780 BLANSHARD STREET DEVELOPMENT

Traffic Impact Assessment

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1.0 INTRODUCTION

Watt Consulting Group was retained by Reliance Properties Ltd. to conduct a Traffic Impact Assessment (TIA) for the proposed development at 780 Blanshard Street in the City of Victoria. This study assesses the traffic impacts of the proposed land use, reviews traffic conditions at key intersections, and assesses the need for any mitigation measures. The study reviews the existing traffic operations along with the post development for all modes of transportation.

1.1 Study Area

See Figure 1 for the study area and location. The study area includes the site access and following three intersections:

- Blanshard Street / Fairfield Road (Signalized)
- Blanshard Street / Burdett Avenue
- Fairfield Road / Burdett Avenue / Penwell Street

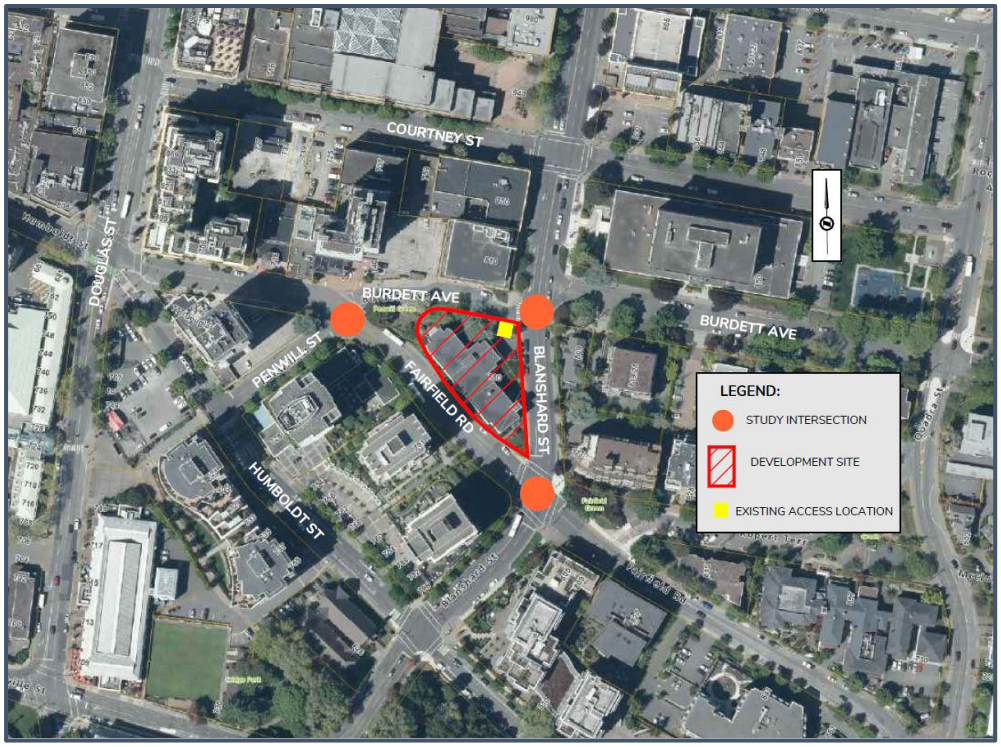


Figure 1: Study Area and Site Location

2.0 EXISTING CONDITIONS

2.1 Land Use

The site currently contains a 4-storey heritage building and is zoned to Central Business District-1 (CBD-1). The surrounding land use is comprised of hotels, offices, residential towers, and multi-family buildings.

2.2 Road Network

The proposed development is bounded by a triangular roadway configuration with Fairfield Road to the south, Burdett Avenue on the north, and Blanshard Street on the east. The Fairfield Road frontage is the location of a major transit exchange / terminus point. The corner of Fairfield Road and Burdett Avenue contains Penwell Green Park.

The existing roadways within the study area as described below:

- **Blanshard Street** is a four-lane secondary arterial road running north-south and connects Downtown Victoria to Saanich. There are sidewalks on both sides of Blanshard Street and on-street parking along the development frontage of the Blanshard Street Southbound within the study area.
- **Fairfield Road** is a two-way, local (development frontage) / secondary collector road that provides a connection between Downtown Victoria and Oak Bay (via Beach Drive). There are sidewalks on both sides of the road. On-street parking is allowed along the development frontage of Fairfield Road. There is a transit layover area with bus stops along the north and south side of Fairfield Road.
- **Burdett Avenue** is a local road connected to Douglas Street. Burdett Avenue has a non-standard configuration with westbound travel allowed for the entire block frontage, but eastbound travel is only allowed to the two hotel parking lots approximately halfway up the site frontage. There is an existing site access (parking lot) on Burdett Avenue close to Blanshard Street.
- **Penwell Street** is a two-lane, local road which provides a connection between Humboldt Street and Fairfield Road. There are sidewalks on both sides of the road. On-street parking is allowed along both sides of the road.

The posted speed limit is 40 km/h on all streets in the study area except for Blanshard Street (50 km/h) and Fairfield Road east of Blanshard Street (30 km/h).

Three key intersections were identified within the study area:

- **Blanshard Street / Fairfield Road** is a four-leg, signalized intersection which has a southbound left turn lane on Blanshard Street with a permitted phase.
- **Blanshard Street / Burdett Avenue** is a three-leg, stop-controlled intersection. A fourth leg on the east side of Blanshard Street is with offset 15m to the north.
- **Fairfield Road / Burdett Avenue / Penwell Street** is a four-leg, stop-controlled intersection.

2.3 Existing Traffic Volumes

Traffic counts were taken on Wednesday 1 September 2021 for both AM and PM peak hours at the intersections of Blanshard Street / Fairfield Road, Blanshard Street / Burdett Avenue, and Fairfield Road / Burdett Avenue / Penwell Street. See Figure 2 for existing traffic volumes. As per City of Victoria standards (and Watt's own traffic observations) a growth rate of 0% was applied to all traffic.

The traffic counts showed a significant number of illegal turns from Burdett Avenue onto Blanshard Street, which were from traffic that ignored the one-way condition that currently exists in the eastern portion of Burdett Avenue. In the AM peak 18 vehicles (~40% of traffic on Burdett Avenue) were observed making this illegal movement and in the PM peak 25 vehicles (~33% of traffic on Burdett Avenue) were observed. These vehicles were disregarded in the traffic analysis as these illegal maneuvers cannot be coded in the software.

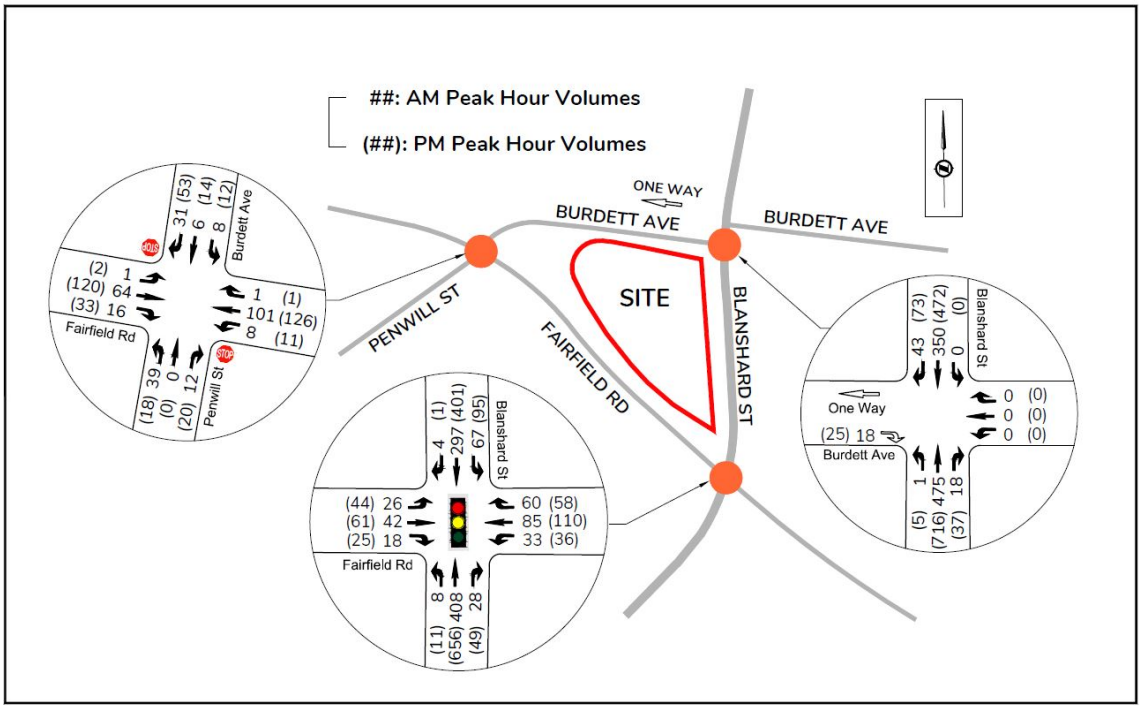


Figure 2: 2022 Existing Volumes

2.4 Traffic Modelling – Background Information

Analysis of the traffic conditions at the study intersections was undertaken using Synchro Studio 11. Synchro / SimTraffic is a two-part traffic modelling software that provides analysis of the traffic conditions based on the *Highway Capacity Manual* (HCM) evaluation methodology. A detailed description is provided in **Appendix A.**

For unsignalized (stop-controlled) intersections, the Level Of Service (LOS) is based on the computed delay on each of the critical movements. LOS A represents minimal delays for minor street traffic movements, and LOS F represents a scenario with an insufficient number of gaps on the major street for minor street motorists to complete their movements without significant delays.

In this report Synchro is used for calculating the LOS (using HCM 6 methodology) and delay per vehicle, and SimTraffic is used for determining the 95th percentile queue.

The traffic analysis in this TIA is based off a previous version of the site plan that included 102 multi-family units, 77 hotel rooms, and 125m^2 of cafe space. The current unit counts are slightly lower than the statistics used for the purposes of this analysis, however the cafe space is larger. As seen in Section 3.3 the cafe space is assumed to

bring no vehicle trips to the site due to the lack of local parking. As such, the results below are considered to be a reasonable estimate.

2.5 2022 Existing Conditions

Existing conditions were analyzed based on the collected volumes and existing roadway network. At all three study intersections, all movements operate at good LOS (LOS A/B) during the AM and PM peak hours. See Figure 3 for existing levels of service at the three study intersections.

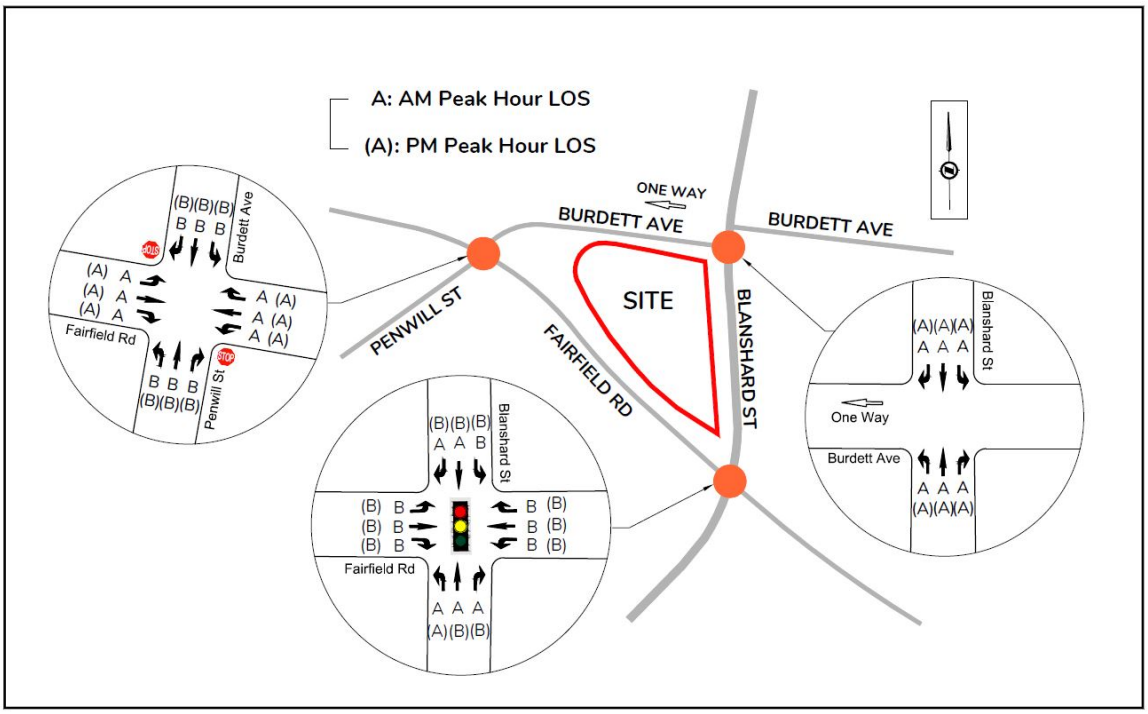


Figure 3: 2022 Existing Levels of Service

3.0 POST DEVELOPMENT

3.1 Proposed Land Use

The proposed development is a multi-storey tower addition onto the existing building. The current development proposal consists of 98 multi-family units, 69 hotel rooms, and

215m^2 of cafe space. No additional parking facility is planned at the development site, with off-site parking provided. See Figure 4 for the proposed site plan.

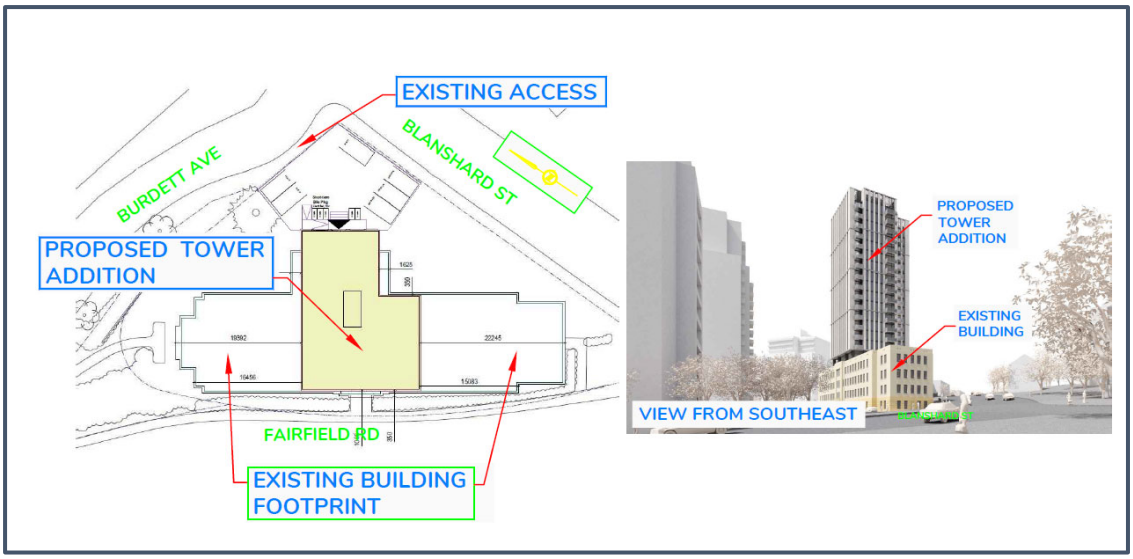


Figure 4: Proposed Site Plan

3.2 Site Access

The development proposes to reconfigure the existing parking lot on Burdett Avenue, changing the lot into a one-way loop for pick-up / drop-off (See Figure 5), with the entrance on Burdett Avenue and the exit onto Blanshard Street. No other access points are proposed with the exception of the loading zone on Fairfield Road (see Section 7.0).

Site access safety concerns are addressed in Section 5.0.

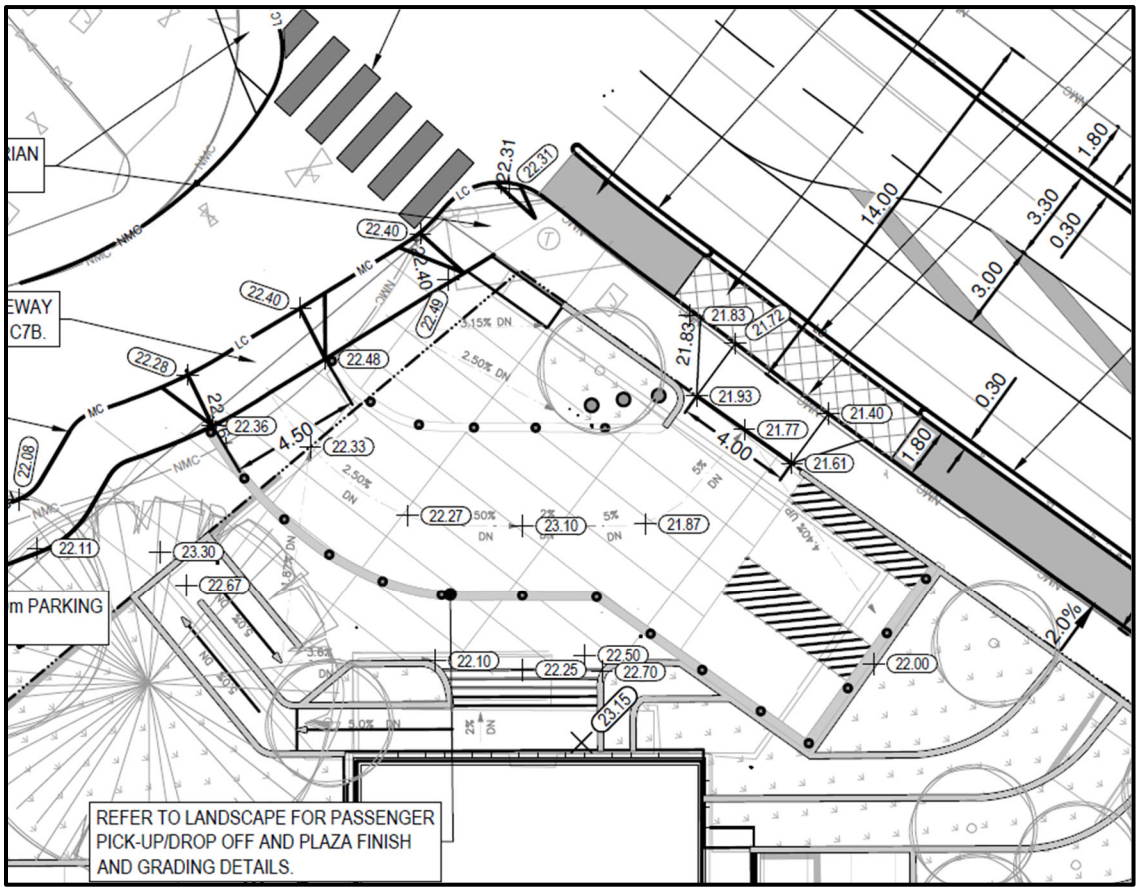


Figure 5: Proposed Site Access

3.3 Trip Generation

Trip generation rates were estimated using the *ITE Trip Generation Manual, 11th Edition*. Trip generation results can be seen below in **Table 1**.

Table 1: Trip Generation

ITE Code and Description	AM Peak Hour			PM Peak Hour		
	Avg Rate	Enter	Exit	Avg Rate	Enter	Exit
222 - Multifamily High-Rise	0.27	9	19	0.32	18	15
310 - Hotel: Dense Multi-Use Urban (rooms)	0.31	9	15	0.21	7	9
930 - Fast Casual Restaurant (GFA)	1.43	1	1	12.55	9	8
Total		**19**	**35**		**34**	**32**

Parking at the development is highly constrained with only 2 on-site spots proposed at the front entrance, both of which are accessible stalls. Because of this off-site parking is being utilized to accommodate the parking demand for residents and hotel guests. Due to the parking constraints, it was assumed that;

- The vast majority of residents (90%) would choose to park themselves off-site and then walk to the site, thus creating few trips to the site access.
- The vast majority (90%) of hotel guests would choose to arrive at the site first and then either have their vehicle parked off-site via valet or park themselves, thus creating a significant number of trips to the site access.
- All trips (100%) to / from the café were assumed to be from walking or transit users due to the lack of parking and its location in the downtown core, thus creating no trips to the site access.

Final vehicle trips arriving at / exiting the site access is seen in Table 2 below.

Table 2: Modified Trip Generation

ITE Code and Description	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
222 - Multifamily High-Rise	1	2	2	2
310 - Hotel: Dense Multi-Use Urban	8	13	6	8
930 - Fast Casual Restaurant	0	0	0	0
Total	**9**	**15**	**8**	**10**

3.4 Trip Assignment

The trip distribution was based on the existing traffic patterns and roadway constraints, with Table 3 showing the results. The trip assignments for the AM and PM peak hours are shown in Figure 6.

Table 3: Trip Distribution

Trips To / From	%	AM Peak		PM Peak	
		Enter	Exit	Enter	Exit
To/From Burdett Avenue(west)	35%	3	5	3	3
To/From Blanshard Street (north)	50%	5	8	4	5
To/From Fairfield Road (east)	10%	1	2	1	1
To/From Blanshard Street (south)	5%	0	1	0	0

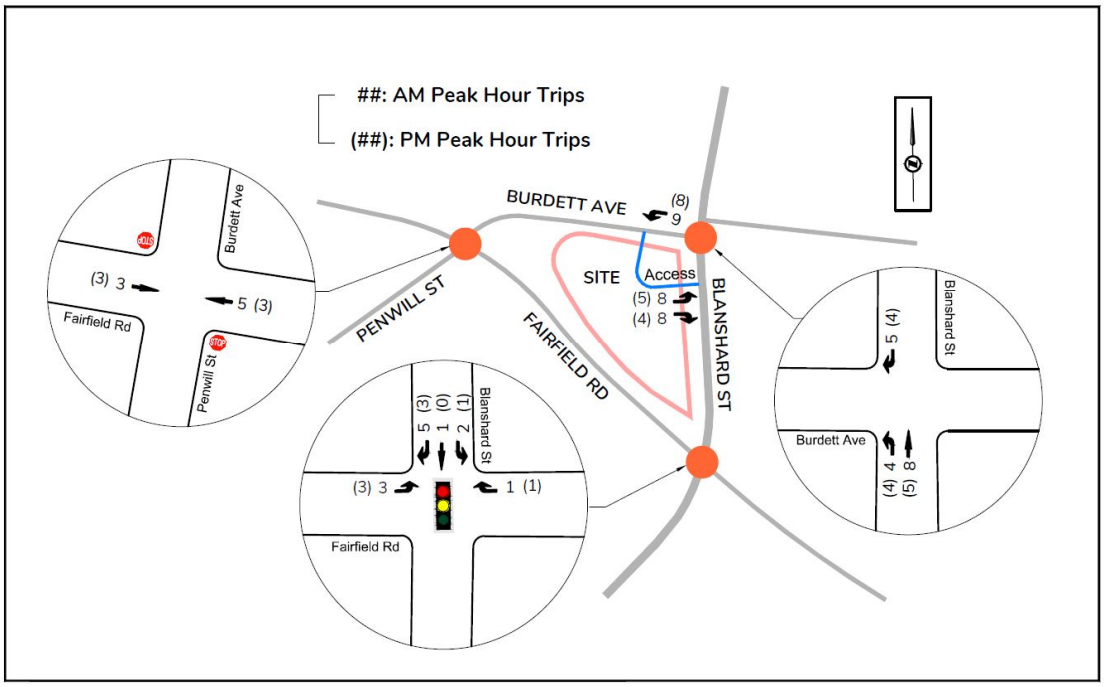


Figure 6: Trip Assignment

4.0 POST DEVELOPMENT ANALYSIS RESULTS

Traffic modeling examined the existing conditions and the future opening day conditions. A 0% growth rate was used for future scenarios (as per City of Victoria screen line reports). Post-development conditions assume a future Blanshard Street cycling facility (see Section 6.2).

The opening day conditions were analyzed by combining the existing traffic with the development traffic. Results can be seen in Table 4 and Table 5. See Figure 7 for opening day post development traffic volumes.

Table 4: Opening Day Conditions – AM Peak Hour Results

INTERSECTION	MOVEMENT	Existing			Post Development		
		LOS	Delay (s)	Queue (m)*	LOS	Delay (s)	Queue (m)*
Blanshard St / Fairfield Rd	NB-LT	A	0	42.6	A	0	41.1
	NB-TR	A	7.7	25.4	A	7.7	22.3
	EB-LTR	B	12.2	22.7	B	12.8	23.2
	SB-L	B	10.5	22 (15)	B	10.6	21.3 (15)
	SB-TR	A	9.2	49.2	A	9.3	44.8
	WB-LTR	B	11.5	32.2	B	11.6	25.8
Fairfield Rd / Burdett Ave / Penwell St	NB-LTR	B	12.1	14	B	12	16.8
	EB-LTR	A	7.6	1.2	A	0	0
	SB-LTR	B	10.8	15.7	B	10.5	16.4
	WB-LTR	A	7.9	3.2	A	7.9	4

*Note: 95th Queues based on SimTraffic results (averaged from five simulation runs), (xx) = storage length

Table 5: Opening Day Conditions – PM Peak Hour Results

INTERSECTION	MOVEMENT	Existing			Post Development		
		LOS	Delay (s)	Queue (m)*	LOS	Delay (s)	Queue (m)*
Blanshard St / Fairfield Rd	NB-LT	A	0	68.9	A	0	67.9
	NB-TR	B	10.8	49.5	B	10.8	45.9
	EB-LTR	B	13.7	23.7	B	13.9	23.7
	SB-L	B	18.7	27 (15)	B	19.1	27.6 (15)
	SB-TR	B	12.5	69.5	B	12.6	53.8
	WB-LTR	B	13.2	34.2	B	13.3	34
Fairfield Rd / Burdett Ave / Penwell St	NB-LTR	B	12.5	12.9	B	12.4	12.2
	EB-LTR	A	7.7	2.5	A	0	3.7
	SB-LTR	B	11.8	15.4	B	11.1	14.3
	WB-LTR	A	0	7.3	A	7.9	5.9

*Note: 95th Queues based on SimTraffic results (averaged from five simulation runs), (xx) = storage length

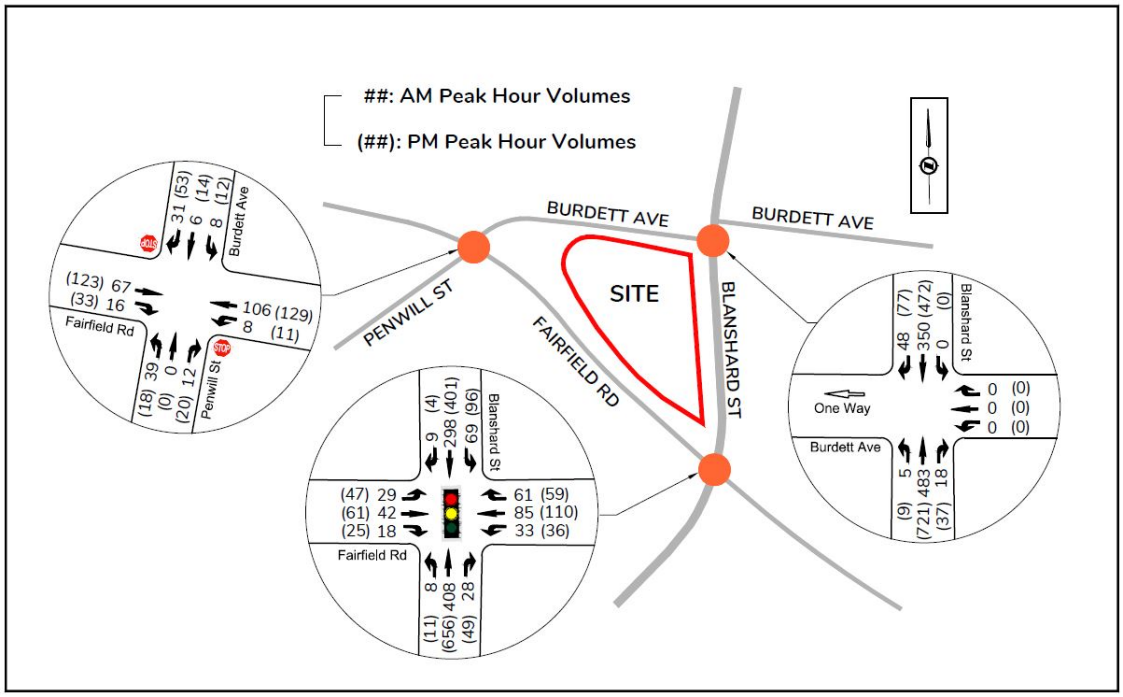


Figure 7: Post Development Volumes

Results show that traffic was effectively unchanged by the addition of the development traffic. LOS was unchanged for all movements (LOS A/B for all movements), queue lengths fluctuated ±2m mostly decreasing (except for a 16m drop in the PM Peak at the southbound through/right lane at Blanshard Street and Fairfield Road). The only queueing that exceeded available storage was for the southbound left turn lane at Blanshard Street and Fairfield Road, whose 15m of storage was exceeded in both the existing (7m) and post-development (12m) scenarios, with a post-development increase of approximately 5m (less than one car length).

These results demonstrate that the network surrounding the site has capacity to spare, and the inclusion of the development traffic will not significantly affect the performance of the adjacent intersections and roadway. Further, should the assumptions about parking/site trips be incorrect there is ample capacity to accommodate additional trips to/from the site access.

5.0 ACCESS SAFETY REVIEW

At the proposed accesses onto Burdett Avenue and Blanshard Street (see **Figure 5**) access spacing and sight distances require consideration.

5.1 Access Spacing

Blanshard Street is classified as an arterial road in front of the site, while Burdett Avenue is classified as a local road.

The proposed site exit onto Blanshard Street is spaced approximately 55m north of the signalized Fairfield Road intersection, which does not meet the TAC's suggested minimum corner clearance of 70m from an access to major signalized intersection on an arterial road. However, the access is an exit only, a planned future centre median will cause the exit to be right-out only, site constraints and the nature of the block network in the area leave few options for an alternative placement, and the exit has been placed as far as reasonable from the signalized intersection. Taken together the exit placement is deemed safe and acceptable.

The proposed site entrance on Burdett Avenue is spaced approximately 10m west of the Burdett Avenue and Blanshard Street intersection, which is within the TAC guidelines for suggested minimum corner clearances of 5m. The access is therefore deemed safe and acceptable.

5.2 Sight Distances

City of Victoria guidelines for sight triangles (received via City comments) dictate that a 3m sight triangle is required for each of the access locations. Both the entrance on Burdett Avenue and the exit onto Blanshard Street exceed that by large amounts. Landscaping and other design features such as tree canopies will be kept from (or in the case of adjacent trees, be above) these sight triangles.

Sight triangle requirements are therefore met.

6.0 ACTIVE TRANSPORTATION

6.1 Pedestrians Facilities

Along the site frontage, sidewalks are provided on both sides of Fairfield Road and Blanshard Street, but only on the north side of Burdett Avenue.

The general area is highly pedestrianized both in infrastructure and from being within the downtown core. Subsequently trips by walking and transit are also high.

The development will improve frontage sidewalks, add sidewalk on the south side of Burdett Avenue for most of its block length, improve crossings at select locations along its frontage, and remake Penwell Green Park with pedestrianized amenities.

6.2 Cycling Facilities

There are currently no bike lanes on Blanshard Street, Fairfield Road, or Burdett Avenue within the study area. However, Blanshard Steet will be upgraded with dedicated protected unidirectional bike lanes as part of a larger project in the near future. The development will add the southbound bike lane on its frontage as part of the site works. No improved cycling facilities are planned for either Fairfield Road or Burdett Avenue.

6.3 Transit

The sites frontage on Fairfield Road is a transit layover area with dedicated curb space for buses. Numerous transit bus routes are well established within walking distance from the site. Four bus routes (4, 21, 27, 28) are provided at the development frontage of Fairfield Road. Bus routes 27 / 28 provide service from Downtown (Fairfield Road) to Gordon Head via Shelbourne Street several times an hour on weekdays. Route 4 provides service to UVic and Route 21 to Camosun College (Interurban). Many bus routes are also available at Douglas Street and Belleville within 350m from the site.

Future BC Transit plans will see the Fairfield Road frontage turned into a formal transit exchange. Potential amenities (subject to final negotiation) to support this are planned as part of this development, which include: dedicated restroom facilities on the inside of the building for drivers, providing exterior space and service routing for future bus electrification infrastructure (i.e. electrical cabinets internal to the building), sidewalk improvements to add walking and bus stop space, and other features all of which are subject to final negotiation with the City.

7.0 LOADING ZONE AND WASTE HANDLING

A primary loading zone will be located on the east side of the building, accessed from Fairfield Road. The proposed development will be larger than the existing building and will have a larger waste footprint requiring more bins and a greater waste collection effort. The dedicated on-site loading zone is intended for waste handling, larger commercial loading, and residential moves.

On-site short-term pick-up and drop-off in the access on Burdett Road / Blanshard Street is proposed to manage small deliveries, hotel guest arrivals, and residential use. $ short term stalls (separate from the proposed car-sharing space) are proposed on Burdett Avenue as well.

8.0 TURNING MOVEMENTS

Turning movements for various vehicles and routing were examined. Comments are below and final drawings can be seen in **Appendix B: Turning Movement Drawings**. Vehicles examined and notes on their turning templates are as follows:

- City Fire Truck
    - Can enter onto Burdett Avenue when making the northbound left.
    - Tracks onto Burdett Avenue north curb when entering via the southbound right.
    - Can exit Burdett Avenue either left or right.
    - Can turn right from Blanshard Street onto Fairfield Road.
- Large Tour Bus
    - Travels down Burdett Avenue for assumed hotel drop off.
        - Can enter Burdett Avenue making the northbound left.
        - Cannot enter Burdett Avenue making the southbound right.
        - Can exit Burdett Avenue either left or right.

- Sprinter Van
    - Can enter and exit the site accesses.
    - Can make all other turns.
- Garbage Truck (front loader)
    - Can access the loading area.
- City Bus
    - Can access the Fairfield Road frontage without issues.
    - Can turn onto and off of Blanshard Street.

9.0 CONCLUSIONS

Traffic modeling performed for this memo showed that the proposed changes to the 780 Blanshard site will have little, if any, effect on traffic operations at the adjacent intersections or the adjacent roadways. Additionally, the changes to Burdett Avenue will not significantly affect traffic operations but will eliminate the illegal movements observed during the traffic counts.

Improvements to the pedestrian realm as part of the development works will provide better walking conditions with wider sidewalks and improved crossings. Improvements to the transit realm will also better serve transit customers and the general public.

10.0 RECOMMENDATIONS

For the developer:

- No traffic control or intersection changes are recommended as a result of this study.
- Sidewalk improvements as outlined in final submittal package.
- Cycling improvements as outlined in final submittal package.
- Transit improvements as outlined in final submittal package.

APPENDIX A: SYNCHRO INFORMATION

SYNCHRO MODELLING SOFTWARE DESCRIPTION

The traffic analysis was completed using Synchro and SimTraffic traffic modelling software. Results were measured in delay, level of service (LOS), 95th percentile queue length and volume to capacity ratio. Synchro is based on the Highway Capacity Manual (HCM) methodology. SimTraffic integrates established driver behaviours and characteristics to simulate actual conditions by randomly "seeding" or positioning vehicles travelling throughout the network. The simulation is run ten times (ten different random seedings of vehicle types, behaviours, and arrivals) to obtain statistical significance of the results.

Levels of Service

Traffic operations are typically described in terms of levels of service, which rates the amount of delay per vehicle for each movement and the entire intersection. Levels of service range from LOS A (representing best operations) to LOS E/F (LOS E being poor operations and LOS F being unpredictable/disruptive operations). LOS E/F are generally unacceptable levels of service under normal everyday conditions. A LOS C or better is considered acceptable operations, while D is on the threshold between acceptable and unacceptable operations. Highway operations will typically need to operate at LOS C or better for through movements and LOS E or better for other traffic movements with lower order roads.

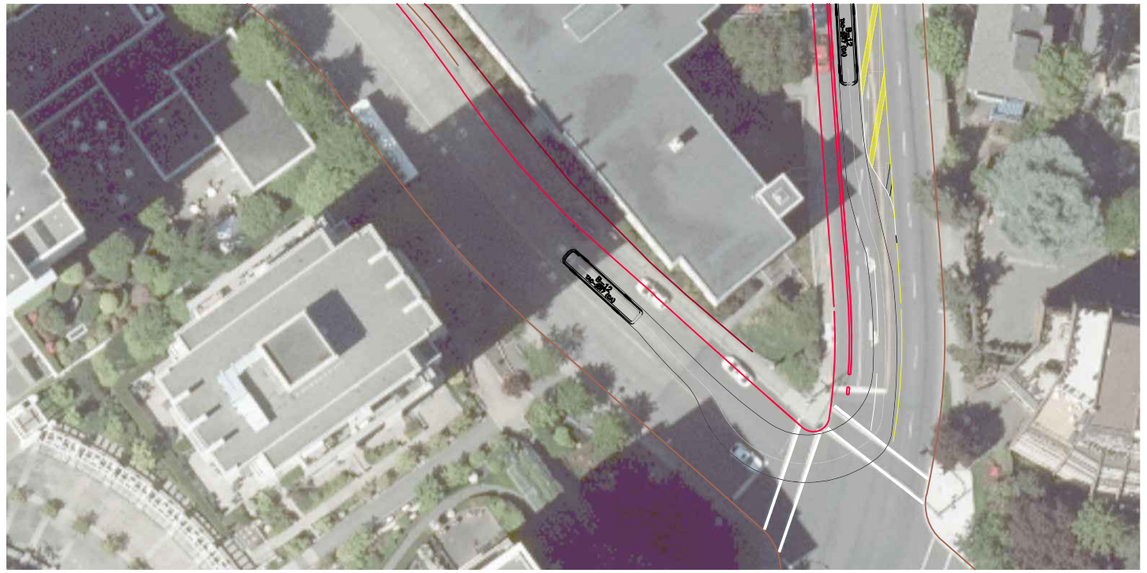
The hierarchy of criteria for grading an intersection or movement not only includes delay times, but also considers traffic control type (stop signs or traffic signal). For example, if a vehicle is delayed for 19 seconds at an unsignalized intersection, it is considered to have an average operation, and would therefore be graded as an LOS C. However, at a signalized intersection, a 19 second delay would be considered a good operation and therefore it would be given an LOS B. The table below indicates the range of delay for LOS for signalized and unsignalized intersections.

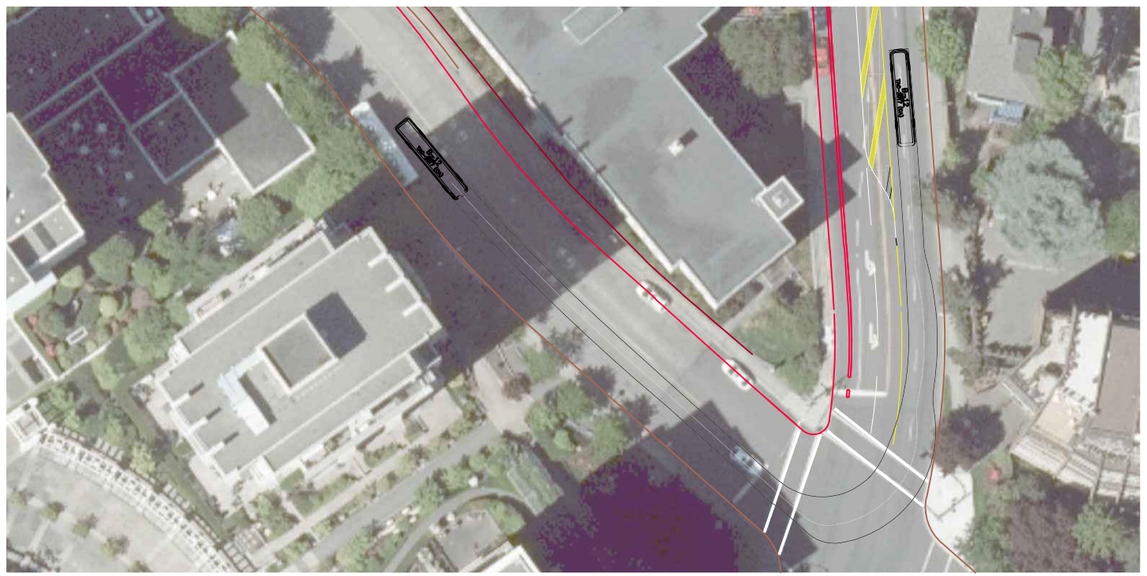
Table A1: LOS Criteria, by Intersection Traffic Control

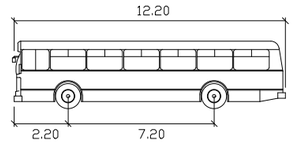
Level of Service (LOS)	Unsignalized Intersection Average Vehicle Delay (sec / veh)	Signalized Intersection Average Vehicle Delay (sec / veh)
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

APPENDIX B: TURNING MOVEMENT DRAWINGS

PROJECT: V:\Project Files\3135 - 780 Blanshard Street Transportation Consulting\5 - Design\Turning Movement_2023-02-27\2023-02-27 780 Blanshard_Turning Movements.dwg
PLOT DATE: 2/28/2023 1:59 PM
PLOTTED BY: Brian Sooh







B-12
meters

Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 37.1

SEAL:

REVISIONS		
0		
1		
2		
3		
4		
5		
6		
7		
8		

SCALE: NOT TO SCALE

DESIGNED:	DRAWN:	CHECKED:	APRVD:
BAS	BAS	AK	

DESIGN VEHICLE: BUS

DESIGN SPEED:

PROJECT NO: 3135.B01

DRAWING NO: 3135 DWG_BUS

DATE: FEB 23, 2023

REVISION:

TITLE:

TURNING MOVEMENTS
780 BLANSHARD ST
VICTORIA, BC

WATT Consulting Group
Calgary, Edmonton, Lloydminster,
Okanagan, Vancouver, Victoria
WATTCONSULTINGGROUP.COM

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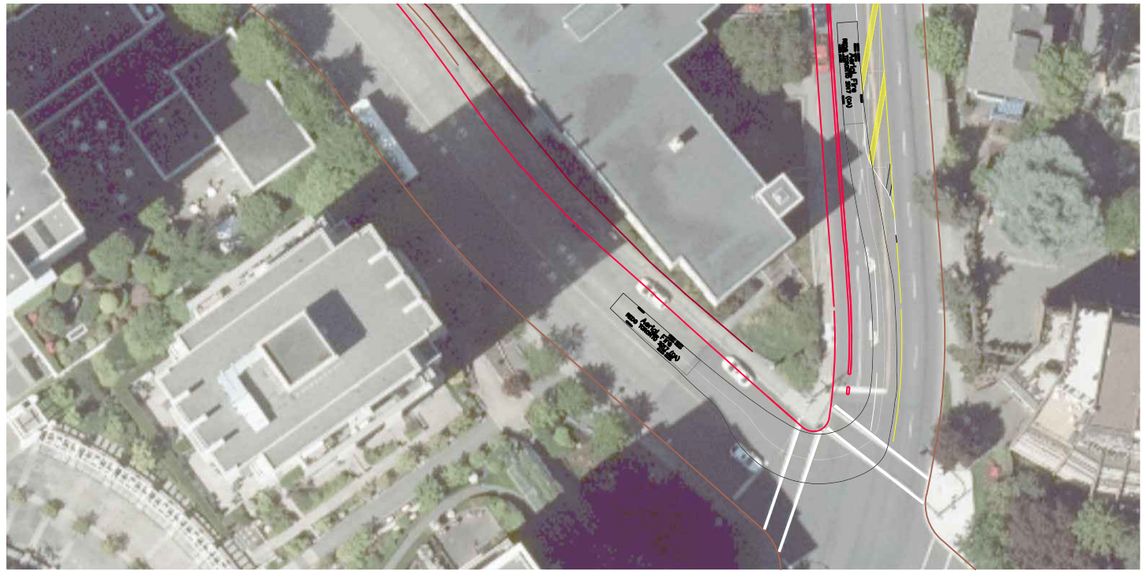
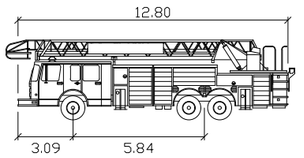
PLOTTED BY: Brian Sooh





Aerial Fire

	meters
Width	: 2.54
Track	: 2.54
Lock to Lock Time	: 6.0
Steering Angle	: 37.0

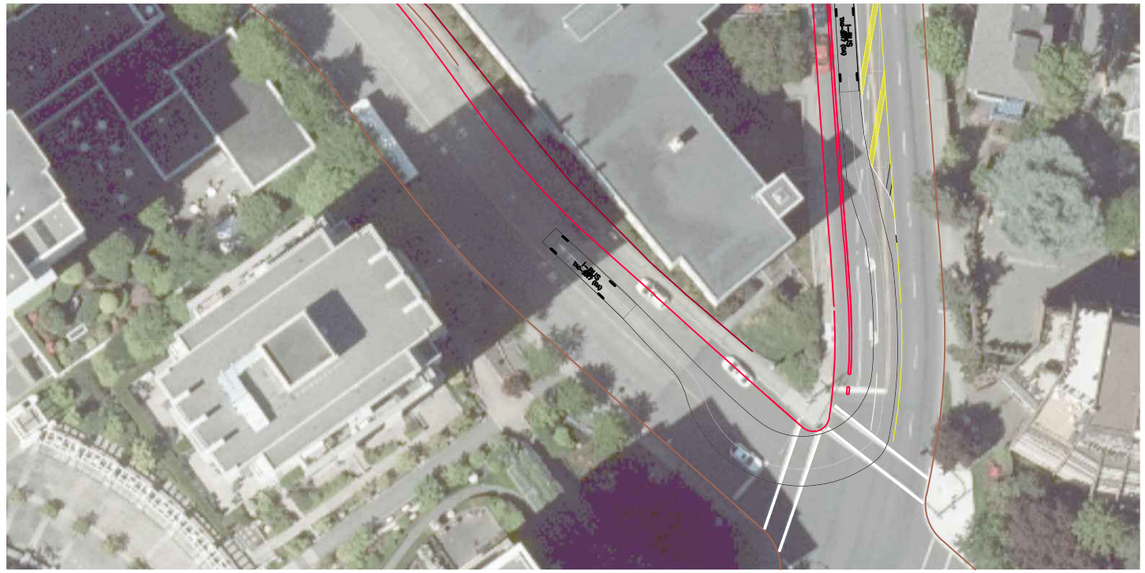
SEAL:	REVISIONS		SCALE: NOT TO SCALE			
	0		DESIGNED: BAS	DRAWN: BAS	CHECKED: AK	APRVD:
	1					
	2					
	3		DESIGN VEHICLE: FIRETRUCK		DESIGN SPEED:	
	4					
	5		PROJECT NO: 3135.B01		DRAWING NO: 3135 DWG_FT	
	6					
	7		DATE: FEB 23, 2023		REVISION:	
	8					

TITLE:

TURNING MOVEMENTS
780 BLANSHARD ST
VICTORIA, BC

WATT Consulting Group
Calgary, Edmonton, Lloydminster,
Okanagan, Vancouver, Victoria
WATTCONSULTINGGROUP.COM

PROJECT: V:\Project Files\3135 - 780 Blanshard Street Transportation Consulting\5 - Design\Turning Movement_2023-02-27\2023-02-27_780 Blanshard_Turning Movements.dwg
PLOT DATE: 2/28/2023 1:56 PM
PLOTTED BY: Brian Sooh



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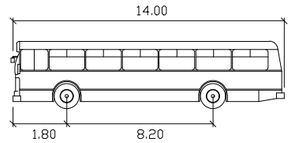

I-BUS
meters

Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 39.3

SEAL:

REVISIONS		
0		
1		
2		
3		
4		
5		
6		
7		
8		

SCALE: NOT TO SCALE			
DESIGNED: BAS	DRAWN: BAS	CHECKED: AK	APRVD:
DESIGN VEHICLE: I-BUS		DESIGN SPEED:	
PROJECT NO: 3135.B01		DRAWING NO: 3135 DWG_I-BUS	
DATE: FEB 23, 2023		REVISION:	

TITLE:

TURNING MOVEMENTS
780 BLANSHARD ST
VICTORIA, BC

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Okanagan, Vancouver, Victoria
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PROJECT: V:\Project Files\3135 - 780 Blanshard Street Transportation Consulting\5 - Design\Turning Movement_2023-02-27\2023-02-27 780 Blanshard_Turning Movements.dwg
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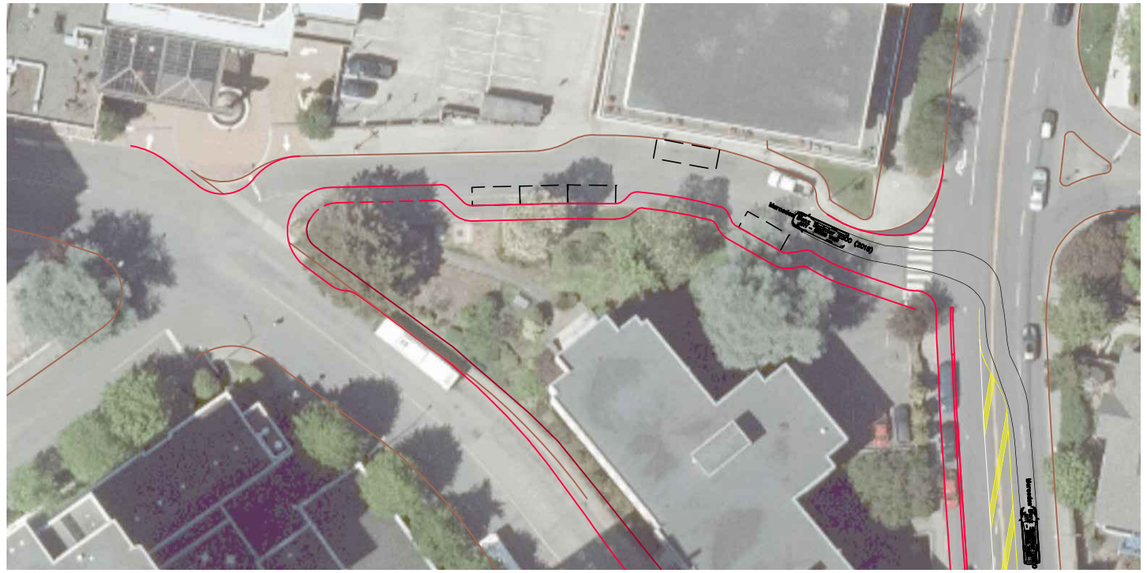
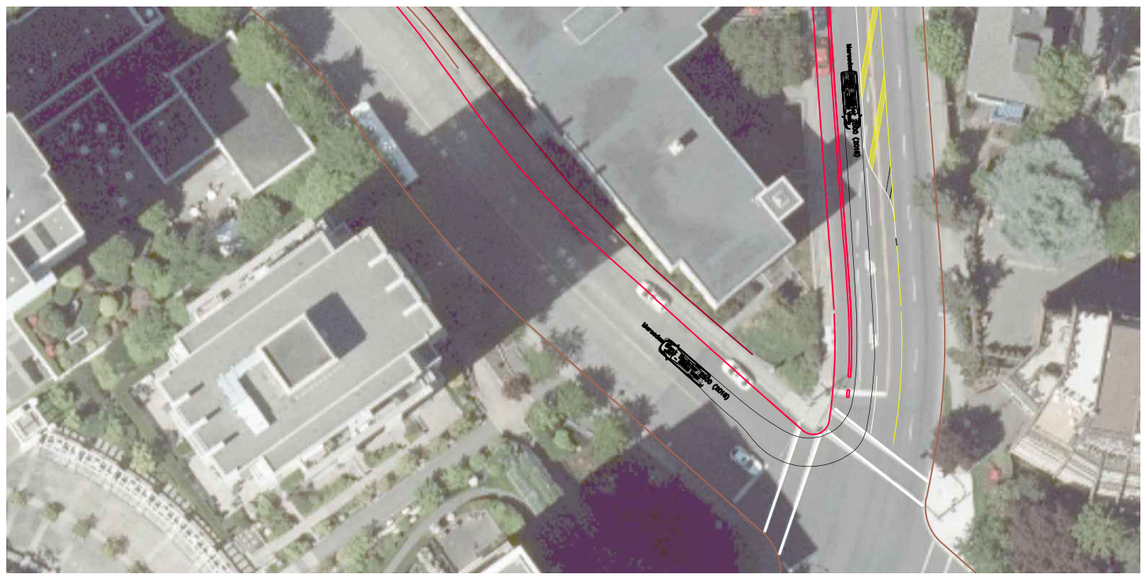
PLOTTED BY: Brian Sooh





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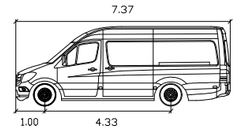

Mercedes Benz Sprinter 2500 (2018)

	meters
Width	: 2.03
Track	: 1.98
Lock to Lock Time	: 6.0
Steering Angle	: 35.1

SEAL:	REVISIONS		SCALE: NOT TO SCALE			
	0		DESIGNED: BAS	DRAWN: BAS	CHECKED: AK	APRVD:
	1					
	2					
	3		DESIGN VEHICLE: LSU		DESIGN SPEED:	
	4					
	5		PROJECT NO: 3135.B01		DRAWING NO: 3135 DWG_LSU	
	6					
	7		DATE: FEB 23, 2023		REVISION:	
	8					

TITLE:

TURNING MOVEMENTS
780 BLANSHARD ST
VICTORIA, BC

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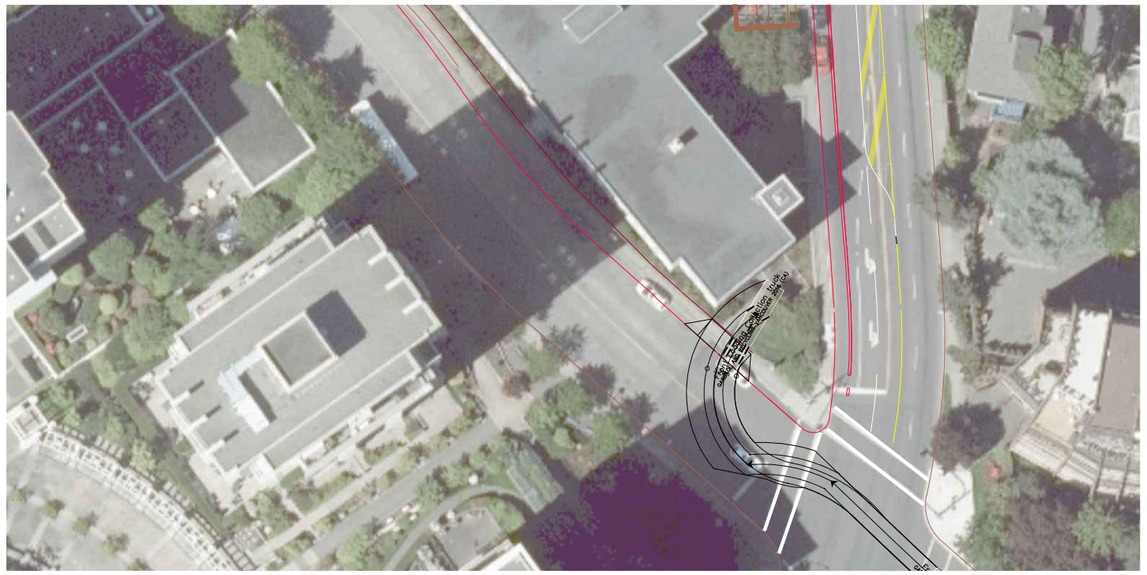

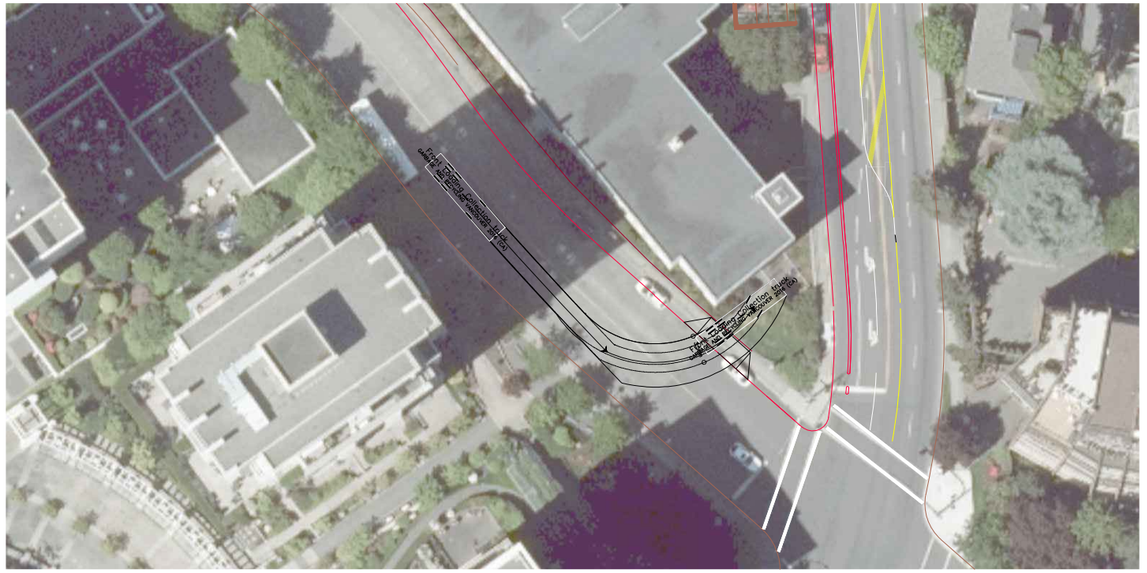

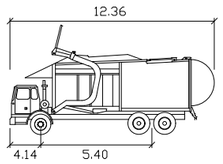

Front Loading Collection truck

meters

Width	: 2.60
Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 27.7

SEAL:	REVISIONS		SCALE: NOT TO SCALE				TITLE: TURNING MOVEMENTS 780 BLANSHARD ST VICTORIA, BC
	0		DESIGNED: BAS	DRAWN: AK	CHECKED: AK	APRVD:	
	1						
	2		DESIGN VEHICLE: BUS		DESIGN SPEED:		
	3						
	4		PROJECT NO: 3135.B01		DRAWING NO: 3135 DWG_GAR		
	5						
	6		DATE: FEB 23, 2023		REVISION:		
	7						
	8						

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PROJECT: V:\Project Files\3135 - 780 Blanshard Street Transportation Consulting\5 - Design\Turning Movement_2023-02-27\2023-02-27_780 Blanshard_Turning Movements.dwg
PLOT DATE: 3/1/2023 10:46 AM
PLOTTED BY: Andy Kading

APPENDIX C: SYNCHRO REPORTS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	1	494	350	43
Future Volume (vph)	0	0	1	494	350	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	3544	1795	1555
Flt Permitted						
Satd. Flow (perm)	0	0	0	3544	1795	1555
Link Speed (k/h)	48			48	48	
Link Distance (m)	62.2			94.5	27.0	
Travel Time (s)	4.7			7.1	2.0	
Confl. Peds. (#/hr)			31			31
Peak Hour Factor	0.92	0.92	0.92	0.94	0.89	0.77
Heavy Vehicles (%)	1%	1%	1%	3%	7%	5%
Adj. Flow (vph)	0	0	1	526	393	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	527	393	56
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Free			Free	Free	

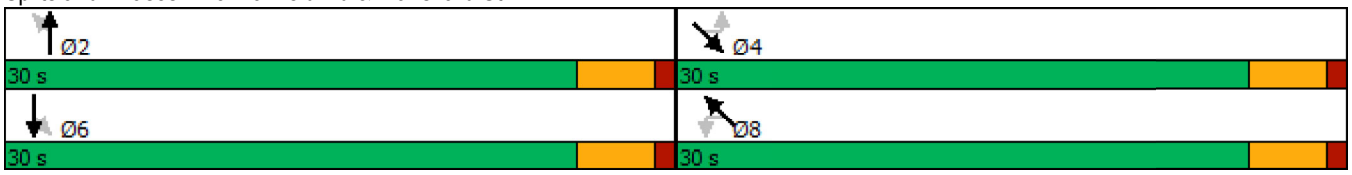
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.9%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	8	408	28	67	297	4	26	42	18	33	85	60
Future Volume (vph)	8	408	28	67	297	4	26	42	18	33	85	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	1.00			0.99			0.99	
Frt		0.988			0.997			0.976			0.958	
Flt Protected		0.999		0.950				0.978			0.991	
Satd. Flow (prot)	0	3508	0	1615	1903	0	0	1447	0	0	1676	0
Flt Permitted		0.946		0.464				0.826			0.917	
Satd. Flow (perm)	0	3321	0	765	1903	0	0	1216	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			2			22			47	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		78.4			94.5			145.2			107.1	
Travel Time (s)		5.9			7.1			10.9			8.0	
Confl. Peds. (#/hr)	19		51	51		19	23		21	21		23
Peak Hour Factor	0.67	0.89	0.70	0.67	0.87	0.50	0.43	0.81	0.75	0.83	0.76	0.88
Heavy Vehicles (%)	50%	0%	11%	13%	0%	25%	27%	14%	50%	6%	9%	7%
Adj. Flow (vph)	12	458	40	100	341	8	60	52	24	40	112	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	510	0	100	349	0	0	136	0	0	220	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left						Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	5.5		6.1	5.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	5.0		6.1	5.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.5	28.5		27.5	27.5		29.5	29.5		27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5		25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.5		4.5	4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		16.0	16.0		18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)	51	51		19	19		21	21		23	23	
Act Effct Green (s)		19.5		19.5	19.5			11.0			11.1	
Actuated g/C Ratio		0.53		0.53	0.53			0.30			0.30	
v/c Ratio		0.29		0.25	0.34			0.36			0.44	
Control Delay		7.7		10.5	9.2			12.2			11.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		7.7		10.5	9.2			12.2			11.5	
LOS		A		B	A			B			B	
Approach Delay		7.7			9.5			12.2			11.5	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 36.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Fairfield Rd & Blanshard St

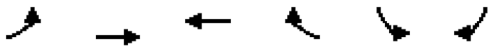


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	64	16	8	101	1	39	0	12	8	6	31
Future Volume (vph)	1	64	16	8	101	1	39	0	12	8	6	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.978			0.996			0.964			0.925	
Flt Protected		0.998			0.990			0.964			0.989	
Satd. Flow (prot)	0	1453	0	0	1650	0	0	1653	0	0	1626	0
Flt Permitted		0.998			0.990			0.964			0.989	
Satd. Flow (perm)	0	1453	0	0	1650	0	0	1653	0	0	1626	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		83.8			145.2			75.0			48.8	
Travel Time (s)		6.3			10.9			5.6			3.7	
Confl. Peds. (#/hr)	25		27	27		25	5		6	6		5
Peak Hour Factor	0.25	0.64	0.80	0.29	0.90	0.25	0.70	0.92	0.60	0.50	0.38	0.78
Heavy Vehicles (%)	1%	31%	25%	25%	11%	50%	8%	2%	8%	2%	2%	13%
Adj. Flow (vph)	4	100	20	28	112	4	56	0	20	16	16	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	144	0	0	76	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	475	18	0	393
Future Volume (vph)	0	0	475	18	0	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor						
Frt			0.994			
Flt Protected						
Satd. Flow (prot)	0	1883	3557	0	0	3579
Flt Permitted						
Satd. Flow (perm)	0	1883	3557	0	0	3579
Link Speed (k/h)	48		48			48
Link Distance (m)	170.0		27.0			68.9
Travel Time (s)	12.8		2.0			5.2
Confl. Peds. (#/hr)		2		31	31	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	516	20	0	427
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	536	0	0	427
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.4%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	0	44	0	0	0
Future Volume (vph)	2	0	44	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1789	0	1883	0	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1789	0	1883	0	0	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		48.8	62.2		25.4	
Travel Time (s)		3.7	4.7		1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	0	48	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	48	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 2: Blanshard St & Burdett Ave

Movement	NB	SB
Directions Served	LT	T
Maximum Queue (m)	4.9	20.3
Average Queue (m)	0.3	2.5
95th Queue (m)	3.2	11.9
Link Distance (m)	70.3	8.6
Upstream Blk Time (%)		0
Queuing Penalty (veh)		1
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Fairfield Rd & Blanshard St

Movement	NB	NB	SB	SB	SE	NW
Directions Served	LT	TR	L	TR	LTR	LTR
Maximum Queue (m)	58.6	39.3	22.5	65.6	27.8	41.7
Average Queue (m)	23.4	10.6	9.6	24.4	9.7	16.3
95th Queue (m)	42.6	25.4	22.0	49.2	22.7	32.2
Link Distance (m)	67.2	67.2		70.3	117.2	91.2
Upstream Blk Time (%)	0			0		
Queuing Penalty (veh)	0			1		
Storage Bay Dist (m)			15.0			
Storage Blk Time (%)			3	15		
Queuing Penalty (veh)			8	10		

Intersection: 6: Penwell St & Fairfield Rd/Burdett Ave

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	1.7	6.7	16.7	17.9
Average Queue (m)	0.1	0.3	7.9	7.8
95th Queue (m)	1.2	3.2	14.0	15.7
Link Distance (m)	73.8	117.2	65.6	37.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Burdett Ave & Blanshard St

Movement	NB	SB
Directions Served	T	T
Maximum Queue (m)	3.5	10.5
Average Queue (m)	0.1	0.5
95th Queue (m)	1.8	5.2
Link Distance (m)	8.6	60.7
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Burdett Ave

Movement	EB
Directions Served	L
Maximum Queue (m)	1.8
Average Queue (m)	0.1
95th Queue (m)	1.5
Link Distance (m)	37.0
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 20

Intersection	
Int Delay, s/veh	4.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	64	16	8	101	1	39	0	12	8	6	31
Future Vol, veh/h	1	64	16	8	101	1	39	0	12	8	6	31
Conflicting Peds, #/hr	25	0	27	27	0	25	5	0	6	6	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	64	80	29	90	25	70	92	60	50	38	78
Heavy Vehicles, %	1	31	25	25	11	50	8	2	8	2	2	13
Mvmt Flow	4	100	20	28	112	4	56	0	20	16	16	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	147	0	0	348	342	143	329	350	144
Stage 1	-	-	-	-	-	-	145	145	-	195	195	-
Stage 2	-	-	-	-	-	-	203	197	-	134	155	-
Critical Hdwy	4.11	-	-	4.35	-	-	7.18	6.52	6.28	7.12	6.52	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.209	-	-	2.425	-	-	3.572	4.018	3.372	3.518	4.018	3.417
Pot Cap-1 Maneuver	1448	-	-	1305	-	-	595	580	889	624	574	875
Stage 1	-	-	-	-	-	-	844	777	-	807	739	-
Stage 2	-	-	-	-	-	-	785	738	-	869	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1413	-	-	1271	-	-	526	537	861	579	531	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	526	537	-	579	531	-
Stage 1	-	-	-	-	-	-	820	754	-	785	704	-
Stage 2	-	-	-	-	-	-	711	703	-	841	747	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	1.5	12.1	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	586	1271	-	-	1413	-	-	687
HCM Lane V/C Ratio	0.129	0.022	-	-	0.003	-	-	0.104
HCM Control Delay (s)	12.1	7.9	0	-	7.6	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.3

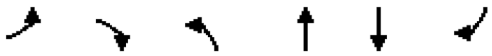
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	475	18	0	393
Future Vol, veh/h	0	0	475	18	0	393
Conflicting Peds, #/hr	0	2	0	31	31	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	516	20	0	427

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	260	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	739	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	738	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	5	758	472	73
Future Volume (vph)	0	0	5	758	472	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	3579	1883	1601
Flt Permitted						
Satd. Flow (perm)	0	0	0	3579	1883	1601
Link Speed (k/h)	48			48	48	
Link Distance (m)	62.2			94.5	27.0	
Travel Time (s)	4.7			7.1	2.0	
Confl. Peds. (#/hr)			69			
Peak Hour Factor	0.92	0.92	0.63	0.92	0.92	0.92
Adj. Flow (vph)	0	0	8	824	513	79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	832	513	79
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Free			Free	Free	

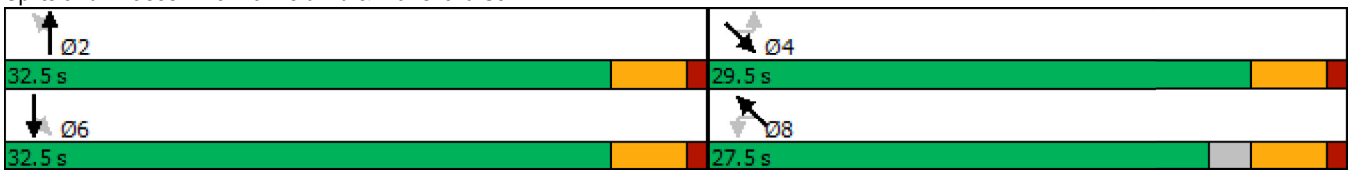
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	11	656	49	95	401	1	44	61	25	36	110	58
Future Volume (vph)	11	656	49	95	401	1	44	61	25	36	110	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	1.00			0.99			0.98	
Frt		0.988			0.999			0.975			0.962	
Flt Protected		0.999		0.950				0.984			0.991	
Satd. Flow (prot)	0	3529	0	1755	1899	0	0	1649	0	0	1726	0
Flt Permitted		0.937		0.281				0.855			0.923	
Satd. Flow (perm)	0	3307	0	506	1899	0	0	1425	0	0	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			1			22			39	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		78.4			94.5			145.2			107.1	
Travel Time (s)		5.9			7.1			10.9			8.0	
Confl. Peds. (#/hr)	46		77	77		46	32		48	48		32
Peak Hour Factor	0.46	0.85	0.72	0.82	0.82	0.25	0.79	0.73	0.78	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	3%	4%	1%	1%	5%	5%	36%	8%	4%	5%
Adj. Flow (vph)	24	772	68	116	489	4	56	84	32	39	120	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	864	0	116	493	0	0	172	0	0	222	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left						Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	5.5		6.1	5.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	5.0		6.1	5.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.5	28.5		27.5	27.5		29.5	29.5		27.5	27.5	
Total Split (s)	32.5	32.5		32.5	32.5		29.5	29.5		27.5	27.5	
Total Split (%)	52.4%	52.4%		52.4%	52.4%		47.6%	47.6%		44.4%	44.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	25.0		23.0	23.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.5		4.5	4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		16.0	16.0		18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)	77	77		46	46		48	48		32	32	
Act Effct Green (s)		22.2		22.2	22.2			13.8			13.8	
Actuated g/C Ratio		0.48		0.48	0.48			0.30			0.30	
v/c Ratio		0.54		0.48	0.54			0.39			0.44	
Control Delay		10.8		18.7	12.5			13.7			13.2	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		10.8		18.7	12.5			13.7			13.2	
LOS		B		B	B			B			B	
Approach Delay		10.8			13.7			13.7			13.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 62			
Actuated Cycle Length: 45.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 72.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Fairfield Rd & Blanshard St

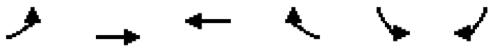


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	120	33	11	126	1	18	0	20	12	14	53
Future Volume (vph)	2	120	33	11	126	1	18	0	20	12	14	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.970			0.997			0.938			0.914	
Flt Protected		0.999			0.995			0.974			0.993	
Satd. Flow (prot)	0	1735	0	0	1762	0	0	1721	0	0	1709	0
Flt Permitted		0.999			0.995			0.974			0.993	
Satd. Flow (perm)	0	1735	0	0	1762	0	0	1721	0	0	1709	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		83.8			145.2			75.0			48.8	
Travel Time (s)		6.3			10.9			5.6			3.7	
Confl. Peds. (#/hr)	36		39	39		36	6		11	11		6
Peak Hour Factor	0.50	0.79	0.75	0.69	0.83	0.25	0.64	0.92	0.83	0.74	0.58	0.75
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	152	44	16	152	4	28	0	24	16	24	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	172	0	0	52	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	716	37	0	545
Future Volume (vph)	0	0	716	37	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1883	3553	0	0	3579
Flt Permitted						
Satd. Flow (perm)	0	1883	3553	0	0	3579
Link Speed (k/h)	48		48			48
Link Distance (m)	170.0		27.0			68.9
Travel Time (s)	12.8		2.0			5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	778	40	0	592
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	818	0	0	592
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.3%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	0	76	0	0	0
Future Volume (vph)	3	0	76	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1789	0	1883	0	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1789	0	1883	0	0	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		48.8	62.2		25.4	
Travel Time (s)		3.7	4.7		1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	83	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	0	83	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 7.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 2: Blanshard St & Burdett Ave

Movement	NB	NB	SB	SB
Directions Served	LT	T	T	R
Maximum Queue (m)	17.2	7.4	10.4	6.9
Average Queue (m)	1.4	0.2	0.8	0.3
95th Queue (m)	9.8	5.2	5.4	2.9
Link Distance (m)	70.3	70.3	8.6	8.6
Upstream Blk Time (%)			1	0
Queuing Penalty (veh)			3	0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Fairfield Rd & Blanshard St

Movement	NB	NB	SB	SB	SE	NW
Directions Served	LT	TR	L	TR	LTR	LTR
Maximum Queue (m)	71.7	57.8	22.5	72.2	29.7	44.3
Average Queue (m)	42.4	24.2	14.2	40.7	11.2	18.5
95th Queue (m)	68.9	49.5	27.0	69.5	23.7	34.2
Link Distance (m)	67.2	67.2		70.3	117.2	91.2
Upstream Blk Time (%)	2	0		1		
Queuing Penalty (veh)	0	0		6		
Storage Bay Dist (m)			15.0			
Storage Blk Time (%)			12	29		
Queuing Penalty (veh)			49	27		

Intersection: 6: Penwell St & Fairfield Rd/Burdett Ave

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	5.1	12.0	13.8	20.0
Average Queue (m)	0.2	1.3	6.1	8.8
95th Queue (m)	2.5	7.3	12.9	15.4
Link Distance (m)	73.8	117.2	65.6	37.0
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Burdett Ave & Blanshard St

Movement	NB	SB	SB
Directions Served	TR	T	T
Maximum Queue (m)	1.5	22.4	1.8
Average Queue (m)	0.0	1.5	0.1
95th Queue (m)	1.0	11.6	1.3
Link Distance (m)	8.6	60.7	60.7
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Burdett Ave

Movement	EB
Directions Served	L
Maximum Queue (m)	5.5
Average Queue (m)	0.2
95th Queue (m)	2.3
Link Distance (m)	37.0
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 86

Intersection	
Int Delay, s/veh	4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	120	33	11	126	1	18	0	20	12	14	53
Future Vol, veh/h	2	120	33	11	126	1	18	0	20	12	14	53
Conflicting Peds, #/hr	36	0	39	39	0	36	6	0	11	11	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	79	75	69	83	25	64	92	83	74	58	75
Heavy Vehicles, %	2	9	2	2	9	2	2	2	2	2	2	2
Mvmt Flow	4	152	44	16	152	4	28	0	24	16	24	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	235	0	0	461	445	224	427	465	196
Stage 1	-	-	-	-	-	-	221	221	-	222	222	-
Stage 2	-	-	-	-	-	-	240	224	-	205	243	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1332	-	-	511	508	815	538	495	845
Stage 1	-	-	-	-	-	-	781	720	-	780	720	-
Stage 2	-	-	-	-	-	-	763	718	-	797	705	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1333	-	-	1282	-	-	423	464	776	491	452	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	423	464	-	491	452	-
Stage 1	-	-	-	-	-	-	749	690	-	750	685	-
Stage 2	-	-	-	-	-	-	659	683	-	762	676	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.7	12.5	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	535	1282	-	-	1333	-	-	640
HCM Lane V/C Ratio	0.098	0.012	-	-	0.003	-	-	0.173
HCM Control Delay (s)	12.5	7.8	0	-	7.7	0	-	11.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	716	37	0	545
Future Vol, veh/h	0	0	716	37	0	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	778	40	0	592

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	389	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	610	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	610	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	5	502	350	47
Future Volume (vph)	0	0	5	502	350	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	3544	1795	1555
Flt Permitted						
Satd. Flow (perm)	0	0	0	3544	1795	1555
Link Speed (k/h)	50			50	50	
Link Distance (m)	32.3			26.6	27.0	
Travel Time (s)	2.3			1.9	1.9	
Confl. Peds. (#/hr)			31			31
Peak Hour Factor	0.92	0.92	0.92	0.94	0.89	0.77
Heavy Vehicles (%)	1%	1%	1%	3%	7%	5%
Adj. Flow (vph)	0	0	5	534	393	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	539	393	61
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Free			Free	Free	

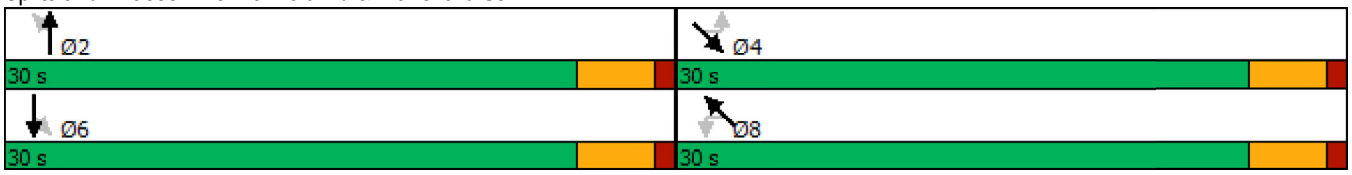
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	8	408	28	69	298	9	29	42	18	33	85	61
Future Volume (vph)	8	408	28	69	298	9	29	42	18	33	85	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	1.00			0.99			0.99	
Frt		0.988			0.993			0.977			0.958	
Flt Protected		0.999		0.950				0.977			0.991	
Satd. Flow (prot)	0	3508	0	1615	1880	0	0	1447	0	0	1676	0
Flt Permitted		0.946		0.464				0.808			0.916	
Satd. Flow (perm)	0	3321	0	765	1880	0	0	1190	0	0	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			5			21			47	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		78.4			68.0			145.2			107.1	
Travel Time (s)		5.6			4.9			10.5			7.7	
Confl. Peds. (#/hr)	19		51	51		19	23		21	21		23
Peak Hour Factor	0.67	0.89	0.70	0.67	0.87	0.50	0.43	0.81	0.75	0.83	0.76	0.88
Heavy Vehicles (%)	50%	0%	11%	13%	0%	25%	27%	14%	50%	6%	9%	7%
Adj. Flow (vph)	12	458	40	103	343	18	67	52	24	40	112	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	510	0	103	361	0	0	143	0	0	221	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left						Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	5.5		6.1	5.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Size(m)	6.1	1.5		6.1	1.8		6.1	5.0		6.1	5.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.5	28.5		27.5	27.5		29.5	29.5		27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5		25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.5		4.5	4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		16.0	16.0		18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)	51	51		19	19		21	21		23	23	
Act Effct Green (s)		19.6		19.6	19.6			11.0			11.1	
Actuated g/C Ratio		0.54		0.54	0.54			0.30			0.30	
v/c Ratio		0.29		0.25	0.36			0.39			0.44	
Control Delay		7.7		10.6	9.3			12.8			11.6	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		7.7		10.6	9.3			12.8			11.6	
LOS		A		B	A			B			B	
Approach Delay		7.7			9.6			12.8			11.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 36.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 63.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Fairfield Rd & Blanshard St



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	67	16	8	106	0	39	0	12	8	6	31
Future Volume (vph)	0	67	16	8	106	0	39	0	12	8	6	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.978						0.964			0.925	
Flt Protected					0.991			0.964			0.989	
Satd. Flow (prot)	0	1445	0	0	1675	0	0	1653	0	0	1626	0
Flt Permitted					0.991			0.964			0.989	
Satd. Flow (perm)	0	1445	0	0	1675	0	0	1653	0	0	1626	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		83.8			145.2			75.0			80.8	
Travel Time (s)		6.0			10.5			5.4			5.8	
Confl. Peds. (#/hr)	25		27	27		25	5		6	6		5
Peak Hour Factor	0.25	0.64	0.80	0.29	0.90	0.25	0.70	0.92	0.60	0.50	0.38	0.78
Heavy Vehicles (%)	1%	31%	25%	25%	11%	50%	8%	2%	8%	2%	2%	13%
Adj. Flow (vph)	0	105	20	28	118	0	56	0	20	16	16	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	0	0	146	0	0	76	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	483	18	0	398
Future Volume (vph)	0	0	483	18	0	398
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor						
Frt			0.994			
Flt Protected						
Satd. Flow (prot)	0	1883	3557	0	0	3579
Flt Permitted						
Satd. Flow (perm)	0	1883	3557	0	0	3579
Link Speed (k/h)	50		50			50
Link Distance (m)	170.0		27.0			68.9
Travel Time (s)	12.2		1.9			5.0
Confl. Peds. (#/hr)		2		31	31	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	525	20	0	433
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	545	0	0	433
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	9	43	0	0
Future Volume (vph)	0	0	9	43	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.991		
Satd. Flow (prot)	0	0	0	1866	0	0
Flt Permitted				0.991		
Satd. Flow (perm)	0	0	0	1866	0	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	80.8			32.3	51.8	
Travel Time (s)	5.8			2.3	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	10	47	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	57	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	8	0	499	350	0
Future Volume (vph)	8	8	0	499	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	0.932					
Flt Protected	0.976					
Satd. Flow (prot)	1713	0	0	3579	1883	0
Flt Permitted	0.976					
Satd. Flow (perm)	1713	0	0	3579	1883	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.8			68.0	26.6	
Travel Time (s)	3.7			4.9	1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	9	0	542	380	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	542	380	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 2: Blanshard St & Burdett Ave

Movement	NB	SB	SB
Directions Served	LT	T	R
Maximum Queue (m)	11.5	7.6	4.7
Average Queue (m)	0.9	0.5	0.2
95th Queue (m)	6.5	4.4	2.4
Link Distance (m)	19.0	9.0	9.0
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Fairfield Rd & Blanshard St

Movement	NB	NB	SB	SB	SE	NW
Directions Served	LT	TR	L	TR	LTR	LTR
Maximum Queue (m)	52.8	32.0	22.6	48.3	31.2	30.7
Average Queue (m)	24.0	9.9	8.8	23.8	10.6	14.1
95th Queue (m)	41.1	22.3	21.3	44.8	23.2	25.8
Link Distance (m)	67.2	67.2		44.4	116.9	91.2
Upstream Blk Time (%)	0			2		
Queuing Penalty (veh)	0			5		
Storage Bay Dist (m)			15.0			
Storage Blk Time (%)			3	16		
Queuing Penalty (veh)			8	11		

Intersection: 6: Penwell St & Fairfield Rd/Burdett Ave

Movement	NW	NE	SW
Directions Served	LT	LTR	LTR
Maximum Queue (m)	9.2	22.1	21.4
Average Queue (m)	0.5	8.1	8.8
95th Queue (m)	4.0	16.8	16.4
Link Distance (m)	116.9	65.6	65.7
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Burdett Ave & Blanshard St

Movement	NB	SB
Directions Served	TR	T
Maximum Queue (m)	1.8	1.8
Average Queue (m)	0.1	0.1
95th Queue (m)	1.3	1.3
Link Distance (m)	9.0	60.7
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Bldg Access & Burdett Ave

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: Blanshard St & Bldg Access

Movement	EB	SB
Directions Served	LR	T
Maximum Queue (m)	10.1	21.2
Average Queue (m)	3.2	1.6
95th Queue (m)	10.2	10.0
Link Distance (m)	42.8	19.0
Upstream Blk Time (%)		0
Queuing Penalty (veh)		1
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 26

Intersection	
Int Delay, s/veh	4.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	67	16	8	106	0	39	0	12	8	6	31
Future Vol, veh/h	0	67	16	8	106	0	39	0	12	8	6	31
Conflicting Peds, #/hr	25	0	27	27	0	25	5	0	6	6	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	64	80	29	90	25	70	92	60	50	38	78
Heavy Vehicles, %	1	31	25	25	11	50	8	2	8	2	2	13
Mvmt Flow	0	105	20	28	118	0	56	0	20	16	16	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	152	0	0	349	316	148	305	326	123
Stage 1	-	-	-	-	-	-	142	142	-	174	174	-
Stage 2	-	-	-	-	-	-	207	174	-	131	152	-
Critical Hdwy	-	-	-	4.35	-	-	7.18	6.52	6.28	7.12	6.52	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.425	-	-	3.572	4.018	3.372	3.518	4.018	3.417
Pot Cap-1 Maneuver	0	-	-	1300	-	0	594	600	883	647	592	899
Stage 1	0	-	-	-	-	0	847	779	-	828	755	-
Stage 2	0	-	-	-	-	0	781	755	-	873	772	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1268	-	-	529	571	856	617	564	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	529	571	-	617	564	-
Stage 1	-	-	-	-	-	-	847	760	-	828	737	-
Stage 2	-	-	-	-	-	-	710	737	-	848	753	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	1.5	12	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	SWLn1
Capacity (veh/h)	588	1268	-	-	-	727
HCM Lane V/C Ratio	0.129	0.022	-	-	-	0.098
HCM Control Delay (s)	12	7.9	0	-	-	10.5
HCM Lane LOS	B	A	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	483	18	0	398
Future Vol, veh/h	0	0	483	18	0	398
Conflicting Peds, #/hr	0	2	0	31	31	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	525	20	0	433

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	265	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	733	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	732	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	0	499	350	0
Future Vol, veh/h	8	8	0	499	350	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	9	0	542	380	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	651	380	-	0	-	0
Stage 1	380	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-
Pot Cap-1 Maneuver	417	666	0	-	-	0
Stage 1	690	-	0	-	-	0
Stage 2	751	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	417	666	-	-	-	-
Mov Cap-2 Maneuver	417	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	751	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	513	-
HCM Lane V/C Ratio	-	0.034	-
HCM Control Delay (s)	-	12.3	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	9	766	472	77
Future Volume (vph)	0	0	9	766	472	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected				0.999		
Satd. Flow (prot)	0	0	0	3575	1883	1601
Flt Permitted				0.999		
Satd. Flow (perm)	0	0	0	3575	1883	1601
Link Speed (k/h)	48			48	48	
Link Distance (m)	32.3			26.6	27.0	
Travel Time (s)	2.4			2.0	2.0	
Confl. Peds. (#/hr)			69			
Peak Hour Factor	0.92	0.92	0.63	0.92	0.92	0.92
Adj. Flow (vph)	0	0	14	833	513	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	847	513	84
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Free			Free	Free	

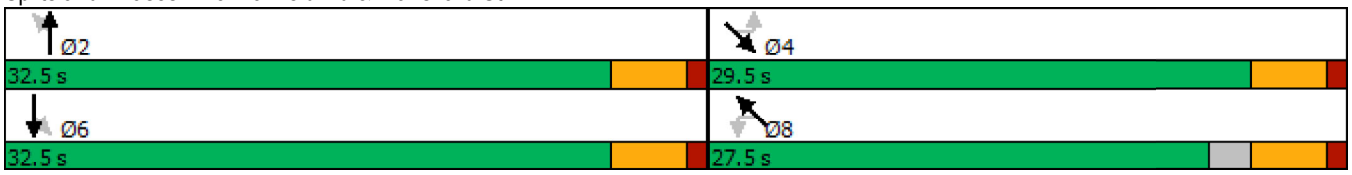
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.9%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	11	656	49	96	401	3	47	61	25	36	110	59
Future Volume (vph)	11	656	49	96	401	3	47	61	25	36	110	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.97	1.00			0.99			0.98	
Frt		0.988			0.996			0.975			0.961	
Flt Protected		0.999		0.950				0.983			0.991	
Satd. Flow (prot)	0	3529	0	1755	1891	0	0	1649	0	0	1724	0
Flt Permitted		0.937		0.280				0.853			0.923	
Satd. Flow (perm)	0	3307	0	504	1891	0	0	1423	0	0	1598	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			3			22			39	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		78.4			68.0			145.2			107.1	
Travel Time (s)		5.9			5.1			10.9			8.0	
Confl. Peds. (#/hr)	46		77	77		46	32		48	48		32
Peak Hour Factor	0.46	0.85	0.72	0.82	0.82	0.25	0.79	0.73	0.78	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	3%	4%	1%	1%	5%	5%	36%	8%	4%	5%
Adj. Flow (vph)	24	772	68	117	489	12	59	84	32	39	120	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	864	0	117	501	0	0	175	0	0	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left						Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	5.5		6.1	5.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.5	
Detector 1 Size(m)	6.1	1.5		6.1	1.8		6.1	5.0		6.1	5.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.5	28.5		27.5	27.5		29.5	29.5		27.5	27.5	
Total Split (s)	32.5	32.5		32.5	32.5		29.5	29.5		27.5	27.5	
Total Split (%)	52.4%	52.4%		52.4%	52.4%		47.6%	47.6%		44.4%	44.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	25.0		23.0	23.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.5		4.5	4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		16.0	16.0		18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)	77	77		46	46		48	48		32	32	
Act Effct Green (s)		22.1		22.1	22.1			13.8			13.8	
Actuated g/C Ratio		0.48		0.48	0.48			0.30			0.30	
v/c Ratio		0.54		0.48	0.55			0.39			0.44	
Control Delay		10.8		19.1	12.6			13.9			13.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		10.8		19.1	12.6			13.9			13.3	
LOS		B		B	B			B			B	
Approach Delay		10.8			13.9			13.9			13.3	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 62			
Actuated Cycle Length: 45.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 72.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Fairfield Rd & Blanshard St



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	123	33	11	129	0	18	0	20	12	14	53
Future Volume (vph)	0	123	33	11	129	0	18	0	20	12	14	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.970						0.938			0.914	
Flt Protected					0.995			0.974			0.993	
Satd. Flow (prot)	0	1734	0	0	1764	0	0	1721	0	0	1709	0
Flt Permitted					0.995			0.974			0.993	
Satd. Flow (perm)	0	1734	0	0	1764	0	0	1721	0	0	1709	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		83.8			145.2			75.0			80.8	
Travel Time (s)		6.3			10.9			5.6			6.1	
Confl. Peds. (#/hr)	36		39	39		36	6		11	11		6
Peak Hour Factor	0.50	0.79	0.75	0.69	0.83	0.25	0.64	0.92	0.83	0.74	0.58	0.75
Heavy Vehicles (%)	2%	9%	2%	2%	9%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	156	44	16	155	0	28	0	24	16	24	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	171	0	0	52	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

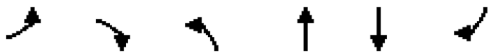
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	721	37	0	549
Future Volume (vph)	0	0	721	37	0	549
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt			0.993			
Flt Protected						
Satd. Flow (prot)	0	1883	3553	0	0	3579
Flt Permitted						
Satd. Flow (perm)	0	1883	3553	0	0	3579
Link Speed (k/h)	48		48			48
Link Distance (m)	170.0		27.0			68.9
Travel Time (s)	12.8		2.0			5.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	784	40	0	597
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	824	0	0	597
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	8	73	0	0
Future Volume (vph)	0	0	8	73	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.995		
Satd. Flow (prot)	0	0	0	1874	0	0
Flt Permitted				0.995		
Satd. Flow (perm)	0	0	0	1874	0	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	80.8			32.3	51.8	
Travel Time (s)	6.1			2.4	3.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	9	79	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	88	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		97	97		97	97
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 7.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	4	0	767	472	0
Future Volume (vph)	5	4	0	767	472	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	0.940					
Flt Protected	0.973					
Satd. Flow (prot)	1723	0	0	3579	1883	0
Flt Permitted	0.973					
Satd. Flow (perm)	1723	0	0	3579	1883	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	51.8			68.0	26.6	
Travel Time (s)	3.9			5.1	2.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	4	0	834	513	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	0	0	834	513	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 2: Blanshard St & Burdett Ave

Movement	NB	SB	SB
Directions Served	LT	T	R
Maximum Queue (m)	22.1	13.8	6.8
Average Queue (m)	2.1	1.9	0.5
95th Queue (m)	11.5	8.6	3.7
Link Distance (m)	19.0	9.0	9.0
Upstream Blk Time (%)	0	5	0
Queuing Penalty (veh)	2	12	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Fairfield Rd & Blanshard St

Movement	NB	NB	SB	SB	SE	NW
Directions Served	LT	TR	L	TR	LTR	LTR
Maximum Queue (m)	71.4	58.1	22.5	49.8	29.3	44.9
Average Queue (m)	41.6	22.1	15.1	35.1	11.7	18.3
95th Queue (m)	67.9	45.9	27.6	53.8	23.7	34.0
Link Distance (m)	67.2	67.2		44.4	116.9	91.2
Upstream Blk Time (%)	2	0		9		
Queuing Penalty (veh)	0	0		42		
Storage Bay Dist (m)			15.0			
Storage Blk Time (%)			13	30		
Queuing Penalty (veh)			51	29		

Intersection: 6: Penwell St & Fairfield Rd/Burdett Ave

Movement	SE	NW	NE	SW
Directions Served	TR	LT	LTR	LTR
Maximum Queue (m)	6.2	11.2	11.1	16.6
Average Queue (m)	0.3	0.9	5.7	8.4
95th Queue (m)	3.7	5.9	12.2	14.3
Link Distance (m)	74.4	116.9	65.6	65.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Burdett Ave & Blanshard St

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	55.8	26.0
Average Queue (m)	6.0	1.3
95th Queue (m)	33.3	16.2
Link Distance (m)	60.7	60.7
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Bldg Access & Burdett Ave

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 14: Blanshard St & Bldg Access

Movement	EB	NB	SB
Directions Served	LR	T	T
Maximum Queue (m)	11.4	9.4	23.3
Average Queue (m)	2.4	0.5	6.5
95th Queue (m)	9.0	5.2	21.9
Link Distance (m)	42.8	44.4	19.0
Upstream Blk Time (%)			5
Queuing Penalty (veh)			26
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 162

Intersection	
Int Delay, s/veh	3.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	123	33	11	129	0	18	0	20	12	14	53
Future Vol, veh/h	0	123	33	11	129	0	18	0	20	12	14	53
Conflicting Peds, #/hr	36	0	39	39	0	36	6	0	11	11	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	79	75	69	83	25	64	92	83	74	58	75
Heavy Vehicles, %	2	9	2	2	9	2	2	2	2	2	2	2
Mvmt Flow	0	156	44	16	155	0	28	0	24	16	24	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	239	0	0	458	404	228	388	426	161
Stage 1	-	-	-	-	-	-	217	217	-	187	187	-
Stage 2	-	-	-	-	-	-	241	187	-	201	239	-
Critical Hdwy	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1328	-	0	513	536	811	571	520	884
Stage 1	0	-	-	-	-	0	785	723	-	815	745	-
Stage 2	0	-	-	-	-	0	762	745	-	801	708	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1278	-	-	430	509	772	541	493	879
Mov Cap-2 Maneuver	-	-	-	-	-	-	430	509	-	541	493	-
Stage 1	-	-	-	-	-	-	785	696	-	815	735	-
Stage 2	-	-	-	-	-	-	664	735	-	768	681	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0.7	12.4	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	SWLn1
Capacity (veh/h)	540	1278	-	-	-	697
HCM Lane V/C Ratio	0.097	0.012	-	-	-	0.159
HCM Control Delay (s)	12.4	7.9	0	-	-	11.1
HCM Lane LOS	B	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	721	37	0	549
Future Vol, veh/h	0	0	721	37	0	549
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	784	40	0	597

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	392	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	607	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	607	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	0	767	472	0
Future Vol, veh/h	5	4	0	767	472	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	4	0	834	513	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	930	513	-	0	-	0
Stage 1	513	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-
Pot Cap-1 Maneuver	281	560	0	-	-	0
Stage 1	600	-	0	-	-	0
Stage 2	634	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	281	560	-	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	634	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	361	-
HCM Lane V/C Ratio	-	0.027	-
HCM Control Delay (s)	-	15.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0.1	-