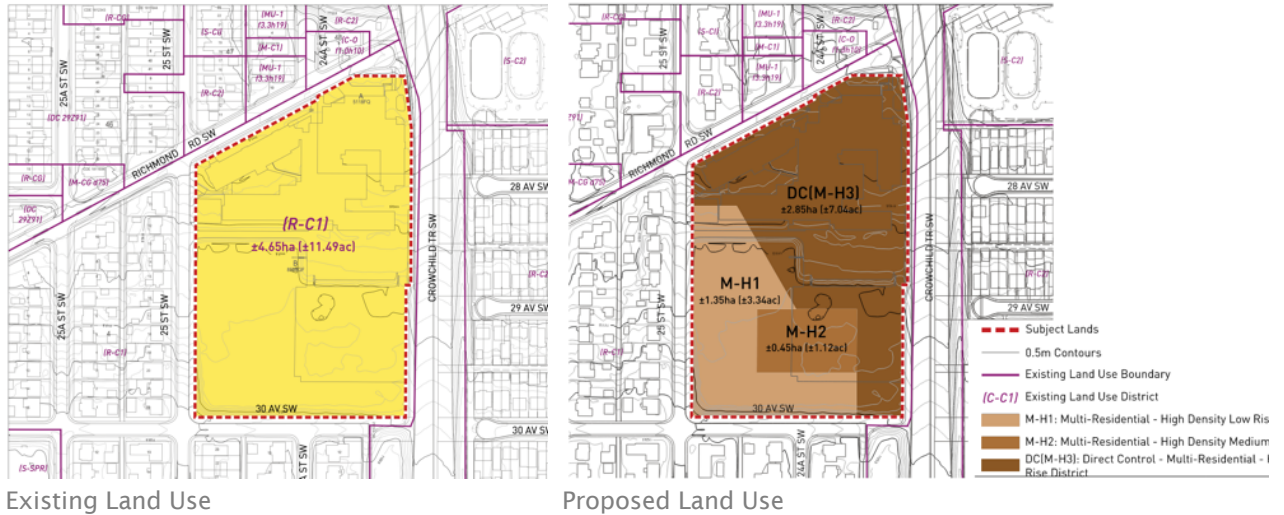
Figure 2.1: Site Context



3. DEVELOPMENT

The proposed land use plan is illustrated in **Figure 3.1**. The proposed density is 2,500 multi-family residential units.

Figure 3.1: Land Use Plan



3.1 Historical Site Use

Density

Previous site uses are summarized in **Table 3.1**. After the High School was closed, it was converted into an adult learning facility. The site also housed a charter school for a decade.

Table 3.1: Previous Site Uses

NAME	TIME FRAME	USE	DENSITY
Viscount Bennett High School	1955-1985	High School	2,000 students
Viscount Bennett Centre	1990's-2018	Adult Learning Centre	*500 students
Westmount Charter School	2001-2011	Charter School	1,100 students

**Assumed in this analysis.*

Trip Generation

Trip rates identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition) for previous site uses are summarized in **Table 3.2**. Resulting historical site traffic generation is summarized in **Table 3.3**.

Table 3.2: Trip Generation Rates (School)

USE	TRIP RATE			DATA SOURCE
	AM Peak Hour	PM Peak Hour	Daily	
High School	0.52 per student (68% In, 32% Out)	0.14 per student (48% In, 52% Out)	1.94 per student (50% In, 50% Out)	ITE 525 (High School)
Adult Learning Centre	0.11 per student (81% In, 19% Out)	0.11 per student (56% In, 44% Out)	1.15 per student (50% In, 50% Out)	ITE 540 (Junior/Community College)
Charter School	0.79 per student (63% In, 37% Out)	0.17 per student (43% In, 57% Out)	2.48 per student (50% In, 50% Out)	ITE 532 (Private K-12 School)

Table 3.3: Vehicle Trip Generation (Historical)

HORIZON	USE	DENSITY	AM PEAK HOUR			PM PEAK HOUR		
			Total	In	Out	Total	In	Out
1955-1985	High School	2,000 students	1,040	707	333	280	134	146
2001-2011	Adult Learning	*500 students	55	45	10	55	31	17
	Charter School	1,100 students	869	547	322	187	80	107
	2001-2011 Traffic		924	592	333	242	111	124

3.2 Proposed Use

Trip Generation

Table 3.4 identifies multi-family residential trip generation rates sourced from the ITE *Trip Generation Manual* and local observations. The highest observed rate (City of Edmonton TIA Guidelines) is used in this analysis. Resulting anticipated site vehicle traffic generation is summarized in **Table 3.5**. When compared to the previous use, anticipated trip generation is lower during the AM and higher during the PM.

Table 3.4: Trip Generation Rates (Multi-Family)

SOURCE	TYPE/CONTEXT	TRIP GENERATION RATE	
		AM Peak Hour	PM Peak Hour
City of Calgary	No LRT – 4 sites	0.21 per unit	0.31 per unit
ITE 222 (Multi-Family High Rise)	General Suburban (No rail transit)	0.27 per unit	0.32 per unit
Bunt & Associates	Established (No LRT) – 7 sites	0.31 per unit	0.38 per unit
ITE 221 (Multi-Family Mid Rise)	General Suburban (No rail transit)	0.35 per unit	0.39 per unit
City of Edmonton TIA Guidelines	General Suburban (No LRT) Low-rise & medium-rise	0.34 per unit	0.40 per unit

Table 3.5: Vehicle Trip Generation (Main Analysis)

USE	DENSITY	AM PEAK HOUR			PM PEAK HOUR		
		Total	In	Out	Total	In	Out
Multi-Family	2,500 units	850	213	637	1,000	650	350

Trip Distribution

Vehicle trips are distributed based on the select zone forecasts included in **Appendix A**. Vehicle access to the development will be provided from Richmond Road SW and 25 Street SW. The trip distribution used in this study is illustrated **Exhibit 3.1**. The resulting development generated traffic volumes are illustrated in **Exhibit 3.2**.

3.3 Sensitivity Analysis

The main analysis is completed using general suburban multi-family trip generation rates. Sensitivity analysis is completed using different rates. Sensitivity analysis is included in **Appendix D**.

Lower-Range (Lower Vehicle Usage)

The ITE 221 urban multi-family trip rate (no rail transit) is 0.23 per unit (AM) and 0.24 per unit (PM). This rate is consistent with observations completed at suburban transit-oriented locations (Somerset) and inner-city non-TOD locations (Rideau Park, Westgate prior to LRT).

Upper-Range (Higher Vehicle Usage)

The City of Calgary requested additional sensitivity analysis be completed using an hourly peak hour vehicle trip generation rate of 0.50 per unit (AM) and 0.60 per unit (PM). Sensitivity rates were based on the City of Calgary's generic multi-family rate. Unlike other jurisdictions (City of Edmonton) and industry standards, the City of Calgary's generic multi-family rate does not differentiate between unit types (townhouse vs. apartments) or location (suburban vs. established). The sensitivity analysis trip generation rate exceeds the suburban townhouse PM peak hour trip generation rate identified by ITE (0.57 per unit - attached single-family) and the City of Edmonton (0.58 per unit - rowhouse). Therefore, the rates do not provide realistic trip generation expectations.

Resulting sensitivity analysis trip generation is identified in **Table 3.6**.

Table 3.6: Vehicle Trip Generation (Sensitivity Analysis)

SCENARIO	DENSITY	AM PEAK HOUR			PM PEAK HOUR		
		Total	In	Out	Total	In	Out
Lower-Range	2,500 units	575	144	431	600	390	210
Main Analysis		850	213	637	1,000	650	350
Upper-Range		1,250	313	937	1,500	975	525

3.4 Access

Historical

The site had the previous vehicle driveway locations:

- **Richmond Road SW (2 Accesses)** – One access for north-facing covered parking and one access to the main parking lots (east side of site).
- **25 Street SW (4 Accesses)** – One driveway for the loading dock, one driveway for the west parking lot, one access to the main lot, and one field maintenance access

Proposed

The proposal is a single vehicle access point from the north (Richmond Road SW), west (25 Street SW), and south (30 Avenue SW).

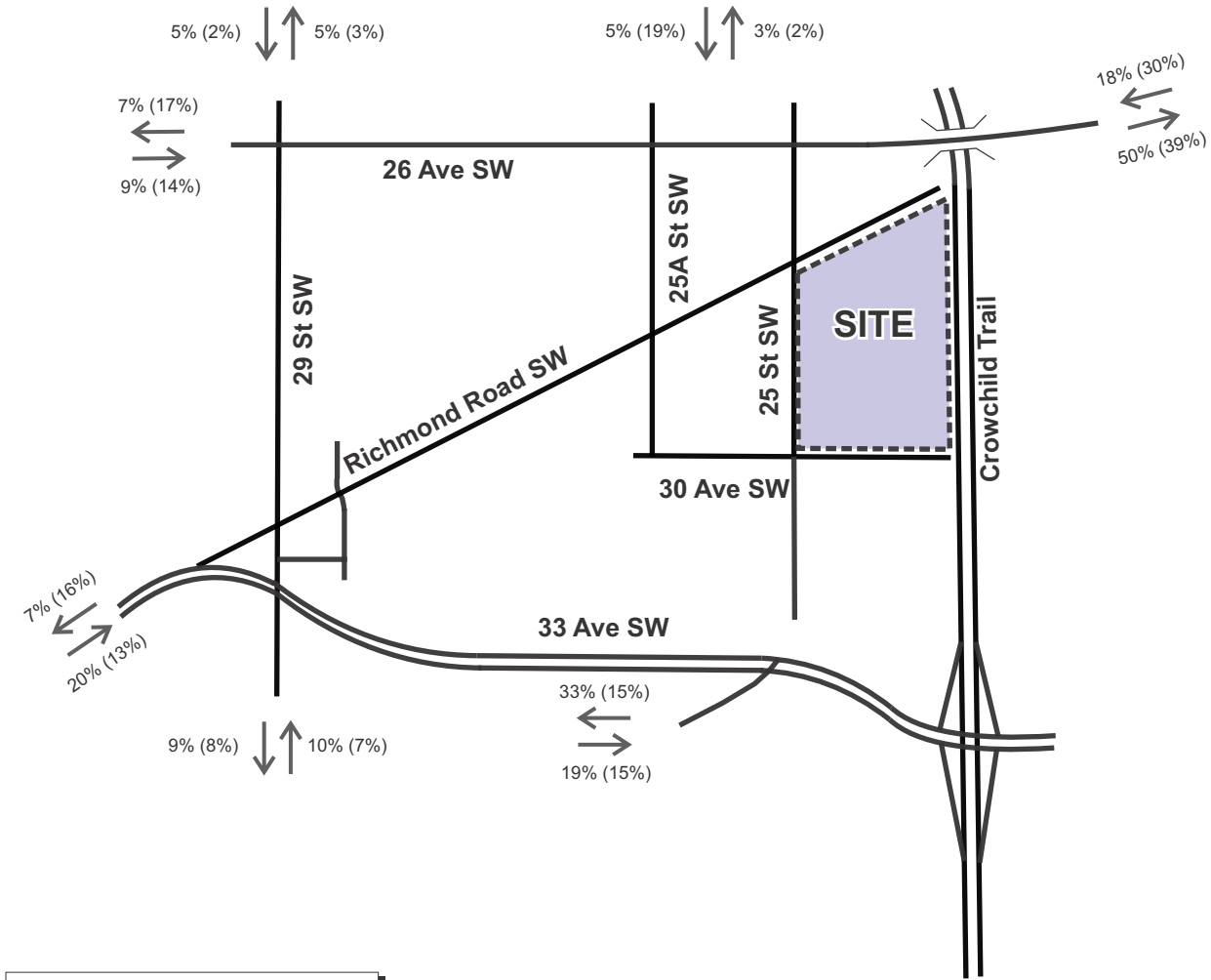
3.5 Bylaw Parking Requirements

Land Use Bylaw 1P2007 (Part 6 – Multi-Residential) parking requirements are identified in **Table 3.7**. Parking supplies will be confirmed at the development permit stage. Requirements will be met or exceeded at the development permit stage.

Table 3.7: Bylaw Minimum Parking Requirements

STALL TYPE	BYLAW RATIO
Vehicle	0.46875 stalls per unit*
Bicycle (Class 1)	1.00 stalls per unit
Bicycle (Class 2)	0.10 stalls per unit
Loading	1 per building greater than 20 units (shared entrance)

*0.625 stalls per unit – 25% transit reduction



LEGEND

AM (PM) Vehicle Distribution

→

Exhibit 3.1
Site Traffic Distribution



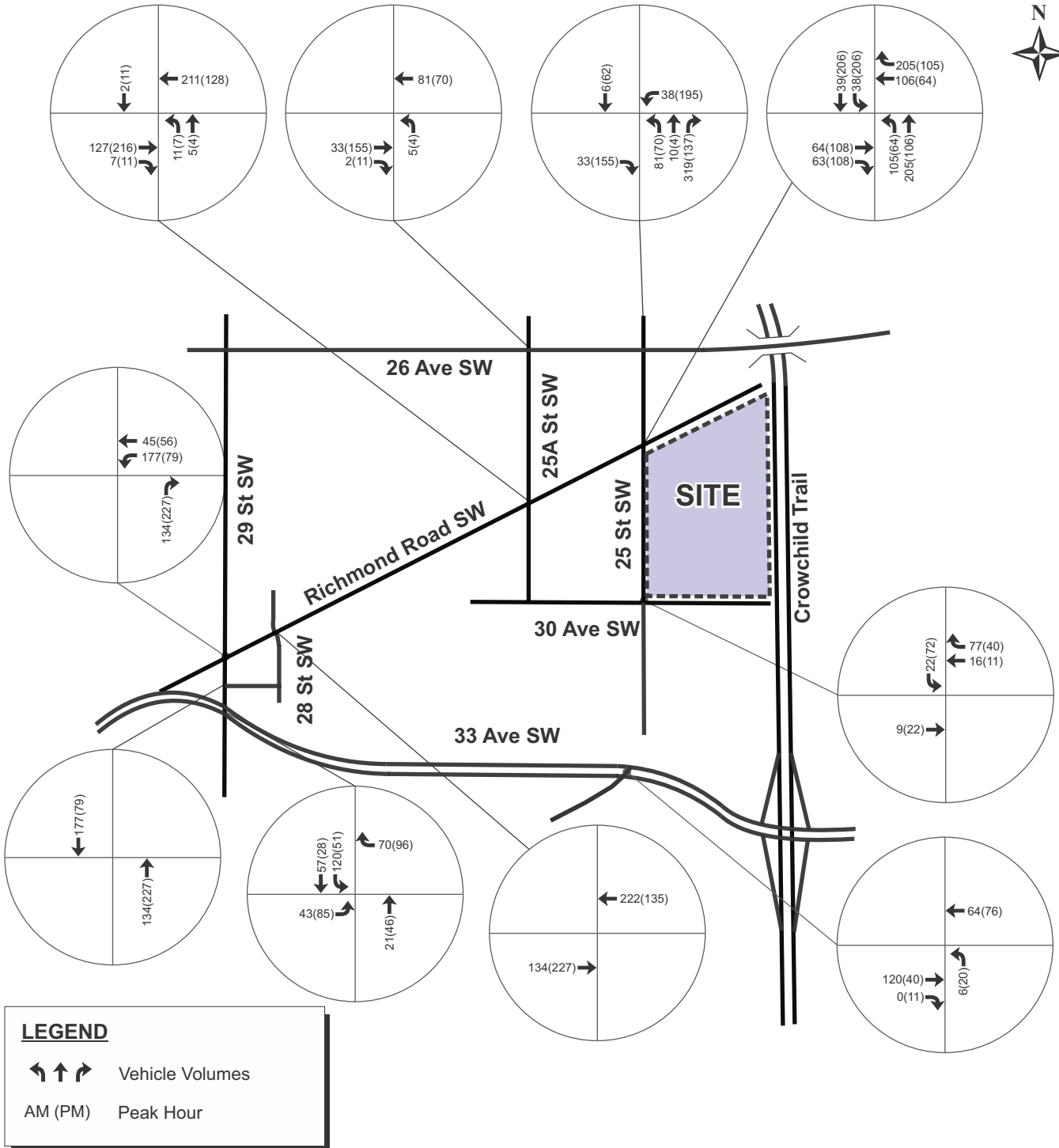


Exhibit 3.2
Site Traffic Volumes



4. VEHICLES

4.1 Road Network

Area roadway classifications are illustrated in **Figure 4.1**. The characteristics of roadways near the site are summarized in **Table 4.1**. Existing roadway sections are illustrated in **Figure 4.2** to **Figure 4.4**.

Figure 4.1: Roadway Classifications

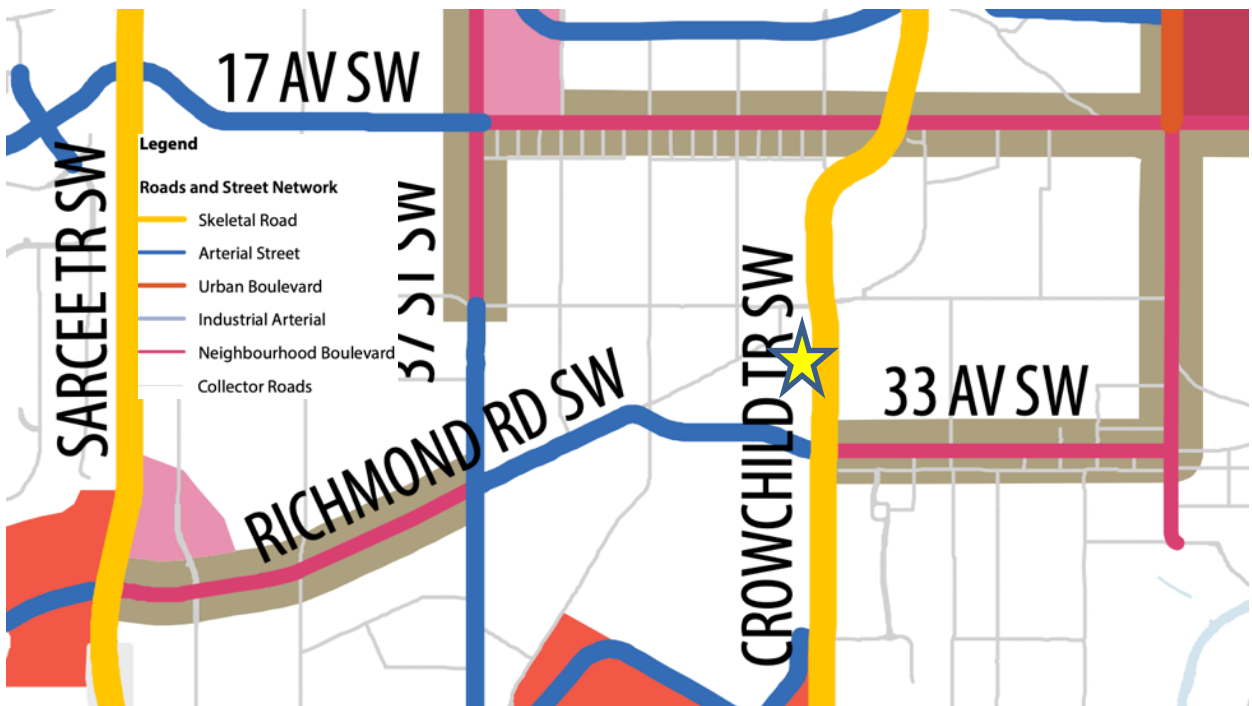


Table 4.1: Existing Roadway Characteristics

ROADWAY	SECTION	TYPE	LANES	POSTED SPEED*	FACILITIES		
					Parking	Bike Lanes	Bus Stops
Richmond Road SW	West of 25 St	Collector	2	40-50 km/h	Yes	No	No
	East of 25 St	Residential		40 km/h			
25 Street SW	N of Richmond Rd	Collector	2	40 km/h	Yes	No	No
	S of Richmond Rd	Residential					
26 Avenue SW		Collector	2	50 km/h	South	Yes	Yes

*Playground zone (30 km/h from 7:30-21:00) currently in effect along portions of the site frontage.

Figure 4.2: Existing Roadway (Richmond Road SW)



Figure 4.3: Existing Roadway (25 Street SW)



Figure 4.4: Existing Roadway (26 Avenue SW)



Source: Apple Maps

4.2 Intersections

Existing intersection configurations and controls at study intersections are illustrated in **Exhibit 4.1**. Existing signal timing plans are included in **Appendix A**. The intersection of 29 Street & 33 Avenue SW is analyzed with a de-facto southbound left turn lane.

4.3 2028 Horizon Volumes

4.3.1 Existing

Traffic counts were completed at all study intersections on December 14, 2022 (Wednesday). Existing traffic volumes are summarized in **Exhibit 4.2**. Traffic count data is included in **Appendix A**.

4.3.2 Background (2028)

Traffic growth at the 2028 horizon associated with background developments is accounted for this study. The resulting Background volumes are illustrated in **Exhibit 4.3** with details provided in **Appendix A**.

Currie Barracks

Development traffic associated with 35% build out of the Currie Barracks development is included in this analysis. Site traffic volumes were obtained from the *Currie Barracks Phase 3 TIA* (Watt Consulting Group).

24A Street SW

Traffic associated with the Cascade Development (2813 24A Street SW) and former Canada Post distribution building (2801 24A Street SW) is included per the traffic generation identified in **Table 4.2**. Trips are distributed using forecast distributions.

Table 4.2: Background Development (24A Street SW)

Land Use	Density	Trip Rates						Trip Generation					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Rate	In %	Out %	Rate	In %	Out %	Total	In	Out	Total	In	Out
Multi-Family	42 units	0.35	25%	75%	0.45	65%	35%	15	4	11	19	12	7
Commercial	5,700 ft ²	1.00	60%	40%	3.50	50%	50%	6	4	2	20	10	10
Office	6,400 ft ²	1.80	88%	12%	2.00	17%	83%	12	11	1	13	2	11
Internal Capture		0%			10%			0	0	0	-6	-3	-3
Total New External Trips								33	19	14	46	21	25

Richmond Green

Traffic associated with the Richmond Green development is included per the traffic generation identified in **Table 4.3**. Trips were distributed to the road network per the *Richmond Green Development TIA* (Watt Consulting Group).

Table 4.3: Background Development (Richmond Green)

Land Use	Density	Trip Rates						Trip Generation					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Rate	In %	Out %	Rate	In %	Out %	Total	In	Out	Total	In	Out
Multi-Family	300 units	0.35	25%	75%	0.45	65%	35%	105	26	79	135	88	47
Townhomes	75 units	0.47	25%	75%	0.57	65%	35%	35	9	26	43	28	15
Commercial	5,704 ft ²	1.00	60%	40%	3.50	50%	50%	6	4	2	20	10	10
Internal Capture		0%			10%			0	0	0	-20	-10	-10
Total New External Trips								146	39	107	178	116	62

4.3.3 After Development (2028)

Development generated traffic volumes (Exhibit 3.2) were added to Background traffic volumes (Exhibit 4.3) to forecast the After Development traffic volumes illustrated in **Exhibit 4.4** (50% build), **Exhibit 4.5** (75% build), and **Exhibit 4.6** (100% build).

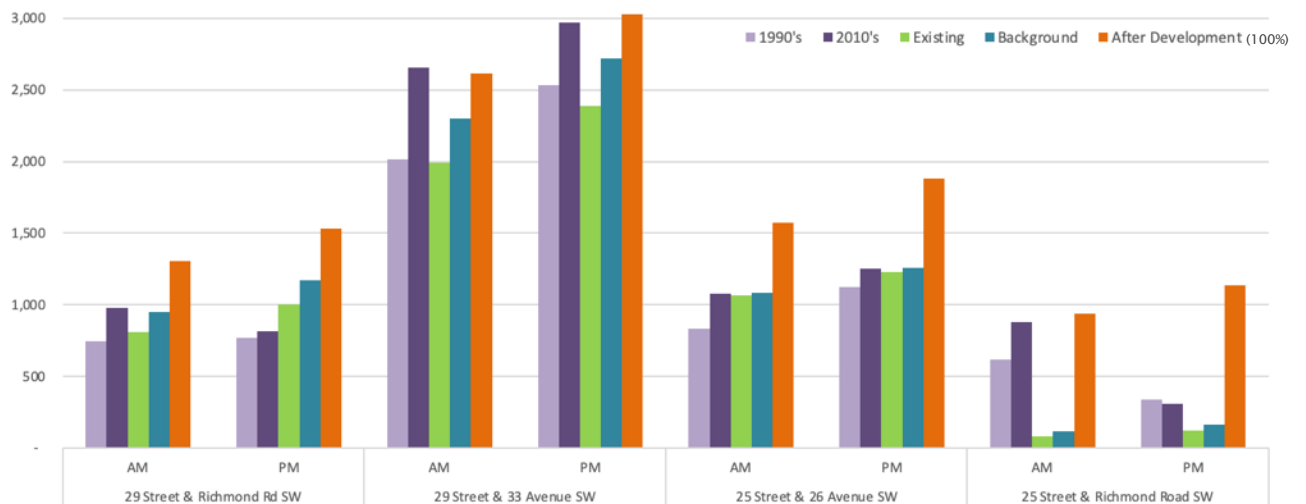
4.3.4 Historical Comparison

Historical, existing, and anticipated intersection traffic volumes are compared in **Table 4.4** and **Figure 4.5**. After Development volumes are higher than historical conditions at smaller intersections and are consistent with historical conditions at 29 Street & 33 Avenue SW.

Table 4.4: Historical vs. After Development Intersection Volumes

INTERSECTION	PEAK HOUR	ENTERING INTERSECTION VOLUME				
		Historical (1990's)	Historical (2010's)	Existing	Background	After Development (100%)
29 Street & Richmond Rd SW	AM	759	976	811	948	1,304
	PM	771	814	1,000	1,139	1,534
29 Street & 33 Avenue SW	AM	2,015	2,655	1,992	2,304	2,614
	PM	2,534	2,970	2,386	2,721	3,027
25 Street & 26 Avenue SW	AM	833	1,076	1,068	1,084	1,571
	PM	1,124	1,251	1,231	1,260	1,883
25 Street & Richmond Rd SW	AM	618	879	81	114	939
	PM	338	310	120	166	1,133

Figure 4.5: Historical vs. After Development Intersection Volumes



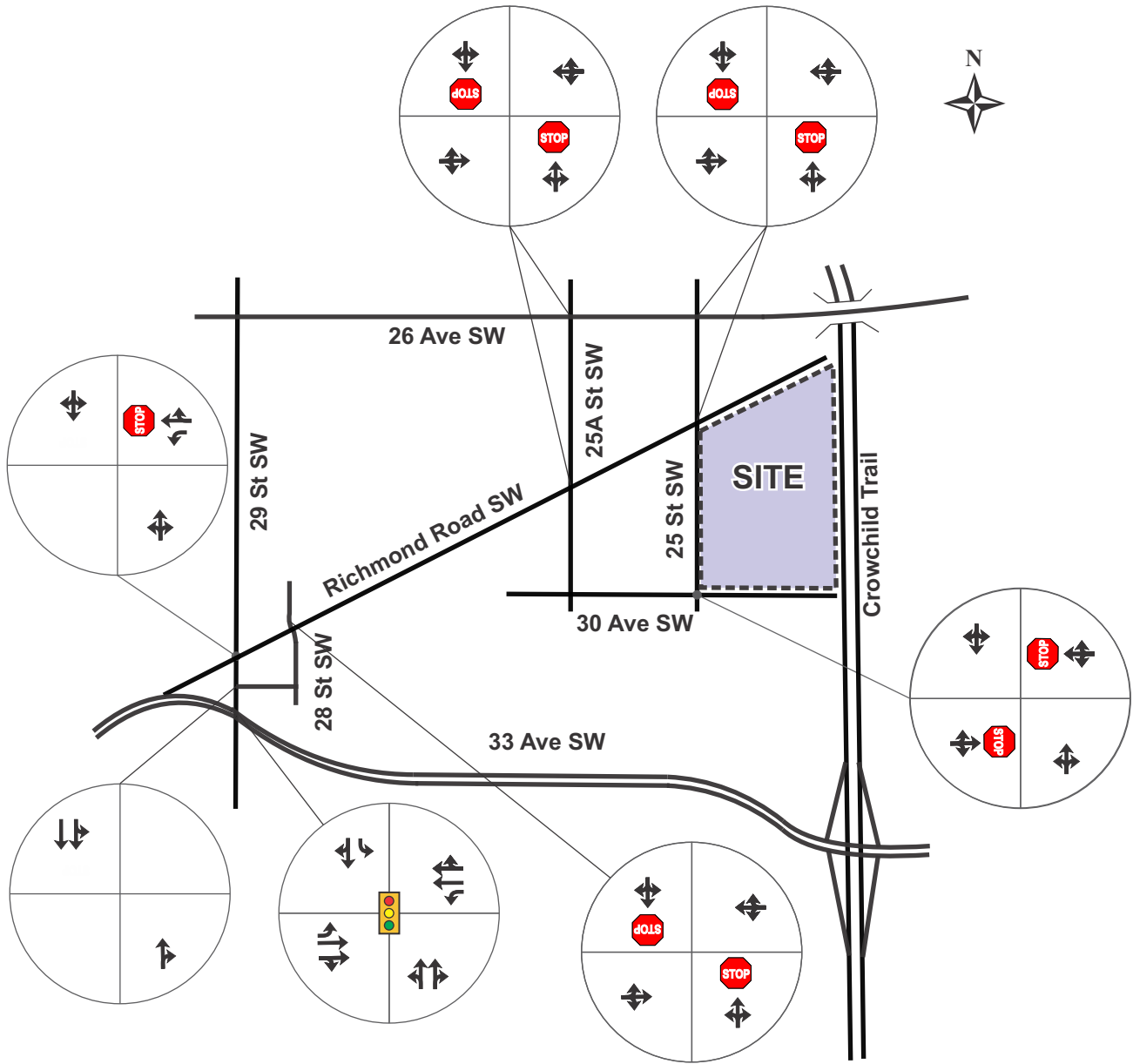


Exhibit 4.1
Existing Intersections Configuration



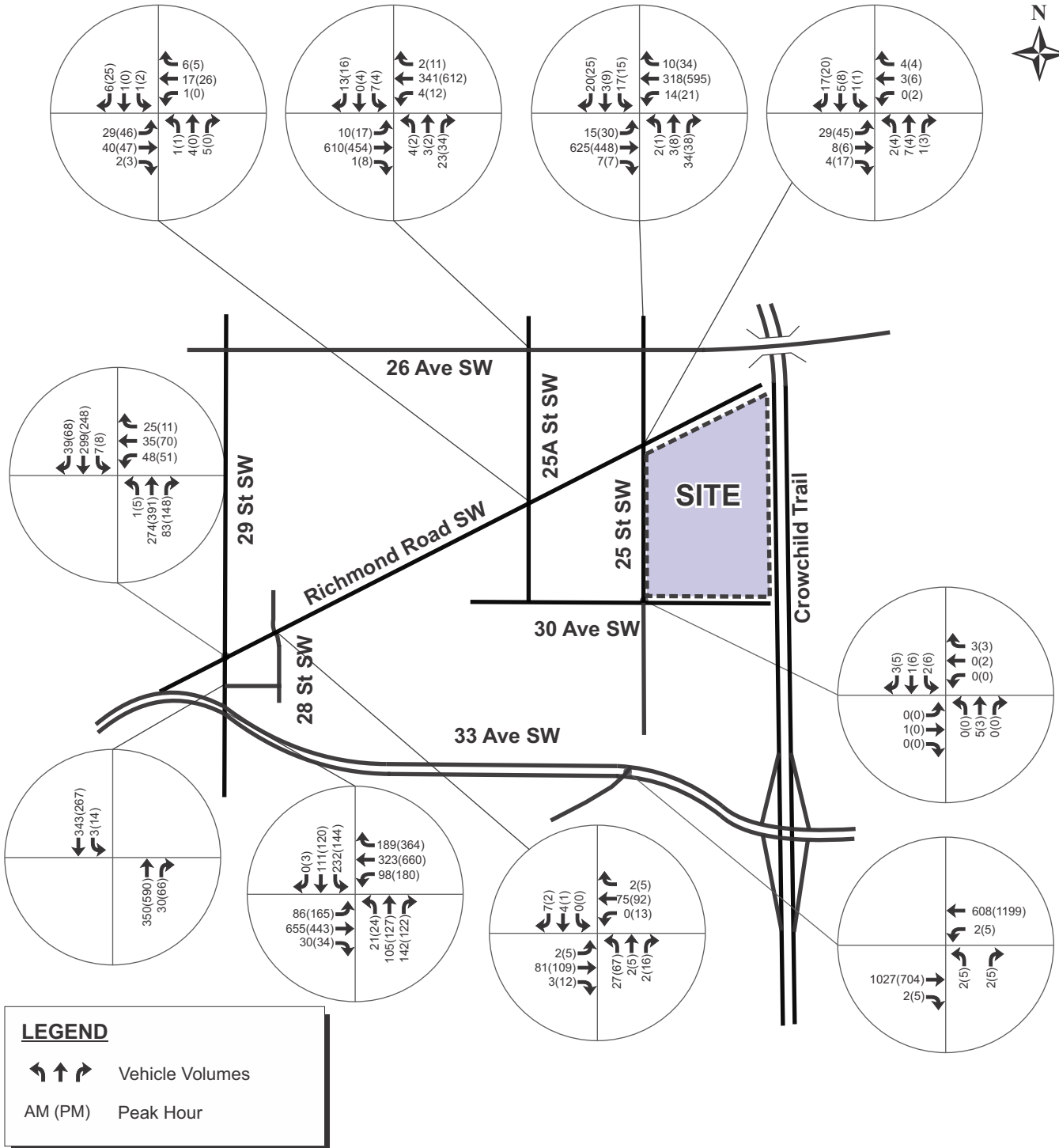


Exhibit 4.2
Existing Traffic Volumes



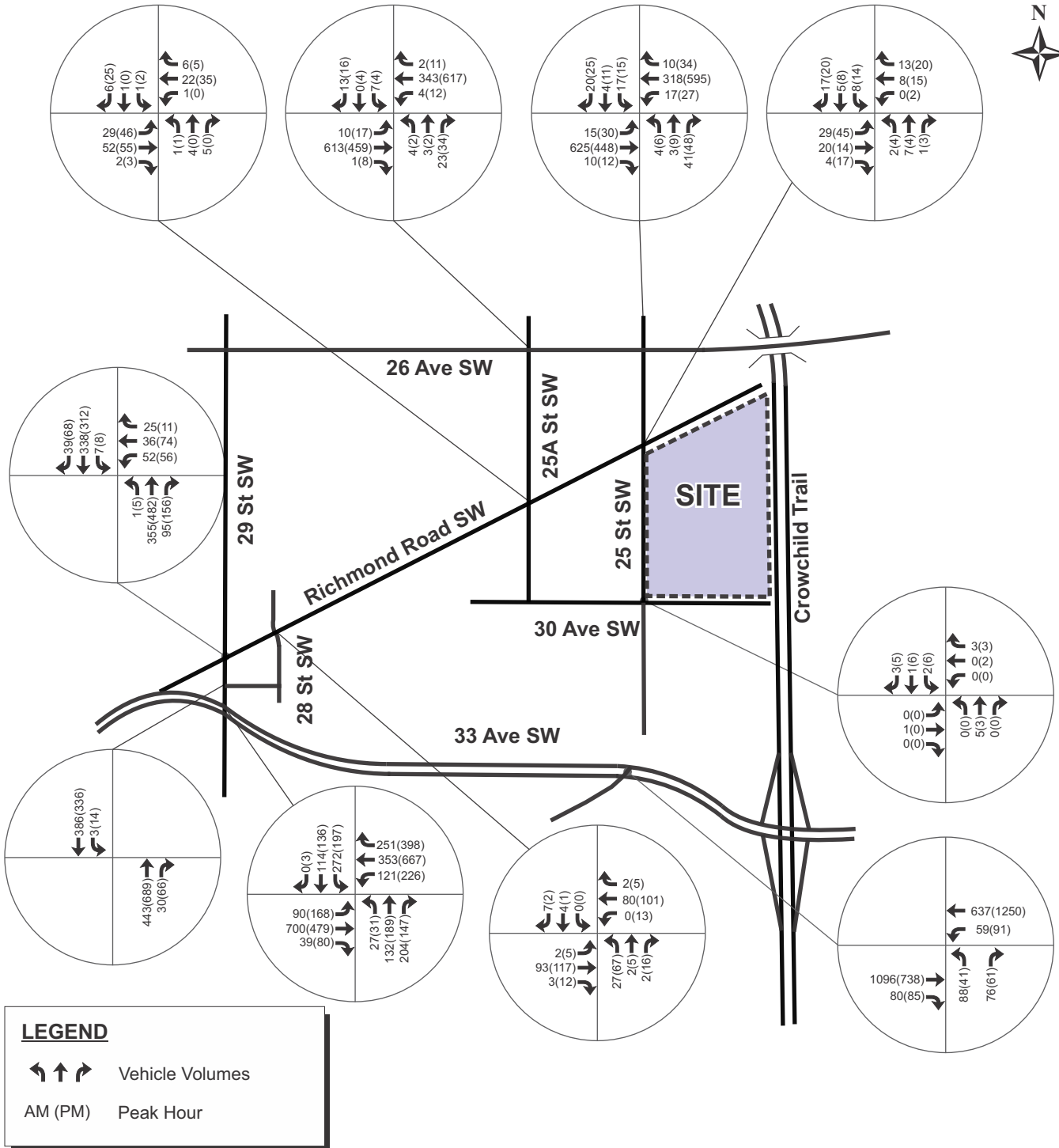


Exhibit 4.3
2028 Background Traffic Volumes



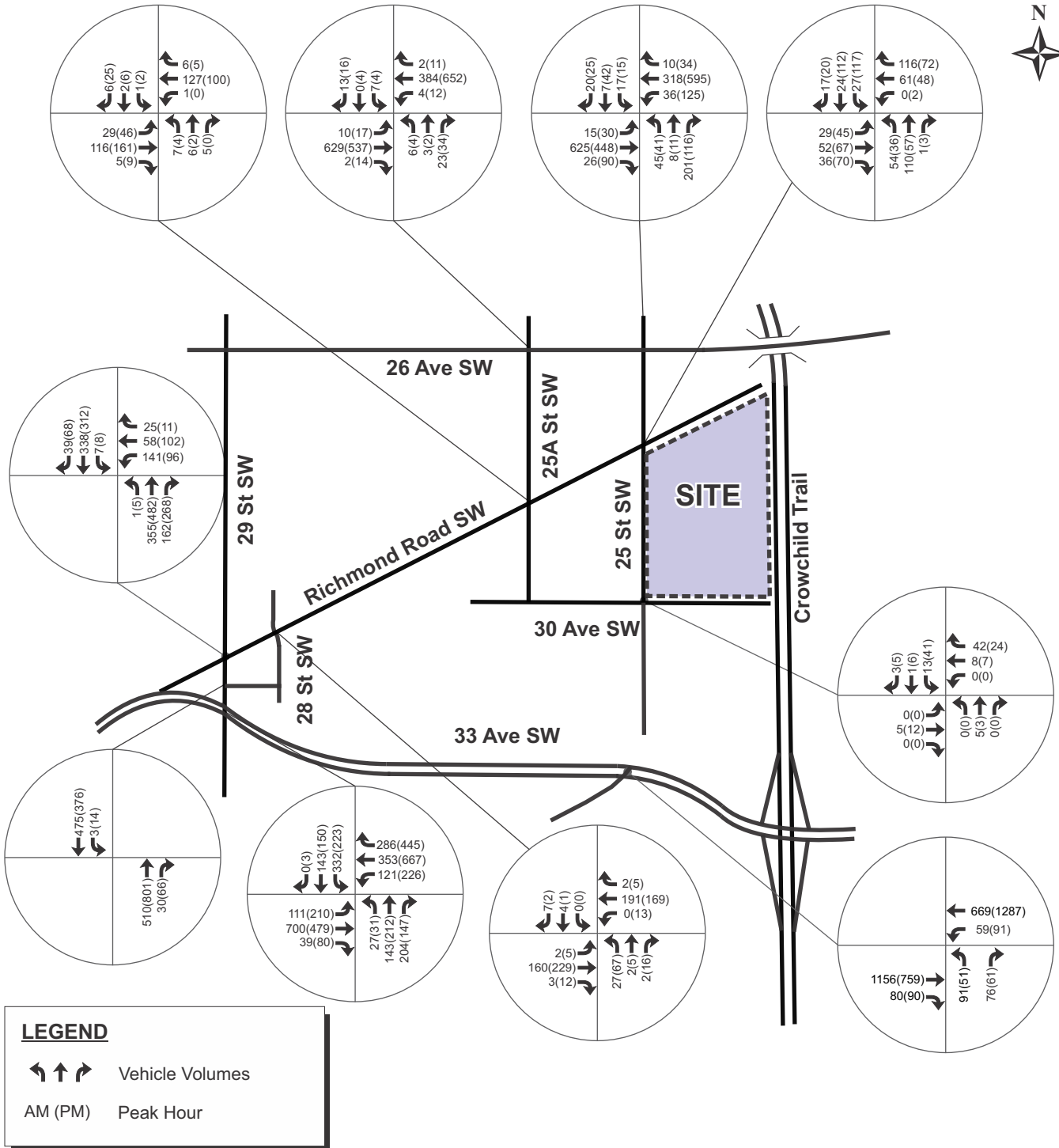


Exhibit 4.4
2028 After Development Traffic Volumes
(50% Build Out)



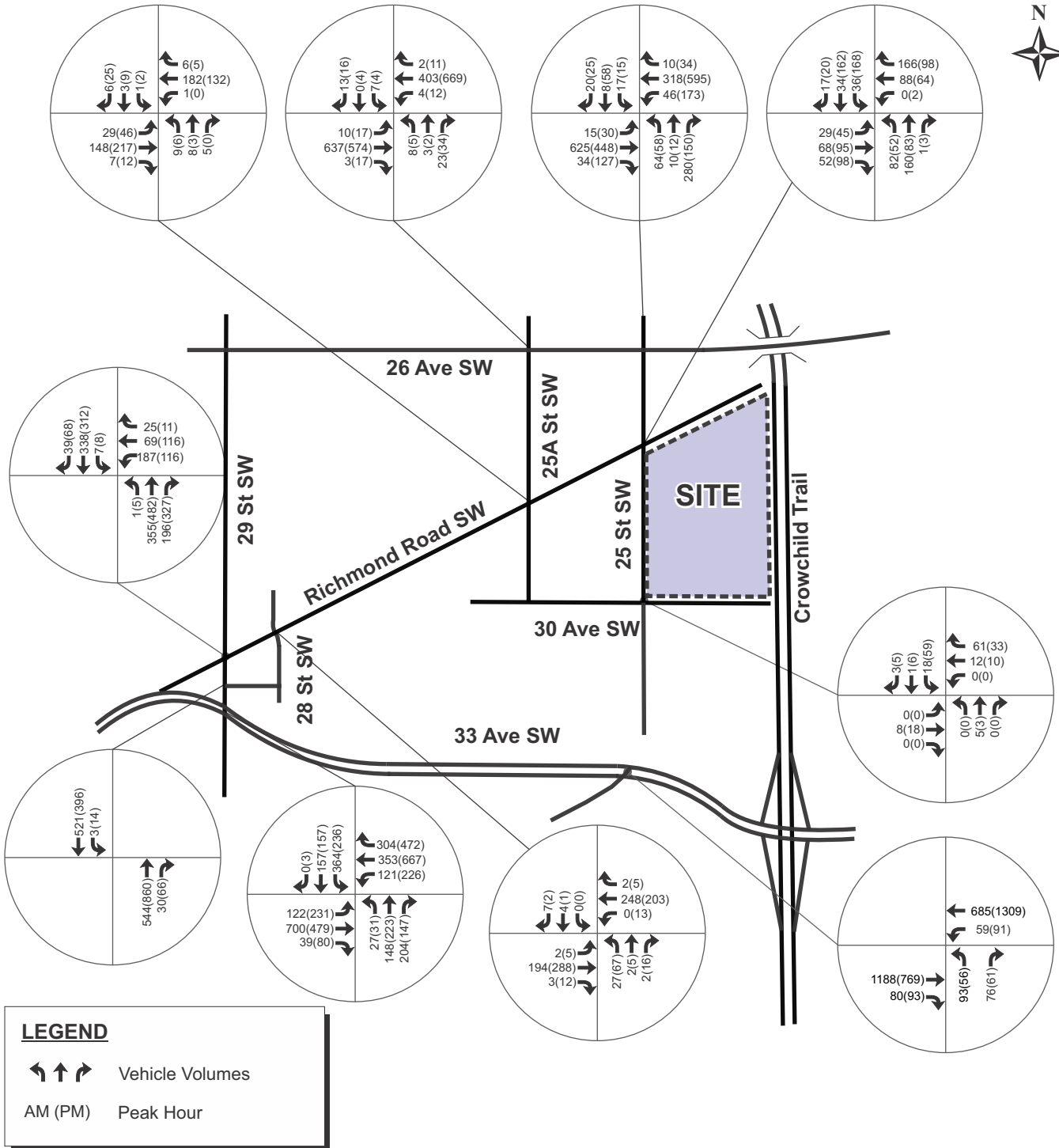


Exhibit 4.5
2028 After Development Traffic Volumes
(75% Build Out)



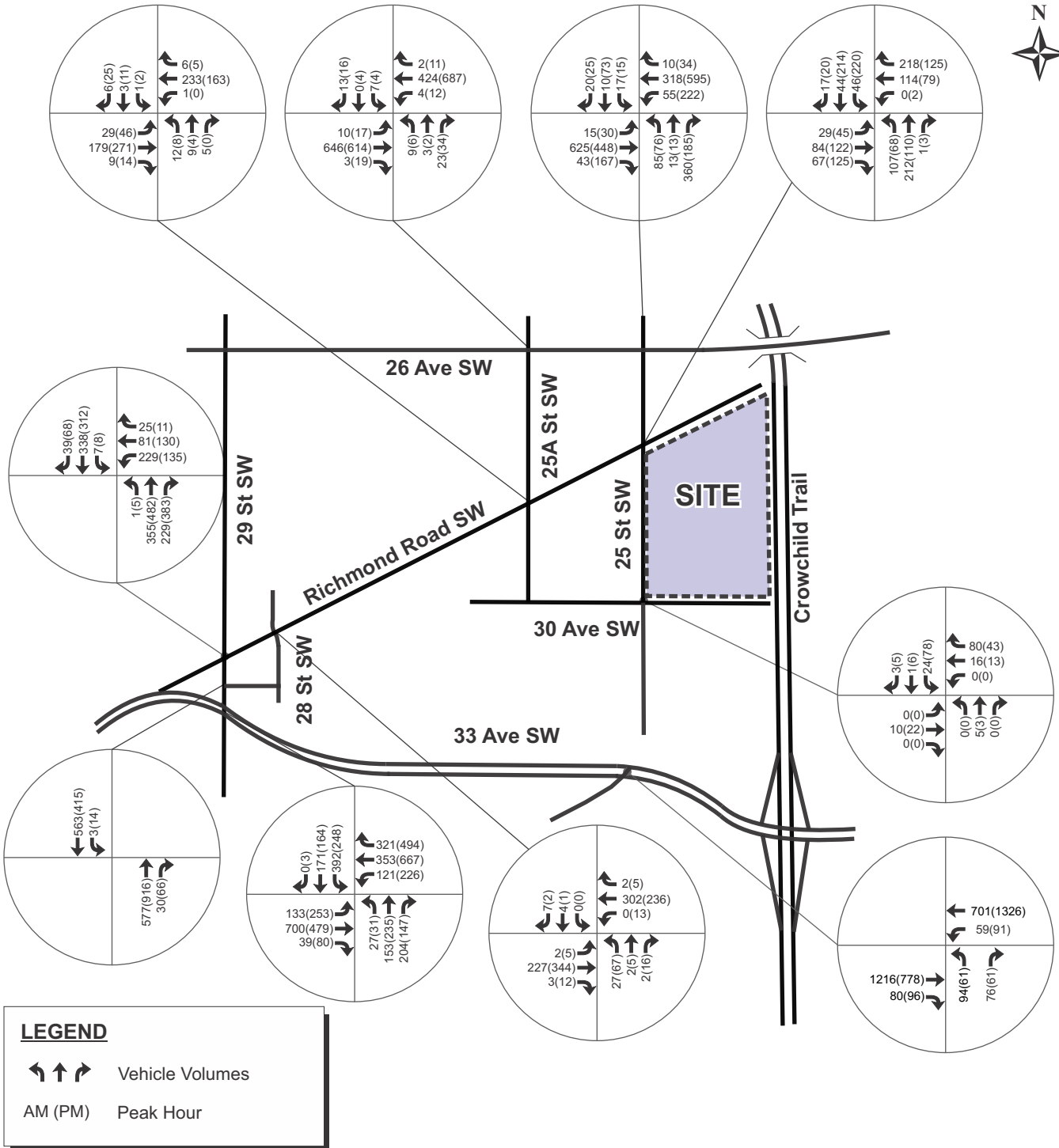


Exhibit 4.6
2028 After Development Traffic Volumes
(100% Build Out)



4.4 2048 Forecast

2048 horizon forecast volumes were obtained from the City of Calgary for the following scenarios:

- **Baseline** – With zero development on the Viscount Bennett site
- **After Development** – With 2,500 units included on the Viscount Bennett site.

4.4.1 Network Assumptions

Base network assumptions are provided in **Appendix A**. A summary is provided below.

Number of Lanes

The number of lanes and network connections assumed in the forecast are generally unchanged between 2015 and 2048 except for the extension of the roadway through Richmond Green from 33 Avenue SW to Currie Barracks.

Traffic Control Devices

Assumed traffic control devices are also unchanged except for the addition of a roundabout at Richmond Green & 33 Avenue SW intersection. While this location aligns with 25 Street SW to the north, no vehicle connection to 25 Street SW is assumed in the forecast.

Population & Jobs

The forecast includes growth in both population and jobs. The difference is summarized in **Table 4.5** by Transportation Zone. When compared to the land use assumption table provided on the City’s online forecasting toolbox, 2015 assumptions are unchanged while 2048 assumptions are higher. TZ544 has job reductions due to the zeroing out of the Viscount Bennett site.



Table 4.5: Forecast Population & Jobs

TRANSPORTATION ZONE	2015		2048	
	Population	Jobs	Population	Jobs
541	2,051	333	2,775	623
542	1,768	178	2,432	368
543	1,554	365	2,077	1,006
544	501	305	865	421
545	64	112	131	123
570	1,314	173	2,012	603
575	583	138	781	434
407	657	153	1,312	356
408	680	24	1,202	170
410	3,286	894	4,789	1,592
411	1,359	380	2,105	442
412	3,757	1,278	5,936	2,032
TOTAL	17,574	4,605	21,891	8,231

*Black = Same as assumption table in the online forecast toolbox. Green = Higher than table in the online forecast toolbox.

Red = Lower than table in the online forecast toolbox.

Transit

Forecast transit line assumptions (full build scenario) are identified in **Table 4.6**.

Table 4.6: Forecast Transit Line Assumptions

ROUTE	HEADWAY	
	AM Crown	PM Crown
6 - Killarney 26 Avenue	10 minutes	10 minutes
18 - Lakeview	13 minutes	13 minutes
20 - Heritage/Northmount	10 minutes	10 minutes
63 - Lakeview Express	15 minutes	25 minutes
111 - Richmond Road	15 minutes	15 minutes
112 Lakeview	15 minutes	15 minutes
181 - MRU North Express	30 minutes	30 minutes
BRT - SW	5 minutes	5 minutes

Mode Split

Forecast mode splits are identified in **Table 4.7**. The full build out scenario includes a 7% mode shift in peak directional auto usage when compared to the baseline scenario.

Table 4.7: Forecast Mode Splits

MODE	AM CROWN				PM CROWN			
	Baseline		Full Build		Baseline		Full Build	
	In	Out	In	Out	In	Out	In	Out
Auto (SOV)	32%	28%	39%	23%	37%	41%	32%	40%
Auto (HOV)	51%	40%	42%	38%	40%	44%	38%	39%
Transit	8%	17%	8%	26%	11%	6%	16%	7%
School Bus	0%	4%	0%	2%	1%	0%	1%	0%
Walk	7%	8%	10%	9%	9%	8%	12%	13%
Bike	2%	3%	1%	2%	2%	1%	1%	1%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

4.4.2 Unadjusted Volumes

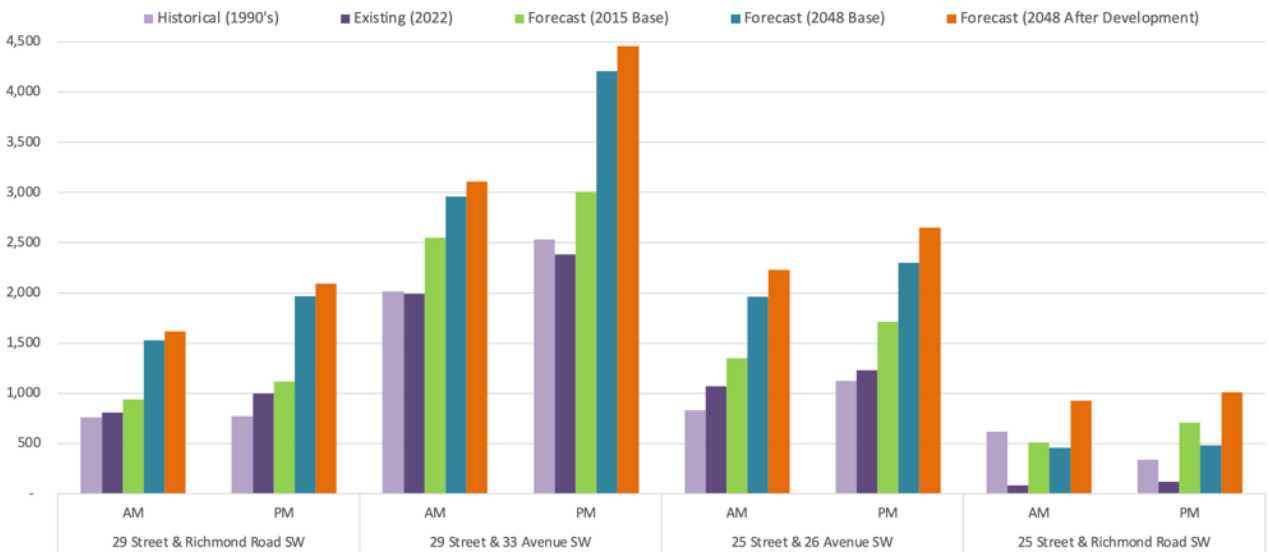
Forecast volumes were provided for the 2015 horizon (Baseline) and 2048 horizon (Baseline & After Development). All forecast volumes identify a significant increase in network volumes. Unadjusted volumes compared in **Table 4.8** and **Figure 4.6**.

Table 4.8: Existing vs. 2048 Forecast (Unadjusted) Intersection Volumes

INTERSECTION	PEAK HOUR	ENTERING INTERSECTION VOLUME					FACTOR (EXISTING /2015)
		Historical (1990's)	Existing	2015 Forecast Baseline	2048 Forecast Baseline	2048 Forecast After Dev.	
29 Street & Richmond Rd SW	AM	759	811	940	1,530	1,620	0.86
	PM	771	1,000	1,120	1,970	2,090	0.89
29 Street & 33 Avenue SW	AM	2,015	1,992	2,550	2,960	3,110	0.78
	PM	2,534	2,386	3,010	4,210	4,460	0.79
25 Street & 26 Avenue SW	AM	833	1,068	1,350	1,960	2,230	0.79
	PM	1,124	1,231	1,710	2,300	2,650	0.72
25 Street & Richmond Rd SW	AM	618	81	510	460	930	0.16
	PM	338	120	710	480	1,010	0.17
TOTAL*	AM	4,225	3,952	5,350	6,910	7,890	0.74
	PM	4,767	4,737	6,550	8,960	10,210	0.72

*Vehicles travel through multiple intersections

Figure 4.6: Existing vs. 2048 Forecast (Unadjusted) Intersection Volumes



4.4.3 Volume Calibration

A comparison of 2015 horizon forecast and Existing (observed) volumes identified a significant difference, which is typical of forecast model outputs. This comparison confirmed calibration of the forecast model outputs was required to reflect actual baseline conditions. Based on discussions with Mobility, the 2048 forecast outputs were calibrated based on current conditions (Existing/2015 Forecast). Resulting 2048 horizon traffic volumes analyzed in this report are illustrated in **Exhibit 4.7** and **Exhibit 4.8**.

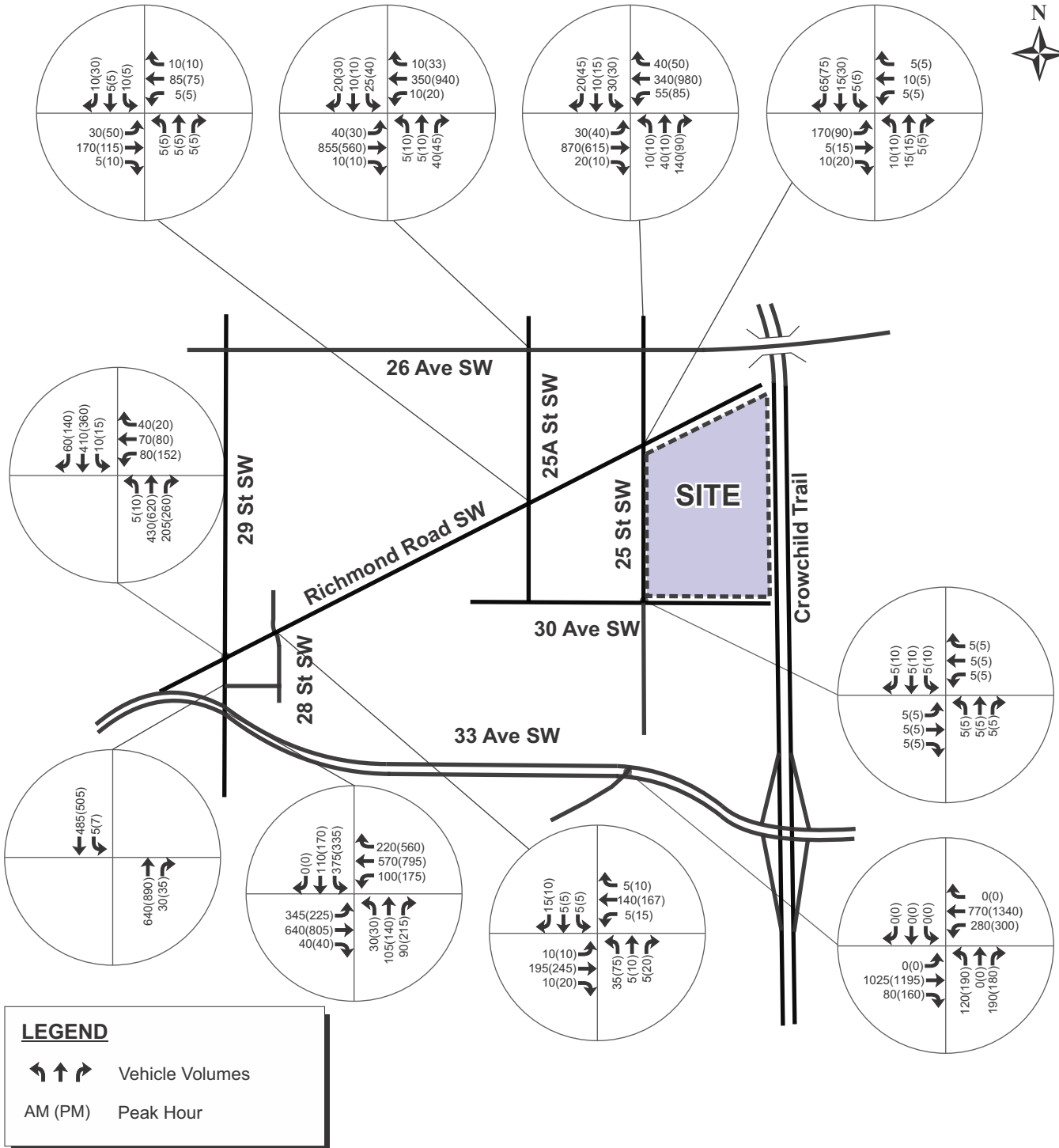


Exhibit 4.7
2048 Forecast Volumes (Baseline)



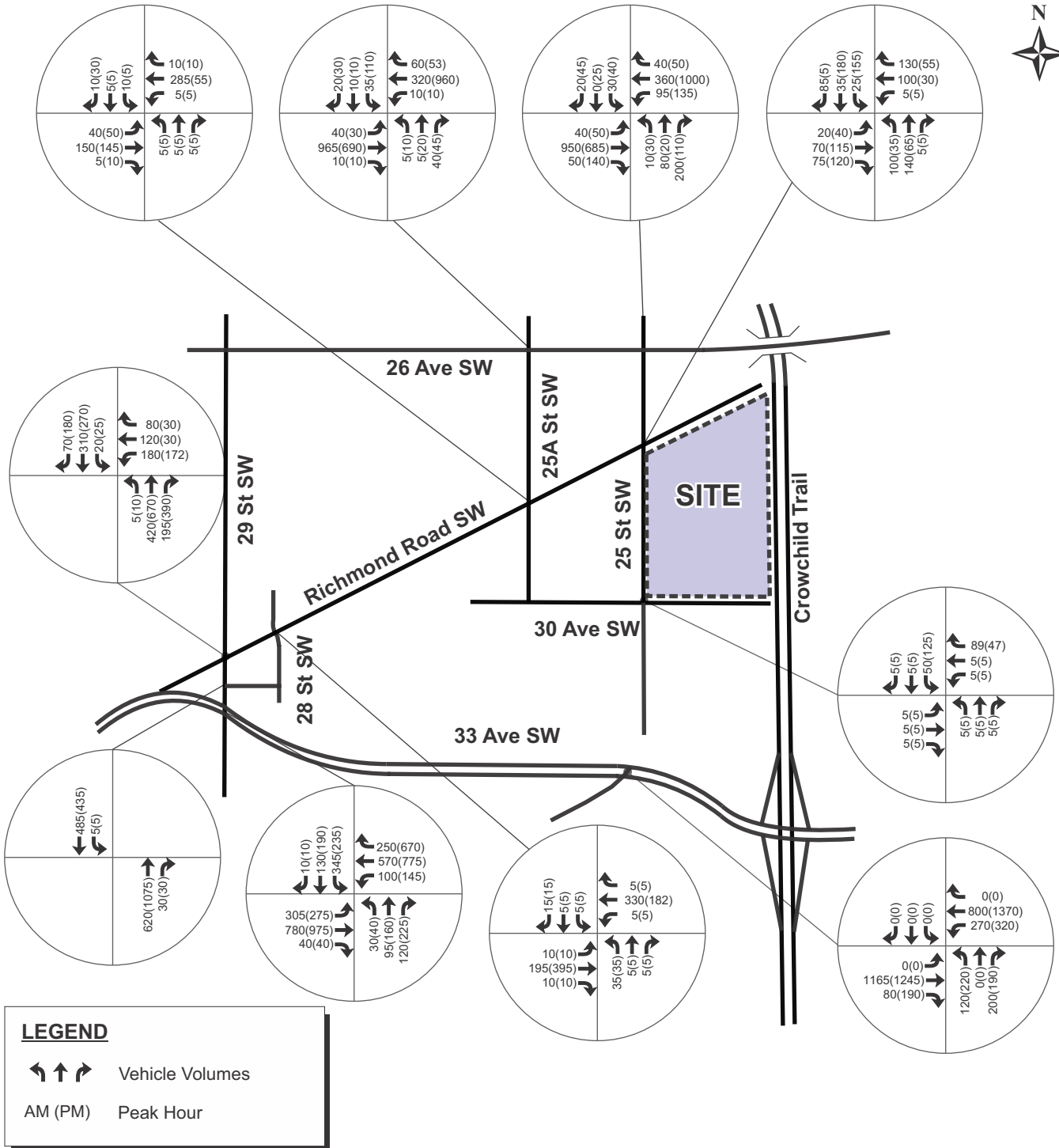


Exhibit 4.8
2048 Forecast Volumes (After Development)



4.5 With 25 Street Connection (Volumes)

Prior to Crowchild Trail expressway construction (1980's), 25 Street SW provided direct vehicle access between 32 Avenue and 33 Avenue SW (illustrated in **Figure 4.7**).

Figure 4.7: 25 Street SW Historic Connection



After review of the Version 1 TIA, the City of Calgary requested a scenario be completed to test the network impact of re-opening this connection.

Analysis is completed for the 2028 After Development (100% Build) and 2048 Forecast After Development horizons. Traffic volumes for both horizons were adjusted to account for shifts in network volumes based on select zone forecasts. The volumes account for a future access point to the Currie Barracks development on the south leg of the 25 Street & 33 Avenue SW intersection. Resulting traffic volumes are illustrated in **Exhibit 4.9** and **Exhibit 4.10**.

Analysis in this report is completed assuming a two-lane roundabout. An alternate signalized intersection analysis is also included. Modifications to the southbound right turn lane at the Crowchild Trail & 33 Avenue SW interchange would be required with the signal alternative.

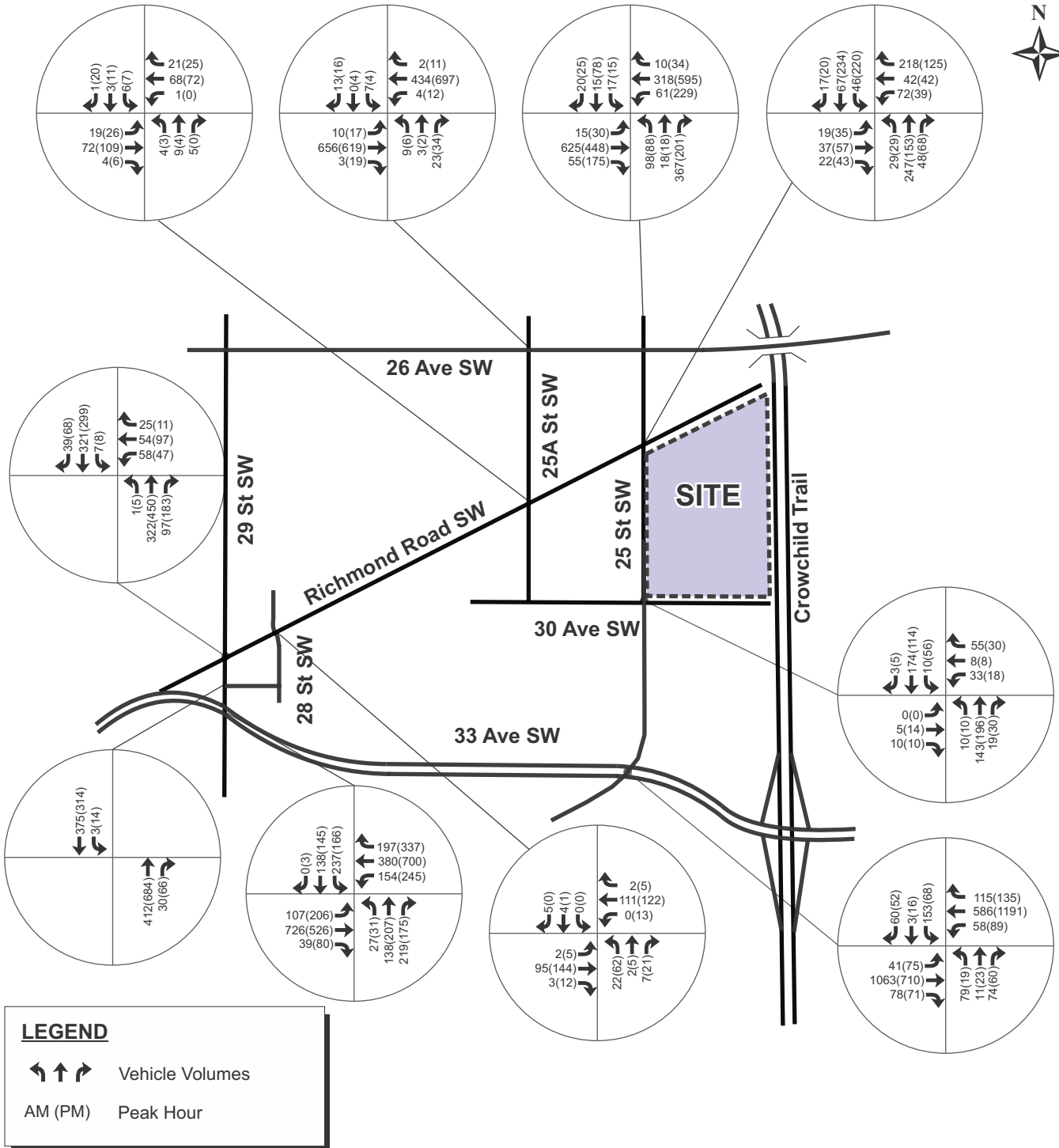


Exhibit 4.9
2028 After Development (100% Build Out)
With 25 Street Connection Scenario



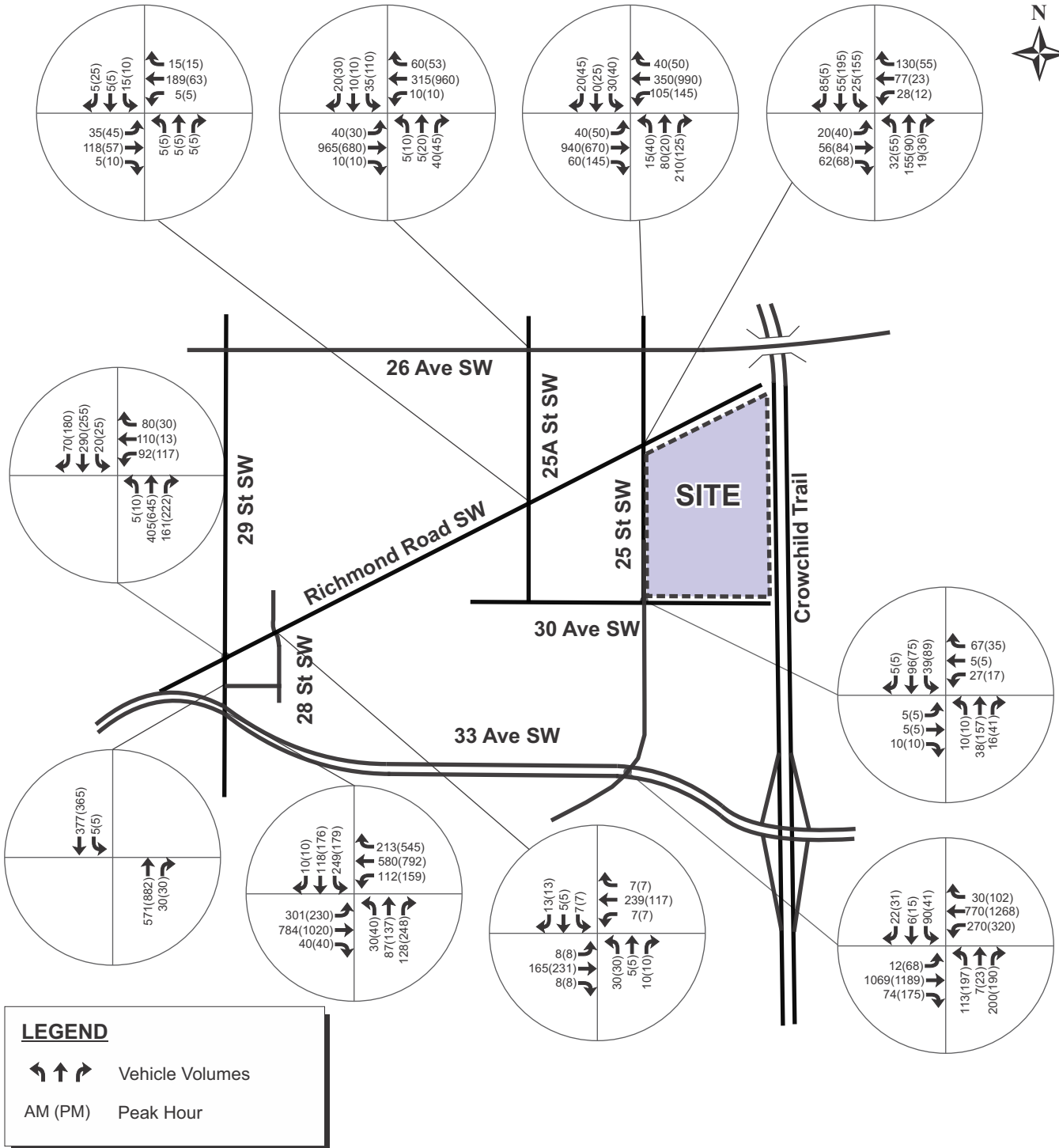


Exhibit 4.10
2048 Forecast (After Development)
With 25 Street Connection Scenario



4.6 2028 Horizon Analysis

4.6.1 Intersection Analysis

Synchro 11 traffic analysis software was used to review intersection operating conditions based on the methods outlined in the Highway Capacity Manual. Traffic operations were assessed using the performance measures of volume-to-capacity (v/c) and Level of Service (LOS).

The volume-to-capacity (v/c) ratio of an intersection movement represents the ratio between the traffic demand volume and available capacity per lane. A v/c ratio over 1.0 indicates a congested intersection where drivers may have to wait through more than one signal cycle. The Level of Service (LOS) rating is based on average vehicle delays ranging from LOS A (minimal delay) to LOS F (significant delay).

The analysis is completed as per City of Calgary TIA guidelines. Synchro output reports are provided in **Appendix B**. An overall summary is provided in **Table 4.9**. Individual intersection movement volume to capacity (v/c) ratio, level of service, average control delay (in seconds), and 95th percentile queue (in metres) results are detailed in **Table 4.10** to **Table 4.15**.

Analysis is completed for 50% (1,250 units), 75% (1,875 units), and 100% (2,500 units) build scenarios. An additional sensitivity analysis with suburban low-density trip generation rates is provided in **Appendix E**.

Table 4.9: 2028 Intersection Analysis Summary

INTERSECTION		ANALYSIS SUMMARY			
		Background	50% Build Out	75% Build Out	100% Build Out
29 Street &	Richmond Rd SW	Operates acceptably.	Signal beneficial for westbound left. Impacted by 33 Avenue queuing*.	Signal required with turn lane (northbound right). Impacted by 33 Avenue queuing*.	
	31 Avenue SW	Impacted by 33 Avenue queuing during peak periods.		Due to queue spillback from 33 Ave, southbound left turn restrictions should be provided (peak hours or all times).	
	33 Avenue SW	Operates acceptably.	Southbound left turn arrow required.	Southbound left turn arrow required. Some movements near capacity.	Southbound left turn arrow required. Southbound left will operate at capacity with drivers waiting at least one cycle.
28 Street &	Richmond Rd SW	Operates acceptably.			
25A Street &	26 Avenue SW	Operates acceptably.			
	Richmond Rd SW	Operates acceptably.			
25 Street &	26 Avenue SW	Operates acceptably.	Signal required.	Signal required with turn lane (westbound left).	Signal required with turn lanes (westbound left + northbound right).
	Richmond Rd SW	Operates acceptably.			All-way stop required.
	30 Avenue SW	Operates acceptably.			

*29 Street & Richmond Road SW also assessed using SimTraffic in further sections.

Table 4.10: 2028 Intersection Analysis (29 Street SW – Richmond Road and 31 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & Richmond Rd SW (West Stop)*	Existing	WBL	1	0.17	C	19	<5	0.21	C	23	6
		WBT/R	1	0.16	C	16	<5	0.30	C	23	9
		NB	1	<0.02	A	0	<5	<0.02	A	0	<5
		SB	1	<0.02	A	0	<5	<0.02	A	0	<5
		<i>Overall</i>		-	A	2.4	-	-	A	3.2	-
	Background	WBL	1	0.22	C	24	6	0.31	D	32	9
		WBT/R	1	0.19	C	18	5	0.41	D	32	14
		NB	1	<0.02	A	0	<5	<0.02	A	0	<5
		SB	1	<0.02	A	0	<5	<0.02	A	0	<5
		<i>Overall</i>		-	A	2.6	-	-	A	4.0	-
	After Development (50% Build)	WBL	1	0.64	E	44	30	0.59	F	53	24
		WBT/R	1	0.30	C	22	9	0.61	E	49	27
		NB	1	<0.02	A	0	<5	<0.02	A	0	<5
		SB	1	<0.02	A	0	<5	<0.02	A	0	<5
		<i>Overall</i>		-	A	7.3	-	-	A	8.1	-
	After Development (75% Build) With Signal & NBR Lane	WBL	1	0.45	B	16	24	0.29	B	15	19
		WBT/R	1	0.21	B	10	11	0.30	B	15	19
		NBL/T	1	0.37	A	8	36	0.47	A	9	44
		NBR		0.23	A	2	8	0.34	A	2	8
		SB	1	0.40	A	8	38	0.39	A	7	32
	<i>Overall</i>		-	A	8.7	-	-	A	7.8	-	
	After Development (100% Build) With Signal & NBR Lane	WBL	1	0.52	B	17	30	0.34	B	16	21
		WBT/R	1	0.23	B	11	13	0.33	B	15	21
		NBL/T	1	0.45	B	10	39	0.47	A	9	47
NBR		1	0.30	A	3	9	0.39	A	2	9	
SB		1	0.48	B	10	41	0.39	A	7	33	
<i>Overall</i>		-	B	10.1	-	-	A	8.0	-		
29 Street & 31 Avenue SW	Existing	NBT/R	1	0.24	A	0	<5	0.41	A	0	<5
		SBL/T	2	0.14	A	0	<5	0.11	A	0	<5
		<i>Overall</i>		-	A	0.1	-	-	A	0.2	-
	Background	NBT/R	1	0.30	A	0	<5	0.47	A	0	<5
		SBL/T	2	0.16	A	0	<5	0.14	A	0	<5
		<i>Overall</i>		-	A	0.1	-	-	A	0.1	-
	After Development (50% Build)	NBT/R	1	0.34	A	0	<5	0.54	A	0	<5
		SBL/T	2	0.20	A	0	<5	0.16	A	0	<5
		<i>Overall</i>		-	A	0.0	-	-	A	0.1	-
	After Development (75% Build)	NBT/R	1	0.36	A	0	<5	0.57	A	0	<5
		SBL/T	2	0.22	A	0	<5	0.16	A	0	<5
		<i>Overall</i>		-	A	0.0	-	-	A	0.1	-
	After Development (100% Build)	NBT/R	1	0.38	A	0	<5	0.61	A	0	<5
		SBL/T	2	0.23	A	0	<5	0.17	A	1	<5
		<i>Overall</i>		-	A	0.0	-	-	A	0.1	-

Table 4.11: 2028 Intersection Analysis (29 Street SW – 33 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & 33 Avenue SW (Signal)	Existing	EBL	1	0.22	B	13	15	0.59	C	21	37
		EBT/R	2	0.66	C	27	76	0.39	B	19	49
		WBL	1	0.30	B	14	17	0.37	B	11	28
		WBT/R	2	0.49	B	18	44	0.85	C	28	116
		NBL/T/R	2	0.29	B	11	18	0.39	B	16	23
		SBL	1	0.77	D	43	75	0.67	D	45	45
		SBT/R	1	0.22	C	21	28	0.33	C	29	34
		<i>Overall</i>		-	C	22.8	-	-	C	24.3	-
	Background	EBL	1	0.28	B	14	16	0.68	C	30	43
		EBT/R	2	0.79	C	34	83	0.47	C	22	57
		WBL	1	0.45	B	17	20	0.55	B	16	35
		WBT/R	2	0.55	B	18	48	0.89	C	34	122
		NBL/T/R	2	0.34	B	10	23	0.43	B	18	31
		SBL	1	0.89	E	59	103	0.83	E	60	74
		SBT/R	1	0.20	C	22	30	0.30	C	28	38
		<i>Overall</i>		-	C	26.6	-	-	C	29.2	-
	After Development (50% Build)	EBL	1	0.37	B	16	19	0.87	D	55	69
		EBT/R	2	0.79	C	34	83	0.46	C	23	57
		WBL	1	0.45	B	18	20	0.56	B	17	35
		WBT/R	2	0.63	B	19	50	0.92	D	37	137
		NBL/T/R	2	0.35	B	11	24	0.43	C	21	37
		SBL	1	1.10	F	110	132	0.93	E	76	91
		SBT/R	1	0.25	C	22	37	0.31	C	29	42
		<i>Overall</i>		-	C	34.4	-	-	C	34.2	-
	After Development (50% Build) With SBL Turn Arrow	EBL	1	0.37	B	16	19	0.85	D	51	68
		EBT/R	2	0.79	C	34	83	0.46	C	22	57
		WBL	1	0.45	B	18	20	0.55	B	16	35
		WBT/R	2	0.63	B	19	50	0.91	D	35	137
		NBL/T/R	2	0.79	C	30	41	0.76	D	38	46
		SBL	1	0.83	D	40	94	0.83	D	54	73
		SBT/R	1	0.25	C	22	37	0.32	C	29	42
		<i>Overall</i>		-	C	28.0	-	-	C	33.9	-
	After Development (75% Build) With SBL Turn Arrow	EBL	1	0.52	C	27	33	0.87	E	57	96
EBT/R		2	0.93	D	51	129	0.45	C	27	76	
WBL		1	0.55	C	28	33	0.52	B	17	45	
WBT/R		2	0.78	C	29	83	0.94	D	43	185	
NBL/T/R		2	0.62	B	18	27	0.74	D	41	51	
SBL		1	0.82	D	38	68	0.96	F	122	82	
SBT/R		1	0.24	B	17	29	0.33	C	32	45	
<i>Overall</i>			-	C	34.1	-	-	D	44.3	-	
After Development (100% Build) With SBL Turn Arrow	EBL	1	0.48	C	20	29	0.89	E	63	109	
	EBT/R	2	0.75	C	31	113	0.43	C	27	79	
	WBL	1	0.44	B	19	26	0.52	B	18	47	
	WBT/R	2	0.72	C	22	71	0.97	D	52	204	
	NBL/T/R	2	0.58	B	15	23	0.78	D	49	61	
	SBL	1	1.22	F	146	111	0.97	F	123	96	
	SBT/R	1	0.31	B	19	32	0.33	C	35	51	
	<i>Overall</i>		-	D	41.6	-	-	D	50.5	-	

*Southbound analyzed with de-facto left turn. Northbound analyzed with one of two lanes as de-facto left turn.

Table 4.12: 2028 Intersection Analysis (28 Street SW – Richmond Road)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
28 Street & Richmond Rd SW (North-South Stop)	Existing	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.06	B	11	<5	0.15	B	12	<5
		SB	1	0.02	B	10	<5	0.02	B	11	<5
		<i>Overall</i>		-	A	2.8	-	-	A	4.0	-
	Background	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.06	B	11	<5	0.16	B	12	<5
		SB	1	0.02	B	10	<5	0.02	B	11	<5
		<i>Overall</i>		-	A	2.6	-	-	A	3.9	-
	After Development (50% Build)	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.08	B	13	<5	0.21	B	15	6
		SB	1	0.03	B	12	<5	0.03	B	13	<5
		<i>Overall</i>		-	A	1.8	-	-	A	3.1	-
	After Development (75% Build)	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.09	B	14	<5	0.24	C	17	7
		SB	1	0.03	B	13	<5	0.03	B	14	<5
		<i>Overall</i>		-	A	1.6	-	-	A	3.0	-
	After Development (100% Build)	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.10	C	16	<5	0.27	C	19	8
		SB	1	0.04	B	14	<5	0.04	B	15	<5
<i>Overall</i>			-	A	1.5	-	-	A	2.9	-	

Table 4.13: 2028 Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25A Street & 26 Avenue SW (North-South Stop)	Existing	EB	1	<0.02	A	0	<5	0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.11	C	19	<5	0.14	C	18	<5
		SB	1	0.09	C	19	<5	0.11	C	22	<5
		Overall		-	A	1.3	-	-	A	1.6	-
	Background	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.11	C	19	<5	0.14	C	18	<5
		SB	1	0.09	C	19	<5	0.12	C	23	<5
		Overall		-	A	1.3	-	-	A	1.6	-
	After Development (50% Build)	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.13	C	20	<5	0.17	C	21	5
		SB	1	0.10	C	21	<5	0.13	D	26	<5
		Overall		-	A	1.3	-	-	A	1.6	-
	After Development (75% Build)	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.16	C	23	<5	0.21	D	26	6
		SB	1	0.11	C	22	<5	0.18	D	33	<5
		Overall		-	A	1.4	-	-	A	1.9	-
	After Development (100% Build)	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.17	C	23	<5	0.20	C	25	6
		SB	1	0.11	C	23	<5	0.16	D	30	<5
Overall			-	A	1.4	-	-	A	1.8	-	
25A Street & Richmond Rd SW (North-South Stop)	Existing	EB	1	0.02	A	3	<5	0.03	A	4	<5
		WB	1	<0.02	A	1	<5	<0.02	A	1	<5
		NB	1	0.02	A	10	<5	0.02	B	10	<5
		SB	1	0.02	A	10	<5	0.04	A	10	<5
		Overall		-	A	4.2	-	-	A	4.8	-
	Background	EB	1	0.02	A	3	<5	0.03	A	3	<5
		WB	1	<0.02	A	1	<5	<0.02	A	1	<5
		NB	1	0.02	B	10	<5	0.02	B	11	<5
		SB	1	0.02	A	10	<5	0.04	A	10	<5
		Overall		-	A	3.8	-	-	A	4.4	-
	After Development (50% Build)	EB	1	0.02	A	2	<5	0.03	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.03	B	12	<5	0.03	B	12	<5
		SB	1	0.03	B	11	<5	0.05	B	11	<5
		Overall		-	A	2.0	-	-	A	2.6	-
	After Development (75% Build)	EB	1	0.02	A	1	<5	0.03	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.05	B	13	<5	0.04	B	13	<5
		SB	1	0.03	B	12	<5	0.07	B	11	<5
		Overall		-	A	1.9	-	-	A	2.3	-
	After Development (100% Build)	EB	1	0.02	A	1	<5	0.04	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.07	B	14	<5	0.05	B	15	<5
		SB	1	0.03	B	13	<5	0.08	B	12	<5
Overall			-	A	1.8	-	-	A	2.2	-	

Table 4.14: 2028 Intersection Analysis (25 Street SW – 26 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25 Street & 26 Avenue SW (North-South Stop)	Existing	EB	1	<0.02	A	0	<5	0.04	A	1	<5
		WB	1	0.02	A	0	<5	0.02	A	1	<5
		NB	1	0.15	C	19	<5	0.18	C	20	5
		SB	1	0.19	C	24	5	0.27	D	32	8
		<i>Overall</i>		-	A	2.7	-	-	A	2.7	-
	Background	EB	1	<0.02	A	0	<5	0.04	A	1	<5
		WB	1	0.02	A	1	<5	0.03	A	1	<5
		NB	1	0.17	C	19	<5	0.22	C	20	6
		SB	1	0.20	D	25	5	0.31	D	35	9
		<i>Overall</i>		-	A	2.2	-	-	A	3.2	-
	After Development (50% Build)	EB	1	<0.02	A	0	<5	0.04	A	1	<5
		WB	1	0.04	A	1	<5	0.14	A	3	<5
		NB	1	0.94	F	79	70	1.46	F	312	94
		SB	1	0.46	F	68	15	0.96	F	167	41
		<i>Overall</i>		-	C	17.9	-	-	E	43.9	-
	After Development (50% Build) With Signal	EB	1	0.77	B	16	95	0.54	A	8	58
		WB	1	0.46	A	9	40	0.81	B	19	133
		NB	1	0.56	B	12	25	0.47	B	11	17
		SB	1	0.12	B	11	8	0.25	B	15	13
		<i>Overall</i>		-	B	13.3	-	-	B	14.1	-
	After Development (75% Build) With Signal	EB	1	0.78	B	18	127	0.57	A	9	79
		WB	1	0.49	B	11	58	0.91	C	27	213
		NB	1	0.71	B	18	54	0.71	C	30	42
		SB	1	0.12	B	13	11	0.36	C	30	26
		<i>Overall</i>		-	B	16.0	-	-	C	20.9	-
	After Development (100% Build) With Signal	EB	1	0.86	C	26	128	0.72	B	15	110
		WB	1	0.55	B	14	52	1.28	F	155	196
		NB	1	0.87	C	30	82	0.63	B	14	26
SB		1	0.11	A	10	8	0.31	B	16	17	
<i>Overall</i>			-	C	23.6	-	-	E	77.7	-	
After Development (100% Build) With Signal & Turn Lanes	EB	1	0.82	C	22	124	0.64	B	11	73	
	WBL	1	0.19	A	10	9	0.50	B	12	31	
	WBT/R	1	0.39	A	10	38	0.58	A	10	66	
	NBT/L	1	0.29	B	17	18	0.29	B	19	17	
	NBR	1	0.73	B	18	45	0.40	A	6	12	
	SB	1	0.12	B	11	8	0.30	B	15	18	
	<i>Overall</i>		-	B	17.4	-	-	B	10.7	-	

Table 4.15: 2028 Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES	AM PEAK HOUR				PM PEAK HOUR				
			v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue	
25 Street & Richmond Rd SW (North-South Stop)	Existing	EB	1	0.02	A	5	<5	0.03	A	5	<5
		WB	1	<0.02	A	3	<5	<0.02	A	2	<5
		NB	1	0.02	A	10	<5	0.02	A	10	<5
		SB	1	0.03	A	9	<5	0.04	A	10	<5
		Overall		-	A	6.6	-	-	A	6.4	-
	Background	EB	1	0.02	A	4	<5	0.03	A	5	<5
		WB	1	<0.02	A	1	<5	<0.02	A	1	<5
		NB	1	0.02	A	10	<5	0.02	B	10	<5
		SB	1	0.04	A	10	<5	0.06	A	10	<5
		Overall		-	A	5.6	-	-	A	5.5	-
	After Development (50% Build)	EB	1	0.02	A	2	<5	0.03	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.35	C	16	12	0.22	C	15	7
		SB	1	0.14	B	13	<5	0.52	C	20	23
		Overall		-	A	7.1	-	-	A	10.4	-
	After Development (75% Build)	EB	1	0.03	A	2	<5	0.03	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.59	C	24	28	0.39	C	21	14
		SB	1	0.22	C	16	6	0.87	E	49	67
		Overall		-	B	10.2	-	-	C	22.9	-
	After Development (100% Build)	EB	1	0.03	A	2	<5	0.04	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.90	F	57	70	0.67	E	40	34
		SB	1	0.38	C	24	13	1.36	F	209	179
		Overall		-	C	22.7	-	-	F	90.3	-
	All Way Stop	EB	1	0.31	B	11	55	0.55	C	17	102
		WB	1	0.52	B	14	104	0.40	B	14	89
		NB	1	0.55	C	16	143	0.37	B	14	142
SB		1	0.19	B	11	14	0.83	D	33	55	
Overall			-	B	13.6	-	-	C	22.7	-	
25 Street & 30 Ave SW (East-West Stop)	Existing	EB	1	0.02	A	9	<5	0.02	A	9	<5
		WB	1	0.02	A	9	<5	0.02	A	9	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	<0.02	A	3	<5	<0.02	A	2	<5
		Overall		-	A	5.9	-	-	A	5.7	-
	Background	EB	1	0.02	A	9	<5	0.02	A	9	<5
		WB	1	0.02	A	9	<5	0.02	A	9	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	<0.02	A	3	<5	<0.02	A	3	<5
		Overall		-	A	5.9	-	-	A	5.9	-
	After Development (50% Build)	EB	1	0.02	A	10	<5	0.03	B	10	<5
		WB	1	0.07	A	9	<5	0.04	A	9	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	<0.02	A	4	<5	0.03	A	6	<5
		Overall		-	A	7.4	-	-	A	7.3	-
	After Development (75% Build)	EB	1	0.03	A	10	<5	0.04	B	11	<5
		WB	1	0.09	A	9	<5	0.06	A	10	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	<0.02	A	5	<5	0.04	A	6	<5
		Overall		-	A	7.8	-	-	A	7.7	-
	After Development (100% Build)	EB	1	0.03	B	10	<5	0.05	B	11	<5
		WB	1	0.12	A	10	<5	0.08	A	10	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	0.02	A	5	<5	0.05	A	7	<5
		Overall		-	A	8.2	-	-	A	8.0	-

4.6.2 Signal Warrant Analysis

Signal warrant analysis was completed based on the methods outlined in the Transportation Association of Canada (TAC) *Traffic Signal and Pedestrian Signal Head Warrant Handbook* (2014). A score of 100 points or more indicates a traffic signal is warranted. The signal warrant analysis is summarized in **Table 4.16** and included in **Appendix C**.

Table 4.16: Signal Warrant Analysis

INTERSECTION	HORIZON	SIGNAL WARRANT SCORE	COMMENT
25 Street & 26 Avenue SW	Historical (1993)	50/100	Not warranted
	Historical (2014)	45/100	
	Existing	31/100	
	Background	36/100	
	After Development (50% Build Out)	94/100	Near warranted
	After Development (75% Build Out)	123/100	Warranted
29 Street & Richmond Road SW	After Development (100% Build Out)	163/100	
	Historical (1990)	37/100	Not Warranted
	Historical (2010)	50/100	
	Existing	38/100	
	Background	48/100	
	After Development (50% Build Out)	75/100	
	After Development (75% Build Out)	88/100	Near warranted
After Development (100% Build Out)	101/100	Warranted	

Signal warrant analysis confirms that two new traffic signals are warranted with the addition of development traffic.

4.6.3 Daily Volumes

To review roadway classifications and capacities, daily vehicle traffic volumes were calculated and compared to City guidelines. This analysis is summarized in **Table 4.17**.

Table 4.17: Daily Link Volume Analysis

ROADWAY	SECTION	CLASSIFICATION	GUIDELINE	DAILY VOLUMES			
				Existing	Background	Site	After Development (100%)
25 Street SW	N of Richmond Rd	Collector	2,000-8,000	830	+290	+6,230	7,350
	S of Richmond Rd	Residential	<2,000	330	+0	+4,840	5,170
Richmond Road SW	West of 28 Street	Collector	2,000-8,000	3,120	+170	+3,620	6,910
	East of 28 Street	Collector	2,000-8,000	2,330	+170	+3,620	6,120
	West of 25 Street	Collector	2,000-8,000	870	+170	+3,440	4,480
	East of 25 Street	Collector	2,000-8,000	240	+460	+4,830	5,530

**Existing daily volumes = standard factor of 2.4 applied to 6-hour volumes.*

**Development daily volumes = factor of 10 applied to PM peak hour volumes.*

Daily volume analysis confirms:

- **Richmond Road SW** – Will continue to carry traffic volumes within guidelines after site build out.
- **25 Street SW** – Will require a wider pavement width (10.2m) to allow two-way driving lanes (2.1m parking + 6m driving + 2.1m parking) from 26 Avenue to 30 Avenue. Alternatively, would require the removal of on-street parking on one side.

4.7 2048 Horizon Analysis

Intersection analysis was completed for 2048 forecast volumes. An overall summary is provided in **Table 4.18**. Individual intersection movement results are detailed in **Table 4.19** to **Table 4.24**. The analysis identifies several intersection improvements are required to accommodate forecasted 2048 baseline volumes. The net increase in traffic forecasted with the development does not result in additional intersection improvements being required.

Table 4.18: 2048 Intersection Analysis Summary

INTERSECTION		ANALYSIS SUMMARY	
		Baseline	After Development
29 Street &	Richmond Rd SW	Signal required.	
	31 Avenue SW	Southbound left turn restrictions should be provided either through signage (peak hours) or at all times (median).	
	33 Avenue SW	Southbound left turn arrow required. Westbound through will operate at capacity during the PM.	
28 Street &	Richmond Rd SW	Operates acceptably.	
25A Street &	26 Avenue SW	Signal required.	
	Richmond Rd SW	Operates acceptably.	
25 Street &	26 Avenue SW	Signal required with turn lanes (westbound left + northbound right).	
	Richmond Rd SW	Operates acceptably.	
	30 Avenue SW	Operates acceptably.	

Table 4.19: 2048 Intersection Analysis (29 Street SW - Richmond Road and 31 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & Richmond Rd SW <i>(West Stop)</i>	2048 Baseline	WBL	1	0.53	F	51	20	1.57	F	372	93
		WBT/R	1	0.52	E	38	20	0.83	F	106	37
		NB	1	<0.02	A	0	<5	<0.02	A	0	<5
		SB	1	<0.02	A	0	<5	0.02	A	1	<5
		Overall		-	A	6.4	-	-	E	40.9	-
	2048 Baseline	WBL	1	0.20	B	14	13	0.38	B	18	26
		WBT/R	1	0.26	B	11	13	0.24	B	14	16
		NBL/T	1	0.43	A	8	36	0.60	B	11	71
		NBR	1	0.23	A	2	6	0.28	A	2	8
		SB	1	0.49	A	8	41	0.52	A	7	51
	Overall		-	A	7.8	-	-	A	9.6	-	
	2048 After Development	WBL	1	0.43	B	16	25	0.44	B	20	29
		WBT/R	1	0.44	B	13	22	0.15	B	11	9
		NBL/T	1	0.51	B	10	44	0.64	B	12	86
		NBR	1	0.26	A	2	7	0.39	A	2	10
SB		1	0.51	A	10	40	0.49	A	8	46	
Overall		-	B	10.1	-	-	A	9.5	-		
29 Street & 31 Avenue SW	2048 Baseline	NBT/R	1	0.42	A	0	<5	0.57	A	0	<5
		SBL/T	2	0.20	A	0	<5	0.21	A	0	<5
		Overall		-	A	0.0	-	-	A	0.1	-
	2048 After Development	NBT/R	1	0.41	A	0	<5	0.68	A	0	<5
		SBL/T	2	0.20	A	0	<5	0.18	A	0	<5
Overall		-	A	0.0	-	-	A	0.1	-		

Table 4.20: 2048 Intersection Analysis (29 Street SW – 33 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & 33 Avenue SW (Signal)	2048 Baseline	EBL	1	0.80	D	40	126	0.85	E	62	106
		EBT/R	2	0.50	C	27	101	0.58	C	31	141
		WBL	1	0.30	B	17	24	0.52	B	19	40
		WBT/R	2	0.91	D	54	162	1.07	E	79	290
		NBL/T/R	2	0.55	C	32	28	0.78	D	39	46
		SBL	1	0.86	D	49	107	0.99	F	83	134
		SBT/R	1	0.21	C	27	33	0.32	D	36	56
	Overall		-	D	39.9	-	-	E	57.1	-	
	2048 After Development	EBL	1	0.74	C	29	93	0.99	F	90	134
		EBT/R	2	0.59	C	24	110	0.63	C	29	160
		WBL	1	0.30	B	14	21	0.51	B	19	31
		WBT/R	2	0.88	D	41	140	1.08	F	81	299
		NBL/T/R	2	0.51	C	21	22	0.82	D	46	57
		SBL	1	0.95	E	63	94	0.87	E	65	87
SBT/R		1	0.28	C	25	34	0.39	D	38	65	
Overall		-	C	33.8	-	-	E	57.7	-		

*Southbound analyzed with de-facto left turn. Northbound analyzed with one of two lanes as de-facto left turn.

Table 4.21: 2048 Intersection Analysis (28 Street SW – Richmond Road)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
28 Street & Richmond Rd SW (North-South Stop)	2048 Baseline	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.10	B	13	<5	0.26	C	17	8
		SB	1	0.04	B	11	<5	0.04	B	12	<5
		Overall		-	A	2.3	-	-	A	3.7	-
	2048 After Development	EB	1	<0.02	A	1	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.13	C	17	<5	0.14	C	18	<5
		SB	1	0.05	B	13	<5	0.05	B	13	<5
Overall		-	A	1.9	-	-	A	1.9	-		

Table 4.22: 2048 Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road)

INTERSECTION	HORIZON	MOVEMENT & LANES	AM PEAK HOUR				PM PEAK HOUR				
			v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue	
25A Street & 26 Avenue SW (North-South Stop)	2048 Baseline	EB	1	0.04	A	1	<5	0.05	A	1	<5
		WB	1	0.02	A	1	<5	0.02	A	1	<5
		NB	1	0.25	D	27	7	0.51	F	57	19
		SB	1	0.49	F	61	17	1.26	F	301	52
		Overall		-	A	4.3	-	-	C	17.0	-
	2048 Baseline Signal	EB	1	0.68	A	9	115	0.50	A	6	58
		WB	1	0.28	A	4	25	0.78	B	14	160
		NB	1	0.17	B	14	11	0.24	B	17	14
		SB	1	0.21	C	22	16	0.33	C	24	21
		Overall		-	A	8.1	-	-	B	11.8	-
	2048 After Development Signal	EB	1	0.79	B	13	186	0.68	B	12	112
		WB	1	0.31	A	4	28	0.90	C	31	251
NB		1	0.20	B	15	11	0.25	B	17	16	
SB		1	0.31	C	28	18	0.63	D	40	42	
Overall			-	B	11.3	-	-	C	23.7	-	
25A Street & Richmond Rd SW (North-South Stop)	2048 Baseline	EB	1	0.02	A	1	<5	0.04	A	2	<5
		WB	1	<0.02	A	1	<5	<0.02	A	0	<5
		NB	1	0.03	B	12	<5	0.03	B	12	<5
		SB	1	0.05	B	11	<5	0.06	B	10	<5
		Overall		-	A	2.2	-	-	A	3.2	-
	2048 After Development	EB	1	0.04	A	2	<5	0.04	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.03	B	14	<5	0.03	B	12	<5
		SB	1	0.06	B	14	<5	0.06	B	10	<5
Overall		-	A	1.8	-	-	A	3.7	-		

Table 4.23: 2048 Intersection Analysis (25 Street SW – 26 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES	AM PEAK HOUR				PM PEAK HOUR				
			v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue	
25 Street & 26 Avenue SW (North-South Stop)	2048 Baseline	EB	1	0.84	B	16	123	0.56	A	9	71
		WBL	1	0.17	A	5	6	0.15	A	4	8
		WBT/R	1	0.35	A	5	26	0.77	B	12	175
		NBT/L	1	0.19	C	28	18	0.10	C	32	9
		NBR	1	0.42	A	10	15	0.34	B	11	12
		SB	1	0.26	C	23	17	0.40	C	24	20
		Overall		-	B	13.7	-	-	B	11.0	-
	2048 After Development With Signal & Turn Lanes	EB	1	0.91	D	36	261	0.84	C	31	216
		WBL	1	0.31	A	8	15	0.31	A	6	17
		WBT/R	1	0.34	A	5	41	0.79	B	13	237
		NBT/L	1	0.35	C	34	27	0.30	D	36	18
		NBR	1	0.64	C	23	33	0.40	B	11	13
		SB	1	0.28	C	25	17	0.52	C	31	27
Overall		-	C	26.4	-	-	C	20.6	-		

Table 4.24: 2048 Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue)

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25 Street & Richmond Rd SW <i>(North-South Stop)</i>	2048 Baseline	EB	1	0.12	A	7	<5	0.06	A	6	<5
		WB	1	<0.02	A	2	<5	<0.02	A	3	<5
		NB	1	0.07	B	14	<5	0.06	B	12	<5
		SB	1	0.12	B	11	<5	0.15	B	10	<5
		<i>Overall</i>		-	A	8.3	-	-	A	8.0	-
	2048 After Development	EB	1	0.02	A	1	<5	0.03	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.62	D	26	31	0.27	C	17	8
		SB	1	0.27	B	14	8	0.79	E	37	54
		<i>Overall</i>		-	B	10.9	-	-	C	18.2	-
25 Street & 30 Ave SW <i>(East-West Stop)</i>	2048 Baseline	EB	1	0.02	A	9	<5	0.02	A	10	<5
		WB	1	0.02	A	9	<5	0.02	A	10	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	<0.02	A	3	<5	<0.02	A	3	<5
		<i>Overall</i>		-	A	5.9	-	-	A	5.2	-
	2048 After Development	EB	1	0.02	B	10	<5	0.03	B	11	<5
		WB	1	0.11	A	9	<5	0.07	A	10	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	0.03	A	6	<5	0.09	A	7	<5
		<i>Overall</i>		-	A	8.0	-	-	A	7.7	-

4.8 With 25 Street Connection (Analysis)

After Development (2028 and 2048) intersection analysis was completed with a 25 Street SW connection to 33 Avenue SW in place. Individual intersection movement (100% build out) results with the connection in place are detailed in **Table 4.26** to **Table 4.31**. Roundabout analysis is completed with SIDRA 9 software.

As the primary impact of the connection would be to address potential delays on 29 Street SW and associated upstream impacts on Richmond Road SW, SimTraffic analysis was also completed to review impacts. SimTraffic software is used for analyzing complex situations including closely spaced intersections with blocking problems and the effects of signals on nearby roadways. SimTraffic analysis queuing and delay summary for the westbound left turn movement at 29 Street & Richmond Road SW is summarized in **Table 4.25**. Detailed outputs are included in **Appendix B**.

Table 4.25: SimTraffic Queuing Analysis Summary (29 Street & Richmond Road – Westbound Left)

HORIZON	CONTROL	25 STREET CONNECTION	QUEUE IN METRES AVERAGE (95 PERCENTILE)		DELAY IN LOS (SECONDS)	
			AM	PM	AM	PM
Existing	Stop Sign	No	6 (13)	6 (12)	B (11)	B (10)
2028 Background			7 (16)	9 (23)	B (18)	C (25)
2028 After Development (50%)	Signal		16 (28)	11 (22)	B (11)	B (12)
2028 After Development (75%)			22 (39)	18 (36)	B (17)	C (34)
2028 After Development (100%)			49 (64)	45 (64)	F (187)	F (218)
			Yes	8 (17)	8 (18)	B (12)
2048 Background	Signal	No	12 (26)	27 (50)	C (24)	D (45)
2048 After Development (100%)			25 (45)	22 (40)	C (25)	C (22)
		Yes	13 (24)	16 (27)	B (15)	B (19)

* Average Queue is the average of all 2 minute maximum queues and 95th percentile queue is a statistical calculation based on the average queue plus 1.65 standard deviations.

Intersection analysis (2028 and 2048) based on the current road network (without 25 Street SW connecting to 33 Avenue SW) identified the southbound left turn movement at 29 Street & 33 Avenue SW would operate at capacity during the 100% build out scenario resulting in vehicles needing to wait one or more signal cycles. This congestion would have upstream intersection impacts (29 Street & Richmond Road SW). SimTraffic analysis identifies westbound left turning vehicles being delayed on Richmond Road SW during peak hours by 2-3 minutes during the 100% build out scenario.

Scenario analysis with 25 Street SW connecting to 33 Avenue SW identified a significant improvement in operations at 29 Street & 33 Avenue SW at the 100% build out scenario. This improvement would reduce delays on Richmond Road SW to under 30 seconds. The scenario would however result in an increase in traffic volumes along the 25 Street SW corridor, which is currently a Residential Street.

Based on the analysis results, a roadway connection of 25 Street SW to 33 Avenue SW is not required at 50% or 75% build out scenarios. However, at the 100% build out scenario, operations on 29 Street SW should be monitored to determine if anticipated delays materialize.

Table 4.26: Intersection Analysis (29 Street SW – Richmond Road and 31 Avenue) – With 25 Street Connection

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & Richmond Rd SW <i>(West Stop)</i>	2028 After Development	WBL	1	0.23	C	22	7	0.24	D	28	7
		WBT/R	1	0.24	C	19	7	0.51	E	36	20
		NB	1	<0.02	A	0	<5	<0.02	A	0	<5
		SB	1	<0.02	A	0	<5	<0.02	A	0	<5
		<i>Overall</i>		-	A	3.2	-	-	A	4.7	-
	2048 After Development With Signal & NBR Lane	WBL	1	0.23	B	14	14	0.31	B	18	21
		WBT/R	1	0.43	B	12	20	0.12	A	9	7
		NBT/L	1	0.41	A	8	39	0.61	B	11	69
		NBR	1	0.19	A	2	7	0.24	A	2	6
		SB	1	0.40	A	8	35	0.47	A	7	37
<i>Overall</i>		-	A	8.3	-	-	A	8.7	-		
29 Street & 31 Avenue SW	2028 After Development	NBT/R	1	0.28	A	0	<5	0.46	A	0	<5
		SBL/T	2	0.16	A	0	<5	0.13	A	0	<5
		<i>Overall</i>		-	A	0.1	-	-	A	0.1	-
	2048 After Development	NBT/R	1	0.38	A	0	<5	0.56	A	0	<5
		<i>Overall</i>		-	A	0.1	-	-	A	0.1	-

Table 4.27: Intersection Analysis (29 Street SW – 33 Avenue) – With 25 Street Connection

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & 33 Avenue SW <i>(Signal)</i>	2028 After Development	EBL	1	0.31	B	14	18	0.78	D	40	64
		EBT/R	2	0.80	C	34	86	0.50	C	23	63
		WBL	1	0.57	C	21	25	0.61	B	18	39
		WBT/R	2	0.54	C	21	54	0.88	C	34	121
		NBL/T/R	2	0.36	B	11	24	0.49	B	18	34
		SBL	1	0.81	D	50	89	0.81	E	61	63
		SBT/R	1	0.25	C	23	36	0.34	C	29	40
		<i>Overall</i>		-	C	26.3	-	-	C	29.3	-
	2048 After Development	EBL	1	0.77	C	29	91	0.82	E	56	102
		EBT/R	2	0.67	C	26	116	0.65	C	28	170
		WBL	1	0.35	B	14	23	0.56	B	19	34
		WBT/R	2	0.84	D	36	124	0.97	D	50	267
		NBL/T/R	2	0.47	B	18	19	0.80	D	39	50
		SBL	1	0.70	C	32	51	0.71	D	50	57
<i>Overall</i>		-	C	28.5	-	-	D	40.3	-		

*Southbound analyzed with de-facto left turn. Northbound analyzed with one of two lanes as de-facto left turn.

Table 4.28: Intersection Analysis (28 Street SW – Richmond Road) – With 25 Street Connection

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
28 Street & Richmond Rd SW (North-South Stop)	2028 After Development	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.06	B	11	<5	0.16	B	13	<5
		SB	1	0.02	B	11	<5	0.03	B	11	<5
		Overall		-	A	2.2	-	-	A	3.5	-
	2048 After Development	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.10	B	14	<5	0.10	B	13	<5
		SB	1	0.05	B	12	<5	0.04	B	11	<5
		Overall		-	A	2.1	-	-	A	2.2	-

Table 4.29: Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road) – With 25 Street Connection

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25A Street & 26 Avenue SW (North-South Stop)	2028 After Development	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.17	C	24	5	0.21	D	25	6
		SB	1	0.11	C	23	<5	0.16	D	30	<5
		Overall		-	A	1.4	-	-	A	1.8	-
	2048 After Development Signal	EB	1	0.79	B	13	186	0.67	B	11	109
		WB	1	0.31	A	4	128	0.90	C	31	251
		NB	1	0.20	A	15	11	0.25	B	17	16
		SB	1	0.31	A	28	18	0.63	D	40	42
		Overall		-	B	11.3	-	-	C	23.7	-
25A Street & Richmond Rd SW (North-South Stop)	2028 After Development	EB	1	<0.02	A	2	<5	0.02	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.03	B	11	<5	0.02	B	11	<5
		SB	1	0.02	B	11	<5	0.06	B	11	<5
		Overall		-	A	2.5	-	-	A	2.7	-
	2048 After Development	EB	1	0.03	A	2	<5	0.03	A	3	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.03	B	12	<5	0.02	B	11	<5
		SB	1	0.05	B	13	<5	0.06	B	10	<5
		Overall		-	A	2.0	-	-	A	3.8	-

Table 4.30: Intersection Analysis (25 Street SW – 26 Avenue) – With 25 Street Connection

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25 Street & 26 Avenue SW (North-South Stop)	2028 After Development	EB	1	0.83	C	23	128	0.74	B	16	87
		WBL	1	0.22	B	10	10	0.62	B	17	45
		WBT/R	1	0.39	A	10	38	0.66	B	12	70
		NBT/L	1	0.34	B	18	21	0.35	B	20	19
		NBR	1	0.74	B	19	46	0.43	A	6	12
		SB	1	0.13	B	11	9	0.32	B	16	18
		<i>Overall</i>		-	B	18.2	-	-	B	13.7	-
	2048 After Development	EB	1	0.91	D	39	266	0.93	E	66	223
		WBL	1	0.34	A	9	18	0.36	A	7	19
		WBT/R	1	0.34	A	5	40	0.83	B	15	233
		NBT/L	1	0.36	C	35	28	0.37	D	38	20
		NBR	1	0.65	C	23	34	0.44	B	11	14
		SB	1	0.24	C	22	13	0.53	C	32	27
		<i>Overall</i>		-	C	28.2	-	-	C	34.7	-

Table 4.31: Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue) – With 25 Street Connection

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25 Street & Richmond Rd SW (North-South Stop)	2028 After Development All Way Stop	EB	1	0.13	A	10	14	0.26	B	12	20
		WB	1	0.50	B	13	29	0.37	B	13	23
		NB	1	0.51	B	14	32	0.43	B	13	26
		SB	1	0.22	B	10	18	0.79	D	26	42
		Overall		-	B	12.5	-	-	C	18.7	-
	2048 After Development All Way Stop	EB	1	0.21	A	10	18	0.30	B	11	21
		WB	1	0.34	B	10	26	0.14	A	10	16
		NB	1	0.32	B	11	20	0.28	B	10	18
		SB	1	0.25	A	10	25	0.53	B	14	36
		Overall		-	B	10.1	-	-	B	11.9	-
25 Street & 30 Ave SW (East-West Stop)	2028 After Development	EB	1	0.04	B	12	<5	0.06	B	13	<5
		WB	1	0.17	B	12	5	0.11	B	13	<5
		NB	1	<0.02	A	1	5	<0.02	A	0	<5
		SB	1	<0.02	A	1	<5	0.05	A	3	<5
		Overall		-	A	3.3	-	-	A	3.4	-
	2048 After Development	EB	1	0.03	B	11	<5	0.04	B	12	<5
		WB	1	0.14	B	11	<5	0.11	B	12	<5
		NB	1	<0.02	A	1	<5	<0.02	A	1	<5
		SB	1	0.03	A	2	<5	0.07	A	5	<5
		Overall		-	A	5.1	-	-	A	3.9	-
25 Street & 33 Avenue SW (Roundabout)	2028 After Development	EB	2	0.47	A	4	25	0.33	A	4	15
		WB	2	0.28	A	3	13	0.51	A	4	29
		NB	1	0.31	A	8	10	0.15	A	5	5
		SB	1	0.30	A	7	10	0.25	A	8	8
		Overall		-	A	4.1	-	-	A	3.6	-
	2048 After Development	EB	2	0.52	A	5	28	0.67	A	7	54
		WB	2	0.40	A	5	22	0.73	A	7	64
		NB	1	0.61	B	11	27	0.92	C	25	67
		SB	1	0.20	A	9	6	0.26	B	10	9
		Overall		-	A	5.2	-	-	A	8.9	-
25 Street & 33 Avenue SW (Signal)	2028 After Development	EBL	1	0.14	B	13	10	0.38	B	14	12
		EBT/R	2	0.88	D	37	150	0.51	B	19	74
		WBL	1	0.34	B	17	12	0.27	B	11	14
		WBT/R	2	0.51	C	23	77	0.89	C	33	165
		NBL/T	1	0.21	C	27	30	0.09	C	30	17
		NBR	1	0.12	A	6	10	0.12	A	9	10
		SB	1	0.45	C	28	65	0.30	C	27	41
		Overall		-	C	29.3	-	-	C	26.3	-
	2048 After Development	EBL	1	0.04	A	9	3	0.35	B	15	11
		EBT/R	2	0.89	D	40	161	0.98	D	52	222
		WBL	1	0.82	D	47	78	0.95	E	73	120
		WBT/R	2	0.44	B	15	74	0.76	C	24	165
		NBL/T	1	0.36	D	37	43	0.69	D	51	78
		NBR	1	0.35	A	7	18	0.36	A	7	17
Overall		-	C	29.8	-	-	D	39.2	-		

4.9 Collision History

All Collisions

Collision history for area intersections were obtained from the City of Calgary for the latest 10-year period (January 2012 to December 2021). Collision history is summarized in **Table 4.32** and identified:

- 32 Ave & Richmond Rd SW – Most collisions were single vehicles striking objects (6 out of 9).
- 29 St & Richmond Rd SW – Many right-angle collisions (33 out of 73).
- 29 St & 31 Ave SW – Minimal collision history.
- 29 St & 33 Ave SW – Many rear-end collisions (33 out of 83).
- 28 St & Richmond Rd SW – Most collisions were single vehicles striking objects (7 out of 10).
- 25A St & 26 Ave SW – Minimal collision history.
- 25A St & Richmond Rd SW – One injury related to a side street parking maneuver.
- 25 St & 26 Ave SW – Half of the collisions were right-angle (19 out of 37).
- 25 St & Richmond Rd SW – Most collisions were single vehicles striking objects (5 out of 6).

Table 4.32: Collision History

INTERSECTION	TOTAL (10-YEARS)			ANNUAL RATE			COLLISIONS PER ANNUAL MILLION ENTERING VEHICLES
	All	Injury	PDO	Total	Injury	PDO	
32 Ave & Richmond Rd SW	9	2	7	0.9	0.2	0.7	0.3
29 St & Richmond Rd SW	73	7	66	7.3	0.7	6.6	2.0
29 St & 31 Ave SW	2	0	2	0.2	-	0.2	0.1
29 St & 33 Ave SW	83	12	71	8.3	1.2	7.1	1.0
28 St & Richmond Rd SW	10	0	10	1.0	-	1.0	0.8
25A St & 26 Ave SW	2	1	1	0.2	0.1	0.1	<0.1
25A St & Richmond Rd SW	4	1	3	0.4	0.1	0.3	0.7
25 St & 26 Ave SW	37	4	33	3.7	0.4	3.3	0.8
25 St & Richmond Rd SW	6	0	6	0.6	-	0.6	1.4

PDO = Property Damage Only; Annual Million Entering Vehicles (MEV) estimated (PM x 10 x 365).

Vulnerable User Collisions

No fatalities were reported. The following 4 vulnerable user (pedestrian, cyclist) collisions were identified:

- 25 St & 26 Ave SW – 1 pedestrian (2017)
- 29 St & 33 Ave SW – 2 pedestrians (2013 & 2014) + 1 cyclist (2020)

Summary

A review of higher collision intersections identifies:

- 29 St & Richmond Road SW – The addition of a traffic signal would address right-angle collisions.
- 29 St & 33 Ave SW – The collision rate is consistent with high-volume intersections.
- 25 St & 26 Ave SW – The addition of a traffic signal would address right-angle collisions.
- 25 St & Richmond Rd SW – The intersection angle may result in a higher collision rate. Curb extensions are recommended to reduce the collision rate.

5. ACTIVE TRANSPORTATION

5.1 Walking

Pedestrian infrastructure within the study area is illustrated in **Figure 5.1**.

Figure 5.1: Pedestrian Network



5.1.1 Sidewalks

A review of sidewalk facilities near the site is summarized in **Table 5.1**. Improved facilities will be provided along site frontages.

Table 5.1: Sidewalk Review

SIDE	ROADWAY	EXISTING FACILITY	PROPOSED FACILITY
North	Richmond Road SW	Sidewalk	New sidewalk
West	25 Street SW	No facility	Sidewalk
South	30 Avenue SW	No facility	Sidewalk
East	Crowchild Trail SW	Sidewalk	New pathway integrated through site (5A standard).

5.1.2 Crosswalk Warrants

Pedestrian crossing warrants were completed to confirm if changes are required at the following crossings:

- 28 Street & Richmond Road SW (West Leg) – Existing marked crosswalk (ground mounted).
- 25 Street & Richmond Road SW (East Leg) – Existing marked crosswalk (ground mounted).

Crossing Control Needs

The Transportation Association of Canada (TAC) *Pedestrian Crossing Control Guide* identifies that a pedestrian crossing is candidate for control when hourly pedestrian volumes exceed 15 per hour and vehicle volumes exceed 1,500 vehicles per day (Decision Support Tool – Preliminary Assessment). Alternatively, a crossing can still be considered if there’s a requirement for system connectivity and the crossing exceeds 100 metres from an existing crosswalk. As identified in **Table 5.2**, neither crossing currently meets the pedestrian volume threshold. For the purposes of this analysis, system connectivity is assumed. The daily volume threshold will be met at 25 Street SW after site development.

Table 5.2: TAC Pedestrian Crossing Control – Preliminary Assessment (Existing Volumes)

ROADWAY	CROSSING		EXISTING VOLUMES		VOLUME THRESHOLDS	
			Pedestrians	Vehicles	Pedestrians	Vehicles
Richmond Road SW	28 Street	West	3/hour	3,100/day	Not met	Met
	25 Street	East	2/hour	240/day	Not met	Not Met

Crossing Control Type

Per the treatment selection matrix illustrated in **Figure 5.2**, a standard crosswalk (ground mounted signage with markings) is the recommended treatment if a crossing is warranted. This is consistent with the current facility at both existing crosswalks.

Figure 5.2: TAC Pedestrian Crossing Control – Treatment Selection Matrix

Average Daily Traffic	Speed Limit ² (km/h)	Total Number of Lanes ¹				
		1 or 2 lanes	3 lanes (two-way)	3 lanes (one-way)	2 or 3 lanes/direction w/ raised refuge	2 lanes/direction w/o raised refuge
1,500 < ADT ≤ 4,500	≤ 50	GM	GM	GM	GM	GM+
	60	GM+	GM+	OF	RRFB or OF ³	RRFB
	70	RRFB	RRFB	OF	OF	OF
4,500 < ADT ≤ 9,000	≤ 50	GM	GM	GM	GM	RRFB
	60	GM+	GM+	OF	RRFB or OF ³	OF
	70	RRFB	OF	OF	OF	TS
9,000 < ADT ≤ 12,000	≤ 50	GM	RRFB	OF	RRFB or OF ³	OF
	60	RRFB	RRFB	OF	RRFB or OF ³	TS
	70	OF	OF	OF	TS	TS
12,000 < ADT ≤ 15,000	≤ 50	RRFB	RRFB	OF	RRFB or OF ³	OF
	60	RRFB	OF	OF	RRFB or OF ³	TS
	70	OF	TS	TS	TS	TS
> 15,000	≤ 50	RRFB	OF	OF	RRFB or OF ³	TS
	60	RRFB	TS	TS	TS	TS
	70	OF	TS	TS	TS	TS

The Richmond Road & 25 Street SW crosswalk (illustrated in **Figure 5.3**) has a large crossing distance due to the angled intersection. Curb extensions are recommended to reduce this crossing distance.

Figure 5.3: Crossing – 25 Street & Richmond Road SW



5.1.3 Crowchild Trail Crossings

Crowchild Trail NW represents a barrier to pedestrians. The current spacing between the 26 Avenue SW and 33 Avenue SW overpasses is 675 metres. Accessibility can be improved either through a new overpass and/or upgrading current facilities. An additional accessible active transportation overpass (e.g. 29 Avenue SW) would improve pedestrian access and reduce crossing distances to typical Arterial Street standards (~300 metres).

Due to the primarily residential nature east of Crowchild Trail between 26 Avenue and 33 Avenue, there is limited pedestrian draw from the subject site to destinations between the overpasses. Pedestrian draw is anticipated to be primarily destined to the 33 Avenue and 34 Avenue SW Main Street. As illustrated in **Figure 5.4**, the existing 33 Avenue SW pedestrian connectivity requires pedestrians to cross a free-flow off-ramp and includes non-accessible crosswalk. While the ability to expand sidewalk widths is limited, facilities could be improved by modifications to the ramp or adding a controlled crossing (RRFB) as well as modifying median locations.

Figure 5.4: Pedestrian Accommodation – Crowchild Trail & 33 Avenue SW Bridge (West Intersection)



5.1.4 Summary

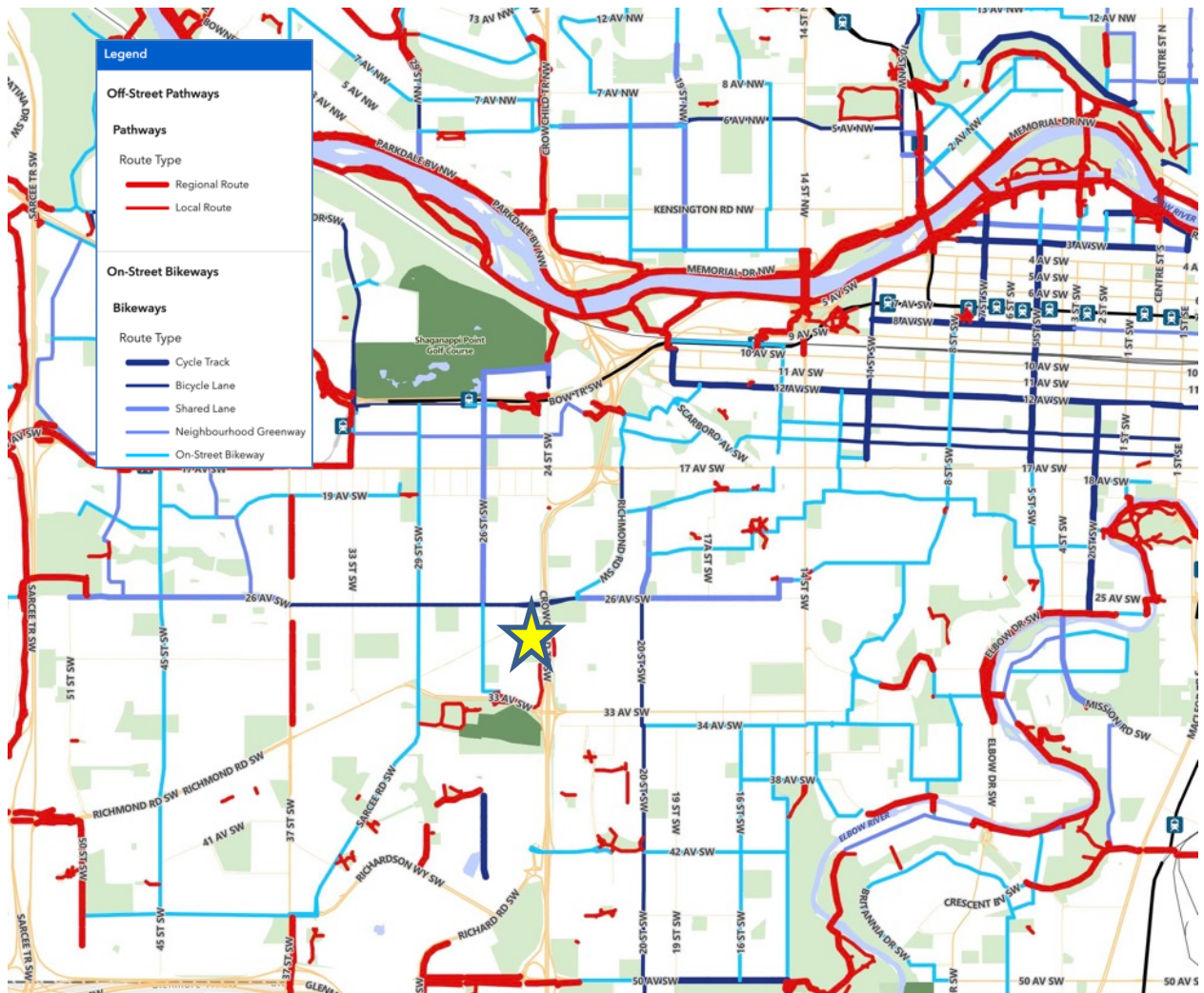
The review of pedestrian infrastructure finds:

- **Sidewalks** – Site frontage improvements will be provided as part of the development. No other changes are required to accommodate the development.
- **Crosswalks** – While no changes are required, curb extension improvements are recommended at 25 Street & Richmond Road SW.
- **Crowchild Trail Overpass** – Improvements to the 33 Avenue SW interchange and/or a new pedestrian overpass should be considered to provide enhanced pedestrian connectivity.

5.2 Cycling

Cycling facilities near the site are illustrated in **Figure 5.5**. Routes are provided to the north (26 Avenue SW – Bike Lanes) and west (26 Street SW – On-Street Bikeway).

Figure 5.5: Existing Cycling Network



City Planned Improvements

The City of Calgary is in the planning process for 5A Network cycling improvements on 26 Avenue SW (37 Street to 14 Street) with construction scheduled to start in 2024. The Calgary Transportation Plan (CTP) also recommends a future pathway on 33 Avenue SW and pathway or bikeway on Richmond Road SW.

Development Planned Improvements

As part of the development, a 5A path will be integrated through the site and tie-in to planned 5A network improvements on 26 Avenue SW.

5.3 Transit

Transit services are provided on Crowchild Trail SW, 26 Avenue SW, and 33 Avenue SW. Crowchild Trail and 33 Avenue SW are part of the City’s identified Primary Transit Network.

Existing

Stops near the site are summarized in **Table 5.3**. BRT stops are illustrated in **Figure 5.6**. The existing area transit network is illustrated in **Figure 5.7** and summarized in **Table 5.4**.

Table 5.3: Existing Transit Stops

STOP LOCATION			ROUTES SERVICED	*DISTANCE
Roadway	Cross-Street	Direction		
Crowchild Trail SW	26 Avenue	North-South	Max Yellow, #20, #66	250m
	34 Avenue			450m
26 Avenue SW	26 Street	East-West	#6	250m
	Crowchild Trail	East-West	#6	250m
33 Avenue SW	25A Street	East-West	#22	400m

**Distance measured as straight-line from the centre of the site.*

Figure 5.6: BRT Stops

Southbound Stop



Northbound Stop



Source: Apple Maps & Google Maps

Figure 5.7: Existing Transit Service

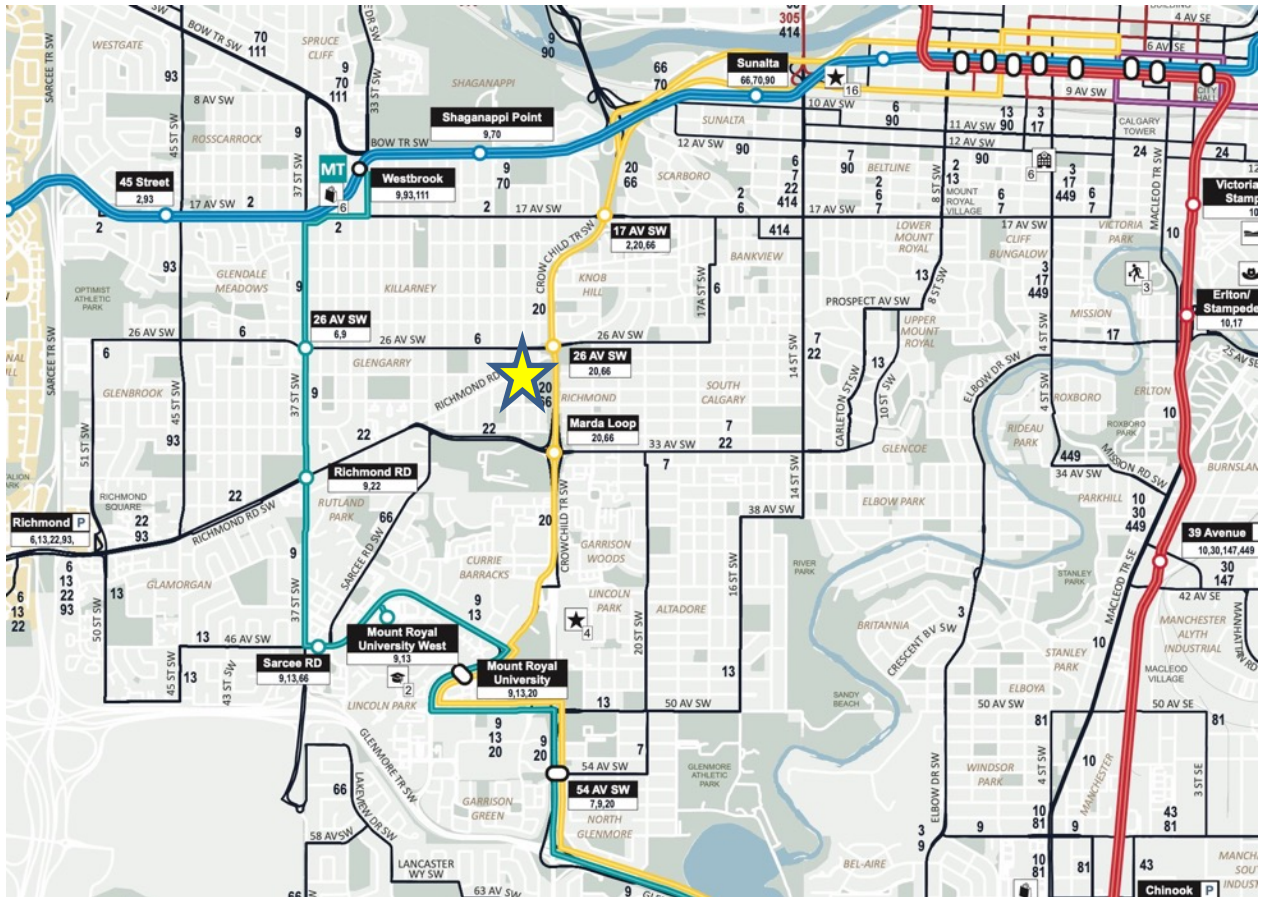


Table 5.4: Existing Transit Frequency

ROUTE		TYPE	FREQUENCY (2023)	
#	Name		Peak	Off-Peak
MAX Yellow	Woodpark/City Centre	BRT	10 min	19 min
#6	Killarney/26 Avenue	Bus	23 min	30 min
#20	Heritage/Northmount	Bus	13 min	20-30 min
#66	Lakeview/City Centre	Bus	23 min	23-33 min

Future

The RouteAhead 10-Year Update identifies a revised focus on Primary Transit Network frequency. The Primary Transit Network includes Crowchild Trail SW and 33 Avenue SW. Service improvements on these corridors to primary transit frequencies will support reduced auto reliance for development trips.

Improvements

Shifting the southbound Crowchild Trail SW stop closer to the site and adding BRT shelters would improve transit access.

APPENDIX A

Traffic Data



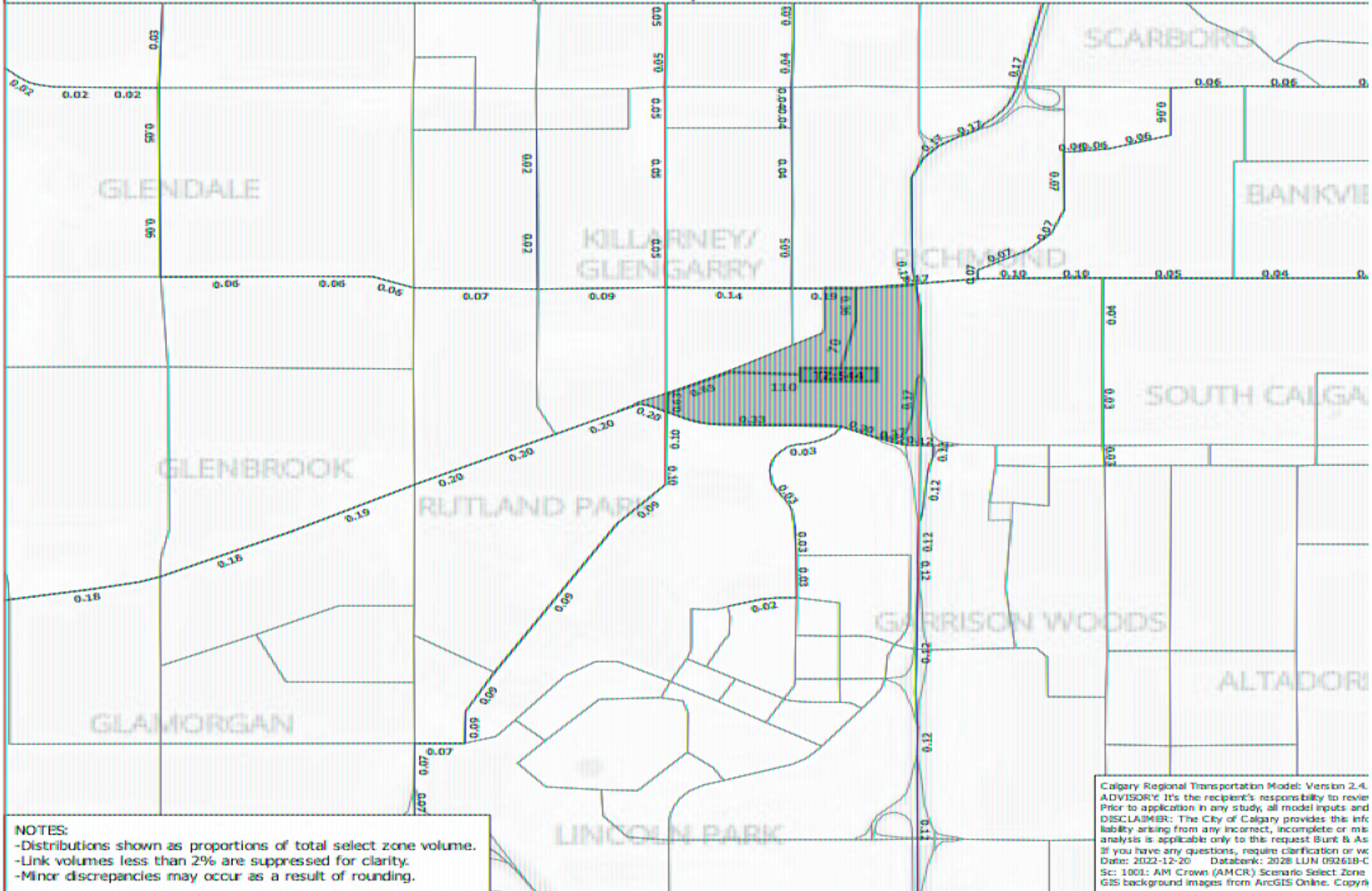
Inbound Distribution for Zone(s): 544

2028 LUN - AM Crown

Bunt & Associates Engineering Ltd- Select Zone Analysis for Viscount Bennett TIA (R2553)

Total Inbound Select Zone Volume = 170 veh/hr

CTP MDP Scenario Series (Run ID: 092618)



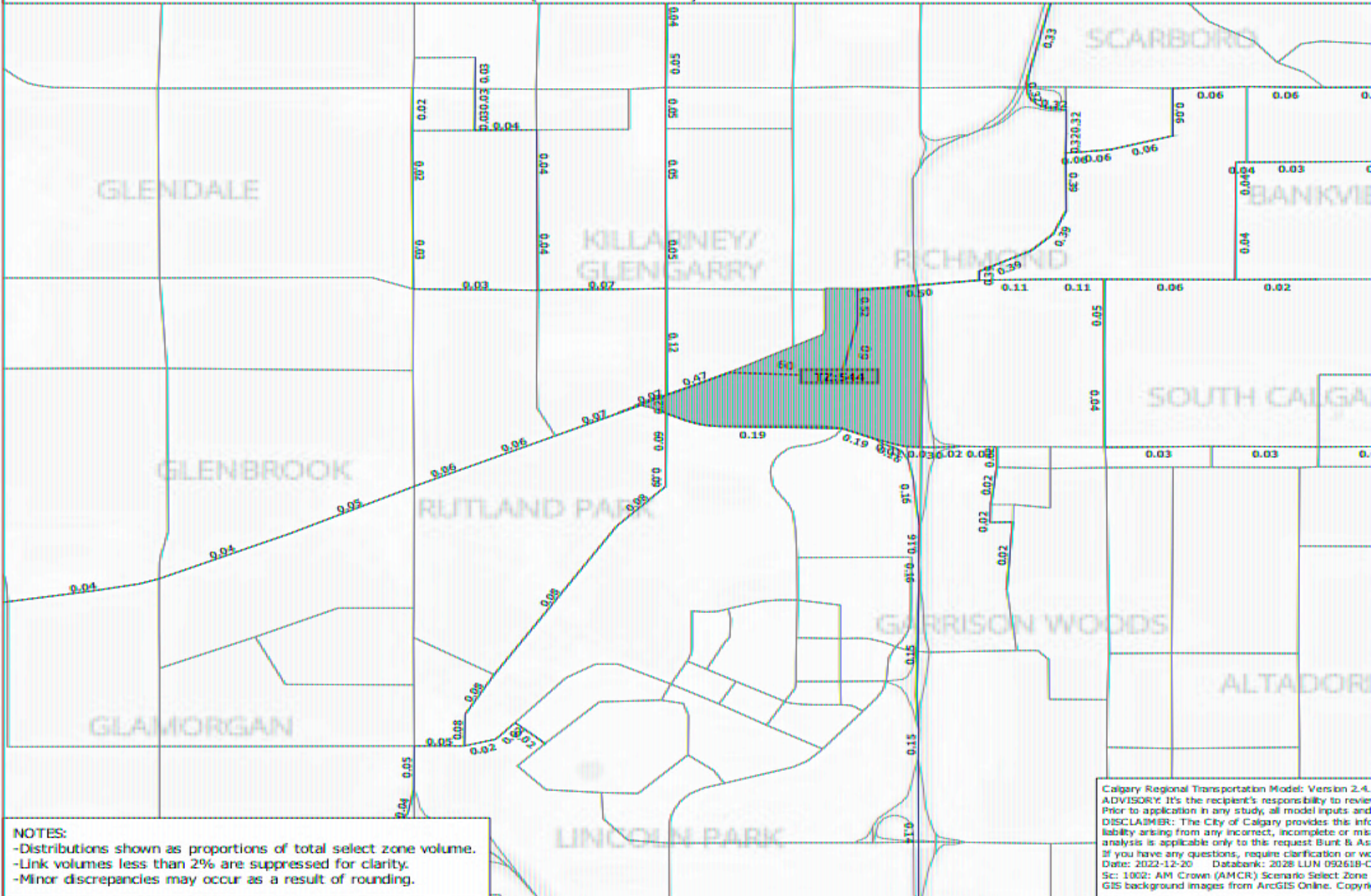
NOTES:
-Distributions shown as proportions of total select zone volume.
-Link volumes less than 2% are suppressed for clarity.
-Minor discrepancies may occur as a result of rounding.

Calgary Regional Transportation Model: Version 2.4.
ADVISORY: It's the recipient's responsibility to review and verify model inputs and outputs.
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Date: 2022-12-20 Databank: 2028 LUN 092618-C
Sc: 1001: AM Crown (AMCR) Scenario Select Zone
GIS background images from ArcGIS Online. Copyr

Outbound Distribution for Zone(s): 544 2028 LUN - AM Crown

Bunt & Associates Engineering Ltd- Select Zone Analysis for Viscount Bennett TIA (R2553)
Total Outbound Select Zone Volume = 110 veh/hr

CTP MDP Scenario Series (Run ID: 092618)



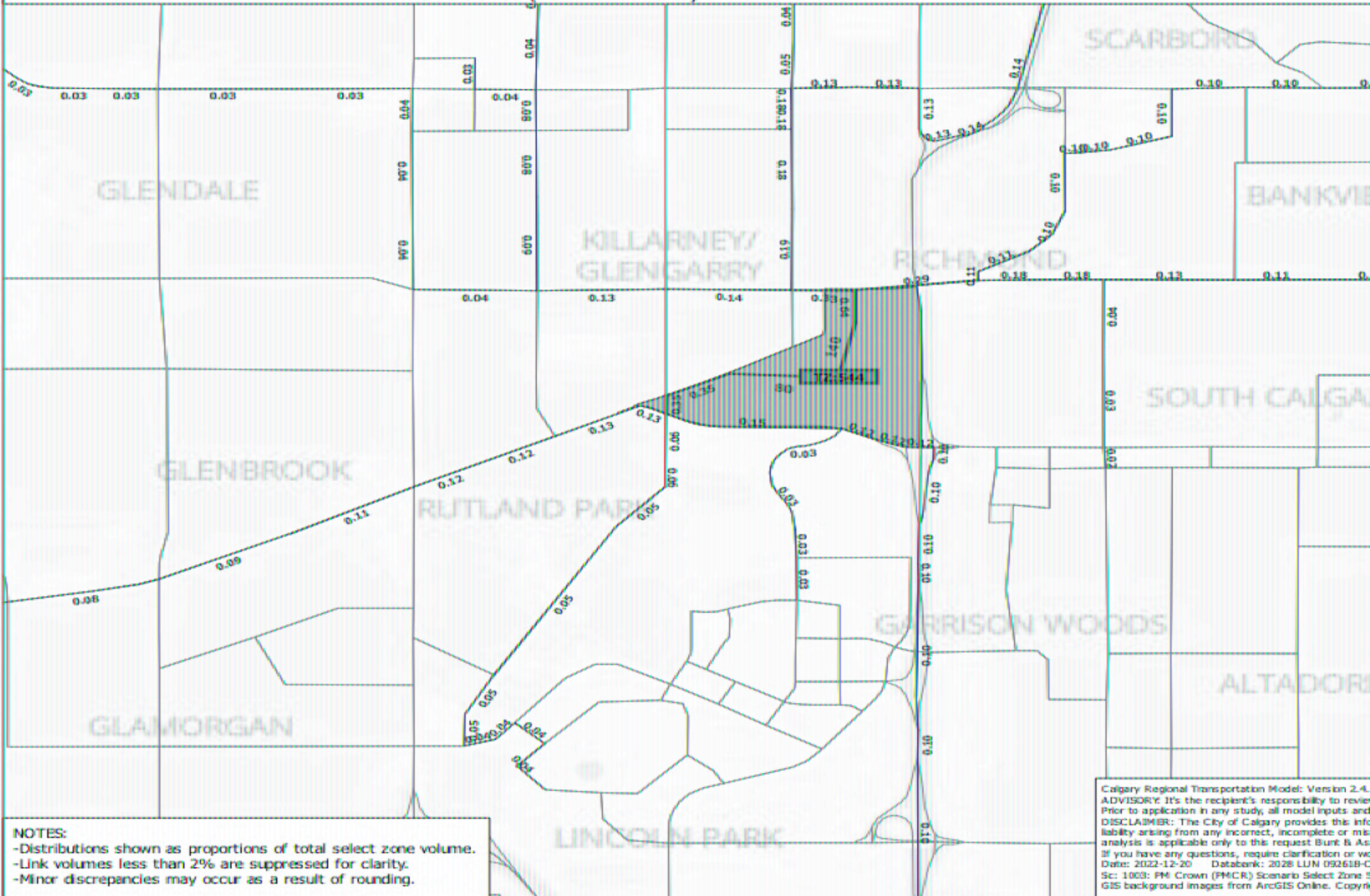
NOTES:
-Distributions shown as proportions of total select zone volume.
-Link volumes less than 2% are suppressed for clarity.
-Minor discrepancies may occur as a result of rounding.

Calgary Regional Transportation Model: Version 2.4.
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Prior to application in any study, all model inputs and outputs should be verified.
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Date: 2022-12-20 Databank: 2028 LUN 092618-C
Sc: 1002: AM Crown (AMCR) Scenario Select Zone
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Inbound Distribution for Zone(s): 544 2028 LUN - PM Crown

Bunt & Associates Engineering Ltd- Select Zone Analysis for Viscount Bennett TIA (R2553)
Total Inbound Select Zone Volume = 220 veh/hr

CTP MDP Scenario Series (Run ID: 092618)



NOTES:
-Distributions shown as proportions of total select zone volume.
-Link volumes less than 2% are suppressed for clarity.
-Minor discrepancies may occur as a result of rounding.

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Date: 2022-12-20 Databank: 2028 LUN 092618-C
Sc: 1003: PM Crown (PMCR) Scenario Select Zone 5
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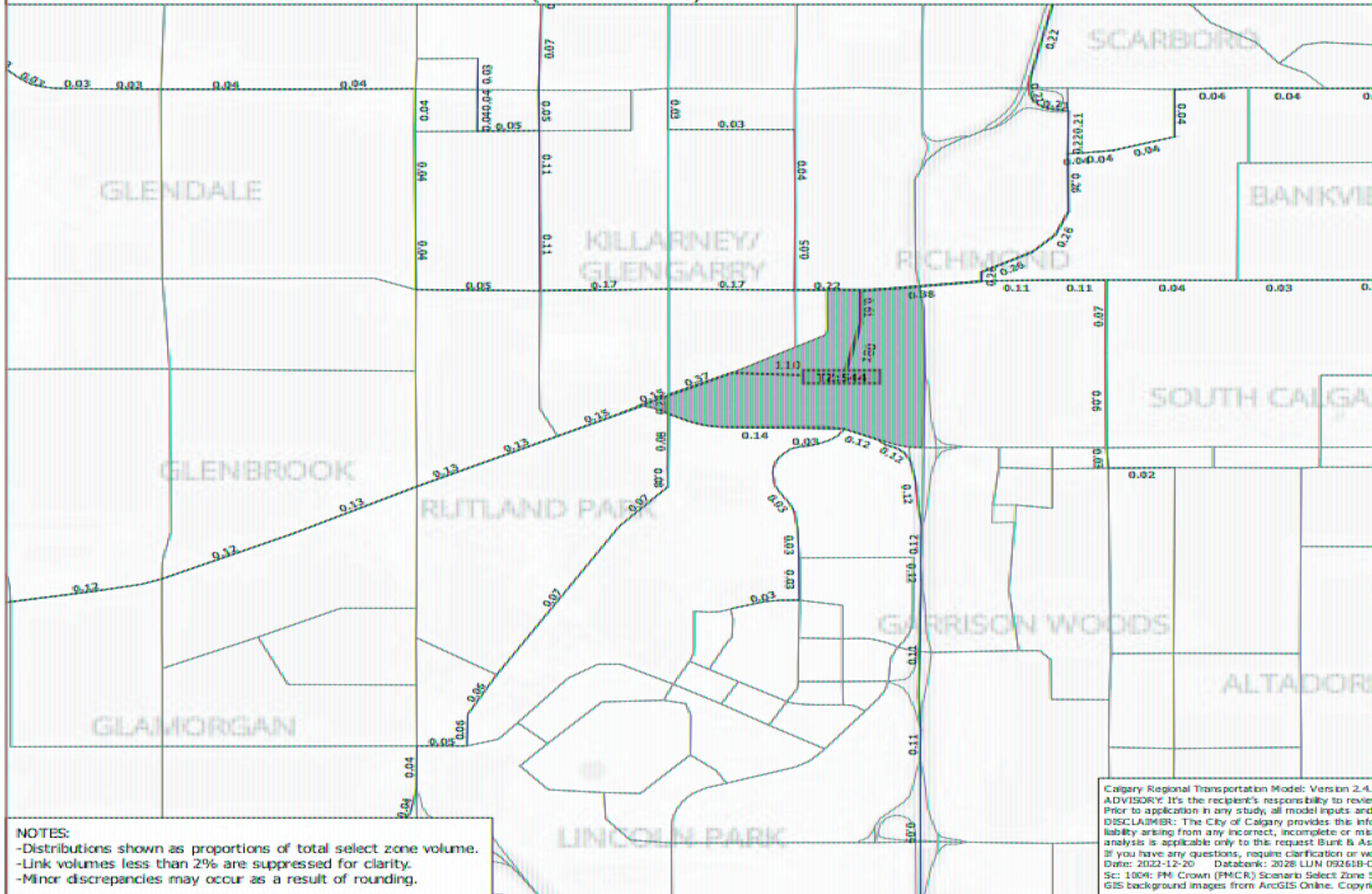
Outbound Distribution for Zone(s): 544

2028 LUN - PM Crown

Bunt & Associates Engineering Ltd- Select Zone Analysis for Viscount Bennett TIA (R2553)

Total Outbound Select Zone Volume = 280 veh/hr

CTP MDP Scenario Series (Run ID: 092618)



NOTES:
 -Distributions shown as proportions of total select zone volume.
 -Link volumes less than 2% are suppressed for clarity.
 -Minor discrepancies may occur as a result of rounding.

Calgary Regional Transportation Model: Version 2.4.
 ADVISORY: It's the recipient's responsibility to review
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 liability arising from any incorrect, incomplete or w
 Date: 2022-12-20 Databank: 2028 LUN 092618-C
 Sc: 1004: PM Crown (PMCR) Scenario Select Zone
 GIS background images from ArcGIS Online. Copyr



Turn Movement Updated Forecast - 2048 Horizon

Viscount Bennett TIA (R2591c2)

Client: Amrit Uppal
Bunt & Associates Engineering Ltd.
Prepared by: Ashar Nazir P.Eng.
Mar08 ,2024

Notes:

Base run = Educational jobs for TZ-544 set to zero and full run done .
Full build scenario = additional population added to TZ-544.
Assumption plots provided to the client.

ADVISORY: It is the recipient's responsibility to review network and land use assumptions used to produce this analysis. Prior to application in any study, all model inputs and outputs require interpretation and adjustment.

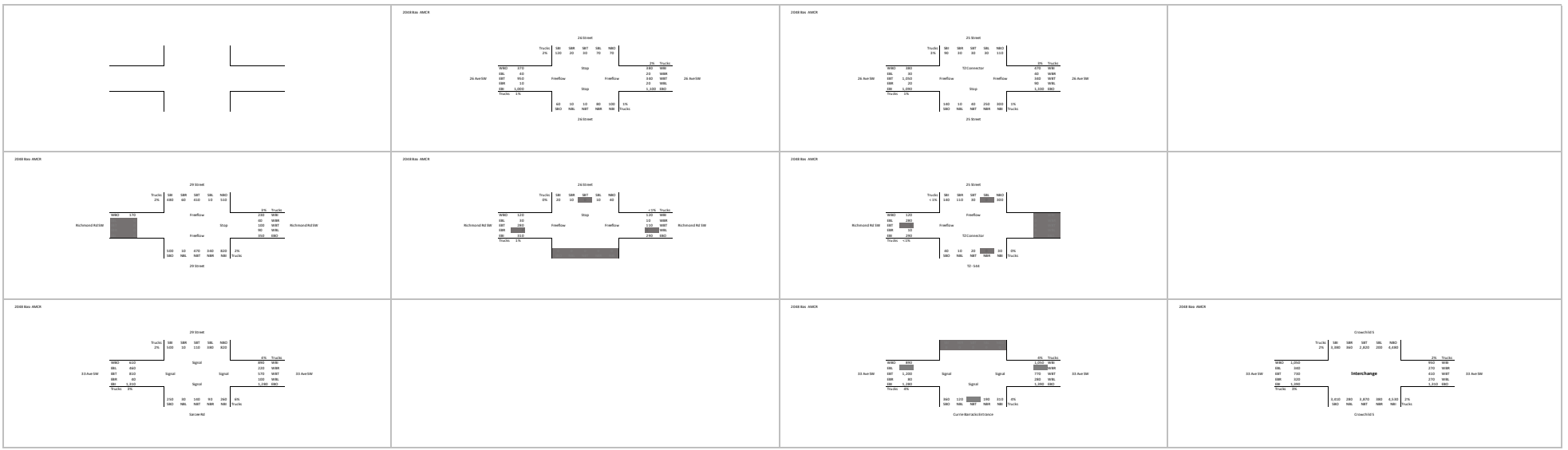
DISCLAIMER: The City of Calgary provides this information in good faith but provides no warranty, nor accepts any liability arising from any incorrect, incomplete or misleading information or its improper use. Application of the provided analysis is applicable only to this request. If you have questions, require clarification or would like more details on this data please contact tranplanforecast@calgary.ca

ISC: Unrestricted

Understanding turning movement diagrams:			
0	Left	0	Right
1	Through	1	Through
2	Left	2	Right
3	Through	3	Through
4	Left	4	Right
5	Through	5	Through
6	Left	6	Right
7	Through	7	Through
8	Left	8	Right
9	Through	9	Through
10	Left	10	Right
11	Through	11	Through
12	Left	12	Right
13	Through	13	Through
14	Left	14	Right
15	Through	15	Through
16	Left	16	Right
17	Through	17	Through
18	Left	18	Right
19	Through	19	Through
20	Left	20	Right
21	Through	21	Through
22	Left	22	Right
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91	Through	91	Through
92	Left	92	Right
93	Through	93	Through
94	Left	94	Right
95	Through	95	Through
96	Left	96	Right
97	Through	97	Through
98	Left	98	Right
99	Through	99	Through



AM Peak Hour Forecast



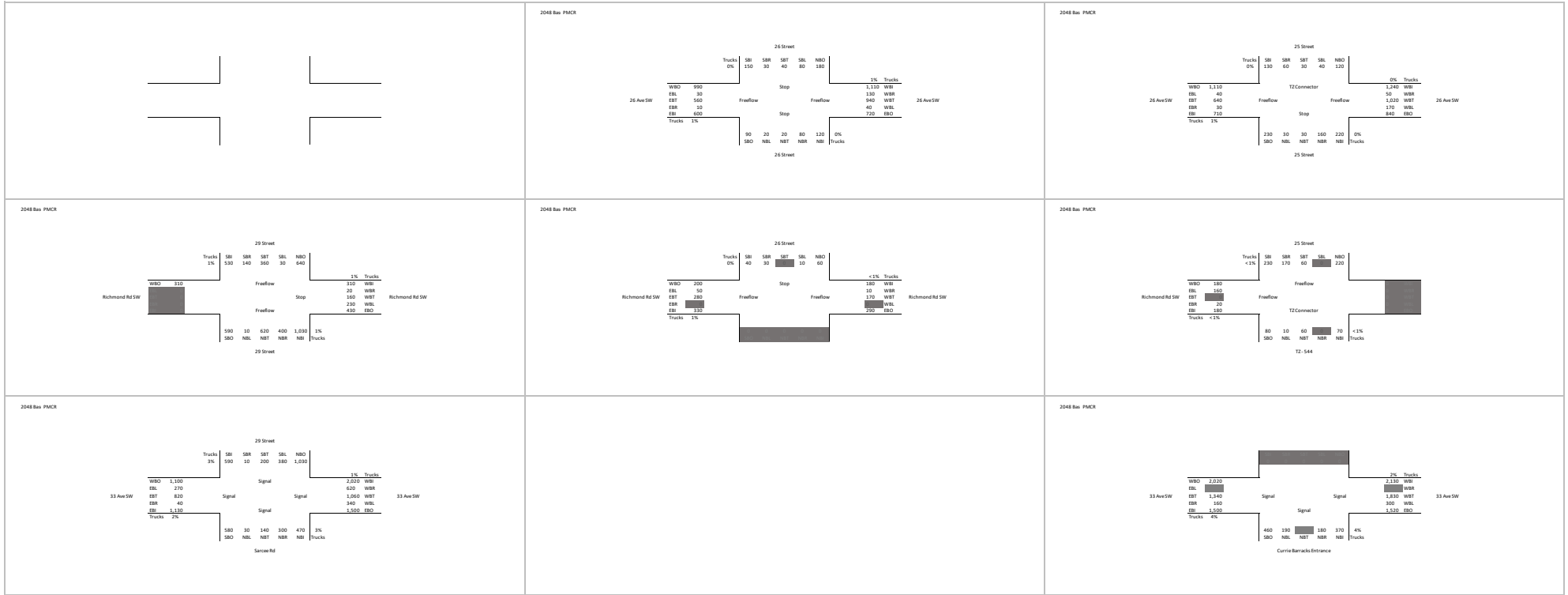
DISCLAIMER: It is the recipient's responsibility to review the network and end-use assumptions used to produce this analysis. Prior to application to any study, all model input and output figures require interpretation and adjustment.

Understanding turning movement diagrams:

NB	Northbound	I	In (entering intersection)
SB	Southbound	O	Out (leaving intersection)
EB	Eastbound	R	Right turn
WB	Westbound	T	Through
Trucks	Truck %	L	Left Turn



PM Peak Hour Forecast

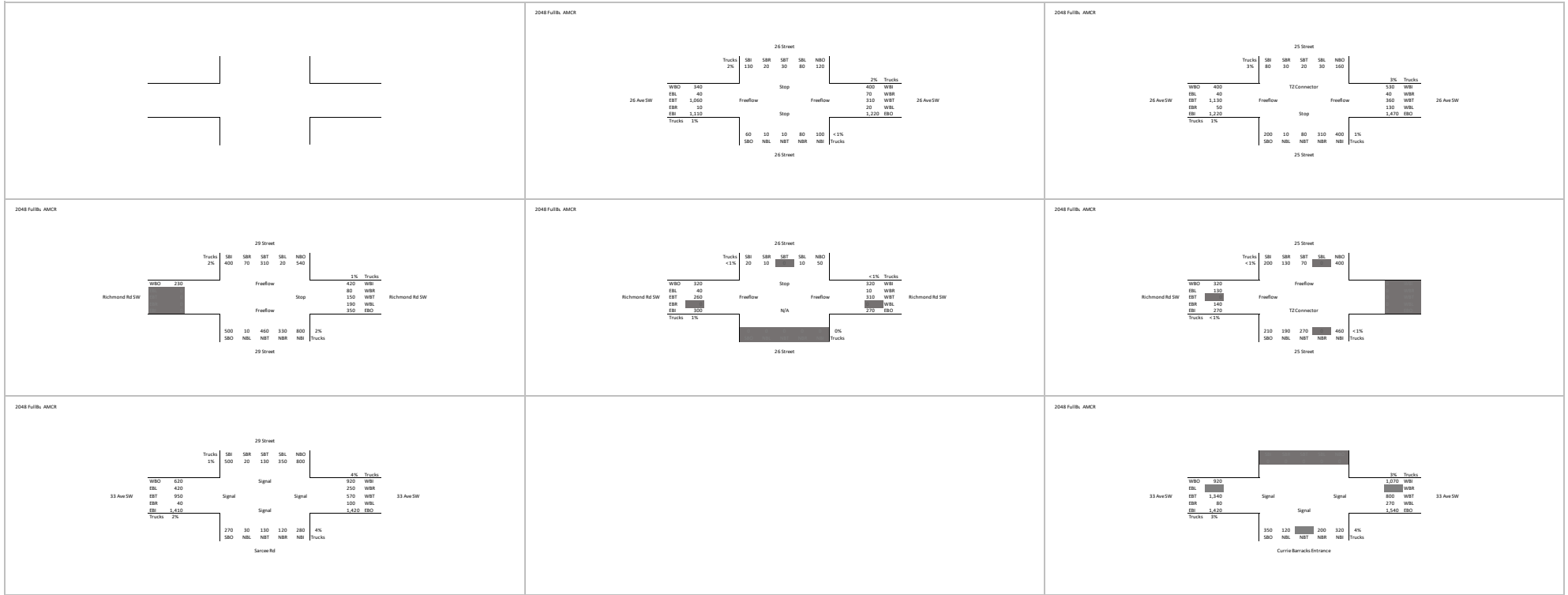


Understanding turning movement diagrams:

NB	Northbound	I	In (entering intersection)
SB	Southbound	O	Out (leaving intersection)
EB	Eastbound	R	Right turn
WB	Westbound	T	Through
Trucks	Inbound Truck %	L	Left Turn



AM Peak Hour Forecast

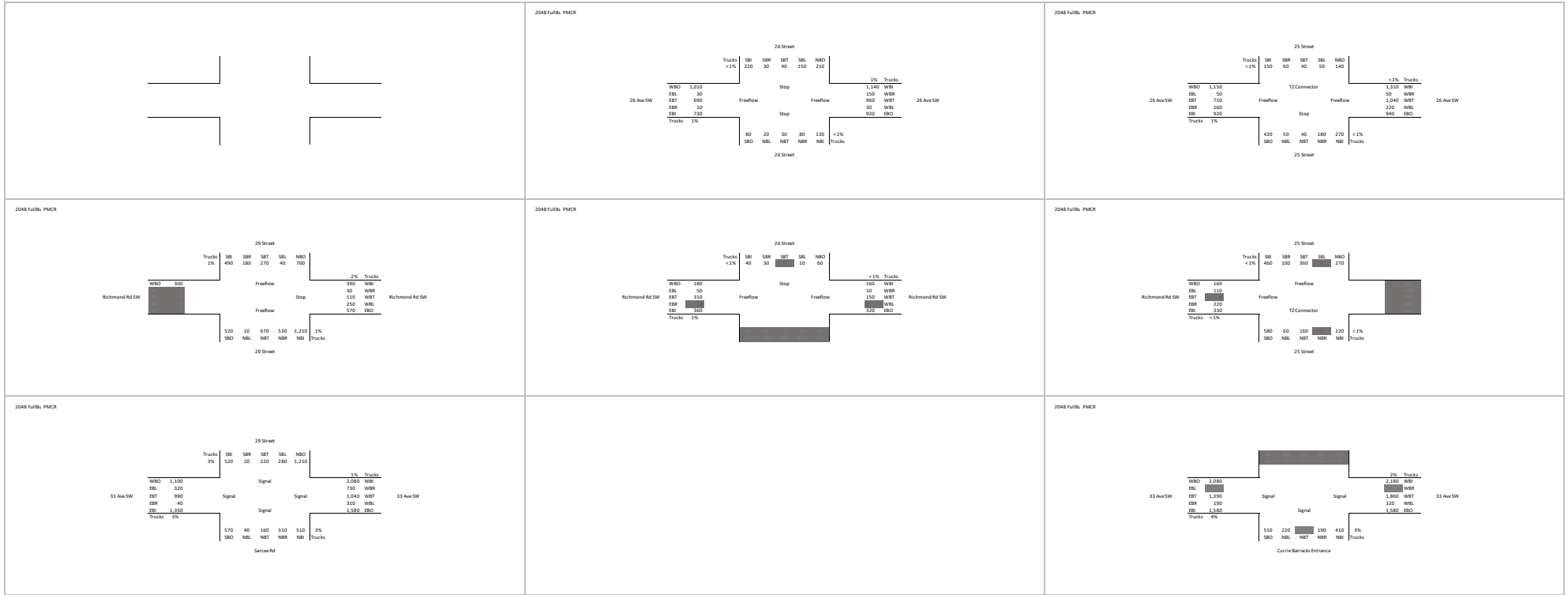


Understanding turning movement diagrams:

NB	Northbound	I	In (entering intersection)
SB	Southbound	O	Out (leaving intersection)
EB	Eastbound	R	Right turn
WB	Westbound	T	Through
Trucks	Inbound Truck %	L	Left Turn



PM Peak Hour Forecast



Project: Viscount Bennett TIA - Full build out (R2591c1)
 Mode Split Report
 ISC: Unrestricted
 Date: January 16, 2024

Calgary RTMv2.4
 Horizon: 2048 LUN (runID: 010324)
 Scenario: Viscount Bennett TIA - Full build

Outbound: from zone(s) 544 to ga01
 Inbound: from zone(s) ga01 to 544

Mode Split (Person trips) for 544 to/from ga01 - Modes Grouped Based on CTP Classifications

Mode (Person Trips)	AM Crown (1 Hour) Person Trips by Mode		PM Crown (1 Hour) Person Trips by Mode		AM Period (3 Hour) Person Trips by Mode		PM Period (3 Hour) Person Trips by Mode		Daily (24 Hour) Person Trips by Mode	
	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound
Walk / Bike	125 11%	41 11%	115 13%	180 13%	413 14%	150 14%	396 14%	586 14%	1,967 14%	1,980 14%
Auto (SOV+HOV)	712 62%	294 81%	688 79%	966 70%	1,785 62%	831 79%	2,162 78%	2,834 69%	10,049 74%	10,083 74%
Transit (Walk Access + Park 'n Ride + School Bus)	316 27%	29 8%	66 8%	236 17%	691 24%	75 7%	208 8%	700 17%	1,622 12%	1,595 12%
Total:	1,153	365	869	1,381	2,889	1,056	2,766	4,120	13,639	13,658

Mode Split (Person trips) for 544 to/from ga01 - Modes Broken Down into Further Classifications

Mode (Person Trips)	AM Crown (1 Hour) Person Trips by Mode		PM Crown (1 Hour) Person Trips by Mode		AM Period (3 Hour) Person Trips by Mode		PM Period (3 Hour) Person Trips by Mode		Daily (24 Hour) Person Trips by Mode	
	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound
Walk	101 9%	36 10%	110 13%	164 12%	359 12%	138 13%	364 13%	525 13%	1,772 13%	1,786 13%
Bike	24 2%	5 1%	5 1%	16 1%	54 2%	12 1%	32 1%	61 1%	196 1%	194 1%
HOV	270 23%	143 39%	349 40%	439 32%	758 26%	414 39%	1,220 44%	1,436 35%	4,964 36%	5,015 37%
SOV	441 38%	152 42%	339 39%	527 38%	1,027 36%	417 39%	942 34%	1,398 34%	5,085 37%	5,068 37%
Transit: Walk Access	286 25%	29 8%	65 7%	221 16%	611 21%	74 7%	207 7%	640 16%	1,532 11%	1,503 11%
Transit: Park 'n Ride Access	6 1%	0 0%	1 0.1%	4 0.3%	16 1%	1 0.1%	1 0.04%	10 0.2%	18 0%	18 0%
School Bus	24 2%	0 0%	0 0%	11 1%	65 2%	0 0%	0 0%	50 1%	72 1%	74 1%
Total:	1,153	365	869	1,381	2,889	1,056	2,766	4,120	13,639	13,658

HOV Vehicle Trip Information:

Mode (Vehicle Trips)	AM Crown (1 Hour) Vehicle Trips by Mode		PM Crown (1 Hour) Vehicle Trips by Mode		AM Period (3 Hour) Vehicle Trips by Mode		PM Period (3 Hour) Vehicle Trips by Mode		Daily (24 Hour) Vehicle Trips by Mode	
	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound
HOV Vehicle Trips	121	62	155	198	335	181	536	637	2,201	2,225

Land Use Assumptions

	Zone(s): 544	Zone(s): ga01
Population	5,115	1,988,711
Jobs	421	1,119,479

Notes:
 -Mode split is calculated for all person trips for 544 to/from ga01. Intrazonal trips are included within the totals.
 -Mode Split results are raw model values. Results should be verified and adjusted as necessary prior to use in any study.

Calgary Regional Transportation Model Version 2.4 (Calgary RTMv2.4)
 Databank: 2048 LUN 010324-Viscount Bennett TIA - Full build

ADVISORY: It is the recipient's responsibility to review network and land use assumptions used to produce this analysis.
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Select Zone Plots - Full Build Scenario

Viscount Bennett TIA (R2591c1)

Client: Amrit Uppal
Bunt & Associates Engineering

Prepared By: Ashar Nazir P.Eng.
Jan 17, 2024

Notes:

Custom run - TZ 544 full build scenario

RTM Databanks used:

2048 LUN 010324-Viscount Bennett TIA - Full build

If you have questions or would like additional details please contact TranPlanForecast@calgary.ca.

ADVISORY: It's the recipient's responsibility to review network and land use assumptions used to produce this analysis. Prior to application in any study, all model inputs and outputs require interpretation and adjustment.

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2048 LUN 090123- Viscount Bennett TIA - Project Base

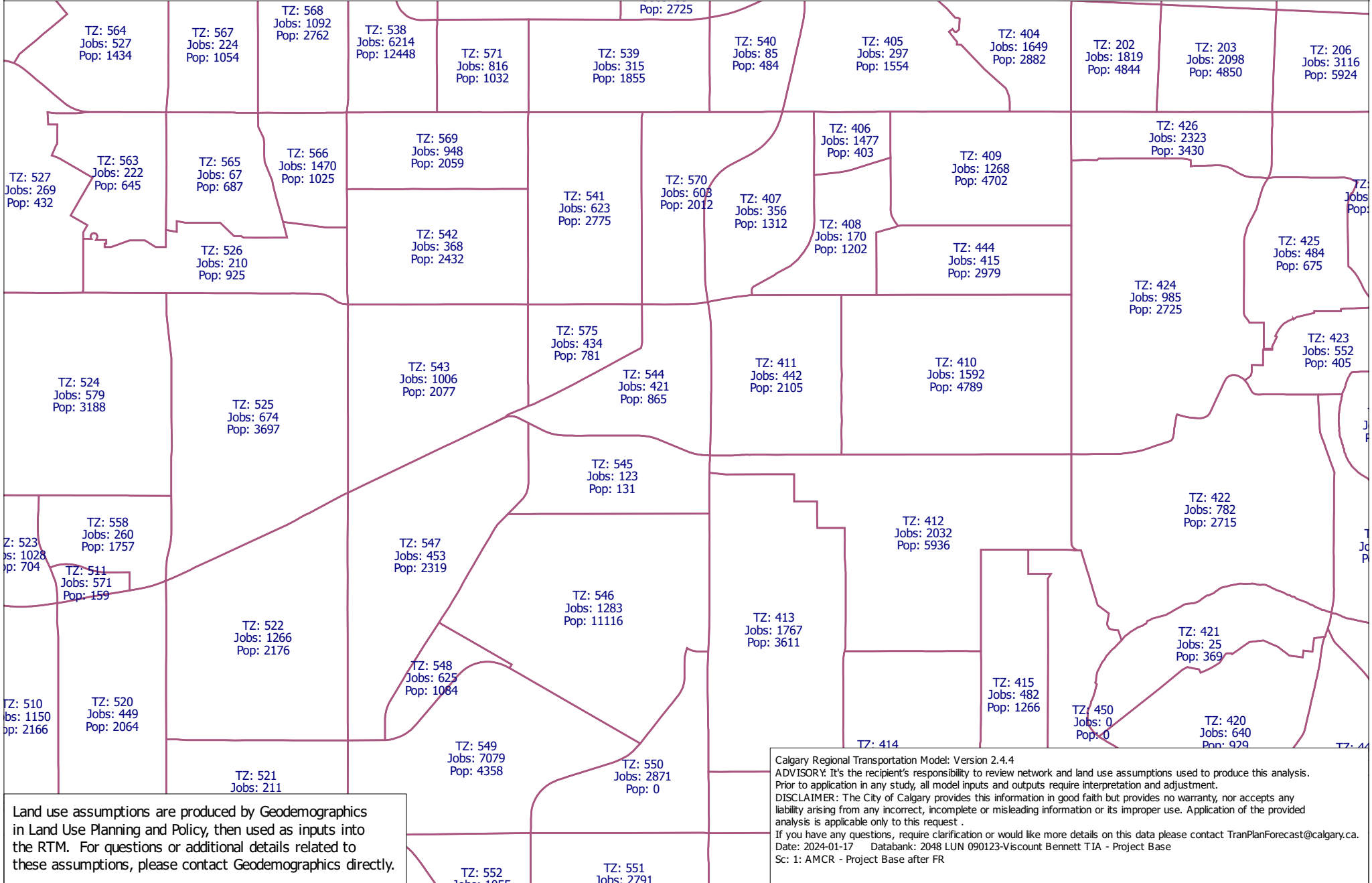
Land use assumption from Project base - for reference



Scenario Assumptions: Total Jobs & Population 2048 LUN



Viscount Bennett TIA - Project Base (Run ID: 090123)



Land use assumptions are produced by Geodemographics in Land Use Planning and Policy, then used as inputs into the RTM. For questions or additional details related to these assumptions, please contact Geodemographics directly.

Calgary Regional Transportation Model: Version 2.4.4
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 If you have any questions, require clarification or would like more details on this data please contact TranPlanForecast@calgary.ca.
 Date: 2024-01-17 Databank: 2048 LUN 090123-Viscount Bennett TIA - Project Base
 Sc: 1: AMCR - Project Base after FR



2048 LUN 010324- Viscount Bennett TIA - Full build

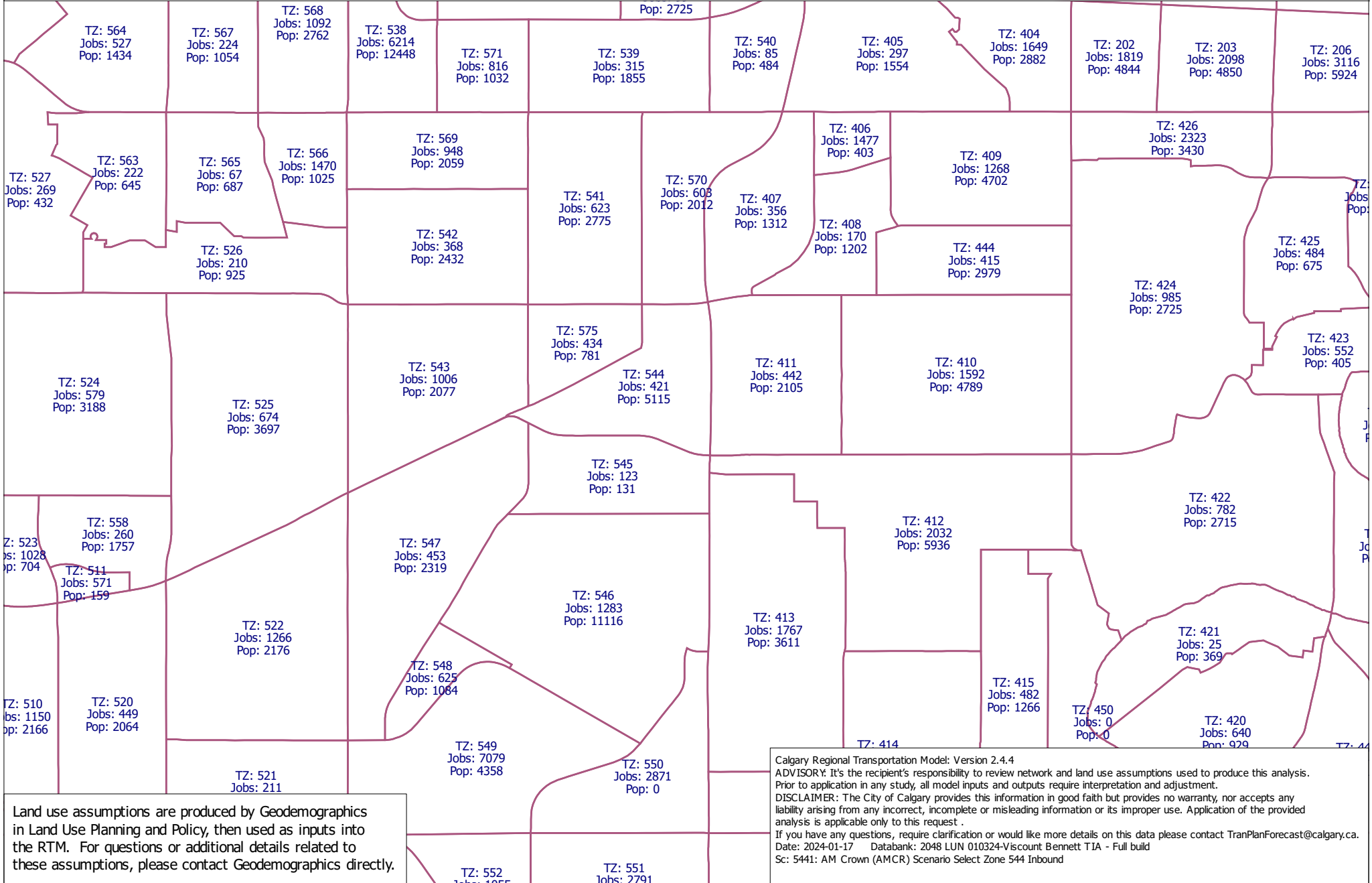
Land Use assumption Full build out



Scenario Assumptions: Total Jobs & Population 2048 LUN



Viscount Bennett TIA - Full build (Run ID: 010324)



Land use assumptions are produced by Geodemographics in Land Use Planning and Policy, then used as inputs into the RTM. For questions or additional details related to these assumptions, please contact Geodemographics directly.

Calgary Regional Transportation Model: Version 2.4.4
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 If you have any questions, require clarification or would like more details on this data please contact TranPlanForecast@calgary.ca.
 Date: 2024-01-17 Databank: 2048 LUN 010324-Viscount Bennett TIA - Full build
 Sc: 5441: AM Crown (AMCR) Scenario Select Zone 544 Inbound

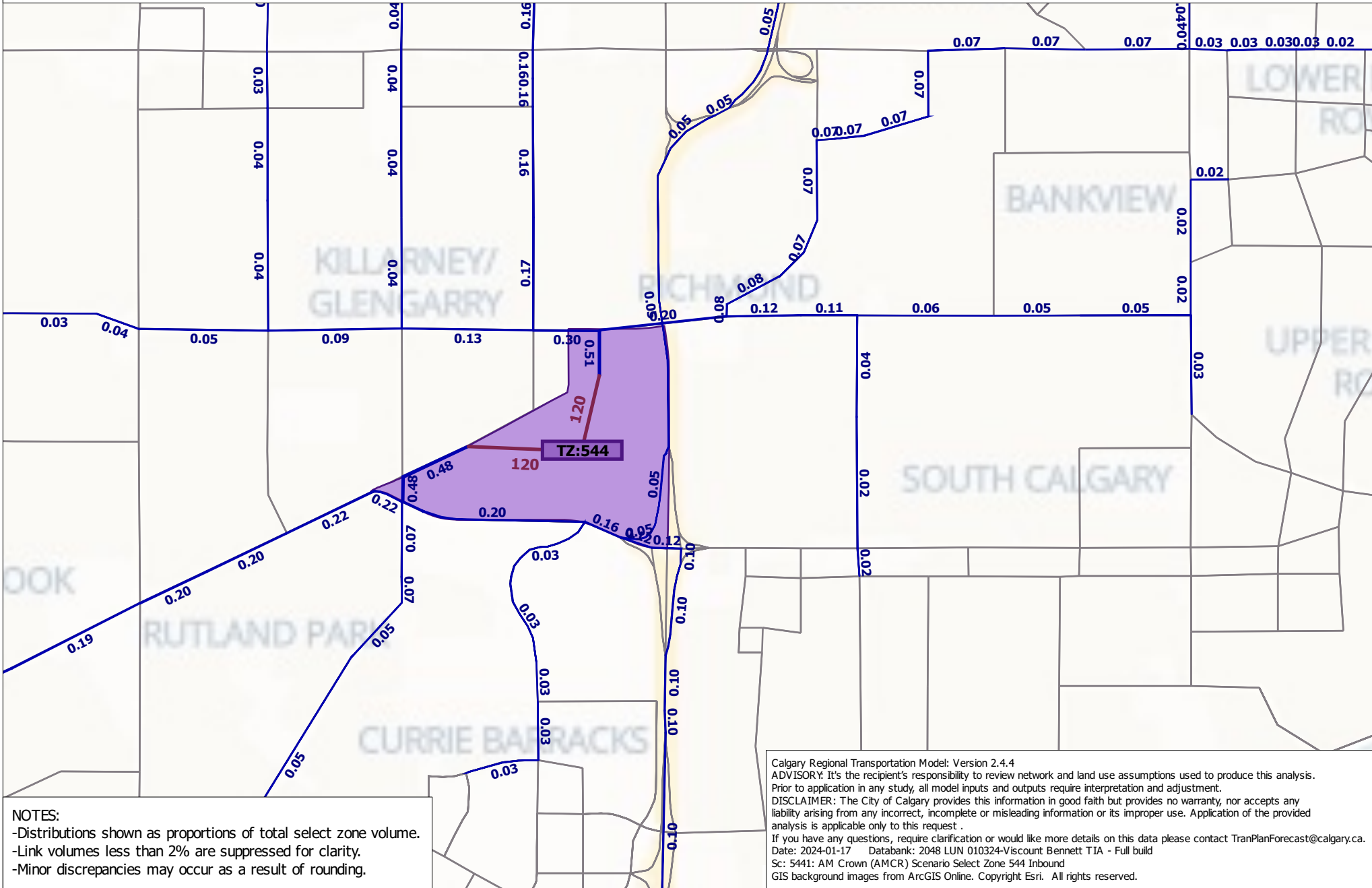


Inbound Distribution for Zone(s): 544

2048 LUN - AM Crown

Total Inbound Select Zone Volume = 230 veh/hr

Viscount Bennett TIA - Full build (Run ID: 010324)



NOTES:
 -Distributions shown as proportions of total select zone volume.
 -Link volumes less than 2% are suppressed for clarity.
 -Minor discrepancies may occur as a result of rounding.

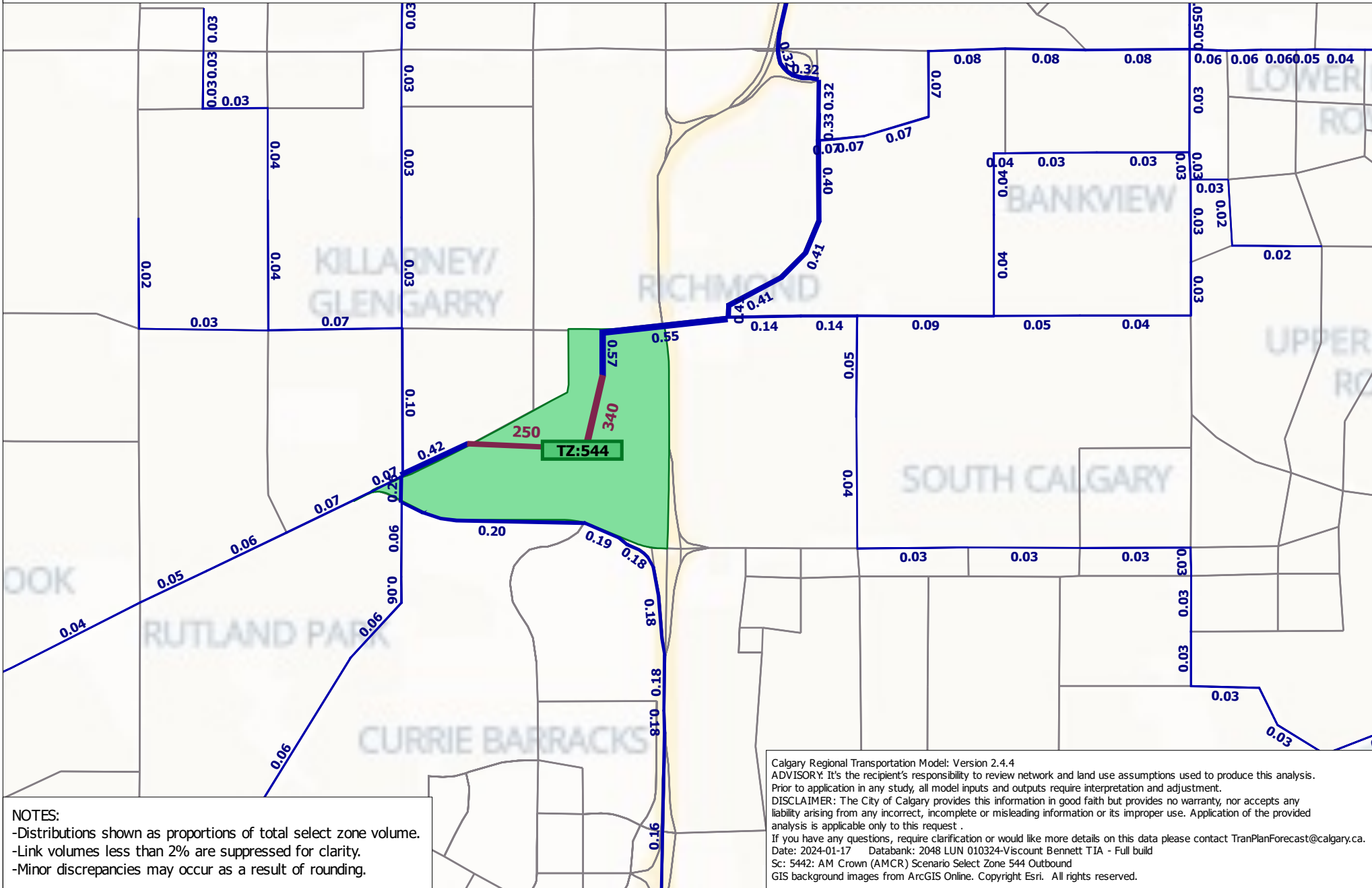
Calgary Regional Transportation Model: Version 2.4.4
 ADVISORY: It's the recipient's responsibility to review network and land use assumptions used to produce this analysis. Prior to application in any study, all model inputs and outputs require interpretation and adjustment.
 DISCLAIMER: The City of Calgary provides this information in good faith but provides no warranty, nor accepts any liability arising from any incorrect, incomplete or misleading information or its improper use. Application of the provided analysis is applicable only to this request.
 If you have any questions, require clarification or would like more details on this data please contact TranPlanForecast@calgary.ca.
 Date: 2024-01-17 Databank: 2048 LUN 010324-Viscount Bennett TIA - Full build
 Sc: 5441: AM Crown (AMCR) Scenario Select Zone 544 Inbound
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Outbound Distribution for Zone(s): 544 2048 LUN - AM Crown

Total Outbound Select Zone Volume = 590 veh/hr

Viscount Bennett TIA - Full build (Run ID: 010324)



NOTES:
 -Distributions shown as proportions of total select zone volume.
 -Link volumes less than 2% are suppressed for clarity.
 -Minor discrepancies may occur as a result of rounding.

Calgary Regional Transportation Model: Version 2.4.4
 ADVISORY: It's the recipient's responsibility to review network and land use assumptions used to produce this analysis. Prior to application in any study, all model inputs and outputs require interpretation and adjustment.
 DISCLAIMER: The City of Calgary provides this information in good faith but provides no warranty, nor accepts any liability arising from any incorrect, incomplete or misleading information or its improper use. Application of the provided analysis is applicable only to this request.
 If you have any questions, require clarification or would like more details on this data please contact TranPlanForecast@calgary.ca.
 Date: 2024-01-17 Databank: 2048 LUN 010324-Viscount Bennett TIA - Full build
 Sc: 5442: AM Crown (AMCR) Scenario Select Zone 544 Outbound
 GIS background images from ArcGIS Online. Copyright Esri. All rights reserved.

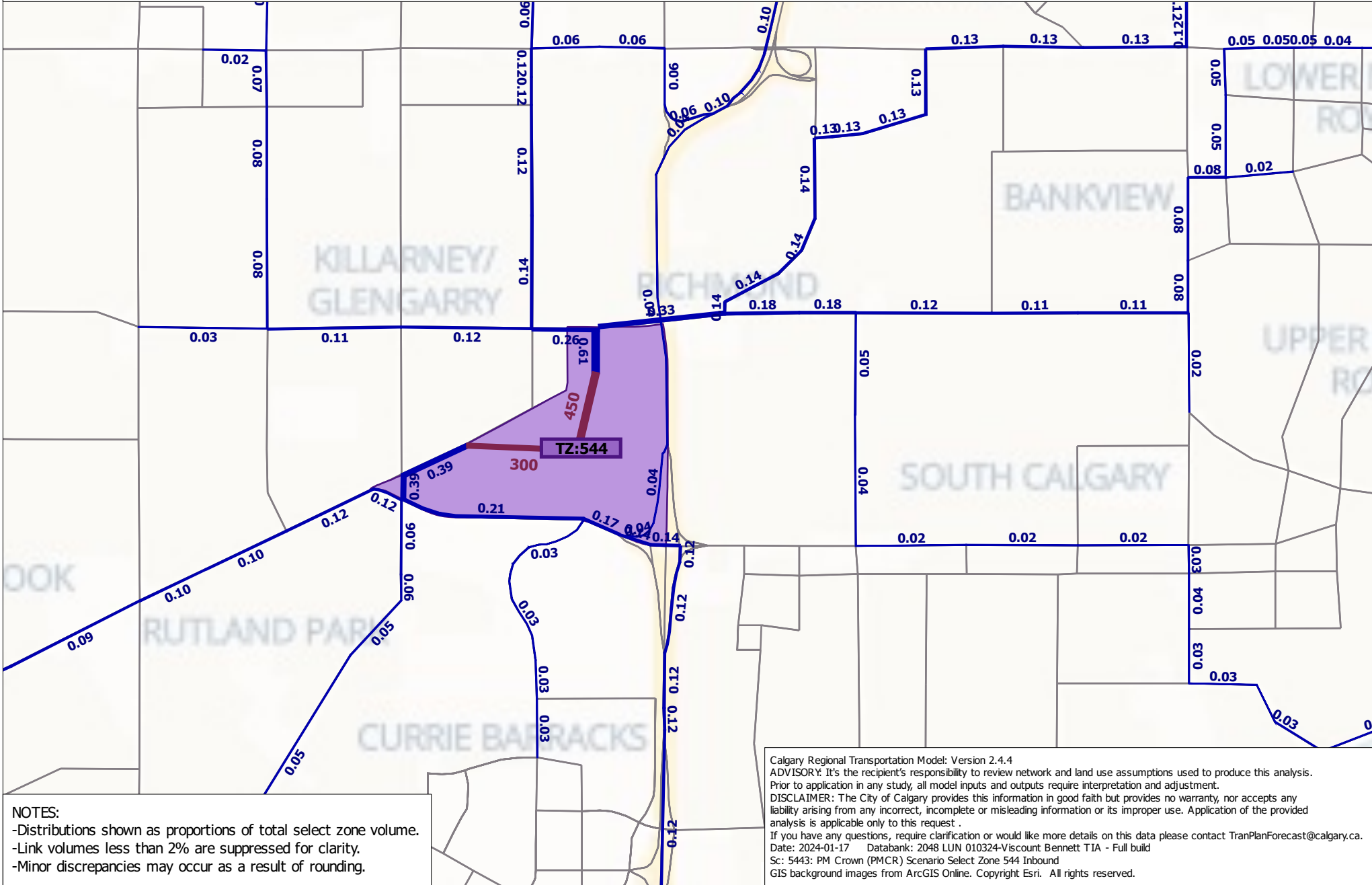


Inbound Distribution for Zone(s): 544

2048 LUN - PM Crown

Total Inbound Select Zone Volume = 750 veh/hr

Viscount Bennett TIA - Full build (Run ID: 010324)



NOTES:
 -Distributions shown as proportions of total select zone volume.
 -Link volumes less than 2% are suppressed for clarity.
 -Minor discrepancies may occur as a result of rounding.

Calgary Regional Transportation Model: Version 2.4.4
 ADVISORY: It's the recipient's responsibility to review network and land use assumptions used to produce this analysis. Prior to application in any study, all model inputs and outputs require interpretation and adjustment.
 DISCLAIMER: The City of Calgary provides this information in good faith but provides no warranty, nor accepts any liability arising from any incorrect, incomplete or misleading information or its improper use. Application of the provided analysis is applicable only to this request.
 If you have any questions, require clarification or would like more details on this data please contact TranPlanForecast@calgary.ca.
 Date: 2024-01-17 Databank: 2048 LUN 010324-Viscount Bennett TIA - Full build
 Sc: 5443: PM Crown (PMCR) Scenario Select Zone 544 Inbound
 GIS background images from ArcGIS Online. Copyright Esri. All rights reserved.

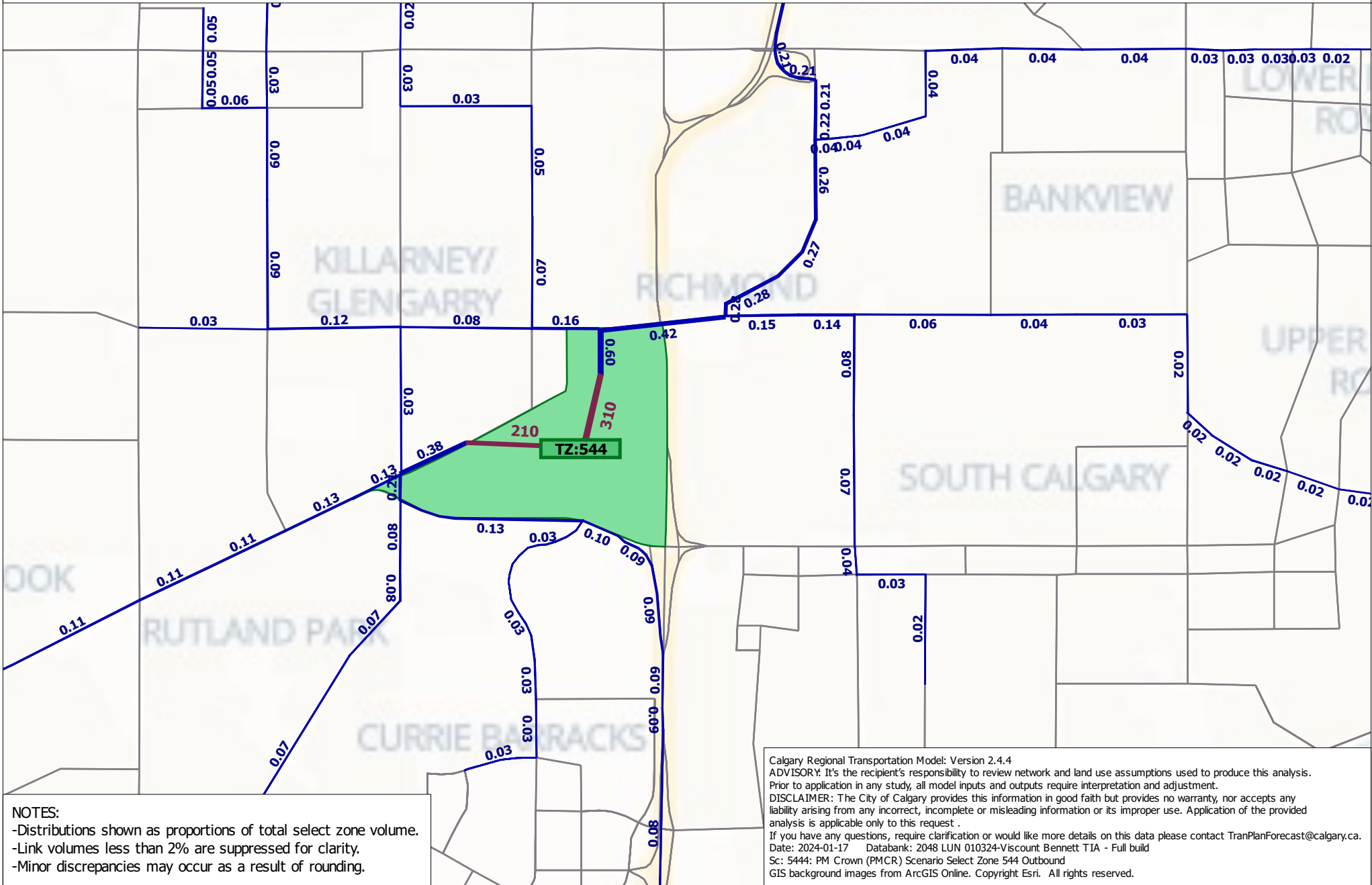


Outbound Distribution for Zone(s): 544

2048 LUN - PM Crown

Total Outbound Select Zone Volume = 510 veh/hr

Viscount Bennett TIA - Full build (Run ID: 010324)



NOTES:
 -Distributions shown as proportions of total select zone volume.
 -Link volumes less than 2% are suppressed for clarity.
 -Minor discrepancies may occur as a result of rounding.

Calgary Regional Transportation Model: Version 2.4.4
 ADVISORY: It's the recipient's responsibility to review network and land use assumptions used to produce this analysis. Prior to application in any study, all model inputs and outputs require interpretation and adjustment.
 DISCLAIMER: The City of Calgary provides this information in good faith but provides no warranty, nor accepts any liability arising from any incorrect, incomplete or misleading information or its improper use. Application of the provided analysis is applicable only to this request.
 If you have any questions, require clarification or would like more details on this data please contact TranPlanForecast@calgary.ca.
 Date: 2024-01-17 Databank: 2048 LUN 010324-Viscount Bennett TIA - Full build
 Sc: 5444: PM Crown (PMCR) Scenario Select Zone 544 Outbound
 GIS background images from ArcGIS Online. Copyright Esri. All rights reserved.



SIGNAL TIMING SUMMARY

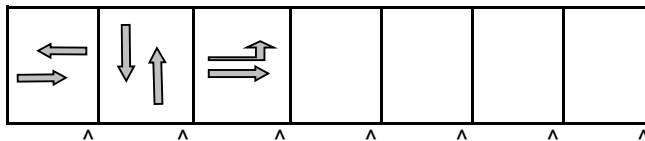
LOCATION: **33 Av - Sarcee Rd / 29 St SW**

Int #: **544**

Date Coded: **May 14, 2020**

Date Installed: **2020 October 7**

TIMING PLAN NO: **Max 1**
 CYCLE LENGTH: **Max 101.4**
 OFFSET: **-**
 START TIME: **18:00**
 END TIME: **15:30**
Weekends: All Day

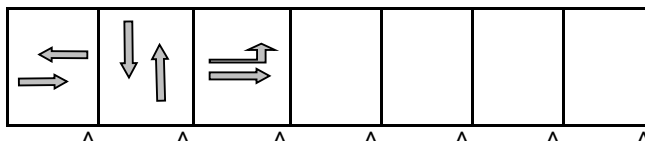


	Pro Only	Pro/Per	Per Only
NBLT			x
SBLT			x
EBLT		x	
WBLT			x

	4.2+3.2	3.8+4.0	3.0+3.2				
MAX	40	30	10				
MIN if Actuated	20	10+20*	7				
Pedestrian	8+11	8+22					

X-Walk Clearance:
 W X-walk: 17s, E X-walk: 22s
 S X-walk: 9s, N X-walk: 11s

TIMING PLAN NO: **Pattern 3**
 CYCLE LENGTH: **Max 111.4**
 OFFSET: **-**
 START TIME: **15:30**
 END TIME: **18:00**

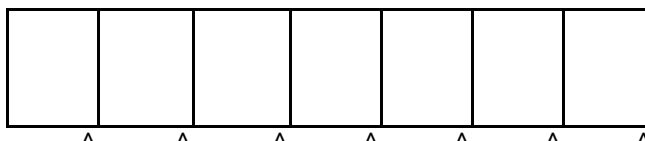


	Pro Only	Pro/Per	Per Only
NBLT			x
SBLT			x
EBLT		x	
WBLT			x

	4.2+3.2	3.8+4.0	3.0+3.2				
MAX	50	25+5*	10				
MIN if Actuated	20	10+20*	7				
Pedestrian	8+11	8+22					

X-Walk Clearance:
 W X-walk: 17s, E X-walk: 22s
 S X-walk: 9s, N X-walk: 11s

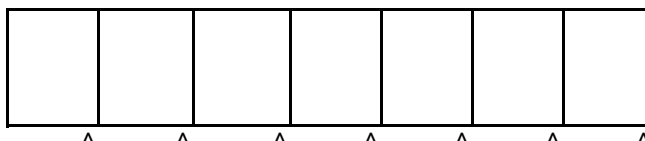
TIMING PLAN NO: _____
 CYCLE LENGTH: _____
 OFFSET: _____
 START TIME: _____
 END TIME: _____



	Pro Only	Pro/Per	Per Only
NBLT			
SBLT			
EBLT			
WBLT			

MAX							
MIN if Actuated							
Pedestrian							

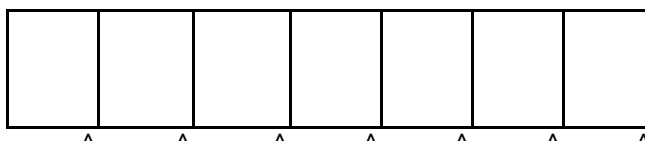
TIMING PLAN NO: _____
 CYCLE LENGTH: _____
 OFFSET: _____
 START TIME: _____
 END TIME: _____



	Pro Only	Pro/Per	Per Only
NBLT			
SBLT			
EBLT			
WBLT			

MAX							
MIN if Actuated							
Pedestrian							

TIMING PLAN NO: _____
 CYCLE LENGTH: _____
 OFFSET: _____
 START TIME: _____
 END TIME: _____



	Pro Only	Pro/Per	Per Only
NBLT			
SBLT			
EBLT			
WBLT			

MAX							
MIN if Actuated							
Pedestrian							

Notes: The offset point is referenced to the beginning of the first column of traffic movements.
 If the max time is less than the pedestrian time, the extra unused pedestrian time is passed to the main street unless otherwise noted.
 If any of the summary is unclear, please contact the Signals Division with the City of Calgary, by phoning 311.

Intersection Turning Movement Count Summary:

N/S Road: 29 Street SW
 E/W Road: 31 Avenue SW
 Count Date: December 14, 2022 Wednesday
 Weather: Cloudy
 Road Condition: Partial Snow covered
 Project #: 02-22-0203

29 Street SW & 31 Avenue SW

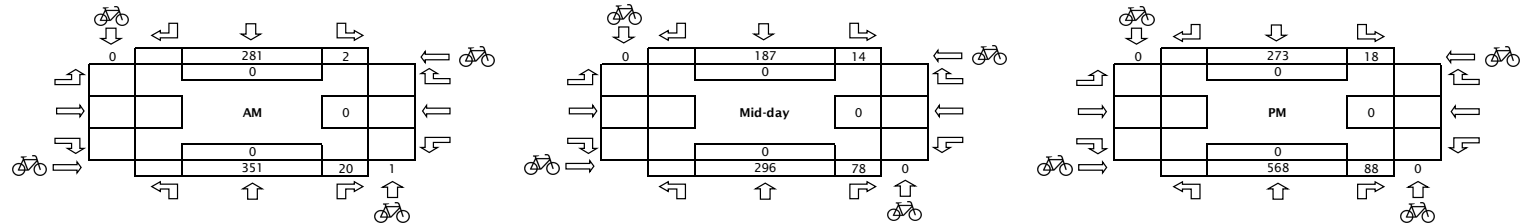
AM Peak Hour: 7:45 AM to 8:45 AM
 Mid-day Peak Hour: 11:45 AM to 12:45 PM
 PM Peak Hour: 4:00 PM to 5:00 PM

PHF (AM Peak Hour): 0.93
 PHF (Mid-day Peak Hour): 0.95
 PHF (PM Peak Hour): 0.96

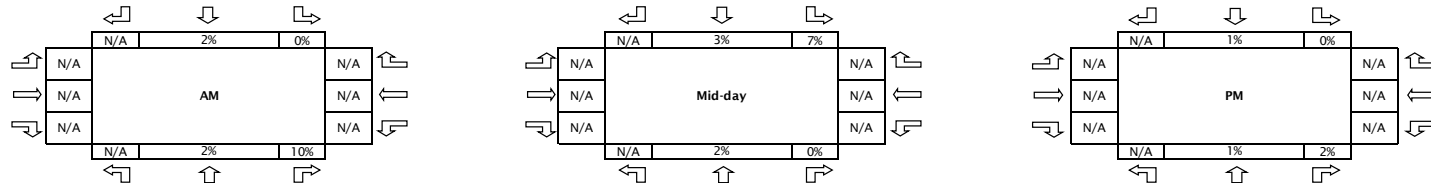


Time Starting	29 Street SW												31 Avenue SW												Total Vehicles 15 Min Hourly	Pedestrians				Cyclists				
	Northbound (South Leg)						Southbound (North Leg)						Westbound (East Leg)						Eastbound (West Leg)							West Side	East Side	North Side	South Side	NB	SB	WB	EB	
	Left		Through		Right		Left		Through		Right		Left		Through		Right		Left		Through		Right											
	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck										
7:00			22	2	2	0	0	0	37	1															64			0	0	0	0	0		
7:15			33	0	1	0	0	0	57	0															91			0	0	0	0	0		
7:30			51	3	1	0	0	0	61	2															118			0	0	0	0	0		
7:45			87	0	4	0	0	0	69	1															161	434		0	0	0	0	0		
8:00			83	2	1	1	0	0	59	0															146	516		0	0	0	1	0		
8:15			88	3	4	1	1	0	74	4															175	600		0	0	0	0	0		
8:30			86	2	9	0	1	0	72	2															172	654		0	0	0	0	0		
8:45			85	1	14	0	1	0	55	2															158	651		0	0	0	0	0		
2 Hour Total			535	13	36	2	3	0	484	12															1085			0	0	0	1	0		
Peak Hour Total			344	7	18	2	2	0	274	7															654			0	0	0	1	0		
				351		20		2		281																								
11:00			60	2	20	0	1	0	41	0															124			0	0	0	0	0		
11:15			73	0	11	0	1	0	53	1															139			0	0	0	0	0		
11:30			52	4	25	0	0	0	40	1															122			0	0	0	0	0		
11:45			69	2	27	0	0	1	52	0															151	536		0	0	0	0	0		
12:00			61	3	19	0	4	0	42	3															132	544		0	0	0	0	0		
12:15			79	0	17	0	2	0	41	2															141	546		0	0	0	0	0		
12:30			82	0	15	0	7	0	47	0															151	575		0	0	0	0	0		
12:45			83	0	19	0	3	0	32	2															139	563		1	0	0	0	0		
2 Hour Total			559	11	153	0	18	1	348	9															1099			1	0	0	0	0		
Peak Hour Total				570		153		19		357															1099									
			291	5	78	0	13	1	182	5															575			0	0	0	0	0		
				296		78		14		187																								
16:00			138	2	19	1	3	0	76	1															240			0	0	0	0	0		
16:15			122	1	23	0	7	0	75	1															229			0	0	0	0	0		
16:30			149	1	23	0	4	0	55	0															232			0	0	0	0	0		
16:45			154	1	21	1	4	0	63	2															246	947		0	0	0	0	0		
17:00			121	0	13	0	5	0	46	1															186	893		0	0	0	0	0		
17:15			132	0	6	0	3	0	51	1															193	857		0	0	0	0	0		
17:30			116	0	9	0	4	0	53	1															183	808		0	0	0	0	0		
17:45			108	0	10	0	5	0	57	0															180	742		0	0	0	0	0		
2 Hour Total			1040	5	124	2	35	0	476	7															1689			0	0	0	0	0		
Peak Hour Total				1045		126		35		483															1689									
			563	5	86	2	18	0	269	4															947			0	0	0	0	0		
				568		88		18		273																								
6 Hour Total			2134	29	313	4	56	1	1308	28															3873			1	0	0	1	0		
				2163		317		57		1336																								

Peak Hour Volumes



Heavy Vehicle Percentage



Intersection Turning Movement Count Summary:

29 Street SW & 33 Avenue SW

Road (North/South): 29 Street SW
 Road (East/West): 33 Avenue SW
 Count Date: December 14, 2022 Wednesday
 Weather: Cloudy
 Project #: Dry

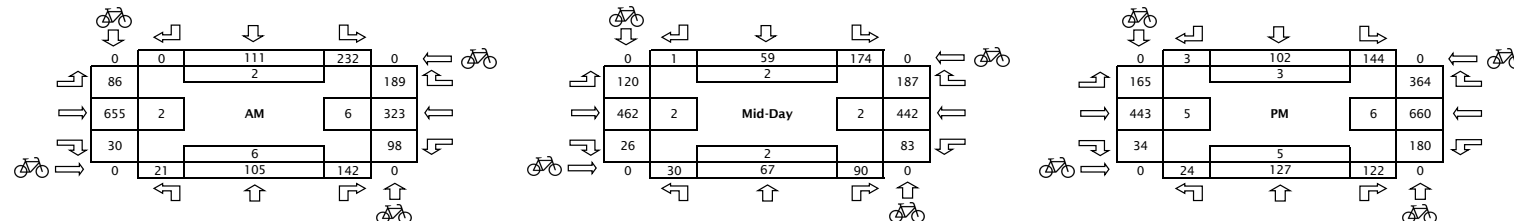
AM Peak Hour: 8:00 AM to 9:00 AM
 Mid-Day Peak Hour: 11:45 AM to 12:45 PM
 PM Peak Hour: 4:00 PM to 5:00 PM

PHF (AM Peak Hour): 0.97
 PHF (Mid-Day Peak Hour): 0.94
 PHF (PM Peak Hour): 0.96

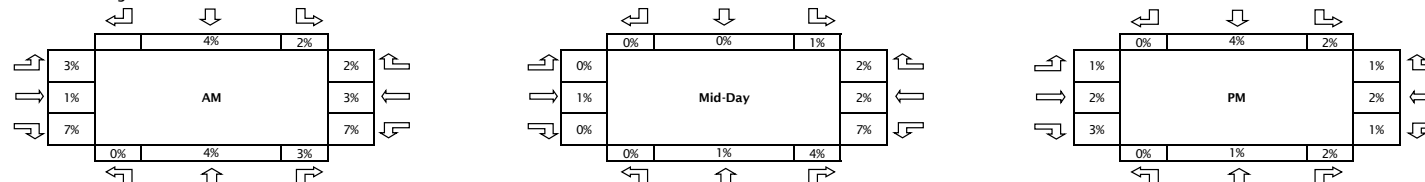


Time Starting	29 Street SW												33 Avenue SW												Total Vehicles	15 Min	Hourly	Pedestrians				Cyclists			
	Northbound (South Leg)						Southbound (North Leg)						Westbound (East Leg)						Eastbound (West Leg)									West Side	East Side	North Side	South Side	NB	SB	WB	EB
	Left		Through		Right		Left		Through		Right		Left		Through		Right		Left		Through		Right					Left		Through		Right			
7:00	3	0	5	0	29	1	24	0	3	0	0	0	9	2	31	1	14	2	5	0	103	0	4	0	236	1	0	0	0	0	0	0	0	0	0
6 Hour Total	146	0	491	7	671	21	1040	16	482	9	22	0	580	25	2386	45	1317	20	639	6	2947	43	162	4	146	22	29	10	22	0	0	0	0	0	0

Peak Hour Volumes



Heavy Vehicle Percentage



Intersection Turning Movement Count Summary:

25 Street SW & 26 Avenue SW

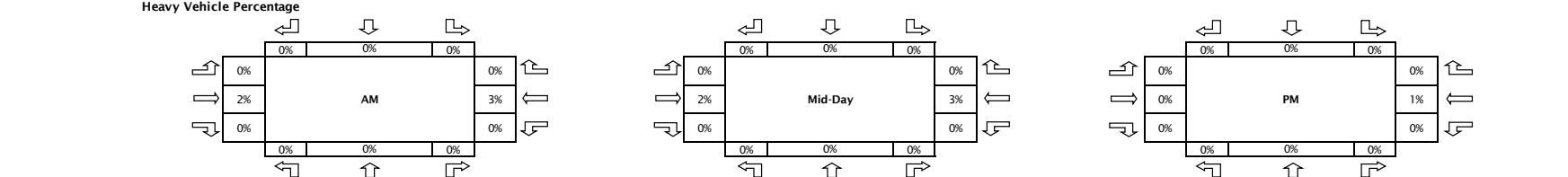
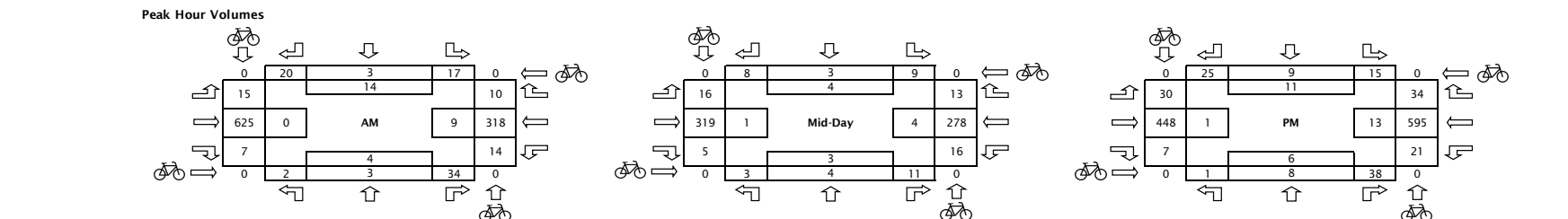
Road (North/South): 25 Street SW
 Road (East/West): 26 Avenue SW
 Count Date: December 14, 2022 Wednesday
 Weather: Cloudy
 Project #: 02-22-0203

AM Peak Hour: 8:00 AM to 9:00 AM
 Mid-Day Peak Hour: 12:00 PM to 1:00 PM
 PM Peak Hour: 4:45 PM to 5:45 PM

PHF (AM Peak Hour): 0.91
 PHF (Mid-Day Peak Hour): 0.89
 PHF (PM Peak Hour): 0.92



Time Starting	25 Street SW												26 Avenue SW												Total Vehicles 15 Min Hourly	Pedestrians				Cyclists			
	Northbound (South Leg)						Southbound (North Leg)						Westbound (East Leg)						Eastbound (West Leg)							West Side	East Side	North Side	South Side	NB	SB	WB	EB
	Left		Through		Right		Left		Through		Right		Left		Through		Right		Left		Through		Right			Car	Truck	Car	Truck	Car	Truck	Car	Truck
7:00	0	0	0	0	6	0	1	0	0	0	2	0	2	0	32	1	0	0	2	0	74	1	0	0	121	0	1	0	1	0	0	0	0
7:15	0	0	0	1	8	0	6	0	2	0	1	0	1	0	33	0	0	0	0	98	0	2	0	155	1	2	3	2	0	0	0	0	
7:30	0	0	1	0	5	0	3	0	0	0	3	0	2	0	50	2	2	0	4	140	2	1	0	215	0	1	3	0	0	0	0	0	
7:45	1	0	1	0	9	0	3	0	0	0	4	0	1	0	50	3	3	0	3	135	3	0	0	216	707	1	3	1	3	0	0	0	0
8:00	0	0	2	0	7	0	7	0	1	0	3	0	5	0	76	2	2	0	2	150	1	1	0	259	845	0	3	7	0	0	0	0	0
8:15	1	0	1	0	14	0	4	0	1	0	6	0	1	0	81	5	4	0	3	165	5	2	0	293	983	0	5	6	3	0	0	0	0
8:30	0	0	0	0	8	0	1	0	1	0	1	0	5	0	70	2	2	0	7	165	3	2	0	267	1035	0	1	0	0	0	0	0	0
8:45	1	0	0	0	5	0	5	0	0	0	10	0	3	0	81	1	2	0	3	135	1	2	0	249	1068	0	0	1	1	0	0	0	0
2 Hour Total	3	0	5	1	62	0	30	0	5	0	30	0	20	0	473	16	15	0	27	1062	16	10	0	1775		2	16	21	10	0	0	0	0
Peak Hour Total	2	0	3	0	34	0	17	0	3	0	20	0	14	0	308	10	10	0	15	615	10	7	0	1068		0	9	14	4	0	0	0	0
	2	0	3	0	34	0	17	0	3	0	20	0	14	0	308	10	10	0	15	615	10	7	0			0	9	14	4	0	0	0	0



Intersection Turning Movement Count Summary:

25 Street SW & Richmond Road SW

N/S Road: 25 Street SW
 E/W Road: Richmond Road SW
 Count Date: December 14, 2022 Wednesday
 Weather: Cloudy
 Road Condition: partial snow covered
 Project #: 02-22-0203

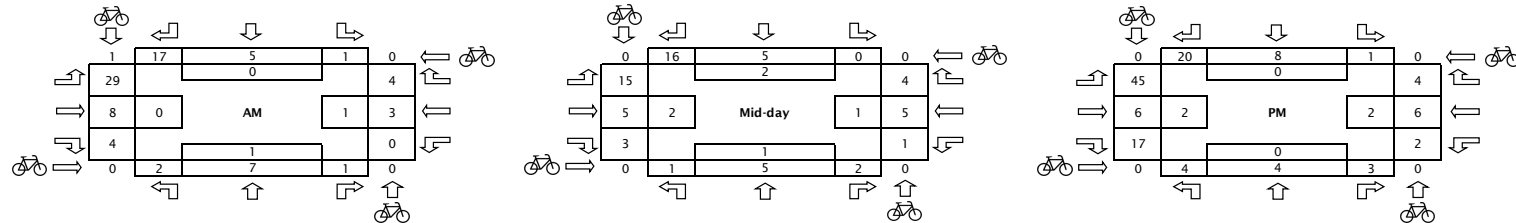
AM Peak Hour: 8:00 AM to 9:00 AM
 Mid-day Peak Hour: 11:00 AM to 12:00 PM
 PM Peak Hour: 4:00 PM to 5:00 PM

PHF (AM Peak Hour): 0.84
 PHF (Mid-day Peak Hour): 0.86
 PHF (PM Peak Hour): 0.81

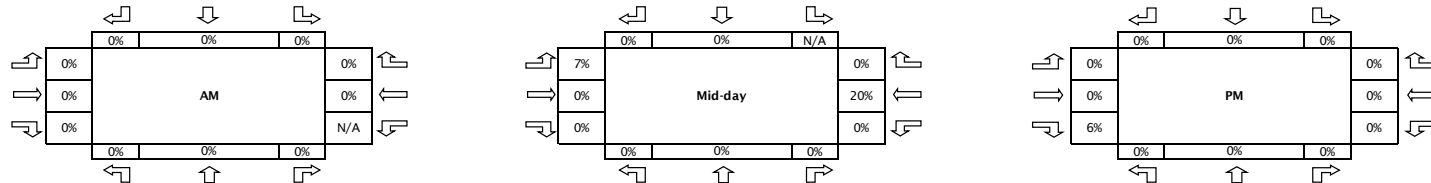


Time Starting	25 Street SW												Richmond Road SW												Total Vehicles 15 Min Hourly	Pedestrians				Cyclists				
	Northbound (South Leg)						Southbound (North Leg)						Westbound (East Leg)						Eastbound (West Leg)							West Side	East Side	North Side	South Side	NB	SB	WB	EB	
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right																
7:00	0	0	3	0	0	1	0	0	0	0	2	0	0	0	1	0	1	0	1	0	3	0	0	0	12	0	0	0	0	0	0	0	0	1
7:15	3	0	3	0	0	1	0	0	1	0	3	0	0	0	0	1	1	4	0	1	0	0	0	18	0	0	0	0	0	0	0	0	1	
7:30	0	0	1	0	0	0	1	0	0	0	2	0	0	0	0	0	5	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0		
7:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	14	53	0	0	0	0	0	0	0	0	
8:00	0	0	1	0	0	0	0	0	0	2	0	5	0	0	2	0	3	0	8	0	2	0	1	24	65	0	0	0	1	0	0	0	0	
8:15	0	0	4	0	0	0	0	0	1	0	2	0	0	0	0	0	10	0	2	0	1	0	20	67	0	0	0	0	0	1	0	0		
8:30	1	0	0	0	1	0	0	0	1	0	7	0	0	0	1	0	7	0	2	0	1	0	21	79	0	1	0	0	0	0	0	0		
8:45	1	0	2	0	0	0	1	0	1	0	3	0	0	0	0	1	0	4	0	2	0	1	16	81	0	0	0	0	0	0	0	0		
2 Hour Total	6	0	14	0	1	1	3	0	6	0	25	0	0	0	4	0	7	1	48	0	13	0	5	134	0	1	0	1	0	1	0	2		
Peak Hour Total	2	0	7	0	1	0	1	0	5	0	17	0	0	0	3	0	4	0	29	0	8	0	4	81	0	1	0	1	0	1	0	0		
11:00	0	0	1	0	0	0	0	0	1	0	2	0	0	0	2	0	2	0	2	0	1	0	11	0	1	0	1	1	0	0	0	0		
11:15	0	0	1	0	1	0	0	0	1	0	5	0	1	0	1	0	4	0	0	0	2	0	16	0	1	0	0	0	0	0	0	0		
11:30	0	0	2	0	1	0	0	0	0	0	5	0	0	0	3	1	2	0	2	1	1	0	18	0	0	1	0	0	0	0	0	0		
11:45	1	0	1	0	0	0	0	0	3	0	4	0	0	0	0	0	6	0	2	0	0	0	17	62	0	0	1	0	0	0	0	0		
12:00	0	0	1	0	0	0	0	0	1	0	3	0	0	0	2	0	0	1	0	2	0	0	11	62	2	0	0	0	0	0	0	0		
12:15	1	0	0	0	0	0	0	0	1	0	3	0	0	0	2	0	0	5	0	1	0	1	14	60	0	0	1	0	0	0	0	0		
12:30	0	0	3	0	0	0	1	0	2	0	2	0	0	0	1	0	0	6	0	0	0	0	15	57	0	0	0	0	0	0	0	0		
12:45	0	0	0	0	0	0	1	0	3	0	4	1	0	0	1	0	0	3	0	3	0	3	1	20	60	0	0	0	0	0	0	0	0	
2 Hour Total	2	0	9	0	2	0	2	0	12	0	28	1	1	0	10	1	4	0	29	1	11	0	7	122	4	1	3	1	0	0	0	0		
Peak Hour Total	1	0	5	0	2	0	0	0	5	0	16	0	1	0	4	1	4	0	14	1	5	0	3	62	2	1	2	1	0	0	0	0		
16:00	3	0	2	0	0	0	0	0	3	0	5	0	0	0	1	0	2	0	16	0	3	0	2	37	2	0	0	0	0	0	0	0		
16:15	0	0	1	0	0	0	0	0	1	0	3	0	0	0	4	0	1	0	8	0	1	0	7	27	0	0	0	0	0	0	0	0		
16:30	0	0	0	0	1	0	1	0	1	0	7	0	1	0	0	0	1	0	6	0	1	0	3	22	0	0	0	0	0	0	0	0		
16:45	1	0	1	0	2	0	0	0	3	0	5	0	1	0	1	0	0	15	0	1	0	4	34	120	0	2	0	0	0	0	0	0		
17:00	0	0	1	0	0	0	1	0	1	0	4	0	0	0	3	0	1	0	8	0	2	0	2	23	106	0	0	0	1	0	0	0		
17:15	1	0	0	0	0	0	0	0	4	0	7	0	0	0	1	0	1	0	9	0	1	0	3	27	106	0	0	0	0	0	0	0		
17:30	2	0	2	0	0	0	1	0	4	0	7	0	0	0	1	0	0	8	0	0	0	2	27	111	0	0	0	0	0	1	0	0		
17:45	0	0	2	0	1	0	2	0	2	0	3	0	1	0	1	0	0	4	0	0	0	2	18	95	0	0	0	0	0	1	0	0		
2 Hour Total	7	0	9	0	4	0	5	0	19	0	41	0	3	0	11	0	7	0	74	0	9	0	25	215	2	2	0	1	0	2	0	0		
Peak Hour Total	4	0	4	0	3	0	1	0	8	0	20	0	2	0	6	0	4	0	45	0	6	0	16	120	2	2	0	0	0	0	0	0		
6 Hour Total	15	0	32	0	7	1	10	0	37	0	94	1	4	0	25	1	18	1	151	1	33	0	37	471	6	4	3	3	0	3	0	2		

Peak Hour Volumes



Heavy Vehicle Percentage



Intersection Turning Movement Count Summary:

25 Street SW & 30 Avenue SW

N/S Road: 25 Street SW
 E/W Road: 30 Avenue SW
 Count Date: December 14, 2022 Wednesday
 Weather: Cloudy
 Road Condition: Snow Covered
 Project #: 02-22-0203

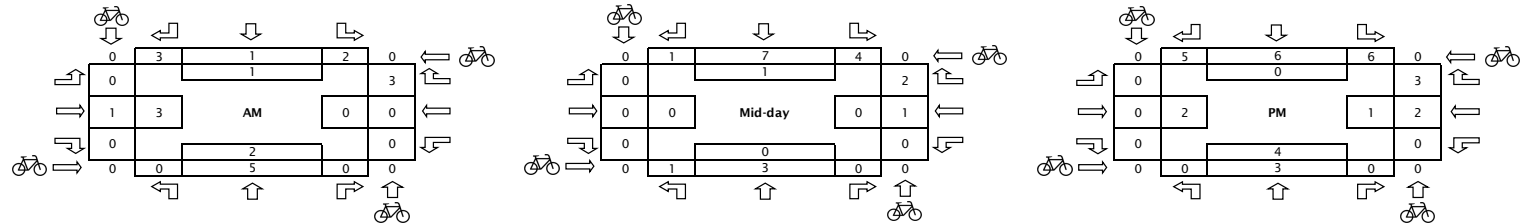
AM Peak Hour: 7:15 AM to 8:15 AM
 Mid-day Peak Hour: 12:00 PM to 1:00 PM
 PM Peak Hour: 4:00 PM to 5:00 PM

PHF (AM Peak Hour): 0.54
 PHF (Mid-day Peak Hour): 0.68
 PHF (PM Peak Hour): 0.69

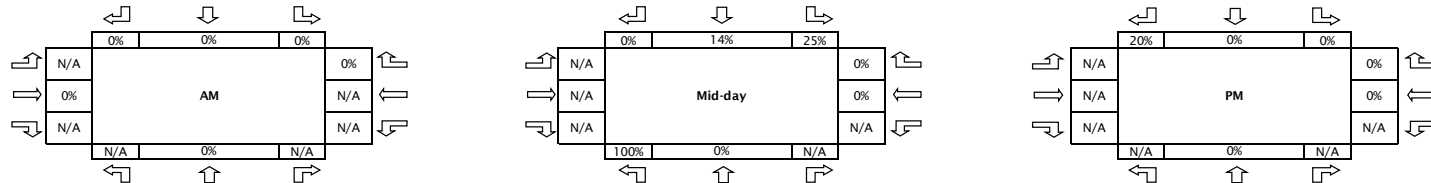


Time Starting	25 Street SW								30 Avenue SW								Total Vehicles 15 Min Hourly	Pedestrians				Cyclists						
	Northbound (South Leg)				Southbound (North Leg)				Westbound (East Leg)				Eastbound (West Leg)					West Side	East Side	North Side	South Side	NB	SB	WB	EB			
	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck								
7:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0
7:15	0	0	4	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	0
7:30	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	14	0	0	0	0	0	0
8:00	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	4	15	1	0	1	2	0	0
8:15	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	4	12	0	0	0	1	0	0
8:30	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	3	12	1	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	13	0	1	1	0	0	0
2 Hour Total	0	0	9	0	0	0	3	0	4	0	3	0	0	0	1	0	0	1	0	0	27	4	1	2	3	0	0	0
Peak Hour Total	0	0	5	0	0	2	0	1	0	3	0	0	0	3	0	0	1	0	0	0	15	3	0	1	2	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0
11:15	0	0	1	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0	1	6	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	1	0	0	1	0	0	0
11:45	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	5	15	0	0	0	0	0	0
12:00	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	4	18	0	0	1	0	0	0
12:15	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	15	0	0	0	0	0	0
12:30	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	5	17	0	0	0	0	0	0
12:45	0	1	0	0	0	0	2	1	2	0	1	0	0	0	0	0	0	0	0	0	7	19	0	0	0	0	0	0
2 Hour Total	0	1	5	0	0	0	6	1	8	1	3	0	0	0	2	0	0	0	0	1	34	1	1	2	1	0	0	0
Peak Hour Total	0	1	3	0	0	3	1	6	1	1	0	0	1	0	2	0	0	0	0	0	19	0	0	1	0	0	0	0
16:00	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	6	1	0	0	1	0	0	0
16:15	0	0	1	0	0	0	3	0	2	0	2	1	0	0	0	0	0	0	0	0	9	1	0	0	3	0	0	0
16:30	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0
16:45	0	0	1	0	0	0	2	0	3	0	1	0	0	0	0	0	0	0	0	0	8	25	0	1	0	0	0	0
17:00	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	4	23	1	0	0	0	0	0
17:15	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	4	18	0	0	1	0	0	0
17:30	0	0	2	0	0	0	1	0	2	0	2	0	0	0	2	0	0	0	0	0	9	25	0	0	1	1	0	0
17:45	0	0	0	0	0	0	1	0	3	0	2	0	0	0	1	0	0	0	0	0	7	24	0	0	0	0	0	0
2 Hour Total	0	0	6	0	0	0	10	0	16	0	8	1	0	0	2	0	0	0	0	0	49	3	1	2	5	0	0	0
Peak Hour Total	0	0	3	0	0	6	0	6	0	4	1	0	0	2	0	3	0	0	0	0	25	2	1	0	4	0	0	0
6 Hour Total	0	1	20	0	0	0	19	1	28	1	14	1	0	0	5	0	17	1	0	0	110	8	3	6	9	0	0	0

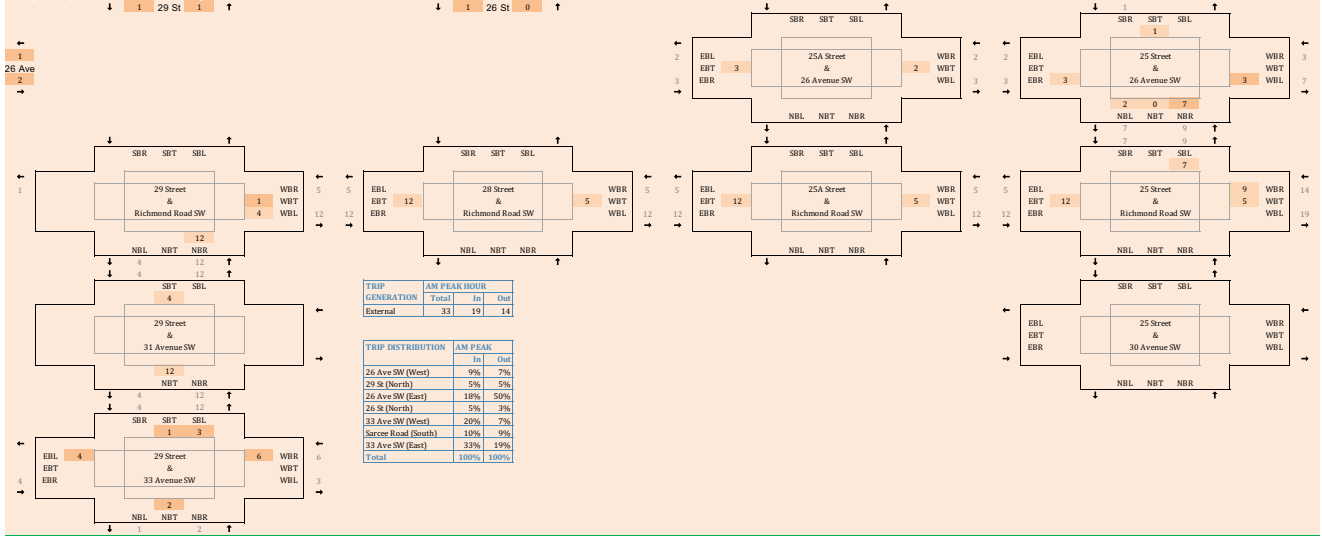
Peak Hour Volumes



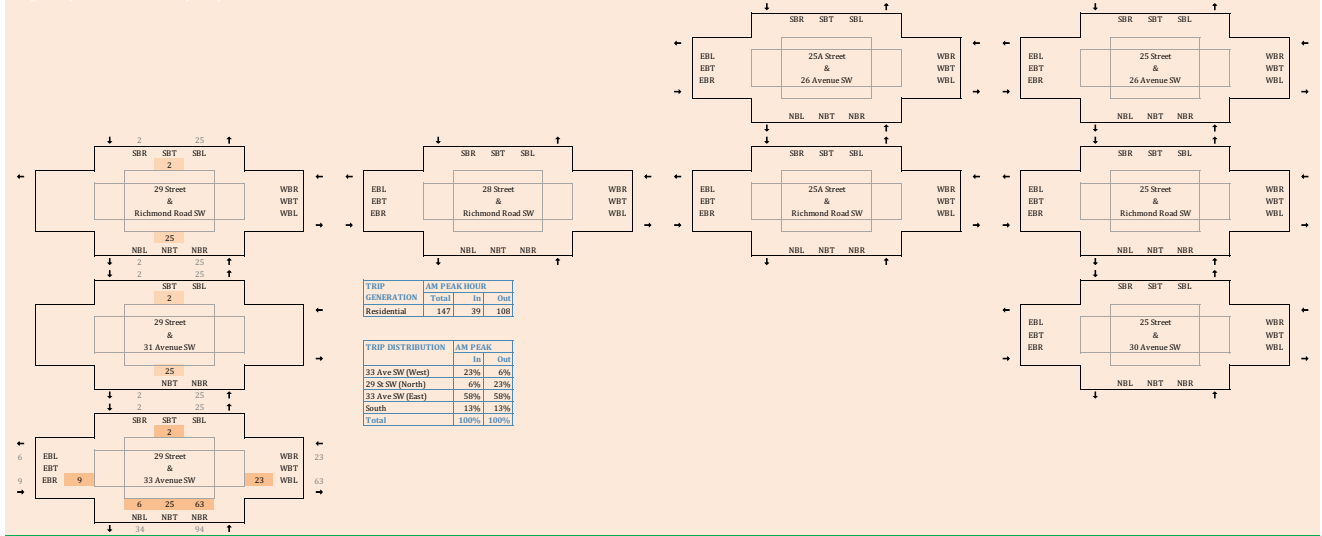
Heavy Vehicle Percentage



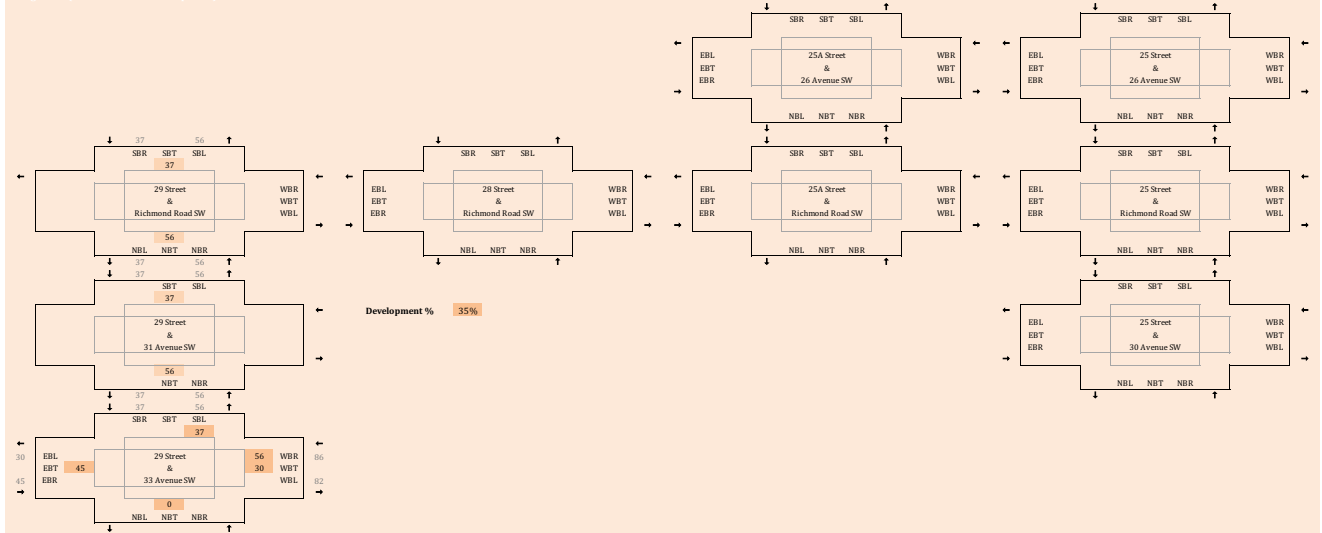
Background (24 Street SW Development)



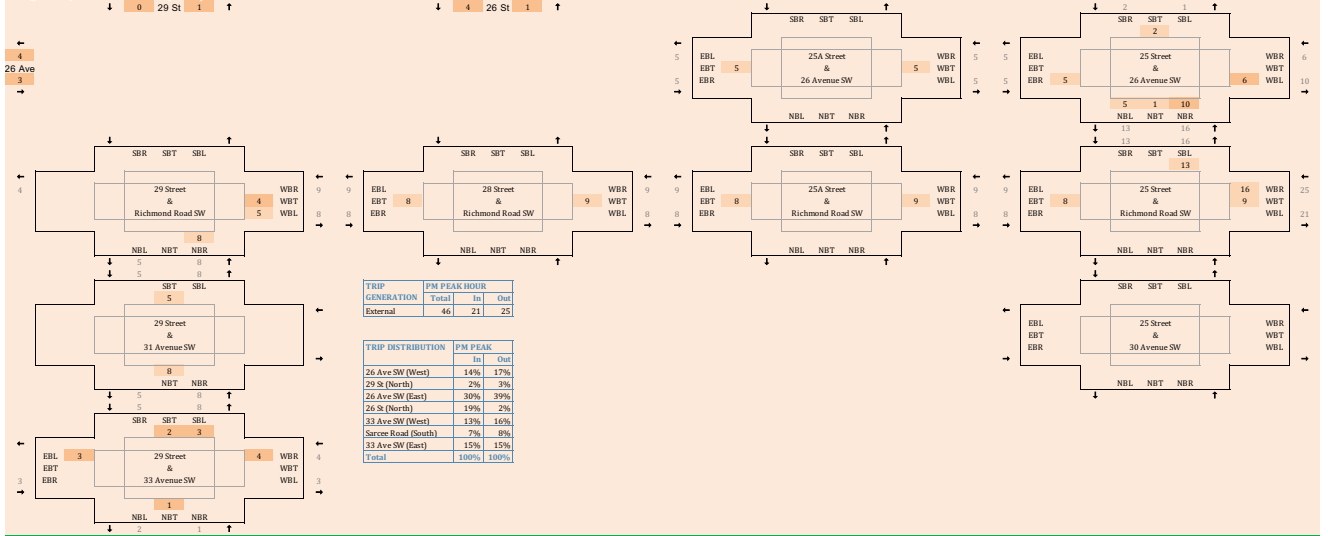
Background (Richmond Green Development)



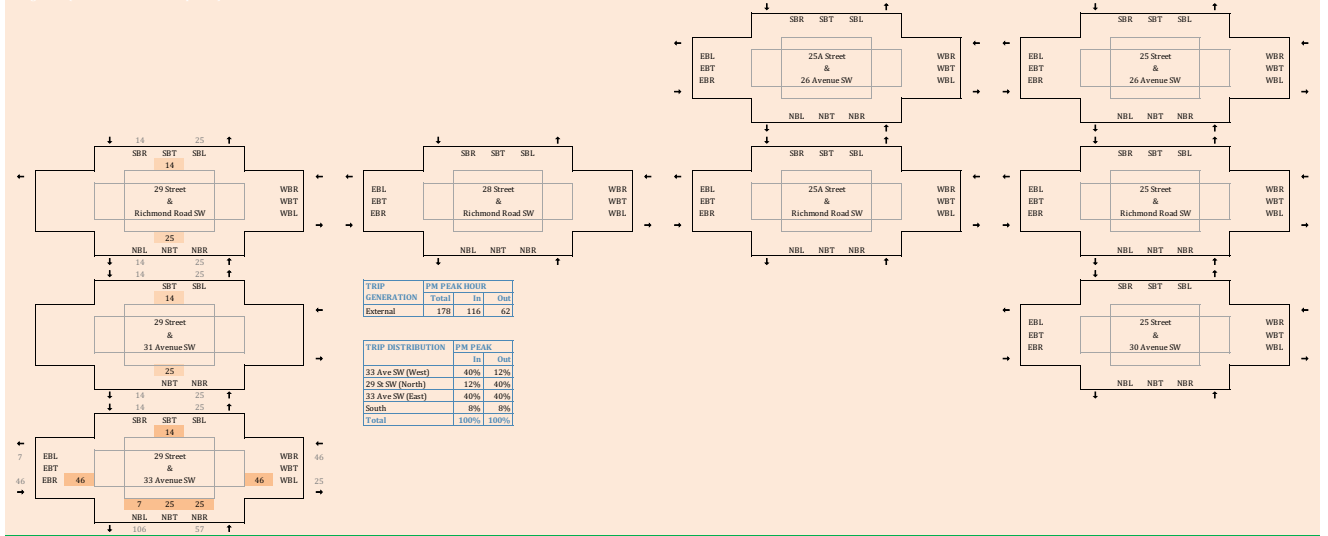
Background (Currie Barracks Development)



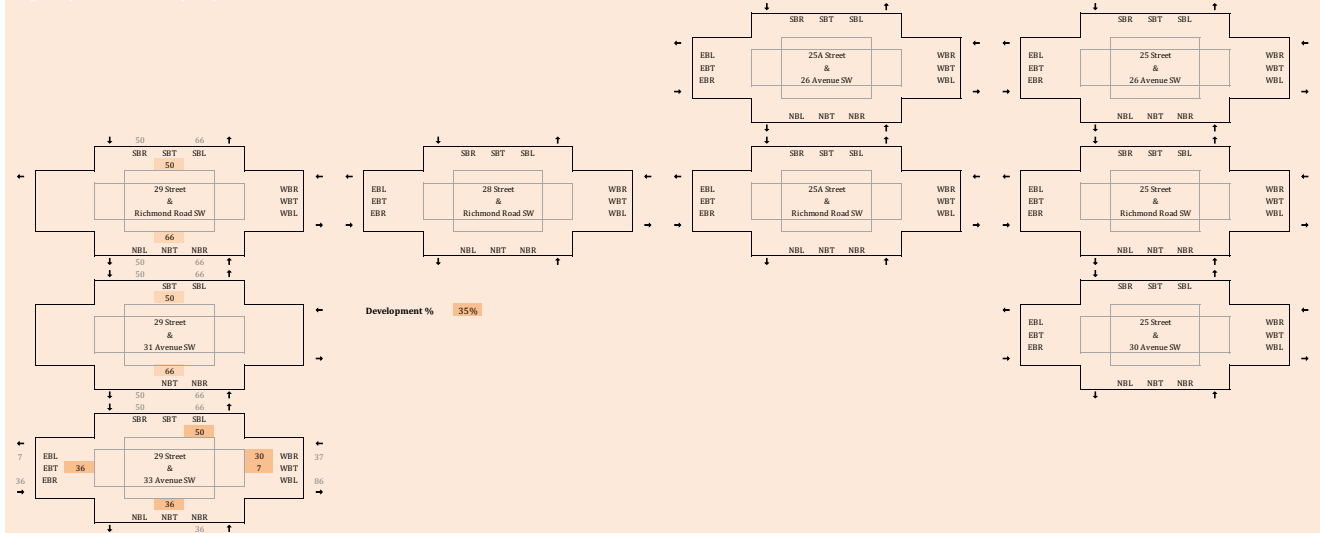
Background (24 StreetSW Development)



Background (Richmond Green Development)



Background (Currie Barracks Development)



APPENDIX B

Synchro & Sidra Reports

1: 29 St & Richmond Road SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↕			↕	
Traffic Volume (veh/h)	0	0	0	48	35	25	5	274	83	7	299	39
Future Volume (Veh/h)	0	0	0	48	35	25	5	274	83	7	299	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	51	37	27	5	291	88	7	318	41
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.98	0.98		0.98	0.98	0.98				0.98		
vC, conflicting volume	793	792	388	748	768	385	384			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	777	775	388	730	751	359	384			379		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	83	88	96	100			99		
cM capacity (veh/h)	256	311	645	308	321	640	1174			1128		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	51	64	384	366								
Volume Left	51	0	5	7								
Volume Right	0	27	88	41								
eSH	308	407	1174	1128								
Volume to Capacity	0.17	0.16	0.00	0.01								
Queue Length 95th (m)	4.4	4.2	0.1	0.1								
Control Delay (s)	19.0	15.5	0.1	0.2								
Lane LOS	C	C	A	A								
Approach Delay (s)	17.0		0.1	0.2								
Approach LOS	C											
Intersection Summary												
Average Delay				2.4								
Intersection Capacity Utilization	39.3%			ICU Level of Service			A					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
01/13/2023

AM Peak Hour
Existing

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	350	30	5	343
Future Volume (Veh/h)	0	0	350	30	5	343
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	372	32	5	365
Pedestrians	25		25		25	
Lane Width (m)	0.0		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	0		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.93	0.93			0.93	
vC, conflicting volume	606	413			404	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	534	326			316	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	429	606			1149	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	404	127	243			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	1149	1700			
Volume to Capacity	0.24	0.00	0.14			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.4	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization	36.4%		ICU Level of Service		A	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	5	81	5	5	75	5	27	5	5	5	5	7
Future Volume (Veh/h)	5	81	5	5	75	5	27	5	5	5	5	7
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	86	5	5	80	5	29	5	5	5	5	7
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	110			116			250	244	138	248	244	132
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	110			116			250	244	138	248	244	132
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	99	99	99	99	99
cM capacity (veh/h)	1447			1440			637	625	870	641	625	877
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	96	90	39	17								
Volume Left	5	5	29	5								
Volume Right	5	5	5	7								
cSH	1447	1440	658	715								
Volume to Capacity	0.00	0.00	0.06	0.02								
Queue Length 95th (m)	0.1	0.1	1.4	0.6								
Control Delay (s)	0.4	0.4	10.8	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.4	10.8	10.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay	2.8											
Intersection Capacity Utilization	26.7%		ICU Level of Service		A							
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	29	40	5	5	17	6	5	5	5	5	5	6
Future Volume (Veh/h)	29	40	5	5	17	6	5	5	5	5	5	6
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	43	5	5	18	6	5	5	5	5	5	6
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	49			73			197	192	96	196	191	71
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	49			73			197	192	96	196	191	71
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	99	99	99	99	99
cM capacity (veh/h)	1523			1493			683	657	919	685	657	948
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	79	29	15	16								
Volume Left	31	5	5	5								
Volume Right	5	6	5	6								
cSH	1523	1493	736	753								
Volume to Capacity	0.02	0.00	0.02	0.02								
Queue Length 95th (m)	0.5	0.1	0.5	0.5								
Control Delay (s)	3.0	1.3	10.0	9.9								
Lane LOS	A	A	A	A								
Approach Delay (s)	3.0	1.3	10.0	9.9								
Approach LOS			A	A								
Intersection Summary												
Average Delay	4.2											
Intersection Capacity Utilization	26.7%		ICU Level of Service		A							
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	10	610	5	5	341	5	5	5	23	7	5	13
Future Volume (Veh/h)	10	610	5	5	341	5	5	5	23	7	5	13
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	649	5	5	363	5	5	5	24	7	5	14
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	393			679			1116	1102	702	1126	1102	416
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	393			679			1116	1102	702	1126	1102	416
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	99			99			97	97	94	95	97	98
cM capacity (veh/h)	1140			893			162	199	419	154	199	609
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	665	373	34	26								
Volume Left	11	5	5	7								
Volume Right	5	5	24	14								
cSH	1140	893	300	278								
Volume to Capacity	0.01	0.01	0.11	0.09								
Queue Length 95th (m)	0.2	0.1	2.9	2.3								
Control Delay (s)	0.3	0.2	18.5	19.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	18.5	19.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			55.0%	ICU Level of Service	B							
Analysis Period (min)			15									

7: 25 St & 26 Ave SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	15	625	7	14	318	10	5	5	34	17	5	20
Future Volume (Veh/h)	15	625	7	14	318	10	5	5	34	17	5	20
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	16	665	7	15	338	11	5	5	36	18	5	21
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	374			697			1148	1130	718	1162	1128	394
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	374			697			1148	1130	718	1162	1128	394
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	99			98			97	97	91	87	97	97
cM capacity (veh/h)	1158			879			150	189	410	139	189	627
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	688	364	46	44								
Volume Left	16	15	5	18								
Volume Right	7	11	36	21								
cSH	1158	879	312	232								
Volume to Capacity	0.01	0.02	0.15	0.19								
Queue Length 95th (m)	0.3	0.4	3.9	5.2								
Control Delay (s)	0.4	0.6	18.5	24.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.4	0.6	18.5	24.1								
Approach LOS			C	C								
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			57.4%	ICU Level of Service	B							
Analysis Period (min)			15									

8: 25 St /25 St & Richmond Road SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	8	5	5	5	5	5	7	5	5	5	17
Future Volume (Veh/h)	29	8	5	5	5	5	5	7	5	5	5	17
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	9	5	5	5	5	5	7	5	5	5	18
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	35			39			162	144	62	150	144	58
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	35			39			162	144	62	150	144	58
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	99	99	99	99	98
cM capacity (veh/h)	1541			1536			712	698	960	734	698	965
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	45	15	17	28								
Volume Left	31	5	5	5								
Volume Right	5	5	5	18								
cSH	1541	1536	764	858								
Volume to Capacity	0.02	0.00	0.02	0.03								
Queue Length 95th (m)	0.5	0.1	0.5	0.8								
Control Delay (s)	5.1	2.5	9.8	9.3								
Lane LOS	A	A	A	A								
Approach Delay (s)	5.1	2.5	9.8	9.3								
Approach LOS			A	A								
Intersection Summary												
Average Delay			6.6									
Intersection Capacity Utilization			24.7%		ICU Level of Service		A					
Analysis Period (min)			15									

9: 25 St & 30 Ave SW
01/13/2023

AM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	5	5	5	5	5	5	5	5	5	5
Future Volume (Veh/h)	5	5	5	5	5	5	5	5	5	5	5	5
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	5	5	5	5	5	5	5	5	5	5
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	35			35			92	88	58	92	88	58
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	35			35			92	88	58	92	88	58
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	99	99	99	99
cM capacity (veh/h)	1541			1541			812	763	965	812	763	965
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	15	15	15								
Volume Left	5	5	5	5								
Volume Right	5	5	5	5								
cSH	1541	1541	838	838								
Volume to Capacity	0.00	0.00	0.02	0.02								
Queue Length 95th (m)	0.1	0.1	0.4	0.4								
Control Delay (s)	2.5	2.5	9.4	9.4								
Lane LOS	A	A	A	A								
Approach Delay (s)	2.5	2.5	9.4	9.4								
Approach LOS			A	A								
Intersection Summary												
Average Delay			5.9									
Intersection Capacity Utilization			24.6%		ICU Level of Service		A					
Analysis Period (min)			15									

3: Sarcee Road /29 St & 33 Ave SW
01/13/2023

AM Peak Hour
Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	86	655	30	98	323	189	21	105	142	232	111	5
Future Volume (vph)	86	655	30	98	323	189	21	105	142	232	111	5
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	45.0	0.0	0.0	85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	0	0	0	1	0	0
Taper Length (m)	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.97	1.00	0.98	0.97	0.98	0.98	0.98	0.98	0.98	0.98	1.00	1.00
Frt	0.993			0.945			0.921			0.994		
Flt Protected	0.950			0.950			0.996			0.950		
Satd. Flow (prot)	1704	3370	0	1704	3109	0	0	3053	0	1704	1780	0
Flt Permitted	0.409			0.275			0.924			0.577		
Satd. Flow (perm)	713	3370	0	484	3109	0	0	2828	0	1017	1780	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			137			151			2	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		72.7			16.7			68.8			45.9	
Travel Time (s)		5.2			1.2			5.0			3.3	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	91	697	32	104	344	201	22	112	151	247	118	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	729	0	104	545	0	0	285	0	247	123	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		37.8	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		37.8	37.8		37.8	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		7.8	7.8	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5		5	5	
Act Effct Green (s)	31.7	24.3		31.9	24.4			23.4		23.4	23.4	
Actuated g/C Ratio	0.43	0.33		0.43	0.33			0.31		0.31	0.31	
v/c Ratio	0.22	0.66		0.30	0.49			0.29		0.77	0.22	

3: Sarcee Road /29 St & 33 Ave SW
01/13/2023

AM Peak Hour
Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	12.7	26.9		13.8	18.2			10.8		43.2	21.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.7	26.9		13.8	18.2			10.8		43.2	21.4	
LOS	B	C		B	B			B		D	C	
Approach Delay		25.3			17.5			10.8			35.9	
Approach LOS		C			B			B			D	
Queue Length 50th (m)	6.8	50.1		7.8	25.7			7.1		31.3	12.5	
Queue Length 95th (m)	15.2	75.8		17.0	44.2			18.0		#75.3	28.4	
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	455	1908		387	1817			1286		431	756	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.20	0.38		0.27	0.30			0.22		0.57	0.16	
Intersection Summary												
Area Type:	Other											
Cycle Length:	101.4											
Actuated Cycle Length:	74.5											
Natural Cycle:	80											
Control Type:	Actuated-Uncoordinated											
Maximum v/c Ratio:	0.77											
Intersection Signal Delay:	22.8											
Intersection Capacity Utilization:	88.0%											
ICU Level of Service E												
Analysis Period (min)	15											
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↕ Ø2	↔ Ø3	↕ Ø4										
37.8 s	16.2 s	47.4 s										
↕ Ø6	↔ Ø7	↕ Ø8										
37.8 s	16.2 s	47.4 s										

1: 29 St & Richmond Road SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	51	70	11	5	391	148	8	248	68
Future Volume (Veh/h)	0	0	0	51	70	11	5	391	148	8	248	68
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	54	74	12	5	412	156	8	261	72
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	912	941	347	863	899	540	358			593		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	860	891	347	806	846	455	358			512		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
pD queue free %	100	100	100	79	72	98	100			99		
cM capacity (veh/h)	185	250	681	257	265	532	1201			946		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	54	86	573	341								
Volume Left	54	0	5	8								
Volume Right	0	12	156	72								
cSH	257	285	1201	946								
Volume to Capacity	0.21	0.30	0.00	0.01								
Queue Length 95th (m)	5.9	9.4	0.1	0.2								
Control Delay (s)	22.7	23.0	0.1	0.3								
Lane LOS	C	C	A	A								
Approach Delay (s)	22.9		0.1	0.3								
Approach LOS	C											
Intersection Summary												
Average Delay				3.2								
Intersection Capacity Utilization	49.8%			ICU Level of Service			A					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
11/02/2023

PM Peak Hour
Existing

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔
Traffic Volume (veh/h)	0	0	590	66	14	267
Future Volume (Veh/h)	0	0	590	66	14	267
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	621	69	15	281
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	851	680			690	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753	557			568	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pD queue free %	100	100			98	
cM capacity (veh/h)	289	403			869	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	690	109	187			
Volume Left	0	15	0			
Volume Right	69	0	0			
cSH	1700	869	1700			
Volume to Capacity	0.41	0.02	0.11			
Queue Length 95th (m)	0.0	0.4	0.0			
Control Delay (s)	0.0	1.4	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization	51.7%		ICU Level of Service		A	
Analysis Period (min)	15					

3: Sarcee Road /29 St & 33 Ave SW
11/02/2023

PM Peak Hour
Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	165	443	34	180	660	364	24	127	122	144	120	5
Future Volume (vph)	165	443	34	180	660	364	24	127	122	144	120	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	0.97			0.98		0.98		1.00
Frt		0.989			0.947			0.933		0.994		
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3348	0	1704	3119	0	0	3105	0	1704	1780	0
Flt Permitted	0.133			0.460				0.913		0.576		
Satd. Flow (perm)	239	3348	0	800	3119	0	0	2841	0	1016	1780	0
Satd. Flow (RTOR)		9			122			128			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	174	466	36	189	695	383	25	134	128	152	126	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	502	0	189	1078	0	0	287	0	152	131	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		37.8	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		37.8	37.8		37.8	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		7.8	7.8	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5		5	5	
Act Effct Green (s)	41.5	30.9		40.7	30.5		18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.52	0.39		0.51	0.38		0.22	0.22		0.22	0.22	
v/c Ratio	0.59	0.39		0.37	0.85		0.39	0.67		0.33		

3: Sarcee Road /29 St & 33 Ave SW
11/02/2023

PM Peak Hour
Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	21.4	19.0		11.0	28.3			16.4		44.8	29.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	21.4	19.0		11.0	28.3			16.4		44.8	29.0	
LOS	C	B		B	C			B		D	C	
Approach Delay		19.6			25.7			16.4			37.5	
Approach LOS		B			C			B			D	
Queue Length 50th (m)	10.5	27.1		11.5	68.6			10.5		21.3	16.5	
Queue Length 95th (m)	#37.1	48.8		28.3	116.2			22.7		44.8	34.2	
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	317	1743		538	1679			1185		395	694	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.55	0.29		0.35	0.64			0.24		0.38	0.19	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 80.1												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.85												
Intersection Signal Delay: 24.3												
Intersection LOS: C												
Intersection Capacity Utilization 101.2%												
ICU Level of Service G												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↑ Ø2	↙ Ø3	→ Ø4										
37.8 s	16.2 s	47.4 s										
↓ Ø6	↘ Ø7	← Ø8										
37.8 s	16.2 s	47.4 s										

4: 28 St /28 St & Richmond Road SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		↔			↔			↔			↔					
Traffic Volume (veh/h)	5	109	12	13	92	5	67	5	16	5	5	5				
Future Volume (Veh/h)	5	109	12	13	92	5	67	5	16	5	5	5				
Sign Control	Free			Free			Stop			Stop						
Grade	0%			0%			0%			0%						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	5	115	13	14	97	5	71	5	17	5	5	5				
Pedestrians	25			25			25			25						
Lane Width (m)	3.5			3.5			3.5			3.5						
Walking Speed (m/s)	1.1			1.1			1.1			1.1						
Percent Blockage	2			2			2			2						
Right turn flare (veh)																
Median type	None				None											
Median storage (veh)																
Upstream signal (m)																
pX, platoon unblocked																
vC, conflicting volume				153			316			312			172	328	316	150
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	127			153			316			312			172	328	316	150
tC, single (s)	4.1			4.1			7.1			6.5			6.2	7.1	6.5	6.2
tC, 2 stage (s)																
tF (s)	2.2			2.2			3.5			4.0			3.3	3.5	4.0	3.3
pD queue free %	100			99			88			99			98	99	99	99
cM capacity (veh/h)	1427			1396			575			569			834	556	566	858
Direction, Lane #	EB 1	WB 1	NB 1	SB 1												
Volume Total	133	116	93	15												
Volume Left	5	14	71	5												
Volume Right	13	5	17	5												
cSH	1427	1396	609	634												
Volume to Capacity	0.00	0.01	0.15	0.02												
Queue Length 95th (m)	0.1	0.2	4.1	0.6												
Control Delay (s)	0.3	1.0	12.0	10.8												
Lane LOS	A	A	B	B												
Approach Delay (s)	0.3	1.0	12.0	10.8												
Approach LOS				B	B											
Intersection Summary																
Average Delay				4.0												
Intersection Capacity Utilization				31.2%	ICU Level of Service							A				
Analysis Period (min)				15												

5: 25A St & Richmond Road SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		↔			↔			↔			↔					
Traffic Volume (veh/h)	46	47	5	5	26	5	5	5	5	5	5	25				
Future Volume (Veh/h)	46	47	5	5	26	5	5	5	5	5	5	25				
Sign Control	Free			Free			Stop			Stop						
Grade	0%			0%			0%			0%						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	48	49	5	5	27	5	5	5	5	5	5	26				
Pedestrians	25			25			25			25						
Lane Width (m)	3.5			3.5			3.5			3.5						
Walking Speed (m/s)	1.1			1.1			1.1			1.1						
Percent Blockage	2			2			2			2						
Right turn flare (veh)																
Median type	None				None											
Median storage (veh)																
Upstream signal (m)																
pX, platoon unblocked																
vC, conflicting volume	57			79			266			240			102	244	240	80
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	57			79			266			240			102	244	240	80
tC, single (s)	4.1			4.1			7.1			6.5			6.2	7.1	6.5	6.2
tC, 2 stage (s)																
tF (s)	2.2			2.2			3.5			4.0			3.3	3.5	4.0	3.3
pD queue free %	97			100			99			99			99	99	99	97
cM capacity (veh/h)	1513			1486			598			611			912	631	611	938
Direction, Lane #	EB 1	WB 1	NB 1	SB 1												
Volume Total	102	37	15	36												
Volume Left	48	5	5	5												
Volume Right	5	5	5	26												
cSH	1513	1486	681	821												
Volume to Capacity	0.03	0.00	0.02	0.04												
Queue Length 95th (m)	0.7	0.1	0.5	1.0												
Control Delay (s)	3.6	1.0	10.4	9.6												
Lane LOS	A	A	B	A												
Approach Delay (s)	3.6	1.0	10.4	9.6												
Approach LOS				B	A											
Intersection Summary																
Average Delay				4.8												
Intersection Capacity Utilization				28.8%	ICU Level of Service							A				
Analysis Period (min)				15												

6: 25A St /25A St & 26 Ave SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	17	454	8	12	612	11	5	5	34	5	5	16
Future Volume (Veh/h)	17	454	8	12	612	11	5	5	34	5	5	16
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	478	8	13	644	12	5	5	36	5	5	17
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	681	511			1264			1250	532	1282	1248	700
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	681	511			1264			1250	532	1282	1248	700
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	98	99			96			97	93	96	97	96
cM capacity (veh/h)	891	1031			124			160	524	116	160	420
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	504	669	46	27								
Volume Left	18	13	5	5								
Volume Right	8	12	36	17								
cSH	891	1031	327	236								
Volume to Capacity	0.02	0.01	0.14	0.11								
Queue Length 95th (m)	0.5	0.3	3.7	2.9								
Control Delay (s)	0.6	0.3	17.8	22.2								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.3	17.8	22.2								
Approach LOS			C	C								
Intersection Summary												
Average Delay	1.6											
Intersection Capacity Utilization	55.0%			ICU Level of Service			B					
Analysis Period (min)	15											

7: 25 St & 26 Ave SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	30	448	7	21	595	34	5	8	38	15	9	25
Future Volume (Veh/h)	30	448	7	21	595	34	5	8	38	15	9	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	32	472	7	22	626	36	5	8	40	16	9	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	687	504			1308			1296	526	1322	1281	694
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	687	504			1308			1296	526	1322	1281	694
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	96	98			95			95	92	85	94	94
cM capacity (veh/h)	887	1037			108			146	528	105	149	423
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	511	684	53	51								
Volume Left	32	22	5	16								
Volume Right	7	36	40	26								
cSH	887	1037	300	186								
Volume to Capacity	0.04	0.02	0.18	0.27								
Queue Length 95th (m)	0.9	0.5	4.8	8.1								
Control Delay (s)	1.0	0.6	19.6	31.5								
Lane LOS	A	A	C	D								
Approach Delay (s)	1.0	0.6	19.6	31.5								
Approach LOS			C	D								
Intersection Summary												
Average Delay	2.7											
Intersection Capacity Utilization	58.3%				ICU Level of Service			B				
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	45	6	17	5	6	5	5	5	5	5	8	20
Future Volume (Veh/h)	45	6	17	5	6	5	5	5	5	5	8	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	6	18	5	6	5	5	5	5	5	8	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	36	49			202	180	65	185	186	58		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	36	49			202	180	65	185	186	58		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	97	100			99	99	99	99	99	98		
cM capacity (veh/h)	1540	1523			660	660	955	691	654	963		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	71	16	15	34								
Volume Left	47	5	5	5								
Volume Right	18	5	5	21								
cSH	1540	1523	736	824								
Volume to Capacity	0.03	0.00	0.02	0.04								
Queue Length 95th (m)	0.7	0.1	0.5	1.0								
Control Delay (s)	5.0	2.3	10.0	9.6								
Lane LOS	A	A	A	A								
Approach Delay (s)	5.0	2.3	10.0	9.6								
Approach LOS	A			A								
Intersection Summary												
Average Delay	6.4											
Intersection Capacity Utilization	24.8%			ICU Level of Service	A							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
11/02/2023

PM Peak Hour
Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	5	5	5	5	5	5	5	5	5	5	6	6	
Future Volume (Veh/h)	5	5	5	5	5	5	5	5	5	5	6	6	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	5	5	5	5	5	5	5	5	5	5	6	6	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type							None			None			
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	94	89	59	94	90	58	37						35
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	94	89	59	94	90	58	37						35
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1						4.1
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
p0 queue free %	99	99	99	99	99	99	100						100
cM capacity (veh/h)	810	761	963	810	761	965	1539						1541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	15	15	15	17									
Volume Left	5	5	5	5									
Volume Right	5	5	5	6									
cSH	836	836	1539	1541									
Volume to Capacity	0.02	0.02	0.00	0.00									
Queue Length 95th (m)	0.4	0.4	0.1	0.1									
Control Delay (s)	9.4	9.4	2.5	2.2									
Lane LOS	A	A	A	A									
Approach Delay (s)	9.4	9.4	2.5	2.2									
Approach LOS	A		A										
Intersection Summary													
Average Delay	5.7												
Intersection Capacity Utilization	24.6%			ICU Level of Service	A								
Analysis Period (min)	15												

1: 29 St & Richmond Road SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↕			↕	
Traffic Volume (veh/h)	0	0	0	52	36	25	5	355	95	7	338	39
Future Volume (Veh/h)	0	0	0	52	36	25	5	355	95	7	338	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	55	38	27	5	378	101	7	360	41
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.96	0.96		0.96	0.96	0.96				0.96		
vC, conflicting volume	929	934	430	883	904	478	426			504		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	907	912	430	860	881	440	426			466		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	86	95	100			99		
cM capacity (veh/h)	200	255	611	248	266	569	1133			1032		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	55	65	484	408								
Volume Left	55	0	5	7								
Volume Right	0	27	101	41								
eSH	248	341	1133	1032								
Volume to Capacity	0.22	0.19	0.00	0.01								
Queue Length 95th (m)	6.3	5.3	0.1	0.2								
Control Delay (s)	23.6	18.0	0.1	0.2								
Lane LOS	C	C	A	A								
Approach Delay (s)	20.6		0.1	0.2								
Approach LOS	C											
Intersection Summary												
Average Delay				2.6								
Intersection Capacity Utilization	44.5%			ICU Level of Service			A					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
01/13/2023

AM Peak Hour
Background

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	443	30	5	386
Future Volume (Veh/h)	0	0	443	30	5	386
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	471	32	5	411
Pedestrians	25		25		25	
Lane Width (m)	0.0		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	0		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	728	512			503	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	645	406			396	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	356	525			1047	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	503	142	274			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	1047	1700			
Volume to Capacity	0.30	0.00	0.16			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization	41.5%		ICU Level of Service		A	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (veh/h)	5	93	5	5	80	5	27	5	5	5	5	7		
Future Volume (Veh/h)	5	93	5	5	80	5	27	5	5	5	5	7		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	5	99	5	5	85	5	29	5	5	5	5	7		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None				None									
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	115				129				268	262	152	266	262	138
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	115				129				268	262	152	266	262	138
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100				100				95	99	99	99	99	99
cM capacity (veh/h)	1441				1425				620	611	856	623	611	871
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	109	95	39	17										
Volume Left	5	5	29	5										
Volume Right	5	5	5	7										
cSH	1441	1425	642	701										
Volume to Capacity	0.00	0.00	0.06	0.02										
Queue Length 95th (m)	0.1	0.1	1.5	0.6										
Control Delay (s)	0.4	0.4	11.0	10.3										
Lane LOS	A	A	B	B										
Approach Delay (s)	0.4	0.4	11.0	10.3										
Approach LOS			B	B										
Intersection Summary														
Average Delay	2.6													
Intersection Capacity Utilization	27.0%			ICU Level of Service			A							
Analysis Period (min)	15													

5: 25A St & Richmond Road SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (veh/h)	29	52	5	5	22	6	5	5	5	5	5	6		
Future Volume (Veh/h)	29	52	5	5	22	6	5	5	5	5	5	6		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	31	55	5	5	23	6	5	5	5	5	5	6		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None				None									
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	54				85				214	208	108	213	208	76
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	54				85				214	208	108	213	208	76
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98				100				99	99	99	99	99	99
cM capacity (veh/h)	1517				1478				666	643	905	668	643	942
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	91	34	15	16										
Volume Left	31	5	5	5										
Volume Right	5	6	5	6										
cSH	1517	1478	721	740										
Volume to Capacity	0.02	0.00	0.02	0.02										
Queue Length 95th (m)	0.5	0.1	0.5	0.5										
Control Delay (s)	2.6	1.1	10.1	10.0										
Lane LOS	A	A	B	A										
Approach Delay (s)	2.6	1.1	10.1	10.0										
Approach LOS			B	A										
Intersection Summary														
Average Delay	3.8													
Intersection Capacity Utilization	27.2%				ICU Level of Service				A					
Analysis Period (min)	15													

6: 25A St /25A St & 26 Ave SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	10	613	5	5	343	5	5	5	23	7	5	13
Future Volume (Veh/h)	10	613	5	5	343	5	5	5	23	7	5	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	652	5	5	365	5	5	5	24	7	5	14
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	395	682			1120			1106	704	1130	1106	418
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	395	682			1120			1106	704	1130	1106	418
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	99	99			97			97	94	95	97	98
cM capacity (veh/h)	1138	891			161			198	418	153	198	608
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	668	375	34	26								
Volume Left	11	5	5	7								
Volume Right	5	5	24	14								
eSH	1138	891	299	276								
Volume to Capacity	0.01	0.01	0.11	0.09								
Queue Length 95th (m)	0.2	0.1	2.9	2.3								
Control Delay (s)	0.3	0.2	18.6	19.4								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	18.6	19.4								
Approach LOS			C	C								
Intersection Summary												
Average Delay	1.3											
Intersection Capacity Utilization	55.2%			ICU Level of Service			B					
Analysis Period (min)	15											

7: 25 St & 26 Ave SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	15	625	10	17	318	10	5	5	41	17	5	20
Future Volume (Veh/h)	15	625	10	17	318	10	5	5	41	17	5	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	16	665	11	18	338	11	5	5	44	18	5	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	374	701			1156			1138	720	1178	1138	394
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	374	701			1156			1138	720	1178	1138	394
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	99	98			97			97	89	86	97	97
cM capacity (veh/h)	1158	876			148			186	409	132	186	627
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	692	367	54	44								
Volume Left	16	18	5	18								
Volume Right	11	11	44	21								
eSH	1158	876	321	224								
Volume to Capacity	0.01	0.02	0.17	0.20								
Queue Length 95th (m)	0.3	0.5	4.5	5.4								
Control Delay (s)	0.4	0.7	18.5	25.0								
Lane LOS	A	A	C	D								
Approach Delay (s)	0.4	0.7	18.5	25.0								
Approach LOS			C	D								
Intersection Summary												
Average Delay	2.2											
Intersection Capacity Utilization	57.2%			ICU Level of Service			B					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (veh/h)	29	20	5	5	8	13	5	7	5	8	5	17		
Future Volume (Veh/h)	29	20	5	5	8	13	5	7	5	8	5	17		
Sign Control	Free		Free		Stop		Stop		Stop		Stop			
Grade	0%		0%		0%		0%		0%		0%			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	31	21	5	5	9	14	5	7	5	9	5	18		
Pedestrians	25		25		25		25		25		25			
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5			
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1			
Percent Blockage	2		2		2		2		2		2			
Right turn flare (veh)														
Median type	None		None											
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	48			51			182	168	74	170	164	66		
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	48			51			182	168	74	170	164	66		
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)														
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	98			100			99	99	99	99	99	98		
cM capacity (veh/h)	1525			1521			690	676	945	711	680	954		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	57	28	17	32										
Volume Left	31	5	5	9										
Volume Right	5	14	5	18										
cSH	1525	1521	743	823										
Volume to Capacity	0.02	0.00	0.02	0.04										
Queue Length 95th (m)	0.5	0.1	0.5	0.9										
Control Delay (s)	4.1	1.3	10.0	9.5										
Lane LOS	A	A	A	A										
Approach Delay (s)	4.1	1.3	10.0	9.5										
Approach LOS	A		A											
Intersection Summary														
Average Delay			5.6											
Intersection Capacity Utilization			24.8%		ICU Level of Service		A							
Analysis Period (min)			15											

9: 25 St & 30 Ave SW
01/13/2023

AM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	5	5	5	5	5	5	5	5	5	5
Future Volume (Veh/h)	5	5	5	5	5	5	5	5	5	5	5	5
Sign Control	Stop		Stop		Free		Free		Free		Free	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	5	5	5	5	5	5	5	5	5	5
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type					None		None					
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	92	88	58	92	88	58	35			35		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	92	88	58	92	88	58	35			35		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	99	99	99	100			100		
cM capacity (veh/h)	812	763	965	812	763	965	1541			1541		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	15	15	15								
Volume Left	5	5	5	5								
Volume Right	5	5	5	5								
cSH	838	838	1541	1541								
Volume to Capacity	0.02	0.02	0.00	0.00								
Queue Length 95th (m)	0.4	0.4	0.1	0.1								
Control Delay (s)	9.4	9.4	2.5	2.5								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.4	9.4	2.5	2.5								
Approach LOS	A		A									
Intersection Summary												
Average Delay			5.9									
Intersection Capacity Utilization			24.6%		ICU Level of Service		A					
Analysis Period (min)			15									

3: Sarcee Road /29 St & 33 Ave SW
01/13/2023

AM Peak Hour
Background

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	90	700	39	121	353	251	27	132	204	272	114	5
Future Volume (vph)	90	700	39	121	353	251	27	132	204	272	114	5
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	45.0	0.0	85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	0	0	0	0	1	0	0	0
Taper Length (m)	2.5		2.5		2.5		2.5		2.5		2.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.98	0.96			0.97		0.99	1.00	
Frt		0.992			0.938			0.916			0.994	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3072	0	0	3032	0	1704	1780	0
Flt Permitted	0.347			0.198				0.923		0.523		
Satd. Flow (perm)	608	3364	0	349	3072	0	0	2805	0	924	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			209			217			2	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		72.7			16.7			68.8			45.9	
Travel Time (s)		5.2			1.2			5.0			3.3	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	96	745	41	129	376	267	29	140	217	289	121	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	786	0	129	643	0	0	386	0	289	126	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		37.8	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		37.8	37.8		37.8	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		7.8	7.8	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5		5	5	
Act Effct Green (s)	34.5	25.2		37.1	28.7			30.2		30.2	30.2	
Actuated g/C Ratio	0.40	0.29		0.43	0.34			0.35		0.35	0.35	
v/c Ratio	0.28	0.79		0.45	0.55			0.34		0.89	0.20	

3: Sarcee Road /29 St & 33 Ave SW
01/13/2023

AM Peak Hour
Background

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	14.1	33.9		17.4	17.8			10.3		58.8	21.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	14.1	33.9		17.4	17.8			10.3		58.8	21.7	
LOS	B	C		B	B			B		E	C	
Approach Delay		31.7			17.7			10.3			47.5	
Approach LOS		C			B			B			D	
Queue Length 50th (m)	8.2	61.3		11.2	30.6			9.7		43.2	13.7	
Queue Length 95th (m)	15.7	82.6		20.3	48.4			23.0		#103.0	30.1	
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	387	1583		312	1553			1128		325	628	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.25	0.50		0.41	0.41			0.34		0.89	0.20	
Intersection Summary												
Area Type:	Other											
Cycle Length:	101.4											
Actuated Cycle Length:	85.6											
Natural Cycle:	80											
Control Type:	Actuated-Uncoordinated											
Maximum v/c Ratio:	0.89											
Intersection Signal Delay:	26.6											
Intersection Capacity Utilization:	93.0%											
ICU Level of Service F												
Analysis Period (min)	15											
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↕ Ø2	↖ Ø3	↗ Ø4										
37.8 s	16.2 s	47.4 s										
↘ Ø6	↙ Ø7	↖ Ø8										
37.8 s	16.2 s	47.4 s										

1: 29 St & Richmond Road SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↕			↕	
Traffic Volume (veh/h)	0	0	0	56	74	11	5	482	156	8	312	68
Future Volume (Veh/h)	0	0	0	56	74	11	5	482	156	8	312	68
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	59	78	12	5	507	164	8	328	72
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.87	0.87		0.87	0.87	0.87				0.87		
vC, conflicting volume	1080	1111	414	1029	1065	639	425			696		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1015	1051	414	956	998	506	425			572		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	69	62	97	100			99		
cM capacity (veh/h)	122	190	624	191	204	469	1134			848		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	59	90	676	408								
Volume Left	59	0	5	8								
Volume Right	0	12	164	72								
eSH	191	220	1134	848								
Volume to Capacity	0.31	0.41	0.00	0.01								
Queue Length 95th (m)	9.4	14.1	0.1	0.2								
Control Delay (s)	32.0	32.2	0.1	0.3								
Lane LOS	D	D	A	A								
Approach Delay (s)	32.1		0.1	0.3								
Approach LOS	D											
Intersection Summary												
Average Delay				4.0								
Intersection Capacity Utilization				55.4%			ICU Level of Service			B		
Analysis Period (min)				15								

2: 29 St & 31 Ave SW
01/13/2023

PM Peak Hour
Background

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	689	66	14	336
Future Volume (Veh/h)	0	0	689	66	14	336
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	725	69	15	354
Pedestrians	25		25		25	
Lane Width (m)	0.0		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	0		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	992	784			794	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892	644			656	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			98	
cM capacity (veh/h)	226	340			776	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	794	133	236			
Volume Left	0	15	0			
Volume Right	69	0	0			
eSH	1700	776	1700			
Volume to Capacity	0.47	0.02	0.14			
Queue Length 95th (m)	0.0	0.4	0.0			
Control Delay (s)	0.0	1.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			57.0%		ICU Level of Service	
Analysis Period (min)			15		B	

4: 28 St /28 St & Richmond Road SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	117	12	13	101	5	67	5	16	5	5	5
Future Volume (Veh/h)	5	117	12	13	101	5	67	5	16	5	5	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	123	13	14	106	5	71	5	17	5	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	136	161			334			328	180	346	332	158
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	136	161			334			328	180	346	332	158
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
p0 queue free %	100	99			87			99	98	99	99	99
cM capacity (veh/h)	1416	1387			560			557	826	542	554	848
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	141	125	93	15								
Volume Left	5	14	71	5								
Volume Right	13	5	17	5								
cSH	1416	1387	595	621								
Volume to Capacity	0.00	0.01	0.16	0.02								
Queue Length 95th (m)	0.1	0.2	4.2	0.6								
Control Delay (s)	0.3	0.9	12.2	10.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.3	0.9	12.2	10.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay	3.9											
Intersection Capacity Utilization	31.5%			ICU Level of Service			A					
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	46	55	5	5	35	5	5	5	5	5	5	25
Future Volume (Veh/h)	46	55	5	5	35	5	5	5	5	5	5	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	58	5	5	37	5	5	5	5	5	5	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	67	88			284			258	110	264	258	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	67	88			284			258	110	264	258	90
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
p0 queue free %	97	100			99			99	99	99	99	97
cM capacity (veh/h)	1501	1474			580			596	902	613	596	926
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	111	47	15	36								
Volume Left	48	5	5	5								
Volume Right	5	5	5	26								
cSH	1501	1474	665	807								
Volume to Capacity	0.03	0.00	0.02	0.04								
Queue Length 95th (m)	0.8	0.1	0.5	1.1								
Control Delay (s)	3.4	0.8	10.5	9.7								
Lane LOS	A	A	B	A								
Approach Delay (s)	3.4	0.8	10.5	9.7								
Approach LOS			B	A								
Intersection Summary												
Average Delay	4.4											
Intersection Capacity Utilization	29.0%			ICU Level of Service			A					
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	17	459	8	12	617	11	5	5	34	5	5	16
Future Volume (Veh/h)	17	459	8	12	617	11	5	5	34	5	5	16
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	483	8	13	649	12	5	5	36	5	5	17
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	686	516			1274	1260	537	1292	1258	705		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	686	516			1274	1260	537	1292	1258	705		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	99			96	97	93	96	97	96		
cM capacity (veh/h)	888	1027			122	158	520	115	158	417		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	509	674	46	27								
Volume Left	18	13	5	5								
Volume Right	8	12	36	17								
eSH	888	1027	324	233								
Volume to Capacity	0.02	0.01	0.14	0.12								
Queue Length 95th (m)	0.5	0.3	3.7	2.9								
Control Delay (s)	0.6	0.3	17.9	22.5								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.3	17.9	22.5								
Approach LOS			C	C								
Intersection Summary												
Average Delay	1.6											
Intersection Capacity Utilization	55.3%			ICU Level of Service	B							
Analysis Period (min)	15											

7: 25 St & 26 Ave SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	30	448	12	27	595	34	6	9	48	15	11	25
Future Volume (Veh/h)	30	448	12	27	595	34	6	9	48	15	11	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	32	472	13	28	626	36	6	9	51	16	12	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	687	510			1324	1310	528	1348	1299	694		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	687	510			1324	1310	528	1348	1299	694		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	96	97			94	94	90	84	92	94		
cM capacity (veh/h)	887	1032			103	142	526	97	145	423		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	517	690	66	54								
Volume Left	32	28	6	16								
Volume Right	13	36	51	26								
eSH	887	1032	302	175								
Volume to Capacity	0.04	0.03	0.22	0.31								
Queue Length 95th (m)	0.9	0.6	6.2	9.4								
Control Delay (s)	1.0	0.7	20.2	34.6								
Lane LOS	A	A	C	D								
Approach Delay (s)	1.0	0.7	20.2	34.6								
Approach LOS			C	D								
Intersection Summary												
Average Delay	3.2											
Intersection Capacity Utilization	60.2%			ICU Level of Service	B							
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations		↔			↔			↔			↔							
Traffic Volume (veh/h)	45	14	17	5	15	20	5	5	5	14	8	20						
Future Volume (Veh/h)	45	14	17	5	15	20	5	5	5	14	8	20						
Sign Control	Free			Free			Stop			Stop								
Grade	0%			0%			0%			0%								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95						
Hourly flow rate (vph)	47	15	18	5	16	21	5	5	5	15	8	21						
Pedestrians	25			25			25			25								
Lane Width (m)	3.5			3.5			3.5			3.5								
Walking Speed (m/s)	1.1			1.1			1.1			1.1								
Percent Blockage	2			2			2			2								
Right turn flare (veh)																		
Median type	None				None													
Median storage (veh)																		
Upstream signal (m)																		
pX, platoon unblocked																		
vC, conflicting volume	62		58				230		215		74		212		214		76	
vC1, stage 1 conf vol																		
vC2, stage 2 conf vol																		
vCu, unblocked vol	62		58				230		215		74		212		214		76	
tC, single (s)	4.1		4.1				7.1		6.5		6.2		7.1		6.5		6.2	
tC, 2 stage (s)																		
tF (s)	2.2		2.2				3.5		4.0		3.3		3.5		4.0		3.3	
p0 queue free %	97		100				99		99		99		98		99		98	
cM capacity (veh/h)	1507		1512				633		630		945		663		632		942	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1														
Volume Total	80	42	15	44														
Volume Left	47	5	5	15														
Volume Right	18	21	5	21														
eSH	1507	1512	710	764														
Volume to Capacity	0.03	0.00	0.02	0.06														
Queue Length 95th (m)	0.7	0.1	0.5	1.4														
Control Delay (s)	4.5	0.9	10.2	10.0														
Lane LOS	A	A	B	A														
Approach Delay (s)	4.5	0.9	10.2	10.0														
Approach LOS	A		B		A													
Intersection Summary																		
Average Delay	5.5																	
Intersection Capacity Utilization	27.2%			ICU Level of Service			A											
Analysis Period (min)	15																	

9: 25 St & 30 Ave SW
01/13/2023

PM Peak Hour
Background

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		↔			↔			↔			↔					
Traffic Volume (veh/h)	5	5	5	5	5	5	5	5	5	6	6	5				
Future Volume (Veh/h)	5	5	5	5	5	5	5	5	5	6	6	5				
Sign Control	Stop			Stop			Free			Free						
Grade	0%			0%			0%			0%						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	5	5	5	5	5	5	5	5	5	6	6	5				
Pedestrians	25			25			25			25						
Lane Width (m)	3.5			3.5			3.5			3.5						
Walking Speed (m/s)	1.1			1.1			1.1			1.1						
Percent Blockage	2			2			2			2						
Right turn flare (veh)																
Median type	None						None									
Median storage (veh)																
Upstream signal (m)																
pX, platoon unblocked																
vC, conflicting volume	96		90		58		96		90		58		36		35	
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	96		90		58		96		90		58		36		35	
tC, single (s)	7.1		6.5		6.2		7.1		6.5		6.2		4.1		4.1	
tC, 2 stage (s)																
tF (s)	3.5		4.0		3.3		3.5		4.0		3.3		2.2		2.2	
p0 queue free %	99		99		99		99		99		100		100		100	
cM capacity (veh/h)	808		759		963		808		759		965		1540		1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1												
Volume Total	15	15	15	17												
Volume Left	5	5	5	6												
Volume Right	5	5	5	5												
eSH	835	835	1540	1541												
Volume to Capacity	0.02	0.02	0.00	0.00												
Queue Length 95th (m)	0.4	0.4	0.1	0.1												
Control Delay (s)	9.4	9.4	2.5	2.6												
Lane LOS	A	A	A	A												
Approach Delay (s)	9.4	9.4	2.5	2.6												
Approach LOS	A		A		A											
Intersection Summary																
Average Delay	5.9															
Intersection Capacity Utilization	24.6%			ICU Level of Service			A									
Analysis Period (min)	15															

3: Sarcee Road /29 St & 33 Ave SW
01/13/2023

PM Peak Hour
Background

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	168	479	80	226	667	398	31	189	147	197	136	5
Future Volume (vph)	168	479	80	226	667	398	31	189	147	197	136	5
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	45.0	0.0	85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	0	0	0	0	1	0	0	0
Taper Length (m)	2.5		2.5		2.5		2.5		2.5		2.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99		0.97		0.96		0.98		0.99		1.00	
Frt	0.979			0.944			0.940			0.995		
Flt Protected	0.950			0.950			0.996		0.950			
Satd. Flow (prot)	1704	3291	0	1704	3104	0	3134	0	1704	1782	0	0
Flt Permitted	0.117			0.378			0.912		0.513			
Satd. Flow (perm)	210	3291	0	661	3104	0	2865	0	907	1782	0	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		22			144			155			2	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		72.7			16.7			68.8			45.9	
Travel Time (s)		5.2			1.2			5.0			3.3	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	177	504	84	238	702	419	33	199	155	207	143	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	588	0	238	1121	0	0	387	0	207	148	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		37.8	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		37.8	37.8		37.8	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		7.8	7.8	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5		5	5	
Act Effct Green (s)	45.0	34.1		44.8	34.1			24.9		24.9	24.9	
Actuated g/C Ratio	0.50	0.38		0.49	0.38			0.27		0.27	0.27	
v/c Ratio	0.68	0.47		0.55	0.89			0.43		0.83	0.30	

3: Sarcee Road /29 St & 33 Ave SW
01/13/2023

PM Peak Hour
Background

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	22.3		16.3	33.7			17.7		59.9	28.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	30.3	22.3		16.3	33.7			17.7		59.9	28.4	
LOS	C	C		B	C			B		E	C	
Approach Delay		24.2			30.6			17.7			46.8	
Approach LOS		C			C			B			D	
Queue Length 50th (m)	15.8	42.1		22.1	92.4			17.9		36.3	21.5	
Queue Length 95th (m)	#43.4	57.1		35.4	121.5			31.3		#73.6	38.0	
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	275	1507		450	1488			1078		309	608	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.64	0.39		0.53	0.75			0.36		0.67	0.24	
Intersection Summary												
Area Type: Other												
Cycle Length: 101.4												
Actuated Cycle Length: 90.6												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.89												
Intersection Signal Delay: 29.2												
Intersection Capacity Utilization 105.2%												
ICU Level of Service G												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↕ Ø2	↔ Ø3	↔ Ø4										
37.8 s	16.2 s	47.4 s										
↕ Ø6	↔ Ø7	↔ Ø8										
37.8 s	16.2 s	47.4 s										

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↕			↕	
Traffic Volume (veh/h)	0	0	0	141	58	25	5	355	162	7	338	39
Future Volume (Veh/h)	0	0	0	141	58	25	5	355	162	7	338	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	150	62	27	5	378	172	7	360	41
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	976	1004	430	918	939	514	426			575		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	931	962	430	868	891	429	426			495		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	36	75	95	100			99		
cM capacity (veh/h)	167	228	611	234	251	551	1133			962		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	150	89	555	408								
Volume Left	150	0	5	7								
Volume Right	0	27	172	41								
eSH	234	300	1133	962								
Volume to Capacity	0.64	0.30	0.00	0.01								
Queue Length 95th (m)	29.7	9.2	0.1	0.2								
Control Delay (s)	44.4	22.0	0.1	0.2								
Lane LOS	E	C	A	A								
Approach Delay (s)	36.0		0.1	0.2								
Approach LOS	E											
Intersection Summary												
Average Delay				7.3								
Intersection Capacity Utilization	49.4%			ICU Level of Service	A							
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	510	30	5	475
Future Volume (Veh/h)	0	0	510	30	5	475
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	543	32	5	505
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.88	0.88			0.88	
vC, conflicting volume	846	584			575	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	759	462			452	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	294	472			975	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	575	173	337			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	975	1700			
Volume to Capacity	0.34	0.01	0.20			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization	45.1%			ICU Level of Service	A	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	160	5	5	191	5	27	5	5	5	5	7
Future Volume (Veh/h)	5	160	5	5	191	5	27	5	5	5	5	7
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	170	5	5	203	5	29	5	5	5	5	7
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	233	200			458	450	222	456	450	256		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	233	200			458	450	222	456	450	256		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	100	100			94	99	99	99	99	99		
cM capacity (veh/h)	1305	1342			464	478	781	467	478	749		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	180	213	39	17								
Volume Left	5	5	29	5								
Volume Right	5	5	5	7								
cSH	1305	1342	491	557								
Volume to Capacity	0.00	0.00	0.08	0.03								
Queue Length 95th (m)	0.1	0.1	2.0	0.7								
Control Delay (s)	0.2	0.2	13.0	11.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.2	13.0	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	29.5%		ICU Level of Service		A							
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	116	5	5	127	6	7	6	5	5	5	6
Future Volume (Veh/h)	29	116	5	5	127	6	7	6	5	5	5	6
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	123	5	5	135	6	7	6	5	5	5	6
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	166	153			394	388	176	394	388	188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	166	153			394	388	176	394	388	188		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	100			99	99	99	99	99	99		
cM capacity (veh/h)	1381	1396			505	509	830	505	509	817		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	159	146	18	16								
Volume Left	31	5	7	5								
Volume Right	5	6	5	6								
cSH	1381	1396	568	591								
Volume to Capacity	0.02	0.00	0.03	0.03								
Queue Length 95th (m)	0.5	0.1	0.7	0.6								
Control Delay (s)	1.6	0.3	11.5	11.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.6	0.3	11.5	11.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay	2.0											
Intersection Capacity Utilization	35.8%		ICU Level of Service		A							
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	629	5	5	384	5	6	5	23	7	5	13
Future Volume (Veh/h)	10	629	5	5	384	5	6	5	23	7	5	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	669	5	5	409	5	6	5	24	7	5	14
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	439	699			1182	1168	722	1192	1168	462		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439	699			1182	1168	722	1192	1168	462		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	99	99			96	97	94	95	97	98		
cM capacity (veh/h)	1096	878			145	182	408	138	182	574		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	685	419	35	26								
Volume Left	11	5	6	7								
Volume Right	5	5	24	14								
cSH	1096	878	275	254								
Volume to Capacity	0.01	0.01	0.13	0.10								
Queue Length 95th (m)	0.2	0.1	3.3	2.6								
Control Delay (s)	0.3	0.2	20.0	20.8								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	20.0	20.8								
Approach LOS	C			C								
Intersection Summary												
Average Delay	1.3											
Intersection Capacity Utilization	56.3%			ICU Level of Service	B							
Analysis Period (min)	15											

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	15	625	26	36	318	10	45	8	201	17	7	20
Future Volume (Veh/h)	15	625	26	36	318	10	45	8	201	17	7	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	16	665	28	38	338	11	48	9	214	18	7	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	374	718			1205	1186	729	1399	1194	394		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	374	718			1205	1186	729	1399	1194	394		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	99	96			64	95	47	62	96	97		
cM capacity (veh/h)	1158	864			133	170	404	47	168	627		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	709	387	271	46								
Volume Left	16	38	48	18								
Volume Right	28	11	214	21								
cSH	1158	864	287	101								
Volume to Capacity	0.01	0.04	0.94	0.46								
Queue Length 95th (m)	0.3	1.0	69.2	14.9								
Control Delay (s)	0.4	1.4	78.7	67.8								
Lane LOS	A	A	F	F								
Approach Delay (s)	0.4	1.4	78.7	67.8								
Approach LOS	F			F								
Intersection Summary												
Average Delay	17.9											
Intersection Capacity Utilization	64.3%			ICU Level of Service	C							
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (veh/h)	29	52	36	5	61	116	54	110	5	27	24	17		
Future Volume (Veh/h)	29	52	36	5	61	116	54	110	5	27	24	17		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	31	55	38	5	65	123	57	117	5	29	26	18		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None			None										
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	213				118				354	384	124	386	342	176
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	213				118				354	384	124	386	342	176
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	98				100				89	77	99	93	95	98
cM capacity (veh/h)	1327				1438				514	511	886	426	540	829
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	124	193	179	73										
Volume Left	31	5	57	29										
Volume Right	38	123	5	18										
eSH	1327	1438	518	529										
Volume to Capacity	0.02	0.00	0.35	0.14										
Queue Length 95th (m)	0.5	0.1	11.6	3.6										
Control Delay (s)	2.1	0.2	15.6	12.9										
Lane LOS	A	A	C	B										
Approach Delay (s)	2.1	0.2	15.6	12.9										
Approach LOS	C			B										
Intersection Summary														
Average Delay	7.1													
Intersection Capacity Utilization	40.6%			ICU Level of Service	A									
Analysis Period (min)	15													

9: 25 St & 30 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	5	5	8	42	5	5	5	13	5	5
Future Volume (Veh/h)	5	5	5	5	8	42	5	5	5	13	5	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	5	5	9	45	5	5	5	14	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	152	106	58	110	106	58	35				35	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	152	106	58	110	106	58	35				35	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	99	99	99	99	95	100				99	
cM capacity (veh/h)	705	741	965	786	741	965	1541				1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	59	15	24								
Volume Left	5	5	5	14								
Volume Right	5	45	5	5								
eSH	788	906	1541	1541								
Volume to Capacity	0.02	0.07	0.00	0.01								
Queue Length 95th (m)	0.4	1.6	0.1	0.2								
Control Delay (s)	9.7	9.3	2.5	4.3								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.7	9.3	2.5	4.3								
Approach LOS	A		A									
Intersection Summary												
Average Delay	7.4											
Intersection Capacity Utilization	25.5%			ICU Level of Service	A							
Analysis Period (min)	15											

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	111	700	39	121	353	286	27	143	204	332	143	5
Future Volume (vph)	111	700	39	121	353	286	27	143	204	332	143	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.98	0.96			0.97		0.99	1.00	
Frt		0.992			0.933			0.918		0.995		
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3046	0	0	3041	0	1704	1782	0
Flt Permitted	0.279			0.204				0.921		0.517		
Satd. Flow (perm)	490	3364	0	360	3046	0	0	2808	0	914	1782	0
Satd. Flow (RTOR)		6			238			217			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	118	745	41	129	376	304	29	152	217	353	152	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	786	0	129	680	0	0	398	0	353	157	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		37.8	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		37.8	37.8		37.8	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		7.8	7.8	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5		5	5	
Act Effct Green (s)	34.9	25.2		35.3	25.4		30.2	30.2		30.2	30.2	
Actuated g/C Ratio	0.41	0.29		0.41	0.30		0.35	0.35		0.35	0.35	
v/c Ratio	0.37	0.79		0.45	0.63		0.35	1.10		1.10	0.25	
Control Delay	15.6	33.9		17.6	19.2		10.7	109.5		22.3	22.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.6	33.9		17.6	19.2		10.7	109.5		22.3	22.3	
LOS	B	C		B	B		B	F		C	C	
Approach Delay		31.5			18.9			10.7			82.7	
Approach LOS		C			B			B			F	
Queue Length 50th (m)	10.2	61.3		11.2	32.0		10.4	-65.0		17.4	17.4	
Queue Length 95th (m)	18.7	82.6		20.3	50.2		24.3	#131.9		36.6	36.6	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	351	1583		312	1556			1129		322	629	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.34	0.50		0.41	0.44			0.35		1.10	0.25	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 85.6												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.10												
Intersection Signal Delay: 34.4												
Intersection LOS: C												
Intersection Capacity Utilization 94.6%												
ICU Level of Service F												
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW



1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↕			↕	
Traffic Volume (veh/h)	0	0	0	96	102	11	5	482	268	8	312	68
Future Volume (Veh/h)	0	0	0	96	102	11	5	482	268	8	312	68
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	101	107	12	5	507	282	8	328	72
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	1154	1229	414	1088	1124	698	425			814		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1083	1174	414	1004	1047	534	425			674		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
pD queue free %	100	100	100	41	41	97	100			99		
cM capacity (veh/h)	80	153	624	170	182	433	1134			745		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	101	119	794	408								
Volume Left	101	0	5	8								
Volume Right	0	12	282	72								
cSH	170	194	1134	745								
Volume to Capacity	0.59	0.61	0.00	0.01								
Queue Length 95th (m)	24.3	26.5	0.1	0.2								
Control Delay (s)	53.1	49.4	0.1	0.3								
Lane LOS	F	E	A	A								
Approach Delay (s)	51.1		0.1	0.3								
Approach LOS	F											
Intersection Summary												
Average Delay				8.1								
Intersection Capacity Utilization	63.3%			ICU Level of Service			B					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	801	66	14	376
Future Volume (Veh/h)	0	0	801	66	14	376
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	843	69	15	396
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1130	902			912	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1043	761			773	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pD queue free %	100	100			98	
cM capacity (veh/h)	174	275			678	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	912	147	264			
Volume Left	0	15	0			
Volume Right	69	0	0			
cSH	1700	678	1700			
Volume to Capacity	0.54	0.02	0.16			
Queue Length 95th (m)	0.0	0.5	0.0			
Control Delay (s)	0.0	1.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization	63.1%		ICU Level of Service		B	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	229	12	13	169	5	67	5	16	5	5	5
Future Volume (Veh/h)	5	229	12	13	169	5	67	5	16	5	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	241	13	14	178	5	71	5	17	5	5	5
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	208			279			524	518	298	536	522	230
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	208			279			524	518	298	536	522	230
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	100			99			83	99	98	99	99	99
cM capacity (veh/h)	1333			1255			418	435	710	403	432	773
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	259	197	93	15								
Volume Left	5	14	71	5								
Volume Right	13	5	17	5								
cSH	1333	1255	453	493								
Volume to Capacity	0.00	0.01	0.21	0.03								
Queue Length 95th (m)	0.1	0.3	5.8	0.7								
Control Delay (s)	0.2	0.7	15.0	12.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.7	15.0	12.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			3.1									
Intersection Capacity Utilization			35.5%		ICU Level of Service			A				
Analysis Period (min)			15									

5: 25A St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	46	161	9	5	100	5	5	5	5	5	6	25
Future Volume (Veh/h)	46	161	9	5	100	5	5	5	5	5	6	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	169	9	5	105	5	5	5	5	5	6	26
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	135			203			466	440	224	444	442	158
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	135			203			466	440	224	444	442	158
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	97			100			99	99	99	99	99	97
cM capacity (veh/h)	1417			1338			437	471	780	464	470	849
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	226	115	15	37								
Volume Left	48	5	5	5								
Volume Right	9	5	5	26								
cSH	1417	1338	527	683								
Volume to Capacity	0.03	0.00	0.03	0.05								
Queue Length 95th (m)	0.8	0.1	0.7	1.3								
Control Delay (s)	1.8	0.4	12.0	10.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.8	0.4	12.0	10.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utilization			34.6%		ICU Level of Service			A				
Analysis Period (min)			15									

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		↔			↔			↔			↔					
Traffic Volume (veh/h)	17	537	14	12	652	11	5	5	34	5	5	16				
Future Volume (Veh/h)	17	537	14	12	652	11	5	5	34	5	5	16				
Sign Control	Free			Free			Stop			Stop						
Grade	0%			0%			0%			0%						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	18	565	15	13	686	12	5	5	36	5	5	17				
Pedestrians	25			25			25			25						
Lane Width (m)	3.5			3.5			3.5			3.5						
Walking Speed (m/s)	1.1			1.1			1.1			1.1						
Percent Blockage	2			2			2			2						
Right turn flare (veh)																
Median type	None			None												
Median storage (veh)																
Upstream signal (m)																
pX, platoon unblocked																
vC, conflicting volume	723		605		1396		1382		622		1415		1384		742	
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	723		605		1396		1382		622		1415		1384		742	
tC, single (s)	4.1		4.1		7.1		6.5		6.2		7.1		6.5		6.2	
tC, 2 stage (s)																
tF (s)	2.2		2.2		3.5		4.0		3.3		3.5		4.0		3.3	
pD queue free %	98		99		95		96		92		95		96		96	
cM capacity (veh/h)	860		951		99		133		465		93		132		397	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1												
Volume Total	598	711	46	27												
Volume Left	18	13	5	5												
Volume Right	15	12	36	17												
cSH	860	951	278	201												
Volume to Capacity	0.02	0.01	0.17	0.13												
Queue Length 95th (m)	0.5	0.3	4.4	3.5												
Control Delay (s)	0.6	0.4	20.5	25.7												
Lane LOS	A	A	C	D												
Approach Delay (s)	0.6	0.4	20.5	25.7												
Approach LOS			C	D												
Intersection Summary																
Average Delay	1.6															
Intersection Capacity Utilization	57.6%		ICU Level of Service		B											
Analysis Period (min)	15															

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations		↔			↔			↔			↔					
Traffic Volume (veh/h)	30	448	90	125	595	34	41	11	116	15	42	25				
Future Volume (Veh/h)	30	448	90	125	595	34	41	11	116	15	42	25				
Sign Control	Free			Free			Stop			Stop						
Grade	0%			0%			0%			0%						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	32	472	95	132	626	36	43	12	122	16	44	26				
Pedestrians	25			25			25			25						
Lane Width (m)	3.5			3.5			3.5			3.5						
Walking Speed (m/s)	1.1			1.1			1.1			1.1						
Percent Blockage	2			2			2			2						
Right turn flare (veh)																
Median type	None			None												
Median storage (veh)																
Upstream signal (m)																
pX, platoon unblocked																
vC, conflicting volume	687		592		1590		1560		570		1670		1589		694	
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	687		592		1590		1560		570		1670		1589		694	
tC, single (s)	4.1		4.1		7.1		6.5		6.2		7.1		6.5		6.2	
tC, 2 stage (s)																
tF (s)	2.2		2.2		3.5		4.0		3.3		3.5		4.0		3.3	
pD queue free %	96		86		0		87		76		62		49		94	
cM capacity (veh/h)	887		962		40		89		499		42		86		423	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1												
Volume Total	599	794	177	86												
Volume Left	32	132	43	16												
Volume Right	95	36	122	26												
cSH	887	962	121	90												
Volume to Capacity	0.04	0.14	1.46	0.96												
Queue Length 95th (m)	0.9	3.6	93.8	41.4												
Control Delay (s)	1.0	3.3	311.7	167.3												
Lane LOS	A	A	F	F												
Approach Delay (s)	1.0	3.3	311.7	167.3												
Approach LOS			F	F												
Intersection Summary																
Average Delay	43.9															
Intersection Capacity Utilization	100.3%		ICU Level of Service		G											
Analysis Period (min)	15															

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	45	67	70	5	48	72	36	57	5	117	112	20
Future Volume (Veh/h)	45	67	70	5	48	72	36	57	5	117	112	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	71	74	5	51	76	38	60	5	123	118	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	152	170			431			389	158	386	388	139
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	152	170			431			389	158	386	388	139
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	97	100			90			88	99	74	77	98
cM capacity (veh/h)	1397	1376			385			503	849	465	503	869
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	192	132	103	262								
Volume Left	47	5	38	123								
Volume Right	74	76	5	21								
cSH	1397	1376	460	501								
Volume to Capacity	0.03	0.00	0.22	0.52								
Queue Length 95th (m)	0.8	0.1	6.5	22.7								
Control Delay (s)	2.1	0.3	15.1	19.8								
Lane LOS	A	A	C	C								
Approach Delay (s)	2.1	0.3	15.1	19.8								
Approach LOS	C			C								
Intersection Summary												
Average Delay	10.4											
Intersection Capacity Utilization	44.2%			ICU Level of Service	A							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	12	5	5	7	24	5	5	5	41	6	5
Future Volume (Veh/h)	5	12	5	5	7	24	5	5	5	41	6	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	13	5	5	7	25	5	5	5	43	6	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	190	164	58	174	164	58	36				35	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	190	164	58	174	164	58	36				35	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	98	99	99	99	97	100				97	
cM capacity (veh/h)	671	675	963	699	675	965	1540				1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	23	37	15	54								
Volume Left	5	5	5	43								
Volume Right	5	25	5	5								
cSH	721	851	1540	1541								
Volume to Capacity	0.03	0.04	0.00	0.03								
Queue Length 95th (m)	0.8	1.0	0.1	0.7								
Control Delay (s)	10.2	9.4	2.5	5.9								
Lane LOS	B	A	A	A								
Approach Delay (s)	10.2	9.4	2.5	5.9								
Approach LOS	B	A										
Intersection Summary												
Average Delay	7.3											
Intersection Capacity Utilization	26.3%			ICU Level of Service	A							
Analysis Period (min)	15											

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	210	479	80	226	667	445	31	212	147	223	150	5
Future Volume (vph)	210	479	80	226	667	445	31	212	147	223	150	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	0.96			0.98		0.99	1.00	
Frt		0.979			0.940			0.943			0.995	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3291	0	1704	3083	0	0	3148	0	1704	1782	0
Flt Permitted	0.109			0.377				0.913		0.485		
Satd. Flow (perm)	195	3291	0	659	3083	0	0	2881	0	858	1782	0
Satd. Flow (RTOR)		22			185			128			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	221	504	84	238	702	468	33	223	155	235	158	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	221	588	0	238	1170	0	0	411	0	235	163	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8				2			6	
Detector Phase	7	4		3	8			2	2		6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0			10.0	10.0		10.0	10.0
Minimum Split (s)	13.2	27.4		13.2	27.4			37.8	37.8		37.8	37.8
Total Split (s)	16.2	47.4		16.2	47.4			37.8	37.8		37.8	37.8
Total Split (%)	16.0%	46.7%		16.0%	46.7%			37.3%	37.3%		37.3%	37.3%
Maximum Green (s)	10.0	40.0		10.0	40.0			30.0	30.0		30.0	30.0
Yellow Time (s)	3.0	4.2		3.0	4.2			3.8	3.8		3.8	3.8
All-Red Time (s)	3.2	3.2		3.2	3.2			4.0	4.0		4.0	4.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8	7.8		7.8	7.8
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Recall Mode	None	Min		None	Min			None	None		None	None
Walk Time (s)		8.0			8.0			8.0	8.0		8.0	8.0
Flash Dont Walk (s)		11.0			11.0			22.0	22.0		22.0	22.0
Pedestrian Calls (#/hr)		0			0			5	5		5	5
Act Effct Green (s)	48.1	36.8		47.2	36.3			28.7	28.7		28.7	28.7
Actuated g/C Ratio	0.50	0.38		0.49	0.38			0.30	0.30		0.30	0.30
v/c Ratio	0.87	0.46		0.56	0.92			0.43	0.93		0.31	0.31
Control Delay	54.9	23.1		17.2	36.6			20.5	75.8		28.7	28.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	54.9	23.1		17.2	36.6			20.5	75.8		28.7	28.7
LOS	D	C		B	D			C	E		C	C
Approach Delay		31.8			33.3			20.5			56.5	
Approach LOS		C			C			C			E	
Queue Length 50th (m)	26.3	42.2		22.2	95.8			23.0	44.7		24.5	
Queue Length 95th (m)	#68.6	57.1		35.4	#137.1			36.7	#90.6		41.5	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	254	1383		433	1391			987		267	557	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.87	0.43		0.55	0.84			0.42		0.88	0.29	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 96.7												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 34.2							Intersection LOS: C					
Intersection Capacity Utilization 110.1%							ICU Level of Service H					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↑ Ø2	↙ Ø3				→ Ø4							
37.8 s	16.2 s				47.4 s							
↓ Ø6	↖ Ø7				← Ø8							
37.8 s	16.2 s				47.4 s							

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↕			↖	↗
Traffic Volume (veh/h)	0	0	0	229	81	25	5	355	229	7	338	39
Future Volume (Veh/h)	0	0	0	229	81	25	5	355	229	7	338	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	244	86	27	5	378	244	7	360	41
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.89	0.89		0.89	0.89	0.89				0.89		
vC, conflicting volume	1024	1076	430	954	975	550	426			647		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	968	1026	430	889	912	436	426			545		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	0	64	95	100			99		
cM capacity (veh/h)	135	203	611	219	236	530	1133			894		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	244	113	627	408								
Volume Left	244	0	5	7								
Volume Right	0	27	244	41								
cSH	219	272	1133	894								
Volume to Capacity	1.11	0.42	0.00	0.01								
Queue Length 95th (m)	85.3	14.7	0.1	0.2								
Control Delay (s)	140.5	27.3	0.1	0.2								
Lane LOS	F	D	A	A								
Approach Delay (s)	104.7		0.1	0.2								
Approach LOS	F											
Intersection Summary												
Average Delay				27.0								
Intersection Capacity Utilization	56.9%			ICU Level of Service			B					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	577	30	5	563
Future Volume (Veh/h)	0	0	577	30	5	563
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	614	32	5	599
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	964	655			646	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	880	521			511	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	241	422			907	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	646	205	399			
Volume Left	0	5	0			
Volume Right	32	0	0			
cSH	1700	907	1700			
Volume to Capacity	0.38	0.01	0.23			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization	48.7%			ICU Level of Service		
Analysis Period (min)	15			A		

4: 28 St /28 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	227	5	5	302	5	27	5	5	5	5	7
Future Volume (Veh/h)	5	227	5	5	302	5	27	5	5	5	5	7
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	241	5	5	321	5	29	5	5	5	5	7
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	351	271			646	640	294	644	640	374		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	351	271			646	640	294	644	640	374		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	100	100			92	99	99	99	99	99		
cM capacity (veh/h)	1181	1264			346	373	713	348	373	643		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	251	331	39	17								
Volume Left	5	5	29	5								
Volume Right	5	5	5	7								
cSH	1181	1264	374	440								
Volume to Capacity	0.00	0.00	0.10	0.04								
Queue Length 95th (m)	0.1	0.1	2.6	0.9								
Control Delay (s)	0.2	0.2	15.7	13.5								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.2	0.2	15.7	13.5								
Approach LOS			C	B								
Intersection Summary												
Average Delay	1.5											
Intersection Capacity Utilization	35.6%			ICU Level of Service			A					
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	179	9	5	233	6	12	9	5	5	5	6
Future Volume (Veh/h)	29	179	9	5	233	6	12	9	5	5	5	6
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	190	10	5	248	6	13	10	5	5	5	6
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	279	225			576	571	245	578	573	301		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	279	225			576	571	245	578	573	301		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	100			97	98	99	99	99	99		
cM capacity (veh/h)	1255	1314			380	400	759	376	399	706		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	231	259	28	16								
Volume Left	31	5	13	5								
Volume Right	10	6	5	6								
cSH	1255	1314	426	466								
Volume to Capacity	0.02	0.00	0.07	0.03								
Queue Length 95th (m)	0.6	0.1	1.6	0.8								
Control Delay (s)	1.3	0.2	14.0	13.0								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.3	0.2	14.0	13.0								
Approach LOS			B	B								
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	42.4%				ICU Level of Service				A			
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	646	5	5	424	5	9	5	23	7	5	13
Future Volume (Veh/h)	10	646	5	5	424	5	9	5	23	7	5	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	687	5	5	451	5	10	5	24	7	5	14
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	481	717			1242			1228	740	1252	1228	504
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	481	717			1242			1228	740	1252	1228	504
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	99	99			92			97	94	94	97	97
cM capacity (veh/h)	1058	864			132			168	399	125	168	543
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	703	461	39	26								
Volume Left	11	5	10	7								
Volume Right	5	5	24	14								
cSH	1058	864	235	233								
Volume to Capacity	0.01	0.01	0.17	0.11								
Queue Length 95th (m)	0.2	0.1	4.4	2.8								
Control Delay (s)	0.3	0.2	23.3	22.4								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	23.3	22.4								
Approach LOS	C			C								
Intersection Summary												
Average Delay	1.4											
Intersection Capacity Utilization	57.5%			ICU Level of Service	B							
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	84	67	5	114	218	107	212	5	46	44	17
Future Volume (Veh/h)	29	84	67	5	114	218	107	212	5	46	44	17
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	89	71	5	121	232	114	226	5	49	47	18
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	378	185			525			600	174	602	519	287
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	378	185			525			600	174	602	519	287
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	97	100			70			41	99	75	89	97
cM capacity (veh/h)	1154	1359			374			385	831	198	428	719
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	191	358	345	114								
Volume Left	31	5	114	49								
Volume Right	71	232	5	18								
cSH	1154	1359	384	298								
Volume to Capacity	0.03	0.00	0.90	0.38								
Queue Length 95th (m)	0.6	0.1	69.9	13.1								
Control Delay (s)	1.5	0.1	57.2	24.3								
Lane LOS	A	A	F	C								
Approach Delay (s)	1.5	0.1	57.2	24.3								
Approach LOS	F			C								
Intersection Summary												
Average Delay	22.7											
Intersection Capacity Utilization	55.9%			ICU Level of Service	B							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	5	10	5	5	16	80	5	5	5	24	5	5	
Future Volume (Veh/h)	5	10	5	5	16	80	5	5	5	24	5	5	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	5	11	5	5	17	85	5	5	5	26	5	5	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type	None						None						
Median storage (veh)													
Upstream signal (m)	235												
pX, platoon unblocked							35						
vC, conflicting volume	220	130	58	138	130	58	35						35
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	220	130	58	138	130	58	35						35
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1						4.1
tC, 2 stage (s)													
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
pD queue free %	99	98	99	99	98	91	100						98
cM capacity (veh/h)	600	713	965	746	713	965	1541						1541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	21	107	15	36									
Volume Left	5	5	5	26									
Volume Right	5	85	5	5									
cSH	725	902	1541	1541									
Volume to Capacity	0.03	0.12	0.00	0.02									
Queue Length 95th (m)	0.7	3.1	0.1	0.4									
Control Delay (s)	10.1	9.5	2.5	5.4									
Lane LOS	B	A	A	A									
Approach Delay (s)	10.1	9.5	2.5	5.4									
Approach LOS	B	A											
Intersection Summary													
Average Delay	8.2												
Intersection Capacity Utilization	27.2%			ICU Level of Service	A								
Analysis Period (min)	15												

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations				↔	↔			↔			↔		
Traffic Volume (veh/h)	0	0	0	135	130	11	5	482	383	8	312	68	
Future Volume (Veh/h)	0	0	0	135	130	11	5	482	383	8	312	68	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	0	0	0	142	137	12	5	507	403	8	328	72	
Pedestrians	25			25			25			25			
Lane Width (m)	0.0			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	0			2			2			2			
Right turn flare (veh)													
Median type	None						None						
Median storage (veh)							78						
Upstream signal (m)	78												
pX, platoon unblocked	0.80	0.80		0.80	0.80	0.80						0.80	
vC, conflicting volume	1229	1350	414	1148	1184	758	425						935
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1159	1312	414	1058	1104	568	425						790
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1						4.1
tC, 2 stage (s)													
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
pD queue free %	100	100	100	5	15	97	100						99
cM capacity (veh/h)	36	121	624	150	162	397	1134						646
Direction, Lane #	WB 1	WB 2	NB 1	SB 1									
Volume Total	142	149	915	408									
Volume Left	142	0	5	8									
Volume Right	0	12	403	72									
cSH	150	170	1134	646									
Volume to Capacity	0.95	0.88	0.00	0.01									
Queue Length 95th (m)	52.0	47.8	0.1	0.3									
Control Delay (s)	119.7	94.3	0.1	0.4									
Lane LOS	F	F	A	A									
Approach Delay (s)	106.7		0.1	0.4									
Approach LOS	F												
Intersection Summary													
Average Delay	19.4												
Intersection Capacity Utilization	71.4%			ICU Level of Service	C								
Analysis Period (min)	15												

2: 29 St & 31 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔
Traffic Volume (veh/h)	0	0	916	66	14	415
Future Volume (Veh/h)	0	0	916	66	14	415
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	964	69	15	437
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	1272	1024			1033	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1207	888			900	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			97	
cM capacity (veh/h)	130	218			584	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	1033	161	291			
Volume Left	0	15	0			
Volume Right	69	0	0			
cSH	1700	584	1700			
Volume to Capacity	0.61	0.03	0.17			
Queue Length 95th (m)	0.0	0.6	0.0			
Control Delay (s)	0.0	1.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			69.3%		ICU Level of Service	C
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	344	12	13	236	5	67	5	16	5	5	5
Future Volume (Veh/h)	5	344	12	13	236	5	67	5	16	5	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	362	13	14	248	5	71	5	17	5	5	5
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	278			400				714	710	418	726	714
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	278			400				714	710	418	726	714
tC, single (s)	4.1			4.1				7.1	6.5	6.2	7.1	6.5
tC, 2 stage (s)												
tF (s)	2.2			2.2				3.5	4.0	3.3	3.5	4.0
pD queue free %	100			99				77	99	97	98	99
cM capacity (veh/h)	1256			1133				310	338	607	298	336
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	380	267	93	15								
Volume Left	5	14	71	5								
Volume Right	13	5	17	5								
cSH	1256	1133	342	387								
Volume to Capacity	0.00	0.01	0.27	0.04								
Queue Length 95th (m)	0.1	0.3	8.2	0.9								
Control Delay (s)	0.1	0.5	19.4	14.7								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.1	0.5	19.4	14.7								
Approach LOS			C	B								
Intersection Summary												
Average Delay				2.9								
Intersection Capacity Utilization				40.0%				ICU Level of Service			A	
Analysis Period (min)				15								

5: 25A St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	46	271	14	5	163	5	8	5	5	5	11	25
Future Volume (Veh/h)	46	271	14	5	163	5	8	5	5	5	11	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	285	15	5	172	5	8	5	5	5	12	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	202	325			655			626	342	630	630	224
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	202	325			655			626	342	630	630	224
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	96	100			98			99	99	99	97	97
cM capacity (veh/h)	1340	1207			321			368	670	347	366	779
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	348	182	18	43								
Volume Left	48	5	8	5								
Volume Right	15	5	5	26								
cSH	1340	1207	391	534								
Volume to Capacity	0.04	0.00	0.05	0.08								
Queue Length 95th (m)	0.8	0.1	1.1	2.0								
Control Delay (s)	1.4	0.3	14.6	12.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.4	0.3	14.6	12.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay	2.2											
Intersection Capacity Utilization	49.1%			ICU Level of Service			A					
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	17	614	19	12	687	11	6	5	34	5	5	16
Future Volume (Veh/h)	17	614	19	12	687	11	6	5	34	5	5	16
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	646	20	13	723	12	6	5	36	5	5	17
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	760	691			1516			1503	706	1536	1507	779
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	760	691			1516			1503	706	1536	1507	779
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	98	99			93			96	91	93	96	96
cM capacity (veh/h)	833	884			81			112	417	75	111	379
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	684	748	47	27								
Volume Left	18	13	6	5								
Volume Right	20	12	36	17								
cSH	833	884	229	173								
Volume to Capacity	0.02	0.01	0.20	0.16								
Queue Length 95th (m)	0.5	0.3	5.7	4.1								
Control Delay (s)	0.6	0.4	24.7	29.6								
Lane LOS	A	A	C	D								
Approach Delay (s)	0.6	0.4	24.7	29.6								
Approach LOS			C	D								
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	60.3%				ICU Level of Service				B			
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	122	125	5	79	125	68	110	5	222	214	20
Future Volume (Veh/h)	45	122	125	5	79	125	68	110	5	222	214	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	128	132	5	83	132	72	116	5	234	225	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	240	285			630			563	244	560	563	199
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	240	285			630			563	244	560	563	199
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	96	100			62			71	99	23	44	97
cM capacity (veh/h)	1297	1249			192			400	760	304	400	805
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	307	220	193	480								
Volume Left	47	5	72	234								
Volume Right	132	132	5	21								
cSH	1297	1249	287	353								
Volume to Capacity	0.04	0.00	0.67	1.36								
Queue Length 95th (m)	0.9	0.1	33.9	178.6								
Control Delay (s)	1.5	0.2	39.9	208.7								
Lane LOS	A	A	E	F								
Approach Delay (s)	1.5	0.2	39.9	208.7								
Approach LOS	E			F								
Intersection Summary												
Average Delay	90.3											
Intersection Capacity Utilization	73.0%			ICU Level of Service			D					
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	22	5	5	13	43	5	5	5	78	6	5
Future Volume (Veh/h)	5	22	5	5	13	43	5	5	5	78	6	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	23	5	5	14	45	5	5	5	82	6	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	292	242	58	256	242	58	36				35	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292	242	58	256	242	58	36				35	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	96	99	99	98	95	100				95	
cM capacity (veh/h)	547	595	963	595	595	965	1540				1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	33	64	15	93								
Volume Left	5	5	5	82								
Volume Right	5	45	5	5								
cSH	623	814	1540	1541								
Volume to Capacity	0.05	0.08	0.00	0.05								
Queue Length 95th (m)	1.3	1.9	0.1	1.3								
Control Delay (s)	11.1	9.8	2.5	6.6								
Lane LOS	B	A	A	A								
Approach Delay (s)	11.1	9.8	2.5	6.6								
Approach LOS	B		A									
Intersection Summary												
Average Delay	8.0											
Intersection Capacity Utilization	29.4%			ICU Level of Service			A					
Analysis Period (min)	15											

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	15	625	26	36	318	10	45	8	201	17	7	20
Future Volume (vph)	15	625	26	36	318	10	45	8	201	17	7	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.94			0.96	
Frt		0.995			0.996			0.893			0.938	
Flt Protected		0.999			0.995			0.991			0.981	
Satd. Flow (prot)	0	1778	0	0	1774	0	0	1503	0	0	1600	0
Flt Permitted		0.989			0.905			0.934			0.865	
Satd. Flow (perm)	0	1760	0	0	1612	0	0	1407	0	0	1398	0
Satd. Flow (RTOR)		5			4			167			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	665	28	38	338	11	48	9	214	18	7	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	709	0	0	387	0	0	271	0	0	46	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%		41.7%	41.7%	
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		24.0			24.0			11.6			11.6	
Actuated g/C Ratio		0.52			0.52			0.25			0.25	
v/c Ratio		0.77			0.46			0.56			0.12	
Control Delay		16.2			9.1			12.0			11.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.2			9.1			12.0			11.0	
LOS		B			A			B			B	
Approach Delay		16.2			9.1			12.0			11.0	
Approach LOS		B			A			B			B	
Queue Length 50th (m)		34.7			14.9			6.1			1.4	
Queue Length 95th (m)		#95.1			39.5			25.2			7.8	

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		1177			1078			719			634	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.60			0.36			0.38			0.07	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 45.8												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.77												
Intersection Signal Delay: 13.3												
Intersection LOS: B												
Intersection Capacity Utilization 66.0%												
ICU Level of Service C												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	448	90	125	595	34	41	11	116	15	42	25
Future Volume (vph)	30	448	90	125	595	34	41	11	116	15	42	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.95			0.97	
Frt		0.979			0.994			0.907			0.959	
Flt Protected		0.997			0.992			0.988			0.991	
Satd. Flow (prot)	0	1733	0	0	1763	0	0	1533	0	0	1670	0
Flt Permitted		0.944			0.822			0.890			0.928	
Satd. Flow (perm)	0	1640	0	0	1458	0	0	1369	0	0	1556	0
Satd. Flow (RTOR)		23			6			122			26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	472	95	132	626	36	43	12	122	16	44	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	599	0	0	794	0	0	177	0	0	86	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%		41.7%	41.7%	
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		34.1			34.1			10.5			10.5	
Actuated g/C Ratio		0.68			0.68			0.21			0.21	
v/c Ratio		0.54			0.81			0.47			0.25	
Control Delay		8.3			19.1			11.4			14.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.3			19.1			11.4			14.7	
LOS		A			B			B			B	
Approach Delay		8.3			19.1			11.4			14.7	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		26.4			51.1			4.1			4.5	
Queue Length 95th (m)		57.8			#133.2			16.8			13.3	

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		1113			985			615			632	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.54			0.81			0.29			0.14	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 50.5												
Natural Cycle: 75												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 14.1							Intersection LOS: B					
Intersection Capacity Utilization 102.8%							ICU Level of Service G					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	111	700	39	121	353	286	27	143	204	332	143	5
Future Volume (vph)	111	700	39	121	353	286	27	143	204	332	143	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.98	0.96			0.94		0.99	1.00	
Frt		0.992			0.933			0.918			0.995	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3046	0	0	2935	0	1704	1782	0
Flt Permitted	0.279			0.204				0.914		0.291		
Satd. Flow (perm)	490	3364	0	360	3046	0	0	2690	0	515	1782	0
Satd. Flow (RTOR)		6			238			217			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	118	745	41	129	376	304	29	152	217	353	152	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	786	0	129	680	0	0	398	0	353	157	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		17.8	17.8		20.0	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		17.8	17.8		20.0	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		17.6%	17.6%		19.7%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		10.0	10.0		16.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		0.5	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		4.0	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0						8.0	
Flash Dont Walk (s)		11.0			11.0						22.0	
Pedestrian Calls (#/hr)		0			0						5	
Act Effct Green (s)	34.9	25.2		35.3	25.4			10.1		34.0	30.2	
Actuated g/C Ratio	0.41	0.29		0.41	0.30			0.12		0.40	0.35	
v/c Ratio	0.37	0.79		0.45	0.63			0.79		0.83	0.25	
Control Delay	15.6	33.9		17.6	19.2			29.7		40.1	22.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	15.6	33.9		17.6	19.2			29.7		40.1	22.3	
LOS	B	C		B	B			C		D	C	
Approach Delay		31.5			18.9			29.7			34.6	
Approach LOS		C			B			C			C	
Queue Length 50th (m)	10.2	61.3		11.2	32.0			14.7		42.2	17.4	
Queue Length 95th (m)	18.7	82.6		20.3	50.2			#40.6		#94.1	36.6	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	351	1583		312	1556			507		427	629	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.34	0.50		0.41	0.44			0.79		0.83	0.25	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 85.6												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 28.0												
Intersection LOS: C												
Intersection Capacity Utilization 87.7%												
ICU Level of Service E												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↙	↕	↘	↙	↕	↘	↙	↕	↘	↙	↕	↘	↙
30 s	17.8 s	16.2 s	47.4 s	37.8 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	210	479	80	226	667	445	31	212	147	223	150	5
Future Volume (vph)	210	479	80	226	667	445	31	212	147	223	150	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	0.96			0.97		0.99	1.00	
Frt		0.979			0.940			0.943			0.995	
Frt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3291	0	1704	3083	0	0	3122	0	1704	1782	0
Frt Permitted	0.110			0.380				0.906		0.320		
Satd. Flow (perm)	197	3291	0	664	3083	0	0	2835	0	567	1782	0
Satd. Flow (RTOR)		22			185			110			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	221	504	84	238	702	468	33	223	155	235	158	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	221	588	0	238	1170	0	0	411	0	235	163	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		17.8	17.8		11.5	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		25.8	25.8		12.0	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		25.4%	25.4%		11.8%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		18.0	18.0		8.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		0.5	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		4.0	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0						8.0	
Flash Dont Walk (s)		11.0			11.0						22.0	
Pedestrian Calls (#/hr)		0			0						5	
Act Effct Green (s)	47.5	36.2		46.5	35.7			14.8		30.8	26.9	
Actuated g/C Ratio	0.50	0.38		0.49	0.38			0.16		0.33	0.29	
v/c Ratio	0.85	0.46		0.55	0.91			0.76		0.83	0.32	
Control Delay	50.7	22.4		16.4	35.3			38.2		53.5	29.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	50.7	22.4		16.4	35.3			38.2		53.5	29.0	
LOS	D	C		B	D			D		D	C	
Approach Delay		30.2			32.1			38.2			43.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	25.0	40.6		21.0	92.1			29.4		35.5	24.5	
Queue Length 95th (m)	#68.3	57.1		35.4	#137.1			45.9		#73.4	41.5	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
After Development (50% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	260	1421		442	1425			634		282	573	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.85	0.41		0.54	0.82			0.65		0.83	0.28	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 94.3												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 33.9							Intersection LOS: C					
Intersection Capacity Utilization 103.1%							ICU Level of Service G					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8				
	12 s	25.8 s	16.2 s	47.4 s		37.8 s	16.2 s	47.4 s				

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	29	84	67	5	114	218	107	212	5	46	44	17
Future Volume (vph)	29	84	67	5	114	218	107	212	5	46	44	17
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	89	71	5	121	232	114	226	5	49	47	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	191	358	345	114								
Volume Left (vph)	31	5	114	49								
Volume Right (vph)	71	232	5	18								
Hadj (s)	-0.16	-0.35	0.09	0.03								
Departure Headway (s)	5.8	5.3	5.7	6.1								
Degree Utilization, x	0.31	0.52	0.55	0.19								
Capacity (veh/h)	559	638	586	495								
Control Delay (s)	11.3	14.0	15.5	10.6								
Approach Delay (s)	11.3	14.0	15.5	10.6								
Approach LOS	B	B	C	B								
Intersection Summary												
Delay	13.6											
Level of Service	B											
Intersection Capacity Utilization	55.9%		ICU Level of Service		B							
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	45	122	125	5	79	125	68	110	5	222	214	20
Future Volume (vph)	45	122	125	5	79	125	68	110	5	222	214	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	128	132	5	83	132	72	116	5	234	225	21
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	307	220	193	480								
Volume Left (vph)	47	5	72	234								
Volume Right (vph)	132	132	5	21								
Hadj (s)	-0.19	-0.32	0.09	0.11								
Departure Headway (s)	6.5	6.6	6.9	6.2								
Degree Utilization, x	0.55	0.40	0.37	0.83								
Capacity (veh/h)	505	489	464	552								
Control Delay (s)	17.1	13.9	13.8	32.5								
Approach Delay (s)	17.1	13.9	13.8	32.5								
Approach LOS	C	B	B	D								
Intersection Summary												
Delay	22.1											
Level of Service	C											
Intersection Capacity Utilization	73.0%		ICU Level of Service		D							
Analysis Period (min)	15											

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	229	81	25	5	355	229	7	338	39
Future Volume (vph)	0	0	0	229	81	25	5	355	229	7	338	39
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.98			1.00	0.94		0.99	
Frt				0.964				0.850		0.986		
Flt Protected				0.950				0.999		0.999		
Satd. Flow (prot)	0	0	0	1704	1701	0	0	1792	1525	0	1755	0
Flt Permitted				0.950				0.995		0.993		
Satd. Flow (perm)	0	0	0	1666	1701	0	0	1784	1427	0	1744	0
Satd. Flow (RTOR)					27			244		13		
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	244	86	27	5	378	244	7	360	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	244	113	0	0	383	244	0	408	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2		6		6
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				26.0	26.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)				43.3%	43.3%		56.7%	56.7%	56.7%	56.7%	56.7%	
Maximum Green (s)				21.0	21.0		29.0	29.0	29.0	29.0	29.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				11.9	11.9		20.4	20.4		20.4		
Actuated g/C Ratio				0.28	0.28		0.48	0.48		0.48		
v/c Ratio				0.52	0.23		0.45	0.30		0.48		
Control Delay				17.3	10.5		9.9	2.6		10.1		
Queue Delay				0.0	0.0		0.1	0.0		0.0		
Total Delay				17.3	10.5		10.0	2.6		10.1		
LOS				B	B		B	A		B		
Approach Delay					15.1			7.1			10.1	
Approach LOS					B			A			B	
Queue Length 50th (m)				14.5	4.6		15.2	0.0		16.0		
Queue Length 95th (m)				30.1	13.0		38.6	8.7		41.0		

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Internal Link Dist (m)	24.5			50.0			98.2			8.0			53.6
Turn Bay Length (m)				831			862			1229			1058
Base Capacity (vph)				831			862			1229			1058
Starvation Cap Reductn				0			0			195			70
Spillback Cap Reductn				0			0			0			0
Storage Cap Reductn				0			0			0			0
Reduced v/c Ratio				0.29			0.13			0.37			0.25
Intersection Summary													
Cycle Length: 60													
Actuated Cycle Length: 42.3													
Natural Cycle: 50													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 0.52													
Intersection Signal Delay: 10.1													
Intersection LOS: B													
Intersection Capacity Utilization 48.2%													
ICU Level of Service A													
Analysis Period (min) 15													
Splits and Phases: 1: 29 St & Richmond Road SW													

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (vph)	15	625	43	55	318	10	85	13	360	17	10	20
Future Volume (vph)	15	625	43	55	318	10	85	13	360	17	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.94			0.97	
Frt		0.991			0.996			0.894			0.943	
Flt Protected		0.999			0.993			0.991			0.982	
Satd. Flow (prot)	0	1768	0	0	1771	0	0	1505	0	0	1614	0
Flt Permitted		0.989			0.859			0.929			0.846	
Satd. Flow (perm)	0	1750	0	0	1530	0	0	1402	0	0	1384	0
Satd. Flow (RTOR)		8			3			156			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	665	46	59	338	11	90	14	383	18	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	727	0	0	408	0	0	487	0	0	50	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	34.0	34.0		34.0	34.0		26.0	26.0		26.0	26.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	29.0	29.0		29.0	29.0		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		26.1			26.1			17.6			17.6	
Actuated g/C Ratio		0.48			0.48			0.33			0.33	
v/c Ratio		0.86			0.55			0.87			0.11	
Control Delay		25.6			13.9			30.2			9.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		25.6			13.9			30.2			9.8	
LOS		C			B			C			A	
Approach Delay		25.6			13.9			30.2			9.8	
Approach LOS		C			B			C			A	
Queue Length 50th (m)		64.8			29.1			32.4			2.1	
Queue Length 95th (m)		#128.0			51.7			#81.5			7.9	

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		967			844			653			564	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.75			0.48			0.75			0.09	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 54												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.87												
Intersection Signal Delay: 23.6							Intersection LOS: C					
Intersection Capacity Utilization 90.0%							ICU Level of Service E					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												
	↑ Ø2									→ Ø4		
	36 s									34 s		
	↓ Ø6									← Ø8		
	26 s									34 s		

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	625	43	55	318	10	85	13	360	17	10	20
Future Volume (vph)	15	625	43	55	318	10	85	13	360	17	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99	1.00			0.97	0.93			0.96
Frt		0.991			0.995				0.850			0.943
Ft Protected		0.999		0.950				0.959				0.982
Satd. Flow (prot)	0	1768	0	1704	1781	0	0	1720	1525	0	1614	0
Ft Permitted		0.990		0.342				0.726				0.895
Satd. Flow (perm)	0	1752	0	607	1781	0	0	1263	1422	0	1454	0
Satd. Flow (RTOR)		8			4				167			21
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	665	46	59	338	11	90	14	383	18	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	727	0	59	349	0	0	104	383	0	50	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2		6	
Detector Phase	4	4		8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	None
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		25.1		25.1	25.1			14.2	14.2			14.2
Actuated g/C Ratio		0.51		0.51	0.51			0.29	0.29			0.29
v/c Ratio		0.82		0.19	0.39			0.29	0.73			0.12
Control Delay		20.8		9.6	9.6			16.9	18.4			10.5
Queue Delay		0.9		0.0	0.0			0.0	0.0			0.0
Total Delay		21.7		9.6	9.6			16.9	18.4			10.5
LOS		C		A	A			B	B			B
Approach Delay		21.7			9.6			18.1				10.5
Approach LOS		C			A			B				B
Queue Length 50th (m)		46.7		2.5	16.3			7.1	15.9			1.9
Queue Length 95th (m)		#124.2		9.3	37.7			18.2	44.6			8.1

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5				62.9
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1095		378	1112			525	688			616
Starvation Cap Reductn		146		0	0			0	0			0
Spillback Cap Reductn		0		0	0			0	0			0
Storage Cap Reductn		0		0	0			0	0			0
Reduced v/c Ratio		0.77		0.16	0.31			0.20	0.56			0.08
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 49.6												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 17.4							Intersection LOS: B					
Intersection Capacity Utilization 88.2%							ICU Level of Service E					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	135	130	11	5	482	383	8	312	68
Future Volume (vph)	0	0	0	135	130	11	5	482	383	8	312	68
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.99			1.00	0.94		0.99	
Frt				0.988				0.850			0.976	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	0	0	1704	1762	0	0	1794	1525	0	1729	0
Flt Permitted				0.950				0.996			0.990	
Satd. Flow (perm)	0	0	0	1666	1762	0	0	1786	1427	0	1713	0
Satd. Flow (RTOR)					8				403		26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	142	137	12	5	507	403	8	328	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	142	149	0	0	512	403	0	408	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				10.6	10.6		25.4	25.4			25.4	
Actuated g/C Ratio				0.25	0.25		0.61	0.61			0.61	
v/c Ratio				0.34	0.33		0.47	0.39			0.39	
Control Delay				15.9	15.0		8.6	2.2			7.3	
Queue Delay				0.0	0.0		0.1	0.0			0.0	
Total Delay				15.9	15.0		8.8	2.2			7.3	
LOS				B	B		A	A			A	
Approach Delay					15.5			5.9			7.3	
Approach LOS					B			A			A	
Queue Length 50th (m)				7.9	7.8		21.3	0.0			14.6	
Queue Length 95th (m)				21.4	21.3		46.5	9.1			33.4	

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5							98.2			8.0	53.6
Turn Bay Length (m)				50.0								
Base Capacity (vph)				801	852			1378	1193		1328	
Starvation Cap Reductn				0	0			209	85		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.18	0.17			0.44	0.36		0.31	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 41.9												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.47												
Intersection Signal Delay: 8.0							Intersection LOS: A					
Intersection Capacity Utilization 57.0%							ICU Level of Service B					
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	448	167	222	595	34	76	13	185	15	73	25
Future Volume (vph)	30	448	167	222	595	34	76	13	185	15	73	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			0.95			0.98	
Frt		0.965			0.995			0.909			0.971	
Flt Protected		0.998			0.987			0.986			0.993	
Satd. Flow (prot)	0	1699	0	0	1757	0	0	1534	0	0	1704	0
Flt Permitted		0.942			0.681			0.885			0.942	
Satd. Flow (perm)	0	1603	0	0	1209	0	0	1365	0	0	1612	0
Satd. Flow (RTOR)		42			5			187			25	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	472	176	234	626	36	80	14	195	16	77	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	680	0	0	896	0	0	289	0	0	119	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%		41.7%	41.7%	
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		30.1			30.1			12.0			12.0	
Actuated g/C Ratio		0.58			0.58			0.23			0.23	
v/c Ratio		0.72			1.28			0.63			0.31	
Control Delay		14.6			154.5			13.7			15.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.6			154.5			13.7			15.6	
LOS		B			F			B			B	
Approach Delay		14.6			154.5			13.7			15.6	
Approach LOS		B			F			B			B	
Queue Length 50th (m)		31.9			~104.7			7.9			7.2	
Queue Length 95th (m)		#110.2			#196.3			25.8			17.2	

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		943			700			640			636	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.72			1.28			0.45			0.19	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 52.1												
Natural Cycle: 110												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.28												
Intersection Signal Delay: 77.7							Intersection LOS: E					
Intersection Capacity Utilization 121.4%							ICU Level of Service H					
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Split and Phases: 7: 25 St & 26 Ave SW												
	↑ Ø2											→ Ø4
	25 s											35 s
	↓ Ø6											← Ø8
	25 s											35 s

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	448	167	222	595	34	76	13	185	15	73	25
Future Volume (vph)	30	448	167	222	595	34	76	13	185	15	73	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.99	1.00			0.97	0.93		0.98	
Frt		0.965		0.992				0.850		0.971		
Flt Protected		0.998		0.950				0.959		0.993		
Satd. Flow (prot)	0	1699	0	1704	1773	0	0	1720	1525	0	1704	0
Flt Permitted		0.958		0.412				0.798		0.943		
Satd. Flow (perm)	0	1630	0	731	1773	0	0	1393	1422	0	1611	0
Satd. Flow (RTOR)		42		7				195		25		
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	472	176	234	626	36	80	14	195	16	77	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	680	0	234	662	0	0	94	195	0	119	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		8		8		2		6		6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6		6
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0		25.0
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0	25.0	25.0		25.0
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%	41.7%	41.7%		41.7%
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0	20.0	20.0		20.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5		1.5
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0			0.0
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0			5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None		None
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0		8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0		12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		29.2		29.2	29.2			10.7	10.7			10.7
Actuated g/C Ratio		0.64		0.64	0.64			0.24	0.24			0.24
v/c Ratio		0.64		0.50	0.58			0.29	0.40			0.30
Control Delay		10.6		11.6	9.4			18.5	6.3			15.4
Queue Delay		0.2		0.0	0.0			0.0	0.0			0.0
Total Delay		10.9		11.6	9.4			18.5	6.3			15.4
LOS		B		B	A			B	A			B
Approach Delay		10.9			10.0			10.3				15.4
Approach LOS		B			B			B				B
Queue Length 50th (m)		31.5		10.2	30.8			6.0	0.0			6.0
Queue Length 95th (m)		73.0		31.2	66.1			17.1	12.1			17.8

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5				62.9
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1182		525	1274			620	741			731
Starvation Cap Reductn		105		0	0			0	0			0
Spillback Cap Reductn		0		0	0			0	0			0
Storage Cap Reductn		0		0	0			0	0			0
Reduced v/c Ratio		0.63		0.45	0.52			0.15	0.26			0.16
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 45.5												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.64												
Intersection Signal Delay: 10.7							Intersection LOS: B					
Intersection Capacity Utilization 99.2%							ICU Level of Service F					
Analysis Period (min) 15												
Splits and Phases: 7: 25 St & 26 Ave SW												

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

AM Peak Hour
After Development (100% Build Out)

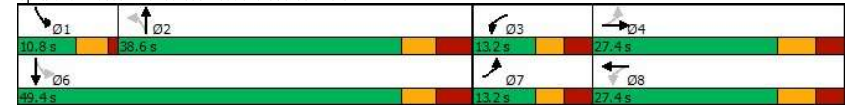
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	133	700	39	121	353	321	27	153	204	392	171	5
Future Volume (vph)	133	700	39	121	353	321	27	153	204	392	171	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99	0.96			0.98		0.99	1.00	
Frt		0.992			0.929			0.920		0.996		0.996
Ft Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3025	0	0	3056	0	1704	1785	0
Ft Permitted	0.243			0.246				0.909		0.374		
Satd. Flow (perm)	429	3364	0	436	3025	0	0	2785	0	663	1785	0
Satd. Flow (RTOR)		6			234			217			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	141	745	41	129	376	341	29	163	217	417	182	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	786	0	129	717	0	0	409	0	417	187	0
Turn Type	pm-pt	NA		pm-pt	NA		Perm	NA		pm-pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8				2		6		
Detector Phase	7	4		3	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		9.5	37.8	
Total Split (s)	13.2	27.4		13.2	27.4		38.6	38.6		10.8	49.4	
Total Split (%)	14.7%	30.4%		14.7%	30.4%		42.9%	42.9%		12.0%	54.9%	
Maximum Green (s)	7.0	20.0		7.0	20.0		30.8	30.8		6.3	41.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		11.0			11.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			5			5	
Act Effct Green (s)	29.8	23.0		28.5	20.2			13.9		28.1	24.8	
Actuated g/C Ratio	0.40	0.31		0.39	0.27			0.19		0.38	0.34	
v/c Ratio	0.48	0.75		0.44	0.72			0.58		1.22	0.31	
Control Delay	20.1	30.9		19.0	21.9			15.3		144.8	18.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		1.0	0.1	
Total Delay	20.1	30.9		19.0	21.9			15.3		145.8	18.9	
LOS	C	C		B	C			B		F	B	
Approach Delay		29.3			21.5			15.3			106.5	
Approach LOS		C			C			B			F	
Queue Length 50th (m)	9.4	49.0		8.5	28.5			12.2		-60.9	18.5	
Queue Length 95th (m)	#29.3	#112.5		26.4	#70.6			23.4		#110.7	31.6	

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

AM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			158.5			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	295	1054		290	999			1301		342	1018	
Starvation Cap Reductn	0	0		0	0			0		30	254	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.48	0.75		0.44	0.72			0.31		1.34	0.24	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 73.7												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.22												
Intersection Signal Delay: 41.6												
Intersection LOS: D												
Intersection Capacity Utilization 97.3%												
ICU Level of Service F												
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW



3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	253	479	80	226	667	494	31	235	147	248	164	5
Future Volume (vph)	253	479	80	226	667	494	31	235	147	248	164	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98		0.97	0.95			0.98		0.99	1.00	
Frt		0.979			0.936			0.947		0.996		
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3282	0	1704	3036	0	0	3154	0	1704	1784	0
Flt Permitted	0.081			0.394				0.905		0.278		
Satd. Flow (perm)	145	3282	0	689	3036	0	0	2860	0	491	1784	0
Satd. Flow (RTOR)		16			158			76			1	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	266	504	84	238	702	520	33	247	155	261	173	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	266	588	0	238	1222	0	0	435	0	261	178	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		9.5	37.8	
Total Split (s)	23.0	51.3		24.7	53.0		38.8	38.8		15.2	54.0	
Total Split (%)	17.7%	39.5%		19.0%	40.8%		29.8%	29.8%		11.7%	41.5%	
Maximum Green (s)	16.8	43.9		18.5	45.6		31.0	31.0		10.7	46.2	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	66.8	49.1		60.3	45.7		20.7	39.2		39.2	35.9	
Actuated g/C Ratio	0.56	0.41		0.50	0.38		0.17	0.33		0.33	0.30	
v/c Ratio	0.89	0.43		0.52	0.97		0.78	0.97		0.97	0.33	
Control Delay	63.2	27.4		17.8	52.4		49.2	83.6		34.0		
Queue Delay	0.0	0.0		0.0	0.0		0.0	39.8		1.0		
Total Delay	63.2	27.4		17.8	52.4		49.2	123.4		35.0		
LOS	E	C		B	D		D	F		C		
Approach Delay		38.6			46.8			49.2			87.6	
Approach LOS		D			D			D			F	
Queue Length 50th (m)	45.9	49.4		25.4	132.0		43.1	48.5		32.3		
Queue Length 95th (m)	#108.8	79.0		46.9	#204.4		60.6	#96.4		50.9		

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

PM Peak Hour
After Development (100% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			158.5			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	299	1354		532	1254			797		269	689	
Starvation Cap Reductn	0	0		0	0			0		41	313	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.89	0.43		0.45	0.97			0.55		1.14	0.47	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 119.9												
Natural Cycle: 130												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.97												
Intersection Signal Delay: 50.5							Intersection LOS: D					
Intersection Capacity Utilization 115.1%							ICU Level of Service H					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8				
	15.2 s	38.8 s	24.7 s	51.3 s		51 s	25 s	53 s				

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↕			↕	
Traffic Volume (veh/h)	0	0	0	80	70	40	5	430	205	10	410	60
Future Volume (Veh/h)	0	0	0	80	70	40	5	430	205	10	410	60
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	85	74	43	5	457	218	11	436	64
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.79	0.79		0.79	0.79	0.79				0.79		
vC, conflicting volume	1196	1225	518	1116	1148	616	525			700		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1116	1153	518	1015	1056	384	525			490		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	47	57	91	100			99		
cM capacity (veh/h)	84	150	545	159	171	503	1042			831		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	85	117	680	511								
Volume Left	85	0	5	11								
Volume Right	0	43	218	64								
cSH	159	226	1042	831								
Volume to Capacity	0.53	0.52	0.00	0.01								
Queue Length 95th (m)	20.3	20.4	0.1	0.3								
Control Delay (s)	51.0	36.8	0.1	0.4								
Lane LOS	F	E	A	A								
Approach Delay (s)	42.7		0.1	0.4								
Approach LOS	E											
Intersection Summary												
Average Delay				6.4								
Intersection Capacity Utilization				56.8%			ICU Level of Service			B		
Analysis Period (min)				15								

2: 29 St & 31 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	640	30	5	485
Future Volume (Veh/h)	0	0	640	30	5	485
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	681	32	5	516
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	990	722			713	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	846	503			491	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	228	392			834	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	713	177	344			
Volume Left	0	5	0			
Volume Right	32	0	0			
cSH	1700	834	1700			
Volume to Capacity	0.42	0.01	0.20			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization				52.1%		
Analysis Period (min)				15		
				ICU Level of Service		
				A		

4: 28 St /28 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	195	10	5	140	5	35	5	5	5	5	15
Future Volume (Veh/h)	10	195	10	5	140	5	35	5	5	5	5	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	207	11	5	149	5	37	5	5	5	5	16
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	179			243			464	448	262	454	452	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	179			243			464	448	262	454	452	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			92	99	99	99	99	98
cM capacity (veh/h)	1366			1294			452	478	742	466	476	803
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	229	159	47	26								
Volume Left	11	5	37	5								
Volume Right	11	5	5	16								
cSH	1366	1294	475	632								
Volume to Capacity	0.01	0.00	0.10	0.04								
Queue Length 95th (m)	0.2	0.1	2.5	1.0								
Control Delay (s)	0.4	0.3	13.4	10.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.3	13.4	10.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			33.3%		ICU Level of Service				A			
Analysis Period (min)			15									

5: 25A St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	30	170	5	5	85	10	5	5	5	10	5	10
Future Volume (Veh/h)	30	170	5	5	85	10	5	5	5	10	5	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	32	181	5	5	90	11	5	5	5	11	5	11
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	126			211			416	408	234	410	406	146
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	126			211			416	408	234	410	406	146
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	99	99	98	99	99
cM capacity (veh/h)	1428			1329			485	496	770	493	498	862
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	218	106	15	27								
Volume Left	32	5	5	11								
Volume Right	5	11	5	11								
cSH	1428	1329	558	598								
Volume to Capacity	0.02	0.00	0.03	0.05								
Queue Length 95th (m)	0.5	0.1	0.6	1.1								
Control Delay (s)	1.3	0.4	11.6	11.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.3	0.4	11.6	11.3								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.2									
Intersection Capacity Utilization			33.6%		ICU Level of Service				A			
Analysis Period (min)			15									

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	40	855	10	10	350	10	5	5	40	25	10	20
Future Volume (Veh/h)	40	855	10	10	350	10	5	5	40	25	10	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	43	910	11	11	372	11	5	5	43	27	11	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	408	946			1478	1456	966	1496	1456	428		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	408	946			1478	1456	966	1496	1456	428		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	96	98			94	96	85	64	91	96		
cM capacity (veh/h)	1125	709			83	117	295	74	117	600		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	964	394	53	59								
Volume Left	43	11	5	27								
Volume Right	11	11	43	21								
cSH	1125	709	213	120								
Volume to Capacity	0.04	0.02	0.25	0.49								
Queue Length 95th (m)	0.9	0.4	7.2	17.1								
Control Delay (s)	1.0	0.5	27.4	61.4								
Lane LOS	A	A	D	F								
Approach Delay (s)	1.0	0.5	27.4	61.4								
Approach LOS			D	F								
Intersection Summary												
Average Delay	4.3											
Intersection Capacity Utilization	84.5%			ICU Level of Service			E					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	170	5	10	5	10	5	10	15	5	5	15	65
Future Volume (Veh/h)	170	5	10	5	10	5	10	15	5	5	15	65
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	181	5	11	5	11	5	11	16	5	5	16	69
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	41	41			523	448	60	459	452	64		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	41	41			523	448	60	459	452	64		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	88	100			97	96	99	99	96	93		
cM capacity (veh/h)	1534	1534			352	425	961	416	423	957		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	197	21	32	90								
Volume Left	181	5	11	5								
Volume Right	11	5	5	69								
cSH	1534	1534	432	738								
Volume to Capacity	0.12	0.00	0.07	0.12								
Queue Length 95th (m)	3.0	0.1	1.8	3.1								
Control Delay (s)	7.1	1.8	14.0	10.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	7.1	1.8	14.0	10.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay	8.3											
Intersection Capacity Utilization	34.5%			ICU Level of Service			A					
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔				↔			↔	
Traffic Volume (veh/h)	5	5	5	5	5	5	5	5	5	5	5	5
Future Volume (Veh/h)	5	5	5	5	5	5	5	5	5	5	5	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	5	5	5	5	5	5	5	5	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked							35					
vC, conflicting volume	92	88	58	92	88	58	35					
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	92	88	58	92	88	58	35					
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1					
tC, 2 stage (s)												
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2					
pD queue free %	99	99	99	99	99	99	100					
cM capacity (veh/h)	812	763	965	812	763	965	1541					
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	15	15	15								
Volume Left	5	5	5	5								
Volume Right	5	5	5	5								
cSH	838	838	1541	1541								
Volume to Capacity	0.02	0.02	0.00	0.00								
Queue Length 95th (m)	0.4	0.4	0.1	0.1								
Control Delay (s)	9.4	9.4	2.5	2.5								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.4	9.4	2.5	2.5								
Approach LOS	A	A										
Intersection Summary												
Average Delay	5.9											
Intersection Capacity Utilization	24.6%			ICU Level of Service			A					
Analysis Period (min)	15											

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	152	80	20	10	620	260	15	360	140
Future Volume (Veh/h)	0	0	0	152	80	20	10	620	260	15	360	140
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	160	84	21	11	653	274	16	379	147
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.82	0.82		0.82	0.82	0.82						
vC, conflicting volume	1410	1484	502	1346	1420	840	551					
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1390	1480	502	1314	1403	699	551					
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1					
tC, 2 stage (s)												
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2					
pD queue free %	100	100	100	0	23	94	99					
cM capacity (veh/h)	32	98	556	102	109	347	1019					
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	160	105	938	542								
Volume Left	160	0	11	16								
Volume Right	0	21	274	147								
cSH	102	126	1019	643								
Volume to Capacity	1.57	0.83	0.01	0.02								
Queue Length 95th (m)	92.6	38.8	0.2	0.6								
Control Delay (s)	372.0	106.3	0.3	0.7								
Lane LOS	F	F	A	A								
Approach Delay (s)	266.8		0.3	0.7								
Approach LOS	F											
Intersection Summary												
Average Delay	40.9											
Intersection Capacity Utilization	71.9%			ICU Level of Service			C					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	890	35	7	505
Future Volume (Veh/h)	0	0	890	35	7	505
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	937	37	7	532
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	1260	980			974	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1202	854			846	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			99	
cM capacity (veh/h)	138	238			633	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	974	184	355			
Volume Left	0	7	0			
Volume Right	37	0	0			
eSH	1700	633	1700			
Volume to Capacity	0.57	0.01	0.21			
Queue Length 95th (m)	0.0	0.3	0.0			
Control Delay (s)	0.0	0.5	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.2				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			65.9%		ICU Level of Service	C
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	245	20	15	167	10	75	10	20	5	5	10
Future Volume (Veh/h)	10	245	20	15	167	10	75	10	20	5	5	10
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	258	21	16	176	11	79	11	21	5	5	11
Pedestrians		25			25			25				25
Lane Width (m)		3.5			3.5			3.5				3.5
Walking Speed (m/s)		1.1			1.1			1.1				1.1
Percent Blockage		2			2			2				2
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	212			304				568	560	318	580	564
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	212			304				568	560	318	580	564
tC, single (s)	4.1			4.1				7.1	6.5	6.2	7.1	6.5
tC, 2 stage (s)												
tF (s)	2.2			2.2				3.5	4.0	3.3	3.5	4.0
pD queue free %	99			99				80	97	97	99	99
cM capacity (veh/h)	1328			1229				385	409	691	368	407
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	290	203	111	21								
Volume Left	11	16	79	5								
Volume Right	21	11	21	11								
eSH	1328	1229	423	523								
Volume to Capacity	0.01	0.01	0.26	0.04								
Queue Length 95th (m)	0.2	0.3	7.9	1.0								
Control Delay (s)	0.4	0.7	16.5	12.2								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.4	0.7	16.5	12.2								
Approach LOS			C	B								
Intersection Summary												
Average Delay				3.7								
Intersection Capacity Utilization				37.2%				ICU Level of Service			A	
Analysis Period (min)				15								

5: 25A St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	50	115	10	5	75	10	5	5	5	5	5	30
Future Volume (Veh/h)	50	115	10	5	75	10	5	5	5	5	5	30
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	53	121	11	5	79	11	5	5	5	5	5	32
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	115	157			412			382	176	384	382	134
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	115	157			412			382	176	384	382	134
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
IF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	96	100			99			99	99	99	99	96
cM capacity (veh/h)	1441	1391			472			505	829	507	505	874
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	185	95	15	42								
Volume Left	53	5	5	5								
Volume Right	11	11	5	32								
cSH	1441	1391	566	745								
Volume to Capacity	0.04	0.00	0.03	0.06								
Queue Length 95th (m)	0.9	0.1	0.6	1.4								
Control Delay (s)	2.4	0.4	11.5	10.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.4	0.4	11.5	10.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay	3.2											
Intersection Capacity Utilization	32.6%			ICU Level of Service			A					
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	30	560	10	20	940	33	10	10	45	40	10	30
Future Volume (Veh/h)	30	560	10	20	940	33	10	10	45	40	10	30
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	32	589	11	21	989	35	11	11	47	42	11	32
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1049	625			1794			1774	644	1810	1762	1056
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1049	625			1794			1774	644	1810	1762	1056
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
IF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	95	98			74			85	90	1	85	88
cM capacity (veh/h)	649	935			43			74	452	42	75	262
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	632	1045	69	85								
Volume Left	32	21	11	42								
Volume Right	11	35	47	32								
cSH	649	935	135	67								
Volume to Capacity	0.05	0.02	0.51	1.26								
Queue Length 95th (m)	1.2	0.5	18.5	52.1								
Control Delay (s)	1.3	0.7	56.8	300.9								
Lane LOS	A	A	F	F								
Approach Delay (s)	1.3	0.7	56.8	300.9								
Approach LOS			F	F								
Intersection Summary												
Average Delay	17.0											
Intersection Capacity Utilization	79.2%			ICU Level of Service			D					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	90	15	20	5	5	5	10	15	5	5	30	75
Future Volume (Veh/h)	90	15	20	5	5	5	10	15	5	5	30	75
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	95	16	21	5	5	5	11	16	5	5	32	79
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	35	62			379			286	76	297	294	58
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	35	62			379			286	76	297	294	58
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
fF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	94	100			98			97	99	99	94	92
cM capacity (veh/h)	1541	1507			447			557	942	561	552	965
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	132	15	32	116								
Volume Left	95	5	11	5								
Volume Right	21	5	5	79								
cSH	1541	1507	546	779								
Volume to Capacity	0.06	0.00	0.06	0.15								
Queue Length 95th (m)	1.5	0.1	1.4	4.0								
Control Delay (s)	5.5	2.5	12.0	10.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	5.5	2.5	12.0	10.4								
Approach LOS	B			B								
Intersection Summary												
Average Delay	8.0											
Intersection Capacity Utilization	31.7%			ICU Level of Service	A							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	5	5	5	5	5	5	5	10	10	10
Future Volume (Veh/h)	5	5	5	5	5	5	5	5	5	10	10	10
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	5	5	5	5	5	5	5	5	11	11	11
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	114	108	66	114	112	58	47				35	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	114	108	66	114	112	58	47				35	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	99	99	99	99	99	100				99	
cM capacity (veh/h)	784	740	954	784	737	965	1526				1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	15	15	33								
Volume Left	5	5	5	11								
Volume Right	5	5	5	11								
cSH	816	818	1526	1541								
Volume to Capacity	0.02	0.02	0.00	0.01								
Queue Length 95th (m)	0.4	0.4	0.1	0.2								
Control Delay (s)	9.5	9.5	2.5	2.5								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.5	9.5	2.5	2.5								
Approach LOS	A		A									
Intersection Summary												
Average Delay	5.2											
Intersection Capacity Utilization	24.6%			ICU Level of Service	A							
Analysis Period (min)	15											

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	345	640	40	100	570	220	30	105	90	375	110	5
Future Volume (vph)	345	640	40	100	570	220	30	105	90	375	110	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99			0.97			0.97		0.98		1.00
Frt		0.991			0.958			0.940		0.994		
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1704	3353	0	1704	3156	0	0	3113	0	1704	1779	0
Flt Permitted	0.125			0.376				0.887		0.485		
Satd. Flow (perm)	224	3353	0	674	3156	0	0	2770	0	851	1779	0
Satd. Flow (RTOR)		5			40			96			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	367	681	43	106	606	234	32	112	96	399	117	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	367	724	0	106	840	0	0	240	0	399	122	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8				2		6		
Detector Phase	7	4		3	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	30.8	39.2		30.8	39.2		37.8	37.8		24.0	61.8	
Total Split (%)	23.4%	29.7%		23.4%	29.7%		28.7%	28.7%		18.2%	46.9%	
Maximum Green (s)	27.8	31.8		27.8	31.8		30.0	30.0		20.5	54.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	0.0	3.2		0.0	3.2		4.0	4.0		0.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4			7.8		3.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		11.0			11.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			5			5	
Act Effct Green (s)	64.9	48.5		45.4	32.1			14.4		42.2	37.8	
Actuated g/C Ratio	0.57	0.43		0.40	0.28			0.13		0.37	0.33	
v/c Ratio	0.80	0.50		0.30	0.91			0.55		0.86	0.21	
Control Delay	40.0	26.5		17.1	53.9			32.4		49.1	27.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	40.0	26.5		17.1	53.9			32.4		49.1	27.6	
LOS	D	C		B	D			C		D	C	
Approach Delay		31.1			49.7			32.4			44.0	
Approach LOS		C			D			C			D	
Queue Length 50th (m)	54.6	56.7		9.6	90.7			16.1		74.3	19.5	
Queue Length 95th (m)	#125.5	101.2		24.4	#162.3			28.3		#106.7	32.8	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	493	1434		628	919			808		471	854	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.74	0.50		0.17	0.91			0.30		0.85	0.14	
Intersection Summary												
Cycle Length: 131.8												
Actuated Cycle Length: 113.6												
Natural Cycle: 110												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 39.9							Intersection LOS: D					
Intersection Capacity Utilization 107.3%							ICU Level of Service G					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8				
	34.8 s	57.8 s	30.8 s	39.2 s		61.8 s	50.8 s	39.2 s				

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	225	805	40	175	795	560	30	140	215	335	170	5
Future Volume (vph)	225	805	40	175	795	560	30	140	215	335	170	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99			0.95			0.97		0.98		1.00
Frt		0.993			0.938			0.916		0.996		0.996
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3033	0	0	3008	0	1704	1784	0
Flt Permitted	0.068			0.246				0.903		0.232		
Satd. Flow (perm)	122	3364	0	441	3033	0	0	2721	0	409	1784	0
Satd. Flow (RTOR)		4			138			197			1	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	237	847	42	184	837	589	32	147	226	353	179	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	889	0	184	1426	0	0	405	0	353	184	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8				2		6		
Detector Phase	7	4		3	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		12.5	37.8	
Total Split (s)	21.0	59.5		24.5	63.0		37.8	37.8		26.0	63.8	
Total Split (%)	14.2%	40.3%		16.6%	42.6%		25.6%	25.6%		17.6%	43.2%	
Maximum Green (s)	18.0	52.1		21.5	55.6		30.0	30.0		22.5	56.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	0.0	3.2		0.0	3.2		4.0	4.0		0.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4			7.8		3.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		11.0			11.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			5			5	
Act Effct Green (s)	80.2	61.2		72.4	55.8			17.3		47.3	43.0	
Actuated g/C Ratio	0.60	0.45		0.54	0.41			0.13		0.35	0.32	
v/c Ratio	0.85	0.58		0.52	1.07			0.78		0.99	0.32	
Control Delay	61.7	30.8		19.2	79.2			39.2		82.7	35.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	61.7	30.8		19.2	79.2			39.2		82.7	35.9	
LOS	E	C		B	E			D		F	D	
Approach Delay		37.3			72.3			39.2			66.7	
Approach LOS		D			E			D			E	
Queue Length 50th (m)	45.0	87.9		20.4	~206.3			28.8		76.7	36.9	
Queue Length 95th (m)	#105.5	140.6		40.3	#289.8			46.4		#133.9	56.2	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	284	1531		466	1337			761		360	744	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.83	0.58		0.39	1.07			0.53		0.98	0.25	
Intersection Summary												
Cycle Length: 147.8												
Actuated Cycle Length: 134.7												
Natural Cycle: 145												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.07												
Intersection Signal Delay: 57.1												
Intersection LOS: E												
Intersection Capacity Utilization 119.6%												
ICU Level of Service H												
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	80	70	40	5	430	205	10	410	60
Future Volume (vph)	0	0	0	80	70	40	5	430	205	10	410	60
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.98			1.00	0.94		0.99	
Frt					0.945				0.850		0.983	
Flt Protected				0.950				0.999			0.999	
Satd. Flow (prot)	0	0	0	1704	1653	0	0	1792	1525	0	1747	0
Flt Permitted				0.950				0.995			0.989	
Satd. Flow (perm)	0	0	0	1666	1653	0	0	1784	1427	0	1729	0
Satd. Flow (RTOR)					43				218		17	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	85	74	43	5	457	218	11	436	64
Shared Lane Traffic (%)				85	117	0	0	462	218	0	511	0
Lane Group Flow (vph)	0	0	0					NA	NA	NA		
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				10.1	10.1		24.4	24.4			24.4	
Actuated g/C Ratio				0.25	0.25		0.60	0.60			0.60	
v/c Ratio				0.20	0.26		0.43	0.23			0.49	
Control Delay				13.8	10.5		7.9	1.9			8.4	
Queue Delay				0.0	0.0		0.1	0.0			0.0	
Total Delay				13.8	10.5		8.0	1.9			8.4	
LOS				B	B		A	A			A	
Approach Delay					11.9			6.1			8.4	
Approach LOS					B			A			A	
Queue Length 50th (m)				4.6	3.9		18.4	0.0			20.5	
Queue Length 95th (m)				12.7	13.1		36.2	6.3			41.3	

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5							98.2			8.0	53.6
Turn Bay Length (m)				50.0								
Base Capacity (vph)				823	839			1412	1174		1372	
Starvation Cap Reductn				0	0			195	80		0	0
Spillback Cap Reductn				0	0			0	0		0	0
Storage Cap Reductn				0	0			0	0		0	0
Reduced v/c Ratio				0.10	0.14			0.38	0.20		0.37	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 40.5												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.49												
Intersection Signal Delay: 7.8							Intersection LOS: A					
Intersection Capacity Utilization 56.0%							ICU Level of Service B					
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	40	855	10	10	350	10	5	5	40	25	10	20
Future Volume (vph)	40	855	10	10	350	10	5	5	40	25	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.92			0.94	
Frt		0.998			0.996			0.890			0.952	
Frt Protected		0.998			0.999			0.995			0.978	
Satd. Flow (prot)	0	1785	0	0	1781	0	0	1471	0	0	1616	0
Frt Permitted		0.972			0.975			0.958			0.828	
Satd. Flow (perm)	0	1736	0	0	1737	0	0	1410	0	0	1335	0
Satd. Flow (RTOR)		1			3			43			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	910	11	11	372	11	5	5	43	27	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	964	0	0	394	0	0	53	0	0	59	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		45.9			45.9			10.9			10.9	
Actuated g/C Ratio		0.82			0.82			0.19			0.19	
v/c Ratio		0.68			0.28			0.17			0.21	
Control Delay		8.7			3.7			14.0			21.5	
Queue Delay		0.0			0.1			0.0			0.0	
Total Delay		8.7			3.8			14.0			21.5	
LOS		A			A			B			C	
Approach Delay		8.7			3.8			14.0			21.5	
Approach LOS		A			A			B			C	
Queue Length 50th (m)		64.2			15.0			0.9			3.3	
Queue Length 95th (m)		114.7			25.2			11.0			15.9	

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		73.4			75.2			100.7			70.0	
Turn Bay Length (m)												
Base Capacity (vph)		1622			1623			565			523	
Starvation Cap Reductn		0			479			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.59			0.34			0.09			0.11	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 56.3												
Natural Cycle: 75												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.68												
Intersection Signal Delay: 8.1							Intersection LOS: A					
Intersection Capacity Utilization 88.1%							ICU Level of Service E					
Analysis Period (min) 15												
Splits and Phases: 6: 25A St /25A St & 26 Ave SW												
<p>The diagram shows four phases: 02 (up arrow, 25s), 04 (right arrow, 65s), 06 (down arrow, 25s), and 08 (left arrow, 65s). Each phase is represented by a horizontal bar with a green segment for the main duration and a red segment for the clearance time.</p>												

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	870	20	55	340	40	10	40	140	30	10	20
Future Volume (vph)	30	870	20	55	340	40	10	40	140	30	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99	0.99				0.91			0.94
Frt		0.997			0.984				0.850			0.956
Flt Protected		0.998		0.950				0.990				0.976
Satd. Flow (prot)	0	1782	0	1704	1750	0	0	1776	1525	0	1624	0
Flt Permitted		0.980		0.298				0.935				0.828
Satd. Flow (perm)	0	1748	0	529	1750	0	0	1660	1386	0	1341	0
Satd. Flow (RTOR)		3			14				149			21
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	926	21	59	362	43	11	43	149	32	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	979	0	59	405	0	0	54	149	0	64	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2		6	
Detector Phase	4	4		8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%	27.8%	27.8%	27.8%	27.8%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	None
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		41.6		41.6	41.6			10.5	10.5			10.5
Actuated g/C Ratio		0.67		0.67	0.67			0.17	0.17			0.17
v/c Ratio		0.84		0.17	0.35			0.19	0.42			0.26
Control Delay		15.4		4.8	5.0			27.9	9.9			22.8
Queue Delay		0.5		0.0	0.0			0.0	0.0			0.0
Total Delay		15.9		4.8	5.0			27.9	9.9			22.8
LOS		B		A	A			C	A			C
Approach Delay		15.9			5.0			14.7				22.8
Approach LOS		B			A			B				C
Queue Length 50th (m)		65.7		2.0	14.9			4.8	0.0			3.8
Queue Length 95th (m)		122.5		5.6	26.4			17.6	15.4			17.0

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5				62.9
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1628		492	1630			546	556			455
Starvation Cap Reductn		251		0	0			0	0			0
Spillback Cap Reductn		0		0	0			0	0			0
Storage Cap Reductn		0		0	0			0	0			0
Reduced v/c Ratio		0.71		0.12	0.25			0.10	0.27			0.14
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 62.4												
Natural Cycle: 75												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.84												
Intersection Signal Delay: 13.1							Intersection LOS: B					
Intersection Capacity Utilization 95.8%							ICU Level of Service F					
Analysis Period (min) 15												
Splits and Phases: 7: 25 St & 26 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	152	80	20	10	620	260	15	360	140
Future Volume (vph)	0	0	0	152	80	20	10	620	260	15	360	140
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.99			1.00	0.94		0.98	
Frt				0.970				0.850			0.963	
Flt Protected				0.950				0.999			0.999	
Satd. Flow (prot)	0	0	0	1704	1716	0	0	1792	1525	0	1696	0
Flt Permitted				0.950				0.991			0.978	
Satd. Flow (perm)	0	0	0	1666	1716	0	0	1777	1427	0	1659	0
Satd. Flow (RTOR)					21				274		45	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	160	84	21	11	653	274	16	379	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	160	105	0	0	664	274	0	542	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				11.1	11.1		27.5	27.5	27.5	27.5	27.5	
Actuated g/C Ratio				0.25	0.25		0.62	0.62	0.62	0.62	0.62	
v/c Ratio				0.38	0.24		0.60	0.28	0.52	0.52	0.52	
Control Delay				18.0	13.7		10.5	1.8	8.6	8.6	8.6	
Queue Delay				0.0	0.0		0.3	0.0	0.0	0.0	0.0	
Total Delay				18.0	13.7		10.8	1.9	8.6	8.6	8.6	
LOS				B	B		B	A	A	A	A	
Approach Delay				16.3			8.2		8.6			
Approach LOS				B			A		A			
Queue Length 50th (m)				9.0	4.5		31.5	0.0	21.0	21.0	21.0	
Queue Length 95th (m)				25.9	16.1		71.3	7.5	50.7	50.7	50.7	

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				763	797			1309	1123		1234	
Starvation Cap Reductn				0	0			191	120		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.21	0.13			0.59	0.27		0.44	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 44.3												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.60												
Intersection Signal Delay: 9.6							Intersection LOS: A					
Intersection Capacity Utilization 63.1%							ICU Level of Service B					
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	560	10	20	940	33	10	10	45	40	10	30
Future Volume (vph)	30	560	10	20	940	33	10	10	45	40	10	30
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.93			0.94	
Frt		0.998			0.995			0.908			0.949	
Flt Protected		0.997			0.999			0.992			0.976	
Satd. Flow (prot)	0	1782	0	0	1778	0	0	1516	0	0	1604	0
Flt Permitted		0.928			0.985			0.937			0.822	
Satd. Flow (perm)	0	1658	0	0	1752	0	0	1421	0	0	1318	0
Satd. Flow (RTOR)		2			4			47			31	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	589	11	21	989	35	11	11	47	42	11	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	632	0	0	1045	0	0	69	0	0	85	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.9			48.9			11.2			11.2	
Actuated g/C Ratio		0.76			0.76			0.17			0.17	
v/c Ratio		0.50			0.78			0.24			0.33	
Control Delay		6.3			12.8			16.6			24.4	
Queue Delay		0.0			1.0			0.0			0.0	
Total Delay		6.3			13.9			16.6			24.4	
LOS		A			B			B			C	
Approach Delay		6.3			13.9			16.6			24.4	
Approach LOS		A			B			B			C	
Queue Length 50th (m)		30.1			76.3			2.3			5.8	
Queue Length 95th (m)		57.7			159.8			13.9			20.6	

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		73.4			75.2			100.7			70.0	
Turn Bay Length (m)												
Base Capacity (vph)		1470			1554			503			458	
Starvation Cap Reductn		0			263			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.43			0.81			0.14			0.19	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 64.3												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.78												
Intersection Signal Delay: 11.8							Intersection LOS: B					
Intersection Capacity Utilization 82.7%							ICU Level of Service E					
Analysis Period (min) 15												
Splits and Phases: 6: 25A St /25A St & 26 Ave SW												

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔	↔		↔	
Traffic Volume (vph)	40	615	10	85	980	50	10	10	90	30	15	45
Future Volume (vph)	40	615	10	85	980	50	10	10	90	30	15	45
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	1.00			0.98	0.91		0.94	
Frt		0.998			0.993				0.850		0.933	
Ft Protected		0.997		0.950				0.976			0.983	
Satd. Flow (prot)	0	1782	0	1704	1774	0	0	1751	1525	0	1571	0
Ft Permitted		0.887		0.411				0.864			0.879	
Satd. Flow (perm)	0	1586	0	725	1774	0	0	1514	1386	0	1379	0
Satd. Flow (RTOR)		2			6				95		47	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	647	11	89	1032	53	11	11	95	32	16	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	700	0	89	1085	0	0	22	95	0	95	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0		25.0
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0	25.0	25.0		25.0
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%	27.8%	27.8%		27.8%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0	20.0	20.0		20.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5		1.5
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None		None
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0		8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0		12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		59.5		59.5	59.5		10.7	10.7		10.7		10.7
Actuated g/C Ratio		0.79		0.79	0.79		0.14	0.14		0.14		0.14
v/c Ratio		0.56		0.15	0.77		0.10	0.34		0.40		0.40
Control Delay		6.5		3.9	11.6		32.0	11.2		24.2		24.2
Queue Delay		2.0		0.0	0.0		0.0	0.0		0.0		0.0
Total Delay		8.5		3.9	11.6		32.0	11.2		24.2		24.2
LOS		A		A	B		C	B		C		C
Approach Delay		8.5			11.1		15.1			24.2		
Approach LOS		A			B		B			C		
Queue Length 50th (m)		36.9		3.0	82.1		3.0	0.0		6.7		
Queue Length 95th (m)		70.5		7.9	#175.0		9.3	12.4		20.2		

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1266		578	1417			415	449		412	
Starvation Cap Reductn		397		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.81		0.15	0.77			0.05	0.21		0.23	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 74.9												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.77												
Intersection Signal Delay: 11.0							Intersection LOS: B					
Intersection Capacity Utilization 91.1%							ICU Level of Service F					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

2: 29 St & 31 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔↔
Traffic Volume (veh/h)	0	0	620	30	5	485
Future Volume (Veh/h)	0	0	620	30	5	485
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	660	32	5	516
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	969	701			692	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	847	518			507	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			99	
cM capacity (veh/h)	238	400			858	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	692	177	344			
Volume Left	0	5	0			
Volume Right	32	0	0			
cSH	1700	858	1700			
Volume to Capacity	0.41	0.01	0.20			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			51.0%		ICU Level of Service	A
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (veh/h)	10	195	10	5	330	5	35	5	5	5	5	15
Future Volume (Veh/h)	10	195	10	5	330	5	35	5	5	5	5	15
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	207	11	5	351	5	37	5	5	5	5	16
Pedestrians		25			25			25				25
Lane Width (m)		3.5			3.5			3.5				3.5
Walking Speed (m/s)		1.1			1.1			1.1				1.1
Percent Blockage		2			2			2				2
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	381			243				666	650	262	656	654
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	381			243				666	650	262	656	654
tC, single (s)	4.1			4.1				7.1	6.5	6.2	7.1	6.5
tC, 2 stage (s)												
tF (s)	2.2			2.2				3.5	4.0	3.3	3.5	4.0
pD queue free %	99			100				89	99	99	99	99
cM capacity (veh/h)	1151			1294				329	366	742	341	365
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	229	361	47	26								
Volume Left	11	5	37	5								
Volume Right	11	5	5	16								
cSH	1151	1294	354	479								
Volume to Capacity	0.01	0.00	0.13	0.05								
Queue Length 95th (m)	0.2	0.1	3.5	1.3								
Control Delay (s)	0.5	0.1	16.7	12.9								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.5	0.1	16.7	12.9								
Approach LOS			C	B								
Intersection Summary												
Average Delay				1.9								
Intersection Capacity Utilization				37.6%				ICU Level of Service			A	
Analysis Period (min)				15								

5: 25A St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	40	150	5	5	285	10	5	5	5	10	5	10
Future Volume (Veh/h)	40	150	5	5	285	10	5	5	5	10	5	10
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	43	160	5	5	303	11	5	5	5	11	5	11
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	339	190			630	622	212	624	620	358		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	339	190			630	622	212	624	620	358		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	96	100			99	99	99	97	99	98		
cM capacity (veh/h)	1193	1353			344	370	791	351	371	656		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	208	319	15	27								
Volume Left	43	5	5	11								
Volume Right	5	11	5	11								
cSH	1193	1353	436	438								
Volume to Capacity	0.04	0.00	0.03	0.06								
Queue Length 95th (m)	0.9	0.1	0.8	1.5								
Control Delay (s)	1.9	0.2	13.5	13.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.9	0.2	13.5	13.8								
Approach LOS			B	B								
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	47.6%			ICU Level of Service			A					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	20	70	75	5	100	130	100	140	5	25	35	85
Future Volume (Veh/h)	20	70	75	5	100	130	100	140	5	25	35	85
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	21	74	80	5	106	138	106	149	5	27	37	90
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	269	179			500	460	164	470	431	225		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	269	179			500	460	164	470	431	225		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	100			71	68	99	92	92	88		
cM capacity (veh/h)	1266	1366			365	467	842	344	485	779		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	175	249	260	154								
Volume Left	21	5	106	27								
Volume Right	80	138	5	90								
cSH	1266	1366	422	569								
Volume to Capacity	0.02	0.00	0.62	0.27								
Queue Length 95th (m)	0.4	0.1	30.5	8.3								
Control Delay (s)	1.1	0.2	26.2	13.7								
Lane LOS	A	A	D	B								
Approach Delay (s)	1.1	0.2	26.2	13.7								
Approach LOS			D	B								
Intersection Summary												
Average Delay	10.9											
Intersection Capacity Utilization	47.2%				ICU Level of Service			A				
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	5	5	5	89	5	5	5	50	5	5
Future Volume (Veh/h)	5	5	5	5	5	89	5	5	5	50	5	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	5	5	5	95	5	5	5	53	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	278	184	58	188	184	58	35				35	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	278	184	58	188	184	58	35				35	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	99	99	99	99	90	100				97	
cM capacity (veh/h)	542	654	965	686	654	965	1541				1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	105	15	63								
Volume Left	5	5	5	53								
Volume Right	5	95	5	5								
eSH	680	926	1541	1541								
Volume to Capacity	0.02	0.11	0.00	0.03								
Queue Length 95th (m)	0.5	2.9	0.1	0.8								
Control Delay (s)	10.4	9.4	2.5	6.3								
Lane LOS	B	A	A	A								
Approach Delay (s)	10.4	9.4	2.5	6.3								
Approach LOS	B	A										
Intersection Summary												
Average Delay	8.0											
Intersection Capacity Utilization	28.8%			ICU Level of Service			A					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	1075	30	5	435
Future Volume (Veh/h)	0	0	1075	30	5	435
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	1132	32	5	458
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None		None		None	
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.77	0.77			0.77	
vC, conflicting volume	1412	1173			1164	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1386	1076			1064	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pD queue free %	100	100			99	
cM capacity (veh/h)	100	162			502	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	1164	158	305			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	502	1700			
Volume to Capacity	0.68	0.01	0.18			
Queue Length 95th (m)	0.0	0.2	0.0			
Control Delay (s)	0.0	0.5	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.2				
Approach LOS						
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	75.6%		ICU Level of Service		D	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	395	10	5	182	5	35	5	5	5	5	15
Future Volume (Veh/h)	10	395	10	5	182	5	35	5	5	5	5	15
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	416	11	5	192	5	37	5	5	5	5	16
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	222			452			716	700	472	706	704	244
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	222			452			716	700	472	706	704	244
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	99			100			88	99	99	98	99	98
cM capacity (veh/h)	1317			1084			306	343	566	315	341	760
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	438	202	47	26								
Volume Left	11	5	37	5								
Volume Right	11	5	5	16								
cSH	1317	1084	325	504								
Volume to Capacity	0.01	0.00	0.14	0.05								
Queue Length 95th (m)	0.2	0.1	3.8	1.2								
Control Delay (s)	0.3	0.2	17.9	12.5								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.3	0.2	17.9	12.5								
Approach LOS			C	B								
Intersection Summary												
Average Delay	1.9											
Intersection Capacity Utilization	44.5%			ICU Level of Service			A					
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	50	145	10	5	55	10	5	5	5	5	5	30
Future Volume (Veh/h)	50	145	10	5	55	10	5	5	5	5	5	30
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	53	153	11	5	58	11	5	5	5	5	5	32
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	94			189			422	394	208	396	394	114
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	94			189			422	394	208	396	394	114
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	96			100			99	99	99	99	99	96
cM capacity (veh/h)	1467			1354			465	499	795	499	499	898
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	217	74	15	42								
Volume Left	53	5	5	5								
Volume Right	11	11	5	32								
cSH	1467	1354	554	754								
Volume to Capacity	0.04	0.00	0.03	0.06								
Queue Length 95th (m)	0.9	0.1	0.6	1.3								
Control Delay (s)	2.1	0.5	11.7	10.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.1	0.5	11.7	10.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay	3.1											
Intersection Capacity Utilization	34.2%			ICU Level of Service			A					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	40	115	120	5	30	55	35	65	5	155	180	5
Future Volume (Veh/h)	40	115	120	5	30	55	35	65	5	155	180	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	42	121	126	5	32	58	37	68	5	163	189	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	115			272			488	418	234	428	452	111
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	115			272			488	418	234	428	452	111
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			88	86	99	62	59	99
cM capacity (veh/h)	1441			1263			301	486	770	430	465	901
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	289	95	110	357								
Volume Left	42	5	37	163								
Volume Right	126	58	5	5								
cSH	1441	1263	409	451								
Volume to Capacity	0.03	0.00	0.27	0.79								
Queue Length 95th (m)	0.7	0.1	8.2	53.9								
Control Delay (s)	1.3	0.4	17.0	37.0								
Lane LOS	A	A	C	E								
Approach Delay (s)	1.3	0.4	17.0	37.0								
Approach LOS			C	E								
Intersection Summary												
Average Delay	18.2											
Intersection Capacity Utilization	54.9%		ICU Level of Service		A							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	5	5	5	47	5	5	5	125	5	5
Future Volume (Veh/h)	5	5	5	5	5	47	5	5	5	125	5	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	5	5	5	5	49	5	5	5	132	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	390	342	58	346	342	58	35			35		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390	342	58	346	342	58	35			35		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	99	99	95	100			91		
cM capacity (veh/h)	462	506	965	518	506	965	1541			1541		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	59	15	142								
Volume Left	5	5	5	132								
Volume Right	5	49	5	5								
cSH	579	839	1541	1541								
Volume to Capacity	0.03	0.07	0.00	0.09								
Queue Length 95th (m)	0.6	1.7	0.1	2.1								
Control Delay (s)	11.4	9.6	2.5	7.1								
Lane LOS	B	A	A	A								
Approach Delay (s)	11.4	9.6	2.5	7.1								
Approach LOS	B		A									
Intersection Summary												
Average Delay	7.7											
Intersection Capacity Utilization	31.1%		ICU Level of Service		A							
Analysis Period (min)	15											

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↘	↖	↖↗	↘	↖	↖↗	↘	↖	↖↗	↘
Traffic Volume (vph)	305	780	40	100	570	250	30	95	120	345	130	10
Future Volume (vph)	305	780	40	100	570	250	30	95	120	345	130	10
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	0.97			0.97		0.98	1.00	
Frt		0.993			0.954			0.926			0.989	
Ft Protected	0.950			0.950				0.994		0.950		
Satd. Flow (prot)	1704	3367	0	1704	3147	0	0	3065	0	1704	1768	0
Ft Permitted	0.144			0.325				0.888		0.470		
Satd. Flow (perm)	258	3367	0	573	3147	0	0	2731	0	828	1768	0
Satd. Flow (RTOR)		5			60			128			4	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	324	830	43	106	606	266	32	101	128	367	138	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	873	0	106	872	0	0	261	0	367	149	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	22.6	44.2		13.4	35.0		38.5	38.5		13.9	52.4	
Total Split (%)	20.5%	40.2%		12.2%	31.8%		35.0%	35.0%		12.6%	47.6%	
Maximum Green (s)	19.6	36.8		10.4	27.6		30.7	30.7		10.4	44.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	0.0	3.2		0.0	3.2		4.0	4.0		0.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		7.8	7.8		3.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	53.5	40.2		40.3	27.8		13.7	13.7		32.1	27.7	
Actuated g/C Ratio	0.58	0.44		0.44	0.30		0.15	0.35		0.35	0.30	
v/c Ratio	0.74	0.59		0.30	0.88		0.51	0.95		0.95	0.28	
Control Delay	29.3	23.8		13.7	41.2		21.2	62.8		62.8	25.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.3	23.8		13.7	41.2		21.2	62.8		62.8	25.1	
LOS	C	C		B	D		C	E		E	C	
Approach Delay		25.3			38.2			21.2			51.9	
Approach LOS		C			D			C			D	
Queue Length 50th (m)	30.3	56.7		6.9	69.0		11.3	-55.3		19.8		
Queue Length 95th (m)	#93.0	110.2		21.1	#139.6		22.1	#93.7		33.9		

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	460	1471		394	992			1002		387	865	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.70	0.59		0.27	0.88			0.26		0.95	0.17	
Intersection Summary												
Cycle Length: 110												
Actuated Cycle Length: 92.1												
Natural Cycle: 100												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.95												
Intersection Signal Delay: 33.8							Intersection LOS: C					
Intersection Capacity Utilization 105.5%							ICU Level of Service G					
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	275	975	40	145	775	670	40	160	225	235	190	10
Future Volume (vph)	275	975	40	145	775	670	40	160	225	235	190	10
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00			0.94			0.97		0.98		1.00
Frt		0.994			0.930			0.920		0.992		
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1704	3371	0	1704	2986	0	0	3024	0	1704	1774	0
Flt Permitted	0.065			0.196				0.889		0.187		
Satd. Flow (perm)	117	3371	0	352	2986	0	0	2695	0	330	1774	0
Satd. Flow (RTOR)		3			173			176			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	289	1026	42	153	816	705	42	168	237	247	200	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	1068	0	153	1521	0	0	447	0	247	211	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	21.4	68.5		18.3	65.4		40.0	40.0		22.0	62.0	
Total Split (%)	14.4%	46.0%		12.3%	44.0%		26.9%	26.9%		14.8%	41.7%	
Maximum Green (s)	18.4	61.8		15.3	58.7		33.7	33.7		18.5	55.7	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	0.0	2.5		0.0	2.5		2.5	2.5		0.0	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	6.7		3.0	6.7		6.3	6.3		3.5	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	84.1	66.8		73.1	58.9		19.7	19.7		43.4	40.6	
Actuated g/C Ratio	0.63	0.50		0.55	0.44		0.15	0.32		0.32	0.30	
v/c Ratio	0.99	0.63		0.51	1.08		0.82	0.87		0.87	0.39	
Control Delay	90.1	28.5		18.5	81.1		45.8	64.5		64.5	38.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	90.1	28.5		18.5	81.1		45.8	64.5		64.5	38.3	
LOS	F	C		B	F		D	E		E	D	
Approach Delay		41.6			75.4			45.8			52.4	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	61.5	107.0		15.9	~224.0		37.9	51.5		51.5	43.6	
Queue Length 95th (m)	#134.2	160.0		30.9	#299.0		56.8	#87.1		#87.1	65.1	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	292	1682		359	1409			811		297	740	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.99	0.63		0.43	1.08			0.55		0.83	0.29	
Intersection Summary												
Cycle Length: 148.8												
Actuated Cycle Length: 134												
Natural Cycle: 140												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.08												
Intersection Signal Delay: 57.7							Intersection LOS: E					
Intersection Capacity Utilization 120.6%							ICU Level of Service H					
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development

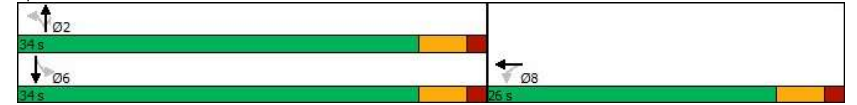
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	180	120	80	5	420	195	20	310	70
Future Volume (vph)	0	0	0	180	120	80	5	420	195	20	310	70
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.97			1.00	0.94		0.99	
Frt				0.940				0.850			0.976	
Flt Protected				0.950				0.999			0.998	
Satd. Flow (prot)	0	0	0	1704	1641	0	0	1792	1525	0	1728	0
Flt Permitted				0.950				0.995			0.970	
Satd. Flow (perm)	0	0	0	1666	1641	0	0	1784	1427	0	1678	0
Satd. Flow (RTOR)				61				207			24	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	191	128	85	5	447	207	21	330	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	191	213	0	0	452	207	0	425	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				26.0	26.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)				43.3%	43.3%		56.7%	56.7%	56.7%	56.7%	56.7%	
Maximum Green (s)				21.0	21.0		29.0	29.0	29.0	29.0	29.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				11.1	11.1		20.6	20.6			20.6	
Actuated g/C Ratio				0.27	0.27		0.49	0.49			0.49	
v/c Ratio				0.43	0.44		0.51	0.26			0.51	
Control Delay				16.3	12.6		10.1	2.3			9.6	
Queue Delay				0.0	0.0		0.1	0.0			0.0	
Total Delay				16.3	12.6		10.2	2.3			9.6	
LOS				B	B		B	A			A	
Approach Delay					14.3			7.8			9.6	
Approach LOS					B			A			A	
Queue Length 50th (m)				11.0	8.5		17.9	0.0			15.6	
Queue Length 95th (m)				24.9	22.4		43.5	7.4			39.8	

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				843	860			1246	1059		1179	
Starvation Cap Reductn				0	0			197	0		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.23	0.25			0.43	0.20		0.36	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 41.7												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.51												
Intersection Signal Delay: 10.1												
Intersection LOS: B												
Intersection Capacity Utilization 61.9%												
ICU Level of Service B												
Analysis Period (min) 15												

Splits and Phases: 1: 29 St & Richmond Road SW



6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	40	965	10	10	320	60	5	5	40	35	10	20
Future Volume (vph)	40	965	10	10	320	60	5	5	40	35	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.92			0.95	
Frt		0.999			0.979			0.890			0.959	
Flt Protected		0.998			0.999			0.995			0.974	
Satd. Flow (prot)	0	1787	0	0	1732	0	0	1471	0	0	1629	0
Flt Permitted		0.973			0.972			0.964			0.804	
Satd. Flow (perm)	0	1740	0	0	1685	0	0	1419	0	0	1307	0
Satd. Flow (RTOR)		1			22			43			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	1027	11	11	340	64	5	5	43	37	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1081	0	0	415	0	0	53	0	0	69	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		55.2			55.2			11.0			11.0	
Actuated g/C Ratio		0.79			0.79			0.16			0.16	
v/c Ratio		0.79			0.31			0.20			0.31	
Control Delay		12.7			3.9			15.2			27.6	
Queue Delay		0.0			0.5			0.0			0.0	
Total Delay		12.7			4.4			15.2			27.6	
LOS		B			A			B			C	
Approach Delay		12.7			4.4			15.2			27.6	
Approach LOS		B			A			B			C	
Queue Length 50th (m)		84.3			15.2			1.2			6.1	
Queue Length 95th (m)		#186.2			27.8			10.8			18.4	

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		73.4			75.2			100.7			70.0	
Turn Bay Length (m)												
Base Capacity (vph)		1430			1389			462			413	
Starvation Cap Reductn		0			578			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.76			0.51			0.11			0.17	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 70.1												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 11.3							Intersection LOS: B					
Intersection Capacity Utilization 94.6%							ICU Level of Service F					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 6: 25A St /25A St & 26 Ave SW												
	↑ Ø2								→ Ø4			
	25 s								55 s			
	↓ Ø6								← Ø8			
	25 s								55 s			

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔	↔		↔	
Traffic Volume (vph)	40	950	50	95	360	40	10	80	200	30	10	20
Future Volume (vph)	40	950	50	95	360	40	10	80	200	30	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99	0.99			0.99	0.91		0.95	
Frt		0.994		0.985				0.850	0.956			
Ft Protected		0.998		0.950				0.994	0.976			
Satd. Flow (prot)	0	1772	0	1704	1752	0	0	1783	1525	0	1624	0
Ft Permitted		0.973		0.262				0.964	0.814			
Satd. Flow (perm)	0	1726	0	466	1752	0	0	1719	1386	0	1321	0
Satd. Flow (RTOR)		6		13				133	21			
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	1011	53	101	383	43	11	85	213	32	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1107	0	101	426	0	0	96	213	0	64	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		8		8		2	2		6	
Permitted Phases	4			8		8		2	2		6	
Detector Phase	4	4		8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%	27.8%	27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		54.4		54.4	54.4		12.4	12.4	12.4		12.4	
Actuated g/C Ratio		0.71		0.71	0.71		0.16	0.16	0.16		0.16	
v/c Ratio		0.91		0.31	0.34		0.35	0.64	0.28		0.28	
Control Delay		22.6		7.7	5.4		34.4	22.6	25.4		25.4	
Queue Delay		13.6		0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay		36.2		7.7	5.4		34.4	22.6	25.4		25.4	
LOS		D		A	A		C	C	C		C	
Approach Delay		36.2		7.7	5.8		26.2		25.4			
Approach LOS		D		A	A		C		C		C	
Queue Length 50th (m)		91.9		3.9	16.2		13.8	11.5	6.0		6.0	
Queue Length 95th (m)		#261.4		14.9	40.6		27.0	32.6	16.6		16.6	

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1370		369	1392			454	464		364	
Starvation Cap Reductn		265		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		1.00		0.27	0.31			0.21	0.46		0.18	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 77												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 26.4							Intersection LOS: C					
Intersection Capacity Utilization 105.7%							ICU Level of Service G					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	172	30	30	10	670	390	25	270	180
Future Volume (vph)	0	0	0	172	30	30	10	670	390	25	270	180
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.97			1.00	0.94		0.98	
Frt					0.925				0.850		0.949	
Ft Protected				0.950				0.999			0.997	
Satd. Flow (prot)	0	0	0	1704	1603	0	0	1792	1525	0	1656	0
Ft Permitted				0.950				0.992			0.953	
Satd. Flow (perm)	0	0	0	1666	1603	0	0	1779	1427	0	1582	0
Satd. Flow (RTOR)					32				411		73	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	181	32	32	11	705	411	26	284	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	181	64	0	0	716	411	0	499	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2		6		6
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				11.6	11.6		29.3	29.3	29.3	29.3	29.3	
Actuated g/C Ratio				0.25	0.25		0.63	0.63	0.63	0.63	0.63	
v/c Ratio				0.44	0.15		0.64	0.39	0.49	0.49	0.49	
Control Delay				19.7	10.6		11.6	2.1	7.9	7.9	7.9	
Queue Delay				0.0	0.0		0.6	0.1	0.0	0.0	0.0	
Total Delay				19.7	10.6		12.3	2.2	7.9	7.9	7.9	
LOS				B	B		B	A	A	A	A	
Approach Delay					17.3			8.6		7.9		
Approach LOS					B			A		A		
Queue Length 50th (m)				12.0	1.9		36.5	0.0	17.8	17.8	17.8	
Queue Length 95th (m)				28.9	9.4		85.6	9.5	46.1	46.1	46.1	

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				731	721			1260	1131		1142	
Starvation Cap Reductn				0	0			231	155		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.25	0.09			0.70	0.42		0.44	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 46.4												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.64												
Intersection Signal Delay: 9.5							Intersection LOS: A					
Intersection Capacity Utilization 70.3%							ICU Level of Service C					
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	690	10	10	960	53	10	20	45	110	10	30
Future Volume (vph)	30	690	10	10	960	53	10	20	45	110	10	30
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.94			0.95	
Frt		0.998			0.993			0.920			0.973	
Flt Protected		0.998			0.999			0.993			0.965	
Satd. Flow (prot)	0	1784	0	0	1772	0	0	1550	0	0	1653	0
Flt Permitted		0.934			0.992			0.949			0.790	
Satd. Flow (perm)	0	1669	0	0	1759	0	0	1473	0	0	1305	0
Satd. Flow (RTOR)		2			7			47			13	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	726	11	11	1011	56	11	21	47	116	11	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	769	0	0	1078	0	0	79	0	0	159	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		52.9			52.9			14.5			14.5	
Actuated g/C Ratio		0.68			0.68			0.19			0.19	
v/c Ratio		0.68			0.90			0.25			0.63	
Control Delay		11.5			23.0			17.0			39.5	
Queue Delay		0.0			7.7			0.0			0.0	
Total Delay		11.5			30.6			17.0			39.5	
LOS		B			C			B			D	
Approach Delay		11.5			30.6			17.0			39.5	
Approach LOS		B			C			B			D	
Queue Length 50th (m)		56.2			109.5			4.2			21.2	
Queue Length 95th (m)		112.3			#251.3			15.6			41.7	

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		73.4			75.2			100.7			70.0	
Turn Bay Length (m)												
Base Capacity (vph)		1319			1392			422			353	
Starvation Cap Reductn		0			278			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.58			0.97			0.19			0.45	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 77.6												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.90												
Intersection Signal Delay: 23.7							Intersection LOS: C					
Intersection Capacity Utilization 83.7%							ICU Level of Service E					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 6: 25A St /25A St & 26 Ave SW												
	↑	↔	↓	↔	↑	↔	↓	↔	↑	↔	↓	↔
	25 s	55 s	25 s	55 s	25 s	55 s	25 s	55 s	25 s	55 s	25 s	55 s

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	685	140	135	1000	50	30	20	110	40	25	45
Future Volume (vph)	50	685	140	135	1000	50	30	20	110	40	25	45
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.97	0.91		0.94	
Frt		0.978			0.993				0.850		0.945	
Flt Protected		0.997		0.950				0.971			0.982	
Satd. Flow (prot)	0	1726	0	1704	1774	0	0	1742	1525	0	1603	0
Flt Permitted		0.801		0.328				0.734			0.857	
Satd. Flow (perm)	0	1387	0	582	1774	0	0	1282	1386	0	1372	0
Satd. Flow (RTOR)		23			6				116		36	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	721	147	142	1053	53	32	21	116	42	26	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	921	0	142	1106	0	0	53	116	0	115	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%	27.8%	27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		64.1		64.1	64.1			11.4	11.4		11.4	
Actuated g/C Ratio		0.79		0.79	0.79			0.14	0.14		0.14	
v/c Ratio		0.84		0.31	0.79			0.30	0.40		0.52	
Control Delay		17.8		6.1	13.3			35.9	10.8		31.4	
Queue Delay		12.7		0.0	0.0			0.0	0.0		0.0	
Total Delay		30.5		6.1	13.3			35.9	10.8		31.4	
LOS		C		A	B			D	B		C	
Approach Delay		30.5			12.5			18.7			31.4	
Approach LOS		C			B			B			C	
Queue Length 50th (m)		78.5		5.6	86.5			7.5	0.0		11.3	
Queue Length 95th (m)		#215.8		16.8	#237.1			17.6	13.3		26.7	

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1097		458	1398			315	428		364	
Starvation Cap Reductn		172		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		1.00		0.31	0.79			0.17	0.27		0.32	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 81.4												
Natural Cycle: 120												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.84												
Intersection Signal Delay: 20.6							Intersection LOS: C					
Intersection Capacity Utilization 113.0%							ICU Level of Service H					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												
	↑ Ø2								→ Ø4			
	35 s								55 s			
	↓ Ø6								← Ø8			
	25 s								55 s			

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↖			↕			↕	
Traffic Volume (veh/h)	0	0	0	58	54	25	5	322	97	7	321	39
Future Volume (Veh/h)	0	0	0	58	54	25	5	322	97	7	321	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	62	57	27	5	343	103	7	341	41
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.97	0.97		0.97	0.97	0.97				0.97		
vC, conflicting volume	886	882	412	830	850	444	407			471		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	864	859	412	806	827	407	407			434		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	77	80	95	100			99		
cM capacity (veh/h)	205	274	626	270	286	595	1152			1063		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	62	84	451	389								
Volume Left	62	0	5	7								
Volume Right	0	27	103	41								
eSH	270	344	1152	1063								
Volume to Capacity	0.23	0.24	0.00	0.01								
Queue Length 95th (m)	6.6	7.2	0.1	0.2								
Control Delay (s)	22.2	18.8	0.1	0.2								
Lane LOS	C	C	A	A								
Approach Delay (s)	20.3		0.1	0.2								
Approach LOS	C											
Intersection Summary												
Average Delay				3.2								
Intersection Capacity Utilization				43.2%	ICU Level of Service	A						
Analysis Period (min)				15								

2: 29 St & 31 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Traffic Volume (veh/h)	0	0	412	30	5	375
Future Volume (Veh/h)	0	0	412	30	5	375
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	438	32	5	399
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	688	479			470	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	587	351			341	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	381	561			1080	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	470	138	266			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	1080	1700			
Volume to Capacity	0.28	0.00	0.16			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.1		
Intersection Capacity Utilization				39.8%	ICU Level of Service	A
Analysis Period (min)				15		

4: 28 St /28 St & Richmond Road SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (veh/h)	5	95	5	5	111	5	22	5	7	5	5	5		
Future Volume (Veh/h)	5	95	5	5	111	5	22	5	7	5	5	5		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	5	101	5	5	118	5	23	5	7	5	5	5		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None				None									
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	148				131				302	296	154	304	296	170
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	148				131				302	296	154	304	296	170
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	100				100				96	99	99	99	99	99
cM capacity (veh/h)	1402				1422				591	584	853	588	584	835
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	111	128	35	15										
Volume Left	5	5	23	5										
Volume Right	5	5	7	5										
cSH	1402	1422	629	651										
Volume to Capacity	0.00	0.00	0.06	0.02										
Queue Length 95th (m)	0.1	0.1	1.3	0.5										
Control Delay (s)	0.4	0.3	11.1	10.7										
Lane LOS	A	A	B	B										
Approach Delay (s)	0.4	0.3	11.1	10.7										
Approach LOS			B	B										
Intersection Summary														
Average Delay	2.2													
Intersection Capacity Utilization	27.1%			ICU Level of Service			A							
Analysis Period (min)	15													

5: 25A St & Richmond Road SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (veh/h)	19	72	5	5	68	21	5	9	5	6	5	5		
Future Volume (Veh/h)	19	72	5	5	68	21	5	9	5	6	5	5		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	20	77	5	5	72	22	5	10	5	6	5	5		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None				None									
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	119				107				270	274	130	272	265	133
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	119				107				270	274	130	272	265	133
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	99				100				99	98	99	99	99	99
cM capacity (veh/h)	1437				1451				615	595	880	609	602	876
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	102	99	20	16										
Volume Left	20	5	5	6										
Volume Right	5	22	5	5										
cSH	1437	1451	653	670										
Volume to Capacity	0.01	0.00	0.03	0.02										
Queue Length 95th (m)	0.3	0.1	0.7	0.6										
Control Delay (s)	1.6	0.4	10.7	10.5										
Lane LOS	A	A	B	B										
Approach Delay (s)	1.6	0.4	10.7	10.5										
Approach LOS			B	B										
Intersection Summary														
Average Delay	2.5													
Intersection Capacity Utilization	28.2%			ICU Level of Service			A							
Analysis Period (min)	15													

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	656	5	5	434	5	9	5	23	7	5	13
Future Volume (Veh/h)	10	656	5	5	434	5	9	5	23	7	5	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	698	5	5	462	5	10	5	24	7	5	14
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	492	728			1264	1250	750	1274	1250	514		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	492	728			1264	1250	750	1274	1250	514		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
fF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	99	99			92	97	94	94	97	97		
cM capacity (veh/h)	1048	856			127	163	393	121	163	536		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	714	472	39	26								
Volume Left	11	5	10	7								
Volume Right	5	5	24	14								
cSH	1048	856	229	226								
Volume to Capacity	0.01	0.01	0.17	0.11								
Queue Length 95th (m)	0.2	0.1	4.6	2.9								
Control Delay (s)	0.3	0.2	23.9	23.0								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	23.9	23.0								
Approach LOS	C			C								
Intersection Summary												
Average Delay	1.4											
Intersection Capacity Utilization	58.0%			ICU Level of Service	B							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	10	33	8	55	10	143	19	10	174	5
Future Volume (Veh/h)	5	5	10	33	8	55	10	143	19	10	174	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	11	35	9	59	11	152	20	11	185	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	507	454	238	457	446	212	215	197				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	507	454	238	457	446	212	215	197				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
pD queue free %	99	99	99	92	98	93	99	99				
cM capacity (veh/h)	396	472	766	459	477	792	1325	1345				
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	103	183	201								
Volume Left	5	35	11	11								
Volume Right	11	59	20	5								
cSH	559	607	1325	1345								
Volume to Capacity	0.04	0.17	0.01	0.01								
Queue Length 95th (m)	0.9	4.6	0.2	0.2								
Control Delay (s)	11.7	12.1	0.5	0.5								
Lane LOS	B	B	A	A								
Approach Delay (s)	11.7	12.1	0.5	0.5								
Approach LOS	B		B									
Intersection Summary												
Average Delay	3.3											
Intersection Capacity Utilization	31.8%			ICU Level of Service	A							
Analysis Period (min)	15											

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↕			↖	↗
Traffic Volume (veh/h)	0	0	0	47	97	11	5	450	183	8	299	68
Future Volume (Veh/h)	0	0	0	47	97	11	5	450	183	8	299	68
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	49	102	12	5	474	193	8	315	72
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	1060	1094	401	998	1034	620	412			692		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	973	1013	401	897	940	445	412			530		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
pD queue free %	100	100	100	76	52	98	100			99		
cM capacity (veh/h)	112	192	635	202	212	489	1147			845		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	49	114	672	395								
Volume Left	49	0	5	8								
Volume Right	0	12	193	72								
cSH	202	225	1147	845								
Volume to Capacity	0.24	0.51	0.00	0.01								
Queue Length 95th (m)	7.0	19.7	0.1	0.2								
Control Delay (s)	28.4	36.3	0.1	0.3								
Lane LOS	D	E	A	A								
Approach Delay (s)	33.9		0.1	0.3								
Approach LOS	D											
Intersection Summary												
Average Delay				4.7								
Intersection Capacity Utilization	55.9%			ICU Level of Service			B					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↖			↗
Traffic Volume (veh/h)	0	0	684	66	14	314
Future Volume (Veh/h)	0	0	684	66	14	314
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	720	69	15	331
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	975	780			789	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	845	601			613	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pD queue free %	100	100			98	
cM capacity (veh/h)	232	347			771	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	789	125	221			
Volume Left	0	15	0			
Volume Right	69	0	0			
cSH	1700	771	1700			
Volume to Capacity	0.46	0.02	0.13			
Queue Length 95th (m)	0.0	0.5	0.0			
Control Delay (s)	0.0	1.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization	56.7%		ICU Level of Service		B	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	144	12	13	122	5	62	5	21	5	5	5
Future Volume (Veh/h)	5	144	12	13	122	5	62	5	21	5	5	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	152	13	14	128	5	65	5	22	5	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	158	190			384	380	208	402	384	180		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	158	190			384	380	208	402	384	180		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	100	99			87	99	97	99	99	99		
cM capacity (veh/h)	1390	1353			518	521	795	494	519	825		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	170	147	92	15								
Volume Left	5	14	65	5								
Volume Right	13	5	22	5								
cSH	1390	1353	565	581								
Volume to Capacity	0.00	0.01	0.16	0.03								
Queue Length 95th (m)	0.1	0.2	4.4	0.6								
Control Delay (s)	0.3	0.8	12.6	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.3	0.8	12.6	11.4								
Approach LOS			B	B								
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	32.0%			ICU Level of Service			A					
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	26	109	6	5	72	25	5	5	5	7	11	20
Future Volume (Veh/h)	26	109	6	5	72	25	5	5	5	7	11	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	27	115	6	5	76	26	5	5	5	7	12	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	127	146			348	334	168	328	324	139		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	127	146			348	334	168	328	324	139		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	100			99	99	99	99	98	98		
cM capacity (veh/h)	1427	1404			529	548	838	560	555	869		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	148	107	15	40								
Volume Left	27	5	5	7								
Volume Right	6	26	5	21								
cSH	1427	1404	611	687								
Volume to Capacity	0.02	0.00	0.02	0.06								
Queue Length 95th (m)	0.4	0.1	0.6	1.4								
Control Delay (s)	1.5	0.4	11.0	10.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.5	0.4	11.0	10.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay	2.7											
Intersection Capacity Utilization	30.4%				ICU Level of Service				A			
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	17	619	19	12	697	11	6	5	34	5	5	16
Future Volume (Veh/h)	17	619	19	12	697	11	6	5	34	5	5	16
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	652	20	13	734	12	6	5	36	5	5	17
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	771	697			1534	1520	712	1552	1524	790		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	771	697			1534	1520	712	1552	1524	790		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	99			92	95	91	93	95	95		
cM capacity (veh/h)	825	879			79	109	414	73	109	373		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	690	759	47	27								
Volume Left	18	13	6	5								
Volume Right	20	12	36	17								
cSH	825	879	225	169								
Volume to Capacity	0.02	0.01	0.21	0.16								
Queue Length 95th (m)	0.5	0.3	5.8	4.2								
Control Delay (s)	0.6	0.4	25.2	30.3								
Lane LOS	A	A	D	D								
Approach Delay (s)	0.6	0.4	25.2	30.3								
Approach LOS	D				D							
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	60.6%			ICU Level of Service			B					
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	14	10	18	8	30	10	196	30	56	114	5
Future Volume (Veh/h)	5	14	10	18	8	30	10	196	30	56	114	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	15	11	19	8	32	11	206	32	59	120	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	570	550	172	553	537	272	150				263	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	570	550	172	553	537	272	150				263	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	96	99	95	98	96	99				95	
cM capacity (veh/h)	361	400	833	377	407	733	1400				1272	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	31	59	249	184								
Volume Left	5	19	11	59								
Volume Right	11	32	32	5								
cSH	480	519	1400	1272								
Volume to Capacity	0.06	0.11	0.01	0.05								
Queue Length 95th (m)	1.6	2.9	0.2	1.1								
Control Delay (s)	13.0	12.8	0.4	2.8								
Lane LOS	B	B	A	A								
Approach Delay (s)	13.0	12.8	0.4	2.8								
Approach LOS	B		B									
Intersection Summary												
Average Delay	3.4											
Intersection Capacity Utilization	45.7%			ICU Level of Service			A					
Analysis Period (min)	15											

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	107	726	39	154	380	197	27	138	219	237	138	5
Future Volume (vph)	107	726	39	154	380	197	27	138	219	237	138	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00	0.99	0.99	0.97	0.97	0.97	0.97	0.99	0.99	1.00	
Frt		0.992			0.949			0.915			0.995	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3130	0	0	3028	0	1704	1782	0
Flt Permitted	0.371			0.187				0.922		0.510		
Satd. Flow (perm)	650	3364	0	330	3130	0	0	2799	0	902	1782	0
Satd. Flow (RTOR)		6			109			233			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	114	772	41	164	404	210	29	147	233	252	147	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	813	0	164	614	0	0	409	0	252	152	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		37.8	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		37.8	37.8		37.8	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.8	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		7.8	7.8	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5		5	5	
Act Effct Green (s)	35.9	26.3		38.6	29.9		30.1	30.1		30.1	30.1	
Actuated g/C Ratio	0.41	0.30		0.44	0.34		0.35	0.35		0.35	0.35	
v/c Ratio	0.31	0.80		0.57	0.54		0.36	0.81		0.81	0.25	
Control Delay	14.2	34.2		20.6	21.3		10.6	49.6		23.0		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.2	34.2		20.6	21.3		10.6	49.6		23.0		
LOS	B	C		C	C		B	D		C		
Approach Delay		31.7			21.2			10.6			39.6	
Approach LOS		C			C			B			D	
Queue Length 50th (m)	9.8	65.3		14.6	36.6		10.7	38.2		17.9		
Queue Length 95th (m)	18.2	85.8		25.1	53.7		24.4	#89.0		36.0		

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	402	1557		306	1504			1121		312	618	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.28	0.52		0.54	0.41			0.36		0.81	0.25	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 87												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 26.3						Intersection LOS: C						
Intersection Capacity Utilization 95.0%						ICU Level of Service F						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↑	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
37.8 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s
↓	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
37.8 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s	16.2 s	47.4 s

33: 25 St SW & 33 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

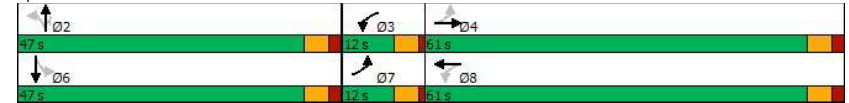
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	41	1063	78	58	586	115	79	11	74	153	5	60
Future Volume (vph)	41	1063	78	58	586	115	79	11	74	153	5	60
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.975				0.850			0.963
Frt Protected	0.950			0.950					0.958			0.966
Satd. Flow (prot)	1704	3374	0	1704	3323	0	0	1718	1525	0	1668	0
Frt Permitted	0.284			0.087					0.654			0.731
Satd. Flow (perm)	509	3374	0	156	3323	0	0	1173	1525	0	1263	0
Satd. Flow (RTOR)		8			25				79			17
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	44	1131	83	62	623	122	84	12	79	163	5	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	1214	0	62	745	0	0	96	79	0	232	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases	7	4		3	8			2		2	6	6
Permitted Phases	4			8				2		2	6	6
Detector Phase	7	4		3	8			2		2	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.5	25.5		11.5	25.5		35.5	35.5	35.5	35.5	35.5	35.5
Total Split (s)	12.0	61.0		12.0	61.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	10.0%	50.8%		10.0%	50.8%		39.2%	39.2%	39.2%	39.2%	39.2%	39.2%
Maximum Green (s)	7.5	55.5		7.5	55.5		41.5	41.5	41.5	41.5	41.5	41.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5		4.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		8.0			8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		11.0			11.0		22.0	22.0	22.0	22.0	22.0	22.0
Pedestrian Calls (#/hr)		0			0		5	5	5	5	5	5
Act Effct Green (s)	49.9	43.4		51.0	45.8		42.3	42.3	42.3	42.3	42.3	42.3
Actuated g/C Ratio	0.47	0.41		0.48	0.43		0.40	0.40	0.40	0.40	0.40	0.40
v/c Ratio	0.14	0.88		0.34	0.51		0.21	0.12	0.45			
Control Delay	13.0	36.5		17.4	22.6		26.5	6.4	28.3			
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0			
Total Delay	13.0	36.5		17.4	22.6		26.5	6.4	28.3			
LOS	B	D		B	C		C	A	C			
Approach Delay		35.7			22.2		17.4		28.3			
Approach LOS		D			C		B		C			
Queue Length 50th (m)	4.3	122.2		6.2	59.6		13.6	0.0	34.1			
Queue Length 95th (m)	9.6	150.0		12.4	76.8		29.6	10.2	65.1			
Internal Link Dist (m)		88.8			75.6		76.8		141.4			
Turn Bay Length (m)												
Base Capacity (vph)	327	1806		187	1787		468	656	514			

33: 25 St SW & 33 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0				0	0		0
Spillback Cap Reductn	0	0		0	0				0	0		0
Storage Cap Reductn	0	0		0	0				0	0		0
Reduced v/c Ratio	0.13	0.67		0.33	0.42				0.21	0.12		0.45
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 105.9												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.88												
Intersection Signal Delay: 29.3												
Intersection LOS: C												
Intersection Capacity Utilization 70.9%												
ICU Level of Service C												
Analysis Period (min) 15												

Splits and Phases: 33: 25 St SW & 33 Ave SW



3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	206	526	80	245	700	337	31	207	175	166	145	5
Future Volume (vph)	206	526	80	245	700	337	31	207	175	166	145	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.97			0.98		0.99	1.00	
Frt		0.980			0.951			0.937			0.995	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3298	0	1704	3142	0	0	3121	0	1704	1782	0
Flt Permitted	0.118			0.354				0.914		0.464		
Satd. Flow (perm)	212	3298	0	621	3142	0	0	2860	0	821	1782	0
Satd. Flow (RTOR)		20			95			184			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	217	554	84	258	737	355	33	218	184	175	153	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	638	0	258	1092	0	0	435	0	175	158	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8				2			6	
Detector Phase	7	4		3	8			2	2		6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0			10.0	10.0		10.0	10.0
Minimum Split (s)	13.2	27.4		13.2	27.4			37.8	37.8		37.8	37.8
Total Split (s)	16.2	47.4		16.2	47.4			37.8	37.8		37.8	37.8
Total Split (%)	16.0%	46.7%		16.0%	46.7%			37.3%	37.3%		37.3%	37.3%
Maximum Green (s)	10.0	40.0		10.0	40.0			30.0	30.0		30.0	30.0
Yellow Time (s)	3.0	4.2		3.0	4.2			3.8	3.8		3.8	3.8
All-Red Time (s)	3.2	3.2		3.2	3.2			4.0	4.0		4.0	4.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8	7.8		7.8	7.8
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Recall Mode	None	Min		None	Min			None	None		None	None
Walk Time (s)		8.0			8.0			8.0	8.0		8.0	8.0
Flash Dont Walk (s)		11.0			11.0			22.0	22.0		22.0	22.0
Pedestrian Calls (#/hr)		0			0			5	5		5	5
Act Effct Green (s)	45.2	33.8		44.2	33.4			23.3	23.3		23.3	23.3
Actuated g/C Ratio	0.51	0.38		0.50	0.38			0.26	0.26		0.26	0.26
v/c Ratio	0.78	0.50		0.61	0.88			0.49	0.81		0.34	
Control Delay	40.2	22.5		17.8	33.5			17.7	60.8		29.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	40.2	22.5		17.8	33.5			17.7	60.8		29.0	
LOS	D	C		B	C			B	E		C	
Approach Delay		27.0			30.5			17.7			45.7	
Approach LOS		C			C			B			D	
Queue Length 50th (m)	21.9	44.2		22.3	87.5			18.9	29.1		22.4	
Queue Length 95th (m)	#63.6	62.8		38.5	121.0			34.0	#63.2		40.4	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	281	1539		439	1506			1113		285	620	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.77	0.41		0.59	0.73			0.39		0.61	0.25	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 88.8												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.88												
Intersection Signal Delay: 29.3							Intersection LOS: C					
Intersection Capacity Utilization 106.0%							ICU Level of Service G					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
↑ Ø2	↙ Ø3	→ Ø4										
37.8 s	16.2 s	47.4 s										
↓ Ø6	↘ Ø7	← Ø8										
37.8 s	16.2 s	47.4 s										

33: 25 St SW & 33 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	75	710	71	89	1191	135	19	23	60	68	16	52
Future Volume (vph)	75	710	71	89	1191	135	19	23	60	68	16	52
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.985				0.850		0.948	
Frt Protected	0.950			0.950				0.978		0.976		
Satd. Flow (prot)	1704	3360	0	1704	3357	0	0	1754	1525	0	1659	0
Frt Permitted	0.082			0.264				0.867		0.836		
Satd. Flow (perm)	147	3360	0	474	3357	0	0	1555	1525	0	1421	0
Satd. Flow (RTOR)		14			15				64		25	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	747	75	94	1254	142	20	24	63	72	17	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	822	0	94	1396	0	0	44	63	0	144	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases	7	4		3	8			2		2	6	6
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.5	25.5		11.5	25.5		35.5	35.5	35.5	35.5	35.5	35.5
Total Split (s)	14.0	69.8		12.2	68.0		38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	11.7%	58.2%		10.2%	56.7%		31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Maximum Green (s)	9.5	64.3		7.7	62.5		32.5	32.5	32.5	32.5	32.5	32.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5		4.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		8.0			8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		11.0			11.0		22.0	22.0	22.0	22.0	22.0	22.0
Pedestrian Calls (#/hr)		0			0		5	5	5	5	5	5
Act Effct Green (s)	56.1	48.5		54.3	47.6		33.4	33.4	33.4	33.4	33.4	33.4
Actuated g/C Ratio	0.55	0.47		0.53	0.47		0.33	0.33	0.33	0.33	0.33	0.33
v/c Ratio	0.38	0.51		0.27	0.89		0.09	0.12	0.09	0.12	0.30	0.30
Control Delay	14.0	19.3		10.9	32.7		30.4	8.6	30.4	8.6	27.4	27.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	19.3		10.9	32.7		30.4	8.6	30.4	8.6	27.4	27.4
LOS	B	B		B	C		C	A	C	A	C	C
Approach Delay		18.9			31.4			17.5			27.4	27.4
Approach LOS		B			C			B			C	C
Queue Length 50th (m)	6.4	59.0		7.7	133.4		6.5	0.0	6.5	0.0	18.6	18.6
Queue Length 95th (m)	12.3	74.3		13.9	165.2		17.2	10.4	17.2	10.4	41.0	41.0
Internal Link Dist (m)		88.8			75.6			76.8			141.4	141.4
Turn Bay Length (m)												
Base Capacity (vph)	230	2176		347	2114		508	541	508	541	481	481

33: 25 St SW & 33 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.34	0.38		0.27	0.66			0.09	0.12		0.30	0.30
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 102.3												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.89												
Intersection Signal Delay: 26.3												
Intersection Capacity Utilization 71.6%												
Intersection LOS: C												
ICU Level of Service C												
Analysis Period (min) 15												
Splits and Phases: 33: 25 St SW & 33 Ave SW												
<p>The diagram shows the timing for 8 phases at the intersection. Phases Ø2, Ø4, and Ø6 are 38 seconds long. Phases Ø3, Ø5, Ø7, and Ø8 are 12.2 seconds long. Phases Ø1 and Ø8 are 69.8 seconds long. Phases Ø4 and Ø7 are 14 seconds long. Phases Ø5 and Ø8 are 68 seconds long.</p>												

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	19	37	22	72	42	218	29	247	48	46	67	17
Future Volume (vph)	19	37	22	72	42	218	29	247	48	46	67	17
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	20	39	23	77	45	232	31	263	51	49	71	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	82	354	345	138								
Volume Left (vph)	20	77	31	49								
Volume Right (vph)	23	232	51	18								
Hadj (s)	-0.09	-0.32	-0.04	0.03								
Departure Headway (s)	5.8	5.1	5.3	5.7								
Degree Utilization, x	0.13	0.50	0.51	0.22								
Capacity (veh/h)	542	666	638	568								
Control Delay (s)	9.6	13.0	13.6	10.3								
Approach Delay (s)	9.6	13.0	13.6	10.3								
Approach LOS	A	B	B	B								
Intersection Summary												
Delay				12.5								
Level of Service				B								
Intersection Capacity Utilization			53.4%	ICU Level of Service				A				
Analysis Period (min)				15								

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	35	57	43	39	42	125	29	153	68	220	234	20
Future Volume (vph)	35	57	43	39	42	125	29	153	68	220	234	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	60	45	41	44	132	31	161	72	232	246	21
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	142	217	264	499								
Volume Left (vph)	37	41	31	232								
Volume Right (vph)	45	132	72	21								
Hadj (s)	-0.10	-0.29	-0.11	0.10								
Departure Headway (s)	6.5	6.2	5.9	5.7								
Degree Utilization, x	0.26	0.37	0.43	0.79								
Capacity (veh/h)	484	523	559	619								
Control Delay (s)	11.8	12.7	13.3	26.2								
Approach Delay (s)	11.8	12.7	13.3	26.2								
Approach LOS	B	B	B	D								
Intersection Summary												
Delay				18.7								
Level of Service				C								
Intersection Capacity Utilization			67.8%	ICU Level of Service				C				
Analysis Period (min)				15								

Queuing and Blocking Report
 2028 After Development with 25 Street Connection

04/12/2024

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	12.7	26.4	29.0	17.0
Average Queue (m)	7.6	18.4	17.9	9.2
95th Queue (m)	14.1	28.8	32.4	17.5
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
 2028 After Development with 25 Street Connection

04/12/2024

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	26.3	26.8	35.1	55.2
Average Queue (m)	11.7	13.5	14.1	24.2
95th Queue (m)	20.4	22.5	26.2	42.4
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	625	55	61	318	10	98	18	367	17	15	20
Future Volume (vph)	15	625	55	61	318	10	98	18	367	17	15	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.97	0.93			0.96
Frt		0.989			0.995				0.850			0.948
Flt Protected		0.999		0.950				0.959				0.984
Satd. Flow (prot)	0	1763	0	1704	1781	0	0	1720	1525	0	1630	0
Flt Permitted		0.990		0.335				0.721				0.898
Satd. Flow (perm)	0	1746	0	595	1781	0	0	1255	1422	0	1472	0
Satd. Flow (RTOR)		10			4				167		21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	665	59	65	338	11	104	19	390	18	16	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	740	0	65	349	0	0	123	390	0	55	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6		6
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0		25.0
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0	25.0	25.0		25.0
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%	41.7%	41.7%		41.7%
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0	20.0	20.0		20.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5		1.5
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0			0.0
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0			5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None		None
Walk Time (s)	8.0	8.0		7.0	7.0		8.0	8.0	8.0	8.0		8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0		12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		25.3		25.3	25.3			14.4	14.4			14.4
Actuated g/C Ratio		0.51		0.51	0.51			0.29	0.29			0.29
v/c Ratio		0.83		0.22	0.39			0.34	0.74			0.13
Control Delay		21.9		10.1	9.6			17.9	19.1			10.8
Queue Delay		1.2		0.0	0.0			0.0	0.0			0.0
Total Delay		23.1		10.1	9.6			17.9	19.1			10.8
LOS		C		B	A			B	B			B
Approach Delay		23.1			9.7			18.8				10.8
Approach LOS		C			A			B				B
Queue Length 50th (m)		49.1		2.8	16.7			8.9	17.3			2.3
Queue Length 95th (m)		#127.8		10.3	37.7			21.1	46.1			8.8

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5				62.9
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1084		368	1103			517	684			619
Starvation Cap Reductn		155		0	0			0	0			0
Spillback Cap Reductn		0		0	0			0	0			0
Storage Cap Reductn		0		0	0			0	0			0
Reduced v/c Ratio		0.80		0.18	0.32			0.24	0.57			0.09
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 50												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 18.2							Intersection LOS: B					
Intersection Capacity Utilization 89.5%							ICU Level of Service E					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	448	175	229	595	34	88	13	201	15	78	25
Future Volume (vph)	30	448	175	229	595	34	88	13	201	15	78	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.99	1.00			0.97	0.93		0.98	
Frt		0.964		0.992				0.850	0.972			
Flt Protected		0.998		0.950				0.958	0.994			
Satd. Flow (prot)	0	1696	0	1704	1773	0	0	1718	1525	0	1709	0
Flt Permitted		0.958		0.389				0.764	0.952			
Satd. Flow (perm)	0	1627	0	690	1773	0	0	1333	1422	0	1630	0
Satd. Flow (RTOR)		42		7				212	24			
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	472	184	241	626	36	93	14	212	16	82	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	688	0	241	662	0	0	107	212	0	124	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		8		8		2	2		6	
Permitted Phases	4			8		8		2	2		6	
Detector Phase	4	4		8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0		25.0
Total Split (s)	34.0	34.0		34.0	34.0		26.0	26.0	26.0	26.0		26.0
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%	43.3%	43.3%		43.3%
Maximum Green (s)	29.0	29.0		29.0	29.0		21.0	21.0	21.0	21.0		21.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5		1.5
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0			0.0
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0			5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None		None
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0		8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0		12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		26.8		26.8	26.8			11.0	11.0			11.0
Actuated g/C Ratio		0.56		0.56	0.56			0.23	0.23			0.23
v/c Ratio		0.74		0.62	0.66			0.35	0.43			0.32
Control Delay		14.1		17.1	11.5			19.8	6.2			15.9
Queue Delay		1.4		0.0	0.0			0.0	0.0			0.0
Total Delay		15.5		17.1	11.5			19.8	6.2			15.9
LOS		B		B	B			B	A			B
Approach Delay		15.5		17.1	11.5			10.8	6.2			15.9
Approach LOS		B		B	B			B	A			B
Queue Length 50th (m)		32.1		11.0	30.8			8.1	0.0			7.4
Queue Length 95th (m)		#87.2		#45.0	70.1			18.6	12.3			18.2

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5				62.9
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1009		421	1085			589	746			733
Starvation Cap Reductn		154		0	0			0	0			0
Spillback Cap Reductn		0		0	0			0	0			0
Storage Cap Reductn		0		0	0			0	0			0
Reduced v/c Ratio		0.80		0.57	0.61			0.18	0.28			0.17
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 47.8												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.74												
Intersection Signal Delay: 13.7							Intersection LOS: B					
Intersection Capacity Utilization 99.8%							ICU Level of Service F					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												
	↑ Ø2									→ Ø4		
	36 s									34 s		
	↓ Ø6									← Ø8		
	26 s									34 s		

2: 29 St & 31 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔↔
Traffic Volume (veh/h)	0	0	571	30	5	377
Future Volume (Veh/h)	0	0	571	30	5	377
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	607	32	5	401
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.82	0.82			0.82	
vC, conflicting volume	858	648			639	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	718	461			450	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			99	
cM capacity (veh/h)	290	439			908	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	639	139	267			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	908	1700			
Volume to Capacity	0.38	0.01	0.16			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.4	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			48.4%		ICU Level of Service	A
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	8	165	8	7	239	7	30	5	10	7	5	13
Future Volume (Veh/h)	8	165	8	7	239	7	30	5	10	7	5	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	9	176	9	7	254	7	32	5	11	7	5	14
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	286			210			536	524	230	534	524	308
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	286			210			536	524	230	534	524	308
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	99			99			92	99	99	98	99	98
cM capacity (veh/h)	1248			1331			405	433	773	409	432	700
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	194	268	48	26								
Volume Left	9	7	32	7								
Volume Right	9	7	11	14								
eSH	1248	1331	458	534								
Volume to Capacity	0.01	0.01	0.10	0.05								
Queue Length 95th (m)	0.2	0.1	2.7	1.2								
Control Delay (s)	0.4	0.2	13.8	12.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.2	13.8	12.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay				2.1								
Intersection Capacity Utilization				32.8%						ICU Level of Service	A	
Analysis Period (min)				15								

5: 25A St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	35	118	5	5	189	15	5	5	5	15	5	5
Future Volume (Veh/h)	35	118	5	5	189	15	5	5	5	15	5	5
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	37	126	5	5	201	16	5	5	5	16	5	5
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	242	156			479	480	178	479	474	259		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	242	156			479	480	178	479	474	259		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	97	100			99	99	99	96	99	99		
cM capacity (veh/h)	1295	1393			441	449	827	442	453	746		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	168	222	15	26								
Volume Left	37	5	5	16								
Volume Right	5	16	5	5								
cSH	1295	1393	526	482								
Volume to Capacity	0.03	0.00	0.03	0.05								
Queue Length 95th (m)	0.7	0.1	0.7	1.3								
Control Delay (s)	1.9	0.2	12.0	12.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.9	0.2	12.0	12.9								
Approach LOS	B		B									
Intersection Summary												
Average Delay	2.0											
Intersection Capacity Utilization	42.2%			ICU Level of Service		A						
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	10	27	5	67	10	38	16	39	96	5
Future Volume (Veh/h)	5	5	10	27	5	67	10	38	16	39	96	5
Sign Control	Stop		Stop		Free		Free		Free		Free	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	5	11	29	5	71	11	40	17	41	102	5
Pedestrians	25		25		25		25		25		25	
Lane Width (m)	3.5		3.5		3.5		3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1		1.1		1.1		1.1	
Percent Blockage	2		2		2		2		2		2	
Right turn flare (veh)												
Median type					None				None			
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	380	316	154	320	310	98	132			82		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	380	316	154	320	310	98	132			82		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	95	99	92	99			97		
cM capacity (veh/h)	476	554	852	558	558	916	1421			1482		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	105	68	148								
Volume Left	5	29	11	41								
Volume Right	11	71	17	5								
cSH	647	758	1421	1482								
Volume to Capacity	0.03	0.14	0.01	0.03								
Queue Length 95th (m)	0.8	3.6	0.2	0.6								
Control Delay (s)	10.7	10.5	1.3	2.2								
Lane LOS	B	B	A	A								
Approach Delay (s)	10.7	10.5	1.3	2.2								
Approach LOS	B		B									
Intersection Summary												
Average Delay	5.1											
Intersection Capacity Utilization	31.8%			ICU Level of Service		A						
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔↔
Traffic Volume (veh/h)	0	0	882	30	5	365
Future Volume (Veh/h)	0	0	882	30	5	365
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	928	32	5	384
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1171	969			960	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1096	847			836	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			99	
cM capacity (veh/h)	164	243			646	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	960	133	256			
Volume Left	0	5	0			
Volume Right	32	0	0			
cSH	1700	646	1700			
Volume to Capacity	0.56	0.01	0.15			
Queue Length 95th (m)	0.0	0.2	0.0			
Control Delay (s)	0.0	0.5	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.2				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			65.2%	ICU Level of Service		C
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	8	231	8	7	117	7	30	5	10	7	5	13
Future Volume (Veh/h)	8	231	8	7	117	7	30	5	10	7	5	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	243	8	7	123	7	32	5	11	7	5	14
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	155			276			470	457	297	467	458	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	155			276			470	457	297	467	458	176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	99			99			93	99	98	98	99	98
cM capacity (veh/h)	1394			1259			450	473	710	453	472	829
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	259	137	48	26								
Volume Left	8	7	32	7								
Volume Right	8	7	11	14								
cSH	1394	1259	494	606								
Volume to Capacity	0.01	0.01	0.10	0.04								
Queue Length 95th (m)	0.1	0.1	2.4	1.0								
Control Delay (s)	0.3	0.4	13.1	11.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.3	0.4	13.1	11.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay				2.2								
Intersection Capacity Utilization			32.5%	ICU Level of Service						A		
Analysis Period (min)			15									

5: 25A St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	45	57	10	5	63	15	5	5	5	10	5	25
Future Volume (Veh/h)	45	57	10	5	63	15	5	5	5	10	5	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	60	11	5	66	16	5	5	5	11	5	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	107	96			322			302	116	301	299	124
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	107	96			322			302	116	301	299	124
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
fF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	97	100			99			99	99	98	99	97
cM capacity (veh/h)	1451	1465			547			564	896	579	565	886
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	118	87	15	42								
Volume Left	47	5	5	11								
Volume Right	11	16	5	26								
cSH	1451	1465	636	734								
Volume to Capacity	0.03	0.00	0.02	0.06								
Queue Length 95th (m)	0.8	0.1	0.6	1.4								
Control Delay (s)	3.2	0.5	10.8	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.2	0.5	10.8	10.2								
Approach LOS	B			B								
Intersection Summary												
Average Delay	3.8											
Intersection Capacity Utilization	29.4%			ICU Level of Service	A							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	5	10	17	5	35	10	157	41	89	75	5
Future Volume (Veh/h)	5	5	10	17	5	35	10	157	41	89	75	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	5	11	18	5	37	11	165	43	94	79	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	568	550	132	542	530	236	109				233	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	568	550	132	542	530	236	109				233	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
fF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	99	99	95	99	95	99				93	
cM capacity (veh/h)	356	390	878	384	400	767	1449				1305	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	60	219	178								
Volume Left	5	18	11	94								
Volume Right	11	37	43	5								
cSH	533	558	1449	1305								
Volume to Capacity	0.04	0.11	0.01	0.07								
Queue Length 95th (m)	0.9	2.7	0.2	1.8								
Control Delay (s)	12.0	12.2	0.4	4.5								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.0	12.2	0.4	4.5								
Approach LOS	B		B									
Intersection Summary												
Average Delay	3.9											
Intersection Capacity Utilization	44.7%			ICU Level of Service	A							
Analysis Period (min)	15											

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	301	784	40	112	580	213	30	87	128	249	118	10
Future Volume (vph)	301	784	40	112	580	213	30	87	128	249	118	10
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99	0.97			0.97		0.98	1.00	
Frt		0.993			0.960			0.922		0.988		
Ft Protected	0.950			0.950				0.994		0.950		
Satd. Flow (prot)	1704	3368	0	1704	3184	0	0	3052	0	1704	1766	0
Ft Permitted	0.162			0.280				0.890		0.470		
Satd. Flow (perm)	291	3368	0	495	3184	0	0	2725	0	829	1766	0
Satd. Flow (RTOR)		5			50			136			5	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	320	834	43	119	617	227	32	93	136	265	126	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	320	877	0	119	844	0	0	261	0	265	137	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8				2		6		
Detector Phase	7	4		3	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	18.0	37.8		13.2	33.0		38.6	38.6		11.8	50.4	
Total Split (%)	17.8%	37.3%		13.0%	32.5%		38.1%	38.1%		11.6%	49.7%	
Maximum Green (s)	15.0	30.4		10.2	25.6		30.8	30.8		8.3	42.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	0.0	3.2		0.0	3.2		4.0	4.0		0.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4			7.8		3.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	48.4	32.9		38.3	25.8		13.6	29.8		25.4		
Actuated g/C Ratio	0.57	0.39		0.45	0.30		0.16	0.35		0.30		
v/c Ratio	0.77	0.67		0.35	0.84		0.47	0.70		0.26		
Control Delay	29.1	26.0		13.7	36.1		17.7	32.2		22.3		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.1	26.0		13.7	36.1		17.7	32.2		22.3		
LOS	C	C		B	D		B	C		C	C	
Approach Delay		26.9			33.3			17.7			28.8	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	24.6	54.5		7.2	58.4		9.4	32.2		15.9		
Queue Length 95th (m)	#91.2	#115.7		22.7	#124.0		19.1	50.7		28.3		

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	418	1309		383	1004			1084		377	897	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.77	0.67		0.31	0.84			0.24		0.70	0.15	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 84.7												
Natural Cycle: 100												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.84												
Intersection Signal Delay: 28.5						Intersection LOS: C						
Intersection Capacity Utilization 102.0%						ICU Level of Service G						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
<p>The diagram shows a sequence of phases for 8 lane groups (Ø1-Ø8). The phases are: Ø1 (11.8 s), Ø2 (38.6 s), Ø3 (13.2 s), Ø4 (37.8 s), Ø6 (50.4 s), Ø7 (18 s), and Ø8 (33 s). Each phase is represented by a colored bar (green, yellow, red) indicating the duration of the phase.</p>												

33: 25 St SW & 33 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

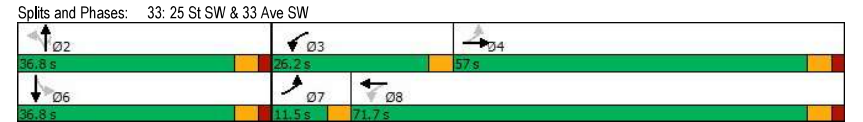
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↕	↕	↔	↔	↕	↕	↔	↕	↔
Traffic Volume (vph)	12	1069	74	270	770	30	113	7	200	90	6	22
Future Volume (vph)	12	1069	74	270	770	30	113	7	200	90	6	22
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.994				0.850		0.975	
Frt Protected	0.950			0.950				0.955			0.963	
Satd. Flow (prot)	1704	3374	0	1704	3387	0	0	1713	1525	0	1684	0
Frt Permitted	0.332			0.081				0.671			0.696	
Satd. Flow (perm)	595	3374	0	145	3387	0	0	1203	1525	0	1217	0
Satd. Flow (RTOR)		7			5				213		9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	13	1137	79	287	819	32	120	7	213	96	6	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	1216	0	287	851	0	0	127	213	0	125	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases	7	4		3	8			2		2	6	
Permitted Phases	4			8								6
Detector Phase	7	4		3	8			2	2	2	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	11.5	25.5		11.5	25.5		35.5	35.5	35.5	35.5	35.5	
Total Split (s)	11.5	57.0		26.2	71.7		36.8	36.8	36.8	36.8	36.8	
Total Split (%)	9.6%	47.5%		21.8%	59.8%		30.7%	30.7%	30.7%	30.7%	30.7%	
Maximum Green (s)	8.0	51.5		22.7	66.2		31.3	31.3	31.3	31.3	31.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		8.0			8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0	22.0	22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5	5	5	5	
Act Effct Green (s)	52.4	43.3		66.8	61.0		31.8	31.8	31.8	31.8	31.8	
Actuated g/C Ratio	0.49	0.40		0.62	0.57		0.30	0.30	0.30	0.30	0.30	
v/c Ratio	0.04	0.89		0.82	0.44		0.36	0.35	0.35	0.34	0.34	
Control Delay	8.8	39.5		46.7	14.5		37.2	6.5	6.5	34.3		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		
Total Delay	8.8	39.5		46.7	14.5		37.2	6.5	6.5	34.3		
LOS	A	D		D	B		D	A	A	C		
Approach Delay		39.2			22.6			17.9			34.3	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	1.0	124.5		43.5	45.5		22.1	0.0	0.0	20.0		
Queue Length 95th (m)	3.1	160.6		#78.4	73.7		43.4	18.1	18.1	40.5		
Internal Link Dist (m)		88.8			75.6			76.8		141.4		
Turn Bay Length (m)												
Base Capacity (vph)	378	1641		423	2141		354	600	600	365		

33: 25 St SW & 33 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.03	0.74		0.68	0.40			0.36	0.35		0.34	

Intersection Summary	
Cycle Length:	120
Actuated Cycle Length:	107.7
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	29.8
Intersection LOS:	C
Intersection Capacity Utilization:	74.1%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	230	1020	40	159	792	545	40	137	248	179	176	10
Future Volume (vph)	230	1020	40	159	792	545	40	137	248	179	176	10
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00			0.95			0.96		0.98		1.00
Frt		0.994			0.939			0.912		0.992		
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1704	3372	0	1704	3038	0	0	2988	0	1704	1774	0
Flt Permitted	0.065			0.183				0.892		0.188		
Satd. Flow (perm)	117	3372	0	328	3038	0	0	2672	0	332	1774	0
Satd. Flow (RTOR)		3			137			221			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	1074	42	167	834	574	42	144	261	188	185	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	242	1116	0	167	1408	0	0	447	0	188	196	0
Turn Type	pm-pt	NA		pm-pt	NA		Perm	NA		pm-pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	21.4	68.5		18.3	65.4		40.0	40.0		22.0	62.0	
Total Split (%)	14.4%	46.0%		12.3%	44.0%		26.9%	26.9%		14.8%	41.7%	
Maximum Green (s)	18.4	61.8		15.3	58.7		33.7	33.7		18.5	55.7	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	0.0	2.5		0.0	2.5		2.5	2.5		0.0	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	6.7		3.0	6.7		6.3	6.3		3.5	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	83.9	66.4		73.5	59.0		17.8	17.8		39.7	36.9	
Actuated g/C Ratio	0.64	0.51		0.56	0.45		0.14	0.14		0.31	0.28	
v/c Ratio	0.82	0.65		0.56	0.97		0.80	0.80		0.71	0.39	
Control Delay	56.3	27.7		19.0	49.5		38.7	38.7		49.6	38.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	56.3	27.7		19.0	49.5		38.7	38.7		49.6	38.7	
LOS	E	C		B	D		D	D		D	D	
Approach Delay		32.8			46.3			38.7			44.0	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	44.0	105.6		15.7	170.1		30.4	37.6		37.6	40.1	
Queue Length 95th (m)	#102.1	170.4		33.6	#266.6		49.7	57.1		57.1	60.7	

3: Sarcee Road /29 St & 33 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			105.7			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	301	1722		359	1453			859		297	764	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.80	0.65		0.47	0.97			0.52		0.63	0.26	
Intersection Summary												
Cycle Length: 148.8												
Actuated Cycle Length: 130.1												
Natural Cycle: 130												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.97												
Intersection Signal Delay: 40.3												
Intersection LOS: D												
Intersection Capacity Utilization 113.0%												
ICU Level of Service H												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8					
32 s	40 s	18.3 s	68.5 s		62 s	21.4 s	65.4 s					

33: 25 St SW & 33 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	68	1189	175	320	1268	102	197	23	190	41	15	31
Future Volume (vph)	68	1189	175	320	1268	102	197	23	190	41	15	31
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.989				0.850		0.952	
Frt Protected	0.950			0.950					0.957		0.977	
Satd. Flow (prot)	1704	3343	0	1704	3370	0	0	1716	1525	0	1668	0
Frt Permitted	0.120			0.071					0.694		0.738	
Satd. Flow (perm)	215	3343	0	127	3370	0	0	1245	1525	0	1260	0
Satd. Flow (RTOR)		17			11				200		23	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	1252	184	337	1335	107	207	24	200	43	16	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1436	0	337	1442	0	0	231	200	0	92	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases	7	4		3	8			2		2	6	6
Permitted Phases				8			2		2	6		
Detector Phase	7	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	11.5	25.5		11.5	25.5		35.5	35.5	35.5	35.5	35.5	
Total Split (s)	11.5	58.0		24.2	70.7		37.8	37.8	37.8	37.8	37.8	
Total Split (%)	9.6%	48.3%		20.2%	58.9%		31.5%	31.5%	31.5%	31.5%	31.5%	
Maximum Green (s)	8.0	52.5		20.7	65.2		32.3	32.3	32.3	32.3	32.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		8.0			8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0	22.0	22.0	22.0	
Pedestrian Calls (#/hr)		0			0		5	5	5	5	5	
Act Effct Green (s)	61.7	52.3		78.3	67.5		32.3	32.3	32.3	32.3	32.3	
Actuated g/C Ratio	0.52	0.44		0.65	0.56		0.27	0.27	0.27	0.27	0.27	
v/c Ratio	0.35	0.98		0.95	0.76		0.69	0.36	0.36	0.26	0.26	
Control Delay	14.5	51.5		72.8	23.6		51.2	6.6	6.6	27.9	27.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	14.5	51.5		72.8	23.6		51.2	6.6	6.6	27.9	27.9	
LOS	B	D		E	C		D	A	A	C	C	
Approach Delay		49.7			32.9			30.5			27.9	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	5.6	169.8		63.3	133.6		48.9	0.0	0.0	12.6	12.6	
Queue Length 95th (m)	10.8	#221.8		#119.7	165.2		77.8	17.3	17.3	26.7	26.7	
Internal Link Dist (m)		88.8			75.6			76.8		141.4	141.4	
Turn Bay Length (m)												
Base Capacity (vph)	211	1477		356	1906		336	557	557	356	356	

33: 25 St SW & 33 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0				0	0	0	0
Spillback Cap Reductn	0	0		0	0				0	0	0	0
Storage Cap Reductn	0	0		0	0				0	0	0	0
Reduced v/c Ratio	0.34	0.97		0.95	0.76				0.69	0.36	0.26	0.26
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 119.6												
Natural Cycle: 110												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.98												
Intersection Signal Delay: 39.2												
Intersection Capacity Utilization 89.3%												
ICU Level of Service E												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 33: 25 St SW & 33 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	92	110	80	5	405	161	20	290	70
Future Volume (vph)	0	0	0	92	110	80	5	405	161	20	290	70
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.97			1.00	0.94		0.99	
Frt				0.937				0.850			0.975	
Flt Protected				0.950				0.999			0.997	
Satd. Flow (prot)	0	0	0	1704	1633	0	0	1792	1525	0	1723	0
Flt Permitted				0.950				0.996			0.971	
Satd. Flow (perm)	0	0	0	1666	1633	0	0	1786	1427	0	1677	0
Satd. Flow (RTOR)				67				171			26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	98	117	85	5	431	171	21	309	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	98	202	0	0	436	171	0	404	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				26.0	26.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)				43.3%	43.3%		56.7%	56.7%	56.7%	56.7%	56.7%	
Maximum Green (s)				21.0	21.0		29.0	29.0	29.0	29.0	29.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				10.6	10.6		24.3	24.3			24.3	
Actuated g/C Ratio				0.26	0.26		0.59	0.59			0.59	
v/c Ratio				0.23	0.43		0.41	0.19			0.40	
Control Delay				13.5	11.9		8.3	2.1			7.8	
Queue Delay				0.0	0.0		0.1	0.0			0.0	
Total Delay				13.5	11.9		8.4	2.1			7.8	
LOS				B	B		A	A			A	
Approach Delay					12.4			6.6			7.8	
Approach LOS					B			A			A	
Queue Length 50th (m)				5.3	7.5		17.1	0.0			14.5	
Queue Length 95th (m)				13.5	19.9		39.3	6.5			34.9	

1: 29 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				856	872			1366	1132		1289	
Starvation Cap Reductn				0	0			191	0		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.11	0.23			0.37	0.15		0.31	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 40.9												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.43												
Intersection Signal Delay: 8.3							Intersection LOS: A					
Intersection Capacity Utilization 60.6%							ICU Level of Service B					
Analysis Period (min) 15												

Splits and Phases: 1: 29 St & Richmond Road SW



6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				↔
Traffic Volume (vph)	40	965	10	10	315	60	5	5	40	35	10	20
Future Volume (vph)	40	965	10	10	315	60	5	5	40	35	10	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.92			0.95	
Frt		0.999			0.979			0.890			0.959	
Ft Protected		0.998			0.999			0.995			0.974	
Satd. Flow (prot)	0	1787	0	0	1732	0	0	1471	0	0	1629	0
Ft Permitted		0.973			0.972			0.964			0.804	
Satd. Flow (perm)	0	1740	0	0	1685	0	0	1419	0	0	1307	0
Satd. Flow (RTOR)		1			22			43			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	1027	11	11	335	64	5	5	43	37	11	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1081	0	0	410	0	0	53	0	0	69	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		55.0			55.0			11.0			11.0	
Actuated g/C Ratio		0.79			0.79			0.16			0.16	
v/c Ratio		0.79			0.31			0.20			0.31	
Control Delay		12.7			3.9			15.2			27.5	
Queue Delay		0.0			0.5			0.0			0.0	
Total Delay		12.7			4.4			15.2			27.5	
LOS		B			A			B			C	
Approach Delay		12.7			4.4			15.2			27.5	
Approach LOS		B			A			B			C	
Queue Length 50th (m)		84.3			15.0			1.2			6.0	
Queue Length 95th (m)		#186.2			27.5			10.8			18.4	

6: 25A St /25A St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		73.4			75.2			100.7			70.0	
Turn Bay Length (m)												
Base Capacity (vph)		1432			1391			463			413	
Starvation Cap Reductn		0			578			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.75			0.50			0.11			0.17	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 69.9												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 11.3							Intersection LOS: B					
Intersection Capacity Utilization 94.5%							ICU Level of Service F					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 6: 25A St /25A St & 26 Ave SW												
	↑	↔	↓	↔	↑	↔	↓	↔	↑	↔	↓	↔
	25 s	55 s	25 s	55 s	25 s	55 s	25 s	55 s	25 s	55 s	25 s	55 s

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔	↔		↔	
Traffic Volume (vph)	40	940	60	105	350	40	15	80	210	30	0	20
Future Volume (vph)	40	940	60	105	350	40	15	80	210	30	0	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	0.99			0.99	0.91		0.94	
Frt		0.992		0.984				0.850	0.947			
Flt Protected		0.998		0.950				0.992	0.971			
Satd. Flow (prot)	0	1767	0	1704	1750	0	0	1779	1525	0	1590	0
Flt Permitted		0.973		0.262				0.950	0.785			
Satd. Flow (perm)	0	1721	0	466	1750	0	0	1690	1386	0	1247	0
Satd. Flow (RTOR)		7		14				137	24			
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	1000	64	112	372	43	16	85	223	32	0	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1107	0	112	415	0	0	101	223	0	53	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases		4		8	8		2	2	6		6	
Permitted Phases	4			8			2	2	6			
Detector Phase	4	4		8	8		2	2	6		6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0		25.0
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0	25.0	25.0		25.0
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%	27.8%	27.8%		27.8%
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0	20.0	20.0		20.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5		1.5
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	Min	Min		Min	Min		None	None	None	None		None
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0		8.0
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0		12.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		54.7		54.7	54.7		12.7	12.7	12.7			12.7
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.16	0.16	0.16			0.16
v/c Ratio	0.91	0.34		0.34	0.34		0.36	0.65	0.24			0.24
Control Delay	23.5	8.6		5.4	5.4		34.6	23.1	21.8			21.8
Queue Delay	15.9	0.0		0.0	0.0		0.0	0.0	0.0			0.0
Total Delay	39.4	8.6		5.4	5.4		34.6	23.1	21.8			21.8
LOS	D	A		A	A		C	C	C			C
Approach Delay	39.4			6.1	6.1		26.7		21.8			21.8
Approach LOS	D			A	A		C		C			C
Queue Length 50th (m)		95.2		4.6	16.0		14.5	12.4	4.0			4.0
Queue Length 95th (m)		#266.0		17.5	40.4		28.1	34.3	13.4			13.4

7: 25 St & 26 Ave SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		1357		367	1381			443	464		345	
Starvation Cap Reductn		262		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		1.01		0.31	0.30			0.23	0.48		0.15	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 77.6												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 28.2									Intersection LOS: C			
Intersection Capacity Utilization 105.1%									ICU Level of Service G			
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	117	13	30	10	645	222	25	255	180
Future Volume (vph)	0	0	0	117	13	30	10	645	222	25	255	180
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.95			1.00	0.94		0.97	
Frt				0.896				0.850			0.947	
Ft Protected				0.950				0.999			0.997	
Satd. Flow (prot)	0	0	0	1704	1532	0	0	1792	1525	0	1651	0
Ft Permitted				0.950				0.992			0.954	
Satd. Flow (perm)	0	0	0	1666	1532	0	0	1779	1427	0	1579	0
Satd. Flow (RTOR)					32				234		77	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	123	14	32	11	679	234	26	268	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	123	46	0	0	690	234	0	483	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2		6		6
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				10.5	10.5		27.9	27.9	27.9	27.9	27.9	
Actuated g/C Ratio				0.24	0.24		0.63	0.63	0.63	0.63	0.63	
v/c Ratio				0.31	0.12		0.61	0.24	0.47			
Control Delay				17.7	9.4		10.1	1.6	7.1			
Queue Delay				0.0	0.0		0.4	0.0	0.0			
Total Delay				17.7	9.4		10.5	1.7	7.1			
LOS				B	A		B	A	A			
Approach Delay					15.4			8.2			7.1	
Approach LOS					B			A			A	
Queue Length 50th (m)				7.1	0.8			33.3	0.0		16.2	
Queue Length 95th (m)				20.9	7.1			69.1	6.4		37.1	

1: 29 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				763	719			1312	1114		1185	
Starvation Cap Reductn				0	0			207	152		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.16	0.06			0.62	0.24		0.41	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 44.1												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.61												
Intersection Signal Delay: 8.7							Intersection LOS: A					
Intersection Capacity Utilization 69.6%							ICU Level of Service C					
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	680	10	10	960	53	10	20	45	110	10	30
Future Volume (vph)	30	680	10	10	960	53	10	20	45	110	10	30
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.94			0.95	
Frt		0.998			0.993			0.920			0.973	
Flt Protected		0.998			0.999			0.993			0.965	
Satd. Flow (prot)	0	1784	0	0	1772	0	0	1550	0	0	1653	0
Flt Permitted		0.934			0.992			0.949			0.790	
Satd. Flow (perm)	0	1669	0	0	1759	0	0	1473	0	0	1305	0
Satd. Flow (RTOR)		2			7			47			13	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	716	11	11	1011	56	11	21	47	116	11	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	759	0	0	1078	0	0	79	0	0	159	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		52.9			52.9			14.5			14.5	
Actuated g/C Ratio		0.68			0.68			0.19			0.19	
v/c Ratio		0.67			0.90			0.25			0.63	
Control Delay		11.3			23.0			17.0			39.5	
Queue Delay		0.0			7.7			0.0			0.0	
Total Delay		11.3			30.6			17.0			39.5	
LOS		B			C			B			D	
Approach Delay		11.3			30.6			17.0			39.5	
Approach LOS		B			C			B			D	
Queue Length 50th (m)		54.9			109.5			4.2			21.2	
Queue Length 95th (m)		109.0			#251.3			15.6			41.7	

6: 25A St /25A St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		73.4			75.2			100.7			70.0	
Turn Bay Length (m)												
Base Capacity (vph)		1319			1392			422			353	
Starvation Cap Reductn		0			278			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.58			0.97			0.19			0.45	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 77.6												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.90												
Intersection Signal Delay: 23.7												
Intersection LOS: C												
Intersection Capacity Utilization 83.6%												
ICU Level of Service E												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 6: 25A St /25A St & 26 Ave SW												

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	670	145	145	990	50	40	20	125	40	25	45
Future Volume (vph)	50	670	145	145	990	50	40	20	125	40	25	45
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.97	0.91		0.94	
Frt		0.977			0.993				0.850		0.945	
Flt Protected		0.997		0.950				0.968			0.982	
Satd. Flow (prot)	0	1723	0	1704	1774	0	0	1736	1525	0	1603	0
Flt Permitted		0.756		0.325				0.722			0.853	
Satd. Flow (perm)	0	1307	0	576	1774	0	0	1257	1386	0	1366	0
Satd. Flow (RTOR)		24			6				132		36	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	705	153	153	1042	53	42	21	132	42	26	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	911	0	153	1095	0	0	63	132	0	115	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0	25.0	25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%	27.8%	27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0	20.0	20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		62.3		62.3	62.3			11.5	11.5		11.5	
Actuated g/C Ratio		0.74		0.74	0.74			0.14	0.14		0.14	
v/c Ratio		0.93		0.36	0.83			0.37	0.44		0.53	
Control Delay		28.3		7.0	15.2			38.0	10.9		31.8	
Queue Delay		38.2		0.0	0.0			0.0	0.0		0.0	
Total Delay		66.4		7.0	15.2			38.0	10.9		31.8	
LOS		E		A	B			D	B		C	
Approach Delay		66.4			14.2			19.6			31.8	
Approach LOS		E			B			B			C	
Queue Length 50th (m)		85.8		6.2	84.0			9.0	0.0		11.3	
Queue Length 95th (m)		#222.8		18.9	#233.4			20.1	14.3		26.7	

7: 25 St & 26 Ave SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)				50.0					50.0			
Base Capacity (vph)		977		428	1320			300	432		354	
Starvation Cap Reductn		136		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		1.08		0.36	0.83			0.21	0.31		0.32	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 83.8												
Natural Cycle: 120												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 34.7							Intersection LOS: C					
Intersection Capacity Utilization 112.6%							ICU Level of Service H					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												
	↑	⊘2								→	⊘4	
	35 s									55 s		
	↓	⊘6								←	⊘8	
	25 s									55 s		

8: 25 St /25 St & Richmond Road SW
04/16/2024

AM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	20	56	62	28	77	130	32	155	19	25	55	85
Future Volume (vph)	20	56	62	28	77	130	32	155	19	25	55	85
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	21	60	66	30	82	138	34	165	20	27	59	90
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	147	250	219	176								
Volume Left (vph)	21	30	34	27								
Volume Right (vph)	66	138	20	90								
Hadj (s)	-0.21	-0.27	0.01	-0.24								
Departure Headway (s)	5.1	4.9	5.2	5.0								
Degree Utilization, x	0.21	0.34	0.32	0.25								
Capacity (veh/h)	635	680	632	652								
Control Delay (s)	9.5	10.4	10.6	9.7								
Approach Delay (s)	9.5	10.4	10.6	9.7								
Approach LOS	A	B	B	A								
Intersection Summary												
Delay	10.1											
Level of Service	B											
Intersection Capacity Utilization	41.2%		ICU Level of Service		A							
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/16/2024

PM Peak Hour
2048 After Development With 25 St Connection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	40	84	68	12	23	55	55	90	36	155	195	5
Future Volume (vph)	40	84	68	12	23	55	55	90	36	155	195	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	42	88	72	13	24	58	58	95	38	163	205	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	202	95	191	373								
Volume Left (vph)	42	13	58	163								
Volume Right (vph)	72	58	38	5								
Hadj (s)	-0.14	-0.30	-0.02	0.11								
Departure Headway (s)	5.4	5.5	5.3	5.1								
Degree Utilization, x	0.30	0.14	0.28	0.53								
Capacity (veh/h)	604	571	632	668								
Control Delay (s)	10.8	9.4	10.3	13.9								
Approach Delay (s)	10.8	9.4	10.3	13.9								
Approach LOS	B	A	B	B								
Intersection Summary												
Delay	11.9											
Level of Service	B											
Intersection Capacity Utilization	54.6%		ICU Level of Service		A							
Analysis Period (min)	15											

Queuing and Blocking Report
 2048 After Development With 25 St Connection

04/12/2024

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.7	32.0	25.8	34.8
Average Queue (m)	10.7	15.0	10.4	12.2
95th Queue (m)	17.9	25.7	20.1	25.0
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
 2048 After Development With 25 St Connection

04/12/2024

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	26.6	17.8	26.0	49.4
Average Queue (m)	12.5	8.8	9.2	18.2
95th Queue (m)	21.0	15.5	18.3	36.3
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

2: 29 St & 31 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔↔
Traffic Volume (veh/h)	0	0	544	30	5	521
Future Volume (Veh/h)	0	0	544	30	5	521
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	579	32	5	554
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			32
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	907	620			611	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	796	455			445	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			99	
cM capacity (veh/h)	266	455			937	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	611	190	369			
Volume Left	0	5	0			
Volume Right	32	0	0			
eSH	1700	937	1700			
Volume to Capacity	0.36	0.01	0.22			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			46.9%	ICU Level of Service	A	
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	194	5	5	248	5	27	5	5	5	5	7
Future Volume (Veh/h)	5	194	5	5	248	5	27	5	5	5	5	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	206	5	5	264	5	29	5	5	5	5	7
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		122										
pX, platoon unblocked												
vC, conflicting volume	294			236				554	548	258	552	548
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	294			236				554	548	258	552	548
tC, single (s)	4.1			4.1				7.1	6.5	6.2	7.1	6.5
tC, 2 stage (s)												
tF (s)	2.2			2.2				3.5	4.0	3.3	3.5	4.0
pD queue free %	100			100				93	99	99	99	99
cM capacity (veh/h)	1240			1302				399	421	746	402	421
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	216	274	39	17								
Volume Left	5	5	29	5								
Volume Right	5	5	5	7								
eSH	1240	1302	427	494								
Volume to Capacity	0.00	0.00	0.09	0.03								
Queue Length 95th (m)	0.1	0.1	2.3	0.8								
Control Delay (s)	0.2	0.2	14.3	12.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.2	14.3	12.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay				1.6								
Intersection Capacity Utilization			32.5%	ICU Level of Service	A							
Analysis Period (min)			15									

5: 25A St & Richmond Road SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	148	7	5	182	6	9	8	5	5	5	6
Future Volume (Veh/h)	29	148	7	5	182	6	9	8	5	5	5	6
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	157	7	5	194	6	10	9	5	5	5	6
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	225	189			488			482	210	489	483	247
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	225	189			488			482	210	489	483	247
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	98	100			98			98	99	99	99	99
cM capacity (veh/h)	1314	1354			436			450	793	434	450	757
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	195	205	24	16								
Volume Left	31	5	10	5								
Volume Right	7	6	5	6								
cSH	1314	1354	488	523								
Volume to Capacity	0.02	0.00	0.05	0.03								
Queue Length 95th (m)	0.6	0.1	1.2	0.7								
Control Delay (s)	1.4	0.2	12.8	12.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.4	0.2	12.8	12.1								
Approach LOS			B	B								
Intersection Summary												
Average Delay	1.9											
Intersection Capacity Utilization	39.5%			ICU Level of Service			A					
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	637	5	5	403	5	8	5	23	7	5	13
Future Volume (Veh/h)	10	637	5	5	403	5	8	5	23	7	5	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	678	5	5	429	5	9	5	24	7	5	14
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	99											
pX, platoon unblocked	0.90				0.90			0.90	0.90			0.90
vC, conflicting volume	459	708			1210			1196	730	1220	1196	482
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	347	708			1179			1164	730	1190	1164	372
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	99	99			93			97	94	94	97	98
cM capacity (veh/h)	1070	871			132			165	404	125	165	582
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	694	439	38	26								
Volume Left	11	5	9	7								
Volume Right	5	5	24	14								
cSH	1070	871	240	235								
Volume to Capacity	0.01	0.01	0.16	0.11								
Queue Length 95th (m)	0.2	0.1	4.2	2.8								
Control Delay (s)	0.3	0.2	22.8	22.2								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	22.8	22.2								
Approach LOS			C	C								
Intersection Summary												
Average Delay	1.4											
Intersection Capacity Utilization	56.8%				ICU Level of Service				B			
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	68	52	5	88	166	82	160	5	36	34	17
Future Volume (Veh/h)	29	68	52	5	88	166	82	160	5	36	34	17
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	72	55	5	94	177	87	170	5	38	36	18
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	296	152			440			492	150	494	432	232
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	296	152			440			492	150	494	432	232
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	97	100			80			62	99	88	93	98
cM capacity (veh/h)	1237	1397			439			443	858	308	480	771
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	158	276	262	92								
Volume Left	31	5	87	38								
Volume Right	55	177	5	18								
cSH	1237	1397	446	415								
Volume to Capacity	0.03	0.00	0.59	0.22								
Queue Length 95th (m)	0.6	0.1	28.0	6.4								
Control Delay (s)	1.7	0.2	23.9	16.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	1.7	0.2	23.9	16.1								
Approach LOS			C	C								
Intersection Summary												
Average Delay	10.2											
Intersection Capacity Utilization	48.2%			ICU Level of Service			A					
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	8	5	5	12	61	5	5	5	18	5	5
Future Volume (Veh/h)	5	8	5	5	12	61	5	5	5	18	5	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	9	5	5	13	65	5	5	5	19	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)	235											
pX, platoon unblocked												
vC, conflicting volume	184	116	58	122	116	58	35				35	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	184	116	58	122	116	58	35				35	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
pD queue free %	99	99	99	99	98	93	100				99	
cM capacity (veh/h)	653	729	965	767	729	965	1541				1541	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	19	83	15	29								
Volume Left	5	5	5	19								
Volume Right	5	65	5	5								
cSH	754	905	1541	1541								
Volume to Capacity	0.03	0.09	0.00	0.01								
Queue Length 95th (m)	0.6	2.3	0.1	0.3								
Control Delay (s)	9.9	9.4	2.5	4.9								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.9	9.4	2.5	4.9								
Approach LOS	A	A										
Intersection Summary												
Average Delay	7.8											
Intersection Capacity Utilization	26.2%			ICU Level of Service			A					
Analysis Period (min)	15											

1: 29 St & Richmond Road SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	187	69	25	5	355	196	7	338	39
Future Volume (vph)	0	0	0	187	69	25	5	355	196	7	338	39
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.98			1.00	0.94		0.99	
Frt				0.959				0.850			0.986	
Flt Protected				0.950				0.999			0.999	
Satd. Flow (prot)	0	0	0	1704	1689	0	0	1792	1525	0	1755	0
Flt Permitted				0.950				0.995			0.993	
Satd. Flow (perm)	0	0	0	1666	1689	0	0	1784	1427	0	1744	0
Satd. Flow (RTOR)				27				209			13	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	199	73	27	5	378	209	7	360	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	199	100	0	0	383	209	0	408	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				26.0	26.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)				43.3%	43.3%		56.7%	56.7%	56.7%	56.7%	56.7%	
Maximum Green (s)				21.0	21.0		29.0	29.0	29.0	29.0	29.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				11.0	11.0		24.2	24.2			24.2	
Actuated g/C Ratio				0.27	0.27		0.59	0.59			0.59	
v/c Ratio				0.45	0.21		0.37	0.23			0.40	
Control Delay				16.0	10.2		8.2	2.2			8.4	
Queue Delay				0.0	0.0		0.1	0.0			0.0	
Total Delay				16.0	10.2		8.3	2.2			8.4	
LOS				B	B		A	A			A	
Approach Delay				14.1			6.2			8.4		
Approach LOS				B			A			A		
Queue Length 50th (m)				11.5	3.9		14.4	0.0			15.2	
Queue Length 95th (m)				24.1	11.3		35.5	7.6			37.7	

1: 29 St & Richmond Road SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)			50.0									
Base Capacity (vph)			851		876		1357		1136		1330	
Starvation Cap Reductn			0		0		191		0		0	
Spillback Cap Reductn			0		0		0		0		0	
Storage Cap Reductn			0		0		0		0		0	
Reduced v/c Ratio			0.23		0.11		0.33		0.18		0.31	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 41.1												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.45												
Intersection Signal Delay: 8.7												
Intersection LOS: A												
Intersection Capacity Utilization 48.2%												
ICU Level of Service A												
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	122	700	39	121	353	304	27	148	204	364	157	5
Future Volume (vph)	122	700	39	121	353	304	27	148	204	364	157	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99	0.95			0.98		0.99	1.00	
Frt		0.992			0.931			0.919			0.996	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3363	0	1704	3024	0	0	3046	0	1704	1784	0
Flt Permitted	0.227			0.192				0.910		0.353		
Satd. Flow (perm)	400	3363	0	340	3024	0	0	2779	0	625	1784	0
Satd. Flow (RTOR)		5			195			217			2	
Confl. Peds. (#/hr)	25		25	25		25		25		25		25
Confl. Bikes (#/hr)			10			10		10				10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	130	745	41	129	376	323	29	157	217	387	167	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	130	786	0	129	699	0	0	403	0	387	172	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		20.0	37.8	
Total Split (s)	13.2	28.0		13.2	28.0		38.8	38.8		20.0	58.8	
Total Split (%)	13.2%	28.0%		13.2%	28.0%		38.8%	38.8%		20.0%	58.8%	
Maximum Green (s)	7.0	20.6		7.0	20.6		31.0	31.0		15.5	51.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	29.1	20.8		29.1	20.8			14.2		37.1	33.8	
Actuated g/C Ratio	0.35	0.25		0.35	0.25			0.17		0.45	0.41	
v/c Ratio	0.52	0.93		0.55	0.78			0.62		0.82	0.24	
Control Delay	26.5	50.9		28.4	28.8			18.2		32.0	16.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		6.3	0.2	
Total Delay	26.5	50.9		28.4	28.8			18.2		38.4	16.5	
LOS	C	D		C	C			B		D	B	
Approach Delay		47.4			28.8			18.2			31.7	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	11.6	60.2		11.4	37.1			13.9		42.0	17.1	
Queue Length 95th (m)	#33.1	#128.7		#32.7	#33.3			26.5		#68.4	28.9	

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			158.5			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	250	843		234	901			1180		481	1104	
Starvation Cap Reductn	0	0		0	0			0		58	407	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.52	0.93		0.55	0.78			0.34		0.91	0.25	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 83.2												
Natural Cycle: 100												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 34.1							Intersection LOS: C					
Intersection Capacity Utilization 95.4%							ICU Level of Service F					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
	↙	↖	↗	↘	↙	↖	↗	↘	↙	↖	↗	↘
Φ1	↖	↗	↘	↙	↖	↗	↘	↙	↖	↗	↘	↙
30 s					38.8 s					13.2 s		28 s
Φ6	↙	↖	↗	↘	↙	↖	↗	↘	↙	↖	↗	↘
58.8 s					13.2 s					28 s		

7: 25 St & 26 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔				↔			↔	
Traffic Volume (vph)	15	625	34	46	318	10	64	10	280	17	8	20
Future Volume (vph)	15	625	34	46	318	10	64	10	280	17	8	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.92			0.95	
Frt		0.993			0.996			0.893			0.941	
Flt Protected		0.999			0.994			0.991			0.982	
Satd. Flow (prot)	0	1772	0	0	1772	0	0	1479	0	0	1595	0
Flt Permitted		0.989			0.874			0.932			0.853	
Satd. Flow (perm)	0	1753	0	0	1555	0	0	1378	0	0	1374	0
Satd. Flow (RTOR)		5			3			209			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	665	36	49	338	11	68	11	298	18	9	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	717	0	0	398	0	0	377	0	0	48	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	56.0	56.0		56.0	56.0		34.0	34.0		34.0	34.0	
Total Split (%)	62.2%	62.2%		62.2%	62.2%		37.8%	37.8%		37.8%	37.8%	
Maximum Green (s)	51.0	51.0		51.0	51.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		29.6			29.6			15.6			15.6	
Actuated g/C Ratio		0.53			0.53			0.28			0.28	
v/c Ratio		0.78			0.49			0.71			0.12	
Control Delay		17.9			11.2			17.5			13.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			11.2			17.5			13.4	
LOS		B			B			B			B	
Approach Delay		17.9			11.2			17.5			13.4	
Approach LOS		B			B			B			B	
Queue Length 50th (m)		43.3			19.1			11.7			1.7	
Queue Length 95th (m)		127.0			58.2			54.1			10.8	

7: 25 St & 26 Ave SW
04/23/2024

AM Peak Hour
After Development (75% Build out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		1535			1361			872			788	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.47			0.29			0.43			0.06	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 56.2												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.78												
Intersection Signal Delay: 16.0							Intersection LOS: B					
Intersection Capacity Utilization 77.1%							ICU Level of Service D					
Analysis Period (min) 15												
Splits and Phases: 7: 25 St & 26 Ave SW												

2: 29 St & 31 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	860	66	14	396
Future Volume (Veh/h)	0	0	860	66	14	396
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	905	69	15	417
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			32
pX, platoon unblocked	0.77	0.77			0.77	
vC, conflicting volume	1203	964			974	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1114	805			817	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			98	
cM capacity (veh/h)	149	245			621	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	974	154	278			
Volume Left	0	15	0			
Volume Right	69	0	0			
eSH	1700	621	1700			
Volume to Capacity	0.57	0.02	0.16			
Queue Length 95th (m)	0.0	0.6	0.0			
Control Delay (s)	0.0	1.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			66.2%	ICU Level of Service	C	
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	288	12	13	203	5	67	5	16	5	5	5
Future Volume (Veh/h)	5	288	12	13	203	5	67	5	16	5	5	5
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	303	13	14	214	5	71	5	17	5	5	5
Pedestrians		25			25			25				25
Lane Width (m)		3.5			3.5			3.5				3.5
Walking Speed (m/s)		1.1			1.1			1.1				1.1
Percent Blockage		2			2			2				2
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		122										
pX, platoon unblocked												
vC, conflicting volume	244			341				622	616	360	634	620
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	244			341				622	616	360	634	620
tC, single (s)	4.1			4.1				7.1	6.5	6.2	7.1	6.5
tC, 2 stage (s)												
tF (s)	2.2			2.2				3.5	4.0	3.3	3.5	4.0
pD queue free %	100			99				80	99	97	99	99
cM capacity (veh/h)	1293			1191				359	382	655	345	380
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	321	233	93	15								
Volume Left	5	14	71	5								
Volume Right	13	5	17	5								
eSH	1293	1191	392	436								
Volume to Capacity	0.00	0.01	0.24	0.03								
Queue Length 95th (m)	0.1	0.3	6.9	0.8								
Control Delay (s)	0.2	0.6	17.0	13.6								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.2	0.6	17.0	13.6								
Approach LOS			C	B								
Intersection Summary												
Average Delay				3.0								
Intersection Capacity Utilization				37.8%	ICU Level of Service	A						
Analysis Period (min)				15								

5: 25A St & Richmond Road SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	46	217	12	5	132	5	6	5	5	5	9	25
Future Volume (Veh/h)	46	217	12	5	132	5	6	5	5	5	9	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	228	13	5	139	5	6	5	5	5	9	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	169	266			562			534	284	540	538	192
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	169	266			562			534	284	540	538	192
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	97	100			98			99	99	99	98	97
cM capacity (veh/h)	1377	1269			374			415	721	400	413	813
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	289	149	16	40								
Volume Left	48	5	6	5								
Volume Right	13	5	5	26								
cSH	1377	1269	457	604								
Volume to Capacity	0.03	0.00	0.04	0.07								
Queue Length 95th (m)	0.8	0.1	0.8	1.6								
Control Delay (s)	1.5	0.3	13.2	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.5	0.3	13.2	11.4								
Approach LOS			B	B								
Intersection Summary												
Average Delay	2.3											
Intersection Capacity Utilization	45.4%			ICU Level of Service			A					
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	17	574	17	12	669	11	5	5	34	5	5	16
Future Volume (Veh/h)	17	574	17	12	669	11	5	5	34	5	5	16
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	604	18	13	704	12	5	5	36	5	5	17
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	99											
pX, platoon unblocked	0.75							0.75	0.75	0.75	0.75	0.75
vC, conflicting volume	741	647			1454			1441	663	1474	1444	760
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	484	647			1439			1421	663	1465	1425	510
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	98	99			93			95	92	92	95	96
cM capacity (veh/h)	788	918			68			94	441	63	93	403
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	640	729	46	27								
Volume Left	18	13	5	5								
Volume Right	18	12	36	17								
cSH	788	918	221	154								
Volume to Capacity	0.02	0.01	0.21	0.18								
Queue Length 95th (m)	0.5	0.3	5.8	4.7								
Control Delay (s)	0.6	0.4	25.5	33.3								
Lane LOS	A	A	D	D								
Approach Delay (s)	0.6	0.4	25.5	33.3								
Approach LOS			D	D								
Intersection Summary												
Average Delay	1.9											
Intersection Capacity Utilization	58.7%			ICU Level of Service			B					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	45	95	98	5	64	98	52	83	5	168	162	20
Future Volume (Veh/h)	45	95	98	5	64	98	52	83	5	168	162	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	100	103	5	67	103	55	87	5	177	171	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	195	228			530			476	202	472	476	168
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	195	228			530			476	202	472	476	168
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	97	100			81			81	99	54	62	97
cM capacity (veh/h)	1348	1311			284			449	803	382	449	837
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	250	175	147	369								
Volume Left	47	5	55	177								
Volume Right	103	103	5	21								
cSH	1348	1311	373	424								
Volume to Capacity	0.03	0.00	0.39	0.87								
Queue Length 95th (m)	0.8	0.1	13.9	67.0								
Control Delay (s)	1.7	0.3	20.8	48.9								
Lane LOS	A	A	C	E								
Approach Delay (s)	1.7	0.3	20.8	48.9								
Approach LOS	C			E								
Intersection Summary												
Average Delay	22.9											
Intersection Capacity Utilization	62.6%			ICU Level of Service	B							
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	5	18	5	5	10	33	5	5	5	59	6	5	
Future Volume (Veh/h)	5	18	5	5	10	33	5	5	5	59	6	5	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	5	19	5	5	11	35	5	5	5	62	6	5	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type							None			None			
Median storage (veh)													
Upstream signal (m)	235												
pX, platoon unblocked													
vC, conflicting volume	240	202	58	214	202	58	36						35
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	240	202	58	214	202	58	36						35
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1						4.1
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
pD queue free %	99	97	99	99	98	96	100						96
cM capacity (veh/h)	607	635	963	645	635	965	1540						1541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	29	51	15	73									
Volume Left	5	5	5	62									
Volume Right	5	35	5	5									
cSH	669	831	1540	1541									
Volume to Capacity	0.04	0.06	0.00	0.04									
Queue Length 95th (m)	1.0	1.5	0.1	1.0									
Control Delay (s)	10.6	9.6	2.5	6.4									
Lane LOS	B	A	A	A									
Approach Delay (s)	10.6	9.6	2.5	6.4									
Approach LOS	B		A										
Intersection Summary													
Average Delay	7.7												
Intersection Capacity Utilization	27.8%			ICU Level of Service	A								
Analysis Period (min)	15												

1: 29 St & Richmond Road SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↖			↖	↖		↖	
Traffic Volume (vph)	0	0	0	116	116	11	5	482	327	8	312	68
Future Volume (vph)	0	0	0	116	116	11	5	482	327	8	312	68
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.99			1.00	0.94		0.99	
Frt					0.987				0.850		0.976	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	0	0	1704	1760	0	0	1794	1525	0	1729	0
Flt Permitted				0.950				0.996			0.990	
Satd. Flow (perm)	0	0	0	1666	1760	0	0	1786	1427	0	1713	0
Satd. Flow (RTOR)					9				344		26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	122	122	12	5	507	344	8	328	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	122	134	0	0	512	344	0	408	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				10.4	10.4		25.2	25.2	25.2	25.2	25.2	
Actuated g/C Ratio				0.25	0.25		0.61	0.61	0.61	0.61	0.61	
v/c Ratio				0.29	0.30		0.47	0.34	0.39	0.39	0.39	
Control Delay				15.3	14.5		8.5	2.0	7.2	7.2	7.2	
Queue Delay				0.0	0.0		0.1	0.0	0.0	0.0	0.0	
Total Delay				15.3	14.5		8.6	2.0	7.2	7.2	7.2	
LOS				B	B		A	A	A	A	A	
Approach Delay					14.9			6.0			7.2	
Approach LOS					B			A			A	
Queue Length 50th (m)				6.7	6.8		21.3	0.0	14.6	14.6	14.6	
Queue Length 95th (m)				18.5	19.1		44.2	8.1	31.8	31.8	31.8	

1: 29 St & Richmond Road SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				806	856			1386	1184		1335	
Starvation Cap Reductn				0	0			207	89		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.15	0.16			0.43	0.31		0.31	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 41.5												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.47												
Intersection Signal Delay: 7.8							Intersection LOS: A					
Intersection Capacity Utilization 53.4%							ICU Level of Service A					
Analysis Period (min) 15												
Splits and Phases: 1: 29 St & Richmond Road SW												

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	231	479	80	226	667	475	31	223	147	236	157	5
Future Volume (vph)	231	479	80	226	667	475	31	223	147	236	157	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98		0.98	0.96			0.98		0.99	1.00	
Frt		0.979			0.938			0.945		0.996	0.996	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3284	0	1704	3054	0	0	3149	0	1704	1784	0
Flt Permitted	0.094			0.373				0.905		0.303		
Satd. Flow (perm)	169	3284	0	655	3054	0	0	2856	0	536	1784	0
Satd. Flow (RTOR)		16			164			92			1	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	243	504	84	238	702	500	33	235	155	248	165	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	588	0	238	1202	0	0	423	0	248	170	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	19.6	43.7		24.9	49.0		38.8	38.8		12.6	51.4	
Total Split (%)	16.3%	36.4%		20.8%	40.8%		32.3%	32.3%		10.5%	42.8%	
Maximum Green (s)	13.4	36.3		18.7	41.6		31.0	31.0		8.1	43.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	57.1	42.4		55.7	41.7		18.7	18.7		34.6	31.3	
Actuated g/C Ratio	0.53	0.39		0.52	0.39		0.17	0.32		0.32	0.29	
v/c Ratio	0.87	0.45		0.52	0.94		0.74	0.96		0.96	0.33	
Control Delay	57.3	26.7		16.7	42.8		41.0	78.9		31.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0	42.8		0.5		
Total Delay	57.3	26.7		16.7	42.8		41.0	121.7		31.8		
LOS	E	C		B	D		D	F		C		
Approach Delay		35.6			38.5			41.0			85.1	
Approach LOS		D			D			D			F	
Queue Length 50th (m)	34.0	44.7		22.3	110.4		35.1	41.1		27.7		
Queue Length 95th (m)	#96.0	77.5		45.4	#185.3		51.2	#81.5		44.9		

3: Sarcee Road /29 St & 33 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			158.5			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	280	1299		556	1280			888		259	723	
Starvation Cap Reductn	0	0		0	0			0		49	284	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.87	0.45		0.43	0.94			0.48		1.18	0.39	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 108												
Natural Cycle: 120												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.96												
Intersection Signal Delay: 44.3							Intersection LOS: D					
Intersection Capacity Utilization 112.8%							ICU Level of Service H					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8				
	12.6 s	38.8 s	24.9 s	43.7 s		51.4 s	19.6 s	49 s				

7: 25 St & 26 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build out)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	448	127	173	595	34	58	12	150	15	58	25
Future Volume (vph)	30	448	127	173	595	34	58	12	150	15	58	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			0.93			0.97	
Frt		0.972			0.994			0.908			0.966	
Ft Protected		0.997			0.989			0.987			0.992	
Satd. Flow (prot)	0	1709	0	0	1757	0	0	1508	0	0	1679	0
Ft Permitted		0.941			0.758			0.890			0.913	
Satd. Flow (perm)	0	1612	0	0	1341	0	0	1344	0	0	1538	0
Satd. Flow (RTOR)		32			5			110			17	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	472	134	182	626	36	61	13	158	16	61	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	638	0	0	844	0	0	232	0	0	103	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	65.0	65.0		65.0	65.0		25.0	25.0		25.0	25.0	
Total Split (%)	72.2%	72.2%		72.2%	72.2%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	60.0	60.0		60.0	60.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		54.5			54.5			13.8			13.8	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
v/c Ratio		0.57			0.91			0.71			0.36	
Control Delay		8.5			26.6			30.0			29.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.5			26.6			30.0			29.7	
LOS		A			C			C			C	
Approach Delay		8.5			26.6			30.0			29.7	
Approach LOS		A			C			C			C	
Queue Length 50th (m)		35.6			81.6			18.3			12.3	
Queue Length 95th (m)		78.7			#212.7			42.2			26.1	

7: 25 St & 26 Ave SW
04/23/2024

PM Peak Hour
After Development (75% Build out)

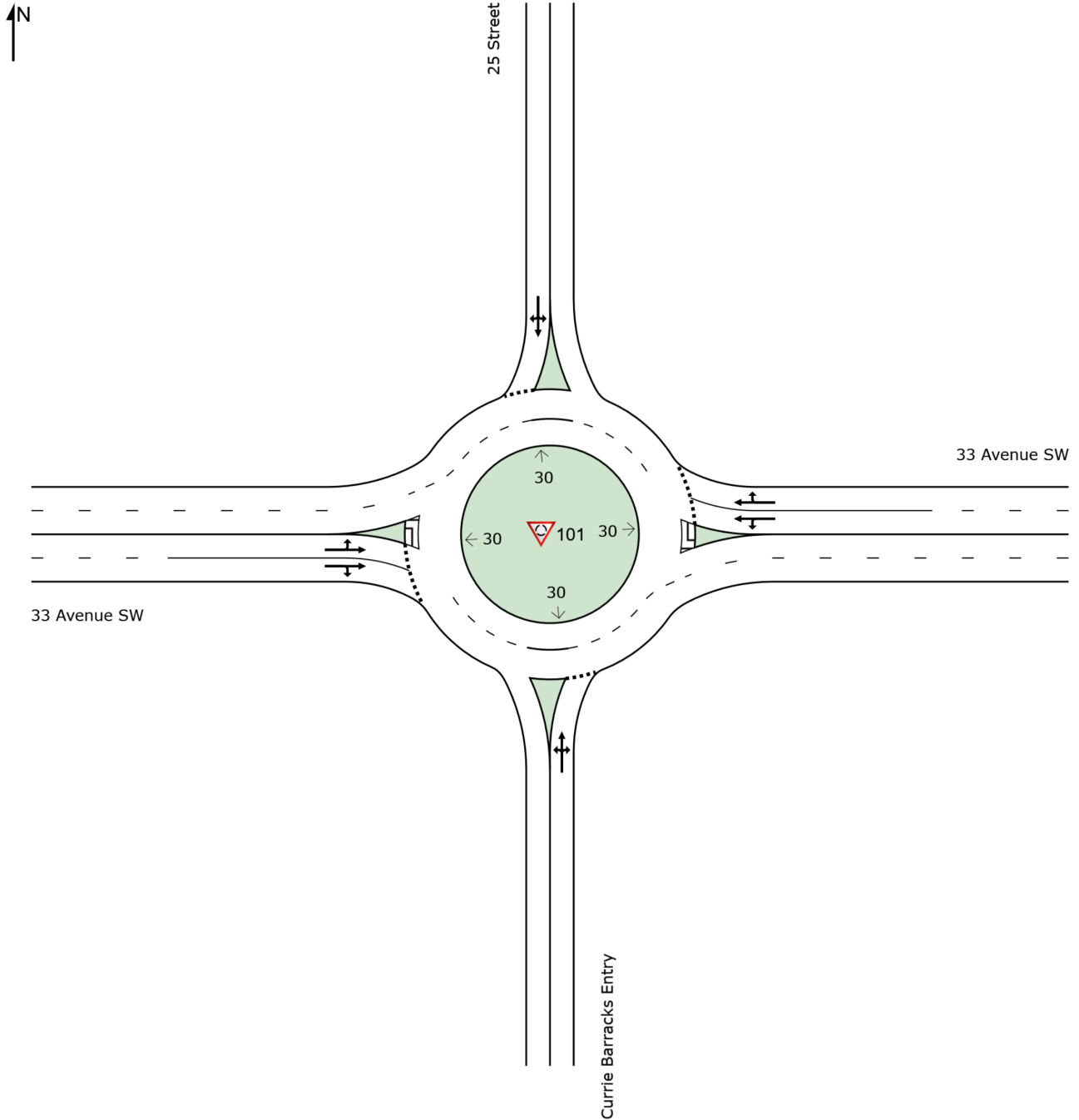
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		1263			1046			431			413	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.51			0.81			0.54			0.25	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 78.6												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 20.9							Intersection LOS: C					
Intersection Capacity Utilization 112.7%							ICU Level of Service H					
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

SITE LAYOUT

Site: 101 [2028 AD AM (Site Folder: General)]

2501 Richmond Road SW TIA
Site Category: 2028 After Development AM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 101 [2028 AD AM (Site Folder: General)]

2501 Richmond Road SW TIA
Site Category: 2028 After Development AM
Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Currie Barracks Entry													
Lane 1 ^d	164	2.0	531	0.309	100	8.0	LOS A	1.4	9.9	Full	500	0.0	0.0
Approach	164	2.0		0.309		8.0	LOS A	1.4	9.9				
East: 33 Avenue SW													
Lane 1	353	2.0	1256	0.281	100	3.6	LOS A	1.8	12.6	Full	500	0.0	0.0
Lane 2 ^d	406	2.0	1442	0.281	100	2.7	LOS A	1.8	12.9	Full	500	0.0	0.0
Approach	759	2.0		0.281		3.1	LOS A	1.8	12.9				
North: 25 Street													
Lane 1 ^d	216	2.0	725	0.298	100	7.1	LOS A	1.3	9.1	Full	500	0.0	0.0
Approach	216	2.0		0.298		7.1	LOS A	1.3	9.1				
West: 33 Avenue SW													
Lane 1	546	2.0	1166	0.468	100	3.9	LOS A	3.4	24.5	Full	500	0.0	0.0
Lane 2 ^d	636	2.0	1358	0.468	100	3.2	LOS A	3.5	25.2	Full	500	0.0	0.0
Approach	1182	2.0		0.468		3.5	LOS A	3.5	25.2				
Intersection	2321	2.0		0.468		4.1	LOS A	3.5	25.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)												
South: Currie Barracks Entry												
Mov. From S To Exit:	L2	T1	R2	Total	%HV							
	W	N	E			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	79	11	74	164	2.0	531	0.309	100	NA	NA		
Approach	79	11	74	164	2.0		0.309					
East: 33 Avenue SW												
Mov. From E To Exit:	L2	T1	R2	Total	%HV							
	S	W	N			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	58	295	-	353	2.0	1256	0.281	100	NA	NA		
Lane 2	-	291	115	406	2.0	1442	0.281	100	NA	NA		
Approach	58	586	115	759	2.0		0.281					
North: 25 Street												
Mov.	L2	T1	R2	Total	%HV							
							Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL %	Ov. Lane No.
Lane 1	153	3	60	216	2.0	725	0.298	100	NA	NA
Approach	153	3	60	216	2.0		0.298			
West: 33 Avenue SW										
Mov. From W To Exit:	L2	T1	R2	Total	%HV					
	N	E	S			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.
Lane 1	41	505	-	546	2.0	1166	0.468	100	NA	NA
Lane 2	-	558	78	636	2.0	1358	0.468	100	NA	NA
Approach	41	1063	78	1182	2.0		0.468			
Total %HV Deg. Satn (v/c)										
Intersection	2321	2.0		0.468						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane	Opposing Flow Rate %veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec		
South Exit: Currie Barracks Entry												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
East Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
Full Length Lane 2 Merge Analysis not applied.												
North Exit: 25 Street												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
West Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
Full Length Lane 2 Merge Analysis not applied.												

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LANE SUMMARY

Site: 101 [2028 AD PM (Site Folder: General)]

2501 Richmond Road SW TIA
Site Category: 2028 After Development PM
Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h	[HV %						[Veh	[Dist] m				
South: Currie Barracks Entry													
Lane 1 ^d	102	2.0	674	0.151	100	4.7	LOS A	0.6	4.2	Full	500	0.0	0.0
Approach	102	2.0		0.151		4.7	LOS A	0.6	4.2				
East: 33 Avenue SW													
Lane 1	655	2.0	1296	0.506	100	3.6	LOS A	3.9	27.8	Full	500	0.0	0.0
Lane 2 ^d	760	2.0	1502	0.506	100	2.8	LOS A	3.9	28.1	Full	500	0.0	0.0
Approach	1415	2.0		0.506		3.2	LOS A	3.9	28.1				
North: 25 Street													
Lane 1 ^d	136	2.0	545	0.249	100	7.7	LOS A	1.0	7.4	Full	500	0.0	0.0
Approach	136	2.0		0.249		7.7	LOS A	1.0	7.4				
West: 33 Avenue SW													
Lane 1	397	2.0	1214	0.327	100	4.0	LOS A	2.1	14.7	Full	500	0.0	0.0
Lane 2 ^d	459	2.0	1401	0.327	100	2.9	LOS A	2.1	15.0	Full	500	0.0	0.0
Approach	856	2.0		0.327		3.4	LOS A	2.1	15.0				
Intersection	2509	2.0		0.506		3.6	LOS A	3.9	28.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)												
South: Currie Barracks Entry												
Mov. From S To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
	W	N	E									
Lane 1	19	23	60	102	2.0		674	0.151	100	NA	NA	
Approach	19	23	60	102	2.0			0.151				
East: 33 Avenue SW												
Mov. From E To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
	S	W	N									
Lane 1	89	566	-	655	2.0		1296	0.506	100	NA	NA	
Lane 2	-	625	135	760	2.0		1502	0.506	100	NA	NA	
Approach	89	1191	135	1415	2.0			0.506				
North: 25 Street												
Mov. From N To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		

From N To Exit:	E	S	W	Cap. veh/h	Satn v/c	Util. %	SL %	Ov. Lane No.		
Lane 1	68	16	52	136	2.0	545	0.249	100 NA NA		
Approach	68	16	52	136	2.0		0.249			
West: 33 Avenue SW										
Mov. From W To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.
	N	E	S							
Lane 1	75	322	-	397	2.0	1214	0.327	100 NA NA		
Lane 2	-	388	71	459	2.0	1401	0.327	100 NA NA		
Approach	75	710	71	856	2.0		0.327			
Total %HV Deg. Satn (v/c)										
Intersection	2509	2.0			0.506					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane	Opposing Flow Rate %veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec		
South Exit: Currie Barracks Entry												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
East Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
Full Length Lane 2 Merge Analysis not applied.												
North Exit: 25 Street												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
West Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
Full Length Lane 2 Merge Analysis not applied.												

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LANE SUMMARY

Site: 101 [2048 AD AM (Site Folder: General)]

2501 Richmond Road SW TIA
Site Category: 2048 After Development AM
Roundabout

Lane Use and Performance													
Mov.	DEMAND FLOWS		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Currie Barracks Entry													
Lane 1 ^d	320	2.0	529	0.605	100	10.1	LOS B	3.7	26.1	Full	500	0.0	0.0
Approach	320	2.0		0.605		10.1	LOS B	3.7	26.1				
East: 33 Avenue SW													
Lane 1	497	2.0	1249	0.398	100	5.8	LOS A	3.0	21.3	Full	500	0.0	0.0
Lane 2 ^d	573	2.0	1442	0.398	100	2.7	LOS A	3.1	21.9	Full	500	0.0	0.0
Approach	1070	2.0		0.398		4.1	LOS A	3.1	21.9				
North: 25 Street													
Lane 1 ^d	118	2.0	584	0.202	100	8.3	LOS A	0.8	5.9	Full	500	0.0	0.0
Approach	118	2.0		0.202		8.3	LOS A	0.8	5.9				
West: 33 Avenue SW													
Lane 1	528	2.0	1023	0.516	100	4.9	LOS A	3.8	27.1	Full	500	0.0	0.0
Lane 2 ^d	627	2.0	1216	0.516	100	4.2	LOS A	3.9	27.9	Full	500	0.0	0.0
Approach	1155	2.0		0.516		4.5	LOS A	3.9	27.9				
Intersection	2663	2.0		0.605		5.2	LOS A	3.9	27.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)												
South: Currie Barracks Entry												
Mov.	L2	T1	R2	Total	%HV							
From S To Exit:	W	N	E			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	113	7	200	320	2.0		529	0.605	100	NA	NA	
Approach	113	7	200	320	2.0			0.605				
East: 33 Avenue SW												
Mov.	L2	T1	R2	Total	%HV							
From E To Exit:	S	W	N			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	270	227	-	497	2.0		1249	0.398	100	NA	NA	
Lane 2	-	543	30	573	2.0		1442	0.398	100	NA	NA	
Approach	270	770	30	1070	2.0			0.398				
North: 25 Street												
Mov.	L2	T1	R2	Total	%HV							
From N To Exit:	E	S	W			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	90	6	22	118	2.0		584	0.202	100	NA	NA	
Approach	90	6	22	118	2.0			0.202				

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL %	Ov. Lane No.
Lane 1	90	6	22	118	2.0	584	0.202	100	NA	NA
Approach	90	6	22	118	2.0		0.202			
West: 33 Avenue SW										
Mov.	L2	T1	R2	Total	%HV					
From W To Exit:	N	E	S			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.
Lane 1	12	516	-	528	2.0	1023	0.516	100	NA	NA
Lane 2	-	553	74	627	2.0	1216	0.516	100	NA	NA
Approach	12	1069	74	1155	2.0		0.516			
Total %HV Deg. Satn (v/c)										
Intersection	2663	2.0		0.605						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis												
Exit Lane Number	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Capacity Flow Rate	Deg. Satn	Min. Delay	Merge Delay			
	m	%	veh/h	sec	sec	veh/h	v/c	sec	sec			
South Exit: Currie Barracks Entry												
Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: 25 Street												
Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

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LANE SUMMARY

Site: 101 [2048 AD PM (Site Folder: General)]

2501 Richmond Road SW TIA
 Site Category: 2048 After Development PM
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Currie Barracks Entry													
Lane 1 ^d	410	2.0	448	0.915	100	25.1	LOS C	9.4	66.7	Full	500	0.0	0.0
Approach	410	2.0		0.915		25.1	LOS C	9.4	66.7				
East: 33 Avenue SW													
Lane 1	775	2.0	1067	0.726	100	8.6	LOS A	9.0	64.1	Full	500	0.0	0.0
Lane 2 ^d	915	2.0	1261	0.726	100	5.3	LOS A	9.0	64.1	Full	500	0.0	0.0
Approach	1690	2.0		0.726		6.8	LOS A	9.0	64.1				
North: 25 Street													
Lane 1 ^d	87	2.0	336	0.259	100	10.0	LOS B	1.2	8.6	Full	500	0.0	0.0
Approach	87	2.0		0.259		10.0	LOS B	1.2	8.6				
West: 33 Avenue SW													
Lane 1	653	2.0	976	0.668	100	7.4	LOS A	7.3	52.0	Full	500	0.0	0.0
Lane 2 ^d	779	2.0	1166	0.668	100	5.8	LOS A	7.5	53.2	Full	500	0.0	0.0
Approach	1432	2.0		0.668		6.6	LOS A	7.5	53.2				
Intersection	3619	2.0		0.915		8.9	LOS A	9.4	66.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: SIDRA Roundabout LOS.
 Lane LOS values are based on average delay per lane.
 Intersection and Approach LOS values are based on average delay for all lanes.
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)												
South: Currie Barracks Entry												
Mov.	L2	T1	R2	Total	%HV							
From S To Exit:	W	N	E			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	197	23	190	410	2.0	448	0.915	100	NA	NA		
Approach	197	23	190	410	2.0		0.915					
East: 33 Avenue SW												
Mov.	L2	T1	R2	Total	%HV							
From E To Exit:	S	W	N			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		
Lane 1	320	455	-	775	2.0	1067	0.726	100	NA	NA		
Lane 2	-	813	102	915	2.0	1261	0.726	100	NA	NA		
Approach	320	1268	102	1690	2.0		0.726					
North: 25 Street												
Mov.	L2	T1	R2	Total	%HV							
From N To Exit:	E	S	W			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.		

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL %	Ov. %	Lane No.
Lane 1	41	15	31	87	2.0	336	0.259	100	NA	NA	
Approach	41	15	31	87	2.0		0.259				
West: 33 Avenue SW											
Mov.	L2	T1	R2	Total	%HV						
From W To Exit:	N	E	S			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.	
Lane 1	68	585	-	653	2.0	976	0.668	100	NA	NA	
Lane 2	-	604	175	779	2.0	1166	0.668	100	NA	NA	
Approach	68	1189	175	1432	2.0		0.668				
Total %HV Deg. Satn (v/c)											
Intersection	3619	2.0		0.915							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis												
	Exit Lane Number	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Capacity Flow Rate	Deg. Satn	Min. Delay	Merge Delay		
		m	%veh/h	pcu/h	sec	sec	veh/h	v/c	sec	sec		
South Exit: Currie Barracks Entry												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
East Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
Full Length Lane 2 Merge Analysis not applied.												
North Exit: 25 Street												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
West Exit: 33 Avenue SW												
Merge Type: Not Applied												
Full Length Lane 1 Merge Analysis not applied.												
Full Length Lane 2 Merge Analysis not applied.												

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Existing

SimTraffic Performance Report
04/23/2024

AM Peak Hour
Sim Traffic

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	10.9	8.4	4.3	2.2	0.2	0.4	2.4	0.9	0.4	1.6

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	0.7	1.1	7.5	3.5	2.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	15.5	17.1	11.7	14.7	13.7	8.0	23.2	17.2	0.0	27.7	16.4	7.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	15.6

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.8	0.1	0.1	1.0	0.0	0.3	3.1	4.0	2.9	2.8	2.7	2.7

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.4	0.0	0.1	0.6	0.2	0.2	2.8	2.4	3.0	2.8	2.8	2.6

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.9	0.2	0.0	1.4	0.1	0.0	12.0	4.1	6.0	8.9	8.8	4.5

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

SimTraffic Performance Report
04/23/2024

AM Peak Hour
Sim Traffic

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.0	0.1	0.7	4.6	0.1	0.2	10.1	9.6	5.8	10.4	9.7	5.3

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.3	0.4	0.1	0.3	0.0	0.0	2.8	3.2	3.0	3.6	3.4	2.7

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.3

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.6	2.2	2.7	2.5	2.3	2.6	0.3	0.0	0.1	0.1	0.1	0.1

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.2

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	11.2	6.0	37.9	9.9	7.4	5.2	0.0	10.7

Total Network Performance

Movement	All
Stop Del/Veh (s)	11.2

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	SB
Directions Served	L	TR	LTR	LTR
Maximum Queue (m)	16.6	21.9	23.3	28.0
Average Queue (m)	5.6	8.4	5.1	5.0
95th Queue (m)	12.7	17.1	16.7	18.7
Link Distance (m)	102.9	102.9	24.6	65.9
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	28.9	29.5	15.7
Average Queue (m)	5.7	11.3	1.9
95th Queue (m)	18.9	28.4	9.3
Link Distance (m)	30.4	24.6	24.6
Upstream Blk Time (%)	0	4	0
Queuing Penalty (veh)	0	7	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	72.5	69.3	30.3	45.6	49.6	39.5	30.0	35.9	32.4
Average Queue (m)	18.8	51.5	34.8	12.7	25.0	22.2	16.5	2.2	30.5	16.5
95th Queue (m)	42.5	75.6	60.0	24.3	40.5	41.3	31.1	13.1	39.5	30.1
Link Distance (m)	65.9	65.9	65.9	117.6	117.6	51.4	51.4	30.4	30.4	
Upstream Blk Time (%)		4	1				0		19	1
Queuing Penalty (veh)		0	0				0		33	1
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	0	11								
Queuing Penalty (veh)	0	10								

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.0	7.8	14.8	10.6
Average Queue (m)	0.4	0.3	4.6	4.6
95th Queue (m)	3.5	3.2	10.8	12.1
Link Distance (m)	102.9	515.2	56.5	58.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.4	5.9	6.4	5.2
Average Queue (m)	0.8	0.2	1.9	2.0
95th Queue (m)	5.1	2.2	6.1	5.9
Link Distance (m)	515.2	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	41.7	18.6	14.6	14.7
Average Queue (m)	6.3	2.3	7.2	5.4
95th Queue (m)	23.0	10.5	14.4	13.2
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	22.4	20.7	19.0	17.1
Average Queue (m)	4.5	4.7	8.2	7.6
95th Queue (m)	15.3	15.3	16.0	15.5
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.1	3.2	5.4	5.5
Average Queue (m)	0.7	0.1	2.0	3.1
95th Queue (m)	4.5	1.6	6.0	7.1
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	9.1	10.5	5.4
Average Queue (m)	3.3	3.5	0.2
95th Queue (m)	10.3	10.8	2.3
Link Distance (m)	68.2	70.6	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	107.6	74.4	8.8	68.2	51.3	6.4	8.3
Average Queue (m)	64.2	43.4	1.1	40.2	16.5	0.3	0.7
95th Queue (m)	92.3	69.2	5.5	60.4	39.3	3.0	4.4
Link Distance (m)	107.5	107.5	91.1	91.1	91.1	90.3	90.3
Upstream Blk Time (%)	0			0			
Queuing Penalty (veh)	0			0			
Storage Bay Dist (m)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 53

Existing

SimTraffic Performance Report
04/23/2024

PM Peak Hour
Sim Traffic

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	9.7	5.8	6.4	2.8	0.1	0.2	4.3	0.3	0.3	1.3

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	0.8	0.7	7.0	1.3	1.0

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	27.8	16.2	9.6	13.1	19.5	22.7	26.2	23.4	0.0	32.5	20.4	11.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	19.4

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.9	0.1	0.0	0.6	0.1	0.1	3.7	3.6	3.4	3.7	3.5	3.1

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.1

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.3	0.1	0.0	1.2	0.2	0.3	4.5	3.0	2.8	2.7	3.8	2.4

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.6	0.2	0.3	2.3	0.2	0.4	9.7	5.6	5.1	22.7	7.3	5.5

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

SimTraffic Performance Report
04/23/2024

PM Peak Hour
Sim Traffic

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	4.2	0.5	0.1	3.9	0.3	0.4	16.5	9.6	6.7	19.7	16.9	8.2

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.3

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.7	0.0	0.1	0.2	0.0	0.0	4.1	2.8	2.7	2.9	2.2	2.7

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.3

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.3	2.9	2.1	2.7	2.9	2.3	0.5	0.1	0.0	0.1	0.0	0.1

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	11.9	7.5	23.4	15.3	8.0	4.1	0.0	14.0

Total Network Performance

Movement	All
Stop Del/Veh (s)	13.6

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	SB
Directions Served	L	TR	LTR	LTR
Maximum Queue (m)	13.7	22.3	25.1	28.6
Average Queue (m)	5.4	9.9	5.4	4.0
95th Queue (m)	11.4	18.5	17.9	16.3
Link Distance (m)	102.9	102.9	24.6	65.9
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			1	
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	36.3	25.9	18.2
Average Queue (m)	11.1	6.1	2.1
95th Queue (m)	30.5	19.2	10.1
Link Distance (m)	30.4	24.6	24.6
Upstream Blk Time (%)	1	0	0
Queuing Penalty (veh)	4	1	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.3	70.4	55.8	58.5	110.9	123.3	42.7	34.5	34.7	33.6
Average Queue (m)	27.2	37.4	24.3	20.3	57.7	71.2	21.6	4.9	23.9	18.5
95th Queue (m)	45.6	61.9	45.9	43.5	92.7	115.2	37.1	20.1	36.8	32.0
Link Distance (m)		65.9	65.9		117.6	117.6	51.4	51.4	30.4	30.4
Upstream Blk Time (%)		1	0		0	1	0		6	2
Queuing Penalty (veh)		0	0		0	0	0		8	3
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	1	3		0	1					
Queuing Penalty (veh)	1	5		0	1					

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	7.8	12.1	17.3	10.5
Average Queue (m)	0.5	0.9	6.5	3.9
95th Queue (m)	3.8	6.0	12.6	11.3
Link Distance (m)	102.9	515.2	56.5	58.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	7.8	3.1	6.2	10.0
Average Queue (m)	0.9	0.1	1.9	3.6
95th Queue (m)	5.0	1.6	6.0	8.1
Link Distance (m)	515.2	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	28.5	32.3	19.3	13.1
Average Queue (m)	6.6	7.0	7.3	5.7
95th Queue (m)	20.2	23.1	15.5	12.9
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	39.0	51.4	21.2	18.3
Average Queue (m)	9.7	9.5	8.3	9.2
95th Queue (m)	27.1	31.1	17.1	17.6
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.9	2.9	6.6	6.8
Average Queue (m)	1.4	0.1	2.1	3.6
95th Queue (m)	7.1	1.5	6.3	7.6
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	9.1	9.1	5.4
Average Queue (m)	2.8	3.8	0.4
95th Queue (m)	9.6	10.9	3.2
Link Distance (m)	68.2	70.6	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	73.0	59.7	42.5	99.9	95.7	8.9	5.4
Average Queue (m)	50.4	31.7	3.0	82.1	59.4	0.5	0.4
95th Queue (m)	69.9	59.7	24.6	107.4	90.8	3.6	3.5
Link Distance (m)	107.5	107.5	91.1	91.1	91.1	90.3	90.3
Upstream Blk Time (%)			0	7	1		
Queuing Penalty (veh)			0	0	0		
Storage Bay Dist (m)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 25

Background

SimTraffic Performance Report
04/23/2024

AM Peak Hour
Sim Traffic

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	17.4	9.1	5.2	2.0	0.2	0.2	11.1	3.9	2.1	3.0

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	0.8	0.9	5.9	7.4	3.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	16.7	18.7	13.1	17.1	15.1	10.6	22.6	19.7	0.3	32.3	18.6	11.8

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	17.1

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.2	0.1	0.1	0.7	0.1	0.1	3.7	3.6	2.4	3.1	3.7	3.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.3	0.1	0.0	0.2	0.2	0.2	2.6	2.4	4.0	3.3	3.0	2.3

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.9	0.1	0.0	3.2	0.1	0.1	8.6	4.1	6.2	8.4	9.1	4.1

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.5

SimTraffic Performance Report
04/23/2024

AM Peak Hour
Sim Traffic

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.2	0.2	0.3	3.2	0.1	0.5	13.0	10.4	8.9	11.8	13.9	5.6

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.4	0.1	0.2	0.2	0.0	0.0	3.0	2.8	2.6	3.7	2.0	2.7

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.3	2.5	2.3	2.5	2.7	2.6	0.7	0.0	0.2	0.6	0.1	0.2

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.5

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	10.6	7.0	40.4	8.9	15.1	5.9	0.0	10.7

Total Network Performance

Movement	All
Stop Del/Veh (s)	12.6

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	SB
Directions Served	L	TR	LTR	LTR
Maximum Queue (m)	19.9	18.3	25.3	44.7
Average Queue (m)	6.9	8.0	4.4	11.0
95th Queue (m)	15.5	15.6	16.4	39.0
Link Distance (m)	102.9	102.9	24.6	65.9
Upstream Blk Time (%)			0	1
Queuing Penalty (veh)			1	0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	35.9	29.4	13.1
Average Queue (m)	7.5	17.8	1.2
95th Queue (m)	25.6	34.4	7.5
Link Distance (m)	30.4	24.6	24.6
Upstream Blk Time (%)	0	12	0
Queuing Penalty (veh)	2	24	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	71.2	71.9	35.0	51.1	70.8	38.4	36.7	36.0	32.4
Average Queue (m)	22.5	56.7	41.7	15.7	27.0	32.3	20.6	6.8	32.2	16.5
95th Queue (m)	49.7	81.0	69.7	29.5	45.9	58.4	34.7	25.1	38.2	30.3
Link Distance (m)		65.9	65.9		117.6	117.6	51.4	51.4	30.4	30.4
Upstream Blk Time (%)		6	1						33	1
Queuing Penalty (veh)		0	0						64	2
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	0	16								
Queuing Penalty (veh)	1	14								

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.3	7.4	12.5	10.5
Average Queue (m)	0.6	0.4	3.9	4.7
95th Queue (m)	4.0	3.7	9.4	12.2
Link Distance (m)	102.9	515.2	56.5	58.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.6	1.6	5.0	5.2
Average Queue (m)	0.9	0.1	1.8	2.4
95th Queue (m)	5.5	1.5	5.7	6.4
Link Distance (m)	515.2	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	32.0	17.0	15.6	12.1
Average Queue (m)	5.1	2.4	6.5	5.4
95th Queue (m)	20.9	10.6	14.5	12.8
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	34.2	17.0	25.1	17.2
Average Queue (m)	5.7	4.2	9.3	7.9
95th Queue (m)	20.3	14.0	18.8	15.6
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.8	3.0	5.4	6.8
Average Queue (m)	0.8	0.1	1.9	2.9
95th Queue (m)	5.7	1.5	5.9	7.2
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.1	12.0	7.1	3.7
Average Queue (m)	3.4	4.0	0.4	0.3
95th Queue (m)	10.5	11.7	3.3	3.0
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
Sim Traffic

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	107.9	87.8	30.4	68.5	46.8	26.6	22.3
Average Queue (m)	66.9	49.4	11.0	39.9	17.2	11.5	8.9
95th Queue (m)	97.1	76.2	23.1	60.8	40.5	22.6	17.4
Link Distance (m)	107.5	107.5	91.1	91.1	91.1	90.3	90.3
Upstream Blk Time (%)	0	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (m)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 107

Background

SimTraffic Performance Report
04/23/2024

PM Peak Hour
Sim Traffic

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	25.2	12.1	12.7	1.1	0.2	0.3	5.2	7.5	5.7	4.8

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.0	0.8	17.4	10.0	4.0

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	33.0	18.1	13.6	18.4	24.2	30.5	30.3	28.7	0.4	50.7	25.1	12.6

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	24.8

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.7	0.0	0.2	0.5	0.1	0.1	3.9	3.2	3.1	3.6	4.4	2.7

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.1

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.5	0.1	0.1	1.4	0.2	0.2	3.2	2.8	2.8	3.4	2.6	2.5

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.7	0.2	0.3	3.0	0.2	0.0	18.8	2.6	5.9	8.5	8.4	6.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

SimTraffic Performance Report
04/23/2024

PM Peak Hour
Sim Traffic

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	4.3	0.7	0.5	1.8	0.2	0.3	18.7	9.8	6.6	16.9	16.2	10.0

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.4

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.4	0.3	0.0	0.4	0.0	0.1	3.0	3.5	2.8	3.1	1.5	2.8

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.1

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.6	2.6	2.3	2.5	2.5	2.3	0.5	0.2	0.0	0.5	0.1	0.0

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.1

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	12.5	6.4	35.0	15.1	14.8	2.9	0.0	14.3

Total Network Performance

Movement	All
Stop Del/Veh (s)	17.6

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	SB
Directions Served	L	TR	LTR	LTR
Maximum Queue (m)	25.1	30.4	27.6	64.6
Average Queue (m)	8.9	12.4	7.0	16.6
95th Queue (m)	22.5	23.5	21.6	53.4
Link Distance (m)	102.9	102.9	24.6	65.9
Upstream Blk Time (%)			1	3
Queuing Penalty (veh)			4	0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	37.0	31.2	21.4
Average Queue (m)	14.7	18.8	4.0
95th Queue (m)	36.8	35.4	14.8
Link Distance (m)	30.4	24.6	24.6
Upstream Blk Time (%)	1	17	1
Queuing Penalty (veh)	10	31	2
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	70.5	62.2	86.6	124.7	125.3	56.0	44.8	37.8	34.7
Average Queue (m)	33.1	44.8	31.9	30.8	71.1	89.1	30.8	14.0	31.4	22.5
95th Queue (m)	53.0	72.4	55.5	64.4	119.6	135.6	50.2	39.0	39.9	36.6
Link Distance (m)		65.9	65.9		117.6	117.6	51.4	51.4	30.4	30.4
Upstream Blk Time (%)		2	0		2	7	1	0	40	6
Queuing Penalty (veh)		0	0		0	0	0	0	68	10
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	3	7		0	2					
Queuing Penalty (veh)	6	11		0	4					

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.2	7.8	16.5	9.2
Average Queue (m)	0.6	0.4	6.9	3.9
95th Queue (m)	4.1	3.6	12.5	11.3
Link Distance (m)	102.9	515.2	56.5	58.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.2	8.1	7.8	9.7
Average Queue (m)	1.4	0.3	2.0	3.4
95th Queue (m)	6.9	3.8	6.4	8.2
Link Distance (m)	515.2	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	31.6	29.5	18.2	14.6
Average Queue (m)	6.4	5.3	7.5	5.0
95th Queue (m)	20.7	18.1	15.7	13.0
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	55.4	37.7	21.5	23.8
Average Queue (m)	10.1	8.1	9.6	9.3
95th Queue (m)	33.6	24.9	17.8	18.1
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.2	6.0	6.6	6.5
Average Queue (m)	1.1	0.3	1.9	3.7
95th Queue (m)	5.5	2.7	6.0	7.7
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.1	9.2	7.2	3.6
Average Queue (m)	3.8	3.5	0.4	0.1
95th Queue (m)	11.0	10.7	3.2	1.8
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

PM Peak Hour
Sim Traffic

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	78.7	62.7	72.0	97.2	95.7	19.4	17.4
Average Queue (m)	53.3	36.3	19.7	82.7	61.8	5.9	6.2
95th Queue (m)	75.1	61.4	46.5	108.8	92.4	15.8	14.7
Link Distance (m)	107.5	107.5	91.1	91.1	91.1	90.3	90.3
Upstream Blk Time (%)			0	7	1		
Queuing Penalty (veh)			0	0	0		
Storage Bay Dist (m)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 145

2028 After Development (50% Build Out)

SimTraffic Performance Report
04/23/2024

AM Peak Hour
After Development (50% Build Out)

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	10.9	5.1	4.1	8.4	5.0	2.8	12.1	7.3	6.4	6.2

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.4	1.1	6.7	3.2	2.3

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	35.0	33.7	28.1	28.5	25.9	23.7	29.3	26.8	0.5	17.3	13.0	6.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	24.4

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.5	0.5	0.6	0.8	0.1	0.0	4.4	3.4	3.5	4.6	4.6	4.9

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.8	0.1	0.3	0.6	0.2	0.2	4.8	3.6	2.7	3.9	2.8	2.2

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.1	1.7	1.2	4.3	0.3	0.1	19.9	9.4	16.7	17.2	17.8	8.0

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	2.0

SimTraffic Performance Report
04/23/2024

AM Peak Hour
After Development (50% Build Out)

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	18.0	13.1	13.3	42.7	24.4	22.8	8.5	6.2	7.5	9.8	6.5	3.9

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	15.5

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.4	0.1	0.2	1.5	0.1	0.2	4.3	4.8	3.1	5.0	4.6	3.6

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	2.2

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.3	3.2	2.3	2.2	2.8	2.4	0.2	0.0	0.0	0.3	0.2	0.2

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.3

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	10.8	7.1	43.3	8.6	14.1	5.9	0.0	10.7

Total Network Performance

Stop Del/Veh (s)	19.4
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Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (50% Build Out)

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	32.1	21.2	31.7	29.7	66.0
Average Queue (m)	15.3	8.8	21.7	12.4	24.6
95th Queue (m)	27.1	17.6	33.1	23.3	49.2
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			5	0	1
Queuing Penalty (veh)			12	1	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	37.2	30.2	18.0
Average Queue (m)	13.7	16.7	2.4
95th Queue (m)	35.1	34.8	10.7
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	2	5	0
Queuing Penalty (veh)	8	13	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	76.6	73.0	47.8	76.3	95.6	51.3	45.8	36.0	34.5
Average Queue (m)	29.7	65.9	54.1	19.6	39.1	49.5	24.8	10.4	30.7	17.2
95th Queue (m)	55.2	81.1	79.6	36.8	65.6	86.7	42.1	33.3	40.3	32.8
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	30.4	30.4
Upstream Blk Time (%)		19	9				0	0	19	1
Queuing Penalty (veh)		0	0				0	0	45	3
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	0	32			0					
Queuing Penalty (veh)	2	36			0					

Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (50% Build Out)

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.9	13.6	13.6	9.5
Average Queue (m)	1.8	1.2	4.8	2.8
95th Queue (m)	8.9	6.7	10.6	8.4
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.5	7.2	4.9	5.2
Average Queue (m)	2.0	0.5	2.5	2.1
95th Queue (m)	9.1	3.8	6.5	6.1
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	75.8	25.1	19.0	16.8
Average Queue (m)	14.4	4.0	7.4	5.6
95th Queue (m)	49.5	16.1	15.9	14.3
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (50% Build Out)

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	90.9	137.9	41.7	15.7
Average Queue (m)	56.9	47.1	20.6	6.4
95th Queue (m)	92.8	100.6	34.2	14.3
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)	3	0		
Queuing Penalty (veh)	21	0		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.2	13.0	27.0	12.4
Average Queue (m)	2.2	2.0	9.9	5.9
95th Queue (m)	8.9	8.6	18.9	10.4
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.2	16.5	1.8	3.6
Average Queue (m)	3.7	8.0	0.1	0.1
95th Queue (m)	10.8	14.8	1.8	1.8
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (50% Build Out)

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	112.0	83.9	42.5	67.4	48.8	28.1	21.1
Average Queue (m)	70.8	52.5	12.5	39.1	20.6	11.9	8.6
95th Queue (m)	99.6	80.1	28.5	62.7	42.6	23.5	18.1
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	16		0	2			
Queuing Penalty (veh)	0		0	1			

Network Summary

Network wide Queuing Penalty: 142

2028 After Development (50% Build Out)

SimTraffic Performance Report
04/24/2024

PM Peak Hour
After Development (50% Build Out)

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	11.9	4.3	5.2	14.5	4.9	2.8	24.1	10.3	8.9	6.4

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.8	1.4	14.0	4.6	2.8

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	62.7	25.7	19.7	27.3	46.2	69.5	34.0	34.7	0.9	30.6	20.0	11.8

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	39.5

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.1	0.4	0.4	2.0	0.2	0.7	5.0	4.0	3.8	6.2	4.4	4.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.2

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.8	0.1	0.1	0.5	0.2	0.4	3.3	3.2	3.1	3.9	4.3	3.3

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	5.1	2.8	3.0	3.4	0.5	0.6	14.4	4.2	19.0	18.7	11.6	5.3

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	2.4

SimTraffic Performance Report
04/24/2024

PM Peak Hour
After Development (50% Build Out)

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	29.8	16.8	15.2	135.3	131.2	138.4	10.2	6.2	6.6	8.2	6.8	6.2

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	65.5

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.0	0.2	0.1	0.6	0.1	0.1	4.4	4.2	3.6	5.1	5.1	3.7

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	2.6

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.6	2.8	2.3	3.1	2.4	2.4	0.0	0.1	0.2	0.5	0.3	0.3

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	9.5	5.2	26.6	10.8	16.5	3.7	0.0	10.6

Total Network Performance

Movement	All
Stop Del/Veh (s)	35.9

Queuing and Blocking Report
04/24/2024

PM Peak Hour
After Development (50% Build Out)

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	27.6	27.0	31.5	29.2	70.7
Average Queue (m)	10.8	11.2	25.0	15.8	27.9
95th Queue (m)	21.6	22.1	35.2	26.4	59.2
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			9	1	2
Queuing Penalty (veh)			35	2	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	37.6	30.2	22.2
Average Queue (m)	23.8	14.2	3.9
95th Queue (m)	44.6	32.0	14.6
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	4	6	0
Queuing Penalty (veh)	34	13	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	L	TR
Maximum Queue (m)	47.4	72.2	71.1	87.4	171.3	179.5	56.7	45.7	1.2	36.2	35.3
Average Queue (m)	42.4	57.7	43.7	53.4	119.2	139.9	33.5	20.2	0.0	29.7	21.6
95th Queue (m)	55.6	83.1	72.5	103.8	188.1	196.7	53.1	46.0	0.8	40.0	37.1
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	30.4	30.4
Upstream Blk Time (%)		15	3		5	12	1	0		19	5
Queuing Penalty (veh)		0	0		0	0	0	0		36	10
Storage Bay Dist (m)	45.0			85.0							
Storage Blk Time (%)	22	11		0	16						
Queuing Penalty (veh)	51	23		1	37						

Queuing and Blocking Report
04/24/2024

PM Peak Hour
After Development (50% Build Out)

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	12.1	16.9	20.6	9.2
Average Queue (m)	1.4	2.3	6.9	2.9
95th Queue (m)	7.2	10.4	13.7	8.5
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.4	6.1	7.8	20.3
Average Queue (m)	2.5	0.3	2.1	4.2
95th Queue (m)	9.6	2.7	6.5	11.4
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	74.1	41.1	21.0	11.8
Average Queue (m)	15.2	5.8	7.7	5.8
95th Queue (m)	50.4	22.9	17.8	13.0
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/24/2024

PM Peak Hour
After Development (50% Build Out)

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	90.0	206.8	34.9	19.3
Average Queue (m)	55.4	195.2	16.1	9.5
95th Queue (m)	93.6	202.0	27.7	18.4
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)	5	99		
Queuing Penalty (veh)	26	0		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	17.3	10.5	19.4	23.7
Average Queue (m)	3.5	0.9	7.2	10.7
95th Queue (m)	11.3	5.4	14.2	19.3
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.6	13.5	5.3	9.1
Average Queue (m)	4.6	6.0	0.2	0.8
95th Queue (m)	12.2	13.3	2.6	5.2
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/24/2024

PM Peak Hour
After Development (50% Build Out)

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	85.8	67.5	52.4	100.7	91.8	21.0	19.5
Average Queue (m)	47.6	31.3	22.9	74.0	52.2	7.7	7.2
95th Queue (m)	70.8	58.7	53.4	103.6	79.7	18.6	15.9
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)				3	0		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	4		0	16			
Queuing Penalty (veh)	0		1	15			

Network Summary

Network wide Queuing Penalty: 284

2028 After Development (75% Build Out)

SimTraffic Performance Report
04/23/2024

AM Peak Hour
After Development (75% Build Out)

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	16.7	9.4	6.0	9.3	5.8	2.7	13.7	7.6	6.0	7.8

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.3	1.1	7.0	3.1	2.2

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	39.0	37.3	31.4	27.8	26.0	25.0	24.8	27.3	0.5	17.0	12.4	7.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	25.5

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.5	0.4	0.6	1.2	0.1	0.1	5.2	4.6	3.1	5.1	4.3	3.4

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.9	0.1	0.3	0.5	0.3	0.4	4.4	3.7	2.8	5.8	4.0	2.5

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.7	0.5	0.5	4.1	0.4	0.8	16.2	6.5	9.1	16.8	12.2	5.5

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

SimTraffic Performance Report
04/23/2024

AM Peak Hour
After Development (75% Build Out)

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	11.0	9.0	7.8	29.4	15.6	13.1	17.5	15.8	16.3	22.0	11.0	9.3

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	13.1

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.7	0.1	0.1	0.3	0.2	0.2	6.7	8.5	6.2	6.2	5.1	4.8

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	3.3

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.6	2.6	2.0	2.7	2.9	2.6	0.1	0.0	0.0	0.5	0.3	0.1

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.4

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	11.3	7.5	42.1	9.4	14.8	5.1	0.0	11.3

Total Network Performance

Stop Del/Veh (s)	19.8
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Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	44.7	36.4	29.6	28.3	60.9
Average Queue (m)	22.0	11.1	23.0	12.9	25.2
95th Queue (m)	38.7	25.3	33.5	22.7	50.0
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			5	0	0
Queuing Penalty (veh)			15	1	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	36.1	30.6	19.6
Average Queue (m)	13.8	17.0	2.8
95th Queue (m)	32.9	35.1	12.5
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	1	6	0
Queuing Penalty (veh)	5	15	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	75.8	81.2	45.3	79.6	100.3	54.7	40.9	36.3	33.6
Average Queue (m)	32.5	66.0	56.2	18.6	39.3	47.9	26.3	11.5	32.3	17.9
95th Queue (m)	58.9	82.2	83.8	35.3	65.9	86.2	43.3	34.5	39.6	32.0
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	30.4	30.4
Upstream Blk Time (%)		25	14				0	0	21	2
Queuing Penalty (veh)		0	0				0	0	54	4
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	1	36			0					
Queuing Penalty (veh)	3	44			0					

Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	12.2	15.8	14.2	8.0
Average Queue (m)	1.5	1.9	4.6	3.0
95th Queue (m)	7.7	9.2	10.6	8.4
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	11.5	12.5	7.7	6.6
Average Queue (m)	1.9	0.9	2.8	2.1
95th Queue (m)	8.4	5.7	7.3	6.3
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	58.9	29.0	18.3	14.4
Average Queue (m)	10.3	5.0	6.9	5.4
95th Queue (m)	33.8	19.2	15.1	13.5
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	87.8	100.0	84.7	25.3
Average Queue (m)	53.5	41.5	37.7	8.4
95th Queue (m)	85.6	83.8	69.4	19.1
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)	1		0	
Queueing Penalty (veh)	6		0	
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.3	21.5	41.0	16.9
Average Queue (m)	3.2	3.0	15.3	6.7
95th Queue (m)	10.5	11.7	30.2	12.9
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.0	17.8	3.6	5.6
Average Queue (m)	3.2	9.7	0.1	0.4
95th Queue (m)	10.2	15.1	1.8	3.4
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

AM Peak Hour
After Development (75% Build Out)

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	105.2	95.5	51.9	72.5	50.7	34.7	19.3
Average Queue (m)	69.5	52.9	14.1	40.7	23.5	12.8	8.2
95th Queue (m)	98.3	81.7	33.0	62.9	45.6	27.0	17.5
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	1	0					
Queueing Penalty (veh)	0	0					
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	17		0	2			
Queueing Penalty (veh)	0		0	1			

Network Summary

Network wide Queueing Penalty: 149

2028 After Development (75% Build Out)

SimTraffic Performance Report
04/23/2024

PM Peak Hour
After Development (75% Build Out)

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	34.2	10.7	13.2	9.2	5.8	3.3	33.0	20.9	18.1	11.9

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	2.3	2.4	19.8	10.3	5.0

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	95.9	24.7	21.1	36.5	59.1	98.6	46.5	43.0	2.2	41.5	24.8	22.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	52.4

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.1	0.4	0.2	3.1	2.2	0.5	10.6	4.4	3.9	4.8	4.6	6.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	2.3

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.5	0.1	0.1	1.5	0.3	0.3	3.3	3.8	4.6	5.2	4.4	3.2

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	6.2	1.9	1.8	4.0	0.4	0.6	29.2	7.1	14.5	25.0	15.7	7.1

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	2.0

SimTraffic Performance Report
04/23/2024

PM Peak Hour
After Development (75% Build Out)

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	22.2	11.0	10.3	83.6	79.9	77.1	30.3	19.4	19.4	31.3	27.6	18.3

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	44.1

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.2	0.3	0.2	1.0	0.1	0.2	5.7	6.2	5.1	6.8	6.7	6.7

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	3.7

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.5	2.7	2.2	3.0	2.6	2.6	0.5	0.1	0.0	0.5	0.3	0.4

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	9.6	5.5	27.2	11.7	14.1	3.6	0.0	11.2

Total Network Performance

Movement	All
Stop Del/Veh (s)	39.0

Queuing and Blocking Report
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	35.2	46.7	31.4	30.8	76.4
Average Queue (m)	17.1	16.9	26.8	18.6	38.5
95th Queue (m)	35.2	47.1	34.1	29.7	75.3
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)		2	12	1	12
Queuing Penalty (veh)		5	51	6	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	3	1			
Queuing Penalty (veh)	4	2			

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	38.3	30.4	28.8
Average Queue (m)	28.2	21.4	6.0
95th Queue (m)	46.6	36.3	19.7
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	7	18	1
Queuing Penalty (veh)	64	39	2
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	T	L	TR
Maximum Queue (m)	47.4	76.5	76.9	87.4	179.8	180.9	64.6	55.8	8.9	1.2	36.8	35.3
Average Queue (m)	45.3	64.8	54.1	62.4	154.9	163.1	41.4	26.5	0.4	0.0	32.4	24.4
95th Queue (m)	53.8	86.2	82.9	110.4	217.9	208.0	62.1	52.8	4.3	0.8	39.3	38.3
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	37.7	30.4	30.4
Upstream Blk Time (%)		51	8		27	51	4	1			42	8
Queuing Penalty (veh)		0	0		0	0	0	0			82	15
Storage Bay Dist (m)	45.0			85.0								
Storage Blk Time (%)	56	29		1	29							
Queuing Penalty (veh)	134	66		2	64							

Queuing and Blocking Report
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.6	31.6	22.4	10.7
Average Queue (m)	1.9	4.0	7.6	2.7
95th Queue (m)	8.7	21.3	16.8	8.4
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	16.0	12.0	6.2	12.8
Average Queue (m)	2.5	1.2	2.0	3.9
95th Queue (m)	9.9	6.5	6.1	9.1
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	79.0	48.7	21.0	16.7
Average Queue (m)	17.3	8.0	8.8	5.2
95th Queue (m)	55.3	27.5	18.1	13.6
Link Distance (m)	92.3	85.7	114.4	88.9
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	87.8	202.7	62.8	34.6
Average Queue (m)	53.2	180.8	30.8	17.3
95th Queue (m)	91.9	239.1	51.6	31.7
Link Distance (m)	85.7	188.2	122.8	73.3
Upstream Blk Time (%)	4	63		
Queueing Penalty (veh)	22	0		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	15.8	14.6	26.3	36.0
Average Queue (m)	4.1	1.7	9.9	17.3
95th Queue (m)	12.3	8.2	18.6	29.8
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.1	16.9	3.6	9.2
Average Queue (m)	5.2	7.4	0.2	0.9
95th Queue (m)	12.4	14.3	2.6	5.4
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report
04/23/2024

PM Peak Hour
After Development (75% Build Out)

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	79.5	66.7	52.4	100.1	95.6	26.2	18.6
Average Queue (m)	48.0	32.8	22.9	81.0	57.3	8.7	7.4
95th Queue (m)	70.7	59.8	52.3	109.2	90.4	20.7	16.2
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)				5	1		
Queueing Penalty (veh)				0	0		
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	5		0	20			
Queueing Penalty (veh)	0		1	18			

Network Summary

Network wide Queueing Penalty: 580

2028 After Development (100% Build Out) - Without 25 St

SimTraffic Performance Report
After Development (100 Build Out)

04/24/2024

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	187.1	72.4	77.9	10.9	6.9	3.0	117.2	105.2	92.9	65.8

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	2.0	1.0	25.5	22.4	10.4

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	22.3	18.8	13.6	17.4	17.7	14.3	28.4	24.3	0.4	42.8	28.2	18.9

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	20.3

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.9	0.5	0.5	148.2	211.9	236.2	573.0	285.6	576.6	350.6	443.4	608.2

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	147.7

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.5	0.1	0.3	1.0	0.6	0.5	4.5	4.3	3.2	4.4	4.2	4.2

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	15.0	12.7	11.2	18.1	6.6	5.2	9.3	3.6	5.9	7.8	4.2	4.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	10.0

SimTraffic Performance Report
After Development (100 Build Out)

04/24/2024

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	13.5	11.3	10.0	37.9	5.8	4.2	12.9	9.7	15.0	30.4	9.0	6.5

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	12.0

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	5.0	3.8	3.5	6.7	6.0	5.6	5.0	5.6	4.8	4.5	4.7	4.4

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	5.1

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.2	2.3	2.2	2.5	3.0	2.5	0.4	0.0	0.0	0.6	0.5	0.6

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.1

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	SBT	All
Stop Del/Veh (s)	11.5	8.3	49.2	9.4	15.6	15.4	0.0	11.9

Total Network Performance

Stop Del/Veh (s)	43.7
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Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	52.4	112.4	29.8	28.2	80.9
Average Queue (m)	48.6	90.3	24.2	14.1	66.7
95th Queue (m)	63.8	151.9	33.5	24.8	90.7
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)		56	8	0	80
Queuing Penalty (veh)		188	23	1	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	69	42			
Queuing Penalty (veh)	73	96			

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	38.1	31.4	28.3
Average Queue (m)	18.6	28.9	4.4
95th Queue (m)	41.4	33.1	17.2
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	3	60	1
Queuing Penalty (veh)	21	171	3
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	75.3	68.7	32.9	56.5	80.0	50.2	47.1	37.8	35.1
Average Queue (m)	28.7	56.8	40.3	15.2	30.9	40.0	24.2	9.8	34.7	21.8
95th Queue (m)	53.0	81.2	63.6	27.5	51.0	66.9	43.8	31.9	37.7	37.7
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	30.4	30.4
Upstream Blk Time (%)		6	1				0	0	69	7
Queuing Penalty (veh)		0	0				0	0	193	19
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	0	15								
Queuing Penalty (veh)	1	21								

Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.8	320.3	50.4	37.8
Average Queue (m)	1.3	145.8	24.8	15.9
95th Queue (m)	7.4	375.7	61.7	45.3
Link Distance (m)		103.0	514.7	54.8
Upstream Blk Time (%)			27	8
Queuing Penalty (veh)			0	0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	19.7	11.7	9.1	6.2
Average Queue (m)	3.2	1.3	2.9	2.0
95th Queue (m)	12.5	6.5	7.4	6.1
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	101.2	72.6	15.8	15.4
Average Queue (m)	58.9	32.1	5.7	3.4
95th Queue (m)	102.5	59.7	13.7	11.0
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	6	0		
Queuing Penalty (veh)	0	1		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	87.8	31.2	48.6	67.4	57.2	19.6
Average Queue (m)	61.1	9.7	22.2	14.8	35.3	8.2
95th Queue (m)	90.4	22.7	41.9	36.8	55.6	17.3
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	1					
Queuing Penalty (veh)	6					
Storage Bay Dist (m)		50.0			50.0	
Storage Blk Time (%)			0		3	
Queuing Penalty (veh)			0		3	

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	22.1	40.9	35.2	20.2
Average Queue (m)	12.9	20.3	16.3	7.6
95th Queue (m)	20.5	34.2	27.7	15.1
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.6	16.6	3.1	5.5
Average Queue (m)	4.4	9.9	0.1	0.4
95th Queue (m)	11.9	14.5	2.2	3.5
Link Distance (m)	68.2	70.6	59.3	220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	TR	LT
Maximum Queue (m)	113.4	101.6	52.0	75.2	51.2	51.4
Average Queue (m)	77.6	59.3	12.9	42.9	22.8	21.7
95th Queue (m)	108.8	90.1	31.3	64.8	47.9	41.2
Link Distance (m)	107.7	107.7		91.0	91.0	90.4
Upstream Blk Time (%)	1	0		0		
Queuing Penalty (veh)	0	0		0		
Storage Bay Dist (m)			50.0			
Storage Blk Time (%)	19		0	2		
Queuing Penalty (veh)	0		0	1		

Network Summary

Network wide Queuing Penalty: 819

2028 After Development (100% Build Out) - Without 25 St

SimTraffic Performance Report
After Development (100 Build Out)

04/24/2024

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	217.6	41.9	64.8	10.3	6.3	3.8	138.4	135.0	123.1	49.4

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	2.8	2.3	66.2	38.5	11.5

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	124.8	19.5	13.9	30.5	43.1	93.2	42.4	41.4	3.5	87.6	35.3	24.3

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	53.7

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.8	0.4	0.5	53.9	82.0	68.6	97.2	41.4	30.7	7.5	18.0	26.9

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	37.6

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.8	0.1	0.2	4.3	0.6	0.5	6.1	6.3	3.2	4.0	4.1	3.4

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	46.9	41.0	36.9	22.4	15.5	16.2	9.1	2.7	7.9	9.7	5.4	6.1

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	26.5

SimTraffic Performance Report
After Development (100 Build Out)

04/24/2024

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	35.9	24.5	22.1	129.4	62.1	65.3	16.8	11.7	8.7	13.2	12.1	11.8

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	46.3

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	5.7	5.9	5.3	5.0	4.5	4.1	4.3	4.6	3.8	7.8	7.4	8.0

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	5.9

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.8	2.6	1.9	2.8	2.9	2.3	0.3	0.0	0.2	0.8	0.6	0.6

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.1

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	13.1	7.6	40.9	15.4	13.0	3.7	0.0	14.9

Total Network Performance

Stop Del/Veh (s)	57.5
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Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	52.4	111.8	30.1	29.9	81.7
Average Queue (m)	44.1	67.8	27.3	20.8	69.2
95th Queue (m)	64.0	138.8	32.6	31.0	83.9
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)		29	13	2	87
Queuing Penalty (veh)		88	60	10	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	49	15			
Queuing Penalty (veh)	69	20			

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	38.2	31.2	29.1
Average Queue (m)	31.7	28.9	4.0
95th Queue (m)	45.8	31.5	17.2
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	11	72	1
Queuing Penalty (veh)	105	161	2
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	T	L	TR
Maximum Queue (m)	47.5	77.9	71.6	87.4	179.8	183.9	69.3	60.4	12.2	12.6	38.7	35.5
Average Queue (m)	46.5	68.1	51.7	55.4	152.8	163.5	38.5	26.0	0.6	0.5	34.6	20.6
95th Queue (m)	52.1	85.7	83.8	106.3	208.2	200.8	62.9	55.7	5.0	5.7	38.2	37.6
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	37.7	30.4	30.4
Upstream Blk Time (%)		78	6		20	44	5	2			80	7
Queuing Penalty (veh)		0	0		0	0	0	0			167	14
Storage Bay Dist (m)	45.0			85.0								
Storage Blk Time (%)	76	51		1	17							
Queuing Penalty (veh)	182	129		3	39							

Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.8	172.8	55.4	8.9
Average Queue (m)	2.4	48.7	18.1	2.6
95th Queue (m)	10.1	206.6	47.5	8.2
Link Distance (m)		103.0	514.7	54.8
Upstream Blk Time (%)			11	
Queuing Penalty (veh)			0	
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	19.5	13.0	8.7	13.6
Average Queue (m)	3.7	1.2	2.4	4.0
95th Queue (m)	12.6	6.7	6.8	9.4
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	109.5	88.6	18.2	14.1
Average Queue (m)	84.6	66.1	6.6	4.4
95th Queue (m)	126.6	102.9	15.5	12.2
Link Distance (m)		92.3	85.6	114.3
Upstream Blk Time (%)	51	4		
Queuing Penalty (veh)	0	30		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	90.0	57.5	202.3	27.0	36.8	28.7
Average Queue (m)	75.0	53.9	173.6	13.2	16.6	13.8
95th Queue (m)	102.6	70.1	248.7	23.6	29.1	25.5
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	10		64			
Queueing Penalty (veh)	66		0			
Storage Bay Dist (m)		50.0		50.0		
Storage Blk Time (%)		36	32		0	
Queueing Penalty (veh)		227	71		0	

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	33.5	28.7	19.4	53.7
Average Queue (m)	18.0	13.8	9.6	24.4
95th Queue (m)	29.0	22.9	16.9	42.7
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.4	17.1	1.8	10.3
Average Queue (m)	6.5	8.2	0.1	1.2
95th Queue (m)	13.9	14.8	1.8	6.5
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report
After Development (100 Build Out)

04/24/2024

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	99.0	82.7	52.5	100.2	98.4	23.5	18.2
Average Queue (m)	59.4	42.5	27.4	85.7	64.0	8.9	6.7
95th Queue (m)	87.1	71.9	58.7	109.1	96.9	20.4	15.9
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	0			9	2		
Queueing Penalty (veh)	0			0	0		
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	10		0	25			
Queueing Penalty (veh)	0		2	23			

Network Summary

Network wide Queueing Penalty: 1468

2028 After Development (100% Build Out) - With 25 St

SimTraffic Performance Report AM Peak Hour
04/25/2024 2028 After Development with 25 Street Connection

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	11.7	7.3	4.5	11.0	5.6	2.5	8.9	5.4	3.9	5.6

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.1	1.4	6.7	2.2	1.6

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	23.3	26.1	22.3	21.3	20.0	14.0	23.9	26.9	0.7	20.9	15.3	7.5

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	20.1

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.9	0.4	0.5	0.7	0.1	0.0	4.1	4.6	2.6	2.7	3.9	3.2

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.6	0.1	0.0	1.0	0.5	0.5	3.4	2.7	2.8	3.6	4.1	2.8

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	23.2	17.5	25.0	13.8	5.5	4.7	7.7	1.6	5.9	9.2	5.8	4.1

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	12.5

SimTraffic Performance Report AM Peak Hour
04/25/2024 2028 After Development with 25 Street Connection

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	15.0	13.3	12.2	51.5	5.7	4.0	14.3	12.4	16.3	29.9	16.7	7.4

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	14.1

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	5.0	3.3	3.4	5.7	5.9	6.2	6.3	6.5	6.5	4.2	4.2	3.9

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	5.7

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.1	2.9	3.6	4.4	3.7	3.4	0.6	0.2	0.0	0.8	0.5	0.4

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.2

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	21.8	19.1	15.3	26.0	15.0	8.0	17.8	18.5	6.9	21.0	25.3	10.8

33: 25 St SW & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	17.1

Total Network Performance

Movement	All
Stop Del/Veh (s)	21.9

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	18.9	20.4	29.5	24.7	50.5
Average Queue (m)	7.2	8.8	21.7	8.9	20.6
95th Queue (m)	16.6	16.8	33.5	18.8	39.2
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			4	0	0
Queuing Penalty (veh)			9	0	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	33.7	29.4	21.8
Average Queue (m)	10.1	9.0	2.9
95th Queue (m)	27.6	26.6	12.6
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	0	2	0
Queuing Penalty (veh)	2	4	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	77.7	75.3	38.1	62.0	70.0	43.5	46.6	35.8	34.0
Average Queue (m)	27.5	65.5	51.8	19.3	32.4	33.1	24.4	12.1	28.0	18.7
95th Queue (m)	53.5	81.0	77.2	32.8	52.7	57.9	39.1	36.2	39.8	34.3
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	30.4	30.4
Upstream Blk Time (%)		14	5				0	0	11	3
Queuing Penalty (veh)		0	0				0	0	20	5
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	0	26								
Queuing Penalty (veh)	1	28								

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.3	8.0	11.8	6.5
Average Queue (m)	0.7	0.5	4.0	2.5
95th Queue (m)	4.4	3.9	9.3	7.6
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.9	6.9	7.6	6.5
Average Queue (m)	0.8	0.7	2.7	2.0
95th Queue (m)	4.8	4.6	7.0	6.1
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	102.1	62.5	15.4	11.8
Average Queue (m)	67.5	29.6	5.5	3.7
95th Queue (m)	112.7	53.5	13.7	11.0
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	15			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	89.0	40.4	40.8	62.1	56.5	23.4
Average Queue (m)	69.4	14.0	20.8	18.7	36.4	9.2
95th Queue (m)	98.6	30.9	36.9	43.9	57.7	20.3
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	2					
Queuing Penalty (veh)	13					
Storage Bay Dist (m)		50.0			50.0	
Storage Blk Time (%)		0			4	
Queuing Penalty (veh)		0			4	

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	17.3	41.4	46.8	18.5
Average Queue (m)	8.7	19.8	17.8	9.1
95th Queue (m)	14.6	32.6	34.7	16.0
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.3	24.5	15.6	10.5
Average Queue (m)	4.1	11.1	1.2	0.8
95th Queue (m)	11.5	19.0	8.4	5.2
Link Distance (m)	68.2	70.6	59.3	220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	52.3	118.7	113.9	52.4	74.0	66.0	32.1	23.9	66.7
Average Queue (m)	16.0	90.9	72.6	15.5	44.7	30.8	13.1	9.4	27.9
95th Queue (m)	46.6	122.8	106.3	40.5	68.5	56.9	27.9	19.2	50.5
Link Distance (m)		107.7	107.7		91.0	91.0	90.4	90.4	149.8
Upstream Blk Time (%)		4	1		0				
Queuing Penalty (veh)		0	0		0				
Storage Bay Dist (m)	50.0			50.0					
Storage Blk Time (%)	0	27		0	4				
Queuing Penalty (veh)	0	11		0	2				

Network Summary

Network wide Queuing Penalty: 101

2028 After Development (100% Build Out) - Without 25 St

SimTraffic Performance Report PM Peak Hour
04/25/2024 2028 After Development with 25 Street Connection

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	20.5	6.6	6.8	10.7	5.1	2.9	26.7	15.6	11.7	8.5

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	2.0	1.7	24.0	9.4	4.5

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	48.1	18.3	14.4	20.6	23.8	30.7	38.7	36.7	2.8	59.5	25.9	14.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	26.8

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.6	0.5	0.5	1.2	0.2	0.0	4.4	3.8	3.4	3.3	4.1	3.5

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.3

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.5	0.1	0.2	1.5	0.6	0.5	4.2	4.4	2.8	4.5	3.6	2.6

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	34.7	36.7	38.5	17.8	13.2	12.6	9.0	2.3	11.4	10.1	6.0	4.8

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	24.3

SimTraffic Performance Report PM Peak Hour
04/25/2024 2028 After Development with 25 Street Connection

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	40.4	23.7	23.4	157.6	66.9	81.7	17.6	7.4	8.7	15.0	11.9	11.1

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	48.3

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	4.6	4.7	4.7	4.9	5.3	4.5	5.4	5.5	4.3	8.5	8.8	9.8

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	6.5

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	4.1	4.4	3.1	4.4	3.5	3.6	0.4	0.0	0.0	1.6	0.6	0.5

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	23.7	12.1	7.2	14.7	15.5	11.7	18.6	18.0	4.1	23.5	12.3	15.3

33: 25 St SW & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	14.2

Total Network Performance

Movement	All
Stop Del/Veh (s)	34.8

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	21.3	25.5	31.7	26.7	67.8
Average Queue (m)	8.1	12.0	26.2	12.2	30.7
95th Queue (m)	18.0	23.1	34.1	23.0	63.6
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			9	0	7
Queuing Penalty (veh)			32	1	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	37.6	30.0	26.9
Average Queue (m)	24.0	16.5	5.2
95th Queue (m)	43.4	34.7	19.1
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	5	14	1
Queuing Penalty (veh)	35	24	1
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	T	L	TR
Maximum Queue (m)	47.4	70.5	69.6	77.1	125.4	147.5	64.5	55.1	12.8	7.8	37.3	34.7
Average Queue (m)	37.7	51.9	39.8	33.7	67.9	83.9	36.5	23.4	0.5	0.5	30.5	24.1
95th Queue (m)	55.2	79.7	67.5	66.1	107.3	131.2	58.2	52.6	6.0	5.2	40.7	38.5
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	37.7	30.4	30.4
Upstream Blk Time (%)		7	1		0	0	3	2			35	6
Queuing Penalty (veh)		0	0		0	0	0	0			55	9
Storage Bay Dist (m)	45.0			85.0								
Storage Blk Time (%)	13	7		0	1							
Queuing Penalty (veh)	35	14		0	3							

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.8	17.4	16.5	8.1
Average Queue (m)	0.9	1.8	7.3	2.7
95th Queue (m)	5.5	8.7	13.5	8.1
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.2	7.7	7.9	8.9
Average Queue (m)	1.2	0.4	1.8	3.6
95th Queue (m)	5.9	3.2	6.1	7.8
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	107.9	88.1	18.8	12.8
Average Queue (m)	83.6	55.5	6.3	4.5
95th Queue (m)	123.2	102.0	15.5	12.1
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	46	3		
Queuing Penalty (veh)	0	24		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	91.1	57.5	199.1	34.1	38.3	33.5
Average Queue (m)	75.8	55.2	169.9	14.9	17.5	14.4
95th Queue (m)	103.6	66.4	248.5	27.9	30.7	26.9
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	12		61			
Queuing Penalty (veh)	76		0			
Storage Bay Dist (m)		50.0		50.0		
Storage Blk Time (%)		49	22		0	
Queuing Penalty (veh)		311	50		0	

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	26.6	31.4	32.1	67.2
Average Queue (m)	12.1	14.9	12.8	25.9
95th Queue (m)	20.9	26.0	23.5	50.5
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.3	17.1	10.5	16.7
Average Queue (m)	5.7	9.0	1.0	3.9
95th Queue (m)	13.6	14.2	5.9	12.5
Link Distance (m)	68.2	70.6	59.3	220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2028 After Development with 25 Street Connection

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	46.3	91.1	75.4	52.4	99.2	99.6	21.9	19.5	43.5
Average Queue (m)	16.4	50.2	36.6	22.9	85.7	70.8	6.9	7.4	19.1
95th Queue (m)	39.7	76.9	62.6	57.3	110.2	105.0	17.9	16.3	36.6
Link Distance (m)		107.7	107.7		91.0	91.0	90.4	90.4	149.8
Upstream Blk Time (%)		0			9	4			
Queuing Penalty (veh)		0			0	0			
Storage Bay Dist (m)	50.0			50.0					
Storage Blk Time (%)	0	6		0	23				
Queuing Penalty (veh)	0	4		1	21				

Network Summary

Network wide Queuing Penalty: 698

2048 Background

SimTraffic Performance Report
04/25/2024

AM Peak Hour
2048 Baseline

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	24.1	8.6	3.9	9.5	6.1	3.0	22.3	15.7	14.2	10.1

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.8	3.6	8.2	8.2	4.4

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	64.4	18.4	14.0	44.8	80.6	87.1	47.1	39.8	0.4	26.3	27.7	36.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	46.5

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.5	0.4	0.3	0.6	0.2	0.0	4.1	3.0	4.6	7.1	3.5	3.1

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.9	0.1	0.3	1.3	0.4	0.3	2.6	3.6	4.8	3.3	1.3	4.6

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	14.6	12.8	12.2	16.8	4.3	3.9	8.3	40.0	14.3	26.0	33.9	15.0

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	11.2

SimTraffic Performance Report
04/25/2024

AM Peak Hour
2048 Baseline

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	5.1	5.7	3.0	29.5	4.3	3.2	20.9	23.7	12.8	28.1	16.7	12.0

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	8.0

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.4	0.0	0.1	0.0	0.0	0.0	4.7	4.2	4.2	3.2	4.4	3.0

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.5

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.1	2.1	1.9	2.9	2.7	3.6	0.1	0.1	0.0	0.2	0.3	0.0

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	23.1	17.7	30.4	8.8	21.4	9.2	0.0	17.8

Total Network Performance

Movement	All
Stop Del/Veh (s)	31.8

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2048 Baseline

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	25.9	21.7	29.4	22.1	85.3
Average Queue (m)	11.5	10.7	26.0	13.2	40.3
95th Queue (m)	22.2	18.9	33.6	24.3	72.9
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			10	0	8
Queuing Penalty (veh)			32	0	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	36.8	30.9	26.8
Average Queue (m)	20.7	24.3	2.2
95th Queue (m)	44.4	39.3	12.4
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	5	19	0
Queuing Penalty (veh)	34	46	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	L	TR
Maximum Queue (m)	47.5	77.8	70.5	87.5	174.5	174.5	67.9	50.9	6.2	36.1	34.4
Average Queue (m)	47.3	71.1	54.2	42.0	116.3	112.5	27.7	12.3	0.2	33.9	17.2
95th Queue (m)	47.6	74.2	87.4	99.0	193.2	185.2	46.1	35.2	2.0	36.5	31.8
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	30.4	30.4
Upstream Blk Time (%)		65	8		3	3	1	0		40	2
Queuing Penalty (veh)		0	0		0	0	0	0		97	5
Storage Bay Dist (m)	45.0			85.0							
Storage Blk Time (%)	66	40		0	33						
Queuing Penalty (veh)	210	137		1	33						

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2048 Baseline

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.4	15.0	13.5	6.5
Average Queue (m)	1.9	1.5	5.7	3.1
95th Queue (m)	7.7	7.3	11.7	8.2
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	15.2	14.3	4.9	12.4
Average Queue (m)	2.5	1.5	1.3	2.5
95th Queue (m)	9.9	7.3	4.9	8.1
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	104.2	63.1	28.7	28.4
Average Queue (m)	76.7	21.4	8.5	8.8
95th Queue (m)	117.8	43.7	20.0	20.3
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	16			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2048 Baseline

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	89.9	20.4	56.2	21.9	37.2	38.5
Average Queue (m)	58.5	9.1	19.8	10.0	15.4	10.8
95th Queue (m)	97.4	17.2	40.9	20.2	28.4	26.5
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	3					
Queuing Penalty (veh)	25					
Storage Bay Dist (m)		50.0			50.0	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	20.9	5.4	11.8
Average Queue (m)	3.5	2.6	5.6
95th Queue (m)	13.2	6.8	9.5
Link Distance (m)	90.4	220.3	121.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.0	9.1	9.0	8.6
Average Queue (m)	2.1	4.7	0.6	0.3
95th Queue (m)	8.2	12.0	4.2	2.8
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

AM Peak Hour
2048 Baseline

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	112.3	111.7	52.4	95.6	64.4	47.2	36.0
Average Queue (m)	95.1	72.5	36.0	48.7	32.1	20.1	17.5
95th Queue (m)	125.3	101.0	57.9	90.9	54.0	35.5	29.7
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	4	0		2			
Queuing Penalty (veh)	0	0		0			
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	33		7	1			
Queuing Penalty (veh)	0		29	4			

Network Summary

Network wide Queuing Penalty: 653

2048 Background

SimTraffic Performance Report
04/25/2024

PM Peak Hour
2048 Baseline

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	44.5	11.7	9.1	21.7	7.5	3.2	51.9	51.7	47.8	24.5

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	5.0	4.1	21.1	15.1	8.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	126.3	20.3	16.2	46.4	63.4	123.2	51.4	58.6	5.8	34.3	31.4	25.6

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	56.6

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.8	0.5	0.5	1.4	0.2	0.4	7.3	7.2	4.6	6.7	4.4	4.3

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.8

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.6	0.1	0.2	0.7	0.3	0.3	3.8	3.6	3.9	4.6	3.3	2.7

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	105.1	74.6	80.1	19.9	9.6	9.9	48.4	53.8	54.8	92.8	76.6	63.3

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	35.7

SimTraffic Performance Report
04/25/2024

PM Peak Hour
2048 Baseline

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	75.0	40.4	42.1	42.8	36.9	38.4	39.4	26.5	10.2	31.1	23.0	27.7

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	37.2

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.4	0.1	0.1	0.2	0.0	0.1	3.3	3.0	2.5	3.6	3.8	3.1

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.8

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.4	3.0	2.1	2.0	2.9	2.2	0.0	0.0	0.1	0.5	0.2	0.2

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	26.5	22.8	53.3	10.6	32.9	11.1	0.0	21.9

Total Network Performance

Movement	All
Stop Del/Veh (s)	49.7

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 Baseline

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	52.0	74.2	30.7	29.1	80.4
Average Queue (m)	26.9	16.2	28.5	14.4	68.8
95th Queue (m)	49.2	45.0	31.6	25.8	86.2
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)		0	23	1	64
Queuing Penalty (veh)		1	102	3	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	3	1			
Queuing Penalty (veh)	3	1			

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	38.3	31.2	28.0
Average Queue (m)	34.3	27.4	8.3
95th Queue (m)	42.8	34.4	25.0
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	18	37	3
Queuing Penalty (veh)	169	94	7
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	T	L	TR
Maximum Queue (m)	47.5	78.0	79.1	87.4	182.4	183.1	52.7	62.6	3.3	10.5	36.7	35.6
Average Queue (m)	46.9	70.9	62.4	55.0	173.9	175.8	33.8	26.6	0.2	1.1	33.7	25.1
95th Queue (m)	50.7	74.0	88.4	109.7	184.9	181.4	52.2	60.7	3.2	9.4	37.2	39.7
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	37.7	30.4	30.4
Upstream Blk Time (%)		72	16		38	80	2	4		0	53	15
Queuing Penalty (veh)		0	0		0	0	0	0		0	133	38
Storage Bay Dist (m)	45.0			85.0								
Storage Blk Time (%)	72	36		0	37							
Queuing Penalty (veh)	291	82		1	65							

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 Baseline

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	15.9	16.5	25.3	10.2
Average Queue (m)	2.3	2.7	9.4	3.7
95th Queue (m)	9.9	10.9	19.3	9.3
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	15.7	7.0	4.9	12.9
Average Queue (m)	2.0	0.6	1.9	4.0
95th Queue (m)	9.3	4.1	5.9	9.0
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	105.8	88.6	51.1	62.0
Average Queue (m)	96.7	70.5	15.2	25.2
95th Queue (m)	111.0	109.5	35.0	54.1
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	80	8		
Queuing Penalty (veh)	0	83		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 Baseline

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	90.9	57.5	197.9	17.0	26.4	38.4
Average Queue (m)	82.9	29.5	178.6	4.4	12.0	17.8
95th Queue (m)	106.8	70.0	232.6	12.9	21.5	33.1
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	37		43			
Queuing Penalty (veh)	236		0			
Storage Bay Dist (m)		50.0		50.0		
Storage Blk Time (%)		0	40			
Queuing Penalty (veh)		0	34			

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	15.2	4.8	9.4	17.6
Average Queue (m)	1.9	0.2	3.4	7.3
95th Queue (m)	8.6	2.0	7.9	14.0
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.1	9.1	1.8	3.6
Average Queue (m)	3.4	3.6	0.1	0.3
95th Queue (m)	10.5	10.7	1.3	2.9
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 Baseline

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	121.1	119.1	52.5	100.1	96.7	67.2	41.1
Average Queue (m)	107.3	98.8	48.3	87.9	72.5	33.3	19.0
95th Queue (m)	126.1	129.1	62.0	113.3	103.9	56.5	34.2
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	18	12		21	3	0	
Queuing Penalty (veh)	0	0		0	0	0	
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	40		24	15			
Queuing Penalty (veh)	0		164	45			

Network Summary

Network wide Queuing Penalty: 1552

2048 After Development - Without 25 St

SimTraffic Performance Report

2048 After Development

04/24/2024

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	24.8	10.5	7.8	12.5	6.4	3.1	18.7	16.8	14.8	11.7

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	2.0	1.5	8.3	6.8	4.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	56.9	22.6	19.8	24.6	42.9	50.9	25.3	29.4	0.2	24.7	18.5	14.5

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	32.6

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.0	0.5	0.7	2.4	0.1	0.0	6.2	5.5	3.8	4.1	5.6	4.2

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.3	0.2	0.2	1.2	0.4	0.5	5.4	4.7	3.5	5.1	1.4	3.6

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.6

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	27.6	24.6	21.3	27.0	6.7	5.9	31.6	8.6	19.5	27.9	23.9	12.4

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	19.7

SimTraffic Performance Report

2048 After Development

04/24/2024

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	11.9	9.5	8.0	83.4	8.5	6.2	26.3	25.4	25.1	38.1	37.8	17.3

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	16.6

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	1.4	0.2	0.1	0.5	0.1	0.2	6.2	6.3	3.7	6.2	5.4	5.4

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	3.1

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.2	2.2	2.7	2.5	2.7	2.7	0.0	0.0	0.0	0.5	0.2	0.3

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.4

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	21.8	17.5	33.8	7.4	28.1	11.9	0.0	18.0

Total Network Performance

Stop Del/Veh (s)	29.5
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Queuing and Blocking Report
2048 After Development

04/24/2024

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	48.5	46.8	30.0	27.5	73.0
Average Queue (m)	24.7	20.4	26.1	13.5	37.6
95th Queue (m)	44.7	35.8	33.8	23.8	72.4
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			10	0	4
Queuing Penalty (veh)			31	1	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	1	0			
Queuing Penalty (veh)	3	0			

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	37.7	30.8	19.2
Average Queue (m)	22.5	21.2	3.5
95th Queue (m)	43.3	37.8	13.2
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	4	14	0
Queuing Penalty (veh)	25	35	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.5	78.3	72.2	65.7	140.0	138.8	38.3	37.4	36.8	34.4
Average Queue (m)	45.8	68.3	57.0	25.5	74.0	78.6	19.3	4.9	32.8	20.7
95th Queue (m)	53.4	81.2	82.2	69.1	132.1	138.8	33.5	21.9	39.8	36.8
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	30.4	30.4
Upstream Blk Time (%)		42	13		1	2			35	4
Queuing Penalty (veh)		0	0		0	0			85	9
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	41	27		0	9					
Queuing Penalty (veh)	162	82		0	9					

Queuing and Blocking Report
2048 After Development

04/24/2024

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	16.0	20.1	12.0	10.7
Average Queue (m)	2.4	2.1	5.2	3.8
95th Queue (m)	10.0	11.0	10.1	9.6
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	14.7	11.8	9.3	6.7
Average Queue (m)	3.4	1.2	2.4	2.7
95th Queue (m)	11.2	6.2	7.0	6.9
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	109.5	77.3	24.8	27.9
Average Queue (m)	98.4	26.9	9.5	11.1
95th Queue (m)	103.9	59.5	20.1	23.3
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	56	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
2048 After Development

04/24/2024

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	90.2	55.8	121.3	40.8	56.1	29.5
Average Queue (m)	77.6	26.9	30.4	16.1	29.7	11.6
95th Queue (m)	108.0	51.4	95.2	32.0	50.5	24.5
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	7		3			
Queuing Penalty (veh)	71		0			
Storage Bay Dist (m)		50.0		50.0		
Storage Blk Time (%)		6	1		1	
Queuing Penalty (veh)		23	1		1	

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.8	18.7	33.7	36.4
Average Queue (m)	2.5	2.3	14.5	12.0
95th Queue (m)	9.8	10.3	26.8	23.7
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	9.1	20.2	10.4
Average Queue (m)	3.0	10.5	1.3
95th Queue (m)	9.9	16.5	6.6
Link Distance (m)	68.2	70.6	220.3
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
2048 After Development

04/24/2024

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	114.5	112.3	52.2	90.5	70.4	49.5	45.7
Average Queue (m)	97.2	81.8	38.8	44.7	29.0	22.1	21.0
95th Queue (m)	126.3	117.8	59.4	82.9	55.8	40.1	37.1
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	8	4		1	0		
Queuing Penalty (veh)	0	0		0	0		
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	33		6	1			
Queuing Penalty (veh)	0		25	4			

Network Summary

Network wide Queuing Penalty: 567

2048 After Development - Without 25 St

SimTraffic Performance Report
04/25/2024

PM Peak Hour
2048 After Development

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	21.4	9.4	6.5	13.6	6.5	3.3	25.9	18.2	17.0	11.0

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	3.7	3.4	16.2	8.3	5.2

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	127.0	15.5	12.8	36.9	53.2	110.5	54.2	53.3	5.5	37.2	29.7	20.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	52.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.8	0.5	0.4	1.7	0.1	0.0	5.8	4.8	3.2	6.2	5.3	3.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.3	0.1	0.3	0.6	0.4	0.4	3.8	3.3	2.6	4.5	3.0	2.6

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.4

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	98.1	85.3	85.5	12.8	9.0	9.2	38.9	60.8	52.0	175.0	212.7	146.5

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	46.5

SimTraffic Performance Report
04/25/2024

PM Peak Hour
2048 After Development

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	72.7	39.7	36.5	57.7	35.6	36.5	38.9	34.8	12.9	29.7	30.4	33.8

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	37.1

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.7	0.2	0.3	1.7	0.1	0.1	5.0	4.5	2.8	7.0	7.4	7.2

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	3.6

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.6	3.9	2.1	3.0	3.0	2.4	0.4	0.0	0.0	0.5	0.3	0.3

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBT	All
Stop Del/Veh (s)	31.2	25.7	57.4	10.1	32.8	12.3	0.0	24.2

Total Network Performance

Movement	All
Stop Del/Veh (s)	47.0

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 After Development

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	42.8	27.8	30.4	30.1	74.5
Average Queue (m)	22.1	8.0	28.3	18.6	42.8
95th Queue (m)	39.2	18.7	31.7	30.0	78.2
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			18	1	11
Queuing Penalty (veh)			96	7	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)	1	0			
Queuing Penalty (veh)	0	0			

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	42.7	30.2	29.2
Average Queue (m)	35.3	17.7	11.1
95th Queue (m)	45.2	35.8	27.4
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	15	11	3
Queuing Penalty (veh)	166	23	6
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	T	L	TR
Maximum Queue (m)	47.5	81.0	71.7	87.4	181.9	185.7	62.2	67.1	7.8	11.1	35.9	35.3
Average Queue (m)	47.2	71.3	59.0	43.8	174.9	175.9	39.3	32.2	0.4	0.7	31.4	29.2
95th Queue (m)	48.1	75.3	87.8	98.9	179.1	181.0	58.4	65.9	4.0	6.7	39.3	39.8
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	37.7	37.7	30.4	30.4
Upstream Blk Time (%)		78	11		34	81	3	4			31	18
Queuing Penalty (veh)		0	0		0	0	0	0			68	40
Storage Bay Dist (m)	45.0			85.0								
Storage Blk Time (%)	79	39		0	29							
Queuing Penalty (veh)	384	108		1	41							

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 After Development

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	16.2	11.2	14.2	11.0
Average Queue (m)	2.2	1.3	5.5	4.3
95th Queue (m)	9.6	6.9	12.0	10.2
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	11.8	7.2	6.4	15.4
Average Queue (m)	1.7	0.3	1.8	3.6
95th Queue (m)	7.7	2.7	5.9	9.7
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	108.0	88.6	50.2	97.5
Average Queue (m)	98.1	73.4	17.2	63.9
95th Queue (m)	103.4	110.3	39.8	109.8
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	88	7		27
Queuing Penalty (veh)	0	78		0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 After Development

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	90.7	57.5	197.9	32.9	31.8	48.0
Average Queue (m)	85.7	37.7	187.8	11.4	14.8	21.9
95th Queue (m)	102.6	74.6	215.3	25.9	25.8	38.9
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	38		46			0
Queuing Penalty (veh)	318		0			0
Storage Bay Dist (m)		50.0		50.0		
Storage Blk Time (%)		2	39			
Queuing Penalty (veh)		17	53			

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	21.2	10.1	17.4	47.5
Average Queue (m)	4.0	0.8	7.3	17.8
95th Queue (m)	13.7	5.0	14.0	33.9
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.5	16.0	1.8	14.0
Average Queue (m)	3.5	8.2	0.1	1.8
95th Queue (m)	10.7	14.3	1.3	8.5
Link Distance (m)	68.2	70.6		220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/25/2024

PM Peak Hour
2048 After Development

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	LT	R
Maximum Queue (m)	122.5	121.6	52.5	102.6	97.9	83.0	45.9
Average Queue (m)	110.4	106.3	50.7	88.0	72.6	39.1	20.4
95th Queue (m)	122.8	126.8	58.3	114.7	104.4	67.4	36.0
Link Distance (m)	107.7	107.7		91.0	91.0	90.4	90.4
Upstream Blk Time (%)	25	21		28	3	0	0
Queuing Penalty (veh)	0	0		0	0	0	0
Storage Bay Dist (m)			50.0				
Storage Blk Time (%)	45		32	16			
Queuing Penalty (veh)	0		222	52			

Network Summary

Network wide Queuing Penalty: 1681

2048 After Development - With 25 St

SimTraffic Performance Report
04/24/2024

AM Peak Hour
2048 After Development With 25 St Connection

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	14.9	8.6	5.8	8.8	6.0	2.6	12.1	7.7	6.8	7.0

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	1.8	1.2	11.5	2.8	2.2

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	41.5	19.7	17.1	21.4	30.0	28.3	28.4	26.3	0.2	23.0	17.1	14.1

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	24.7

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.6	0.5	0.9	0.6	0.1	0.0	4.6	4.1	4.3	3.9	3.8	4.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.8

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.9	0.1	0.0	1.3	0.5	0.6	3.1	3.6	3.5	3.9	1.7	3.0

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	26.9	25.5	23.9	26.5	6.6	7.4	25.9	11.1	22.9	36.0	28.0	12.3

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	20.6

SimTraffic Performance Report
04/24/2024

AM Peak Hour
2048 After Development With 25 St Connection

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Stop Del/Veh (s)	15.0	9.9	9.7	94.6	8.7	10.9	28.9	26.0	28.5	54.0	16.3	18.1

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.8	3.5	3.9	5.0	3.9	3.9	3.7	3.8	3.3	4.9	4.6	4.2

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	4.0

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	2.8	3.2	3.1	3.5	3.4	2.5	0.2	0.2	0.1	0.8	0.5	0.5

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.3

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	19.2	22.1	16.8	32.3	8.3	5.5	28.5	24.5	12.7	27.6	7.4	16.0

33: 25 St SW & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	18.3

Total Network Performance

Stop Del/Veh (s)	26.1
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Queuing and Blocking Report
04/24/2024

AM Peak Hour
2048 After Development With 25 St Connection

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	30.3	31.5	31.7	26.1	58.0
Average Queue (m)	12.5	16.0	25.3	10.8	25.5
95th Queue (m)	23.4	26.9	34.6	21.2	48.6
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			8	0	1
Queuing Penalty (veh)			24	0	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	37.0	29.5	19.9
Average Queue (m)	18.8	11.0	2.8
95th Queue (m)	39.7	28.1	12.1
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	3	3	0
Queuing Penalty (veh)	15	6	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	L	TR
Maximum Queue (m)	47.4	75.1	73.1	61.7	112.5	122.8	44.3	33.0	36.7	34.7
Average Queue (m)	43.3	62.2	52.0	18.3	58.9	58.0	17.8	3.0	29.4	19.2
95th Queue (m)	55.4	84.9	78.1	43.6	93.8	98.3	34.7	16.5	38.9	33.8
Link Distance (m)		65.9	65.9		169.9	169.9	51.0	51.0	30.4	30.4
Upstream Blk Time (%)		21	5				0		14	2
Queuing Penalty (veh)		0	0				0		27	4
Storage Bay Dist (m)	45.0			85.0						
Storage Blk Time (%)	22	16		0	2					
Queuing Penalty (veh)	87	48		0	2					

Queuing and Blocking Report
04/24/2024

AM Peak Hour
2048 After Development With 25 St Connection

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.8	17.6	14.8	8.8
Average Queue (m)	1.3	1.5	5.0	4.2
95th Queue (m)	6.3	8.6	11.2	9.4
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.4	13.3	7.4	9.1
Average Queue (m)	2.0	1.4	1.9	3.1
95th Queue (m)	7.9	7.2	6.1	7.8
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	109.4	77.2	24.2	33.4
Average Queue (m)	98.2	24.6	9.5	12.7
95th Queue (m)	104.1	58.0	20.4	26.3
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	58	1		
Queuing Penalty (veh)	0	2		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/24/2024

AM Peak Hour
2048 After Development With 25 St Connection

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	89.6	51.9	98.8	69.1	56.6	30.7
Average Queue (m)	78.5	26.5	36.1	20.0	30.3	11.1
95th Queue (m)	105.9	52.2	107.1	46.1	51.6	24.0
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	7		3			
Queuing Penalty (veh)	74		0			
Storage Bay Dist (m)		50.0			50.0	
Storage Blk Time (%)		7	1	0	4	
Queuing Penalty (veh)		29	1	0	3	

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	24.0	31.8	22.7	27.8
Average Queue (m)	11.1	15.0	10.2	11.4
95th Queue (m)	18.5	25.7	18.3	21.3
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.6	19.2	10.4	10.4
Average Queue (m)	4.8	10.0	0.6	1.5
95th Queue (m)	12.2	16.2	4.5	7.1
Link Distance (m)	68.2	70.6	59.3	220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/24/2024

AM Peak Hour
2048 After Development With 25 St Connection

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	52.3	114.7	113.8	52.4	95.6	81.4	47.1	56.8	44.8
Average Queue (m)	5.6	95.9	77.3	38.3	47.2	32.8	19.5	23.0	18.7
95th Queue (m)	28.0	124.1	109.2	57.9	84.3	60.2	39.0	41.7	34.8
Link Distance (m)		107.7	107.7		91.0	91.0	90.4	90.4	149.8
Upstream Blk Time (%)		6	1		2	0			0
Queuing Penalty (veh)		0	0		0	0			0
Storage Bay Dist (m)	50.0			50.0					
Storage Blk Time (%)	0	32		5	2				
Queuing Penalty (veh)	0	4		20	6				

Network Summary

Network wide Queuing Penalty: 355

2048 After Development - With 25 St

SimTraffic Performance Report
04/24/2024

PM Peak Hour
2048 After Development With 25 St Connection

1: 29 St & Richmond Road SW Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Stop Del/Veh (s)	19.3	10.6	6.7	12.5	6.1	2.6	28.0	15.8	13.9	9.8

2: 29 St & 31 Ave SW Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	3.9	3.8	17.2	6.4	4.7

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	114.9	16.9	13.3	37.6	49.2	90.0	46.4	45.1	4.4	39.4	30.1	19.5

3: Sarcee Road /29 St & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	44.8

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.8	0.4	0.6	0.4	0.1	0.3	4.5	4.4	3.3	5.1	4.7	3.0

4: 28 St /28 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	1.0

5: 25A St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	0.5	0.1	0.2	1.5	0.6	0.6	2.9	3.3	3.2	4.5	4.5	3.0

5: 25A St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.7

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	85.8	70.8	56.8	14.8	9.6	11.4	49.4	42.5	44.1	149.9	143.4	139.2

6: 25A St /25A St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	43.2

SimTraffic Performance Report
04/24/2024

PM Peak Hour
2048 After Development With 25 St Connection

7: 25 St & 26 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	58.4	33.0	31.8	68.1	42.2	37.8	31.8	27.0	12.6	34.6	28.3	28.0

7: 25 St & 26 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	38.3

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	4.3	4.4	4.2	3.7	3.5	3.2	4.1	3.5	4.3	5.1	5.2	3.8

8: 25 St /25 St & Richmond Road SW Performance by movement

Movement	All
Stop Del/Veh (s)	4.4

9: 25 St & 30 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	3.5	4.7	2.6	4.1	3.7	3.6	0.5	0.0	0.0	1.2	0.5	0.5

9: 25 St & 30 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	0.9

33: 25 St SW & 33 Ave SW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	32.0	27.7	25.4	55.6	12.8	9.8	32.2	35.4	11.6	29.3	14.8	15.9

33: 25 St SW & 33 Ave SW Performance by movement

Movement	All
Stop Del/Veh (s)	23.8

Total Network Performance

Movement	All
Stop Del/Veh (s)	44.0

Queuing and Blocking Report
04/24/2024

PM Peak Hour
2048 After Development With 25 St Connection

Intersection: 1: 29 St & Richmond Road SW

Movement	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	LTR
Maximum Queue (m)	29.8	19.6	30.6	26.3	77.8
Average Queue (m)	15.2	6.6	28.6	13.0	41.9
95th Queue (m)	26.7	16.1	31.2	22.2	75.5
Link Distance (m)		103.0	26.3	26.3	66.1
Upstream Blk Time (%)			20	0	7
Queuing Penalty (veh)			90	1	0
Storage Bay Dist (m)	50.0				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: 29 St & 31 Ave SW

Movement	NB	SB	SB
Directions Served	TR	LT	T
Maximum Queue (m)	38.5	30.1	29.2
Average Queue (m)	34.0	11.3	9.2
95th Queue (m)	44.3	29.6	25.5
Link Distance (m)	30.4	26.3	26.3
Upstream Blk Time (%)	14	5	2
Queuing Penalty (veh)	129	9	3
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Sarcee Road /29 St & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	B13	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	TR	T	L	TR
Maximum Queue (m)	47.5	76.8	78.0	87.4	183.2	187.8	56.0	63.9	8.5	36.8	35.6
Average Queue (m)	47.0	71.0	63.3	58.0	164.9	171.0	32.8	25.2	0.3	28.6	27.9
95th Queue (m)	49.4	74.3	90.6	113.2	202.1	196.4	51.5	59.9	6.0	41.6	39.9
Link Distance (m)		65.9	65.9	169.9	169.9	169.9	51.0	51.0	37.7	30.4	30.4
Upstream Blk Time (%)		67	20		26	59	1	3	0	22	14
Queuing Penalty (veh)		0	0		0	0	0	0	0	40	26
Storage Bay Dist (m)	45.0			85.0							
Storage Blk Time (%)	66	35		0	33						
Queuing Penalty (veh)	337	80		1	52						

Queuing and Blocking Report
04/24/2024

PM Peak Hour
2048 After Development With 25 St Connection

Intersection: 4: 28 St /28 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.9	9.3	15.8	10.8
Average Queue (m)	1.0	0.6	5.2	3.8
95th Queue (m)	5.7	4.7	11.0	9.7
Link Distance (m)	103.0	514.7	54.8	56.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 25A St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	10.5	7.5	5.0	13.0
Average Queue (m)	1.5	0.5	1.9	3.8
95th Queue (m)	6.9	3.7	5.8	9.0
Link Distance (m)	514.7	90.4	48.0	45.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 25A St /25A St & 26 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	108.0	89.4	42.1	95.7
Average Queue (m)	96.2	79.8	15.2	62.8
95th Queue (m)	112.2	107.4	31.1	109.9
Link Distance (m)	92.3	85.6	114.3	88.8
Upstream Blk Time (%)	80	7		25
Queuing Penalty (veh)	0	76		0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/24/2024

PM Peak Hour
2048 After Development With 25 St Connection

Intersection: 7: 25 St & 26 Ave SW

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	91.8	57.6	198.7	31.0	33.5	48.8
Average Queue (m)	84.7	42.0	188.5	11.6	14.7	20.4
95th Queue (m)	102.3	74.3	205.7	24.2	26.4	37.4
Link Distance (m)	85.6		184.4	121.0		71.6
Upstream Blk Time (%)	33		51			
Queuing Penalty (veh)	275		0			
Storage Bay Dist (m)		50.0		50.0		
Storage Blk Time (%)		5	42			
Queuing Penalty (veh)		47	60			

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	28.3	16.3	24.4	40.8
Average Queue (m)	13.2	9.1	9.5	16.9
95th Queue (m)	22.5	14.6	18.9	31.9
Link Distance (m)	90.4	80.8	220.3	121.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 25 St & 30 Ave SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.2	16.9	10.5	15.2
Average Queue (m)	4.5	8.4	1.0	3.8
95th Queue (m)	11.8	15.1	6.6	11.9
Link Distance (m)	68.2	70.6	59.3	220.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
04/24/2024

PM Peak Hour
2048 After Development With 25 St Connection

Intersection: 33: 25 St SW & 33 Ave SW

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	52.3	120.8	118.7	52.5	101.1	104.9	71.0	41.0	35.7
Average Queue (m)	20.9	108.8	103.5	50.4	90.5	77.9	39.1	19.7	14.6
95th Queue (m)	51.8	128.4	130.3	59.0	112.9	111.7	65.8	34.7	28.6
Link Distance (m)		107.7	107.7		91.0	91.0	90.4	90.4	149.8
Upstream Blk Time (%)		22	16		28	6	0		
Queuing Penalty (veh)		0	0		0	0	0		
Storage Bay Dist (m)	50.0			50.0					
Storage Blk Time (%)	0	39		30	17				
Queuing Penalty (veh)	0	27		190	55				

Network Summary

Network wide Queuing Penalty: 1500

APPENDIX C

Signal Warrants



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name)	26 Avenue	Direction (EW or NS)	EW	Road Authority	City of Calgary
Side Street (name)	25 Street	Direction (EW or NS)	NS	City	Calgary
Quadrant / Int #	SW	Comments	Historical (1993)	Analysis Date	2023 Jan 04, Wed
CHECK SHEET			Count Date: 1993 May 18, Tue		
for Warrant Calculation Results, please hit 'Page Down'			Date Entry Format: (yyyy-mm-dd)		

Lane Configuration	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	# of These Lanes
26 Avenue	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	1
26 Avenue	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	1
25 Street	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median			1
25 Street	SB	NB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median			1

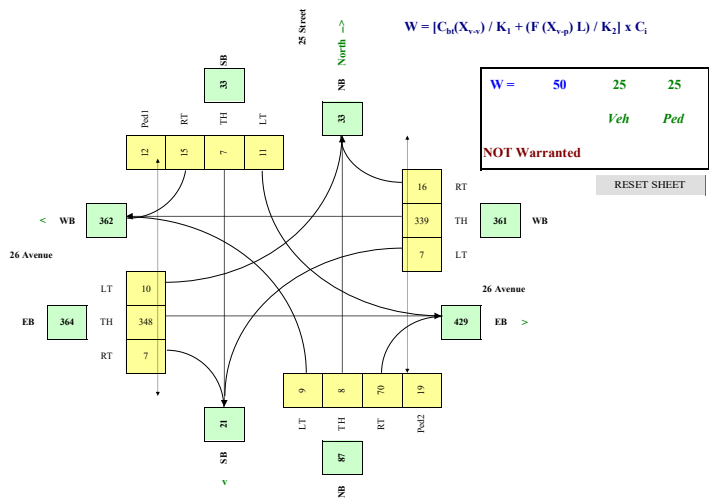
Are the 25 Street NB right turns significantly impeded by through movements? (y/n) n
 Are the 25 Street SB right turns significantly impeded by through movements? (y/n) n

Other input	Speed (Kmh)	Track %	Thru RT (y/n)	Median (m)	
26 Avenue	EW	50	3.0%	y	0.0
25 Street	NS	NS	1.0%	n	

Demographics	Elem. School Mobility Challenged (y/n)	Senior's Complex (y/n)	Pathway to School (y/n)	Metro Area Population (P)	Central Business District (y/n)
Elem. School Mobility Challenged	(y/n)	n			
Senior's Complex	(y/n)	n			
Pathway to School	(y/n)	n			
Metro Area Population	(P)	1,200,000			
Central Business District	(y/n)	y			

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	Th	NS	NS	EW	EW
Historical (6-Hour)	51	48	420	68	44	88	39	2,035	93	58	2,087	41	74	112	29	69				
Total (6-hour peak)	51	48	420	68	44	88	39	2,035	93	58	2,087	41	74	112	29	69				
Average (6-hour peak)	9	8	70	11	7	15	7	339	16	10	348	7	12	19	5	12				

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name)	26 Avenue	Direction (EW or NS)	EW	Road Authority	City of Calgary
Side Street (name)	25 Street	Direction (EW or NS)	NS	City	Calgary
Quadrant / Int #	SW	Comments	Historical (2014)	Analysis Date	2022 Jun 17, Fri
CHECK SHEET			Count Date: 2014 May 27, Tue		
for Warrant Calculation Results, please hit 'Page Down'			Date Entry Format: (yyyy-mm-dd)		

Lane Configuration	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	# of These Lanes
26 Avenue	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	1
26 Avenue	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	1
25 Street	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median			1
25 Street	SB	NB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median			1

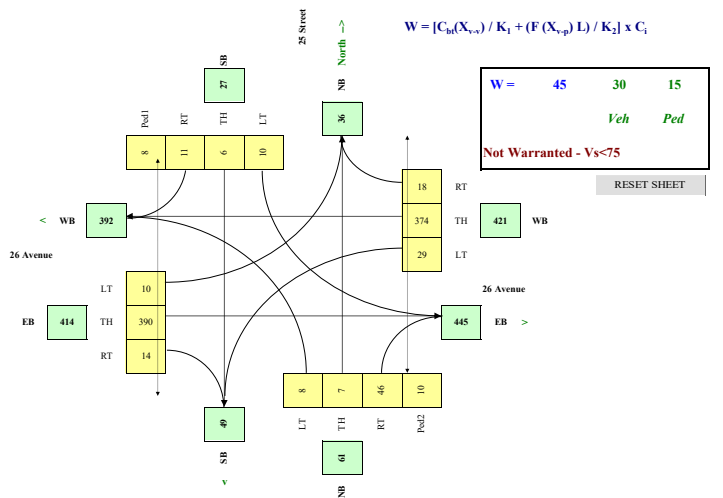
Are the 25 Street NB right turns significantly impeded by through movements? (y/n) n
 Are the 25 Street SB right turns significantly impeded by through movements? (y/n) n

Other input	Speed (Kmh)	Track %	Thru RT (y/n)	Median (m)	
26 Avenue	EW	50	3.0%	y	0.0
25 Street	NS	NS	1.0%	n	

Demographics	Elem. School Mobility Challenged (y/n)	Senior's Complex (y/n)	Pathway to School (y/n)	Metro Area Population (P)	Central Business District (y/n)
Elem. School Mobility Challenged	(y/n)	n			
Senior's Complex	(y/n)	n			
Pathway to School	(y/n)	n			
Metro Area Population	(P)	1,200,000			
Central Business District	(y/n)	y			

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	Th	NS	NS	EW	EW
Historical (6-Hour)	46	44	274	60	35	64	173	2,243	110	62	2,238	86	50	57	45	65				
Total (6-hour peak)	46	44	274	60	35	64	173	2,243	110	62	2,238	86	50	57	45	65				
Average (6-hour peak)	8	7	46	10	6	11	29	374	18	10	390	14	8	10	8	11				

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **Existing (2022)**
 CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2022 Dec 22, Thu**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: **(yyyy-mm-dd)**

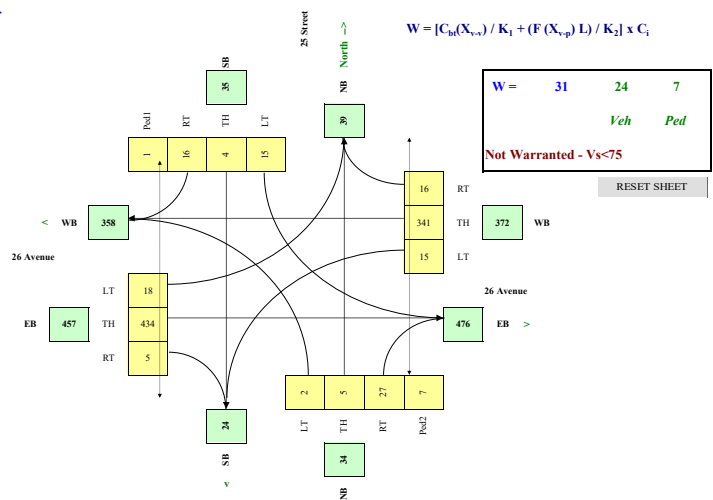
Lane Configuration	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	# of These Lanes
26 Avenue	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	1
25 Street	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median			1

Demographics	(y/n)	(y/n)	(y/n)	(y/n)	(y/n)	(y/n)
Elem. School Mobility Challenged	(y/n)	n				
Senior's Complex	(y/n)	n				
Pathway to School	(y/n)	n				
Metro Area Population	(#)	1,200,000				
Central Business District	(y/n)	y				

Other input	Speed (K/mh)	Track %	Thru RT (y/n)	Median (m)
26 Avenue	EW 50	2.0%	y	0.0
25 Street	NS	1.0%	n	

Set Peak Hours	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	W Side	E Side	N Side	S Side	NS	NS	EW	EW	
Existing (6-Hour)	10	28	164	88	24	96	92	2,043	96	109	2,665	29	6	41	51	22								
Total (6-hour peak)	10	28	164	88	24	96	92	2,043	96	109	2,665	29	6	41	51	22								
Average (6-hour peak)	2	5	27	15	4	16	15	341	16	18	434	5	1	7	9	4								

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **Background**
 CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Jan 04, Wed**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: **(yyyy-mm-dd)**

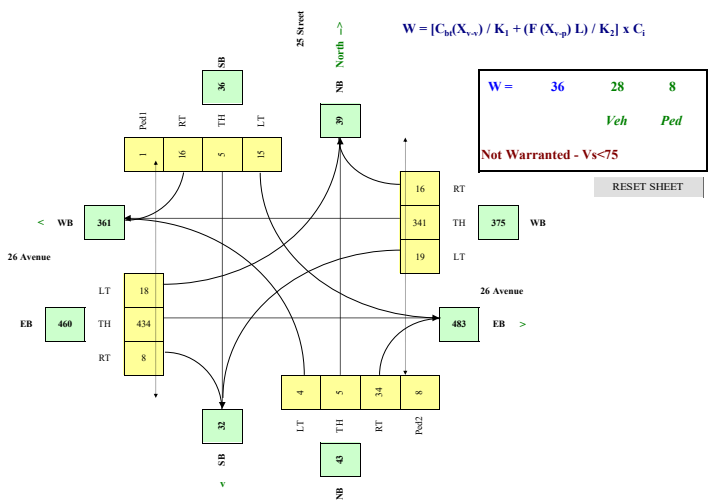
Lane Configuration	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	# of These Lanes
26 Avenue	WB	EB	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median	1
25 Street	NB	SB	Through	Thru RT/LT	Thru RT	Thru LT	Left	Right	Median			1

Demographics	(y/n)	(y/n)	(y/n)	(y/n)	(y/n)	(y/n)
Elem. School Mobility Challenged	(y/n)	n				
Senior's Complex	(y/n)	n				
Pathway to School	(y/n)	n				
Metro Area Population	(#)	1,200,000				
Central Business District	(y/n)	y				

Other input	Speed (K/mh)	Track %	Thru RT (y/n)	Median (m)
26 Avenue	EW 50	2.0%	y	0.0
25 Street	NS	1.0%	n	

Set Peak Hours	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	Th	LT	Th	RT	W Side	E Side	N Side	S Side	NS	NS	EW	EW	
Existing (6-Hour)	10	28	164	88	24	96	92	2,043	96	109	2,665	29	6	41	51	22								
Background (6-Hour)	16	2	40	7	21							19												
Total (6-hour peak)	26	30	204	88	31	96	113	2,043	96	109	2,665	48	6	46	51	27								
Average (6-hour peak)	4	5	34	15	5	16	19	341	16	18	434	8	1	8	9	5								

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **After Development (1250 units)**
CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Oct 16, Mon**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: **(yyyy-mm-dd)**

Lane Configuration	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
26 Avenue	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
26 Avenue	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
26 Avenue	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
25 Street	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
25 Street	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)

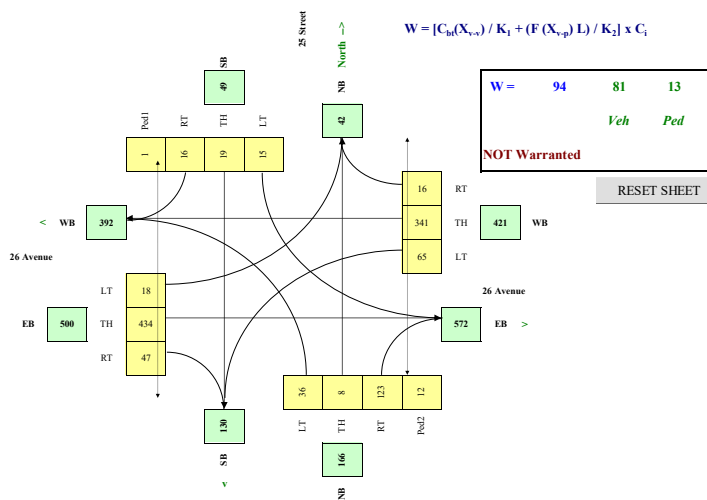
Demographics	Elem. School Mobility Challenged (y/n)	Senior's Complex (y/n)	Pathway to School (y/n)	Metro Area Population (P)	Central Business District (y/n)
Elem. School Mobility Challenged	(y/n)	n	n	1,200,000	y
Senior's Complex	(y/n)	n	n		
Pathway to School	(y/n)	n	n		
Metro Area Population	(P)			1,200,000	
Central Business District	(y/n)				y

Are the 25 Street NB right turns significantly impeded by through movements? (y/n) **n**
 Are the 25 Street SB right turns significantly impeded by through movements? (y/n) **n**

Other input	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)	
26 Avenue	EW	50	2.0%	y	0.0
25 Street	NS	NS	1.0%	n	

Traffic Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4		
	LT	Tb	RT	LT	Tb	RT	LT	Tb	RT	LT	Tb	RT	LT	Tb	RT	W Side	E Side	N Side	S Side	NS	NS	EW	EW		
Existing (6-Hour)	10	28	164	88	24	96	92	2043	96	109	2665	29	6	41	51	22									
Background (6-Hour)	16	2	40	7				21																	
Site (6-Hour)	187	16	534					80			274														
Total (6-hour peak)	213	46	738	88	111	96	287	2,043	96	109	2,665	284	6	71	51	52									
Average (6-hour peak)	36	8	123	15	19	16	65	341	16	18	434	47	1	12	9	9									

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **After Development (2500 units)**
CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Oct 16, Mon**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: **(yyyy-mm-dd)**

Lane Configuration	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
26 Avenue	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
26 Avenue	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
26 Avenue	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
25 Street	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)
25 Street	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)

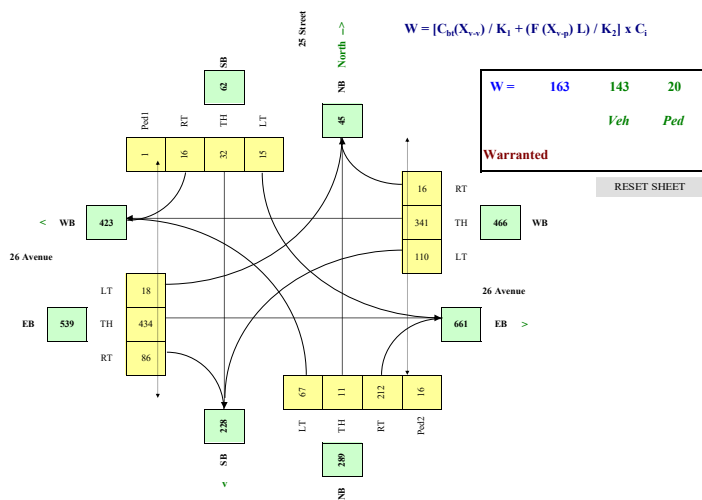
Demographics	Elem. School Mobility Challenged (y/n)	Senior's Complex (y/n)	Pathway to School (y/n)	Metro Area Population (P)	Central Business District (y/n)
Elem. School Mobility Challenged	(y/n)	n	n	1,200,000	y
Senior's Complex	(y/n)	n	n		
Pathway to School	(y/n)	n	n		
Metro Area Population	(P)			1,200,000	
Central Business District	(y/n)				y

Are the 25 Street NB right turns significantly impeded by through movements? (y/n) **n**
 Are the 25 Street SB right turns significantly impeded by through movements? (y/n) **n**

Other input	Speed (km/h)	Track %	Flow RT (y/n)	Median (m)	
26 Avenue	EW	50	2.0%	y	0.0
25 Street	NS	NS	1.0%	n	

Traffic Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4		
	LT	Tb	RT	LT	Tb	RT	LT	Tb	RT	LT	Tb	RT	LT	Tb	RT	W Side	E Side	N Side	S Side	NS	NS	EW	EW		
Existing (6-Hour)	10	28	164	88	24	96	92	2043	96	109	2665	29	6	41	51	22									
Background (6-Hour)	16	2	40	7				21																	
Site (6-Hour)	374	33	1067					159			545														
Total (6-hour peak)	400	63	1,271	88	190	96	658	2,043	96	109	2,665	518	6	96	51	77									
Average (6-hour peak)	67	11	212	15	32	16	110	341	16	18	434	86	1	16	9	13									

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **29 Street** Direction (EW or NS) **NS**
 Side Street (name) **Richmond Road** Direction (EW or NS) **EW**
 Quadrant / Int # **SW** Comments **Historical (1990)**
 for Warrant Calculation Results, please hit 'Page Down'

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Jan 04, Wed**
 Count Date: **1990 Apr 26, Thu**
 Date Entry Format: (yyyy-mm-dd)

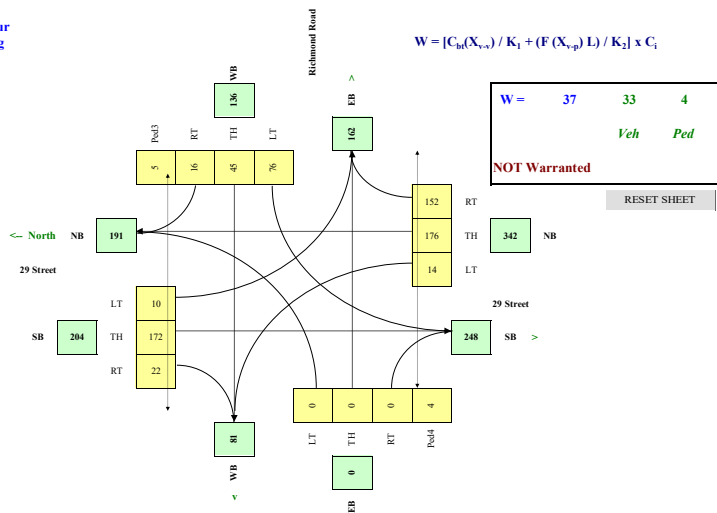
Lane Configuration		Load LT	Th & LT	Through	Th & RT-UT	Th & RT	Road RT	Right-Turn Signalization	# of Through Lanes
29 Street NB					1				1
29 Street SB									
Richmond Road WB		1				1			
Richmond Road EB									

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Other Input	Speed (K/mh)	Track %	Flow RT (y/n)	Median (m)
29 Street NS	50	3.0%	n	0.0
Richmond Road EW		2.0%	n	

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	
Historical (6-Hour)	86	1053	914	60	1034	130	454	269	94	0	0	0	14	35	28	23				
Total (6-hour peak)	86	1,853	914	60	1,834	130	454	269	94	0	0	0	14	35	28	23				
Average (6-hour peak)	14	176	152	10	172	22	76	45	16	0	0	0	2	6	5	4				

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **29 Street** Direction (EW or NS) **NS**
 Side Street (name) **Richmond Road** Direction (EW or NS) **EW**
 Quadrant / Int # **SW** Comments **Historical (2010)**
 for Warrant Calculation Results, please hit 'Page Down'

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Jan 04, Wed**
 Count Date: **2010 Jun 24, Thu**
 Date Entry Format: (yyyy-mm-dd)

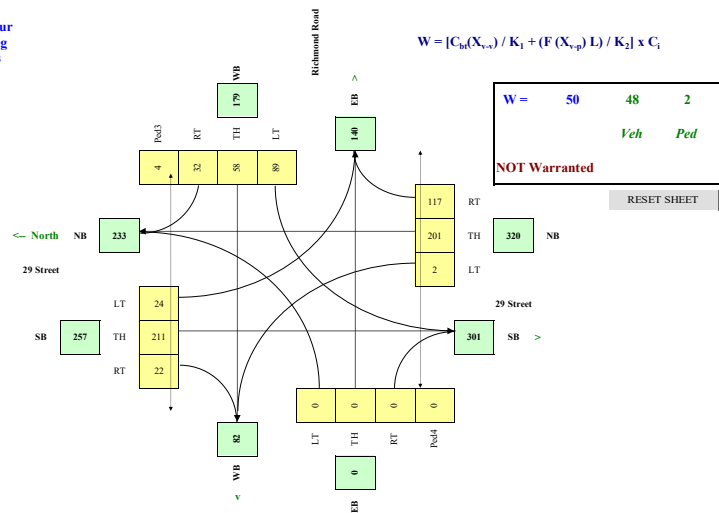
Lane Configuration		Load LT	Th & LT	Through	Th & RT-UT	Th & RT	Road RT	Right-Turn Signalization	# of Through Lanes
29 Street NB					1				1
29 Street SB									
Richmond Road WB		1				1			
Richmond Road EB									

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Other Input	Speed (K/mh)	Track %	Flow RT (y/n)	Median (m)
29 Street NS	50	3.0%	n	0.0
Richmond Road EW		2.0%	n	

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	
Historical (6-Hour)	9	1207	701	141	1268	134	536	349	189	0	0	0	0	47	21	1				
Total (6-hour peak)	9	1,207	701	141	1,268	134	536	349	189	0	0	0	0	47	21	1				
Average (6-hour peak)	2	201	117	24	211	22	89	58	32	0	0	0	0	8	4	0				

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name)	29 Street	Direction (EW or NS)	NS
Side Street (name)	Richmond Road	Direction (EW or NS)	EW
Quadrant / Int #	SW	Comments	Existing (2022)
CHECK SHEET			

Road Authority	City of Calgary
City	Calgary
Analysis Date	2023 Jan 12, Thu
Count Date	2022 Dec 14, Wed
Date Entry Format	(yyyy-mm-dd)

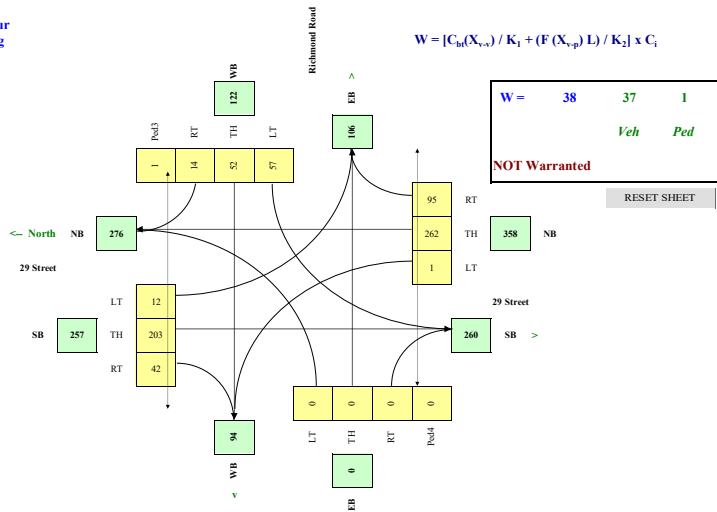
Lane Configuration	NS	EW	Median	NS	EW	Median
29 Street NB						
29 Street SB						
Richmond Road WB		1			1	
Richmond Road EB						

Demographics	(y/n)	n
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population (M)	(M)	1,200,000
Central Business District	(y/n)	y

Other input	Speed (K/mh)	Track % (y/n)	Median (m)
29 Street NS	50	2.0%	n
29 Street EW		1.0%	n

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	250	341	309	84	0	0	0	0	0	0	8	2	8	0	
Total (6-hour peak)	6	1574	567	69	1220	250	341	309	84	0	0	0	0	0	0	8	2	8	0	
Average (6-hour peak)	1	262	95	12	203	42	57	52	14	0	0	0	0	0	1	0	1	0		

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name)	29 Street	Direction (EW or NS)	NS
Side Street (name)	Richmond Road	Direction (EW or NS)	EW
Quadrant / Int #	SW	Comments	Background
CHECK SHEET			

Road Authority	City of Calgary
City	Calgary
Analysis Date	2023 Jan 12, Thu
Count Date	2022 Dec 14, Wed
Date Entry Format	(yyyy-mm-dd)

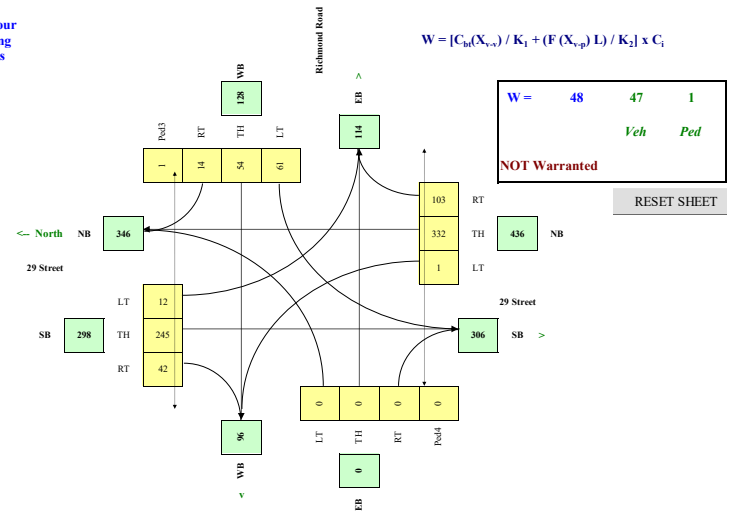
Lane Configuration	NS	EW	Median	NS	EW	Median
29 Street NB						
29 Street SB						
Richmond Road WB		1			1	
Richmond Road EB						

Demographics	(y/n)	n
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population (M)	(M)	1,200,000
Central Business District	(y/n)	y

Other input	Speed (K/mh)	Track % (y/n)	Median (m)
29 Street NS	50	2.0%	n
29 Street EW		1.0%	n

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	250	341	309	84	0	0	0	0	0	0	8	2	8	0	
Background (6-Hour)		420	49		251		22	12												
Total (6-hour peak)	6	1994	616	69	1471	250	363	321	84	0	0	0	0	0	0	8	2	8	0	
Average (6-hour peak)	1	332	103	12	245	42	61	54	14	0	0	0	0	0	0	1	0	1	0	

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **29 Street** Direction (EW or NS) **NS**
 Side Street (name) **Richmond Road** Direction (EW or NS) **EW**
 Quadrant / Int # **SW** Comments **After Development (1250 units)**
CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Oct 16, Mon**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: (yyyy-mm-dd)

Lane Configuration									
		Load LT	Th & LT	Through	Th-RT-UT	Th&R RT	Road RT	Right-Turn Signalization	# of These Lanes
29 Street	NB				1				1
29 Street	SB								
Richmond Road	WB	1				1			
Richmond Road	EB								

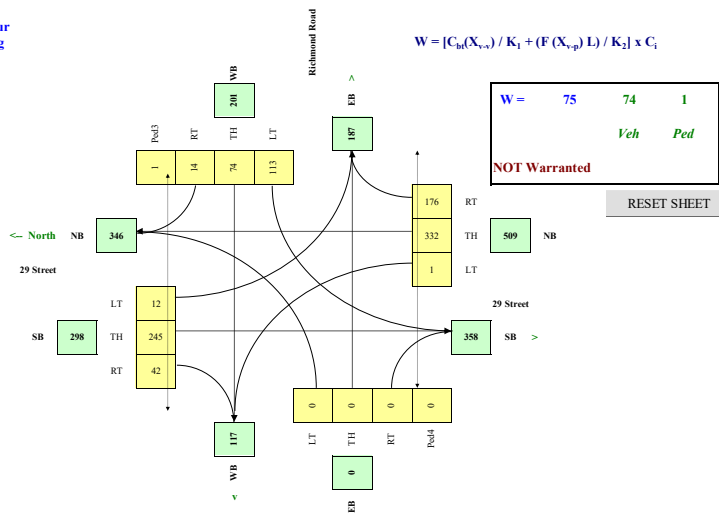
Are the Richmond Road WB right turns significantly impeded by through movements? (y/n) **n**
 Are the Richmond Road EB right turns significantly impeded by through movements? (y/n) **n**

Other input					
	Speed (K/mh)	Track %	Flow RT (y/n)	Median (m)	
29 Street	NS	50	2.0%	n	0.0
Richmond Road	EW		1.0%	n	

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Traffic Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	750	341	309	84	0	0	0	0	0	0	8	2	8	0	0	0	0	0	
Background (6-Hour)		420	49		251		22	12																
Site (6-Hour)			437				315	122																
Total (6-hour peak)	6	1,994	1,003	69	1,471	750	678	443	84	0	0	0	0	0	0	8	2	8	0	0	0	0	0	
Average (6-hour peak)	1	332	176	12	265	42	113	74	14	0	0	0	0	0	1	0	1	0	0	0	0	0	0	

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **29 Street** Direction (EW or NS) **NS**
 Side Street (name) **Richmond Road** Direction (EW or NS) **EW**
 Quadrant / Int # **SW** Comments **After Development (2500 units)**
CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Oct 16, Mon**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: (yyyy-mm-dd)

Lane Configuration									
		Load LT	Th & LT	Through	Th-RT-UT	Th&R RT	Road RT	Right-Turn Signalization	# of These Lanes
29 Street	NB				1				1
29 Street	SB								
Richmond Road	WB	1				1			
Richmond Road	EB								

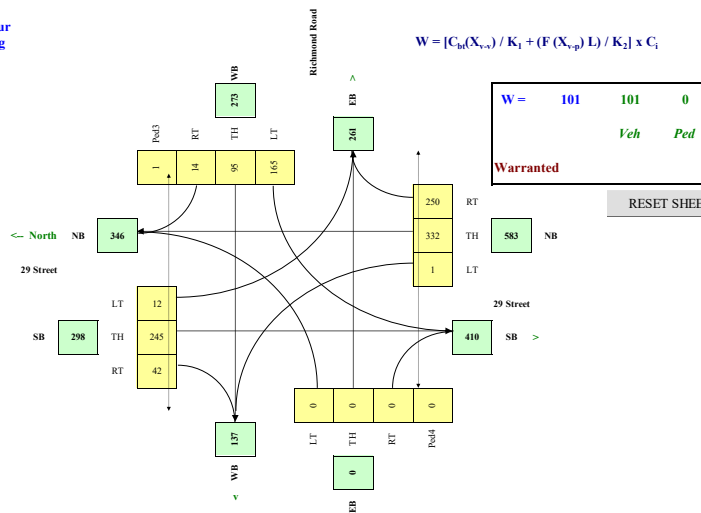
Are the Richmond Road WB right turns significantly impeded by through movements? (y/n) **n**
 Are the Richmond Road EB right turns significantly impeded by through movements? (y/n) **n**

Other input					
	Speed (K/mh)	Track %	Flow RT (y/n)	Median (m)	
29 Street	NS	50	2.0%	n	0.0
Richmond Road	EW		1.0%	n	

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Traffic Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	750	341	309	84	0	0	0	0	0	0	8	2	8	0	0	0	0	0	
Background (6-Hour)		420	49		251		22	12																
Site (6-Hour)			881				625	246																
Total (6-hour peak)	6	1,994	1,497	69	1,471	750	988	567	84	0	0	0	0	0	0	8	2	8	0	0	0	0	0	
Average (6-hour peak)	1	332	280	12	265	42	165	95	14	0	0	0	0	0	0	1	0	1	0	0	0	0	0	

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **After Development (1875 units)**
CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2024 Apr 23, Tue**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: **(yyyy-mm-dd)**

Lane Configuration	WB	LT	Th & LT	Through	Th & RT	Th & RT	Road RT	Right of Way	# of These Lanes
26 Avenue	WB								1
26 Avenue	EB								1
25 Street	NB								1
25 Street	SB								1

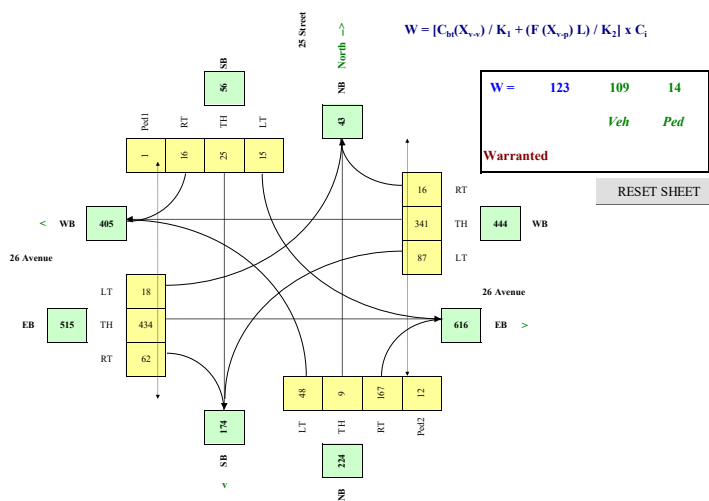
Are the 25 Street NB right turns significantly impeded by through movements? (y/n) **n**
 Are the 25 Street SB right turns significantly impeded by through movements? (y/n) **n**

Other Input	Speed (Kmh)	Track %	Bus RT (y/n)	Median (m)	
26 Avenue	EW	50	2.0%	y	0.0
25 Street	NS		1.0%	n	

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Frame Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side	NS	NS	EW	EW	
Existing (6-Hour)	10	28	164	88	24	96	92	2043	96	109	2665	29	6	41	51	22								
Background (6-Hour)	16	2	40	7			21					19	5			5								
Site (6-Hour)	262	23	798				119				410					325								25
Total (6-hour peak)	288	53	1,002	88	150	96	2,523	2,043	96	109	2,665	273	6	71	51	22								25
Average (6-hour peak)	48	9	167	15	25	16	87	341	16	18	434	62	1	12	9	9								9

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **29 Street** Direction (EW or NS) **NS**
 Side Street (name) **Richmond Road** Direction (EW or NS) **EW**
 Quadrant / Int # **SW** Comments **After Development (1875 units)**
CHECK SHEET

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2024 Apr 23, Tue**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: **(yyyy-mm-dd)**

Lane Configuration	WB	LT	Th & LT	Through	Th & RT	Th & RT	Road RT	Right of Way	# of These Lanes
29 Street	NB								1
29 Street	SB								1
Richmond Road	WB								1
Richmond Road	EB								1

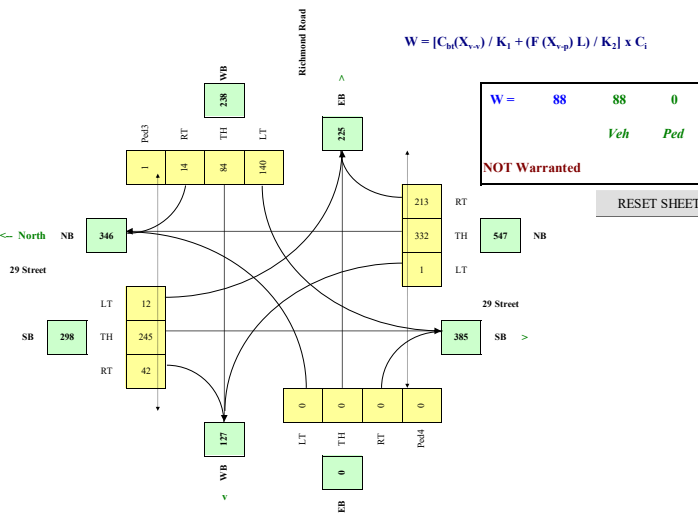
Are the Richmond Road WB right turns significantly impeded by through movements? (y/n) **n**
 Are the Richmond Road EB right turns significantly impeded by through movements? (y/n) **n**

Other Input	Speed (Kmh)	Track %	Bus RT (y/n)	Median (m)	
29 Street	NS	50	2.0%	n	0.0
Richmond Road	EW		1.0%	n	

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Frame Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	250	341	309	84							8	2	8	0					
Background (6-Hour)		420	49		251		22	12																
Site (6-Hour)					664						476	183												
Total (6-hour peak)	6	1,994	1,280	69	1,471	250	341	309	84	0	0	0	0	0	0	8	2	8	0					
Average (6-hour peak)	1	332	213	12	245	42	140	84	14	0	0	0	0	0	1	0	1	0						0

Average 6-hour Peak Turning Movements



APPENDIX D

Sensitivity Analysis

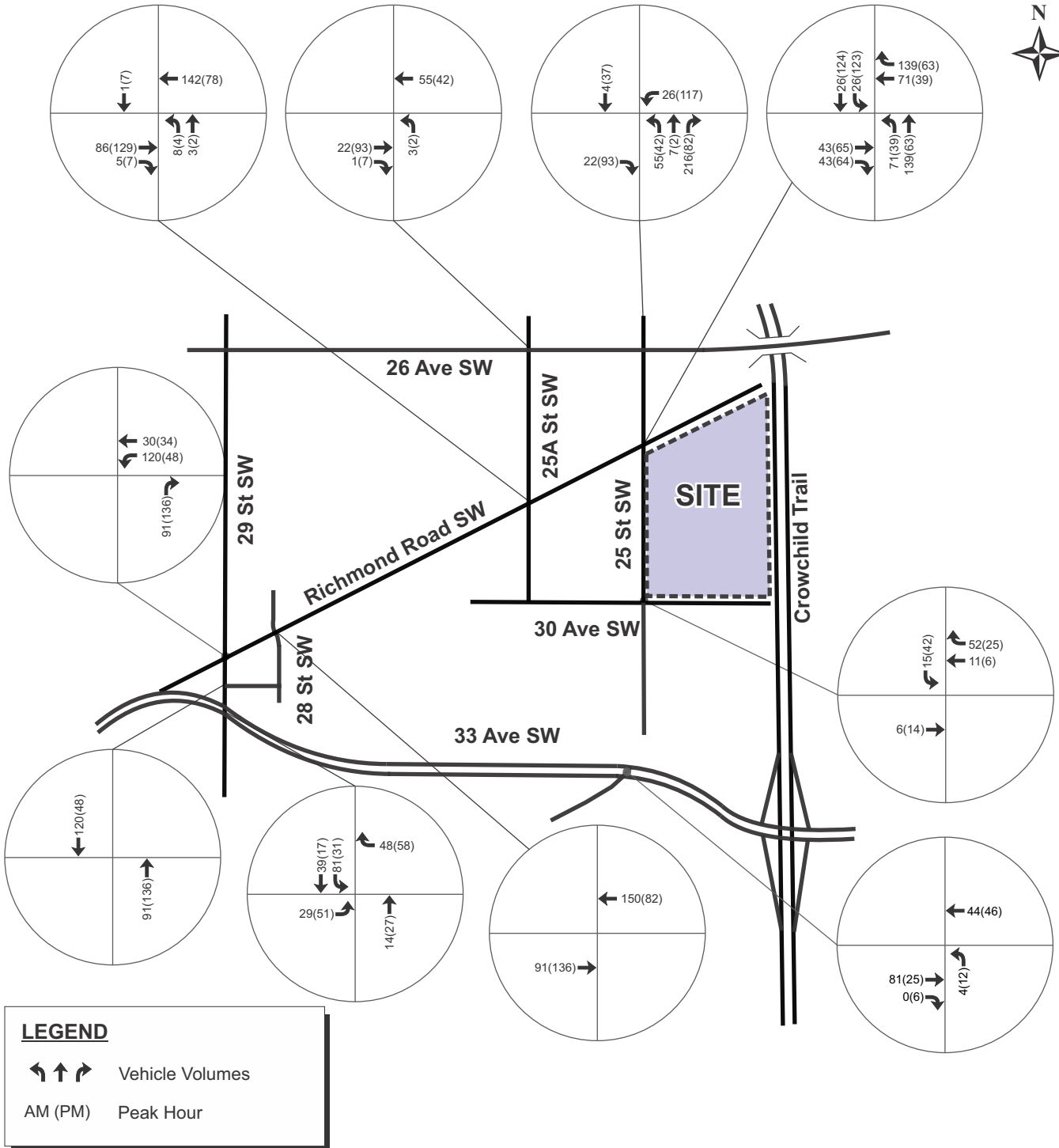


Exhibit 3.2 (Sensitivity)
Site Traffic Volumes - Lower Range



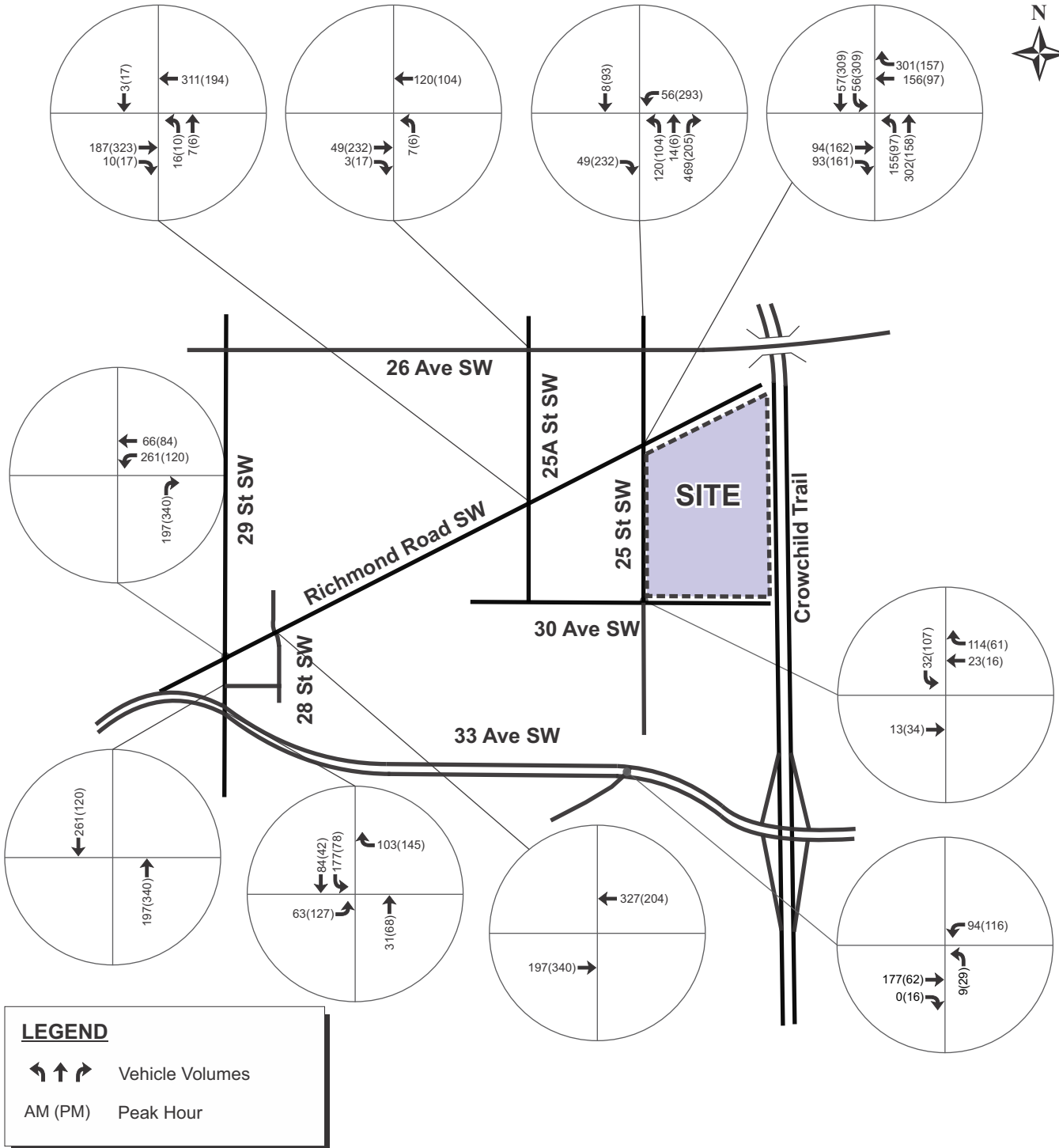


Exhibit 3.2 (Sensitivity)
Site Traffic Volumes - Upper Range



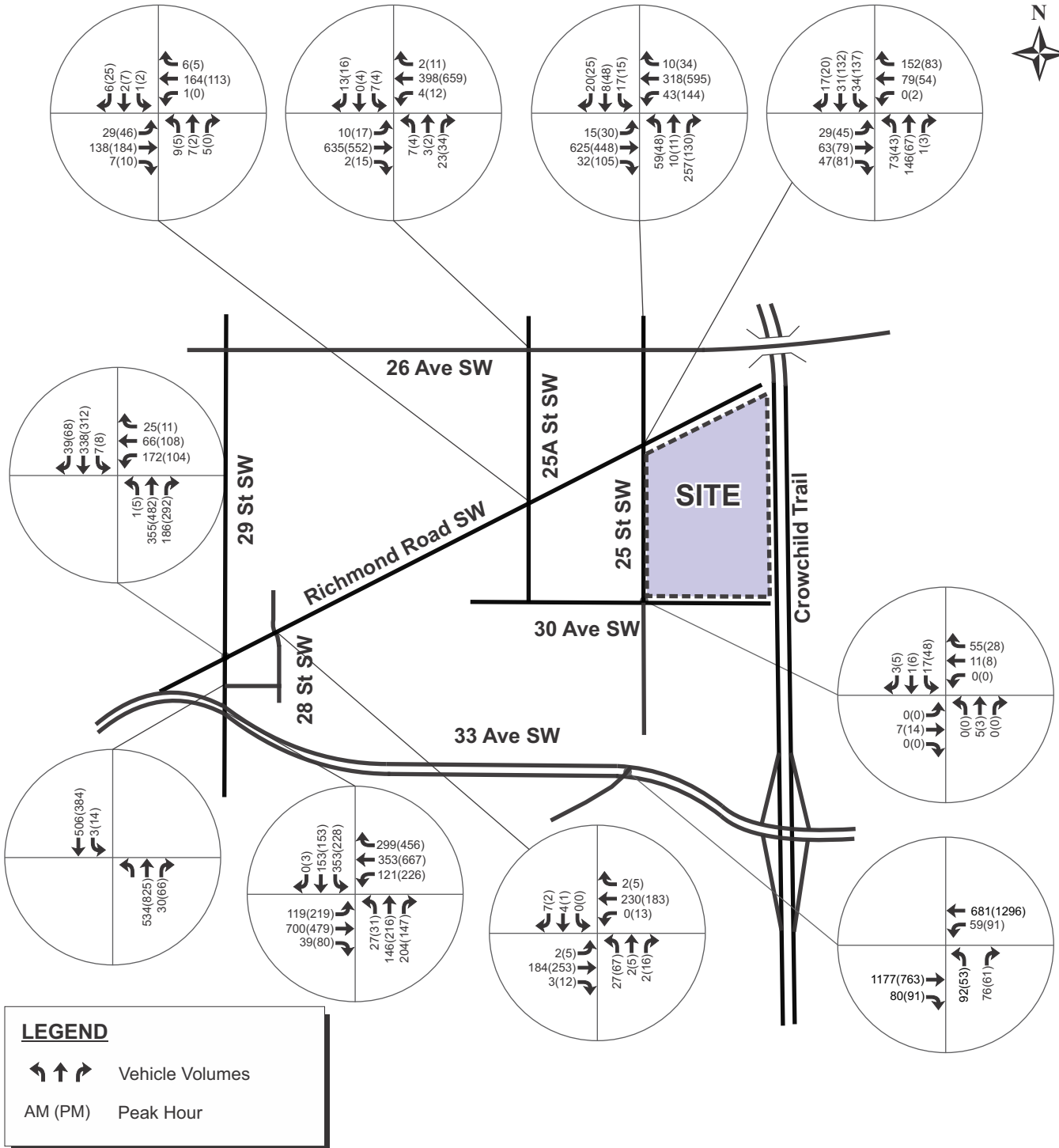


Exhibit 4.5 Sensitivity
After Development (100% Build Out) Traffic Volumes - Lower Range



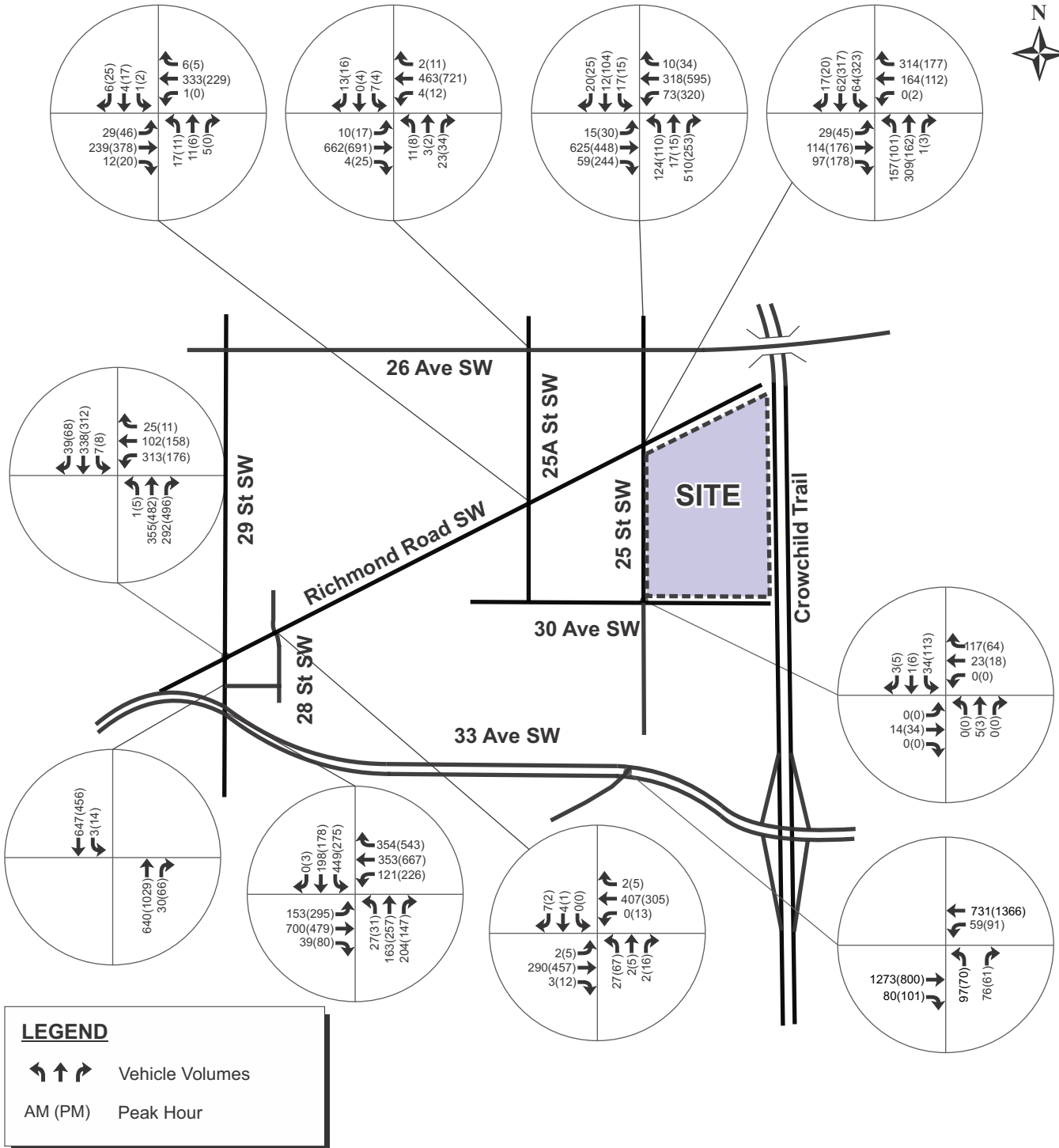


Exhibit 4.5 Sensitivity
After Development (100% Build Out) Traffic
Volumes - Upper Range



Intersection Analysis (Sensitivity Tables)

Table 4.9: 2028 Intersection Analysis Summary – Sensitivity

INTERSECTION		BACKGROUND	AFTER DEVELOPMENT - 100% BUILD OUT		
			Lower Range Sensitivity	Main Analysis	Upper Range Sensitivity
29 Street &	Richmond Rd SW	Operates acceptably.	Signal required.	Signal required with turn lane (north right).	
	31 Avenue SW	Operates acceptably but impacted by 33 Avenue queuing.	Due to queue spillback from 33 Ave, southbound left turn restrictions should be provided (peak hours or all times).		
	33 Avenue SW	Operates acceptably.	Southbound left turn arrow required.	Southbound left turn arrow required. Eastbound left will operate at capacity during the PM.	Southbound left turn arrow required. Eastbound left and southbound left will operate at capacity.
28 Street &	Richmond Rd SW	Operates acceptably.			
25A Street &	26 Avenue SW	Operates acceptably.			
	Richmond Rd SW	Operates acceptably.			
25 Street &	26 Avenue SW	Operates acceptably.	Signal required.	Signal required with turn lanes (westbound left + northbound right).	
	Richmond Rd SW	Operates acceptably.		All-way stop required.	Signal required.
	30 Avenue SW	Operates acceptably.			

Table 4.10: 2028 Intersection Analysis (29 Street SW – Richmond Road and 31 Avenue) – Sensitivity

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & Richmond Rd SW <i>(West Stop)</i>	After Development (100% Build) <i>Lower Range</i>	WBL	1	0.80	F	64	45	0.66	F	61	29
		WBT/R	1	0.33	C	24	11	0.67	F	56	30
		NB	1	<0.02	A	0	<5	<0.02	A	0	<5
		SB	1	<0.02	A	0	<5	<0.02	A	0	<5
		Overall		-	A	11.1	-	-	A	9.5	-
	After Development (100% Build) <i>Lower Range</i>	WBL	1	0.42	B	17	28	0.30	B	20	19
		WBT/R	1	0.21	B	12	14	0.33	B	19	20
		NB	1	0.54	A	10	55	0.72	B	15	117
		SB	1	0.39	A	8	37	0.35	A	6	30
		Overall		-	B	10.2	-	-	B	13.3	-
	After Development (100% Build) <i>Upper Range</i>	WBL	1	0.64	B	19	44	0.43	B	17	<29
		WBT/R	1	0.25	B	11	16	0.38	B	16	27
		NBL/T	1	0.46	B	12	47	0.57	B	11	51
		NBR	1	0.38	A	3	11	0.53	A	3	11
		SB	1	0.50	B	12	50	0.47	A	9	37
	Overall		-	B	11.6	-	-	A	9.3	-	
29 Street & 31 Avenue SW	After Development <i>Lower Range</i>	NBT/R	1	0.35	A	0	<5	0.55	A	0	<5
		SBL/T	2	0.21	A	0	<5	0.16	A	0	<5
		Overall		-	A	0.0	-	-	A	0.1	-
	After Development <i>Upper Range</i>	NBT/R	1	0.42	A	0	<5	0.68	A	0	<5
		SBL/T	2	0.27	A	0	<5	0.19	A	1	<5
Overall		-	A	0.0	-	-	A	0.2	-		

Table 4.11: 2028 Intersection Analysis (29 Street SW – 33 Avenue) – Sensitivity

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
29 Street & 33 Avenue SW <i>(Signal)</i>	After Development (100% Build) <i>Lower Range</i>	EBL	1	0.40	B	16	20	0.89	E	57	73
		EBT/R	2	0.79	C	34	83	0.46	C	23	57
		WBL	1	0.45	B	18	20	0.55	B	17	35
		WBT/R	2	0.65	B	19	51	0.92	D	36	138
		NBL/T/R	2	0.79	C	30	41	0.77	D	39	47
		SBL	1	0.91	E	61	109	0.90	F	108	80
		SBT/R	1	0.27	C	24	39	0.32	C	30	42
		Overall		-	C	31.1	-	-	D	39.1	-
	After Development (100% Build) <i>Upper Range</i>	EBL	1	0.59	C	26	38	0.99	F	84	132
		EBT/R	2	0.86	D	38	114	0.44	C	28	79
		WBL	1	0.49	C	21	28	0.53	B	19	47
		WBT/R	2	0.75	C	23	76	1.05	E	73	222
		NBL/T/R	2	0.60	B	16	25	0.80	D	52	67
		SBL	1	1.35	F	201	145	1.08	F	121	117
		SBT/R	1	0.35	B	19	36	0.35	D	36	55
		Overall		-	D	54.7	-	-	E	61.4	-

*Southbound analyzed with de-facto left turn. Northbound analyzed with one of two lanes as de-facto left turn.

Table 4.12: 2028 Intersection Analysis (28 Street SW – Richmond Road) – Sensitivity

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
28 Street & Richmond Rd SW (North-South Stop)	After Development (100% Build) Lower Range	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.09	B	14	<5	0.22	C	16	6
		SB	1	0.03	B	12	<5	0.03	B	13	<5
		Overall		-	A	1.6	-	-	A	3.0	-
	After Development (100% Build) Upper Range	EB	1	<0.02	A	0	<5	<0.02	A	0	<5
		WB	1	<0.02	A	0	<5	<0.02	A	1	<5
		NB	1	0.14	C	20	<5	0.36	D	27	12
		SB	1	0.05	C	16	<5	0.05	C	18	<5
		Overall		-	A	1.4	-	-	A	3.1	-

Table 4.13: 2028 Intersection Analysis (25A Street SW – 26 Avenue and Richmond Road) – Sensitivity

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25A Street & 26 Avenue SW (North-South Stop)	After Development (100% Build) Lower Range	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.14	C	21	<5	0.17	C	21	5
		SB	1	0.11	C	21	<5	0.14	D	27	<5
		Overall		-	A	1.3	-	-	A	1.6	-
	After Development (100% Build) Upper Range	EB	1	<0.02	A	0	<5	0.02	A	1	<5
		WB	1	<0.02	A	0	<5	0.02	A	0	<5
		NB	1	0.19	D	26	5	0.27	D	32	7
		SB	1	0.12	C	24	<5	0.18	D	35	5
		Overall		-	A	1.5	-	-	A	2.0	-
25A Street & Richmond Rd SW (North-South Stop)	After Development (100% Build) Lower Range	EB	1	0.02	A	2	<5	0.03	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.04	B	12	<5	0.03	B	12	<5
		SB	1	0.03	B	12	<5	0.06	B	11	<5
		Overall		-	A	1.9	-	-	A	2.5	-
	After Development (100% Build) Upper Range	EB	1	0.03	A	1	<5	0.04	A	1	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.11	C	17	<5	0.08	C	19	<5
		SB	1	0.04	C	15	<5	0.12	B	15	<5
		Overall		-	A	1.7	-	-	A	2.2	-

Table 4.14: 2028 Intersection Analysis (25 Street SW – 26 Avenue) – Sensitivity

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25 Street & 26 Avenue SW (North-South Stop)	After Development (100% Build) Lower Range With Signal	EB	1	0.81	C	20	125	0.56	A	9	65
		WB	1	0.50	B	11	49	0.85	C	23	145
		NB	1	0.69	B	17	39	0.51	B	12	19
		SB	1	0.12	B	10	8	0.27	B	15	14
		Overall		-	B	16.8	-	-	B	16.2	-
	After Development (100% Build) Upper Range With Signal & Turn Lanes	EB	1	0.92	C	34	137	0.82	B	19	127
		WBL	1	0.32	B	15	14	0.94	D	51	77
		WBT/R	1	0.42	B	12	41	0.64	B	11	76
		NBT/L	1	0.36	B	17	25	0.48	C	23	23
		NBR	1	0.91	D	36	96	0.50	A	6	13
SB	1	0.10	A	9	8	0.38	B	17	22		
Overall		-	C	27.5	-	-	C	20.1	-		

Table 4.15: 2028 Intersection Analysis (25 Street SW – Richmond Road and 30 Avenue) – Sensitivity

INTERSECTION	HORIZON	MOVEMENT & LANES		AM PEAK HOUR				PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
25 Street & Richmond Rd SW <i>(North-South Stop)</i>	After Development (100% Build) <i>Lower Range</i>	EB	1	0.02	A	2	<5	0.03	A	2	<5
		WB	1	<0.02	A	0	<5	<0.02	A	0	<5
		NB	1	0.51	C	21	22	0.28	C	17	9
		SB	1	0.19	C	15	5	0.65	D	26	34
		<i>Overall</i>		-	A	9.0	-	-	B	13.1	-
	After Development (100% Build) <i>Upper Range All-Way Stop</i>	EB	1	0.55	C	20	67	0.94	F	57	96
		WB	1	0.99	F	64	93	0.74	D	31	84
		NB	1	1.05	F	82	125	0.71	D	31	208
		SB	1	0.37	C	16	17	1.66	F	328	72
		<i>Overall</i>		-	E	57.6	-	-	F	159	-
	After Development (100% Build) <i>Upper Range Signal</i>	EB	1	0.39	B	13	36	0.89	D	45	96
		WB	1	0.74	B	19	90	0.61	B	20	47
		NB	1	0.83	C	28	89	0.43	B	11	36
		SB	1	0.29	B	12	22	0.99	D	49	159
		<i>Overall</i>		-	C	20.5	-	-	D	36.1	-
25 Street & 30 Ave SW <i>(East-West Stop)</i>	After Development (100% Build) <i>Lower Range</i>	EB	1	0.02	A	10	<5	0.04	B	10	<5
		WB	1	0.08	A	9	<5	0.05	A	10	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	<0.02	A	5	<5	0.03	A	6	<5
		<i>Overall</i>		-	A	7.7	-	-	A	7.5	-
	After Development (100% Build) <i>Upper Range</i>	EB	1	0.04	B	11	<5	0.08	B	12	<5
		WB	1	0.17	A	10	5	0.12	B	10	<5
		NB	1	<0.02	A	3	<5	<0.02	A	3	<5
		SB	1	0.02	A	6	<5	0.08	A	7	<5
<i>Overall</i>		-	A	8.7	-	-	A	8.6	-		

Signal Warrant Analysis (Sensitivity Table)

Table 4.16: Signal Warrant Analysis – Sensitivity

INTERSECTION	HORIZON	SIGNAL WARRANT SCORE	COMMENT
25 Street & 26 Avenue SW	After Development (100% Build Out) – Lower Range Sensitivity	114/100	Warranted
	After Development (100% Build Out) – Upper Range Sensitivity	235/100	
29 Street & Richmond Road SW	After Development (100% Build Out) – Lower Range Sensitivity	83/100	Not warranted
	After Development (100% Build Out) – Upper Range Sensitivity	127/100	Warranted

Daily Volume (Sensitivity Table)

Table 4.17: Daily Link Volume Analysis – Sensitivity

ROADWAY	SECTION	CLASSIFI- CATION	GUIDELINE	DAILY VOLUMES (AFTER DEVELOPMENT – 100% BUILD OUT)		
				Lower Range	Main Analysis	Upper Range
25 Street SW	N of Richmond Rd	Collector	2,000-8,000	4,850	7,350	10,450
	S of Richmond Rd	Residential	<2,000	3,230	5,170	7,580
Richmond Road SW	West of 28 Street	Collector	2,000-8,000	5,470	6,910	8,730
	East of 28 Street	Collector	2,000-8,000	4,680	6,120	7,940
	West of 25 Street	Collector	2,000-8,000	3,110	4,480	6,210
	East of 25 Street	Collector	2,000-8,000	3,600	5,530	7,950

1: 29 St & Richmond Road SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	172	66	25	5	355	168	7	338	39
Future Volume (Veh/h)	0	0	0	172	66	25	5	355	168	7	338	39
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	183	70	27	5	378	179	7	360	41
Pedestrians	25			25			25			25		
Lane Width (m)	0.0			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			2			2			2		
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked	0.91	0.91		0.91	0.91	0.91				0.91		
vC, conflicting volume	984	1012	430	922	942	518	426			582		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	935	965	430	868	890	425	426			496		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	21	72	95	100			99		
cM capacity (veh/h)	159	225	611	232	249	550	1133			955		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1								
Volume Total	183	97	562	408								
Volume Left	183	0	5	7								
Volume Right	0	27	179	41								
cSH	232	294	1133	955								
Volume to Capacity	0.79	0.33	0.00	0.01								
Queue Length 95th (m)	43.7	10.6	0.1	0.2								
Control Delay (s)	60.9	23.2	0.1	0.2								
Lane LOS	F	C	A	A								
Approach Delay (s)	47.8		0.1	0.2								
Approach LOS	E											
Intersection Summary												
Average Delay				10.8								
Intersection Capacity Utilization	49.9%			ICU Level of Service			A					
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔
Traffic Volume (veh/h)	0	0	534	30	5	506
Future Volume (Veh/h)	0	0	534	30	5	506
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	568	32	5	538
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.88	0.88			0.88	
vC, conflicting volume	888	609			600	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	801	482			472	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	274	454			951	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	600	184	359			
Volume Left	0	5	0			
Volume Right	32	0	0			
cSH	1700	951	1700			
Volume to Capacity	0.35	0.01	0.21			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization	46.4%			ICU Level of Service		
Analysis Period (min)	15			A		

4: 28 St /28 St & Richmond Road SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔				↔		
Traffic Volume (veh/h)	5	184	5	5	230	5	27	5	5	5	5	7		
Future Volume (Veh/h)	5	184	5	5	230	5	27	5	5	5	5	7		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	5	196	5	5	245	5	29	5	5	5	5	7		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None			None										
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	275				226				526	518	248	524	518	298
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	275				226				526	518	248	524	518	298
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100				100				93	99	99	99	99	99
cM capacity (veh/h)	1260				1313				417	438	756	420	438	710
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	206	255	39	17										
Volume Left	5	5	29	5										
Volume Right	5	5	5	7										
eSH	1260	1313	446	512										
Volume to Capacity	0.00	0.00	0.09	0.03										
Queue Length 95th (m)	0.1	0.1	2.2	0.8										
Control Delay (s)	0.2	0.2	13.9	12.3										
Lane LOS	A	A	B	B										
Approach Delay (s)	0.2	0.2	13.9	12.3										
Approach LOS			B	B										
Intersection Summary														
Average Delay				1.6										
Intersection Capacity Utilization				31.5%	ICU Level of Service				A					
Analysis Period (min)				15										

5: 25A St & Richmond Road SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔				↔		
Traffic Volume (veh/h)	29	138	7	5	164	6	9	7	5	5	5	6		
Future Volume (Veh/h)	29	138	7	5	164	6	9	7	5	5	5	6		
Sign Control	Free			Free			Stop			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	31	147	7	5	174	6	10	7	5	5	5	6		
Pedestrians	25			25			25			25				
Lane Width (m)	3.5			3.5			3.5			3.5				
Walking Speed (m/s)	1.1			1.1			1.1			1.1				
Percent Blockage	2			2			2			2				
Right turn flare (veh)														
Median type	None			None										
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	205				179				458	452	200	458	453	227
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	205				179				458	452	200	458	453	227
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98				100				98	99	99	99	99	99
cM capacity (veh/h)	1336				1366				457	468	804	457	468	777
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	185	185	22	16										
Volume Left	31	5	10	5										
Volume Right	7	6	5	6										
eSH	1336	1366	511	545										
Volume to Capacity	0.02	0.00	0.04	0.03										
Queue Length 95th (m)	0.5	0.1	1.0	0.7										
Control Delay (s)	1.5	0.2	12.4	11.8										
Lane LOS	A	A	B	B										
Approach Delay (s)	1.5	0.2	12.4	11.8										
Approach LOS			B	B										
Intersection Summary														
Average Delay				1.9										
Intersection Capacity Utilization				38.4%	ICU Level of Service				A					
Analysis Period (min)				15										

6: 25A St /25A St & 26 Ave SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	10	636	5	5	401	5	7	5	23	7	5	13
Future Volume (Veh/h)	10	636	5	5	401	5	7	5	23	7	5	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	677	5	5	427	5	7	5	24	7	5	14
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	457	707			1208	1194	730	1218	1194	480		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	457	707			1208	1194	730	1218	1194	480		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	99	99			95	97	94	95	97	98		
cM capacity (veh/h)	1079	872			139	176	404	132	176	561		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	693	437	36	26								
Volume Left	11	5	7	7								
Volume Right	5	5	24	14								
cSH	1079	872	261	245								
Volume to Capacity	0.01	0.01	0.14	0.11								
Queue Length 95th (m)	0.2	0.1	3.6	2.7								
Control Delay (s)	0.3	0.2	21.0	21.5								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	0.2	21.0	21.5								
Approach LOS			C	C								
Intersection Summary												
Average Delay	1.3											
Intersection Capacity Utilization	56.7%			ICU Level of Service			B					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	29	66	82	5	83	153	77	148	5	34	32	17
Future Volume (Veh/h)	29	66	82	5	83	153	77	148	5	34	32	17
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	70	87	5	88	163	82	157	5	36	34	18
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	276	182			440	486	164	488	448	220		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	276	182			440	486	164	488	448	220		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	98	100			81	65	99	89	93	98		
cM capacity (veh/h)	1259	1362			441	447	843	321	470	784		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	188	256	244	88								
Volume Left	31	5	82	36								
Volume Right	87	163	5	18								
cSH	1259	1362	449	424								
Volume to Capacity	0.02	0.00	0.54	0.21								
Queue Length 95th (m)	0.6	0.1	24.1	5.9								
Control Delay (s)	1.5	0.2	22.1	15.7								
Lane LOS	A	A	C	C								
Approach Delay (s)	1.5	0.2	22.1	15.7								
Approach LOS			C	C								
Intersection Summary												
Average Delay	9.2											
Intersection Capacity Utilization	48.5%				ICU Level of Service				A			
Analysis Period (min)	15											

9: 25 St & 30 Ave SW
10/31/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	5	7	5	5	11	5	5	5	5	5	5	5	
Future Volume (Veh/h)	5	7	5	5	11	5	5	5	5	5	5	5	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	5	7	5	5	12	5	5	5	5	5	5	5	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	42	37			102			96	60	102	96	64	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	42	37			102			96	60	102	96	64	
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100	100			99			99	99	99	99	99	
cM capacity (veh/h)	1532	1539			801			754	962	801	754	956	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	17	22	15	15									
Volume Left	5	5	5	5									
Volume Right	5	5	5	5									
cSH	1532	1539	830	828									
Volume to Capacity	0.00	0.00	0.02	0.02									
Queue Length 95th (m)	0.1	0.1	0.4	0.4									
Control Delay (s)	2.2	1.7	9.4	9.4									
Lane LOS	A	A	A	A									
Approach Delay (s)	2.2	1.7	9.4	9.4									
Approach LOS	A			A									
Intersection Summary													
Average Delay	5.2												
Intersection Capacity Utilization	24.6%			ICU Level of Service	A								
Analysis Period (min)	15												

1: 29 St & Richmond Road SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations				↔	↔			↔			↔		
Traffic Volume (veh/h)	0	0	0	104	108	11	5	482	292	8	312	68	
Future Volume (Veh/h)	0	0	0	104	108	11	5	482	292	8	312	68	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	0	0	0	109	114	12	5	507	307	8	328	72	
Pedestrians	25			25			25			25			
Lane Width (m)	0.0			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	0			2			2			2			
Right turn flare (veh)													
Median type							None			None			
Median storage (veh)													
Upstream signal (m)	78												
pX, platoon unblocked	0.82	0.82		0.82	0.82	0.82				0.82			
vC, conflicting volume	1170	1254	414	1100	1136	710	425				839		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1099	1201	414	1015	1059	541	425				697		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	34	36	97	100				99		
cM capacity (veh/h)	71	146	624	166	178	426	1134				724		
Direction, Lane #	WB 1	WB 2	NB 1	SB 1									
Volume Total	109	126	819	408									
Volume Left	109	0	5	8									
Volume Right	0	12	307	72									
cSH	166	188	1134	724									
Volume to Capacity	0.66	0.67	0.00	0.01									
Queue Length 95th (m)	28.6	30.4	0.1	0.3									
Control Delay (s)	60.8	55.9	0.1	0.3									
Lane LOS	F	F	A	A									
Approach Delay (s)	58.1		0.1	0.3									
Approach LOS	F												
Intersection Summary													
Average Delay	9.5												
Intersection Capacity Utilization	65.0%			ICU Level of Service	C								
Analysis Period (min)	15												

2: 29 St & 31 Ave SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔↔
Traffic Volume (veh/h)	0	0	825	66	14	384
Future Volume (Veh/h)	0	0	825	66	14	384
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	868	69	15	404
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	1160	928			937	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1076	787			799	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	100	100			98	
cM capacity (veh/h)	164	263			658	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	937	150	269			
Volume Left	0	15	0			
Volume Right	69	0	0			
eSH	1700	658	1700			
Volume to Capacity	0.55	0.02	0.16			
Queue Length 95th (m)	0.0	0.5	0.0			
Control Delay (s)	0.0	1.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			64.4%		ICU Level of Service	C
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	253	12	13	183	5	67	5	16	5	5	5
Future Volume (Veh/h)	5	253	12	13	183	5	67	5	16	5	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	266	13	14	193	5	71	5	17	5	5	5
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	223			304			564	558	322	576	562	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	223			304			564	558	322	576	562	246
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	100			99			82	99	98	99	99	99
cM capacity (veh/h)	1316			1229			393	412	687	378	410	759
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	284	212	93	15								
Volume Left	5	14	71	5								
Volume Right	13	5	17	5								
eSH	1316	1229	427	469								
Volume to Capacity	0.00	0.01	0.22	0.03								
Queue Length 95th (m)	0.1	0.3	6.2	0.8								
Control Delay (s)	0.2	0.6	15.8	12.9								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.2	0.6	15.8	12.9								
Approach LOS			C	B								
Intersection Summary												
Average Delay				3.0								
Intersection Capacity Utilization				36.4%						ICU Level of Service	A	
Analysis Period (min)				15								

5: 25A St & Richmond Road SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	46	184	10	5	113	5	5	5	5	5	5	25
Future Volume (Veh/h)	46	184	10	5	113	5	5	5	5	5	5	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	194	11	5	119	5	5	5	5	5	5	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	149	230			506	480	250	484	482	172		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	149	230			506	480	250	484	482	172		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	97	100			99	99	99	99	99	97		
cM capacity (veh/h)	1401	1308			412	447	755	436	445	834		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	253	129	15	36								
Volume Left	48	5	5	5								
Volume Right	11	5	5	26								
cSH	1401	1308	501	668								
Volume to Capacity	0.03	0.00	0.03	0.05								
Queue Length 95th (m)	0.8	0.1	0.7	1.3								
Control Delay (s)	1.7	0.3	12.4	10.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.7	0.3	12.4	10.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay	2.4											
Intersection Capacity Utilization	35.9%			ICU Level of Service			A					
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	17	559	11	12	661	11	5	5	34	5	5	16
Future Volume (Veh/h)	17	559	11	12	661	11	5	5	34	5	5	16
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	588	12	13	696	12	5	5	36	5	5	17
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	733	625			1428	1414	644	1446	1414	752		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	733	625			1428	1414	644	1446	1414	752		
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3		
pD queue free %	98	99			95	96	92	94	96	96		
cM capacity (veh/h)	853	935			94	127	452	88	127	392		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	618	721	46	27								
Volume Left	18	13	5	5								
Volume Right	12	12	36	17								
cSH	853	935	267	193								
Volume to Capacity	0.02	0.01	0.17	0.14								
Queue Length 95th (m)	0.5	0.3	4.6	3.6								
Control Delay (s)	0.6	0.4	21.2	26.6								
Lane LOS	A	A	C	D								
Approach Delay (s)	0.6	0.4	21.2	26.6								
Approach LOS			C	D								
Intersection Summary												
Average Delay	1.6											
Intersection Capacity Utilization	58.2%			ICU Level of Service			B					
Analysis Period (min)	15											

8: 25 St /25 St & Richmond Road SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	45	82	78	5	56	84	45	68	5	141	135	20
Future Volume (Veh/h)	45	82	78	5	56	84	45	68	5	141	135	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	86	82	5	59	88	47	72	5	148	142	21
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	172			193			476	428	177	425	425	153
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	172			193			476	428	177	425	425	153
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
fF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	97			100			86	85	99	65	70	98
cM capacity (veh/h)	1374			1350			338	478	828	427	480	854
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	215	152	124	311								
Volume Left	47	5	47	148								
Volume Right	82	88	5	21								
eSH	1374	1350	419	466								
Volume to Capacity	0.03	0.00	0.30	0.67								
Queue Length 95th (m)	0.8	0.1	9.3	36.7								
Control Delay (s)	1.9	0.3	17.2	26.9								
Lane LOS	A	A	C	D								
Approach Delay (s)	1.9	0.3	17.2	26.9								
Approach LOS			C	D								
Intersection Summary												
Average Delay				13.7								
Intersection Capacity Utilization				57.1%	ICU Level of Service	B						
Analysis Period (min)				15								

9: 25 St & 30 Ave SW
10/31/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	10	5	5	8	5	5	5	5	6	6	5
Future Volume (Veh/h)	5	10	5	5	8	5	5	5	5	6	6	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	11	5	5	8	5	5	5	5	6	6	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	38			41			102	96	64	102	96	60
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	38			41			102	96	64	102	96	60
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
fF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	100			100			99	99	99	99	99	99
cM capacity (veh/h)	1538			1534			799	754	957	801	754	961
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	18	15	17								
Volume Left	5	5	5	6								
Volume Right	5	5	5	5								
eSH	1538	1534	828	823								
Volume to Capacity	0.00	0.00	0.02	0.02								
Queue Length 95th (m)	0.1	0.1	0.4	0.5								
Control Delay (s)	1.8	2.1	9.4	9.5								
Lane LOS	A	A	A	A								
Approach Delay (s)	1.8	2.1	9.4	9.5								
Approach LOS			A	A								
Intersection Summary												
Average Delay				5.3								
Intersection Capacity Utilization				24.6%	ICU Level of Service	A						
Analysis Period (min)				15								

1: 29 St & Richmond Road SW
11/01/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔	↔			↔			↔	
Traffic Volume (vph)	0	0	0	172	66	25	5	355	168	7	338	39
Future Volume (vph)	0	0	0	172	66	25	5	355	168	7	338	39
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.98			0.98			0.99	
Frt					0.958			0.957			0.986	
Ft Protected				0.950							0.999	
Satd. Flow (prot)	0	0	0	1704	1686	0	0	1682	0	0	1755	0
Ft Permitted				0.950				0.997			0.991	
Satd. Flow (perm)	0	0	0	1666	1686	0	0	1676	0	0	1741	0
Satd. Flow (RTOR)					27			56			13	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	183	70	27	5	378	179	7	360	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	183	97	0	0	562	0	0	408	0
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases					8			2			6	
Detector Phase				8	8			2			6	
Switch Phase												
Minimum Initial (s)				10.0	10.0			20.0	20.0		20.0	20.0
Minimum Split (s)				25.0	25.0			25.0	25.0		25.0	25.0
Total Split (s)				25.0	25.0			35.0	35.0		35.0	35.0
Total Split (%)				41.7%	41.7%			58.3%	58.3%		58.3%	58.3%
Maximum Green (s)				20.0	20.0			30.0	30.0		30.0	30.0
Yellow Time (s)				3.5	3.5			3.5	3.5		3.5	3.5
All-Red Time (s)				1.5	1.5			1.5	1.5		1.5	1.5
Lost Time Adjust (s)				0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)				5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0			3.0	3.0		3.0	3.0
Minimum Gap (s)				3.0	3.0			3.0	3.0		3.0	3.0
Time Before Reduce (s)				0.0	0.0			0.0	0.0		0.0	0.0
Time To Reduce (s)				0.0	0.0			0.0	0.0		0.0	0.0
Recall Mode				None	None			Min	Min		Min	Min
Walk Time (s)				8.0	8.0			8.0	8.0		8.0	8.0
Flash Dont Walk (s)				12.0	12.0			12.0	12.0		12.0	12.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effct Green (s)				11.2	11.2			25.9			25.9	
Actuated g/C Ratio				0.26	0.26			0.60			0.60	
v/c Ratio				0.42	0.21			0.54			0.39	

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Synchro 11 BR

1: 29 St & Richmond Road SW
11/01/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay				17.2	11.5			9.3			7.9	
Queue Delay				0.0	0.0			0.2			0.0	
Total Delay				17.2	11.5			9.5			7.9	
LOS				B	B			A			A	
Approach Delay					15.2			9.5			7.9	
Approach LOS					B			A			A	
Queue Length 50th (m)				10.5	3.7			21.4			15.2	
Queue Length 95th (m)				28.2	13.9			55.4			37.2	
Internal Link Dist (m)		24.5			98.2			8.0			53.6	
Turn Bay Length (m)												
Base Capacity (vph)				784	808			1281			1320	
Starvation Cap Reductn				0	0			165			0	
Spillback Cap Reductn				0	0			0			0	
Storage Cap Reductn				0	0			0			0	
Reduced v/c Ratio				0.23	0.12			0.50			0.31	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 43												
Natural Cycle: 55												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.54												
Intersection Signal Delay: 10.2							Intersection LOS: B					
Intersection Capacity Utilization 54.6%							ICU Level of Service A					
Analysis Period (min) 15												
Split and Phases: 1: 29 St & Richmond Road SW												

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Synchro 11 BR

3: Sarcee Road /29 St & 33 Ave SW
11/01/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	119	700	39	121	353	299	27	146	204	353	153	5
Future Volume (vph)	119	700	39	121	353	299	27	146	204	353	153	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.98	0.96			0.94		0.99	1.00	
Frt		0.992			0.931			0.919			0.996	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3036	0	0	2940	0	1704	1784	0
Flt Permitted	0.266			0.206				0.913		0.277		
Satd. Flow (perm)	468	3364	0	364	3036	0	0	2691	0	491	1784	0
Satd. Flow (RTOR)		6			249			217			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	127	745	41	129	376	318	29	155	217	376	163	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	786	0	129	694	0	0	401	0	376	168	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		17.8	17.8		20.0	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		17.8	17.8		20.0	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		17.6%	17.6%		19.7%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		10.0	10.0		15.5	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0						8.0	
Flash Dont Walk (s)		11.0			11.0						22.0	
Pedestrian Calls (#/hr)		0			0						5	
Act Effct Green (s)	35.1	25.2		35.2	25.3		10.1	10.1		33.5	30.2	
Actuated g/C Ratio	0.41	0.29		0.41	0.30		0.12	0.12		0.39	0.35	
v/c Ratio	0.40	0.79		0.45	0.65		0.79	0.79		0.91	0.27	

3: Sarcee Road /29 St & 33 Ave SW
11/01/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	16.2	33.9		17.6	19.3			30.2			52.2	22.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			8.9	1.2
Total Delay	16.2	33.9		17.6	19.3			30.2			61.1	23.7
LOS	B	C		B	B			C			E	C
Approach Delay		31.4			19.0			30.2			49.5	
Approach LOS		C			B			C			D	
Queue Length 50th (m)	11.0	61.3		11.2	32.5			15.0			46.2	18.8
Queue Length 95th (m)	20.0	82.6		20.3	50.7			#41.2			#108.9	39.0
Internal Link Dist (m)		48.7			0.1			44.8				21.9
Turn Bay Length (m)		45.0			85.0							
Base Capacity (vph)	344	1583		312	1557			507			412	629
Starvation Cap Reductn	0	0		0	0			0			26	287
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.37	0.50		0.41	0.45			0.79			0.97	0.49

Intersection Summary

Cycle Length: 101.4
Actuated Cycle Length: 85.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 31.1
Intersection LOS: C
Intersection Capacity Utilization 88.3%
ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW



7: 25 St & 26 Ave SW
11/01/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	15	625	33	43	318	10	62	10	257	17	8	20
Future Volume (vph)	15	625	33	43	318	10	62	10	257	17	8	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.94			0.96	
Frt		0.993			0.996			0.895			0.941	
Ft Protected		0.999			0.994			0.991			0.982	
Satd. Flow (prot)	0	1774	0	0	1773	0	0	1508	0	0	1609	0
Ft Permitted		0.989			0.882			0.929			0.863	
Satd. Flow (perm)	0	1755	0	0	1571	0	0	1404	0	0	1404	0
Satd. Flow (RTOR)		6			3			156			21	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	665	35	46	338	11	66	11	273	18	9	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	716	0	0	395	0	0	350	0	0	48	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	34.0	34.0		34.0	34.0		26.0	26.0		26.0	26.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	29.0	29.0		29.0	29.0		21.0	21.0		21.0	21.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		24.5			24.5			13.8			13.8	
Actuated g/C Ratio		0.50			0.50			0.28			0.28	
v/c Ratio		0.81			0.50			0.69			0.12	

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Synchro 11

7: 25 St & 26 Ave SW
11/01/2023

AM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.3			11.3			16.7			10.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.3			11.3			16.7			10.2	
LOS		C			B			B			B	
Approach Delay		20.3			11.3			16.7			10.2	
Approach LOS		C			B			B			B	
Queue Length 50th (m)		42.4			18.5			13.6			1.7	
Queue Length 95th (m)		#124.8			48.6			38.6			7.6	
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		1079			964			710			635	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.66			0.41			0.49			0.08	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 48.6												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 16.8												
Intersection LOS: B												
Intersection Capacity Utilization 73.7%												
ICU Level of Service D												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												
	↑ Ø2										→ Ø4	
26 s	34 s											
											← Ø8	
26 s	34 s											

O:\Dept SAB\Projects\2022\0203 Viscount Bennett TIA\4.0 Analysis & Design\Synchro\2500 Unit Sensitivity\Build Out\Lower Range\AD Lower Sens_Impr
Synchro 11

1: 29 St & Richmond Road SW
11/01/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↕			↕	
Traffic Volume (vph)	0	0	0	104	108	11	5	482	292	8	312	68
Future Volume (vph)	0	0	0	104	108	11	5	482	292	8	312	68
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.99			0.98			0.99	
Frt					0.986			0.949			0.976	
Ft Protected				0.950							0.999	
Satd. Flow (prot)	0	0	0	1704	1757	0	0	1661	0	0	1729	0
Ft Permitted				0.950				0.998			0.986	
Satd. Flow (perm)	0	0	0	1666	1757	0	0	1658	0	0	1706	0
Satd. Flow (RTOR)					9			72			26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	109	114	12	5	507	307	8	328	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	109	126	0	0	819	0	0	408	0
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2			6		
Detector Phase				8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0		30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode				None	None		Min	Min		Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0		0	0	
Act Effct Green (s)				10.4	10.4		32.3	32.3		32.3	32.3	
Actuated g/C Ratio				0.22	0.22		0.67	0.67		0.67	0.67	
v/c Ratio				0.30	0.33		0.72	0.72		0.35	0.35	

1: 29 St & Richmond Road SW
11/01/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay				19.6	18.7			12.7			5.9	
Queue Delay				0.0	0.0			2.7			0.0	
Total Delay				19.6	18.7			15.3			5.9	
LOS				B	B			B			A	
Approach Delay				19.1				15.3			5.9	
Approach LOS				B				B			A	
Queue Length 50th (m)				8.4	9.0			42.0			14.6	
Queue Length 95th (m)				18.9	20.2			#117.0			30.0	
Internal Link Dist (m)	24.5				98.2			8.0			53.6	
Turn Bay Length (m)												
Base Capacity (vph)				700	743			1151			1169	
Starvation Cap Reductn				0	0			216			0	
Spillback Cap Reductn				0	0			0			0	
Storage Cap Reductn				0	0			0			0	
Reduced v/c Ratio				0.16	0.17			0.88			0.35	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 48												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.72												
Intersection Signal Delay: 13.3												
Intersection LOS: B												
Intersection Capacity Utilization 69.3%												
ICU Level of Service C												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 1: 29 St & Richmond Road SW												

3: Sarcee Road /29 St & 33 Ave SW
11/01/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	219	479	80	226	667	456	31	216	147	228	153	5
Future Volume (vph)	219	479	80	226	667	456	31	216	147	228	153	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	0.96			0.97		0.99	1.00	
Frt		0.979			0.939			0.944			0.995	
Ft Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3291	0	1704	3078	0	0	3126	0	1704	1782	0
Ft Permitted	0.110			0.380				0.906		0.308		
Satd. Flow (perm)	197	3291	0	664	3078	0	0	2839	0	546	1782	0
Satd. Flow (RTOR)		22			198			106			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	231	504	84	238	702	480	33	227	155	240	161	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	231	588	0	238	1182	0	0	415	0	240	166	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		17.8	17.8		11.5	37.8	
Total Split (s)	16.2	47.4		16.2	47.4		25.8	25.8		12.0	37.8	
Total Split (%)	16.0%	46.7%		16.0%	46.7%		25.4%	25.4%		11.8%	37.3%	
Maximum Green (s)	10.0	40.0		10.0	40.0		18.0	18.0		7.5	30.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4		7.8	7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0						8.0	
Flash Dont Walk (s)		11.0			11.0						22.0	
Pedestrian Calls (#/hr)		0			0						5	
Act Effct Green (s)	47.6	36.3		46.6	35.8		14.9	14.9		30.4	27.0	
Actuated g/C Ratio	0.50	0.38		0.49	0.38		0.16	0.16		0.32	0.29	
v/c Ratio	0.89	0.46		0.55	0.92		0.77	0.77		0.90	0.32	

3: Sarcee Road /29 St & 33 Ave SW
11/01/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	57.4	22.5		16.5	35.5			39.1		64.8	29.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		43.4	1.1	
Total Delay	57.4	22.5		16.5	35.5			39.1		108.2	30.2	
LOS	E	C		B	D			D		F	C	
Approach Delay		32.3			32.3			39.1			76.3	
Approach LOS		C			C			D			E	
Queue Length 50th (m)	27.4	40.8		21.1	93.0			30.3		36.6	25.0	
Queue Length 95th (m)	#73.3	57.1		35.4	#138.2			47.0		#80.2	42.3	
Internal Link Dist (m)		48.7			0.1			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	260	1417		441	1427			631		267	571	
Starvation Cap Reductn	0	0		0	0			0		45	232	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.89	0.41		0.54	0.83			0.66		1.08	0.49	
Intersection Summary												
Cycle Length: 101.4												
Actuated Cycle Length: 94.5												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.92												
Intersection Signal Delay: 39.1												
Intersection LOS: D												
Intersection Capacity Utilization 104.2%												
ICU Level of Service G												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Split and Phases: 3: Sarcee Road /29 St & 33 Ave SW												

7: 25 St & 26 Ave SW
11/01/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	448	112	144	595	34	50	11	130	15	48	25
Future Volume (vph)	30	448	112	144	595	34	50	11	130	15	48	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.95			0.98	
Frt		0.974			0.994			0.908			0.962	
Frt Protected		0.997			0.991			0.987			0.991	
Satd. Flow (prot)	0	1721	0	0	1762	0	0	1534	0	0	1678	0
Frt Permitted		0.945			0.801			0.884			0.922	
Satd. Flow (perm)	0	1630	0	0	1421	0	0	1362	0	0	1554	0
Satd. Flow (RTOR)		28			6			137			26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	32	472	118	152	626	36	53	12	137	16	51	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	622	0	0	814	0	0	202	0	0	93	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		2				6		
Detector Phase	4	4		8	8	2	2			6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	35.0	35.0		35.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	58.3%	58.3%		58.3%	58.3%		41.7%	41.7%		41.7%	41.7%	
Maximum Green (s)	30.0	30.0		30.0	30.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		34.1			34.1			10.7			10.7	
Actuated g/C Ratio		0.67			0.67			0.21			0.21	
v/c Ratio		0.56			0.85			0.51			0.27	

7: 25 St & 26 Ave SW
11/01/2023

PM Peak Hour
After Development - Lower Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		8.9			22.9			11.9			15.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.9			22.9			11.9			15.0	
LOS		A			C			B			B	
Approach Delay		8.9			22.9			11.9			15.0	
Approach LOS		A			C			B			B	
Queue Length 50th (m)		27.8			56.0			4.9			5.0	
Queue Length 95th (m)		65.1			#144.6			18.8			14.2	
Internal Link Dist (m)		75.2			172.6			116.5			62.9	
Turn Bay Length (m)												
Base Capacity (vph)		1104			957			620			629	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.56			0.85			0.33			0.15	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 50.7												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.85												
Intersection Signal Delay: 16.2												
Intersection LOS: B												
Intersection Capacity Utilization 108.3%												
ICU Level of Service G												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

2: 29 St & 31 Ave SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔↔
Traffic Volume (veh/h)	0	0	640	30	5	647
Future Volume (Veh/h)	0	0	640	30	5	647
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	681	32	5	688
Pedestrians			25			25
Lane Width (m)			3.5			3.5
Walking Speed (m/s)			1.1			1.1
Percent Blockage			2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			46			
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1076	722			713	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	999	581			570	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	198	378			845	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	713	234	459			
Volume Left	0	5	0			
Volume Right	32	0	0			
cSH	1700	845	1700			
Volume to Capacity	0.42	0.01	0.27			
Queue Length 95th (m)	0.0	0.1	0.0			
Control Delay (s)	0.0	0.3	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.1				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			52.1%	ICU Level of Service	A	
Analysis Period (min)			15			

4: 28 St /28 St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	290	5	5	407	5	27	5	5	5	5	7
Future Volume (Veh/h)	5	290	5	5	407	5	27	5	5	5	5	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	309	5	5	433	5	29	5	5	5	5	7
Pedestrians		25			25			25			25	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	463			339			826	820	362	824	820	486
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	463			339			826	820	362	824	820	486
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			89	98	99	98	98	99
cM capacity (veh/h)	1074			1193			260	294	653	262	294	556
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	319	443	39	17								
Volume Left	5	5	29	5								
Volume Right	5	5	5	7								
cSH	1074	1193	287	349								
Volume to Capacity	0.00	0.00	0.14	0.05								
Queue Length 95th (m)	0.1	0.1	3.5	1.2								
Control Delay (s)	0.2	0.1	19.5	15.8								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.1	19.5	15.8								
Approach LOS			C	C								
Intersection Summary												
Average Delay				1.4								
Intersection Capacity Utilization			41.4%	ICU Level of Service	A							
Analysis Period (min)			15									

5: 25A St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	29	239	12	5	333	6	17	10	5	5	5	6	
Future Volume (Veh/h)	29	239	12	5	333	6	17	10	5	5	5	6	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	31	254	13	5	354	6	18	11	5	5	5	6	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)	110												
pX, platoon unblocked													
vC, conflicting volume	385	292			748	742	310	750	746	407			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	385	292			748	742	310	750	746	407			
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2			
tC, 2 stage (s)													
fF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3			
pD queue free %	97	100			94	97	99	98	98	99			
cM capacity (veh/h)	1148	1242			290	318	698	286	317	616			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	298	365	34	16									
Volume Left	31	5	18	5									
Volume Right	13	6	5	6									
cSH	1148	1242	328	372									
Volume to Capacity	0.03	0.00	0.10	0.04									
Queue Length 95th (m)	0.6	0.1	2.6	1.0									
Control Delay (s)	1.1	0.1	17.3	15.1									
Lane LOS	A	A	C	C									
Approach Delay (s)	1.1	0.1	17.3	15.1									
Approach LOS			C	C									
Intersection Summary													
Average Delay	1.7												
Intersection Capacity Utilization	47.4%			ICU Level of Service			A						
Analysis Period (min)	15												

6: 25A St /25A St & 26 Ave SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	10	665	5	5	470	5	10	5	23	7	5	13	
Future Volume (Veh/h)	10	665	5	5	470	5	10	5	23	7	5	13	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	11	707	5	5	500	5	11	5	24	7	5	14	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	530	737			1310	1296	760	1320	1296	552			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	530	737			1310	1296	760	1320	1296	552			
tC, single (s)	4.1	4.1			7.1	6.5	6.2	7.1	6.5	6.2			
tC, 2 stage (s)													
fF (s)	2.2	2.2			3.5	4.0	3.3	3.5	4.0	3.3			
pD queue free %	99	99			91	97	94	94	97	97			
cM capacity (veh/h)	1014	850			118	152	388	112	152	510			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	723	510	40	26									
Volume Left	11	5	11	7									
Volume Right	5	5	24	14									
cSH	1014	850	213	211									
Volume to Capacity	0.01	0.01	0.19	0.12									
Queue Length 95th (m)	0.2	0.1	5.1	3.1									
Control Delay (s)	0.3	0.2	25.8	24.4									
Lane LOS	A	A	D	C									
Approach Delay (s)	0.3	0.2	25.8	24.4									
Approach LOS			D	C									
Intersection Summary													
Average Delay	1.5												
Intersection Capacity Utilization	58.7%			ICU Level of Service			B						
Analysis Period (min)	15												

9: 25 St & 30 Ave SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	13	5	5	22	5	5	5	5	5	5	5
Future Volume (Veh/h)	5	13	5	5	22	5	5	5	5	5	5	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	14	5	5	23	5	5	5	5	5	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	53	44			120			114	66	120	114	76
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53	44			120			114	66	120	114	76
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
IF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
pD queue free %	100	100			99			99	99	99	99	99
cM capacity (veh/h)	1518	1530			779			737	954	779	737	943
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	24	33	15	15								
Volume Left	5	5	5	5								
Volume Right	5	5	5	5								
cSH	1518	1530	813	811								
Volume to Capacity	0.00	0.00	0.02	0.02								
Queue Length 95th (m)	0.1	0.1	0.4	0.4								
Control Delay (s)	1.6	1.1	9.5	9.5								
Lane LOS	A	A	A	A								
Approach Delay (s)	1.6	1.1	9.5	9.5								
Approach LOS			A	A								
Intersection Summary												
Average Delay	4.1											
Intersection Capacity Utilization	24.6%		ICU Level of Service			A						
Analysis Period (min)	15											

2: 29 St & 31 Ave SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↔			↔
Traffic Volume (veh/h)	0	0	1029	66	14	456
Future Volume (Veh/h)	0	0	1029	66	14	456
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	1083	69	15	480
Pedestrians	25		25		25	
Lane Width (m)	3.5		3.5		3.5	
Walking Speed (m/s)	1.1		1.1		1.1	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None		None		None	
Median storage (veh)						
Upstream signal (m)	46					
pX, platoon unblocked	0.75	0.75			0.75	
vC, conflicting volume	1412	1142			1152	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1383	1022			1034	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pD queue free %	100	100			97	
cM capacity (veh/h)	96	171			499	
Direction, Lane #	NB 1	SB 1	SB 2			
Volume Total	1152	175	320			
Volume Left	0	15	0			
Volume Right	69	0	0			
cSH	1700	499	1700			
Volume to Capacity	0.68	0.03	0.19			
Queue Length 95th (m)	0.0	0.7	0.0			
Control Delay (s)	0.0	1.4	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	75.4%		ICU Level of Service		D	
Analysis Period (min)	15					

4: 28 St /28 St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	5	457	12	13	305	5	67	5	16	5	5	5
Future Volume (Veh/h)	5	457	12	13	305	5	67	5	16	5	5	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	481	13	14	321	5	71	5	17	5	5	5
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	351	519			906			902	538	918	906	374
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	351	519			906			902	538	918	906	374
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
p0 queue free %	100	99			69			98	97	98	98	99
cM capacity (veh/h)	1181	1024			229			261	520	219	259	643
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	499	340	93	15								
Volume Left	5	14	71	5								
Volume Right	13	5	17	5								
eSH	1181	1024	257	301								
Volume to Capacity	0.00	0.01	0.36	0.05								
Queue Length 95th (m)	0.1	0.3	12.0	1.2								
Control Delay (s)	0.1	0.5	26.7	17.6								
Lane LOS	A	A	D	C								
Approach Delay (s)	0.1	0.5	26.7	17.6								
Approach LOS	D			C								
Intersection Summary												
Average Delay	3.1											
Intersection Capacity Utilization	46.3%			ICU Level of Service			A					
Analysis Period (min)	15											

5: 25A St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	46	378	20	5	229	5	11	5	5	5	8	25
Future Volume (Veh/h)	46	378	20	5	229	5	11	5	5	5	8	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	398	21	5	241	5	12	5	5	5	8	26
Pedestrians	25			25			25			25		
Lane Width (m)	3.5			3.5			3.5			3.5		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	110											
pX, platoon unblocked												
vC, conflicting volume	271	444			838			810	458	816	818	294
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	271	444			838			810	458	816	818	294
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
p0 queue free %	96	100			95			98	99	98	97	96
cM capacity (veh/h)	1264	1091			241			287	576	259	284	713
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	467	251	22	39								
Volume Left	48	5	12	5								
Volume Right	21	5	5	26								
eSH	1264	1091	290	465								
Volume to Capacity	0.04	0.00	0.08	0.08								
Queue Length 95th (m)	0.9	0.1	1.9	2.1								
Control Delay (s)	1.2	0.2	18.4	13.5								
Lane LOS	A	A	C	B								
Approach Delay (s)	1.2	0.2	18.4	13.5								
Approach LOS	C			B								
Intersection Summary												
Average Delay	2.0											
Intersection Capacity Utilization	56.9%				ICU Level of Service			B				
Analysis Period (min)	15											

6: 25A St /25A St & 26 Ave SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	17	708	16	12	727	11	7	5	34	5	5	16	
Future Volume (Veh/h)	17	708	16	12	727	11	7	5	34	5	5	16	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	18	745	17	13	765	12	7	5	36	5	5	17	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	802	787			1656			1642	804	1675	1645	821	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	802	787			1656			1642	804	1675	1645	821	
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
IF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3	
p0 queue free %	98	98			89			95	90	91	95	95	
cM capacity (veh/h)	803	814			64			92	366	59	92	358	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	780	790	48	27									
Volume Left	18	13	7	5									
Volume Right	17	12	36	17									
cSH	803	814	183	144									
Volume to Capacity	0.02	0.02	0.26	0.19									
Queue Length 95th (m)	0.5	0.4	7.6	5.0									
Control Delay (s)	0.6	0.4	31.5	35.6									
Lane LOS	A	A	D	E									
Approach Delay (s)	0.6	0.4	31.5	35.6									
Approach LOS			D	E									
Intersection Summary													
Average Delay	2.0												
Intersection Capacity Utilization	65.4%			ICU Level of Service			C						
Analysis Period (min)	15												

9: 25 St & 30 Ave SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Volume (veh/h)	5	25	5	5	17	5	5	5	5	6	6	5	
Future Volume (Veh/h)	5	25	5	5	17	5	5	5	5	6	6	5	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	5	26	5	5	18	5	5	5	5	6	6	5	
Pedestrians	25			25			25			25			
Lane Width (m)	3.5			3.5			3.5			3.5			
Walking Speed (m/s)	1.1			1.1			1.1			1.1			
Percent Blockage	2			2			2			2			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	48	56			127			122	78	126	122	70	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	48	56			127			122	78	126	122	70	
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
IF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100	100			99			99	99	99	99	99	
cM capacity (veh/h)	1525	1515			770			730	939	771	730	949	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	36	28	15	17									
Volume Left	5	5	5	6									
Volume Right	5	5	5	5									
cSH	1525	1515	804	799									
Volume to Capacity	0.00	0.00	0.02	0.02									
Queue Length 95th (m)	0.1	0.1	0.4	0.5									
Control Delay (s)	1.0	1.3	9.6	9.6									
Lane LOS	A	A	A	A									
Approach Delay (s)	1.0	1.3	9.6	9.6									
Approach LOS			A	A									
Intersection Summary													
Average Delay	4.0												
Intersection Capacity Utilization	24.6%			ICU Level of Service			A						
Analysis Period (min)	15												

1: 29 St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↗			↖	↗		↖	↗
Traffic Volume (vph)	0	0	0	313	102	25	5	355	292	7	338	39
Future Volume (vph)	0	0	0	313	102	25	5	355	292	7	338	39
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	0.99			1.00	0.94		0.99	
Frt					0.970				0.850		0.986	
Flt Protected				0.950				0.999			0.999	
Satd. Flow (prot)	0	0	0	1704	1717	0	0	1792	1525	0	1755	0
Flt Permitted				0.950				0.995			0.993	
Satd. Flow (perm)	0	0	0	1666	1717	0	0	1784	1426	0	1744	0
Satd. Flow (RTOR)					23				311		13	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	333	109	27	5	378	311	7	360	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	333	136	0	0	383	311	0	408	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				27.0	27.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)				45.0%	45.0%		55.0%	55.0%	55.0%	55.0%	55.0%	
Maximum Green (s)				22.0	22.0		28.0	28.0	28.0	28.0	28.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				14.2	14.2		20.9	20.9	20.9	20.9	20.9	
Actuated g/C Ratio				0.31	0.31		0.46	0.46	0.46	0.46	0.46	
v/c Ratio				0.64	0.25		0.46	0.38	0.46	0.38	0.50	

1: 29 St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay				19.3	10.8			11.7	3.1		12.0	
Queue Delay				0.0	0.0			0.2	0.0		0.0	
Total Delay				19.3	10.8			11.9	3.1		12.0	
LOS				B	B			B	A		B	
Approach Delay				16.9				7.9			12.0	
Approach LOS				B				A			B	
Queue Length 50th (m)				21.1	6.2			17.9	0.0		18.8	
Queue Length 95th (m)				43.8	16.2			46.9	11.2		49.9	
Internal Link Dist (m)	24.5							8.0				53.6
Turn Bay Length (m)				50.0								
Base Capacity (vph)				821	858			1119	1010		1099	
Starvation Cap Reductn				0	0			195	73		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.41	0.16			0.41	0.33		0.37	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 45.2												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.64												
Intersection Signal Delay: 11.6							Intersection LOS: B					
Intersection Capacity Utilization 52.9%							ICU Level of Service A					
Analysis Period (min) 15												
Split and Phases: 1: 29 St & Richmond Road SW												

1: 29 St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	176	158	11	5	482	496	8	312	68
Future Volume (vph)	0	0	0	176	158	11	5	482	496	8	312	68
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	1.00			1.00	0.94		0.99	
Frt					0.990				0.850		0.976	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	0	0	1704	1768	0	0	1794	1525	0	1729	0
Flt Permitted				0.950				0.996			0.990	
Satd. Flow (perm)	0	0	0	1666	1768	0	0	1786	1427	0	1713	0
Satd. Flow (RTOR)					7				522		26	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	185	166	12	5	507	522	8	328	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	185	178	0	0	512	522	0	408	0
Turn Type				Perm	NA		Perm	NA	Perm	Perm	NA	NA
Protected Phases					8			2			6	
Permitted Phases				8			2		2		6	
Detector Phase				8	8		2	2	2		6	6
Switch Phase												
Minimum Initial (s)				10.0	10.0		20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)				25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)				25.0	25.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)				41.7%	41.7%		58.3%	58.3%	58.3%	58.3%	58.3%	
Maximum Green (s)				20.0	20.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)				3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)				0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)				5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode				None	None		Min	Min	Min	Min	Min	
Walk Time (s)				8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)				12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)				0	0		0	0	0	0	0	
Act Effct Green (s)				11.3	11.3		21.8	21.8			21.8	
Actuated g/C Ratio				0.26	0.26		0.50	0.50			0.50	
v/c Ratio				0.43	0.38		0.57	0.53			0.47	

1: 29 St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay				17.3	15.9			10.7	3.1		8.8	
Queue Delay				0.0	0.0			0.2	0.1		0.0	
Total Delay				17.3	15.9			10.9	3.2		8.8	
LOS				B	B			B	A		A	
Approach Delay				16.6				7.0			8.8	
Approach LOS				B				A			A	
Queue Length 50th (m)				10.6	9.6			21.3	0.0		14.6	
Queue Length 95th (m)				28.6	26.6			51.2	10.9		36.7	
Internal Link Dist (m)		24.5						8.0			53.6	
Turn Bay Length (m)				50.0								
Base Capacity (vph)				781	833			1257	1159		1213	
Starvation Cap Reductn				0	0			219	80		0	
Spillback Cap Reductn				0	0			0	0		0	
Storage Cap Reductn				0	0			0	0		0	
Reduced v/c Ratio				0.24	0.21			0.49	0.48		0.34	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 43.2												
Natural Cycle: 50												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.57												
Intersection Signal Delay: 9.3							Intersection LOS: A					
Intersection Capacity Utilization 64.2%							ICU Level of Service C					
Analysis Period (min) 15												
Split and Phases: 1: 29 St & Richmond Road SW												

3: Sarcee Road /29 St & 33 Ave SW
04/25/2024

AM Peak Hour
After Development (Upper Sensitivity)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	153	700	39	121	353	354	27	163	204	449	198	5
Future Volume (vph)	153	700	39	121	353	354	27	163	204	449	198	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	0.95			0.98		0.99	1.00	
Frt		0.992			0.925			0.922			0.997	
Ft Protected	0.950			0.950				0.997		0.950		
Satd. Flow (prot)	1704	3364	0	1704	3004	0	0	3067	0	1704	1787	0
Ft Permitted	0.223			0.201				0.907		0.367		
Satd. Flow (perm)	394	3364	0	356	3004	0	0	2787	0	651	1787	0
Satd. Flow (RTOR)		6			259			217			2	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	163	745	41	129	376	377	29	173	217	478	211	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	786	0	129	753	0	0	419	0	478	216	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8				2		6		
Detector Phase	7	4		3	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	13.2	27.4		13.2	27.4		37.9	37.9		11.5	49.4	
Total Split (%)	14.7%	30.4%		14.7%	30.4%		42.1%	42.1%		12.8%	54.9%	
Maximum Green (s)	7.0	20.0		7.0	20.0		30.1	30.1		7.0	41.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0		8.0	8.0			8.0	
Flash Dont Walk (s)		11.0			11.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)		0			0		5	5			5	
Act Effct Green (s)	28.5	20.2		28.5	20.2		14.0	14.0		29.0	25.6	
Actuated g/C Ratio	0.38	0.27		0.38	0.27		0.19	0.19		0.39	0.34	
v/c Ratio	0.59	0.86		0.49	0.75		0.60	0.60		1.35	0.35	
Control Delay	25.8	38.2		21.3	22.8		16.1	16.1		200.1	19.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.5	0.2	
Total Delay	25.8	38.2		21.3	22.8		16.1	16.1		200.6	19.4	
LOS	C	D		C	C		B	B		F	B	
Approach Delay		36.1			22.6			16.1			144.2	
Approach LOS		D			C			B			F	
Queue Length 50th (m)	11.5	50.2		8.8	30.2		13.0	13.0		-80.0	21.8	
Queue Length 95th (m)	#38.0	#113.8		#27.7	#75.6		24.7	24.7		#144.9	36.3	

3: Sarcee Road /29 St & 33 Ave SW
04/25/2024

AM Peak Hour
After Development (Upper Sensitivity)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			158.5			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	275	915		263	1002			1265		353	1008	
Starvation Cap Reductn	0	0		0	0			0		17	264	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.59	0.86		0.49	0.75			0.33		1.42	0.29	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 74.5												
Natural Cycle: 100												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.35												
Intersection Signal Delay: 54.7							Intersection LOS: D					
Intersection Capacity Utilization 101.4%							ICU Level of Service G					
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Split and Phases: 3: Sarcee Road /29 St & 33 Ave SW												
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8				
	11.5 s	37.9 s	13.2 s	27.4 s	11.5 s	49.4 s	13.2 s	27.4 s				

3: Sarcee Road /29 St & 33 Ave SW
04/25/2024

PM Peak Hour
After Development (Upper Sensitivity)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	295	479	80	226	667	543	31	257	147	275	178	5
Future Volume (vph)	295	479	80	226	667	543	31	257	147	275	178	5
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98		0.97	0.95			0.98		0.99	1.00	
Frt		0.979			0.933			0.949		0.996	0.996	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1704	3282	0	1704	3017	0	0	3164	0	1704	1784	0
Flt Permitted	0.082			0.400				0.907		0.265		
Satd. Flow (perm)	147	3282	0	698	3017	0	0	2876	0	469	1784	0
Satd. Flow (RTOR)		16			172			65			1	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	311	504	84	238	702	572	33	271	155	289	187	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	311	588	0	238	1274	0	0	459	0	289	192	0
Turn Type	pm-pt	NA		pm-pt	NA		Perm	NA		pm-pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8				2		6		
Detector Phase	7	4		3	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		7.0	20.0		10.0	10.0		7.0	10.0	
Minimum Split (s)	13.2	27.4		13.2	27.4		37.8	37.8		11.5	37.8	
Total Split (s)	24.3	51.3		24.8	51.8		38.5	38.5		15.4	53.9	
Total Split (%)	18.7%	39.5%		19.1%	39.8%		29.6%	29.6%		11.8%	41.5%	
Maximum Green (s)	18.1	43.9		18.6	44.4		30.7	30.7		10.9	46.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.8	3.8		3.5	3.8	
All-Red Time (s)	3.2	3.2		3.2	3.2		4.0	4.0		1.0	4.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.2	7.4		6.2	7.4			7.8		4.5	7.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		11.0			11.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			5			5	
Act Effct Green (s)	67.6	49.0		59.3	44.5			21.9		40.7	37.4	
Actuated g/C Ratio	0.56	0.40		0.49	0.37			0.18		0.34	0.31	
v/c Ratio	0.99	0.44		0.53	1.05			0.80		1.08	0.35	
Control Delay	84.3	28.3		18.6	72.9			51.8		112.0	34.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		9.4	1.5	
Total Delay	84.3	28.3		18.6	72.9			51.8		121.4	35.5	
LOS	F	C		B	E			D		F	D	
Approach Delay		47.7			64.3			51.8			87.1	
Approach LOS		D			E			D			F	
Queue Length 50th (m)	58.9	51.1		26.4	~159.1			48.1		~60.8	35.2	
Queue Length 95th (m)	#131.6	79.1		47.1	#222.2			66.5		#117.4	54.7	

3: Sarcee Road /29 St & 33 Ave SW
04/25/2024

PM Peak Hour
After Development (Upper Sensitivity)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (m)		48.7			158.5			44.8			21.9	
Turn Bay Length (m)	45.0			85.0								
Base Capacity (vph)	314	1333		524	1214			776		268	678	
Starvation Cap Reductn	0	0		0	0			0		31	323	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.99	0.44		0.45	1.05			0.59		1.22	0.54	
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 121.4												
Natural Cycle: 150												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.08												
Intersection Signal Delay: 61.4							Intersection LOS: E					
Intersection Capacity Utilization 120.1%							ICU Level of Service H					
Analysis Period (min) 15												
- Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 3: Sarcee Road /29 St & 33 Ave SW												

7: 25 St & 26 Ave SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	625	62	73	318	10	131	17	510	17	12	20
Future Volume (vph)	15	625	62	73	318	10	131	17	510	17	12	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.97	0.93			0.96
Frt		0.988			0.995			0.850	0.945			
Ft Protected		0.999		0.950				0.958	0.983			
Satd. Flow (prot)	0	1760	0	1704	1781	0	0	1718	1525	0	1621	0
Ft Permitted		0.990		0.294				0.713	0.899			
Satd. Flow (perm)	0	1744	0	522	1781	0	0	1239	1423	0	1467	0
Satd. Flow (RTOR)		11			4			145	21			
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	665	66	78	338	11	139	18	543	18	13	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	747	0	78	349	0	0	157	543	0	52	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	33.0	33.0		33.0	33.0		27.0	27.0	27.0	27.0	27.0	
Total Split (%)	55.0%	55.0%		55.0%	55.0%		45.0%	45.0%	45.0%	45.0%	45.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		22.0	22.0	22.0	22.0	22.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		26.4		26.4	26.4			20.2	20.2		20.2	
Actuated g/C Ratio		0.47		0.47	0.47			0.36	0.36		0.36	
v/c Ratio		0.92		0.32	0.42			0.36	0.91		0.10	

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7: 25 St & 26 Ave SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Control Delay		33.6		14.7	12.3			16.7	35.6		9.3							
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0							
Total Delay		33.6		14.7	12.3			16.7	35.6		9.3							
LOS		C		B	B			B	D		A							
Approach Delay		33.6			12.7			31.3			9.3							
Approach LOS		C			B			C			A							
Queue Length 50th (m)		70.5		5.0	23.6			12.2	40.6		2.2							
Queue Length 95th (m)		#137.0		14.1	40.8			25.0	#95.9		8.0							
Internal Link Dist (m)		75.2			172.6			116.5			62.9							
Turn Bay Length (m)				50.0				50.0										
Base Capacity (vph)		880		261	895			488	648		591							
Starvation Cap Reductn		0		0	0			0	0		0							
Spillback Cap Reductn		0		0	0			0	0		0							
Storage Cap Reductn		0		0	0			0	0		0							
Reduced v/c Ratio		0.85		0.30	0.39			0.32	0.84		0.09							
Intersection Summary																		
Cycle Length: 60																		
Actuated Cycle Length: 56.7																		
Natural Cycle: 70																		
Control Type: Actuated-Uncoordinated																		
Maximum v/c Ratio: 0.92																		
Intersection Signal Delay: 27.5							Intersection LOS: C											
Intersection Capacity Utilization 99.0%							ICU Level of Service F											
Analysis Period (min) 15																		
# 95th percentile volume exceeds capacity, queue may be longer.																		
Queue shown is maximum after two cycles.																		
Splits and Phases: 7: 25 St & 26 Ave SW																		

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7: 25 St & 26 Ave SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	448	261	320	595	34	116	15	253	15	104	25
Future Volume (vph)	30	448	261	320	595	34	116	15	253	15	104	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.99	1.00			0.97	0.93		0.99	
Frt		0.952		0.992				0.850	0.977			
Flt Protected		0.998		0.950				0.958	0.995			
Satd. Flow (prot)	0	1665	0	1704	1773	0	0	1718	1525	0	1723	0
Flt Permitted		0.962		0.349				0.722	0.958			
Satd. Flow (perm)	0	1605	0	620	1773	0	0	1261	1422	0	1654	0
Satd. Flow (RTOR)		63		7				266	19			
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	32	472	275	337	626	36	122	16	266	16	109	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	0	337	662	0	0	138	266	0	151	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		8	8		2	2	2	6	6	
Permitted Phases	4			8			2	2	2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	25.0	25.0		24.5	24.5		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	34.0	34.0		34.0	34.0		26.0	26.0	26.0	26.0	26.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%	43.3%	43.3%	43.3%	
Maximum Green (s)	29.0	29.0		29.5	29.5		21.0	21.0	21.0	21.0	21.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.5	1.5		1.0	1.0		1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0		4.5	4.5			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		29.1		29.6	29.6			11.7	11.7		11.7	
Actuated g/C Ratio		0.57		0.58	0.58			0.23	0.23		0.23	
v/c Ratio		0.82		0.94	0.64			0.48	0.50		0.38	

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7: 25 St & 26 Ave SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		19.2		50.8	11.2			22.7	6.3		17.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		19.2		50.8	11.2			22.7	6.3		17.3	
LOS		B		D	B			C	A		B	
Approach Delay		19.2		24.6				11.9			17.3	
Approach LOS		B		C				B			B	
Queue Length 50th (m)		40.8		21.7	30.7			10.8	0.0		10.0	
Queue Length 95th (m)		#126.6		#76.9	75.5			23.4	13.4		22.0	
Internal Link Dist (m)		75.2		172.6				116.5			62.9	
Turn Bay Length (m)				50.0				50.0				
Base Capacity (vph)		945		360	1034			522	744		696	
Starvation Cap Reductn		0		0	0			0	0		0	
Spillback Cap Reductn		0		0	0			0	0		0	
Storage Cap Reductn		0		0	0			0	0		0	
Reduced v/c Ratio		0.82		0.94	0.64			0.26	0.36		0.22	
Intersection Summary												
Cycle Length: 60												
Actuated Cycle Length: 50.8												
Natural Cycle: 80												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.94												
Intersection Signal Delay: 20.1												
Intersection LOS: C												
Intersection Capacity Utilization 119.9%												
ICU Level of Service H												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 7: 25 St & 26 Ave SW												

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8: 25 St /25 St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕				↕			↕			↕	
Sign Control	Stop				Stop			Stop			Stop	
Traffic Volume (vph)	29	119	92	5	172	318	165	312	5	66	63	17
Future Volume (vph)	29	119	92	5	172	318	165	312	5	66	63	17
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	31	127	98	5	183	338	176	332	5	70	67	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	256	526	513	155								
Volume Left (vph)	31	5	176	70								
Volume Right (vph)	98	338	5	18								
Hadj (s)	-0.17	-0.35	0.10	0.05								
Departure Headway (s)	7.7	6.8	7.4	8.5								
Degree Utilization, x	0.55	0.99	1.05	0.37								
Capacity (veh/h)	452	518	494	400								
Control Delay (s)	19.9	63.9	82.4	16.3								
Approach Delay (s)	19.9	63.9	82.4	16.3								
Approach LOS	C	F	F	C								
Intersection Summary												
Delay	57.6											
Level of Service	F											
Intersection Capacity Utilization	70.7%		ICU Level of Service	C								
Analysis Period (min)	15											

Queuing and Blocking Report
After Development (Sensitivity)

10/24/2023

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	86.2	98.1	127.2	21.2
Average Queue (m)	31.5	86.2	117.9	8.7
95th Queue (m)	66.8	93.3	124.7	16.5
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)	2	100		
Queuing Penalty (veh)	4	0		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

8: 25 St /25 St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕				↕				↕			
Sign Control	Stop				Stop				Stop			
Traffic Volume (vph)	45	184	170	5	117	180	106	165	5	331	326	20
Future Volume (vph)	45	184	170	5	117	180	106	165	5	331	326	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	194	179	5	123	189	112	174	5	348	343	21
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	420	317	291	712								
Volume Left (vph)	47	5	112	348								
Volume Right (vph)	179	189	5	21								
Hadj (s)	-0.20	-0.32	0.10	0.11								
Departure Headway (s)	8.0	8.4	8.8	8.4								
Degree Utilization, x	0.94	0.74	0.71	1.66								
Capacity (veh/h)	438	411	390	429								
Control Delay (s)	57.0	31.4	31.1	327.5								
Approach Delay (s)	57.0	31.4	31.1	327.5								
Approach LOS	F	D	D	F								
Intersection Summary												
Delay	158.7											
Level of Service	F											
Intersection Capacity Utilization	106.6%		ICU Level of Service	G								
Analysis Period (min)	15											

Queuing and Blocking Report
After Development (Sensitivity)

10/24/2023

Intersection: 8: 25 St /25 St & Richmond Road SW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	97.7	85.8	186.0	76.6
Average Queue (m)	93.6	80.6	153.1	28.9
95th Queue (m)	96.4	84.1	208.0	72.4
Link Distance (m)	90.4	80.8	220.3	122.8
Upstream Blk Time (%)	96	100	4	1
Queuing Penalty (veh)	372	0	1	6
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

8: 25 St /25 St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	29	119	92	5	172	318	165	312	5	66	63	17
Future Volume (vph)	29	119	92	5	172	318	165	312	5	66	63	17
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.95			0.99			0.98	
Frt		0.948			0.913			0.999			0.984	
Ft Protected		0.994			0.983			0.983			0.978	
Satd. Flow (prot)	0	1671	0	0	1562	0	0	1760	0	0	1712	0
Ft Permitted		0.919			0.997			0.835			0.720	
Satd. Flow (perm)	0	1545	0	0	1557	0	0	1477	0	0	1251	0
Satd. Flow (RTOR)		52			151			1			13	
Confl. Peds. (#/hr)				25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	31	127	98	5	183	338	176	332	5	70	67	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	0	0	526	0	0	513	0	0	155	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		2			6			
Detector Phase	4	4		8	8	2	2		6	6		
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	10.0	10.0		10.0	10.0		
Minimum Split (s)	25.0	25.0		25.0	25.0	25.0	25.0		25.0	25.0		
Total Split (s)	32.0	32.0		32.0	32.0	38.0	38.0		38.0	38.0		
Total Split (%)	45.7%	45.7%		45.7%	45.7%	54.3%	54.3%		54.3%	54.3%		
Maximum Green (s)	27.0	27.0		27.0	27.0	33.0	33.0		33.0	33.0		
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5		3.5	3.5		
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5		1.5	1.5		
Lost Time Adjust (s)		0.0			0.0		0.0			0.0		
Total Lost Time (s)		5.0			5.0		5.0			5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		
Recall Mode	Min	Min		Min	Min	None	None		None	None		
Walk Time (s)	8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0		
Flash Dont Walk (s)	12.0	12.0		12.0	12.0	12.0	12.0		12.0	12.0		
Pedestrian Calls (#/hr)	0	0		0	0	0	0		0	0		
Act Effct Green (s)		23.1			23.1		24.0			24.0		
Actuated g/C Ratio		0.40			0.40		0.42			0.42		
v/c Ratio		0.39			0.74		0.83			0.29		

8: 25 St /25 St & Richmond Road SW
11/02/2023

AM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		13.3			19.3			28.0			11.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.3			19.3			28.0			11.6	
LOS		B			B			C			B	
Approach Delay		13.3			19.3			28.0			11.6	
Approach LOS		B			B			C			B	
Queue Length 50th (m)		14.1			31.0			40.3			8.2	
Queue Length 95th (m)		36.0			#89.8			#89.0			21.5	
Internal Link Dist (m)		85.7			66.2			211.0			116.5	
Turn Bay Length (m)												
Base Capacity (vph)		778			835			878			749	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.33			0.63			0.58			0.21	
Intersection Summary												
Cycle Length: 70												
Actuated Cycle Length: 57.4												
Natural Cycle: 55												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 20.5												
Intersection LOS: C												
Intersection Capacity Utilization 72.4%												
ICU Level of Service C												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 8: 25 St /25 St & Richmond Road SW												

8: 25 St /25 St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	45	184	170	5	117	180	106	165	5	331	326	20
Future Volume (vph)	45	184	170	5	117	180	106	165	5	331	326	20
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.95			0.99			0.98	
Frt		0.942			0.920			0.998			0.996	
Frt Protected		0.994			0.999			0.981			0.976	
Satd. Flow (prot)	0	1656	0	0	1574	0	0	1754	0	0	1740	0
Frt Permitted		0.914			0.994			0.663			0.716	
Satd. Flow (perm)	0	1523	0	0	1566	0	0	1180	0	0	1259	0
Satd. Flow (RTOR)		53			106			2			4	
Confl. Peds. (#/hr)				25		25	25		25	25		25
Confl. Bikes (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	47	194	179	5	123	189	112	174	5	348	343	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	420	0	0	317	0	0	291	0	0	712	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%		64.3%	64.3%	
Maximum Green (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		20.0			20.0			40.0			40.0	
Actuated g/C Ratio		0.29			0.29			0.57			0.57	
v/c Ratio		0.89			0.61			0.43			0.99	

8: 25 St /25 St & Richmond Road SW
11/02/2023

PM Peak Hour
After Development - Upper Range Sensitivity

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		44.7			19.8			11.0			48.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		44.7			19.8			11.0			48.5	
LOS		D			B			B			D	
Approach Delay		44.7			19.8			11.0			48.5	
Approach LOS		D			B			B			D	
Queue Length 50th (m)		46.2			22.9			19.4			82.7	
Queue Length 95th (m)		#95.7			47.1			35.7			#158.6	
Internal Link Dist (m)		85.7			66.2			211.0			116.5	
Turn Bay Length (m)												
Base Capacity (vph)		473			523			675			721	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.89			0.61			0.43			0.99	
Intersection Summary												
Cycle Length: 70												
Actuated Cycle Length: 70												
Natural Cycle: 70												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.99												
Intersection Signal Delay: 36.1												
Intersection LOS: D												
Intersection Capacity Utilization 109.1%												
ICU Level of Service H												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 8: 25 St /25 St & Richmond Road SW												



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **After Development (2500 units) - Lower Range Sensitivity**
 for Warrant Calculation Results, please hit 'Page Down'

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Oct 31, Tue**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: (yyyy-mm-dd)

CHECK SHEET

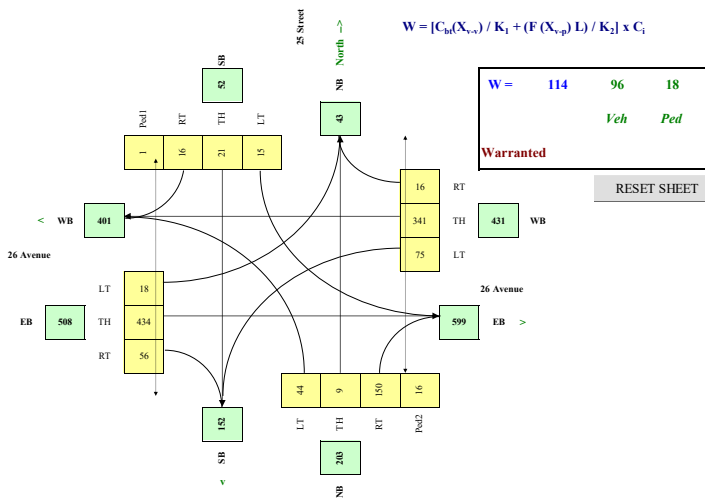
Lane Configuration	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (veh/h)	Flow LT (veh/h)	Flow TH (veh/h)	Flow Ped (veh/h)
26 Avenue	WB	EB	NS	EW	Median	50	2.0%	y	0.0		
26 Avenue	WB	EB	NS	EW	Median	50	2.0%	y	0.0		
25 Street	NS	EW	WB	EB	Median	50	2.0%	y	0.0		
25 Street	NS	EW	WB	EB	Median	50	2.0%	y	0.0		

Demographics	Yes	No
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Other input	Speed (km/h)	Track %	Flow RT (veh/h)	Flow LT (veh/h)	Flow TH (veh/h)	Flow Ped (veh/h)
26 Avenue	EW	50	2.0%	y	0.0	
25 Street	NS	50	2.0%	y	0.0	

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	NS	NS	EW	EW	
Existing (6-Hour)	10	28	164	88	24	96	92	2043	96	109	2665	29	6	41	51	22				
Background (6-Hour)	16	2	40	7	21							19	5							
Site (6-Hour)	239	21	697	96								288	50							
Total (6-hour peak)	265	51	901	88	127	96	448	2,043	96	109	2,665	336	6	96	51	77				
Average (6-hour peak)	44	9	150	15	21	16	75	341	16	18	434	56	1	16	9	13				

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name) **26 Avenue** Direction (EW or NS) **EW**
 Side Street (name) **25 Street** Direction (EW or NS) **NS**
 Quadrant / Int # **SW** Comments **After Development (2500 units) - Upper Range Sensitivity**
 for Warrant Calculation Results, please hit 'Page Down'

Road Authority: **City of Calgary**
 City: **Calgary**
 Analysis Date: **2023 Oct 31, Tue**
 Count Date: **2022 Dec 14, Wed**
 Date Entry Format: (yyyy-mm-dd)

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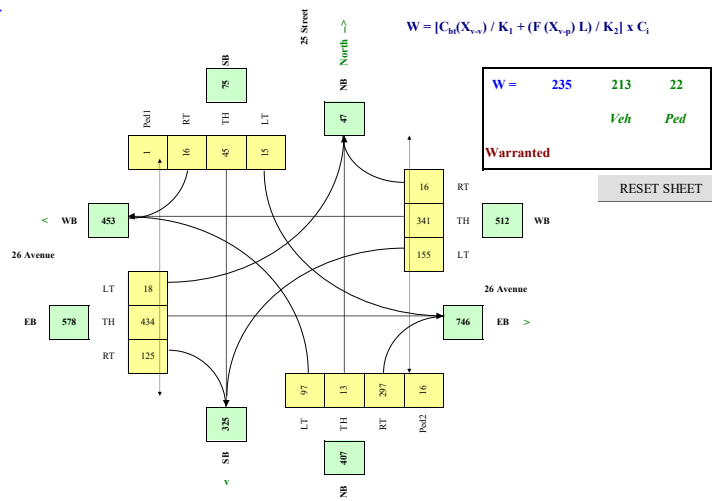
Lane Configuration	WB	EB	NS	EW	Median	Speed (km/h)	Track %	Flow RT (veh/h)	Flow LT (veh/h)	Flow TH (veh/h)	Flow Ped (veh/h)
26 Avenue	WB	EB	NS	EW	Median	50	2.0%	y	0.0		
26 Avenue	WB	EB	NS	EW	Median	50	2.0%	y	0.0		
25 Street	NS	EW	WB	EB	Median	50	2.0%	y	0.0		
25 Street	NS	EW	WB	EB	Median	50	2.0%	y	0.0		

Demographics	Yes	No
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Other input	Speed (km/h)	Track %	Flow RT (veh/h)	Flow LT (veh/h)	Flow TH (veh/h)	Flow Ped (veh/h)
26 Avenue	EW	50	2.0%	y	0.0	
25 Street	NS	50	2.0%	y	0.0	

Set Peak Hours	NB				SB				WB				EB				Ped			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	NS	NS	EW	EW	
Existing (6-Hour)	10	28	164	88	24	96	92	2043	96	109	2665	29	6	41	51	22				
Background (6-Hour)	16	2	40	7	21							19	5							
Site (6-Hour)	555	47	1577	236								817	50							
Total (6-hour peak)	581	77	1,781	88	267	96	930	2,043	96	109	2,665	752	6	96	51	77				
Average (6-hour peak)	97	13	297	15	45	16	155	341	16	18	434	125	1	16	9	13				

Average 6-hour Peak Turning Movements





City of Calgary - Traffic Signal Warrant Analysis

Main Street (name)	29 Street	Direction (EW or NS)	NS
Side Street (name)	Richmond Road	Direction (EW or NS)	EW
Quadrant / Int #	SW	Comments	After Development (2500 units) - Lower Range Sensitivity

for Warrant Calculation Results, please hit 'Page Down'

CHECK SHEET

Road Authority	City of Calgary
City	Calgary
Analysis Date	2023 Oct 31, Tue
Count Date	2022 Dec 14, Wed
Date Entry Format	(yyyy-mm-dd)

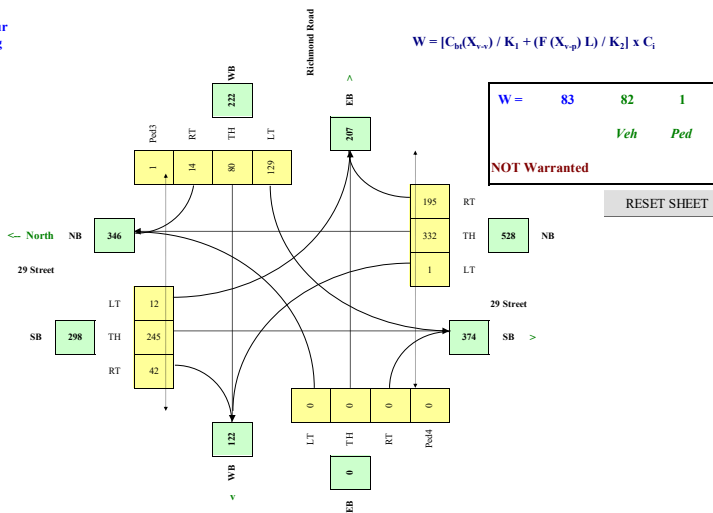
Lane Configuration		Load LT	Th & LT	Through	Th & RT-UT	Th & RT	Road RT	Right-Turn Signal (m)	# of These Lanes
29 Street	NB				1				1
29 Street	SB								
Richmond Road	WB	1				1			
Richmond Road	EB								

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Other input	Speed (K/mh)	Track %	Th & RT Median (m)		
29 Street	NS	50	2.0%	n	0.0
Richmond Road	EW		1.0%	n	

Traffic Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	750	341	309	84	0	0	0	0	0	0	8	2	8	0					
Background (6-Hour)		420	49		251		22	12																
Site (6-Hour)			554			410	156																	
Total (6-hour peak)	6	1,994	1,170	69	1,471	750	477	84	0	0	0	0	0	0	8	2	8	0						
Average (6-hour peak)	1	332	195	12	265	129	80	14	0	0	0	0	0	0	1	0	1	0						

Average 6-hour Peak Turning Movements



City of Calgary - Traffic Signal Warrant Analysis

Main Street (name)	29 Street	Direction (EW or NS)	NS
Side Street (name)	Richmond Road	Direction (EW or NS)	EW
Quadrant / Int #	SW	Comments	After Development (2500 units) - Upper Range Sensitivity

for Warrant Calculation Results, please hit 'Page Down'

CHECK SHEET

Road Authority	City of Calgary
City	Calgary
Analysis Date	2023 Oct 31, Tue
Count Date	2022 Dec 14, Wed
Date Entry Format	(yyyy-mm-dd)

Lane Configuration		Load LT	Th & LT	Through	Th & RT-UT	Th & RT	Road RT	Right-Turn Signal (m)	# of These Lanes
29 Street	NB				1				1
29 Street	SB								
Richmond Road	WB	1				1			
Richmond Road	EB								

Demographics		
Elem. School Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,200,000
Central Business District	(y/n)	y

Other input	Speed (K/mh)	Track %	Th & RT Median (m)		
29 Street	NS	50	2.0%	n	0.0
Richmond Road	EW		1.0%	n	

Traffic Input	NB				SB				WB				EB				Ped1		Ped2		Ped3		Ped4	
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW	NS	NS	EW	EW	
Existing (6-Hour)	6	1574	567	69	1220	750	341	309	84	0	0	0	0	0	0	8	2	8	0					
Background (6-Hour)		420	49		251		22	12																
Site (6-Hour)			1310			930	366																	
Total (6-hour peak)	6	1,994	1,926	69	1,471	750	1,293	687	84	0	0	0	0	0	0	8	2	8	0					
Average (6-hour peak)	1	332	321	12	265	129	216	115	14	0	0	0	0	0	0	1	0	1	0					

Average 6-hour Peak Turning Movements

