



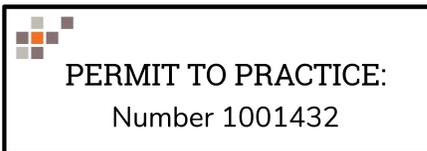
OAK STREET + AUDLEY CROSSING

Final Design Report



Kristen Machina, P.Eng.
Senior Transportation Engineer
Author

Steve Martin, MASc, EIT
Transportation Engineer-in-Training
Reviewer



Prepared For: District of Saanich
Date: August 27, 2025
Our File No: 3814.B01

WATT VICTORIA
302 – 740 Hillside Ave
Victoria, BC V8T 1Z4
250-388-9877



TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	TRAFFIC OPERATIONS ANALYSIS	3
3.0	DESIGN CONCEPT REFINEMENT	14
4.0	LAND DEDICATION REQUIREMENTS.....	27
5.0	CONCLUSIONS.....	27

APPENDICES

Appendix A – Intersection Performance results – Scenario D (Dual Closure)

Appendix B – Intersection Design Parameters

Appendix C – Land Dedication Requirements



TABLES

Table 1 – Scenario D – Critical Movements and Mitigation Measures.....	4
--	---

FIGURES

Figure 1 – Study Area.....	2
Figure 2 – Scenario D Traffic Volumes (AM)	5
Figure 3 – Scenario D Traffic Volumes (PM).....	8
Figure 4 – Oak Street Cross Section – At Intersection.....	16
Figure 5 – Oak Street Cross Section – Maximum Landscaped Area.....	16
Figure 6 – Oak Street Cross Section – At Intersection.....	17
Figure 7 – Oak Street Cross Section – Feature Tree.....	18
Figure 8 – Oak Street Cross Section – Outdoor Dining.....	19
Figure 9 – Audley Crossing Cross Section.....	20
Figure 10 – Oak Street – Shared Street Concept – Option 1.....	23
Figure 11 – Oak Street – Shared Street Concept – Option 2.....	24
Figure 12 – Oak Street – Shared Street Concept – Option 3.....	25



1.0 INTRODUCTION

WATT Consulting Group is retained by the District of Saanich to provide transportation consulting services in support of a modelling and design effort to reimagine Oak Street and conceptualize a new laneway known as Audley Crossing. The study area is illustrated in **Figure 1**.

1.1 Background

WATT previously prepared a Preliminary Design Report in support of this project, dated November 15, 2024. The Preliminary Design Report included:

- An overview of the existing transportation context
- A safety review of existing conditions, including a review of volumes, speeds, and collision history
- A review of relevant municipal policies and plans and how they will inform the future design of Oak Street and Audley Crossing
- An outline of the design parameters for Oak Street and Audley Crossing
- Conceptual plan views for certain segments of Oak Street and Audley Crossing
- Forecast of vehicular travel demand on Oak Street and Audley Crossing, and assessment of three future conditions scenarios

1.2 This Report

This report is the second of two reports that will be prepared in support of this project. It provides the following:

- An assessment of a fourth future condition scenario
- An assessment of changes to operations with the removal of the vehicular portion of Audley Crossing between Cloverdale Avenue and Roderick Street
- Refinement to the design concepts presented in the Preliminary Design Report
- A description of the land dedication requirements for each parcel in the study area

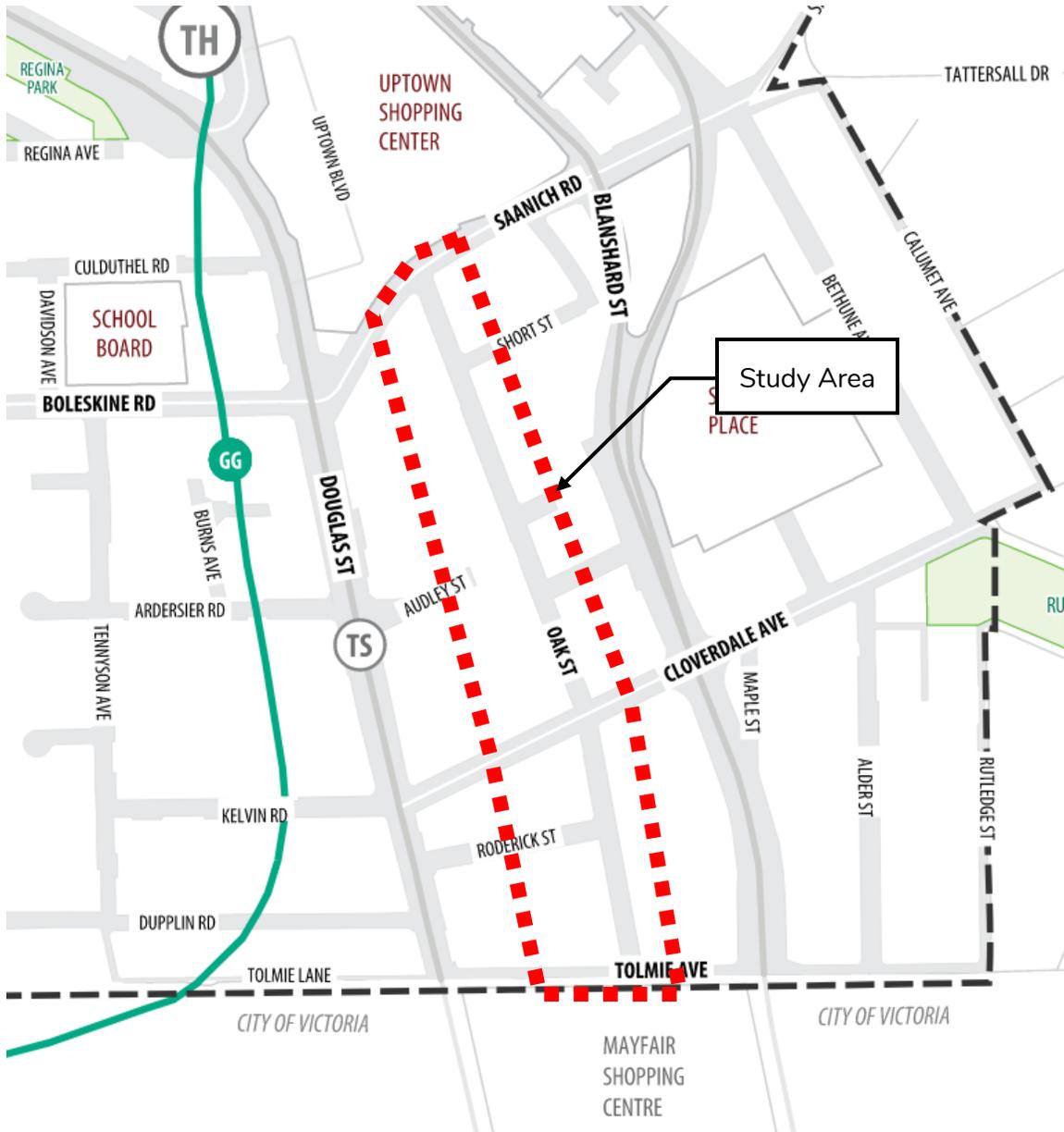


Figure 1 – Study Area

Base image courtesy of District of Saanich Uptown Douglas Plan (2022)



2.0 TRAFFIC OPERATIONS ANALYSIS

2.1 Traffic Analysis Scenarios and Time Periods

In the November 2024 Preliminary Design Report, traffic operations analysis was undertaken during the weekday AM and PM periods for the following scenarios:

- Existing Conditions
- Full Buildout Scenario A – Continuous Oak Street
- Full Buildout Scenario B – Oak Street closed to vehicle traffic between Valley Avenue and Shamrock Street
- Full Buildout Scenario C – Oak Street closed to vehicle traffic between Roderick Street and Staples access

A full description of the methodology, performance evaluation criteria, and input and calibration parameters is available in the November 2024 Preliminary Design Report.

Based on feedback from Saanich staff, a fourth full buildout scenario was subsequently explored:

- Full Buildout Scenario D – Oak Street closed to vehicle traffic between Valley Avenue and Shamrock Street **and** between Roderick Street and the Staples access

2.2 Future Conditions – Scenario D (Dual Closure)

2.2.1 Trip Assignment

Trip assignment methodology for Scenario D is also generally consistent with the November 2024 Preliminary Design Report.

In addition to assigning new trips to the area, adjustments to existing background traffic were performed to account for the change in travel patterns for the closure options for each analysis scenario. In general, this included adjusting the percentage of eastbound and westbound traffic on Saanich Road / Cloverdale Avenue / Tolmie Avenue turning towards the closure into through traffic, and re-routing through traffic on the approach opposite to the closure into a 50-50 split of left and right turns and removing a percentage of traffic for all movements on the road segment with the closure.

Consistent with the closures of Scenario B and C analyzed in the November 2024 Preliminary Design Report, adjustments to the volumes at the Oak-Saanich, Oak-Cloverdale, and Oak-Tolmie intersections were performed. It was assumed that 75% of traffic heading to or coming from the north closure at Valley-Shamrock was removed or



reassigned, and 50% of the traffic heading to or coming from the south closure at Roderick-Staples was removed or reassigned.

2.2.2 Traffic Operations Analysis Results

Traffic volumes for Scenario D (Oak Street closed to vehicle traffic between Roderick Street and Staples access) are illustrated in **Figure 2** and **Figure 3**. Intersection performance analysis results for Scenario D are provided in **Appendix A**.

The critical intersections, specific movements, and potential mitigation measures are summarized in **Table 1**.

Table 1 – Scenario D – Critical Movements and Mitigation Measures

Intersection	Movement	Mitigation Measure
Oak Street / Saanich Road	NB queue extends back to Short Street (AM & PM)	Extend NBL lane to Short Street, maintain existing “Do Not Block Intersection” signage
Oak Street / Cloverdale Avenue	WB queue extends back to Blanshard Street (AM & PM)	Add a protected-permissive WBL phase
Douglas Street / Audley Street	WBL movement (Audley turning left onto Douglas) at LOS F (AM & PM)	Restrict to right-in / right-out only

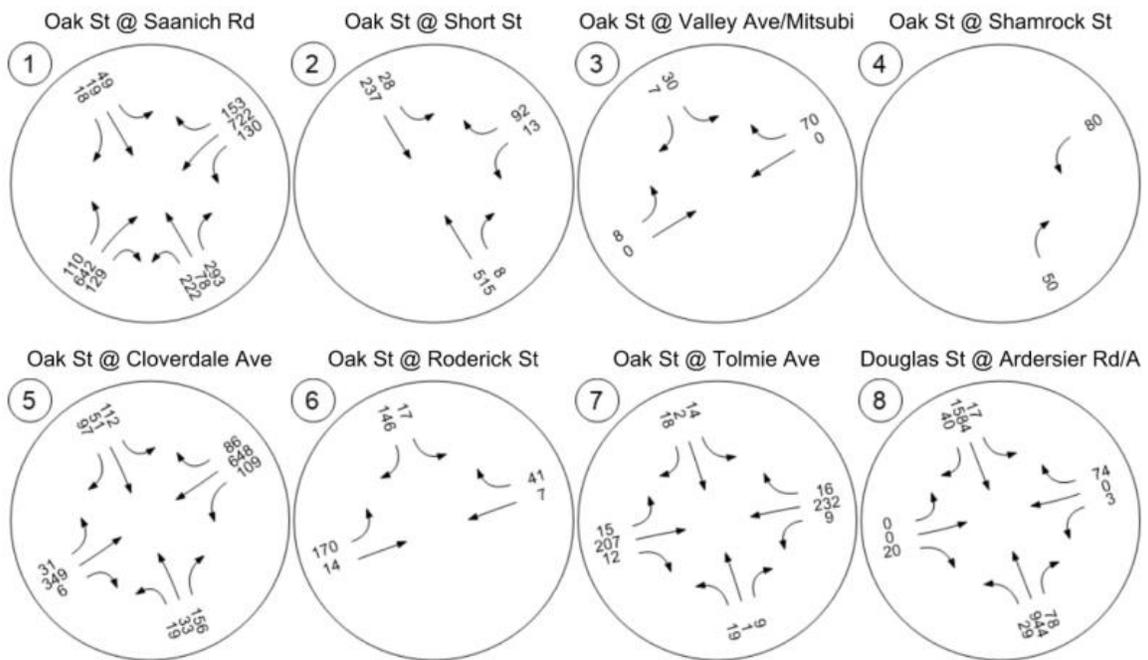
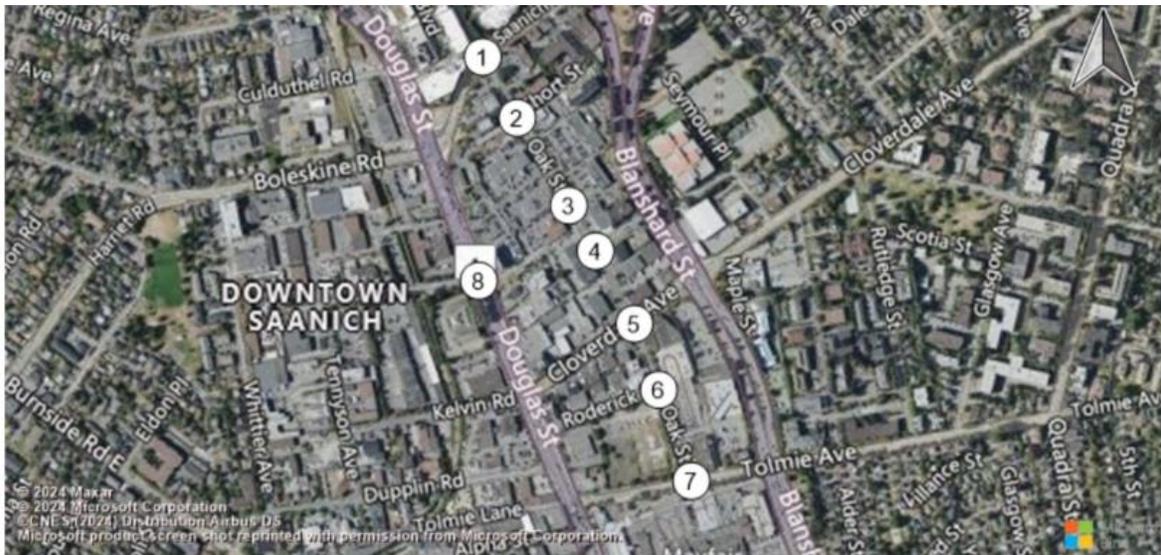
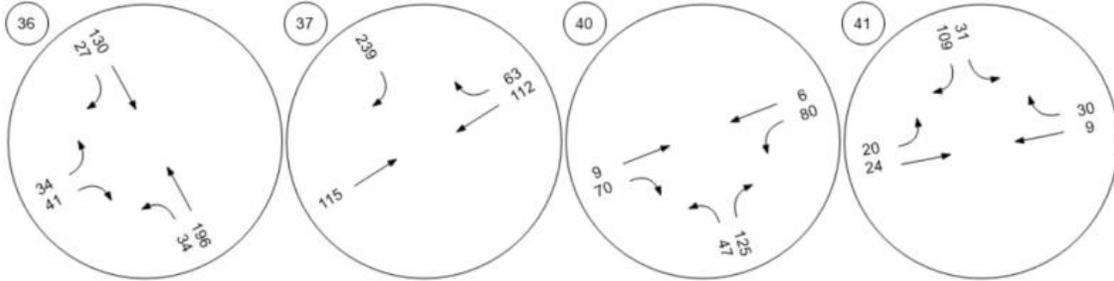


Figure 2 – Scenario D Traffic Volumes (AM)



Audley Crossing @ Audley St Audley Crossing @ Cloverdal Superstore Access @ Roderi Superstore Access @ Tolmie



Audley Crossing @ Roderick Audley Crossing @ Tolmie A Audley Crossing @ Cloverdal Audley Crossing @ Roderick

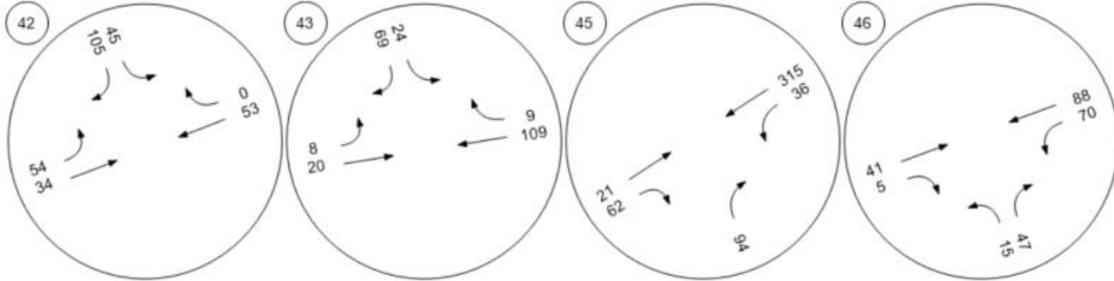


Figure 2 – Scenario D Traffic Volumes (AM) (Continued)

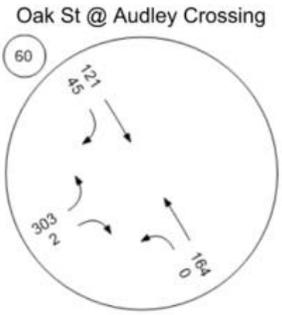
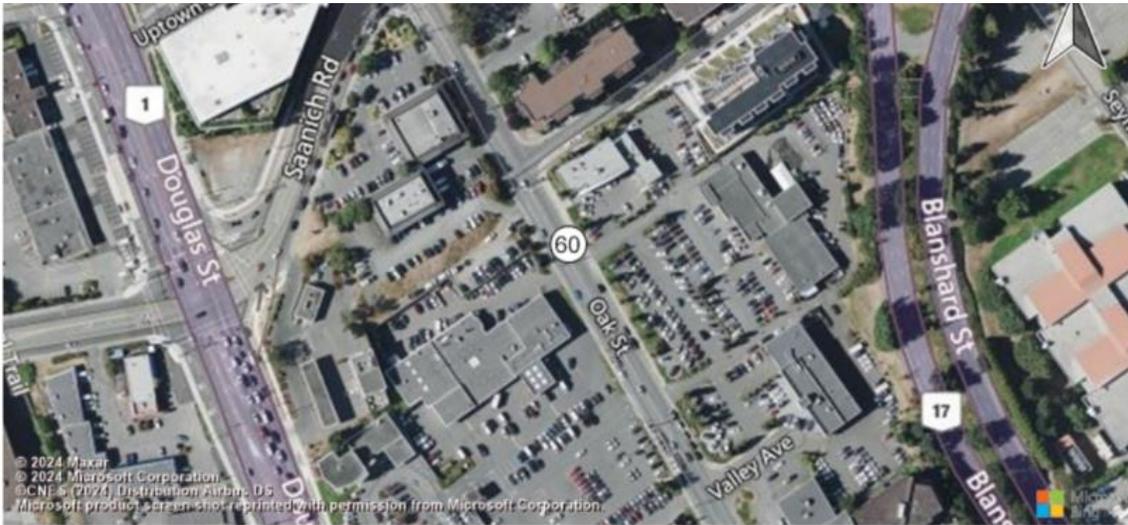
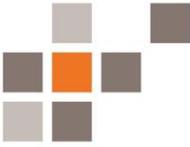


Figure 2 – Scenario D Traffic Volumes (AM) (Continued)

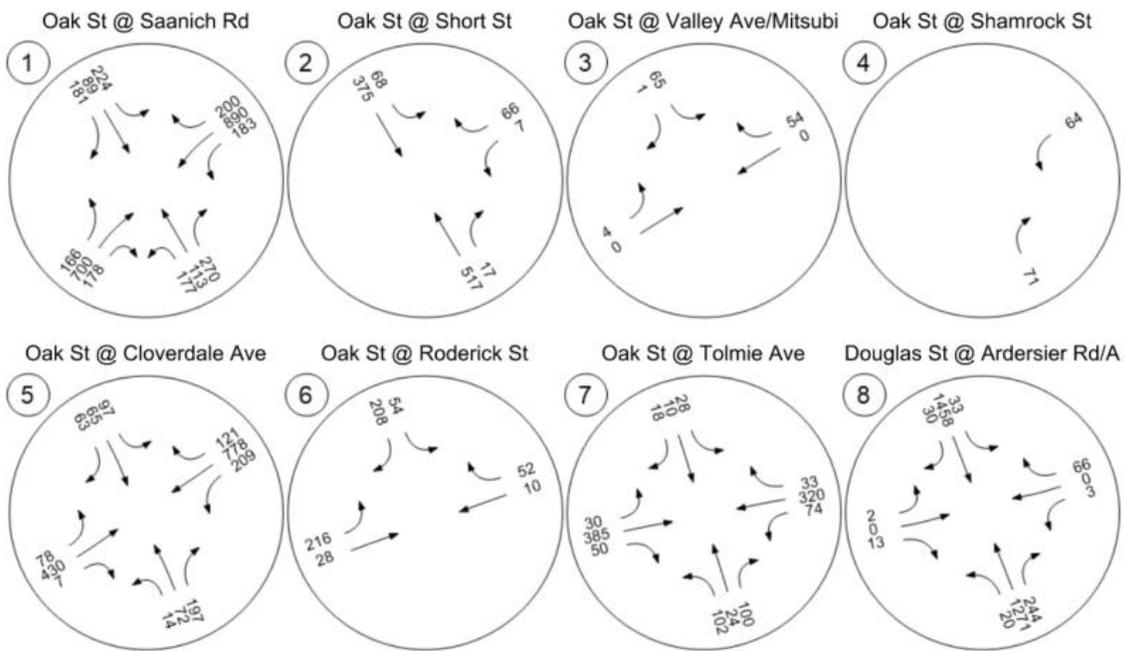
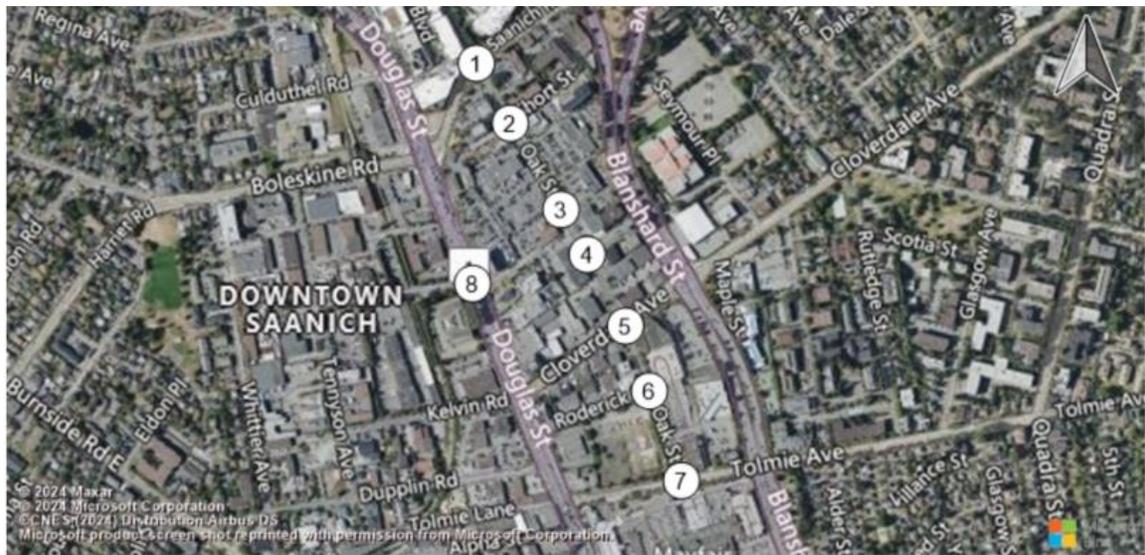
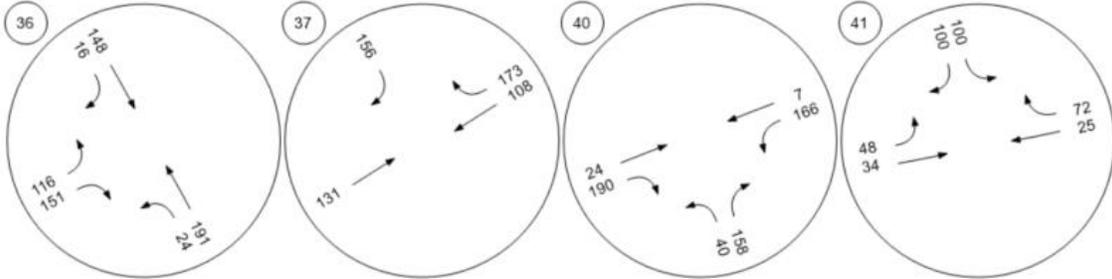


Figure 3 – Scenario D Traffic Volumes (PM)



Audley Crossing @ Audley St Audley Crossing @ Cloverdal Superstore Access @ Roderi Superstore Access @ Tolmie



Audley Crossing @ Roderick Audley Crossing @ Tolmie A Audley Crossing @ Cloverdal Audley Crossing @ Roderick

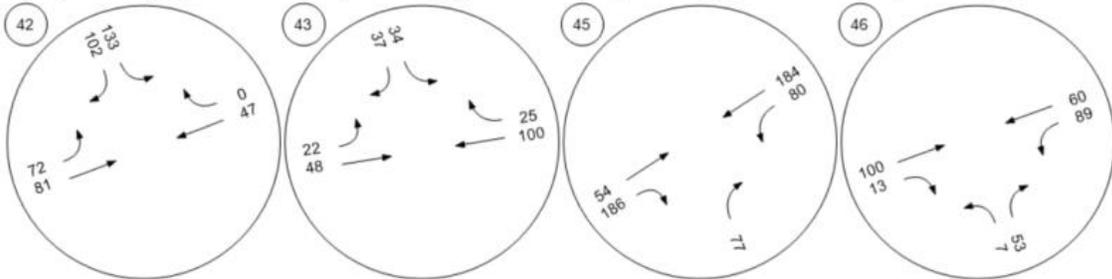


Figure 3 – Scenario D Traffic Volumes (PM) (Continued)

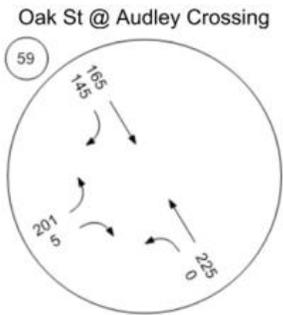


Figure 3 – Scenario D Traffic Volumes (PM) (Continued)



2.2.3 Traffic Operations Analysis – Performance Summary

Scenario D (Oak Street closures from Valley-Shamrock and at Roderick) was requested to further decrease the amount of through traffic along Oak Street. While the additional closure decreased the amount of background traffic along Oak Street within the model, the overall traffic performance throughout the network did not see a dramatic improvement, largely due to the re-routing of development traffic being concentrated at the major intersections. For example, in Scenario A (No Closures), development traffic between Saanich and Cloverdale destined for gates to the north would typically turn on Oak northbound, and traffic destined for gates to the south would head southbound. In Scenario D, all traffic from a particular development, regardless of destination, is forced to turn towards the major intersection on their side of the closure, and then towards Blanshard Street or Douglas Street to access the north or south.

In this round of analysis, the proposed Audley Crossing intersection on Oak Street was separated from the Short Street intersection and moved further south. This was to account for a major grade change on the 3491 Saanich Road (BMO Plaza) parcel in the immediate vicinity of the Short Street intersection. The separation of these two legs improved the performance of both intersections. Since this adjustment was assumed to have a similar impact within all analysis scenarios, it was ultimately applied only to the final analysis scenarios considered: Scenario A, B, and D.

Of the three future scenarios explored, Scenario B (Oak Street closed to vehicle traffic between Valley Avenue and Shamrock Street) experiences the least amount of operational issues, and the issues encountered in the analysis can be easily mitigated with proper laning and intersection control. This is due to this scenario having the least amount of traffic diverted onto Cloverdale Avenue, which has several challenges regarding intersection spacing and capacity. This scenario also meets the District's goals of providing a public park in that general area, as the portion of Oak Street that becomes closed to through traffic can be converted into a park space.

2.3 Pedestrian Crossing At Cloverdale Avenue / Audley Crossing

The District of Saanich requested enhanced pedestrian crossing controls be investigated at the intersection of Cloverdale Avenue / Audley Crossing. The possibility of upgrading to a traffic signal was explored to improve pedestrian connectivity, however, due to the proximity (approximately 90m) from existing signals at Douglas Street and Oak Street, installing a new signal at the new Audley Crossing is not feasible. The Ministry of Transportation and Transit (MOTT) requires a minimum spacing of 400



m between traffic signals. Further, installing a new signal at Audley Crossing would create four signals within a 330m stretch, potentially causing significant traffic congestion and queuing on Cloverdale Avenue.

Based on the projected traffic volumes and the cross section of Cloverdale Avenue, the Pedestrian Crossing Control Guide (TAC, 2018), recommends a Rectangular Rapid Flashing Beacon (RRFB) crosswalk. However, since Oak Street is the designated pedestrian corridor and is located only 90m away from Audley Crossing, no formalized crossing control is recommended at the Audley Crossing intersection. Pedestrians seeking a safe crossing point on Cloverdale Avenue can use the existing signalized intersections at Oak Street (90m away) or Douglas Street (100m away).

2.4 Impacts of Closing Audley Crossing to Vehicle Traffic South of Cloverdale Avenue

During the iterative analysis process, the District of Saanich requested that Audley Crossing be closed to vehicle traffic south of Cloverdale Avenue due to adjacent property impacts and the forecasted property acquisition costs for 751 Cloverdale Avenue and 750 Roderick Street. The north leg of Audley Crossing at Cloverdale Avenue will continue to operate as a right-in, right-out configuration.

Minor impacts to vehicle traffic are expected as a result of this closure. Vehicles that would have made a westbound left turn onto Audley Crossing south will instead add to the westbound left turn volumes at Cloverdale Avenue and Oak Street. This shift is expected to reduce the level of service for the westbound left turn movement at Oak Street from LOS C to LOS D in the PM peak, with negligible impacts in the AM peak. The rerouted traffic may also contribute to longer queues for the westbound left turn at Oak, where the existing left-turn storage is already limited and cannot be expanded due to the proximity of the Cloverdale Avenue and Blanshard Street intersection to the east.

Many of the diverted trips originating from the block bound by Cloverdale Avenue, Roderick Street, Oak Street, and Douglas Street have been rerouted through the intersection of Oak Street and Roderick Street due to this closure. However, upgraded traffic control (traffic signal or roundabout) is recommended at this intersection in all scenarios. As a result, the additional traffic volume is not expected to significantly impact intersection performance at Oak Street and Roderick Street.



2.5 Selected Scenarios

Following the completion of the analysis of Scenario D, Saanich staff confirmed two preferred scenarios to move forward with design:

- Scenario A – Continuous Oak Street
- Scenario B – Oak Street closed to vehicle traffic between Valley Avenue and Shamrock Street

2.5.1 Intersection Design Parameters

Following the selection of the preferred scenarios based on the analysis results, the analysis was refined to determine the control type, laning, storage, and taper lengths for each intersection and movement in the study area. Intersection design parameters for Scenarios A and B are provided in **Appendix B**.



3.0 DESIGN CONCEPT REFINEMENT

3.1 Cross Section Updates

3.1.1 Scenario A – Continuous Oak Street

Following the submission of the Preliminary Design Report in November 2024, Saanich staff made further refinements to the cross sections for Oak Street and Audley Crossing. Key changes from the previous cross sections illustrated in the Preliminary Design Report include:

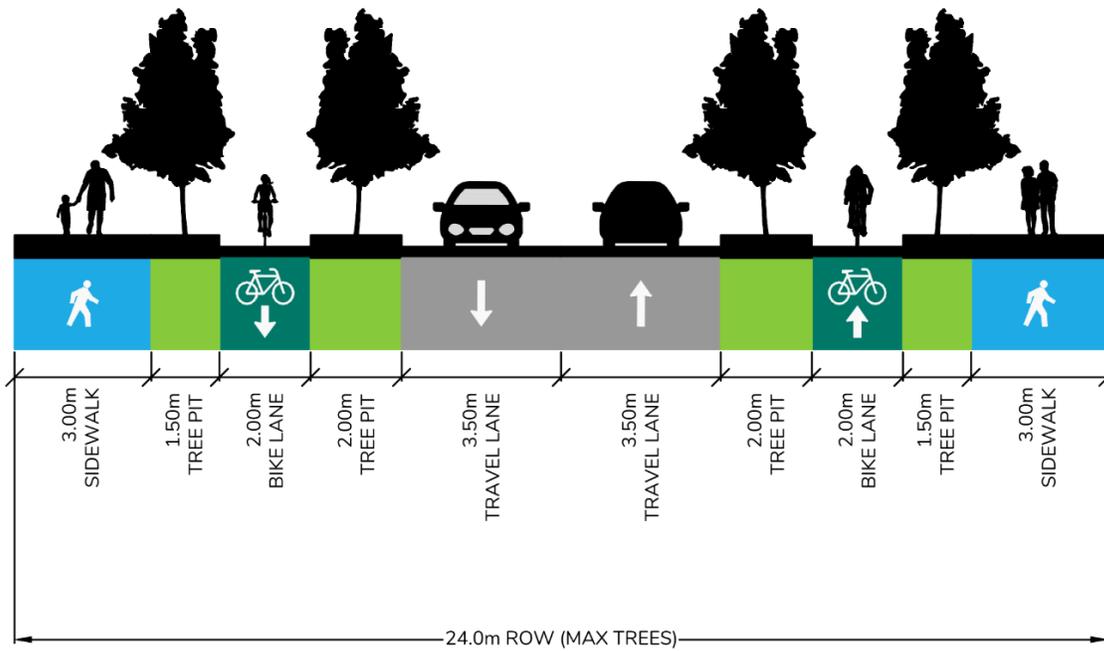
Oak Street

- Adjustments to the cross section at an intersection:
 - Through lane width increased from 3.0m to 3.3m
 - Bike lane bend-out reduced from 2.5m to 2.0m
 - Bike lane width reduced from 2.0m to 1.8m
 - Addition of 0.4m hardscaped buffer between bike lane and sidewalk
- Adjustments to the standard mid-block cross section:
 - Vehicle lane width increased from 3.0m to 3.5m
 - Bike lane width reduced from 2.5m to 2.0m
 - Sidewalk width reduced from 4.0m to 3.0m
 - Landscaped buffer between road and bike lane reduced from 2.5m to 2.0m
 - Additional 1.5m wide landscaped buffer added between bike lane and sidewalk
- Addition of three (3) mid-block cross sections:
 - On-street parking / loading on one side (3.3m vehicle lanes, 1.8m bike lanes)
 - Maximized planting strip on one side to support large tree planting (bike lane moved closer to road with 0.6m hardscaped buffer)
 - Outdoor dining area on one side (buffer between sidewalk and bike lane reduced to 0.5m)

Audley Crossing

- Reduction in right-of-way width from 14.5m to 12.5m
- Removal of multi-use pathway from one side of the road (with the intent that a sidewalk be provided within the adjacent private property on that side)

For Scenario A, the right-of-way width on Oak Street remains 24m. The revised cross sections for Oak Street are illustrated in **Figure 4**



through **Figure 8**. The revised cross section for Audley Crossing is illustrated in **Figure 9**.

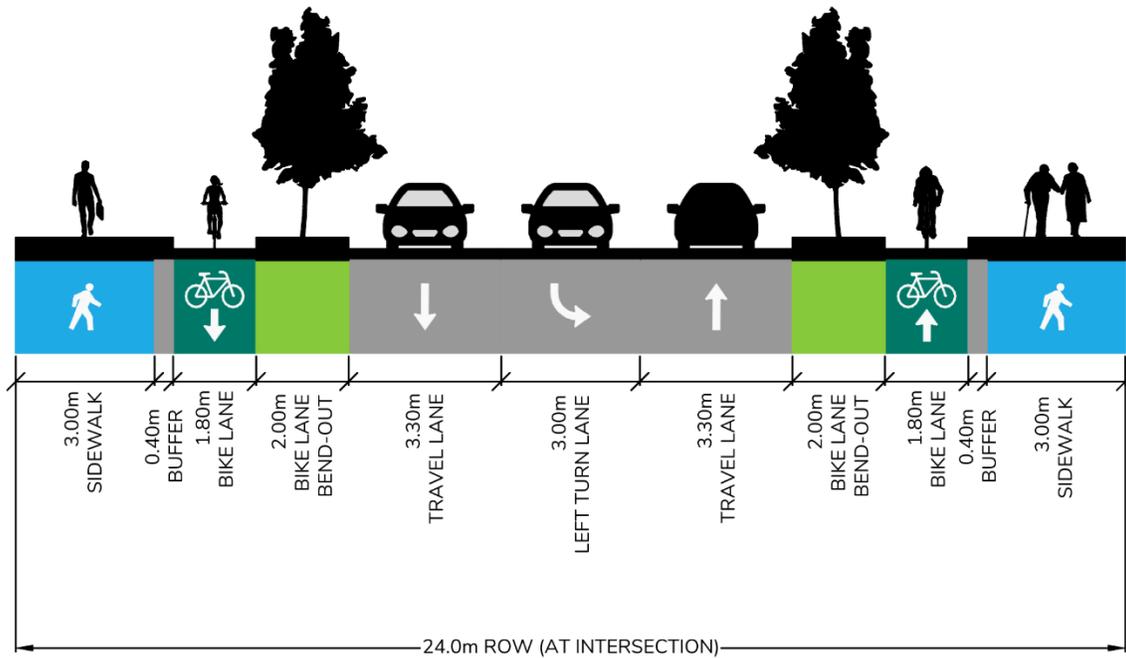


Figure 4 – Oak Street Cross Section – At Intersection

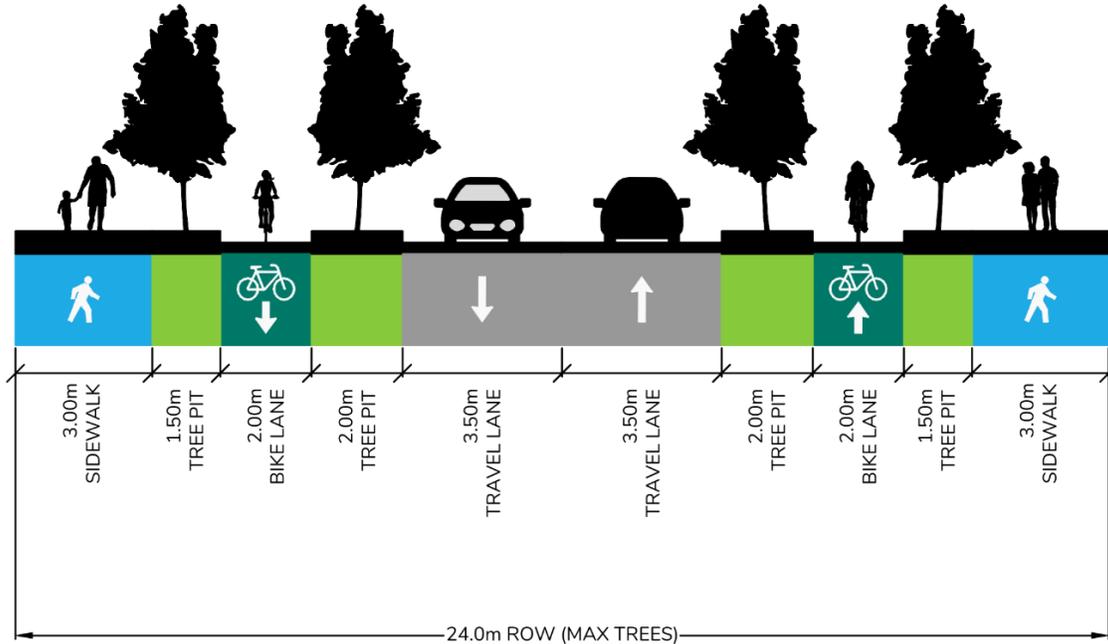


Figure 5 – Oak Street Cross Section – Maximum Landscaped Area

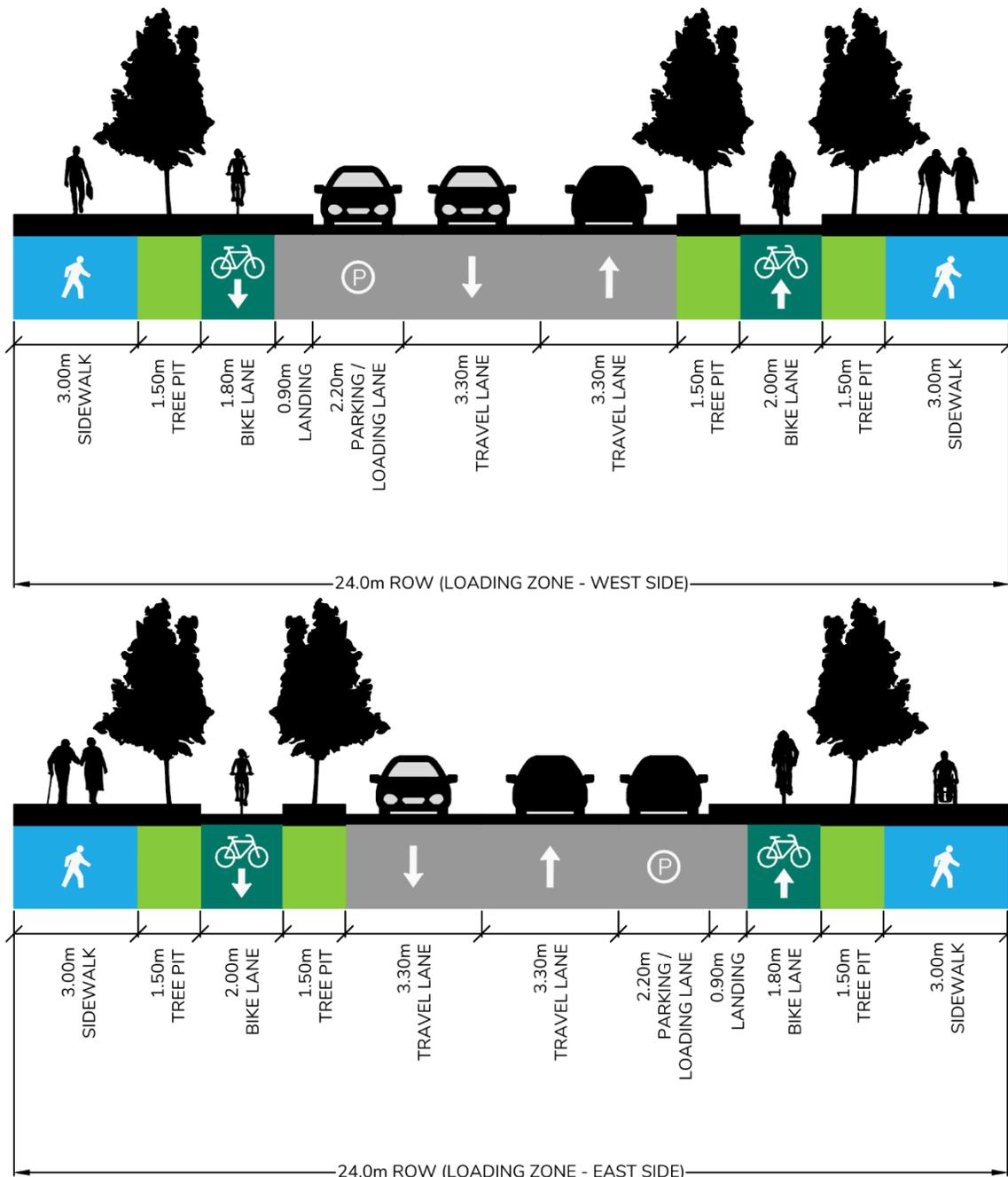


Figure 6 – Oak Street Cross Section – At Intersection

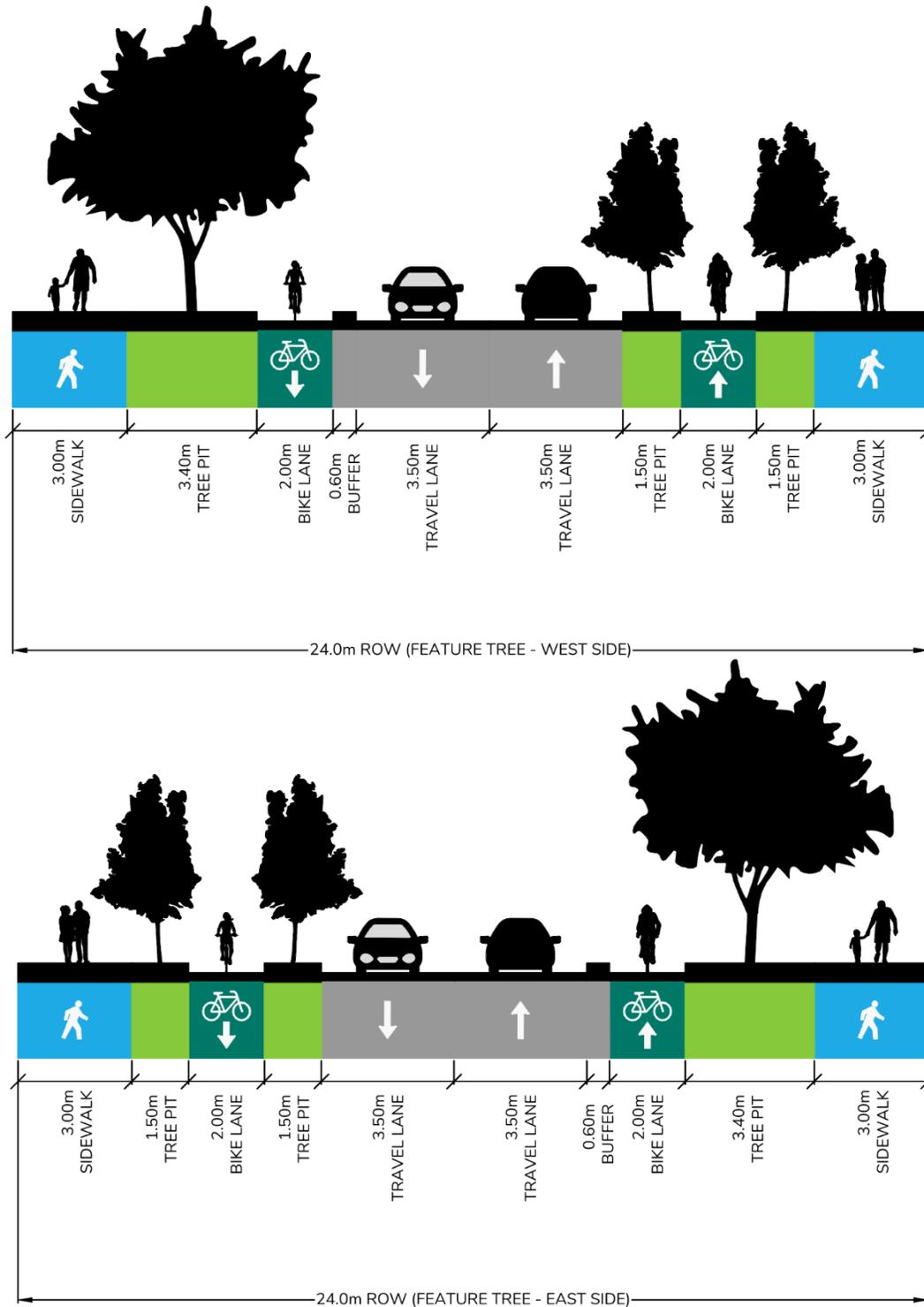


Figure 7 – Oak Street Cross Section – Feature Tree

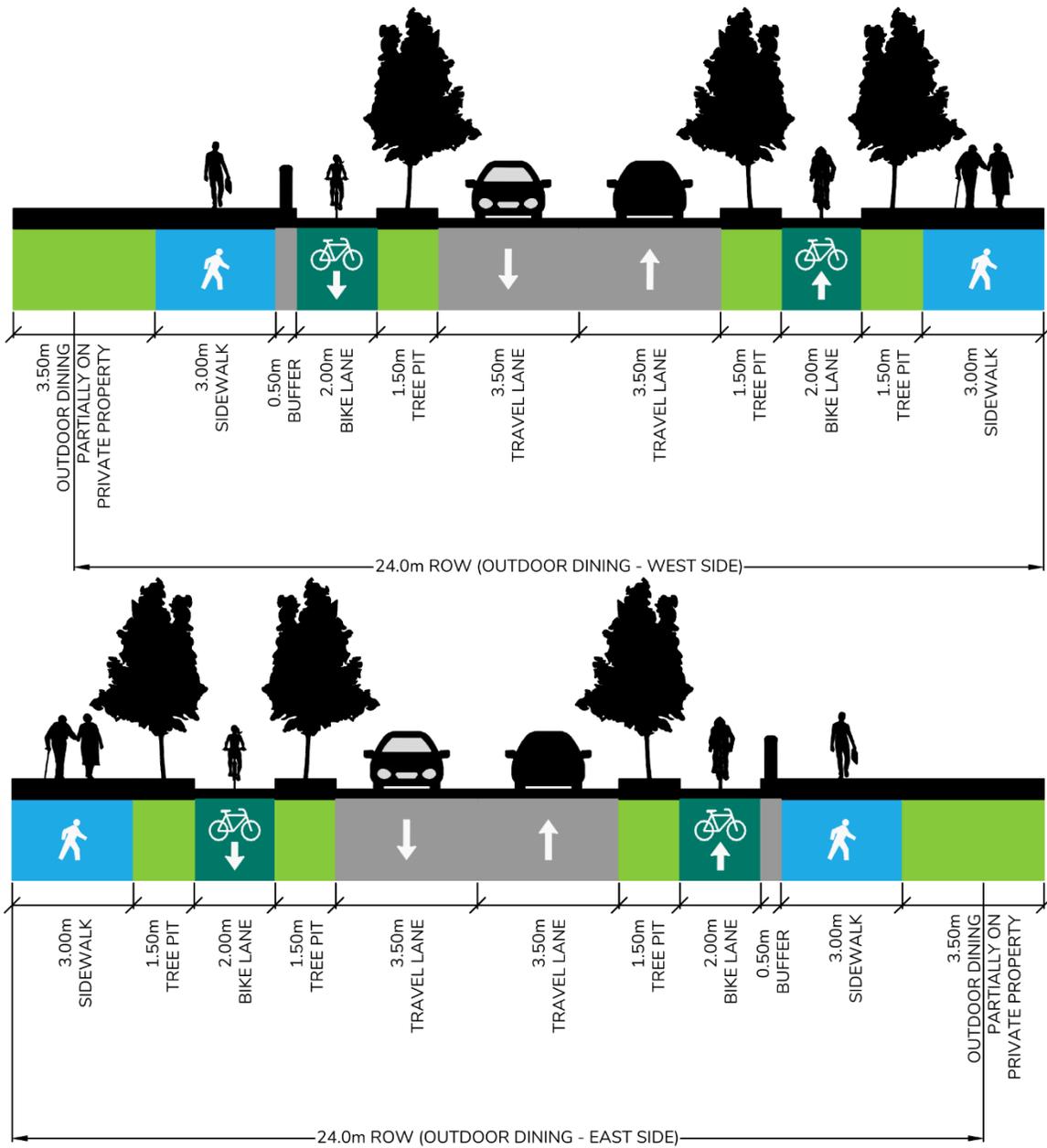


Figure 8 – Oak Street Cross Section – Outdoor Dining

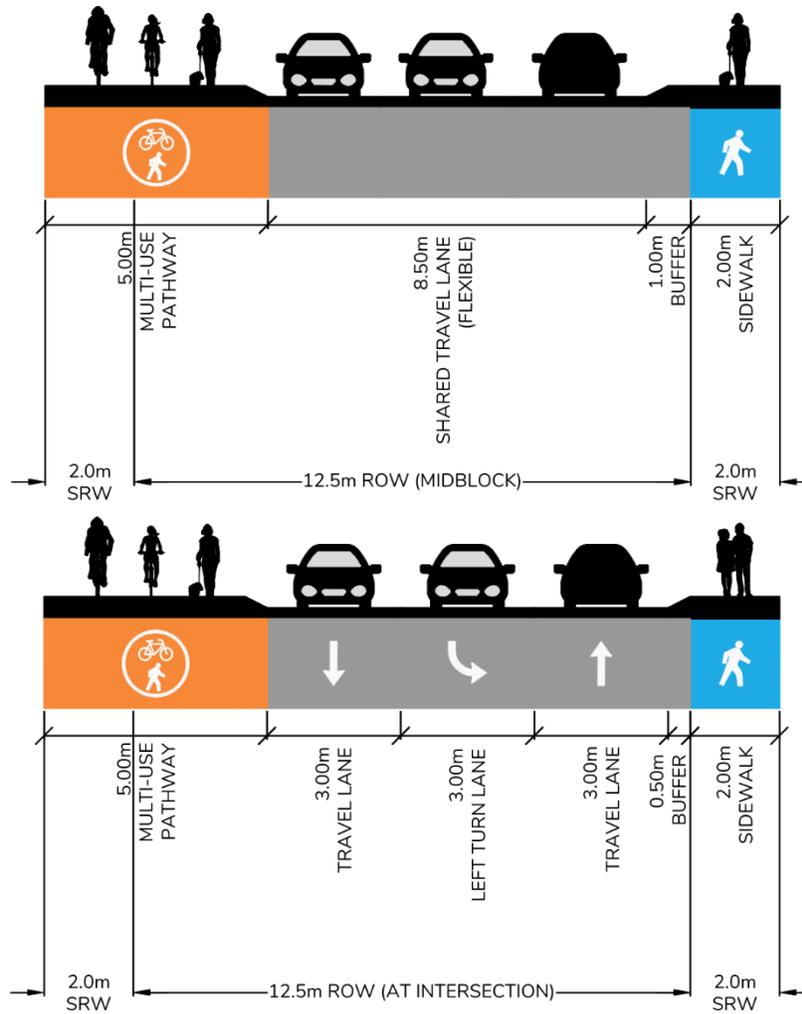


Figure 9 – Audley Crossing Cross Section



3.1.2 Scenario B – Valley-Shamrock Closure

For Scenario B (Oak Street closed to vehicle traffic between Valley Avenue and Shamrock Street), Saanich staff requested that WATT explore a shared street configuration instead of the separate cycling and sidewalk facilities on the north and south sides of the closure. This shared street would use the existing 20m right-of-way width, rather than the 24m widened ROW being explored for the remainder of the corridor. Staff also requested that a similar shared street configuration be provided on Audley Street (between Douglas Street and Audley Crossing) to create a more comfortable environment for pedestrians travelling east-west toward the future transit hub at Douglas and Audley.

3.1.3 Shared Streets

Guidance for shared streets is provided in the BC Active Transportation Design Guide (2019) and the TAC Canadian Guide to Traffic Calming (2018). The more recent and specific guidance provided in the BCATDG was used as a basis for the design of the shared street concept.

Shared streets are appropriate in environments that meet the following criteria:

- No or limited function for through motor vehicle traffic
- Less than 400m between cross streets (less than 200m preferred)
- Less than 1,000 vehicles per day (less than 100 vehicles per hour during peak times)

Volumes on Audley Street and the dead-end portions of Oak Street are forecasted to be in the ballpark of 500 vehicles per hour, exceeding the maximum volume recommended by the BCATDG, however the other criteria are met for both streets.

The suggested clear path for a shared street is 4.0-5.5m for a two-way facility, and 3.0m for a one-way facility. A 6.0m wide emergency staging area is suggested every 30m.

Key features of a shared street, as recommended by the BCATDG, include:

- Distinct surface material and patterns for each zone (such as frontage, comfort, furnishing, and clear path)
- Lack of curb between Clear Path and other zones
- Optional detectable edge surface treatment for visibility
- Amenities such as benches and street trees to define space
- Flexible and meandering road helps to reduce vehicle speeds



Based on the guidance above, three conceptual options were developed, all with a 20m right-of-way:

Option 1:

- Two one-way travel lanes with a centre median flex space
 - 3.0m separated one-way travel lanes
 - 4.0m pedestrian clearway / furnishing zone on outer edges
 - 6.0m median flex space
 - 2.5m parking / loading lanes in flex space (alternating sides)

Option 2:

- Two-way shared street with straight travel lanes
 - 5.5m clear path
 - 7.25m pedestrian clearway / furnishing zone / flex space on outer edges
 - 2.5m parking / loading lanes in flex space (alternating sides)

Option 3:

- Two-way shared street with meandering travel lanes
 - 5.5m clear path
 - 6.0m pedestrian clearway / furnishing zone / flex space on outer edges
 - 2.5m parking / loading lanes (alternating sides)

After review by Saanich staff, **Option 3** was identified as the preferred shared street configuration. It is expected to be the most familiar for local road users, and the slight jog in the clear path around the parking and loading bays will naturally encourage slower vehicle speeds, providing a built-in traffic calming effect.

The design of the flex space (trees, furnishing, patio space, etc.) is subject to more in-depth design as each individual parcel redevelops.

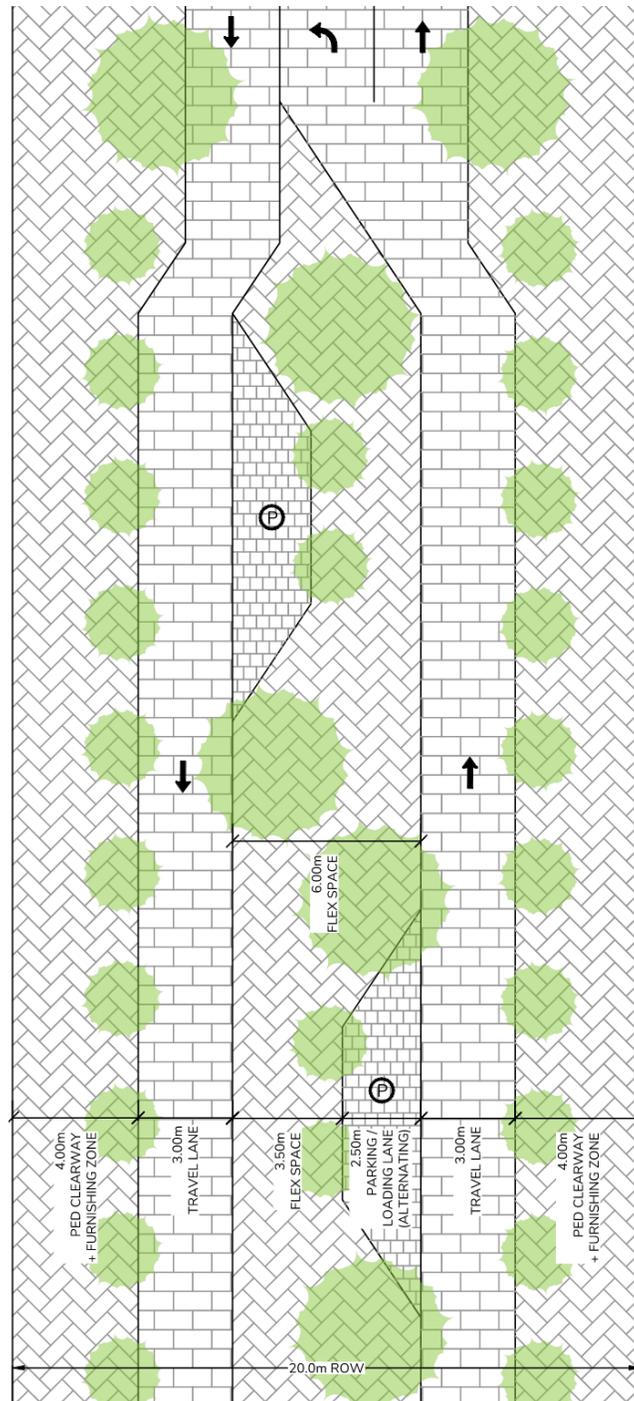


Figure 10 – Oak Street – Shared Street Concept – Option 1

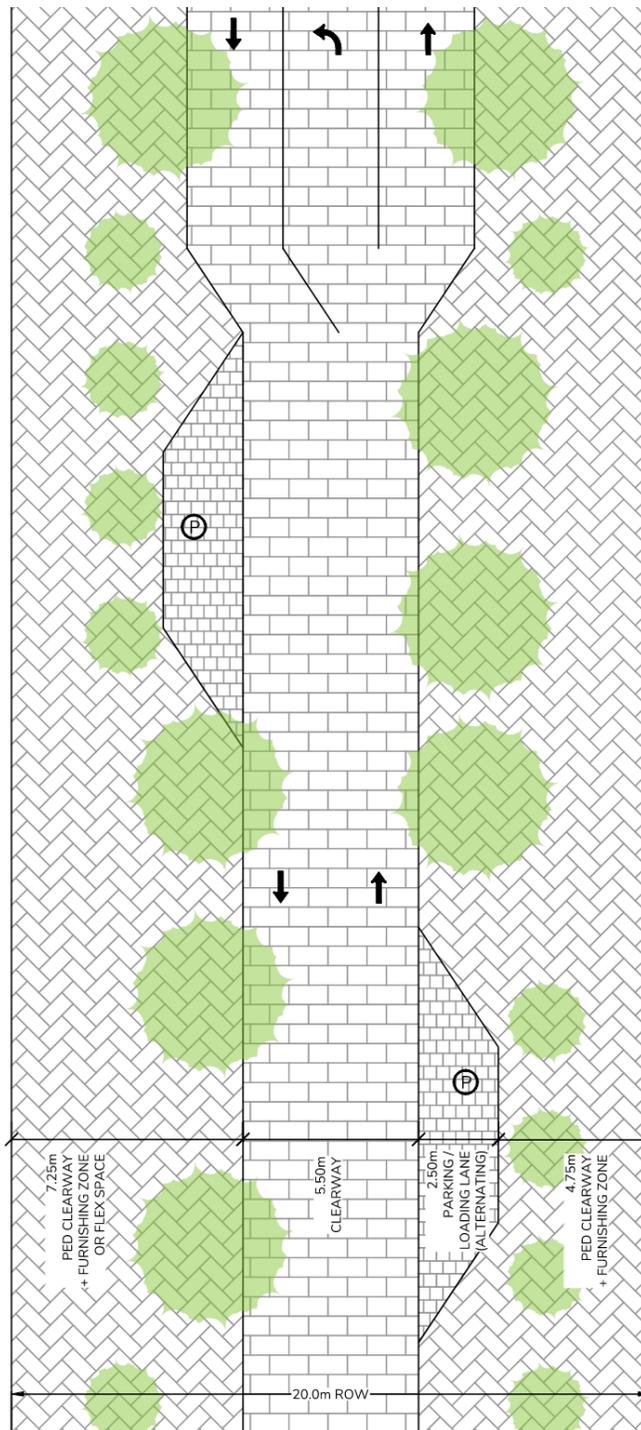


Figure 11 – Oak Street – Shared Street Concept – Option 2

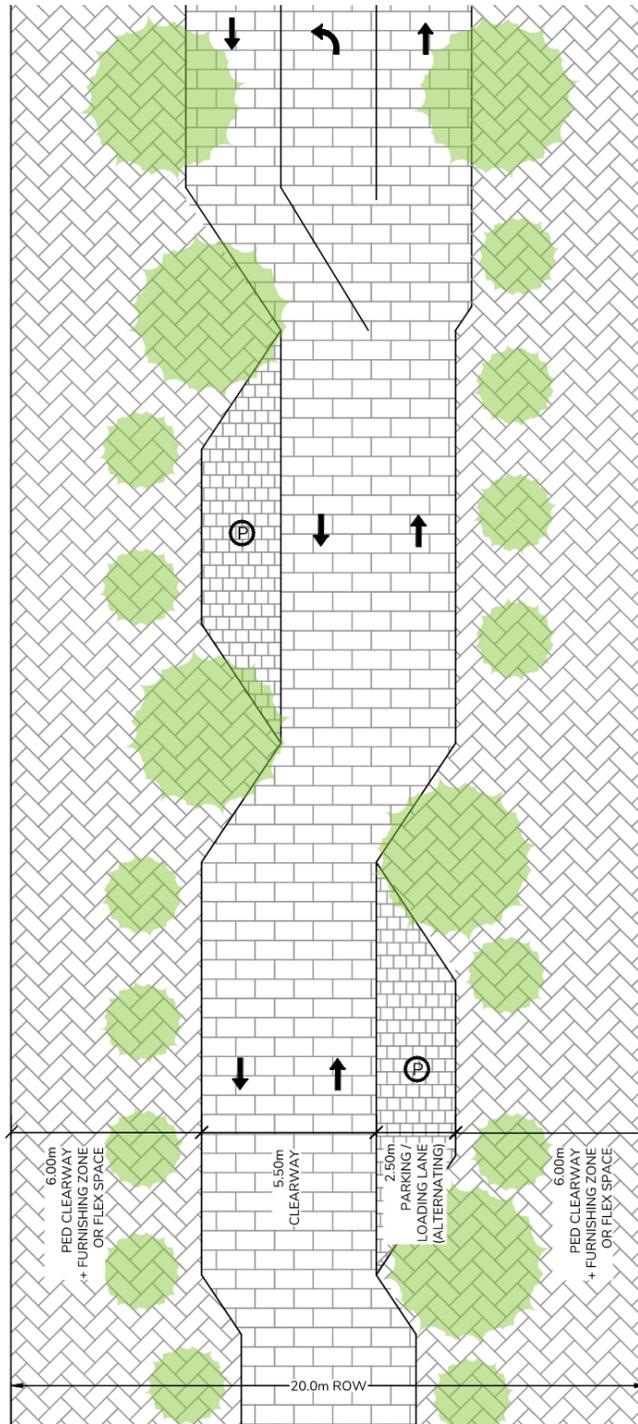


Figure 12 – Oak Street – Shared Street Concept – Option 3



3.2 Design Vehicle

Two key design vehicles were selected for the Oak Street and Audley Crossing corridors:

TAC Medium Single Unit (MSU) Truck

- Representative of delivery vehicle for retail establishments and large size moving trucks
- Tested for all intersection turning movements
- At major intersections (Saanich, Cloverdale, Tolmie), turning movements must not encroach on opposing travel lanes (stop bar setbacks may be required in some instances)
- At minor intersections, turning movements are permitted to encroach on opposing lanes

WB-12 Semi-trailer

- Representative of delivery vehicle for food service establishments (e.g. coffee shop, restaurant)
- Tested vehicle maneuvering along Audley Crossing, including right turn movements to and from Audley Crossing at Cloverdale Avenue
- Permitted to pass over the road centre line to complete a turning movement



4.0 LAND DEDICATION REQUIREMENTS

Land dedication requirements for each individual parcel in the study area are summarized in **Appendix C**.

5.0 CONCLUSIONS

A fourth analysis scenario (Scenario D, Oak Street closures from Valley-Shamrock and at Roderick) was requested to further decrease the amount of through traffic along Oak Street. While the additional closure decreased the amount of background traffic along Oak Street within the traffic model, the overall traffic performance throughout the network did not see a dramatic improvement, largely due to the re-routing of development traffic being concentrated at the major intersections.

A new traffic signal at Cloverdale Avenue / Audley Crossing is not feasible due to limited spacing between Douglas Street and Oak Street (approximately 90m). As Audley Crossing is largely intended to act as a rear service lane, a formal pedestrian crossing is also not recommended at Cloverdale Avenue / Audley Crossing.

Due to anticipated impacts on adjacent properties and the forecasted property acquisition costs for 751 Cloverdale and 750 Roderick, the segment of Audley Crossing between Cloverdale Avenue and Roderick Street will function as a multi-use pathway connection only. The resulting closure to vehicle traffic is expected to have only minor impacts on overall traffic performance.

Further refinements to the cross sections for Oak Street and Audley Crossing were made following the completion of the Preliminary Design Report. For Scenario B (Oak Street closed to vehicle traffic between Valley Avenue and Shamrock Street), Saanich staff requested that WATT explore a shared street configuration (in lieu of the separated cycling and sidewalk facilities) within the existing 20m right-of-way width on both sides of the vehicle closure. A similar shared street configuration is also proposed for Audley Street, between Douglas Street and Audley Crossing.

Two design vehicles were selected for the Oak-Audley corridors: the TAC MSU (for commercial deliveries and move-in / move-out), and the WB-12 semi-trailer (for food service deliveries).



APPENDIX A – INTERSECTION PERFORMANCE RESULTS – SCENARIO D (DUAL CLOSURE)

Vistro File: V:\...\Oak St Streetscaping Model_2025-02-07.vistro

Scenario 9 ss AM Future - Double Closure

Report File: V:\...\17 AM FUTURE - DUAL CLOSURE_v2.pdf

2025-02-24

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Oak St @ Saanich Rd	Signalized	HCM 7th Edition	NB Right	0.462	25.5	C
2	Oak St @ Short St	Two-way stop	HCM 7th Edition	WB Left	0.046	19.2	C
3	Oak St @ Valley Ave/Mitsubishi Access	Two-way stop	HCM 7th Edition	SB Left	0.039	9.1	A
4	Oak St @ Shamrock St	Two-way stop	HCM 7th Edition	WB Left	0.001	0.0	A
5	Oak St @ Cloverdale Ave	Signalized	HCM 7th Edition	EB Left	0.527	12.7	B
6	Oak St @ Roderick St	Two-way stop	HCM 7th Edition	SB Left	0.038	12.4	B
7	Oak St @ Tolmie Ave	Signalized	HCM 7th Edition	NB Left	0.168	5.0	A
8	Douglas St @ Ardersier Rd/Audley St	Two-way stop	HCM 7th Edition	WB Left	0.089	121.9	F
36	Audley Crossing @ Audley St	All-way stop	HCM 7th Edition	NB Thru	0.275	8.5	A
37	Audley Crossing @ Cloverdale Ave	Two-way stop	HCM 7th Edition	SB Right	0.251	10.0	B
40	Superstore Access @ Roderick Ave	Two-way stop	HCM 7th Edition	NB Left	0.064	10.8	B
41	Superstore Access @ Tolmie Ave	Two-way stop	HCM 7th Edition	SB Left	0.034	9.6	A
42	Audley Crossing @ Roderick Ave	Two-way stop	HCM 7th Edition	SB Left	0.059	10.5	B
43	Audley Crossing @ Tolmie Ave	Two-way stop	HCM 7th Edition	SB Left	0.029	9.7	A
45	Audley Crossing @ Cloverdale Ave	Two-way stop	HCM 7th Edition	NB Right	0.092	8.9	A
46	Audley Crossing @ Roderick Ave	Two-way stop	HCM 7th Edition	NB Left	0.022	10.5	B
60	Oak St @ Audley Crossing	Two-way stop	HCM 7th Edition	EB Left	0.443	14.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Oak St @ Saanich Rd

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Oak St			Oak St			Saanich Rd			Saanich Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [m]	30.00	30.48	30.48	50.00	30.48	30.48	34.00	30.48	30.48	95.00	30.48	33.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	30.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Oak St			Oak St			Saanich Rd			Saanich Rd		
Base Volume Input [veh/h]	53	40	24	49	7	18	110	642	86	80	722	153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.10	2.20	0.00	0.00	0.90	5.65	3.00	0.60	2.80	0.70
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	169	38	269	0	12	0	0	0	43	50	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	5	0	0	52	0	0	138
Total Hourly Volume [veh/h]	222	78	205	49	19	13	110	642	77	130	722	15
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	21	54	13	5	3	29	170	20	35	192	4
Total Analysis Volume [veh/h]	236	83	218	52	20	14	117	682	82	138	766	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	6			23			39			5		
v_di, Inbound Pedestrian Volume crossing m	5			39			23			6		
v_co, Outbound Pedestrian Volume crossing	14			6			11			7		
v_ci, Inbound Pedestrian Volume crossing mi	11			7			14			6		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss									
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	6	33	0	6	33	0	8	38	0	8	38	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	12	0	0	15	0	0	26	0	0	26	0
Pedestrian Clearance [s]	0	14	0	0	18	0	0	12	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [m]	0.5	0.5	0.0	0.5	0.5	0.0	0.5	0.5	0.0	0.5	0.5	0.0
Detector Length [m]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Advanced Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Lead / Lag	Lead	-	-									
Minimum Green [s]	6	8	0	6	8	0	6	10	0	6	10	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No										
Pedestrian Recall	No	Yes										

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	R
C, Calculated Cycle Length [s]	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	44	34	44	33	49	38	38	49	39	39
g / C, Green / Cycle	0.43	0.33	0.43	0.32	0.48	0.37	0.37	0.48	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.16	0.18	0.04	0.02	0.13	0.21	0.22	0.15	0.22	0.01
s, saturation flow rate [veh/h]	1481	1672	1200	1723	896	1815	1739	920	3538	1606
c, Capacity [veh/h]	715	553	455	549	410	667	638	421	1318	598
d1, Uniform Delay [s]	19.67	28.24	18.81	24.49	16.98	26.38	26.42	17.20	26.00	20.57
k, delay calibration	0.15	0.17	0.11	0.15	0.11	0.14	0.14	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	1.28	0.11	0.07	0.38	1.06	1.14	2.08	0.41	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.54	0.11	0.06	0.29	0.58	0.59	0.33	0.58	0.03
d, Delay for Lane Group [s/veh]	20.06	29.52	18.92	24.56	17.35	27.43	27.55	19.28	26.41	20.59
Lane Group LOS	C	C	B	C	B	C	C	B	C	C
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.77	6.19	0.74	0.59	1.56	7.77	7.51	2.05	7.47	0.25
50th-Percentile Queue Length [m/ln]	28.76	47.15	5.67	4.49	11.88	59.22	57.22	15.65	56.94	1.89
95th-Percentile Queue Length [veh/ln]	6.79	10.27	1.34	1.06	2.81	12.34	12.00	3.70	11.96	0.45
95th-Percentile Queue Length [m/ln]	51.76	78.24	10.20	8.08	21.39	94.06	91.47	28.16	91.10	3.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.06	29.52	29.52	18.92	24.56	24.56	17.35	27.49	27.55	19.28	26.41	20.59
Movement LOS	C	C	C	B	C	C	B	C	C	B	C	C
d_A, Approach Delay [s/veh]	25.36			21.15			26.15			25.24		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.45											
Intersection LOS	C											
Intersection V/C	0.462											

Emissions

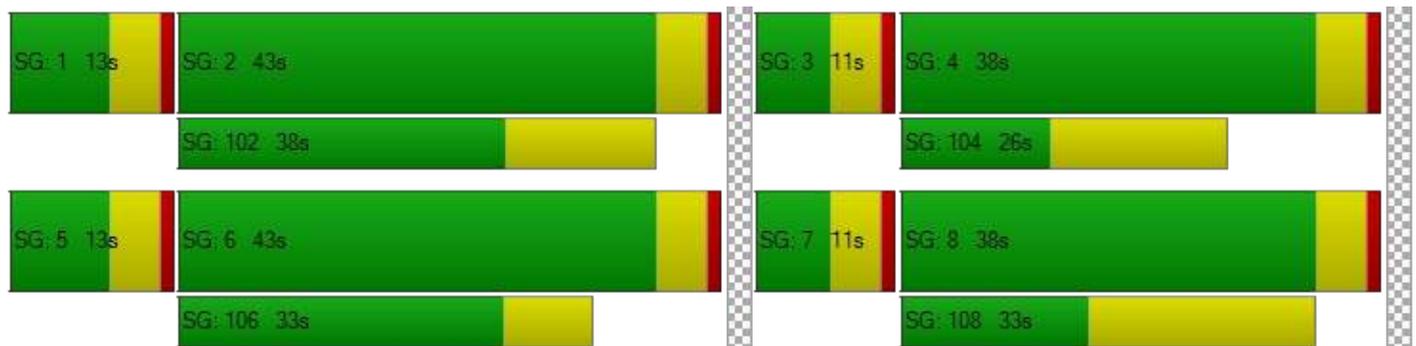
Vehicle Kilometers Traveled [km/h]	26.47	33.76	4.48	2.93	14.20	47.23	45.49	20.85	115.76	2.42
Stops [stops/h]	131.35	215.36	25.89	20.49	54.27	270.48	261.35	71.46	520.14	8.61
Fuel consumption [L/h]	8.96	14.62	1.73	1.36	4.07	18.45	17.83	5.56	37.67	0.67
CO [g/h]	165.38	269.94	32.00	25.03	75.23	340.77	329.17	102.72	695.59	12.34
NOx [g/h]	32.18	52.52	6.23	4.87	14.64	66.30	64.05	19.99	135.34	2.40
VOC [g/h]	38.33	62.56	7.42	5.80	17.44	78.98	76.29	23.81	161.21	2.86

Other Modes

g_Walk,mi, Effective Walk Time [s]	30.0	30.0	19.0	16.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	91.52	166.86	25.17	94.22
d_p, Pedestrian Delay [s]	26.07	26.07	34.46	36.96
I_p,int, Pedestrian LOS Score for Intersectio	2.544	2.145	2.868	2.977
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	638	638	735	735
d_b, Bicycle Delay [s]	23.98	23.98	20.70	20.70
I_b,int, Bicycle LOS Score for Intersection	2.591	1.710	2.329	2.432
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Oak St @ Short St

Control Type:	Two-way stop	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Oak St		Oak St		Short St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Oak St		Oak St		Short St	
Base Volume Input [veh/h]	105	7	5	155	13	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	1.60	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	410	1	23	82	0	66
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	515	8	28	237	13	92
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	137	2	7	63	3	24
Total Analysis Volume [veh/h]	548	9	30	252	14	98
Pedestrian Volume [ped/h]	2		0		16	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.00	0.05	0.19
d_M, Delay for Movement [s/veh]	0.00	0.00	8.65	0.00	19.21	14.27
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.91	0.91
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.39	0.39	6.90	6.90
d_A, Approach Delay [s/veh]	0.00		0.92		14.89	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Oak St @ Valley Ave/Mitsubishi Access

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Oak St		Mistubishi Access		Valley Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Oak St		Mistubishi Access		Valley Ave	
Base Volume Input [veh/h]	7	7	8	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	0	0	0	0	65
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	7	8	0	0	70
Peak Hour Factor	0.8240	0.8240	0.8240	0.8240	0.8240	0.8240
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	2	2	0	0	21
Total Analysis Volume [veh/h]	36	8	10	0	0	85
Pedestrian Volume [ped/h]	0		17		13	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.13	8.81	7.38	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [m/ln]	1.14	1.14	0.15	0.15	0.00	0.00
d_A, Approach Delay [s/veh]	9.07		7.38		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.40					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 4: Oak St @ Shamrock St**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Oak St	Shamrock St
Approach	Northbound	Westbound
Lane Configuration		
Turning Movement	Right	Left
Lane Width [m]	3.66	3.66
No. of Lanes in Entry Pocket	0	0
Entry Pocket Length [m]	30.48	30.48
No. of Lanes in Exit Pocket	0	0
Exit Pocket Length [m]	0.00	0.00
Speed [km/h]	48.28	48.28
Grade [%]	0.00	0.00
Crosswalk	Yes	Yes

Volumes

Name	Oak St	Shamrock St
Base Volume Input [veh/h]	26	14
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	7.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	24	66
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	50	80
Peak Hour Factor	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	24
Total Analysis Volume [veh/h]	60	96
Pedestrian Volume [ped/h]	1	19

Intersection Settings

Priority Scheme	Free	Free
Flared Lane		
Storage Area [veh]	0	0
Two-Stage Gap Acceptance		
Number of Storage Spaces in Median	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00
Movement LOS	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.00	0.00
d_A, Approach Delay [s/veh]	0.00	0.00
Approach LOS	A	A
d_I, Intersection Delay [s/veh]		0.00
Intersection LOS		A

Intersection Level Of Service Report
Intersection 5: Oak St @ Cloverdale Ave

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.527

Intersection Setup

Name	Oak St			Oak St			Cloverdale Ave			Cloverdale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [m]	30.00	30.48	30.48	30.00	30.48	30.48	35.00	30.48	30.48	35.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Oak St			Oak St			Cloverdale Ave			Cloverdale Ave		
Base Volume Input [veh/h]	6	33	7	50	51	34	10	255	6	23	549	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	9.00	0.00	3.70	2.00	1.00	4.50	0.00	4.40	8.30	3.30	4.60	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	149	62	0	63	21	94	0	86	99	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	47	0	0	29	0	0	1	0	0	17
Total Hourly Volume [veh/h]	19	33	109	112	51	68	31	349	5	109	648	69
Peak Hour Factor	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310	0.9310
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	9	29	30	14	18	8	94	1	29	174	19
Total Analysis Volume [veh/h]	20	35	117	120	55	73	33	375	5	117	696	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	11			7			2			4		
v_di, Inbound Pedestrian Volume crossing m	4			2			7			11		
v_co, Outbound Pedestrian Volume crossing	6			13			8			12		
v_ci, Inbound Pedestrian Volume crossing mi	8			12			6			13		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss											
Signal Group	0	4	0	0	4	0	0	2	0	0	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	19	0	0	19	0	0	33	0	0	33	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	12	0	0	12	0	0	11	0	0	11	0
Pedestrian Clearance [s]	0	15	0	0	15	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	8.0	0.0	0.0	8.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [m]	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Detector Length [m]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Advanced Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	36	0	0	36	0	0	14	0	0	14	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	20	0	0	20	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C
C, Calculated Cycle Length [s]	52	52	52	52	52	52	52	52	52
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	15	15	15	15	28	28	28	28	28
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.53	0.53	0.53	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.10	0.08	0.05	0.10	0.10	0.12	0.43
s, saturation flow rate [veh/h]	1178	1651	1222	1696	710	1834	1825	986	1796
c, Capacity [veh/h]	356	465	347	477	235	969	964	572	949
d1, Uniform Delay [s]	17.71	14.95	20.00	14.68	20.46	6.53	6.53	9.31	10.24
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.21
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.41	0.59	0.30	0.27	0.10	0.10	0.17	3.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.33	0.35	0.27	0.14	0.20	0.20	0.20	0.81
d, Delay for Lane Group [s/veh]	17.78	15.35	20.59	14.98	20.73	6.63	6.63	9.49	13.51
Lane Group LOS	B	B	C	B	C	A	A	A	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.19	1.32	1.28	1.09	0.35	0.87	0.87	0.73	6.23
50th-Percentile Queue Length [m/ln]	1.44	10.09	9.76	8.32	2.69	6.65	6.63	5.53	47.50
95th-Percentile Queue Length [veh/ln]	0.34	2.38	2.31	1.96	0.63	1.57	1.57	1.31	10.33
95th-Percentile Queue Length [m/ln]	2.60	18.16	17.57	14.97	4.84	11.97	11.94	9.95	78.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.78	15.35	15.35	20.59	14.98	14.98	20.73	6.63	6.63	9.49	13.51	13.51
Movement LOS	B	B	B	C	B	B	C	A	A	A	B	B
d_A, Approach Delay [s/veh]	15.64			17.70			7.75			12.98		
Approach LOS	B			B			A			B		
d_I, Intersection Delay [s/veh]	12.67											
Intersection LOS	B											
Intersection V/C	0.527											

Emissions

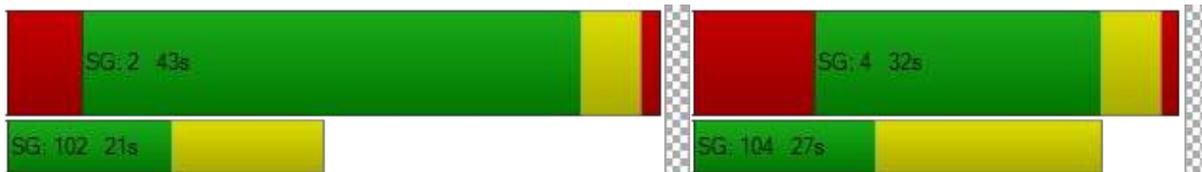
Vehicle Kilometers Traveled [km/h]	2.25	17.13	6.62	7.06	2.13	12.27	12.23	9.43	62.04
Stops [stops/h]	12.99	90.86	87.91	74.88	24.19	59.89	59.73	49.80	427.76
Fuel consumption [L/h]	0.76	5.36	4.38	3.73	1.24	3.41	3.40	2.81	22.97
CO [g/h]	14.11	98.92	80.93	68.81	22.88	63.00	62.82	51.88	424.07
NOx [g/h]	2.74	19.25	15.75	13.39	4.45	12.26	12.22	10.09	82.51
VOC [g/h]	3.27	22.93	18.76	15.95	5.30	14.60	14.56	12.02	98.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	15.0	16.0	16.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	157.62	85.77	293.11	155.82
d_p, Pedestrian Delay [s]	13.38	13.38	12.67	12.67
I_p,int, Pedestrian LOS Score for Intersectio	2.264	2.131	2.420	2.666
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	724	724	1258	1258
d_b, Bicycle Delay [s]	10.67	10.67	3.61	3.61
I_b,int, Bicycle LOS Score for Intersection	1.921	2.017	1.901	3.051
Bicycle LOS	A	B	A	C

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 6: Oak St @ Roderick St**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Oak St		Roderick St		Island Home Centre Access	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [m]	30.00	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Oak St		Roderick St		Island Home Centre Access	
Base Volume Input [veh/h]	11	66	45	5	1	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	3.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	80	125	9	6	37
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	146	170	14	7	41
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	40	47	4	2	11
Total Analysis Volume [veh/h]	19	160	187	15	8	45
Pedestrian Volume [ped/h]	0		1		15	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.15	0.12	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.41	9.10	7.57	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.54	0.38	0.38	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.89	4.14	2.86	2.86	0.00	0.00
d_A, Approach Delay [s/veh]	9.45		7.01		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.16					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Oak St @ Tolmie Ave**

Control Type:	Signalized	Delay (sec / veh):	5.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.168

Intersection Setup

Name	Oak St			Oak St			Tolmie Ave			Tolmie Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [m]	17.00	30.48	30.48	30.00	30.48	30.48	40.00	30.48	30.48	28.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Oak St			Oak St			Tolmie Ave			Tolmie Ave		
Base Volume Input [veh/h]	5	1	9	14	2	18	15	152	12	9	207	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.00	0.00	3.00	5.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	0	0	0	0	0	0	55	0	0	25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	4	0	0	2	0	0	3
Total Hourly Volume [veh/h]	19	1	7	14	2	14	15	207	10	9	232	13
Peak Hour Factor	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	2	4	1	4	4	54	3	2	60	3
Total Analysis Volume [veh/h]	20	1	7	15	2	15	16	215	10	9	240	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			0			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			0			2		
v_co, Outbound Pedestrian Volume crossing	5			3			4			7		
v_ci, Inbound Pedestrian Volume crossing mi	4			7			5			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss											
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	17	0	0	17	0	0	18	0	0	18	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	8	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [m]	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Detector Length [m]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Advanced Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	14	0	0	14	0	0	14	0	0	14	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Calculated Cycle Length [s]	20	20	20	20	20	20	20	20
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	2	2	2	2	8	8	8	8
g / C, Green / Cycle	0.09	0.09	0.09	0.09	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.01	0.01	0.02	0.13	0.01	0.15
s, saturation flow rate [veh/h]	1272	1452	1236	1465	983	1669	1050	1667
c, Capacity [veh/h]	371	131	371	132	563	673	592	672
d1, Uniform Delay [s]	9.86	8.22	9.85	8.27	6.39	4.06	6.11	4.14
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.19	0.04	0.43	0.02	0.29	0.01	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.06	0.04	0.13	0.03	0.33	0.02	0.38
d, Delay for Lane Group [s/veh]	9.92	8.41	9.90	8.70	6.41	4.35	6.12	4.49
Lane Group LOS	A	A	A	A	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.06	0.02	0.04	0.05	0.03	0.15	0.01	0.18
50th-Percentile Queue Length [m/ln]	0.44	0.18	0.33	0.39	0.21	1.16	0.11	1.35
95th-Percentile Queue Length [veh/ln]	0.10	0.04	0.08	0.09	0.05	0.27	0.03	0.32
95th-Percentile Queue Length [m/ln]	0.80	0.33	0.59	0.71	0.37	2.09	0.20	2.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.92	8.41	8.41	9.90	8.70	8.70	6.41	4.35	4.35	6.12	4.49	4.49
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.49			9.26			4.49			4.55		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.04											
Intersection LOS	A											
Intersection V/C	0.168											

Emissions

Vehicle Kilometers Traveled [km/h]	0.65	0.26	1.04	1.18	0.91	12.75	0.95	26.61
Stops [stops/h]	10.66	4.36	7.94	9.49	4.99	27.91	2.64	32.56
Fuel consumption [L/h]	0.44	0.17	0.38	0.43	0.27	2.57	0.19	4.13
CO [g/h]	8.10	3.11	7.04	7.88	5.01	47.50	3.50	76.32
NOx [g/h]	1.58	0.60	1.37	1.53	0.97	9.24	0.68	14.85
VOC [g/h]	1.88	0.72	1.63	1.83	1.16	11.01	0.81	17.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	505.89	444.85	2297.88	1146.30
d_p, Pedestrian Delay [s]	1.90	1.90	1.90	1.90
I_p,int, Pedestrian LOS Score for Intersectio	1.856	1.874	2.024	2.013
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1731	1731	1833	1833
d_b, Bicycle Delay [s]	0.18	0.18	0.07	0.07
I_b,int, Bicycle LOS Score for Intersection	1.609	1.619	1.961	1.997
Bicycle LOS	A	A	A	A

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Douglas St @ Ardersier Rd/Audley St

Control Type:	Two-way stop	Delay (sec / veh):	121.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

Intersection Setup

Name	Douglas St			Douglas St			Ardersier Rd			Audley St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [m]	20.00	30.48	30.48	50.00	30.48	30.48	30.48	30.48	55.00	35.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Douglas St			Douglas St			Ardersier Rd			Audley St		
Base Volume Input [veh/h]	29	944	12	8	1584	40	0	0	20	3	0	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	7.00	0.00	0.00	5.00	5.00	0.00	0.00	15.00	0.00	0.00	8.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	66	9	0	0	0	0	0	0	0	61
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	944	78	17	1584	40	0	0	20	3	0	74
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	246	20	4	413	10	0	0	5	1	0	19
Total Analysis Volume [veh/h]	30	983	81	18	1650	42	0	0	21	3	0	77
Pedestrian Volume [ped/h]	0			0			18			17		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.03	0.02	0.00	0.00	0.00	0.08	0.09	0.00	0.16
d_M, Delay for Movement [s/veh]	15.59	0.00	0.00	10.77	0.00	0.00	215.81	244.91	19.06	121.93	231.65	13.79
Movement LOS	C	A	A	B	A	A	F	F	C	F	F	B
95th-Percentile Queue Length [veh/ln]	0.26	0.00	0.00	0.09	0.00	0.00	0.00	0.24	0.24	0.27	0.56	0.56
95th-Percentile Queue Length [m/ln]	2.01	0.00	0.00	0.66	0.00	0.00	0.00	1.86	1.86	2.08	4.26	4.26
d_A, Approach Delay [s/veh]	0.43			0.11			19.06			17.85		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.86											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 36: Audley Crossing @ Audley St

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.275

Intersection Setup

Name	Audley Crossing		Audley Crossing		Audley St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Audley Crossing		Audley St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	196	130	27	34	41
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	196	130	27	34	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	49	33	7	9	10
Total Analysis Volume [veh/h]	34	196	130	27	34	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	836	847	792
Degree of Utilization, x	0.28	0.19	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.12	0.68	0.31
95th-Percentile Queue Length [m]	8.56	5.17	2.38
Approach Delay [s/veh]	8.94	8.22	8.02
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.55		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 37: Audley Crossing @ Cloverdale Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	239	0	115	112	63
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	239	0	115	112	63
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	60	0	29	28	16
Total Analysis Volume [veh/h]	0	239	0	115	112	63
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.25	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	10.03	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.99	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.00	7.56	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.03		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.53					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 40: Superstore Access @ Roderick Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.064

Intersection Setup

Name	Superstore Access N		Roderick St		Roderick St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Superstore Access N		Roderick St		Roderick St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	125	9	70	80	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	125	9	70	80	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	31	2	18	20	2
Total Analysis Volume [veh/h]	47	125	9	70	80	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	10.77	9.39	0.00	0.00	7.48	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.00	0.00	0.15	0.15
95th-Percentile Queue Length [m/ln]	5.17	5.17	0.00	0.00	1.18	1.18
d_A, Approach Delay [s/veh]	9.77		0.00		6.96	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.76					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 41: Superstore Access @ Tolmie Ave

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

Intersection Setup

Name	Superstore Access S		Tolmie Ave		Tolmie Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Superstore Access S		Tolmie Ave		Tolmie Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	109	20	24	9	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	109	20	24	9	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	27	5	6	2	8
Total Analysis Volume [veh/h]	31	109	20	24	9	30
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.10	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.56	8.99	7.31	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.48	0.48	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [m/ln]	3.64	3.64	0.26	0.26	0.00	0.00
d_A, Approach Delay [s/veh]	9.11		3.32		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.38					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 42: Audley Crossing @ Roderick Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.059

Intersection Setup

Name	Audley Crossing		Roderick St		Roderick St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Roderick St		Roderick St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	105	54	34	53	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	105	54	34	53	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	26	14	9	13	0
Total Analysis Volume [veh/h]	45	105	54	34	53	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.10	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.45	9.30	7.38	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.58	0.58	0.09	0.09	0.00	0.00
95th-Percentile Queue Length [m/ln]	4.40	4.40	0.71	0.71	0.00	0.00
d_A, Approach Delay [s/veh]	9.65		4.53		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.34					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 43: Audley Crossing @ Tolmie Ave

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	Audley Crossing		Tolmie Ave		Tolmie Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Tolmie Ave		Tolmie Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	69	8	20	109	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	69	8	20	109	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	17	2	5	27	2
Total Analysis Volume [veh/h]	24	69	8	20	109	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.75	9.28	7.46	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [m/ln]	2.59	2.59	0.10	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	9.40		2.13		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.91					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 45: Audley Crossing @ Cloverdale Ave

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	94	21	62	36	315
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	94	21	62	36	315
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	24	5	16	9	79
Total Analysis Volume [veh/h]	0	94	21	62	36	315
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	8.89	0.00	0.00	7.44	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.00	0.00	0.07	0.00
95th-Percentile Queue Length [m/ln]	0.00	2.31	0.00	0.00	0.56	0.00
d_A, Approach Delay [s/veh]	8.89		0.00		0.76	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.09					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 46: Audley Crossing @ Roderick Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Audley Crossing		Roderick St		Roderick St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Roderick St		Roderick St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	47	41	5	70	88
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	47	41	5	70	88
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	10	1	18	22
Total Analysis Volume [veh/h]	15	47	41	5	70	88
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.05	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	10.55	8.79	0.00	0.00	7.39	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [m/ln]	1.66	1.66	0.00	0.00	0.92	0.92
d_A, Approach Delay [s/veh]	9.22		0.00		3.27	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 60: Oak St @ Audley Crossing

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Oak St		Oak St		Audley Crossing	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Oak St		Oak St		Audley Crossing	
Base Volume Input [veh/h]	0	56	84	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	108	37	45	303	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	164	121	45	303	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	41	30	11	76	1
Total Analysis Volume [veh/h]	0	164	121	45	303	2
Pedestrian Volume [ped/h]	0		0		0	

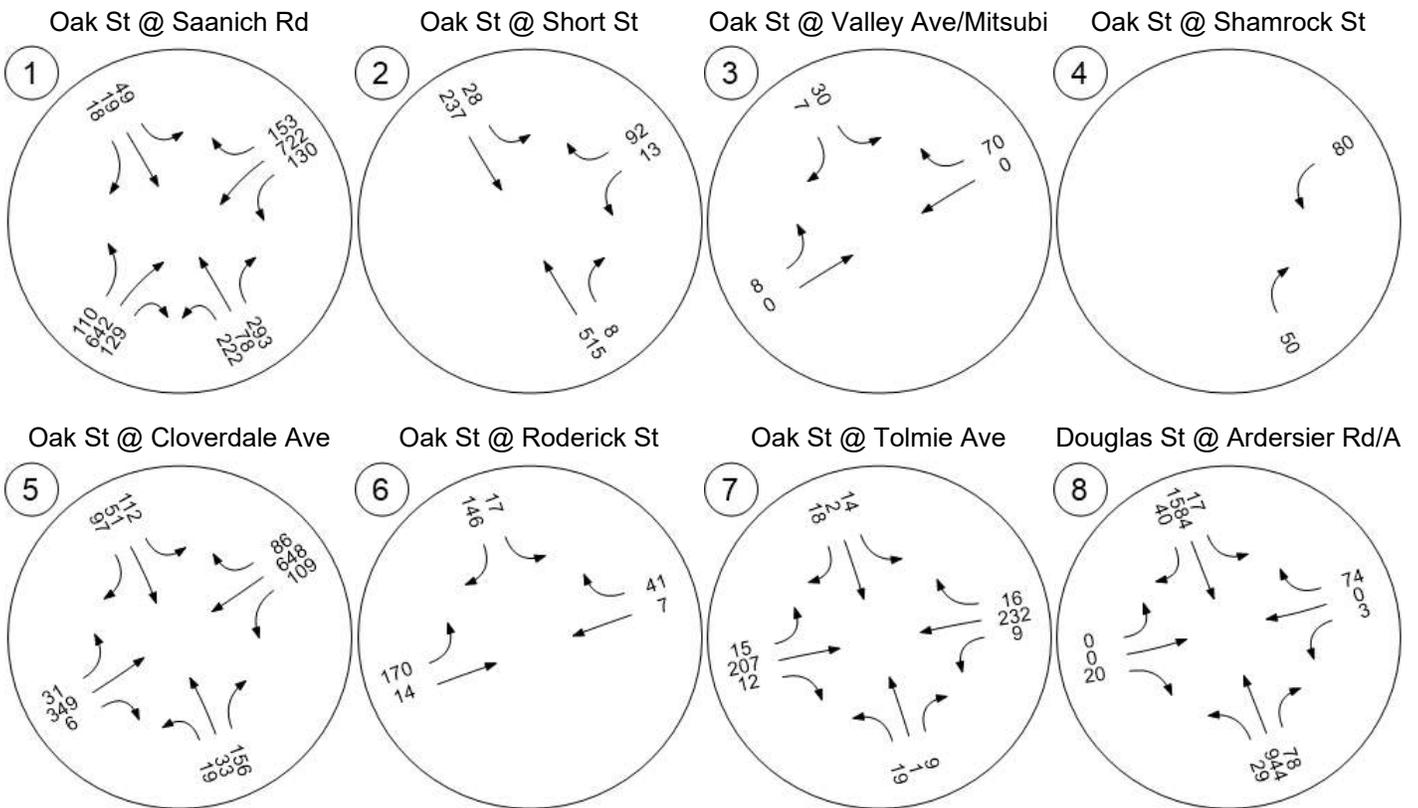
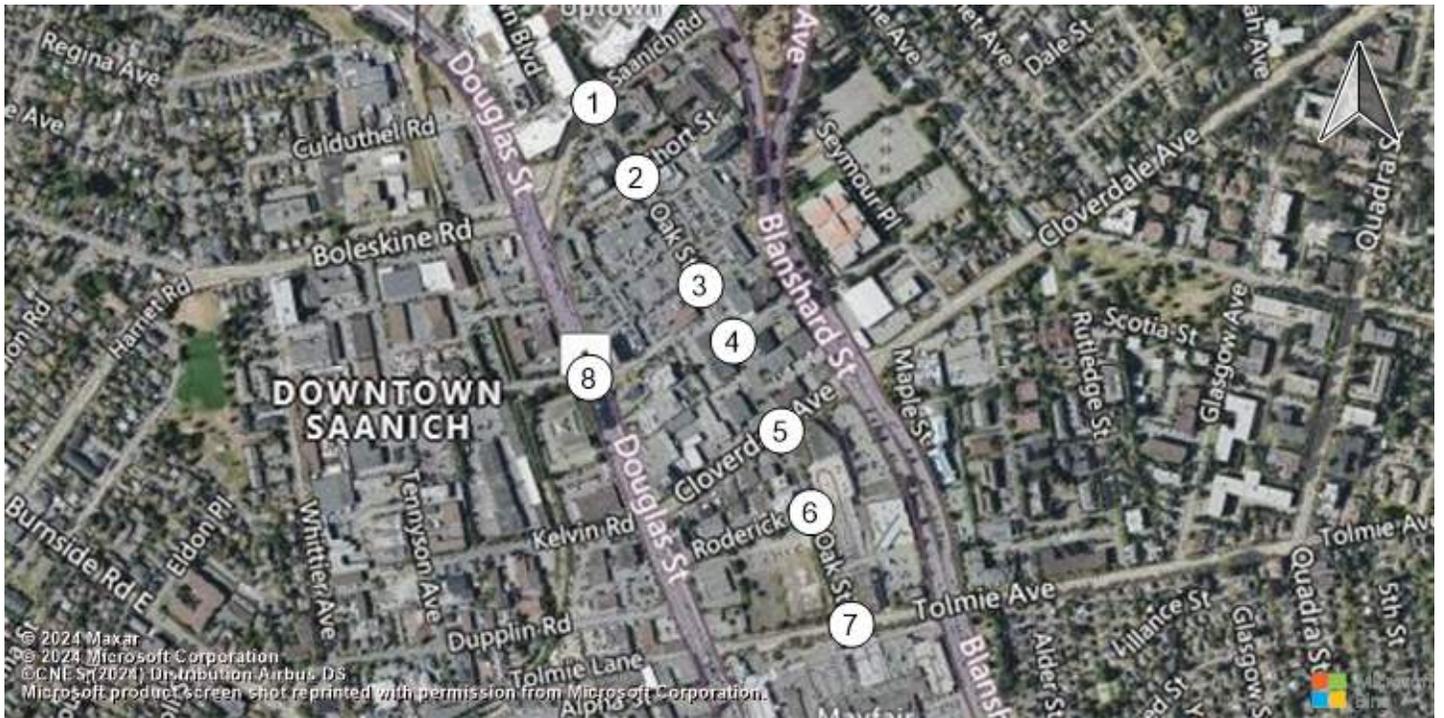
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.44	0.00
d_M, Delay for Movement [s/veh]	7.55	0.00	0.00	0.00	14.40	13.12
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	2.29	2.29
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.00	0.00	17.47	17.47
d_A, Approach Delay [s/veh]	0.00		0.00		14.39	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.91					
Intersection LOS	B					

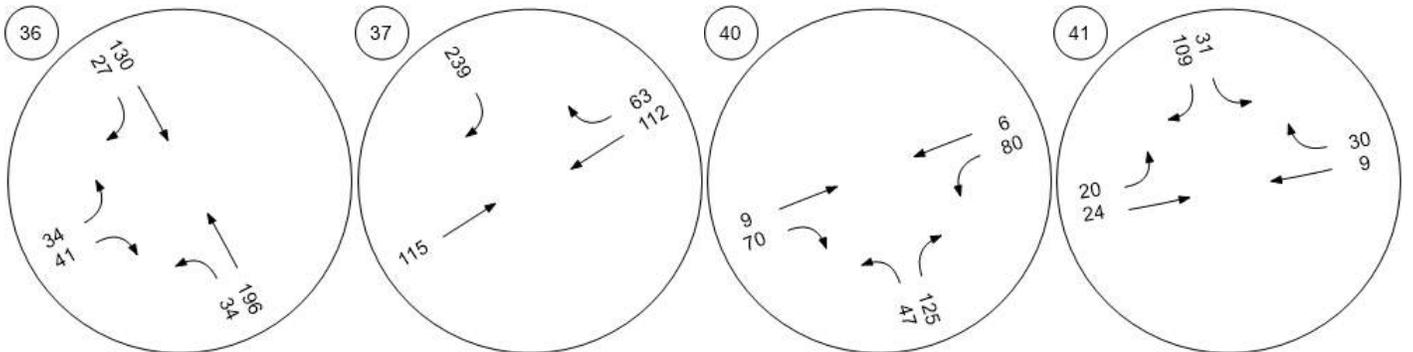
Report Figure 1f: Traffic Volume - Future Total Volume



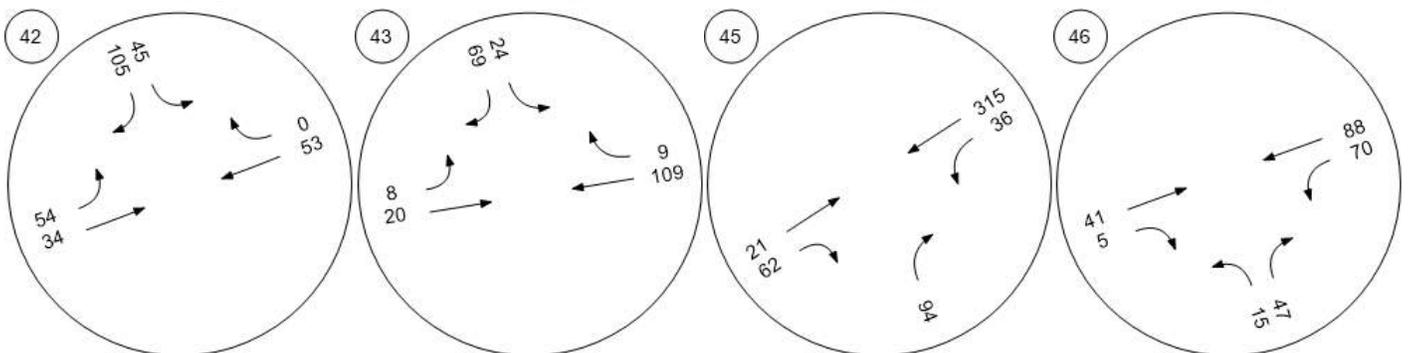
Report Figure 1f: Traffic Volume - Future Total Volume



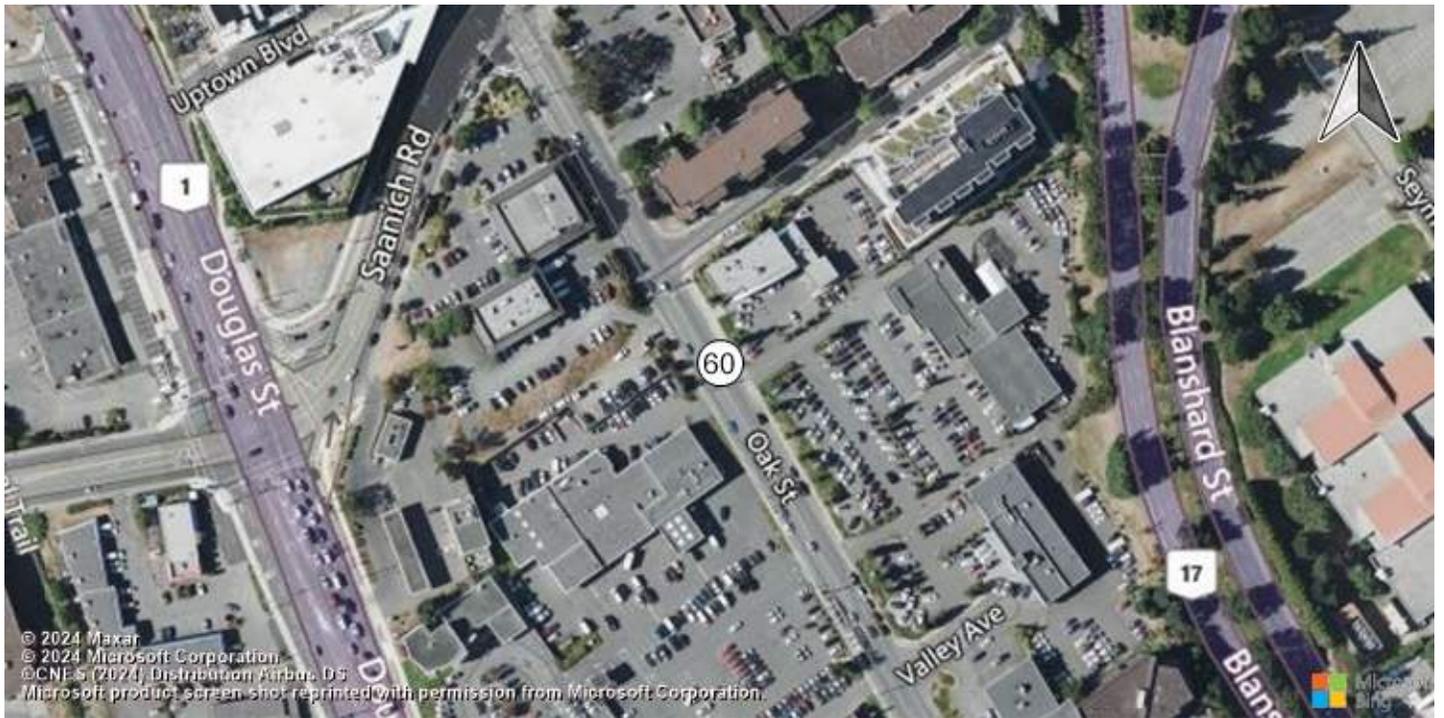
Audley Crossing @ Audley St Audley Crossing @ Cloverdal Superstore Access @ Roderi Superstore Access @ Tolmie



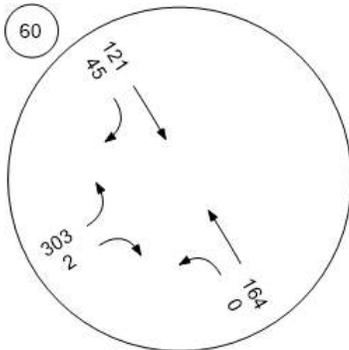
Audley Crossing @ Roderick Audley Crossing @ Tolmie A Audley Crossing @ Cloverdal Audley Crossing @ Roderick



Report Figure 1f: Traffic Volume - Future Total Volume



Oak St @ Audley Crossing



Vistro File: V:\...\Oak St Streetscaping Model_2025-02-07.vistro

Scenario 10 ss PM Future - Double Closure

Report File: V:\...\8 PM FUTURE - DUAL CLOSURE_v2.pdf

2025-02-24

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Oak St @ Saanich Rd	Signalized	HCM 7th Edition	NB Right	0.596	28.4	C
2	Oak St @ Short St	Two-way stop	HCM 7th Edition	WB Left	0.033	23.4	C
3	Oak St @ Valley Ave/Mitsubishi Access	Two-way stop	HCM 7th Edition	SB Left	0.079	9.2	A
4	Oak St @ Shamrock St	Two-way stop	HCM 7th Edition	NB Right	0.001	0.0	A
5	Oak St @ Cloverdale Ave	Signalized	HCM 7th Edition	EB Left	0.682	18.6	B
6	Oak St @ Roderick St	Two-way stop	HCM 7th Edition	SB Left	0.156	15.8	C
7	Oak St @ Tolmie Ave	Signalized	HCM 7th Edition	WB Left	0.358	9.2	A
8	Douglas St @ Ardersier Rd/Audley St	Two-way stop	HCM 7th Edition	EB Left	0.190	413.7	F
36	Audley Crossing @ Audley St	All-way stop	HCM 7th Edition	EB Right	0.342	9.7	A
37	Audley Crossing @ Cloverdale Ave	Two-way stop	HCM 7th Edition	SB Right	0.177	10.0	A
40	Superstore Access @ Roderick Ave	Two-way stop	HCM 7th Edition	NB Left	0.081	13.8	B
41	Superstore Access @ Tolmie Ave	Two-way stop	HCM 7th Edition	SB Left	0.130	10.9	B
42	Audley Crossing @ Roderick Ave	Two-way stop	HCM 7th Edition	SB Left	0.195	12.1	B
43	Audley Crossing @ Tolmie Ave	Two-way stop	HCM 7th Edition	SB Left	0.044	10.0	B
45	Audley Crossing @ Cloverdale Ave	Two-way stop	HCM 7th Edition	NB Right	0.085	9.3	A
46	Audley Crossing @ Roderick Ave	Two-way stop	HCM 7th Edition	NB Left	0.011	11.2	B
59	Oak St @ Audley Crossing	Two-way stop	HCM 7th Edition	EB Left	0.361	15.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Oak St @ Saanich Rd

Control Type:	Signalized	Delay (sec / veh):	28.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	Oak St			Oak St			Saanich Rd			Saanich Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [m]	30.00	30.48	30.48	50.00	30.48	30.48	34.00	30.48	30.48	95.00	30.48	33.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	30.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Oak St			Oak St			Saanich Rd			Saanich Rd		
Base Volume Input [veh/h]	100	87	55	224	52	181	166	700	50	55	890	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	26	215	0	37	0	0	0	128	128	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	81	0	0	54	0	0	71	0	0	180
Total Hourly Volume [veh/h]	177	113	189	224	89	127	166	700	107	183	890	20
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	29	49	58	23	33	43	180	28	47	229	5
Total Analysis Volume [veh/h]	182	116	195	231	92	131	171	722	110	189	918	21
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	21			68			51			31		
v_di, Inbound Pedestrian Volume crossing m	31			51			68			21		
v_co, Outbound Pedestrian Volume crossing	28			60			28			43		
v_ci, Inbound Pedestrian Volume crossing mi	28			43			28			60		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss									
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	6	27	0	12	33	0	7	38	0	8	39	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	12	0	0	15	0	0	26	0	0	26	0
Pedestrian Clearance [s]	0	14	0	0	18	0	0	12	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [m]	0.5	0.5	0.0	0.5	0.5	0.0	0.5	0.5	0.0	0.5	0.5	0.0
Detector Length [m]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Advanced Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	14	0	9	14	0	9	14	0	9	14	0
Lead / Lag	Lead	-	-									
Minimum Green [s]	6	8	0	6	8	0	6	10	0	6	10	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	2.5	3.0	0.0	2.5	3.0	0.0
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No										
Pedestrian Recall	No	Yes										

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	R
C, Calculated Cycle Length [s]	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	44	28	44	33	51	38	38	51	39	39
g / C, Green / Cycle	0.42	0.27	0.42	0.31	0.49	0.36	0.36	0.49	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.14	0.19	0.18	0.14	0.20	0.23	0.23	0.21	0.26	0.01
s, saturation flow rate [veh/h]	1306	1643	1318	1594	842	1870	1759	901	3560	1615
c, Capacity [veh/h]	526	436	474	501	380	677	636	415	1322	600
d1, Uniform Delay [s]	20.40	34.92	22.17	28.70	18.79	27.68	27.80	18.17	27.95	21.02
k, delay calibration	0.15	0.27	0.50	0.15	0.12	0.17	0.18	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	5.24	3.56	0.88	0.95	1.55	1.78	3.57	0.66	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.71	0.49	0.45	0.45	0.63	0.64	0.45	0.69	0.04
d, Delay for Lane Group [s/veh]	20.96	40.17	25.73	29.59	19.74	29.22	29.57	21.74	28.61	21.04
Lane Group LOS	C	D	C	C	B	C	C	C	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.93	7.74	4.19	4.56	2.39	8.96	8.62	2.97	9.68	0.33
50th-Percentile Queue Length [m/ln]	22.30	58.97	31.94	34.75	18.20	68.27	65.71	22.66	73.74	2.53
95th-Percentile Queue Length [veh/ln]	5.27	12.30	7.55	8.06	4.30	13.87	13.44	5.35	14.78	0.60
95th-Percentile Queue Length [m/ln]	40.14	93.74	57.49	61.44	32.76	105.67	102.41	40.78	112.61	4.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.96	40.17	40.17	25.73	29.59	29.59	19.74	29.37	29.57	21.74	28.61	21.04
Movement LOS	C	D	D	C	C	C	B	C	C	C	C	C
d_A, Approach Delay [s/veh]	33.08			27.63			27.75			27.32		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.43											
Intersection LOS	C											
Intersection V/C	0.596											

Emissions

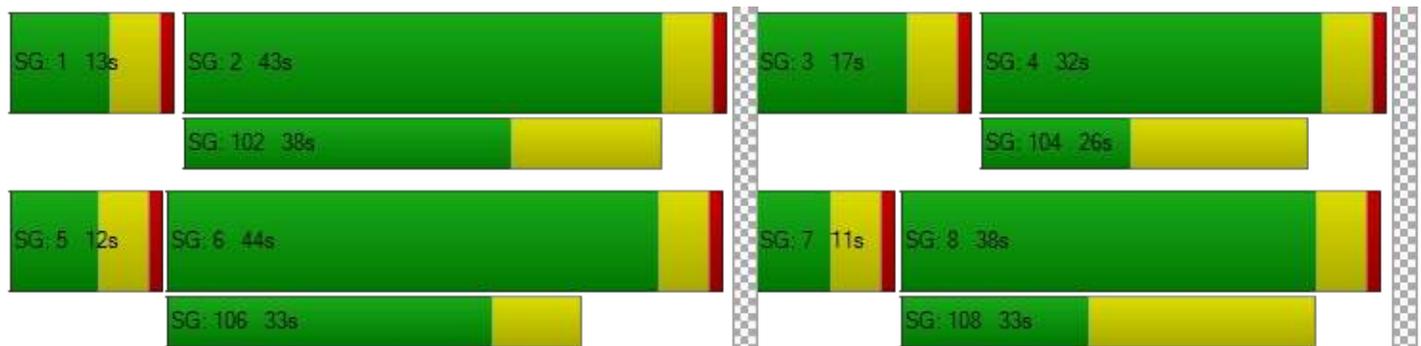
Vehicle Kilometers Traveled [km/h]	20.41	34.88	19.90	19.21	20.75	51.66	49.31	28.56	138.73	3.17
Stops [stops/h]	100.34	265.34	143.72	156.37	81.90	307.17	295.67	101.94	663.54	11.40
Fuel consumption [L/h]	7.01	18.55	9.51	10.21	6.32	21.01	20.21	8.06	47.54	0.89
CO [g/h]	129.50	342.52	175.64	188.58	116.75	387.95	373.27	148.88	877.93	16.36
NOx [g/h]	25.20	66.64	34.17	36.69	22.71	75.48	72.63	28.97	170.81	3.18
VOC [g/h]	30.01	79.38	40.71	43.71	27.06	89.91	86.51	34.50	203.47	3.79

Other Modes

g_Walk,mi, Effective Walk Time [s]	30.0	30.0	19.0	16.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	38.65	19.77	11.84	18.73
d_p, Pedestrian Delay [s]	26.79	26.79	35.22	37.72
I_p,int, Pedestrian LOS Score for Intersectio	2.590	2.425	2.947	3.127
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	514	629	724	743
d_b, Bicycle Delay [s]	28.97	24.69	21.38	20.74
I_b,int, Bicycle LOS Score for Intersection	2.507	2.398	2.446	2.639
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Oak St @ Short St

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	Oak St		Oak St		Short St	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Oak St		Oak St		Short St	
Base Volume Input [veh/h]	244	14	13	137	7	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	4.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	273	3	55	238	0	45
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	517	17	68	375	7	66
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	133	4	18	97	2	17
Total Analysis Volume [veh/h]	532	18	70	386	7	68
Pedestrian Volume [ped/h]	1		0		23	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.07	0.00	0.03	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	8.73	0.00	23.42	13.50
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.12	0.12	0.58	0.58
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.92	0.92	4.44	4.44
d_A, Approach Delay [s/veh]	0.00		1.34		14.43	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.57					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Oak St @ Valley Ave/Mitsubishi Access

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Oak St		Mistubishi Access		Valley Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Oak St		Mistubishi Access		Valley Ave	
Base Volume Input [veh/h]	7	1	4	0	0	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	0	0	0	0	45
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1	4	0	0	54
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	1	0	0	15
Total Analysis Volume [veh/h]	73	1	4	0	0	61
Pedestrian Volume [ped/h]	0		36		22	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.21	9.05	7.32	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [m/ln]	1.97	1.97	0.06	0.06	0.00	0.00
d_A, Approach Delay [s/veh]	9.21		7.32		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.11					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Oak St @ Shamrock St

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Oak St	Shamrock St
Approach	Northbound	Westbound
Lane Configuration		
Turning Movement	Right	Left
Lane Width [m]	3.66	3.66
No. of Lanes in Entry Pocket	0	0
Entry Pocket Length [m]	30.48	30.48
No. of Lanes in Exit Pocket	0	0
Exit Pocket Length [m]	0.00	0.00
Speed [km/h]	48.28	48.28
Grade [%]	0.00	0.00
Crosswalk	Yes	Yes

Volumes

Name	Oak St	Shamrock St
Base Volume Input [veh/h]	13	19
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	58	45
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	71	64
Peak Hour Factor	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	18
Total Analysis Volume [veh/h]	80	72
Pedestrian Volume [ped/h]	2	34

Intersection Settings

Priority Scheme	Free	Free
Flared Lane		
Storage Area [veh]	0	0
Two-Stage Gap Acceptance		
Number of Storage Spaces in Median	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00
Movement LOS	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.00	0.00
d_A, Approach Delay [s/veh]	0.00	0.00
Approach LOS	A	A
d_I, Intersection Delay [s/veh]		0.00
Intersection LOS		A

Intersection Level Of Service Report
Intersection 5: Oak St @ Cloverdale Ave

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

Intersection Setup

Name	Oak St			Oak St			Cloverdale Ave			Cloverdale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [m]	20.00	30.48	30.48	30.00	30.48	30.48	35.00	30.48	30.48	35.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Oak St			Oak St			Cloverdale Ave			Cloverdale Ave		
Base Volume Input [veh/h]	9	72	21	54	65	40	24	353	7	27	525	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	3.00	4.00	1.00	0.00	0.00	8.00	0.00	1.00	12.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	176	43	0	23	54	77	0	182	253	54
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	59	0	0	19	0	0	1	0	0	24
Total Hourly Volume [veh/h]	14	72	138	97	65	44	78	430	6	209	778	97
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	19	36	26	17	12	21	113	2	55	205	26
Total Analysis Volume [veh/h]	15	76	145	102	68	46	82	453	6	220	819	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	15			7			5			12		
v_di, Inbound Pedestrian Volume crossing m	12			5			7			15		
v_co, Outbound Pedestrian Volume crossing	9			7			16			12		
v_ci, Inbound Pedestrian Volume crossing mi	16			12			9			7		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss											
Signal Group	0	4	0	0	4	0	5	2	0	1	2	0
Auxiliary Signal Groups												
Maximum Green [s]	0	19	0	0	19	0	5	48	0	5	48	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	12	0	0	12	0	0	11	0	0	11	0
Pedestrian Clearance [s]	0	15	0	0	15	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	8.0	0.0	0.0	8.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	2.0	3.0	0.0	2.0	3.0	0.0
Detector Location [m]	0.0	0.5	0.0	0.0	0.5	0.0	0.5	0.5	0.0	0.5	0.5	0.0
Detector Length [m]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Advanced Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	36	0	0	36	0	9	14	0	9	14	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	8	0	0	8	0	5	20	0	5	20	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C
C, Calculated Cycle Length [s]	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	19	19	19	19	48	48	48	48	48
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.01	0.13	0.09	0.07	0.13	0.13	0.13	0.24	0.55
s, saturation flow rate [veh/h]	1276	1637	1122	1740	616	1780	1771	934	1684
c, Capacity [veh/h]	306	404	206	429	152	1110	1104	588	1050
d1, Uniform Delay [s]	27.09	25.25	34.31	23.38	35.93	6.27	6.27	11.14	12.06
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	1.16	1.85	0.33	2.98	0.09	0.09	0.39	7.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.55	0.50	0.27	0.54	0.21	0.21	0.37	0.88
d, Delay for Lane Group [s/veh]	27.15	26.41	36.15	23.70	38.90	6.36	6.36	11.53	19.88
Lane Group LOS	C	C	D	C	D	A	A	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	3.51	1.94	1.65	1.64	1.39	1.39	2.13	12.80
50th-Percentile Queue Length [m/ln]	1.77	26.74	14.80	12.59	12.52	10.62	10.58	16.23	97.51
95th-Percentile Queue Length [veh/ln]	0.42	6.32	3.50	2.97	2.96	2.51	2.50	3.83	18.66
95th-Percentile Queue Length [m/ln]	3.19	48.13	26.63	22.67	22.53	19.12	19.05	29.21	142.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.15	26.41	26.41	36.15	23.70	23.70	38.90	6.36	6.36	11.53	19.88	19.88
Movement LOS	C	C	C	D	C	C	D	A	A	B	B	B
d_A, Approach Delay [s/veh]	26.46			29.58			11.30			18.27		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	18.55											
Intersection LOS	B											
Intersection V/C	0.682											

Emissions

Vehicle Kilometers Traveled [km/h]	1.69	24.91	5.62	6.28	5.29	14.82	14.77	17.72	74.20
Stops [stops/h]	10.87	164.05	90.78	77.26	76.81	65.16	64.94	99.55	598.28
Fuel consumption [L/h]	0.70	10.34	5.28	4.31	4.58	3.93	3.91	5.75	33.80
CO [g/h]	13.01	190.90	97.56	79.51	84.49	72.48	72.23	106.24	624.22
NOx [g/h]	2.53	37.14	18.98	15.47	16.44	14.10	14.05	20.67	121.45
VOC [g/h]	3.02	44.24	22.61	18.43	19.58	16.80	16.74	24.62	144.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	15.0	16.0	16.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	49.75	65.18	149.97	54.15
d_p, Pedestrian Delay [s]	24.96	24.96	24.16	24.16
I_p,int, Pedestrian LOS Score for Intersectio	2.515	2.239	2.490	2.764
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	494	494	1247	1247
d_b, Bicycle Delay [s]	21.84	21.84	5.46	5.46
I_b,int, Bicycle LOS Score for Intersection	2.046	1.947	2.007	3.482
Bicycle LOS	B	A	B	C

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 6: Oak St @ Roderick St**

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.156

Intersection Setup

Name	Oak St		Roderick St		Island Home Centre Access	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [m]	51.00	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Oak St		Roderick St		Island Home Centre Access	
Base Volume Input [veh/h]	38	42	58	4	3	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	166	158	24	7	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	208	216	28	10	52
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	60	62	8	3	15
Total Analysis Volume [veh/h]	62	239	248	32	11	60
Pedestrian Volume [ped/h]	0		8		12	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.23	0.16	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.76	9.62	7.69	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.91	0.51	0.51	0.00	0.00
95th-Percentile Queue Length [m/ln]	4.19	6.95	3.87	3.87	0.00	0.00
d_A, Approach Delay [s/veh]	10.89		6.81		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.95					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 7: Oak St @ Tolmie Ave**

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name	Oak St			Oak St			Tolmie Ave			Tolmie Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [m]	17.00	30.48	30.48	30.00	30.48	30.48	40.00	30.48	30.48	28.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Oak St			Oak St			Tolmie Ave			Tolmie Ave		
Base Volume Input [veh/h]	68	24	100	28	10	18	30	281	20	74	257	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	3.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	0	0	0	0	0	104	30	0	63	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	20	0	0	4	0	0	10	0	0	7
Total Hourly Volume [veh/h]	102	24	80	28	10	14	30	385	40	74	320	26
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	6	21	7	3	4	8	102	11	20	85	7
Total Analysis Volume [veh/h]	109	26	85	30	11	15	32	410	43	79	340	28
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	5			0			0			7		
v_di, Inbound Pedestrian Volume crossing m	7			0			0			5		
v_co, Outbound Pedestrian Volume crossing	2			9			3			6		
v_ci, Inbound Pedestrian Volume crossing mi	3			6			2			9		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss											
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	17	0	0	17	0	0	18	0	0	18	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	8	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Detector Location [m]	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Detector Length [m]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Advanced Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	14	0	0	14	0	0	14	0	0	14	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Calculated Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	9	9	14	14	14	14
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.03	0.02	0.04	0.27	0.09	0.22
s, saturation flow rate [veh/h]	1266	1480	1155	1552	913	1667	856	1645
c, Capacity [veh/h]	475	407	398	427	404	714	351	704
d1, Uniform Delay [s]	11.60	9.57	12.22	9.00	10.92	7.56	13.09	7.09
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.36	0.08	0.06	0.08	0.94	0.32	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.27	0.08	0.06	0.08	0.63	0.23	0.52
d, Delay for Lane Group [s/veh]	11.84	9.93	12.30	9.06	11.00	8.50	13.42	7.70
Lane Group LOS	B	A	B	A	B	A	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	0.51	0.16	0.11	0.16	1.71	0.46	1.28
50th-Percentile Queue Length [m/ln]	4.36	3.86	1.23	0.84	1.21	13.05	3.53	9.76
95th-Percentile Queue Length [veh/ln]	1.03	0.91	0.29	0.20	0.29	3.08	0.83	2.31
95th-Percentile Queue Length [m/ln]	7.84	6.95	2.22	1.51	2.18	23.50	6.36	17.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.84	9.93	9.93	12.30	9.06	9.06	11.00	8.50	8.50	13.42	7.70	7.70
Movement LOS	B	A	A	B	A	A	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	10.88			10.80			8.67			8.71		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.18											
Intersection LOS	A											
Intersection V/C	0.358											

Emissions

Vehicle Kilometers Traveled [km/h]	3.53	3.59	2.08	1.80	1.81	25.66	8.31	38.70
Stops [stops/h]	61.30	54.31	17.34	11.76	17.01	183.60	49.67	137.34
Fuel consumption [L/h]	2.62	2.33	0.85	0.60	0.80	9.29	2.66	8.80
CO [g/h]	48.34	43.07	15.67	11.12	14.82	171.58	49.12	162.54
NOx [g/h]	9.41	8.38	3.05	2.16	2.88	33.38	9.56	31.62
VOC [g/h]	11.20	9.98	3.63	2.58	3.43	39.76	11.38	37.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	486.84	167.05	0.00	206.30
d_p, Pedestrian Delay [s]	7.59	7.59	7.59	7.59
I_p,int, Pedestrian LOS Score for Intersectio	2.144	1.980	2.361	2.256
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1012	1012	1072	1072
d_b, Bicycle Delay [s]	4.10	4.10	3.62	3.62
I_b,int, Bicycle LOS Score for Intersection	1.956	1.659	2.376	2.309
Bicycle LOS	A	A	B	B

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Douglas St @ Ardersier Rd/Audley St

Control Type:	Two-way stop	Delay (sec / veh):	413.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name	Douglas St			Douglas St			Ardersier Rd			Audley St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [m]	20.00	30.48	30.48	50.00	30.48	30.48	30.48	30.48	55.00	35.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28			48.28			48.28			48.28		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Douglas St			Douglas St			Ardersier Rd			Audley St		
Base Volume Input [veh/h]	20	1271	6	4	1458	30	2	0	13	3	0	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.00	0.00	25.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	238	29	0	0	0	0	0	0	0	40
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1271	244	33	1458	30	2	0	13	3	0	66
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	353	68	9	405	8	1	0	4	1	0	18
Total Analysis Volume [veh/h]	22	1412	271	37	1620	33	2	0	14	3	0	73
Pedestrian Volume [ped/h]	0			0			2			42		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.14	0.02	0.00	0.19	0.00	0.04	0.22	0.00	0.21
d_M, Delay for Movement [s/veh]	14.67	0.00	0.00	20.81	0.00	0.00	413.70	686.73	16.55	327.72	480.61	18.21
Movement LOS	B	A	A	C	A	A	F	F	C	F	F	C
95th-Percentile Queue Length [veh/ln]	0.18	0.00	0.00	0.48	0.00	0.00	0.48	0.13	0.13	0.58	0.79	0.79
95th-Percentile Queue Length [m/ln]	1.35	0.00	0.00	3.66	0.00	0.00	3.68	1.02	1.02	4.44	6.00	6.00
d_A, Approach Delay [s/veh]	0.19			0.46			66.20			30.43		
Approach LOS	A			A			F			D		
d_I, Intersection Delay [s/veh]	1.28											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 36: Audley Crossing @ Audley St

Control Type:	All-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

Intersection Setup

Name	Audley Crossing		Audley Crossing		Audley St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Audley Crossing		Audley St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	191	148	16	116	151
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	191	148	16	116	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	37	4	29	38
Total Analysis Volume [veh/h]	24	191	148	16	116	151
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	745	747	781
Degree of Utilization, x	0.29	0.22	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.20	0.83	1.52
95th-Percentile Queue Length [m]	9.11	6.36	11.59
Approach Delay [s/veh]	9.78	9.17	9.98
Approach LOS	A	A	A
Intersection Delay [s/veh]	9.71		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 37: Audley Crossing @ Cloverdale Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.177

Intersection Setup

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	156	0	131	108	173
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	156	0	131	108	173
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	39	0	33	27	43
Total Analysis Volume [veh/h]	0	156	0	131	108	173
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.18	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	9.96	0.00	0.00	0.00	0.00
Movement LOS		A		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.64	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.00	4.88	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.96		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.73					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 40: Superstore Access @ Roderick Ave

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Superstore Access N		Roderick St		Roderick St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Superstore Access N		Roderick St		Roderick St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	158	24	190	166	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	158	24	190	166	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	40	6	48	42	2
Total Analysis Volume [veh/h]	40	158	24	190	166	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.17	0.00	0.00	0.12	0.00
d_M, Delay for Movement [s/veh]	13.84	10.38	0.00	0.00	8.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.99	0.99	0.00	0.00	0.40	0.40
95th-Percentile Queue Length [m/ln]	7.55	7.55	0.00	0.00	3.05	3.05
d_A, Approach Delay [s/veh]	11.08		0.00		7.67	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 41: Superstore Access @ Tolmie Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Superstore Access S		Tolmie Ave		Tolmie Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Superstore Access S		Tolmie Ave		Tolmie Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	100	48	34	25	72
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	100	48	34	25	72
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	25	12	9	6	18
Total Analysis Volume [veh/h]	100	100	48	34	25	72
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.10	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	9.81	7.46	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.88	0.88	0.08	0.08	0.00	0.00
95th-Percentile Queue Length [m/ln]	6.72	6.72	0.63	0.63	0.00	0.00
d_A, Approach Delay [s/veh]	10.35		4.37		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 42: Audley Crossing @ Roderick Ave

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.195

Intersection Setup

Name	Audley Crossing		Roderick St		Roderick St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Roderick St		Roderick St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	133	102	72	81	47	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	102	72	81	47	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	26	18	20	12	0
Total Analysis Volume [veh/h]	133	102	72	81	47	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.10	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.15	10.40	7.39	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.23	1.23	0.12	0.12	0.00	0.00
95th-Percentile Queue Length [m/ln]	9.38	9.38	0.95	0.95	0.00	0.00
d_A, Approach Delay [s/veh]	11.39		3.48		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.37					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 43: Audley Crossing @ Tolmie Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Audley Crossing		Tolmie Ave		Tolmie Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Tolmie Ave		Tolmie Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	37	22	48	100	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	37	22	48	100	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	9	6	12	25	6
Total Analysis Volume [veh/h]	34	37	22	48	100	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.04	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.05	9.21	7.49	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [m/ln]	2.07	2.07	0.28	0.28	0.00	0.00
d_A, Approach Delay [s/veh]	9.61		2.35		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 45: Audley Crossing @ Cloverdale Ave

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

Intersection Setup

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Cloverdale Ave		Cloverdale Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	77	54	186	80	184
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	77	54	186	80	184
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	14	47	20	46
Total Analysis Volume [veh/h]	0	77	54	186	80	184
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	0.00	9.33	0.00	0.00	7.81	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.28	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [m/ln]	0.00	2.11	0.00	0.00	1.06	1.06
d_A, Approach Delay [s/veh]	9.33		0.00		2.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.31					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 46: Audley Crossing @ Roderick Ave

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Audley Crossing		Roderick St		Roderick St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Audley Crossing		Roderick St		Roderick St	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	53	100	13	89	60
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	53	100	13	89	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	13	25	3	22	15
Total Analysis Volume [veh/h]	7	53	100	13	89	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.06	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	11.18	9.09	0.00	0.00	7.54	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.16	0.16
95th-Percentile Queue Length [m/ln]	1.65	1.65	0.00	0.00	1.19	1.19
d_A, Approach Delay [s/veh]	9.33		0.00		4.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.82					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 59: Oak St @ Audley Crossing

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

Intersection Setup

Name	Oak St		Oak St		Audley Crossing	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Oak St		Oak St		Audley Crossing	
Base Volume Input [veh/h]	0	150	72	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	75	93	145	201	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	225	165	145	201	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	56	41	36	50	1
Total Analysis Volume [veh/h]	0	225	165	145	201	5
Pedestrian Volume [ped/h]	0		0		0	

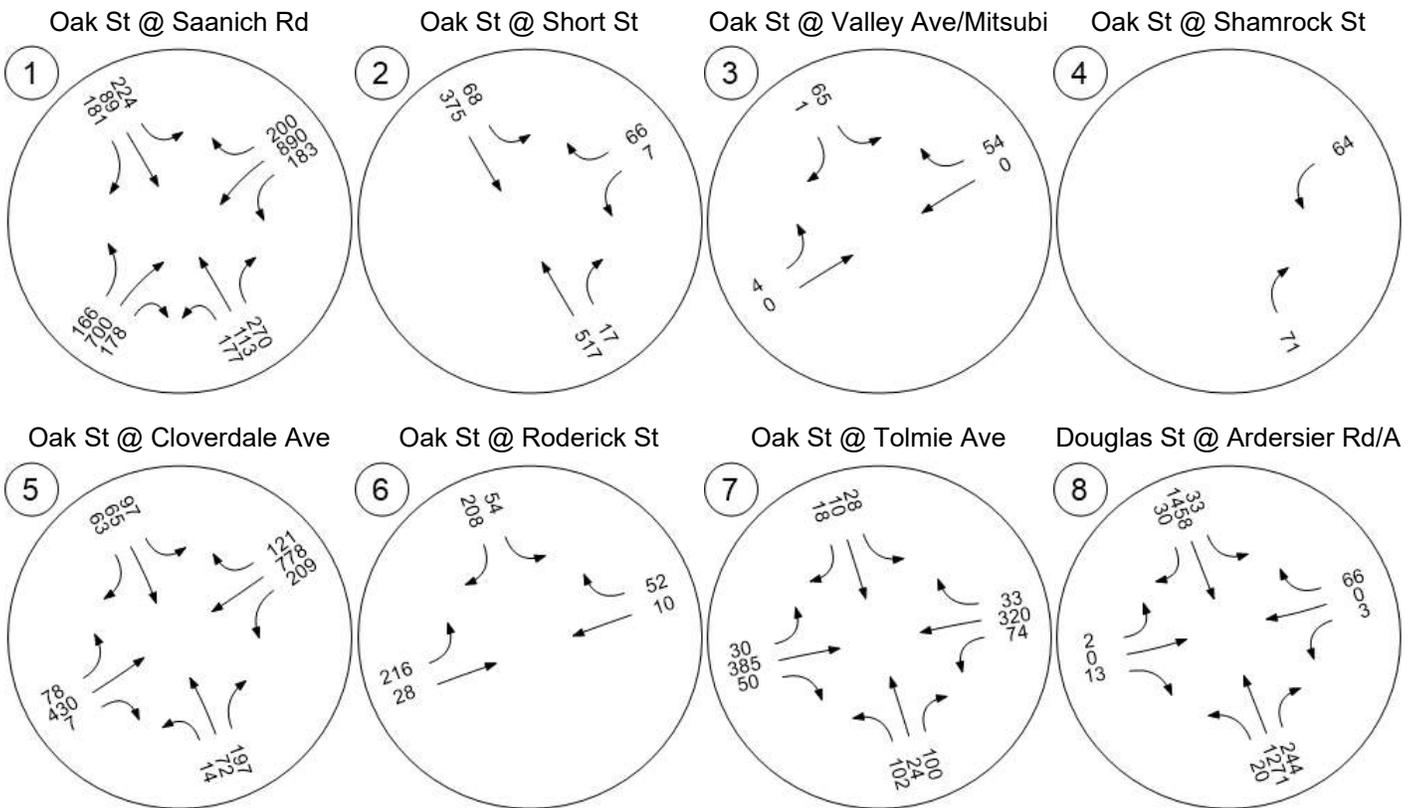
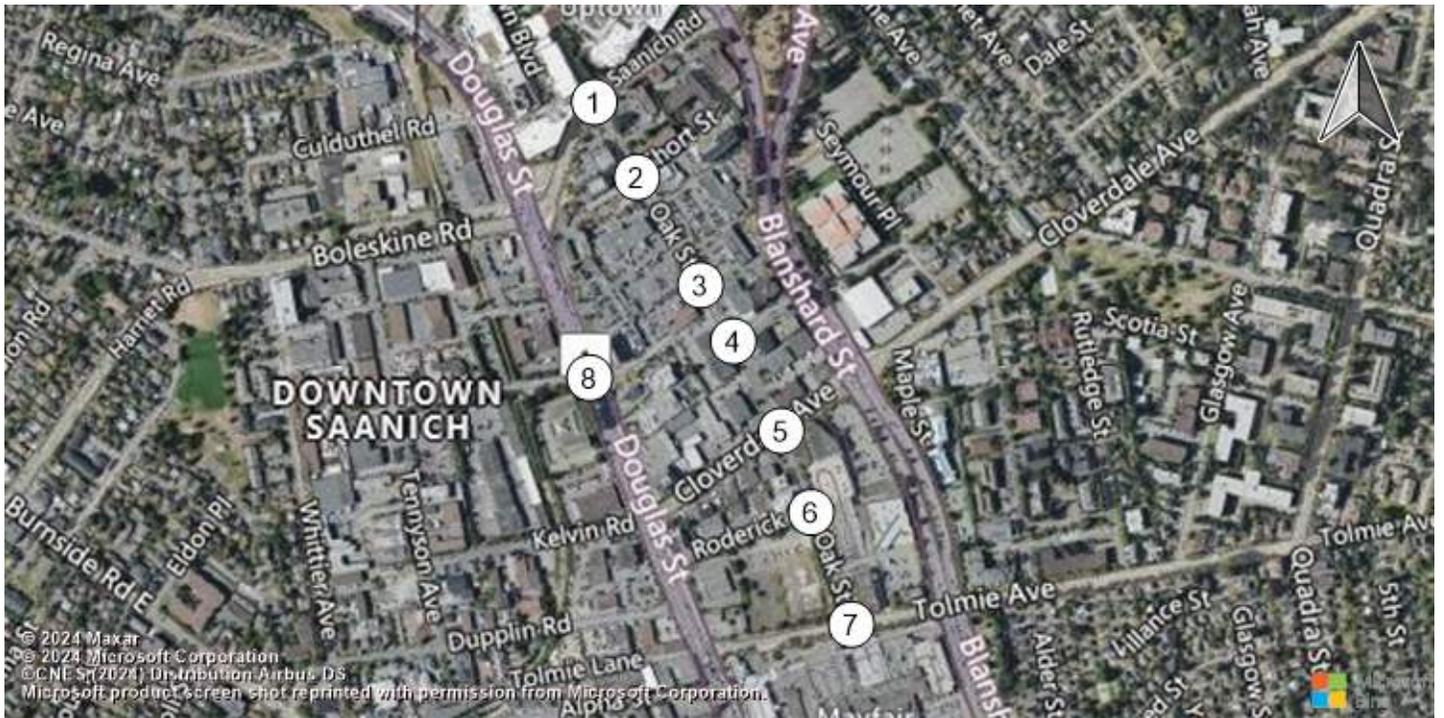
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.36	0.01
d_M, Delay for Movement [s/veh]	7.88	0.00	0.00	0.00	15.12	13.16
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	1.67	1.67
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.00	0.00	12.76	12.76
d_A, Approach Delay [s/veh]	0.00		0.00		15.07	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.19					
Intersection LOS	C					

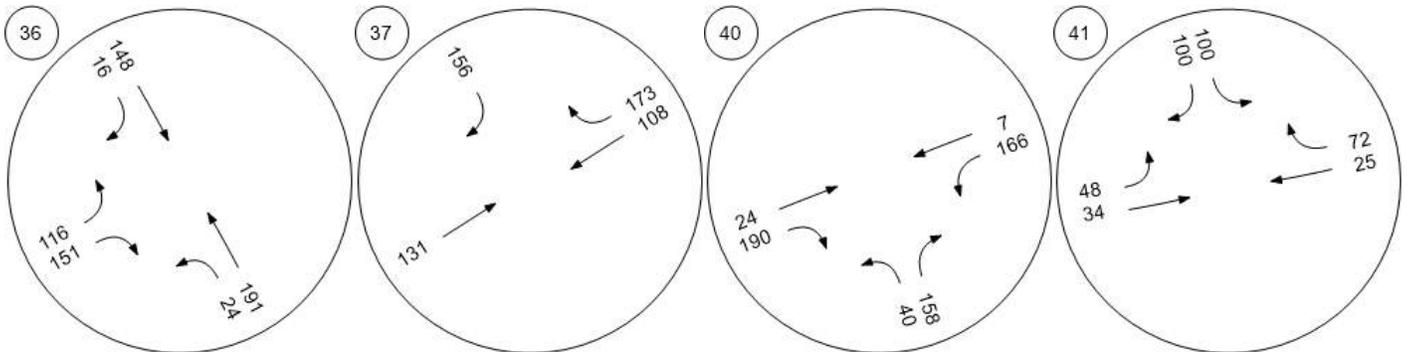
Report Figure 1f: Traffic Volume - Future Total Volume



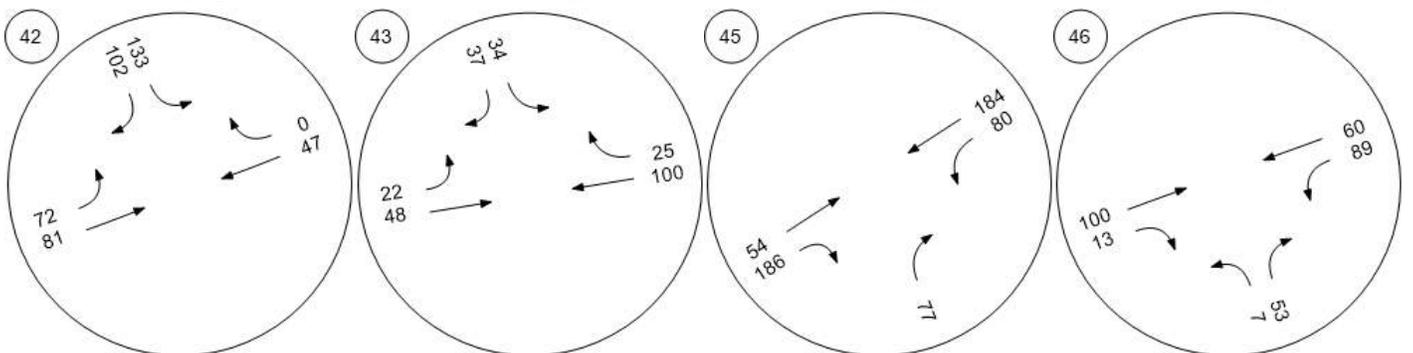
Report Figure 1f: Traffic Volume - Future Total Volume



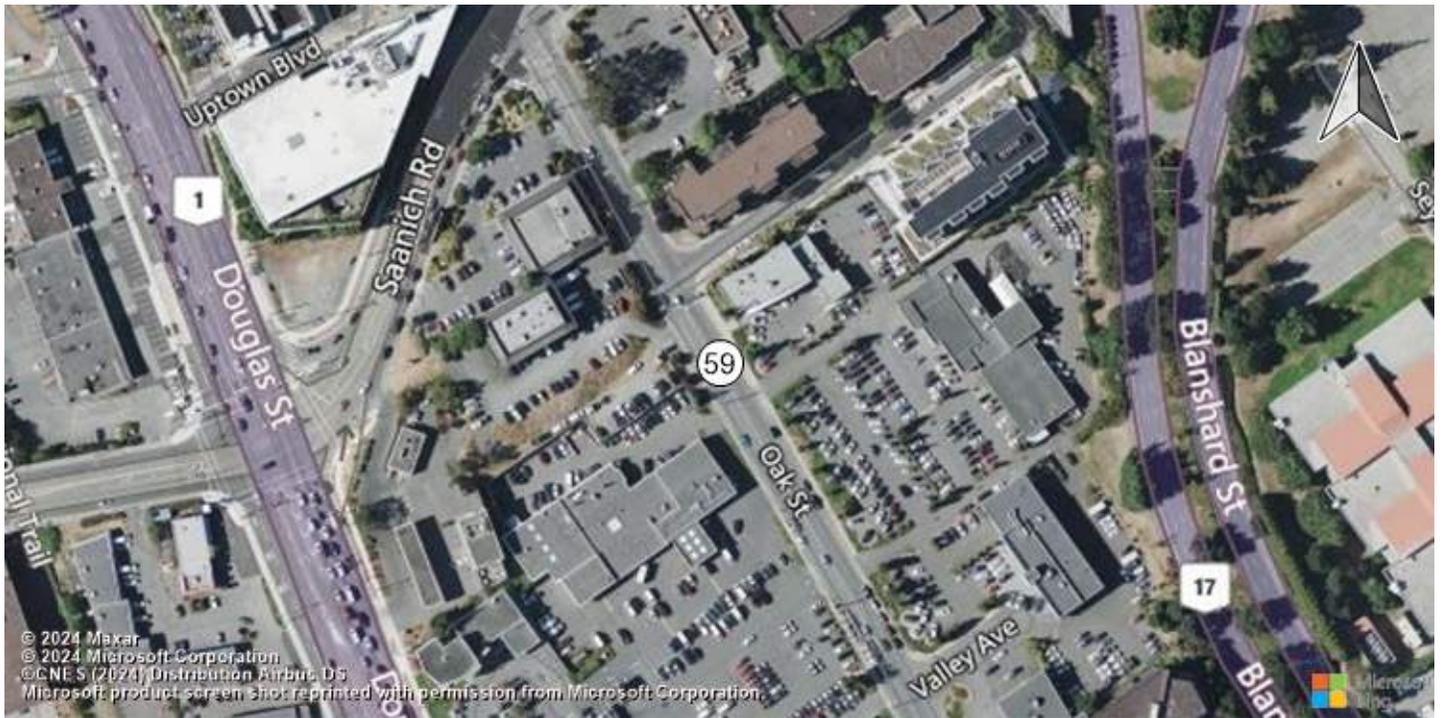
Audley Crossing @ Audley St Audley Crossing @ Cloverdal Superstore Access @ Roderi Superstore Access @ Tolmie



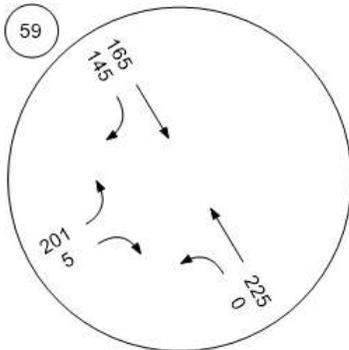
Audley Crossing @ Roderick Audley Crossing @ Tolmie A Audley Crossing @ Cloverdal Audley Crossing @ Roderick



Report Figure 1f: Traffic Volume - Future Total Volume



Oak St @ Audley Crossing





APPENDIX B – INTERSECTION DESIGN PARAMETERS

Intersection Design Parameters - Scenario B (Valley-Shamrock Closure)

Intersection	Control	Movement	Lane	Storage (m)	Taper (m)	Notes
Oak Street / Saanich Road	Signal (Existing)	NB	Left	55		
		NB	Through-Right	N/A	N/A	
		SB	Left	N/A	N/A	
		SB	Through-Right	N/A	N/A	
		EB	Left	35		Existing
		EB	Through	N/A	N/A	
		EB	Through-Right	N/A	N/A	
		WB	Left	45		from 90m
		WB	Through	N/A	N/A	
		WB	Through-Right	N/A	N/A	
Oak Street / Short Street	Two-Way Stop (Existing)	NB	Through-Right	N/A	N/A	Unchanged
		SB	Through-Left	N/A	N/A	
		WB	Right-Left	N/A	N/A	
Oak Street / Audley Crossing (New)	Two-Way Stop	NB	Through-Left	N/A	N/A	
		SB	Through-Right	N/A	N/A	
		EB	Right-Left	N/A	N/A	
Oak Street / Valley Avenue	All-Way Stop	NB	Closed	-	-	-
		SB	Left	N/A	N/A	
		WB	Right	N/A	N/A	
Oak Street / Shamrock Street	All-Way Stop	NB	Right	N/A	N/A	
		SB	Closed	N/A	N/A	
		WB	Left	N/A	N/A	
Oak Street / Cloverdale Avenue	Signal (Existing)	NB	Left	30		Existing
		NB	Through-Right	N/A	N/A	
		SB	Left	25		from 60m+
		SB	Through-Right	N/A	N/A	
		EB	Left	35		from 40+*
		EB	Through	N/A	N/A	
		EB	Through-Right	N/A	N/A	
		WB	Left	35		Existing
Oak Street / Roderick Street	Signal (New)	NB	Left	10		from 25
		NB	Through-Right	N/A	N/A	
		SB	Left	10		from 50
		SB	Through-Right	N/A	N/A	
		EB	Left	20		
		EB	Through-Right	N/A	N/A	
		WB	All	N/A	N/A	
Oak Street / Tolmie Avenue	Signal (Existing)	NB	Left	N/A	N/A	Existing
		NB	Through-Right	N/A	N/A	Existing
		SB	Left	20	N/A	from 100m
		SB	Through-Right	N/A	N/A	Existing
		EB	Left	35	N/A	Existing
		EB	Through-Right	N/A	N/A	Existing
		WB	Left	25	N/A	Existing
		WB	Through-Right	N/A	N/A	Existing
Audley Crossing / Audley Street	All-Way Stop Control	NB	Through-Left	N/A	N/A	
		SB	Through-Right	N/A	N/A	
		EB	Right-Left	N/A	N/A	
Audley Crossing / Cloverdale Avenue	Two-Way Stop	NB	Right	N/A	N/A	Offset
		SB	Right	N/A	N/A	Offset
		EB	Through-Right	N/A	N/A	
		WB	Through-Right	N/A	N/A	
		WB	Left	10		
Audley Crossing / Roderick Street	Two-Way Stop	NB	Right-Left	N/A	N/A	Offset
		SB	Right-Left	N/A	N/A	Offset
		EB	All	N/A	N/A	
		WB	All	N/A	N/A	

*don't need a traffic circle here bc less NB/SB traffic

*all way stop used for ped movement

*all way stop used for ped movement

*plus the TWLTL

*could leave at 25 to handle potential different patterns into superstore

Traffic Circle/Roundabout works here too

*JUST RETAIN EXISTING



APPENDIX C – LAND DEDICATION REQUIREMENTS

Land Dedication Requirements - Option 1

Address	Area
3286 Oak Street	29.464 m ²
760 Roderick Street	33.848 m ²
3278 Oak Street	39.564 m ²
3314 Oak Street	42.466 m ²
3375 Oak Street	58.624 m ²
3342 Oak Street	67.836 m ²
777 Cloverdale Avenue	71.928 m ²
3325 Oak Street	79.229 m ²
829 Short Street	82.361 m ²
800 Cloverdale Avenue	90.038 m ²
3201 Douglas Street	99.021 m ²
3335 Oak Street	112.949 m ²
3311 Oak Street	127.73 m ²
3465 Saanich Road	148.089 m ²
776 Cloverdale Avenue	160.22 m ²
3361 Oak Street	168.544 m ²
750 Roderick Street	174.448 m ²
751 Cloverdale Avenue	174.724 m ²
3318 Oak Street	176.865 m ²
3233 Douglas Street	189.978 m ²
3340 Oak Street	298.034 m ²
3393 Douglas Street	350.853 m ²
760 Tolmie Avenue SRW	411.316 m ²
3451 Saanich Road	422.488 m ²
3354 Douglas Street	453.276 m ²
767 Audley Street	456.757 m ²
3347 Oak Street	458.912 m ²
736 Cloverdale Avenue	462.319 m ²
758 Cloverdale Avenue	575.715 m ²
3329 Douglas Street	580.31 m ²
805 Cloverdale Avenue	1,207.009 m ²
760 Tolmie Avenue	1,305.389 m ²
3377 Douglas Street	2,407.097 m ²

Land Dedication Requirements - Option 2

Address	Area
3361 Oak Street	9.90 m ²
776 Cloverdale Avenue	18.01 m ²
800 Cloverdale Avenue	20.25 m ²
3286 Oak Street	29.46 m ²
760 Roderick Street	33.85 m ²
3278 Oak Street	39.56 m ²
3375 Oak Street	58.62 m ²
777 Cloverdale Avenue	71.93 m ²
829 Short Street	82.22 m ²
3201 Douglas Street	99.02 m ²
3465 Saanich Road	148.09 m ²
750 Roderick Street	174.45 m ²
751 Roderick Street	174.73 m ²
3233 Douglas Street	189.98 m ²
760 Tolmie Avenue SRW	239.09 m ²
3393 Douglas Street	353.27 m ²
3347 Oak Street	415.84 m ²
3451 Saanich Road	422.49 m ²
3354 Douglas Street	453.28 m ²
767 Audley Street	456.56 m ²
736 Cloverdale Avenue	462.33 m ²
758 Cloverdale Avenue	575.59 m ²
3329 Douglas Street	580.36 m ²
3340 Oak Street	1,008.91 m ²
805 Cloverdale Avenue	1,206.02 m ²
760 Tolmie Avenue	1,305.39 m ²
3318 Oak Street	1,568.55 m ²
3342 Oak Street	1,652.61 m ²
3377 Douglas Street	2,224.94 m ²