

TRAFFIC IMPACT ASSESSMENT (TIA)
RECREATIONAL VEHICLE CAMPGROUND
DEVELOPMENT, LAC STE ANNE, AB

ZALIG CONSULTING LTD.



Appendix 3: Traffic Impact Assessment



TRAFFIC IMPACT ASSESSMENT (TIA) REPORT for RECREATIONAL VEHICLE CAMPGROUND DEVELOPMENT

LAC STE ANNE COUNTY, ALBERTA

Client: VIVCOR HOLDINGS INC.

Project Number: 1601-21MY

Submitted: July 12th, 2021



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1 INTRODUCTION

1.1 General

Vivcor Holdings Inc. retained ZALIG Consulting Ltd. (ZALIG) to undertake a traffic impact assessment (TIA) in support of the proposed Recreational Vehicle Campground Development to be in the Lac Ste Ann County just north of Summer Village of Sandy Beach, Alberta. The proposed project will be built on a 151.2-acre lot. The development will be located along the west side of Range Road 12A / Shedden Drive and will be accessed via three access points on Shedden Drive. This traffic impact assessment is being prepared to assess potential transportation impacts of the proposed development and to satisfy the Lac Ste Anne County and Summer Village of Sunrise Beach requirements for such a study as a result of the proposed development.

Figure 1a presents a site map that shows the general location of the proposed development, and Figure 1b presents a local context aerial map.

1.2 Planned Development

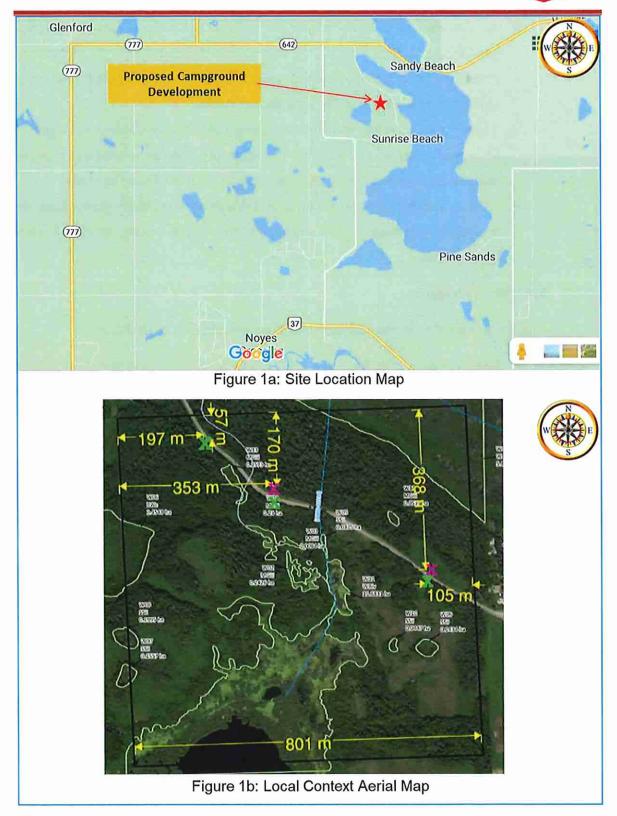
The proposed campground development will consist of 300 total recreational vehicle (RV) campsites to be developed in two phases. Phase 1 would consist of 97 campsites and expected to open in 2022. Phase 2 would consist of another 203 campsites and expected to be fully operational and reaching full capacity by 2026. The access application documents to the Summer Village of Sunrise Beach including title are attached in **Appendix A** of this report.

1.3 Purpose of Study

The primary purposes of this traffic impact assessment study are:

- > To evaluate the traffic operations and levels of service (LOS) at the following study intersections:
 - Highway 642 and Range Road 12A intersection.
 - Victory Road and Shedden Drive intersection.
 - The three site access intersections on Shedden Drive.







- To evaluate any potential project traffic impacts of the proposed development to the surrounding roadway network, and to determine if the roadways, site access and traffic circulations in the project vicinities would be suitable for the intended development and the amount of development traffic volumes anticipated.
- ➤ To identify suitable intersection control and geometric configurations that would be required to properly service the proposed development including conducting a signal warrant analyses for Highway 642 and the Range Road 12A intersection as needed.
- ➤ Also, to identify any needed short-term and long-term roadway improvements in the areas to enable acceptable traffic operations that would satisfy Alberta Transportation's requirements.

1.4 Methodologies

This traffic impact assessment utilizes the following evaluation methodologies:

- Data collection including but not limited to existing roadway and intersection geometric characteristic, pavement markings, traffic control types, and intersection turning movement traffic counts.
- ➤ The forecast of background peak hour traffic volumes without the site traffic for the 20-year horizon (2041).
- > Trip generation estimate for the proposed development based on appropriate Trip Generation land use categories and corresponding trip generation rates by the Institute of Transportation Engineers (ITE).
- Distribution of the site generated trips to/from the development site based on population, land uses, roadway network, and existing traffic patterns in the project vicinities.
- Assignment of the project trips to the adjacent roadways based on the proposed project site plan and the estimated roadway trip distribution characteristics.
- Existing, background, and future traffic capacity analysis for the study area intersections and roadways to identify possible capacity constraints and to assess overall traffic impacts of the proposed development, which is based on the latest Highway Capacity Manual (HCM) methodologies by the Transportation Research Board, the US National Academies of Sciences, Engineering and Medicine.



2 EXISTING CONDITIONS

2.1 Area Road Network

There are three roadways providing access to the site as described below. These roadways are Highway 642, Range Road 12A / Shedden Drive and Victory Road. A brief description of each of these roadways follows.

Highway 642 is a two-lane two-way undivided provincial highway that runs in the east / west directions in the vicinity of the proposed development. Highway 642 is a major highway that provides connectivity between Lac Ste. Anne County and County of Barrhead. The speed limit of Highway 642 in the vicinity of the proposed development is posted at 100 Km/hr.

Range Road 12A / Shedden Drive is a two-lane two-way paved roadway that runs in the north / south directions in the vicinity of the development site and intersects with Highway 642 to the north of the proposed development. To the south of the proposed development, this road is known as Shedden Drive, and it intersects with Victory Road in Summer Village of Sunrise Beach. It should be noted that Shedden Drive south of Victory Road is unpaved road. The speed limit of Range Road 12A is posted at 50 Km/hr. The speed limit of Shedden Drive in the Vicinity of Victory Road is posted at 30 Km/hr.

Victory Road is a two-lane two-way paved roadway that runs in the east / west directions. The speed limit on Victory Road is posted at 50 Km/hr.

The intersection of Highway 642 and Range Road 12A is an unsignalized intersection with stop-control signs on the Range Road 12A approach and a free flow operation on Highway 642 east/west approaches. There is a private access with a closed gate existing on the north approach of this intersection. Since the north approach has a closed gate and no traffic was observed during the data collection, this intersection has been treated as a T-intersection. All intersection approaches consist of one shared lane per approach.

The intersection of Victory Road and Shedden Drive is an unsignalized intersection with stop-control sign on Victory Road approach and a free flow on the Shedden Drive approaches. An unpaved local road opposing Victory Road exists, which is called Willow Way. This intersection has one shared left/through/right lane on each approach.



2.2 Historical Roadway Traffic Volumes

The past 20-year historical weekday Average Annual Daily Traffic (AADT) Volumes along Highway 642 were obtained from Alberta Transportation's (AT) Traffic Count Database and were reviewed. The AADT for selected years between year 2000 to year 2020 are presented in **Table 1** below for the Hwy 642 section between Highway 777 east junction and Sandy Beach.

Table 1: AADT Traffic Volume History for Selected Years

Roadway Link	2000	2005	2010	2015	2020	ASDT*
Highway 642 (E OF 777 W OF SANDY BEACH EJ)	380	440	390	460	520	590

^{*} ASDT: The Average Summer Daily Traffic in 2020

A review of Table 1 indicates that traffic volumes along Highway 642 fluctuated up and down during the period from 2000 to 2020 with a general increasing pattern. The overall average annual growth of traffic between year 2000 and year 2020 has been calculated and determined to be 1,84% per year. To be conservative a traffic growth factor of 2% will be utilized to estimate future horizons traffic volumes for this study.

2.3 Existing Traffic Volumes and Conditions

A field reconnaissance of the site and its surroundings was conducted to establish a database of the existing conditions. The peak periods considered for analysis for the proposed RV Campground were the weekday morning and the late afternoon periods.

Turning movement traffic count data was collected on Wednesday and Thursday June 2nd and June 3rd, 2021, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM for the a.m. and p.m. peak periods respectively at the following two study intersections:

- ➤ Highway 642 and Range Road 12A Intersection.
- Victory Road and Shedden Drive intersection.

The observed 2021 AM and PM peak-hour traffic volumes for the above study intersections are illustrated on **Figure 2a.** Details of the collected traffic count data for the study intersections as well as AT's historical traffic data at Hwy 642/Hwy 777 intersection are contained in **Appendix B**.



Figure 2a also presents the approaching / departing 2020 peak hour traffic volumes obtained from AT's traffic count database at Hwy 642/Hwy 777 intersection.

COVID-19 Impact on Traffic:

ZALIG understands that COVID-19 may have some impacts on highway traffic due to some people working from home. Therefore, the 2021 observed traffic count data along Highway 642 were compared with Alberta Transportation's 2020 traffic data as obtained from Hwy 642/Hwy 777 intersection, which are presented on Figure 2a. A review of Figure 2a for Highway 642 two-way peak hour volumes indicates that AT's 2020 volumes versus observed 2021 volumes east of Highway 777 are as follows:

- ➤ AM Peak Hour: AT's 2020 = 63 VPH, Observed 2021 = 54 VPH, AT/OB = 1.17
- > PM Peak Hour: AT's 2020 = 55 VPH, Observed 2021 = 68 VPH, AT/OB = 0.81

Where AT/OB represent the calculated factor determined by dividing AT's 2020 volumes by Observed 2021 volumes.

The above calculated factors indicate that the observed AM peak hour volumes are very low compared to AT's 2020 data; therefore, they should be grown by a factor of 1.17 to match the 2020 data. To be conservative in this analysis a factor of 1.20 has been utilized to grow the AM observed volumes.

With respect to the PM peak hour, the calculated factor of 0.81 indicates that the observed PM volumes are significantly higher than AT's 2020, which is around 23% higher than 2020 volumes. Therefore, there is no need to apply any factor on observed 2021 PM peak hour volumes to account for COVID-19 impact.

As mentioned above, the 1.20 factor has been applied on the observed 2021 AM peak hour traffic volumes at the two study intersections and the resulted estimated Existing 2021 peak hour volumes are illustrated on **Figure 2b**.











2.4 Existing Heavy Vehicle Composition

The AM peak hour and PM peak hour heavy vehicle compositions were determined from the intersection turning movement traffic count performed at the study intersection and are presented in **Table 2**. Note that the sum of Single Unit Trucks and the Tractor Trailer Unit were considered to represent heavy vehicle traffic and their percentages are presented in the below table.

Table 2: Adjacent Highway Heavy Vehicle Composition (in %)

BURNEY BURN		2021 Traffic Count I	Data Data		
Description	Highy	vay 642	Range Road 12A		
Description	West of Range Road 12A	West of Range Road 12A	South of Highway 642		
AM Peak Hour	32%	23%	0%		
PM Peak Hour	4%	8%	0%		
15.150.27	Shedd	en Drive	Victory Road		
Description	North of Victory Road	South of Victory Road	West of Shedden Drive		
AM Peak Hour	33%	0%	0%		
PM Peak Hour	0%	7%	8%		

A review of Table 2 indicates that Highway 642 carries relatively large amounts of heavy vehicle traffic during the AM peak hour. However, it carries small amounts of heavy vehicle traffic during the PM peak hour. Range Road 12A does not carry any heavy vehicle traffic. In the vicinity of Shedden Drive / Victory Road intersection, these two roads carry relatively small amounts of Based on the above results, the capacity analysis for the study intersections utilized the 2021 observed heavy vehicle percentages as noted in Table 2. Noting that for the approaches where the observed percentage was less than 2% a heavy vehicle percentage of 2% was utilized in the existing and background capacity analysis software for that approach.

Future Conditions Heavy Vehicle Percentages:

For the Opening 2020, Interim 2026, and Future 2041 scenarios capacity analysis, the following heavy vehicle percentage were utilized because of the proposed Campground Park Development:

- > 100% heavy vehicle percentage at all site access intersections on Shedden Drive.
- ➤ 50% heavy vehicle percentages at Range Road 12A NB approach, Highway 642 EB right-turn movement, and Highway 642 WB Left-turn movement.



➤ 50% heavy vehicle percentages at Victory Road and Shedden Drive intersection, all movements.

2.5 Planned Roadway Improvements

The Lac Ste Anne County website was reviewed thoroughly to find out if there are any plans for any roadway improvements within the study area in the near future. The results of this review indicated there are no plans available at this time for any improvements within the project's study area.

3 PROJECTED TRAFFIC VOLUMES

3.1 Trip Generation for Known Background Developments

Background traffic takes into account additional traffic on the roadway systems that will be generated by approved developments in the area that may be completed by the time of the site build-out. The current project's phase 1 is projected to be built-out within the coming year, and the full development of phase 2 is expected to occur in 2026. Based on ZALIG's reviews of Lac Ste Anne County website, there are no approved developments in the vicinity of the project site that are being developed. Therefore, background development traffic has not been considered for this TIA.

3.2 Historical Traffic Growth Rate

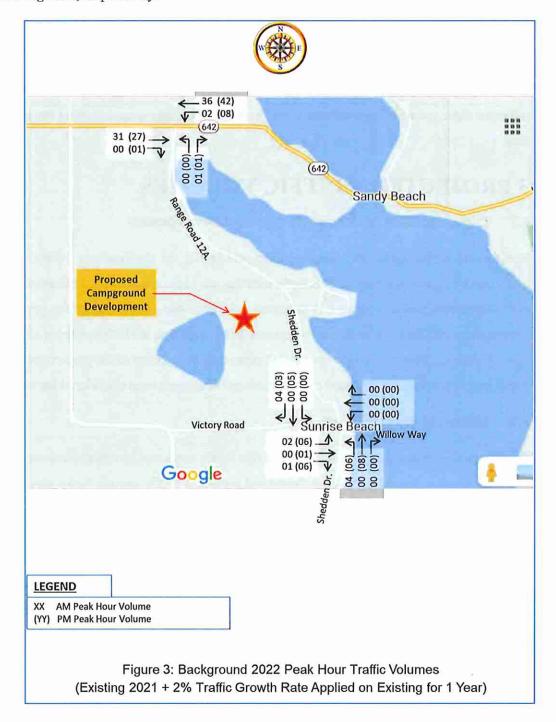
To account for inherited growth in traffic and that traffic generated by other unknown developments that may occur at the build-out of the proposed project, a traffic growth factor was applied to the existing traffic volumes to forecast the future traffic conditions. A 2.0% annual growth rate was used to estimate traffic growth for all future horizons including the 20-year horizon. The 2% growth rate was applied to the 2021 existing traffic volumes to derive the 2041 background growth traffic volumes for future development impact analyses. Note that the 2.0% annual growth rate is in accordance with Alberta Transportation's acceptable long-range growth standards. Also, it is higher than the 20-year historical growth rate of 1.84% as determined earlier.

3.3 Total Background Traffic

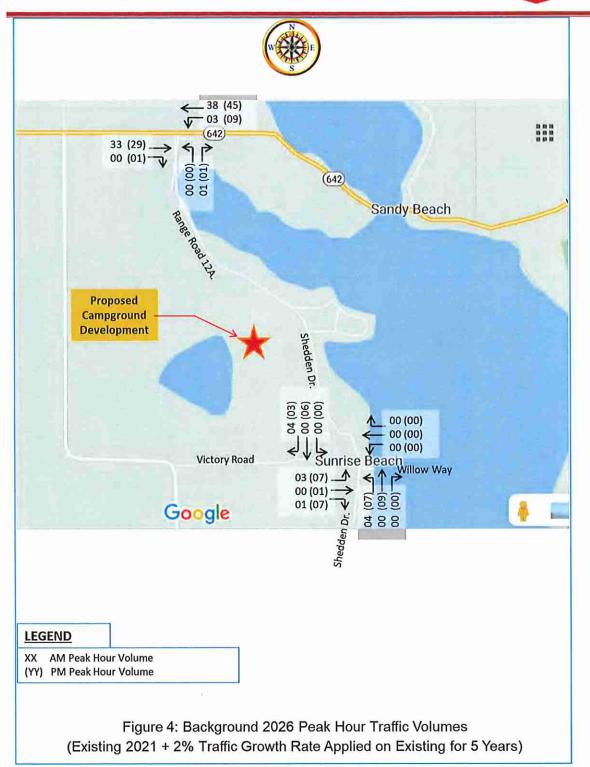
The 2.0% background growth due to unknown developments was applied on the Existing 2021 traffic volumes for 1-year, 5-years, and 20-years to estimate the total Background 2022, total



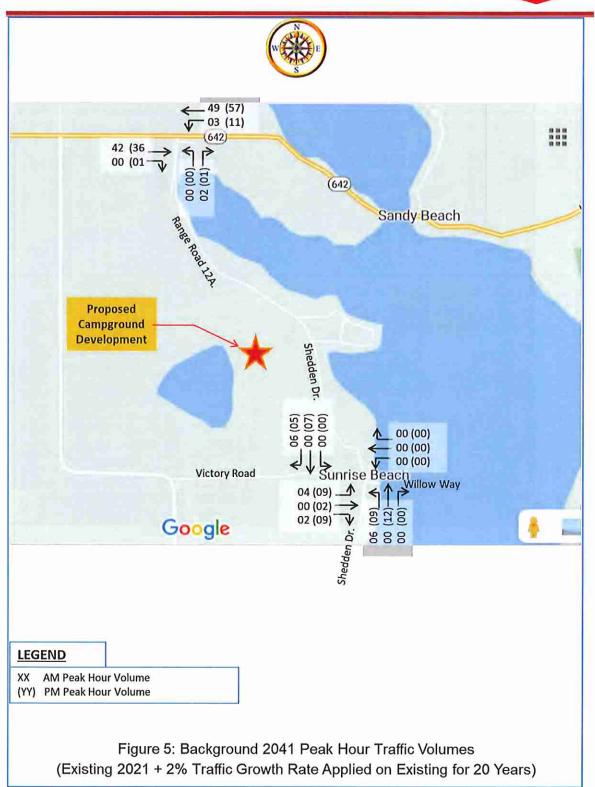
background 2026, and total Background 2041 scenarios that are presented on Figure 3, Figure 4, and Figure 5, respectively.













3.4 Site Generated Trips

To estimate the number of vehicle trips expected to be generated by a development, trip generation rates are applied based on the proposed land uses and intensity. The number of trips that would be generated by a proposed development would be estimated based on the rates published in Trip Generation Manual, 10th Edition by the Institute of Transportation Engineers (ITE). The trip generation rates along with the proposed land uses and the corresponding ITE land use codes are presented in **Table 3**. The proposed development generated trips by each of the planned phases and total development are presented in **Table 4**.

Table 3: Trip Generation Rates ITE 10th Edition Trip Generation Manual

Land Use	ITE	Unit	AM	Peak F	lour	PM Peak Hour			Daily
Land Use	Code		In	out	total	in	out	total	total
Campground / Recreational Vehicle Park	416	Occupied Campsites	36%	64%	0.21	65%	35%	0.27	NA

Table 4: Projected Site-Generated Peak-Hour and Daily Traffic Volumes

Davidanment	ITE	Density (#	AM	Peak	Hour	PM	Daily		
Development	Code	of Units)	in	out	total	in	out	total	Trips
Proposed RV Park Phase 1	416	97 Campsites	7	13	20	17	9	26	-
Proposed RV Park Phase 2	416	203 Campsites	16	27	43	36	19	55	_
RV Full Development		300	23	40	63	53	28	81	

3.4.1 Pass-by Trips

Pass-by trips are not new trips, but they are the trips that are attracted from the traffic passing the site on adjacent roadways. While pass-by trips are new trips at the access points to the site, they are not new trips on the adjacent roadway systems. Since the proposed development will include a campground park, no pass-by trips are expected for such development. Therefore, no reduction for pass-by trips considered.



3.4.2 Internal Trips

An internal trip is a trip that has both its origin and destination within a multi-use development area under investigation, which should be deducted from the total number of trips departing and entering the study site. The appropriate internal trip reduction rates are based on the characteristics of the mixed land uses. Since the proposed development will include a campground park, no internal trips are expected for such development. Therefore, no reduction for internal trips considered.

3.5 Trip Distribution

The directions from which vehicles will approach and depart a site is a function of several variables, including the population and employment distribution within the development's area of influence, the operational characteristics of the road system, and the ease with which drivers can travel over various sections of the roadway network without encountering congestion. The directional distribution of new project trips by the proposed RV Campground development was estimated based on the consideration of all the pertinent factors above including existing traffic patterns. The resulting directional distributions are as follows:

- > 49% of site generated trips will travel to and from the east on Highway 642.
- > 45% of site generated trips will travel to and from the west on Highway 642.
- > 06% of site generated trips will travel to and from the west on Victory Road.

The resulting final direction of approach is illustrated on **Figure 6a and Figure 6b** for Phase 1 and Phase 2, respectively.

3.6 Trip Assignment

3.6.1 Opening Phase 1 Traffic Volumes

The project's peak-hour trips for the proposed RV Campground Development were assigned to the adjacent roadways based on the estimated directional distribution discusses above. The resulted Phase 1 and Phase 2 (Interim) site generated AM peak hour and PM peak hour trips are illustrated on Figure 7a and Figure 7b.

The site-generated trips shown on **Figure 7a** were then added to the Total Background 2022 peak-hour traffic volumes shown on **Figure 3** to arrive at the Phase 1 Opening 2022 peak-hour traffic volumes, which are illustrated on **Figure 8**.



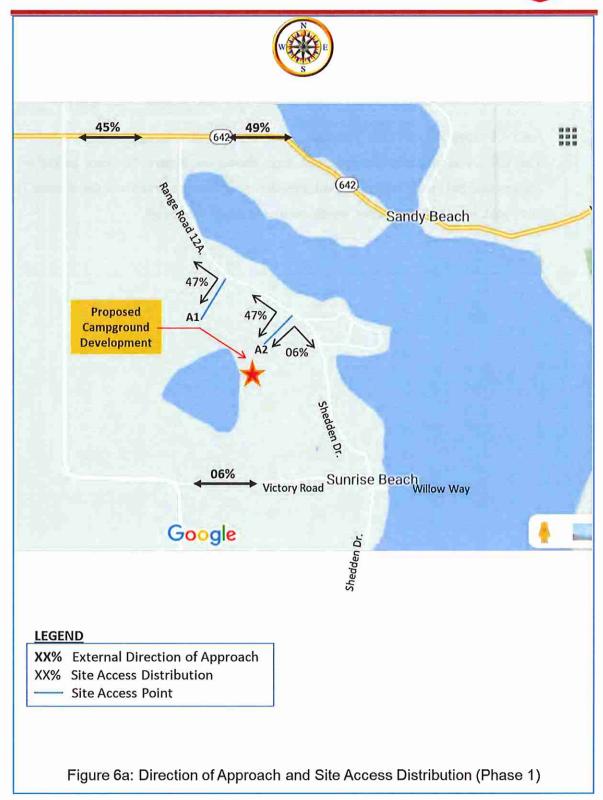
3.6.2 Interim 2026 Traffic Volumes

The full Development's site-generated trips (Phase 1 + Phase 2) shown on **Figure 7b** were then added to the Total Background 2026 peak-hour traffic volumes shown on **Figure 4** to arrive at the Phase 2 Interim 2026 peak-hour traffic volumes, which are illustrated on **Figure 9**.

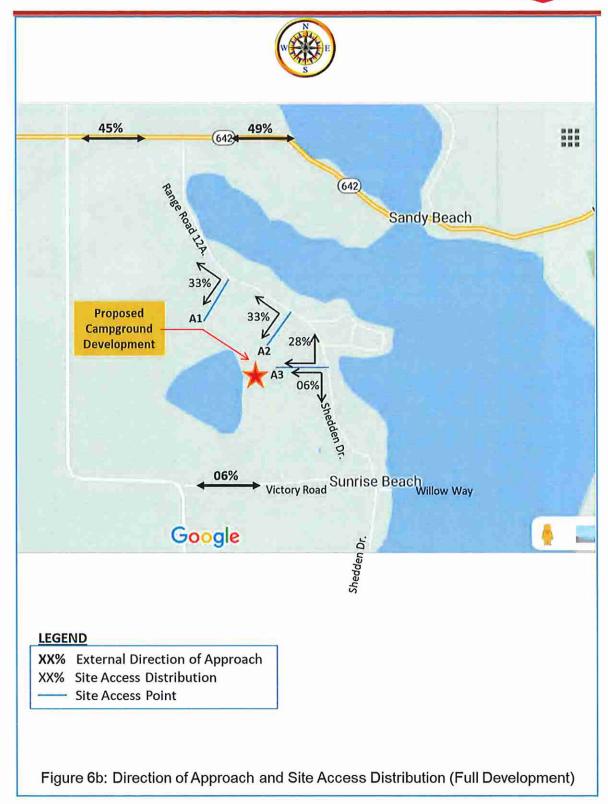
3.6.3 Future 2041 Traffic Volumes

The full Development's site-generated trips shown on **Figure 7b** were added to the Total Background 2041 peak-hour traffic volumes shown on **Figure 5** to arrive at the ultimate Total Future 2041 peak-hour traffic volumes, which are illustrated on **Figure 10**.

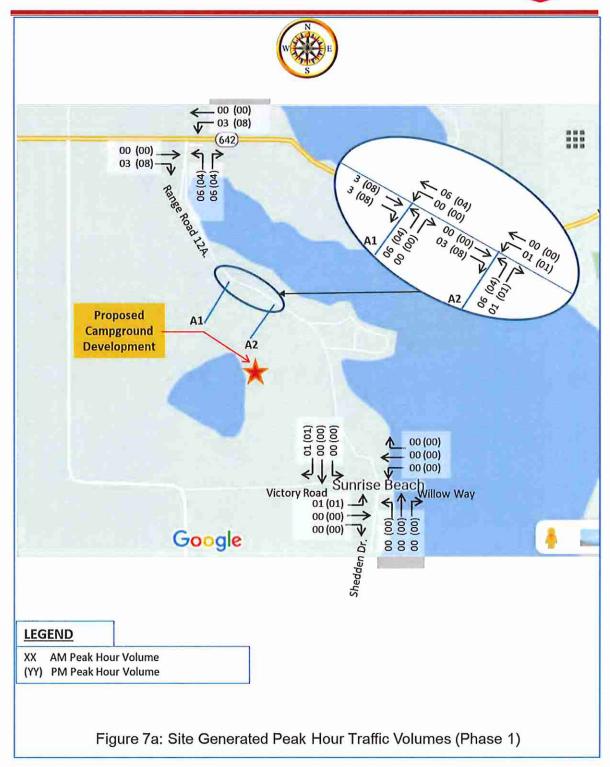




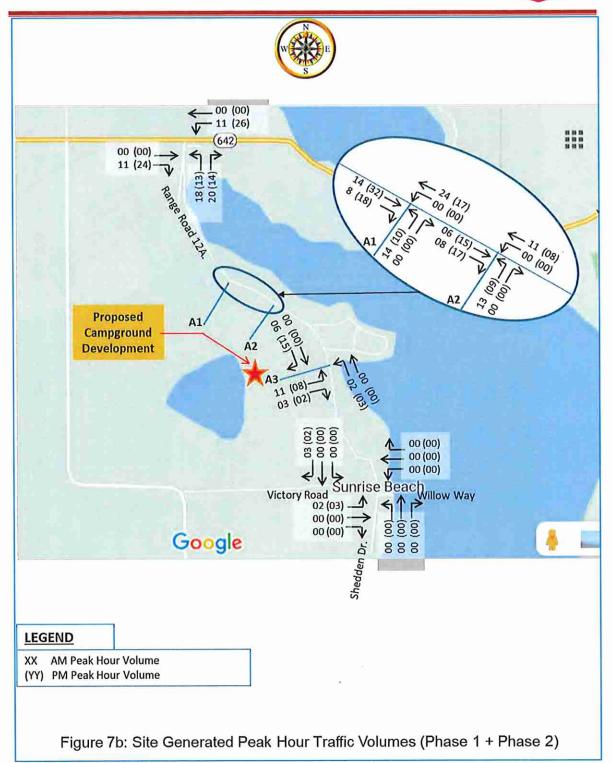




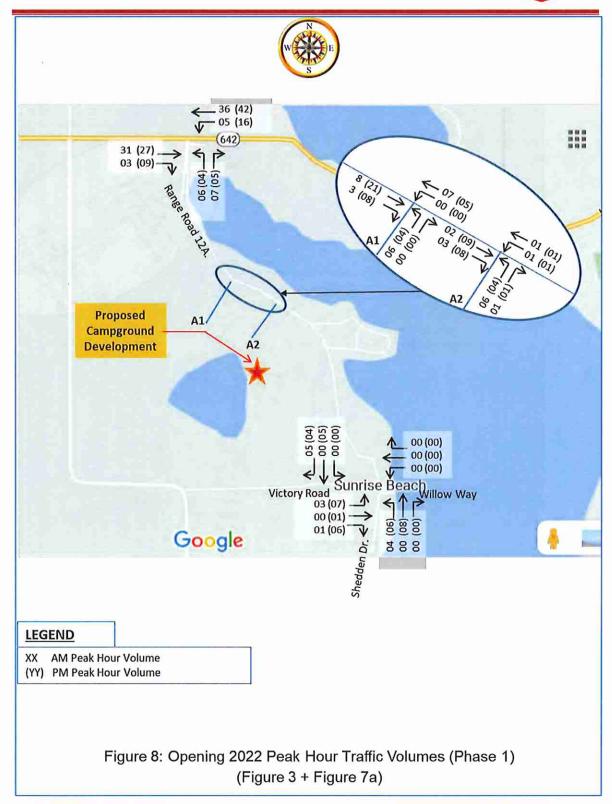




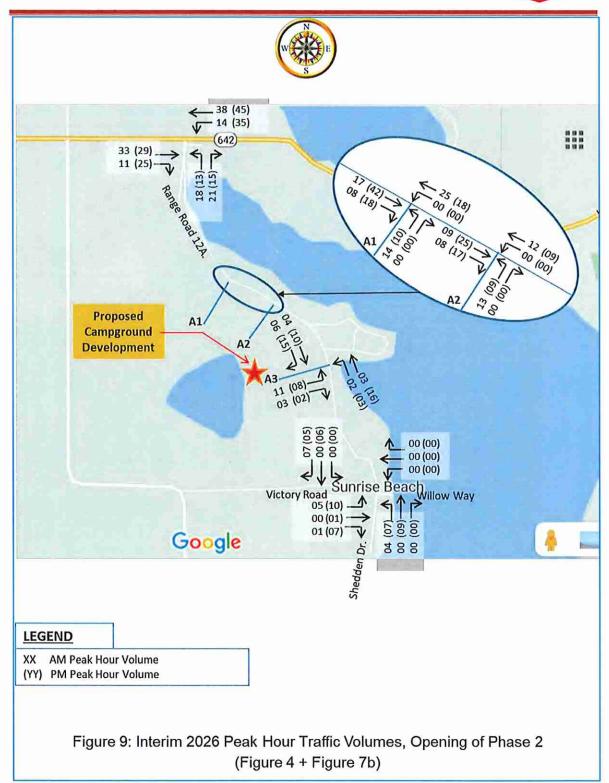




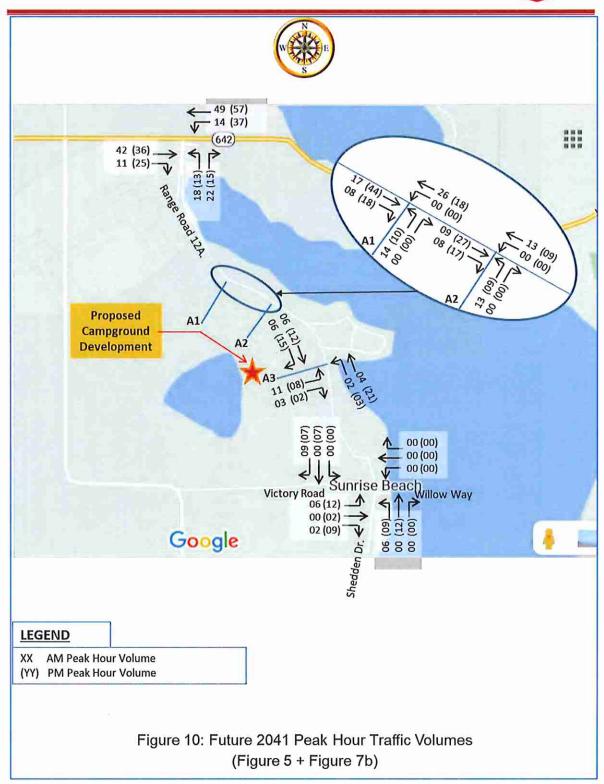














4 EVALUATION AND RECOMMENDED IMPROVEMENTS

4.1 Level of Service Criteria for Intersections

The intersections identified for the study were analyzed according to the methodologies presented in the 2016 Highway Capacity Manual (HCM 6th Edition). The analysis determines the "Level of Service (LOS)" of unsignalized intersections considering the factors including but not limited to number and types of lanes, traffic volumes, heavy vehicle composition, peak hour factors, pedestrian activities, etc. Levels of service are expressed in a range from "A" through "F," with "A" being the highest level of service, and "F" representing the lowest level of service. **Table 5** presents the thresholds for Levels of Service "A" through "F" for unsignalized intersections that were evaluated under the current study. For comparison purpose, **Table 6** presents the LOS criteria for signalized intersections.

Table 5: Level of Service Criteria for Unsignalized Intersections *

Level of Service	Delay/Vehicle (seconds)	Description
A	< 10.0	Little or no delay, very low main street traffic.
В	10.1 to 15.0	Short traffic delays, many acceptable gaps.
C	15.1 to 25.0	Average traffic delays, frequent gaps still occur.
D	25.1 to 35.0	Long traffic delays, limited number of acceptable gaps.
E	35.1 to 50.0	Very long traffic delays, very small number of acceptable gaps.
F	> 50.0	Extreme traffic delays, virtually no acceptable gaps in traffic.

^{*} Note: Capacity analysis for two-way stop-controlled intersection provides the LOS for the critical movements, not of the overall intersection.

Table 6: Level of Service Criteria for Signalized Intersections

Level of Service	Delay/Vehicle (seconds)	Description
A	≤ 10.0	Most vehicles do not stop at all.
В	10.1 to 20.0	Some vehicles stop.
С	20.1 to 35.0	The number of vehicles stopping is significant, although many passes through without stopping.
D	35.1 to 55.0	Many vehicles stop. Individual cycle failures are noticeable.
Е	55.1 to 80.0	Considered to be the limit of acceptable delay. Individual cycle failures are frequent.
F	> 80.0	Unacceptable delay.



4.2 Capacity and Level of Service Analyses

Capacity and level of service analyses were conducted for the following conditions:

- > Existing 2021 Conditions.
- > Background 2022 Conditions (without site traffic).
- Background 2026 Conditions (without site traffic).
- ➤ Background 2041 Conditions (without site traffic).
- ➤ Opening 2022 Phase 1 Conditions (with site traffic).
- ➤ Interim 2026 Full Development Conditions (with site traffic).
- Future 2041 Conditions (with the site traffic).

The software package Synchro 10 was utilized for the capacity analyses of all study intersections and site accesses. The Synchro software utilizes **Highway Capacity Manual (6th Edition)** methodologies for the evaluations.

Note that the observed heavy vehicle percentages and peak hour factors (PHF) were utilized in the capacity analysis of study intersection. Also note that the Opening 2020, Interim 2026, and Future 2041 capacity analyses were analyzed with the heavy vehicle percentages earlier under **subsection** 2.4 of this report.

4.2.1 Existing 2021 Traffic Conditions

Existing 2021 capacity and level of service analysis results for the two study intersections are presented in **Table 7**. These results were taken from the HCM 6th Edition Un-Signalized Intersection Capacity Analyses Reports produced by Synchro software.

The detailed capacity and LOS analyses reports for all Synchro capacity analyses scenarios are contained in **Appendix C** of this report.

A review of **Table 7** indicates that the two study intersections are currently operating at acceptable levels of service with the stop controls during both the AM and the PM peak hours. Therefore, no mitigation is needed under existing 2021 traffic conditions.



Table 7: Capacity Analysis for Existing 2021 Traffic Conditions

			AM Pea	k Hour			PM Peal	PM Peak Hour				
Intersection	App.	V/C ^(a) Ratio	95 th % Queue (m)	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Queue	Delay "Sec"	LOS			
Highway 642	EB	-	-	0.0	Α	-	2	0.0	Α			
and Range Road 12A	WB	0.002	0.0	0.4	Α	0.006	0.0	1.2	Α			
(Unsignalized)	NB	0.002	0.0	8.6	Α	0.001	0.0	8.5	Α			
Victory Road	EB	=	-	0.0	Α	0.016	0.7	8.7	Α			
and Shedden	WB	-	-50	0.0	Α	-	*	0.0	Α			
Drive (Unsignalized)	NB	0.003	0.0	7.2	Α	0.005	0.0	3.1	Α			
(Onsignalized)	SB	-	-	0.0	Α	7-	-	0.0	Α			

⁽a) The V/C values presented are for the movements with highest V/C within that approach

4.2.2 Background 2022, 2026, and 2041 Conditions

LOS and capacity analyses results for the Background 2022, Background 2026, and Background 2041 traffic conditions (without site development generated traffic) are presented in **Table 8**, **Table 9**, and **Table 10**, respectively.

Table 8: Capacity Analysis for Background 2022 Traffic Conditions

			AM Pea	k Hour			PM Pea	k Hour	
Intersection	App.	V/C ^(a) Ratio	95 th % Oueue	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Oueue	Delay "Sec"	LOS
Highway 642	EB		24	0.0	Α	s= 1	-	0.0	Α
and Range Road 12A	WB	0.002	0.0	0.4	A	0.006	0.0	1.2	Α
(Unsignalized)	NB	0.002	0.0	8.6	A	0.001	0.0	8.5	A
Victory Road	EB	-	; =	0.0	A	0.016	0.7	8.7	Α
and Shedden	WB	*	=	0.0	Α	-	3.	0.0	Α
Drive (Unsignalized)	NB	0.003	0.0	7.2	A	0.005	0.0	3.1	A
(Onsignanzed)	SB	1-1	-	0.0	A		.	0.0	A

⁽a) The V/C values presented are for the movements with highest V/C within that approach

A review of **Table 8** indicates that the two study intersections would continue to operate at acceptable levels of service with the stop controls during both AM and PM peak hours. Therefore, no mitigation would be needed under background 2022 conditions.



Table 9: Capacity Analysis for Background 2026 Traffic Conditions

		Hill		ık Hour		PM Peak Hour				
Intersection	Арр.	V/C ^(a) Ratio	95 th % Oueue	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Oueue	Delay "Sec"	LOS	
Highway 642	EB	-	-	0.0	A	=	1	0.0	A	
and Range Road 12A	WB	0.004	0.0	0.6	A	0.007	0.0	1.2	A	
(Unsignalized)	NB	0.002	0.0	8.6	A	0.001	0.0	8.5	Α	
Victory Road	EB	-	<u> </u>	0.0	A	0.019	0.7	8.7	A	
and Shedden	WB	-	 .	0.0	A	=:	-	0.0	A	
Drive (Unsignalized)	NB	0.003	0.0	7.2	A	0.006	0.0	3.2	Α	
(Onoignanized)	SB		-	0.0	A	₩0	-	0.0	A	

⁽a) The V/C values presented are for the movements with highest V/C within that approach

A review of **Table 9** indicates that the two study intersections would continue to operate at acceptable levels of service with the stop controls during both AM and PM peak hours. Therefore, no mitigation would be needed under background 2026 conditions.

Table 10: Capacity Analysis for Background 2041 Traffic Conditions

Victory Road			AM Per	ık Hour		PM Peak Hour				
Intersection	App.	V/C ^(a) Ratio	95 th % Oneue	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Oueue	Delay "Sec"	Los	
	EB	-	:-	0.0	A	-	-	0.0	A	
	WB	0.004	0.0	0.4	A	0.008	0.0	1.2	Α	
(Unsignalized)	NB	0.004	0.0	8.7	A	0.001	0.0	8.5	A	
Victory Road	EB	-	. .	0.0	A	0.022	0.7	8.8	A	
and Shedden	WB	-:	<u>,</u>	0.0	A	24	12	0.0	Α	
Drive (Unsignalized)	NB	0.004	0.0	7.2	Α	0.006	0.0	3.1	Α	
(Onsignatized)	SB	•		0.0	Α	Œ	4	0.0	Α	

⁽a) The V/C values presented are for the movements with highest V/C within that approach



A review of **Table 10** indicates that the two study intersections would continue to operate at acceptable levels of service with the stop controls during both AM and PM peak hours. Therefore, no mitigation would be needed under background 2041 conditions.

4.2.3 Opening 2022 and Interim 2026 Traffic Conditions

LOS and capacity analysis results for the Opening 2022, Phase 1, and Interim 2026, Full Development, traffic conditions for the two study intersections and site access intersections are presented in **Table 11** and **Table 12**, respectively.

Table 11: Capacity Analysis for Opening 2022 – Phase 1 Traffic Conditions

		AM Peak Hour				PM Peak Hour			
Intersection	App.	V/C ^(a) Ratio	95 th % Queue	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Queue	Delay "Sec"	LOS
Highway 642	EB	-	#	0.0	A	-	æ	0.0	Α
and Range Road 12A	WB	0.007	0.0	1.0	Α	0.014	0.0	2.1	Α
(Unsignalized)	NB	0.028	0.7	9.5	Α	0.012	0.0	9.3	Α
Victory Road and Shedden Drive (Unsignalized)	EB	-		0.0	A	0.020	0.7	9.1	A
	WB	, i	5 5 1	0.0	A	:=	-	0.0	A
	NB	0.004	0.0	7.7	A	0.006	0.0	3.3	Α
	SB	-	-	0.0	A	-	;=	0.0	A
Access A1 and Shedden Drive	EB	0.008	0.0	9.6	A	0.006	0.0	9.6	a
	NB		0.0	0.0	A	22	0.0	0.0	Α
	SB			0.0	Α) -	(-	0.0	A
Access A2 and Shedden Drive	EB	0.009	0.0	9.5	A	0.007	0.0	9.5	A
	NB	0.001	0.0	4.1	A	0.001	0.0	4.1	A
	SB	- s	-	0.0	A	11-	r -	0.0	A

⁽a) The V/C values presented are for the movements with highest V/C within that approach

A review of **Table 11** indicates that the two study intersections as well as all proposed site access intersections would operate at acceptable levels of service with the stop controls and with Phase 1 traffic volumes during both AM and PM peak hours. Therefore, no mitigation would be needed under Opening 2022 traffic conditions.



Table 12: Capacity Analysis for Interim 2026 (Phase 1 + Phase 2) Traffic Conditions

		AM Peak Hour				PM Peak Hour			
Intersection	App.	V/C ^(a) Ratio	95 th % Oueue	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Oueue	Delay "Sec"	LOS
Highway 642	EB	-		0.0	A	-	2	0.0	A
and Range Road 12A	WB	0.019	0.7	2.1	A	0.031	0.7	3.5	a
(Unsignalized)	NB	0.088	2.1	10.1	В	0.040	0.7	9.8	A
Victory Road and Shedden Drive (Unsignalized)	EB	_	2	0.0	A	0.026	0.7	9.2	A
	WB	*	#3	0.0	A	€.	Ð	0.0	A
	NB	0.004	0.0	7.7	A	0.007	0.0	3.4	A
(Onsignanzed)	SB	-	-	0.0	A	-	=:	0.0	A
Access A1	EB	0.020	0.7	9.8	A	0.015	0.0	10.0	В
and Shedden	NB	-	0.0	0.0	A		0.0	0.0	A
Drive	SB	-	÷	0.0	A	-	ë.	0.0	Α
Access A2 and Shedden Drive	EB	0.018	0.7	9.7	A	0.013	0.0	9.8	A
	NB		0.0	0.0	A	-	0.0	0.0	Α
	SB	=	- 5)	0.0	A	-		0.0	Α
Access A3 and Shedden Drive	EB	0.019	0.7	9.5	A	0.014	0.0	9.7	Α
	NB	0.002	0.0	3.3	A	0.003	0.0	1.3	A
	SB	~	E)	0.0	A	_	-	0.0	Α

⁽a) The V/C values presented are for the movements with highest V/C within that approach

A review of **Table 12** indicates that the two study intersections as well as all proposed site access intersections would operate at acceptable levels of service with the stop controls and with Full development traffic volumes during both AM and PM peak hours. Therefore, no mitigation would be needed under future Interim 2026 traffic conditions.

4.2.4 Future 2041 Traffic Conditions

LOS and capacity analysis results for the Future 2041, Full Development, traffic conditions for the two study intersections and all site access intersections are presented in **Table 13**.



Table 13: Capacity Analysis for Future 2041 Traffic Conditions

		AM Peak Hour				PM Peak Hour			
Intersection	App.	V/C ^(a) Ratio	95 th % Onene	Delay "Sec"	LOS	V/C ^(a) Ratio	95th % Oueue	Delay "Sec"	LOS
Highway 642	EB	0 72	4	0.0	Α	=	==	0.0	A
and Range	WB	0.020	0.7	1.8	A	0.033	0.7	3.1	a
Road 12A (Unsignalized)	NB	0.093	2.1	10.3	В	0.041	0.7	9.9	A
Victory Road	EB	12	-	0.0	Α	0.033	0.7	9.3	Α
and Shedden	WB		-	0.0	A	-	34	0.0	A
Drive	NB	0.006	0.0	7.7	A	0.008	0.0	3.3	A
(Unsignalized)	SB	\.	-	0.0	A	1-1	; = :	0.0	A
Access A1	EB	0.020	0.7	9.8	A	0.015	0.0	10.0	В
and Shedden	NB	PM	0.0	0.0	A	-	0.0	0.0	A
Drive	SB	-	:=:	0.0	A			0.0	A
Access A2 and Shedden Drive	EB	0.018	0.7	9.7	A	0.013	0.0	9.8	A
	NB	-	0.0	0.0	A	-	0.0	0.0	A
	SB	-	-	0.0	A	-		0.0	Α
Access A3 and Shedden Drive	EB	0.019	0.7	9.6	A	0.014	0.0	9.7	A
	NB	0.002	0.0	2.7	A	0.003	0.0	1.0	Α
	SB	-	=	0.0	A	.=	. 	0.0	A

⁽a) The V/C values presented are for the movements with highest V/C within that approach

A review of **Table 13** indicates that the two study intersections as well as all proposed site access intersections would continue to operate at acceptable levels of service with the stop controls and with Full development traffic volumes during both AM and PM peak hours. Therefore, no mitigation would be needed under Future 2041 traffic conditions.

4.3 Traffic Control Signal Warrants

The traffic signal installation warrant analysis for Highway 642 and Range Road 12A intersection was not conducted. The reason is that this major study intersection has ample capacity to accommodate background and proposed development's traffic volumes with no issues. Also, no safety concerns or operational concerns were noted at this intersection. Pedestrian warrants were not conducted because no significant pedestrian activity occurring in this vicinity.



4.4 Intersection Layout Assessment

The Intersection layout analyses were conducted using Alberta Transportation's Excel Program prepared for Rural Two-Lane Undivided Highways. The analyses were completed for Highway 642 Range Road 12A intersection. All intersection layout analyses worksheets with the threshold diagrams are provided in **Appendix D**. It should be noted that the existing intersection configuration for this intersection is Type Ia. Summaries of the analyses results for all scenarios analyzed are presented in **Table 14**.

Table 14: Intersection Layout Assessment Analyses Results

		AM Pe	eak Hour	PM Peak Hour		
Intersection	Scenario / Analyses Year	Intersection Treatment Type	Treatment EB Left-Turn Storage		Additional EB Left-Turn Storage Length Required (m)	
Highway 642 and Range Road 12A	Background 2041	I(a)	0	I(a)	0	
	Opening 2022	I(a)	0	I(a)	0	
	Future 2026	II(a)	0	II(a)	0	
	Future 2041	II(a)	0	II(a)	0	

A review of **Table 14** indicates that Type I(a) intersection treatment is required at the Highway 642 and Range Road 12A intersection starting under Background 2041 and Opening 2022, Phase 1 traffic conditions. However, under the Future 2026 and Future 2041 traffic conditions Type II(a) intersection treatment would become required. No additional WB left-turn storage lengths would be required under Future 2026 or Future 2041 scenarios.



EXCLUSIVE EASTBOUND RIGHT TURN ANALYSIS

Right turn analysis was also performed at the Highway 642 and Range Road 12A intersection. The analysis was completed for eastbound direction under the Future 2041 traffic conditions and presented below. The intersection layout analysis worksheets are provided in **Appendix D**.

Warrant for Exclusive Eastbound Right Turn Lane:

The following three conditions must all be met, to warrant an exclusive right turn lane at a two-lane highway intersection as indicated in the August 1999. Alberta Infrastructure "Highway Geometric Design Guide":

- 1. Main (or through) road AADT > 1800
- 2. Intersecting road AADT > 900
- 3. Right turn daily traffic volume > 360 for the movement in question.

In review the traffic volumes at Highway 642 and Range Road 12A intersection, none of the above three conditions would be met. Therefore, exclusive right-turn only lane would NOT be warranted under Future 2041 traffic conditions on Highway 642.

4.5 Intersection Lighting Warrants

The purpose of the lighting warrants is to establish a consistent determination whether an intersection requires illumination and what type of lighting should be provided. A lighting installation warrant was performed using TAC's Guide for Design of Roadway Lighting. The intersection lighting warrant calculation sheets are provided in **Appendix E**.

The lighting warrants were completed for the intersection of Highway 642 and Range Road 12A for future 2041 conditions. Lighting score for the analyzed scenario follows:

Scenario Lighting Score

Future 2041 33

Since the score is below 120 points, therefore, illumination of the intersection would NOT be required under the Future 2041 traffic conditions.



5 CONCLUSIONS AND RECOMMENDATIONS

This study analyzed the traffic impacts of the proposed Recreational Vehicle Campground Development to be located in the Lac Ste Anne County just north of Summer Village of Sunrise Beach, Alberta. The proposed project will be built on a 151.2-acre lot and will have a total of 300 campsites developed in two Phases. Phase 1 is expected to open in 2022 and the full development of site is expected to be in 2026. The estimated number of total site generated trips entering and exiting the development would be 63 trips during the AM peak hour and 81 trips during the PM peak hour. The following conclusions have been reached by this traffic impact assessment study:

- ➤ LOS and capacity analyses indicated that under the Existing 2021 traffic conditions, the two study intersections are currently operating at acceptable levels of service with ample capacities and no vehicle queuing. Therefore, no intersection improvements are required for any of the study intersections under existing conditions.
- Background 2022, Background 2026, and Background 2041 without the Project Site Traffic LOS analyses indicated that the two study intersections would continue to operate at acceptable levels of service with ample capacities at all intersection approaches with no queuing issues. Therefore, no mitigations would be needed under any of the background conditions analyzed in background 2041 conditions.
- Opening 2022, Phase 1 and Interim 2026 with full development Traffic LOS analyses indicated that the two study intersections would continue to operate at acceptable levels of service with ample capacities at all intersection approaches with no queuing issues. Additionally, all site access intersections proposed on Shedden Drive would operate acceptably. Therefore, no mitigations would be needed under Opening 2022 or Interim 2026 traffic conditions.
- ➤ Future 2041 with Full Project Site Traffic LOS analyses indicated that the two study intersections as well as all site access intersections would continue to operate at acceptable levels of service with ample capacities at all intersection approaches with no queuing issues. Therefore, no mitigations would be needed under future 2041 traffic conditions.



- The traffic signal control installation warrant analysis for Highway 642 and Range Road 12A intersection was not conducted. The reason is that this study intersection would have ample capacity and no safety concerns were observed under the future 2041 conditions. Therefore, a traffic signal installation would not be warranted.
- ➤ The Intersection layout analyses were conducted for Highway 642 and Range Road 12A intersection for several scenarios. The results indicated the following:
 - Under Background 2041 traffic volume conditions, without site traffic Type I(a) intersection treatment is required, which is the same as the existing intersection layout.
 - O Under the Opening 2022 traffic conditions, with Phase 1 site traffic, Type I(a) intersection treatment is required, which is the same as the existing intersection layout.
 - Under Interim 2026 and Future 2041 with full site traffic volumes, Type II(a) intersection treatment would be required.
- ➤ Warrants for Exclusive Right Turn Lane analysis indicated that an exclusive right turn lane would NOT be warranted on the eastbound direction of Highway 642 at Range Road 12A under the 2041 traffic conditions.
- Intersection lighting warrant analyses were performed using TAC's Guide for Design of Roadway Lighting. The completed analysis indicated that lighting would NOT be required under the Future 2041 traffic conditions at the study intersection of Highway 642 and Range Road 12A.



In summary, this traffic impact assessment concludes that the proposed Recreational Vehicle Campground Development will have some impact on the traffic operations of the future road network. However, this impact would be alleviated by implementing the recommended improvements discussed above.

Yours truly,

Prepared by:



July 12, 2021

Emad Alsaidi, PhD, PEng, PE

PERMIT TO PRACTICE ZALIG CONSULTING LTD.

RM SIGNATURE:

RM APEGA ID #:

DATE:

JULY 12, 2021

PERMIT NUMBER: P014511

The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

163197



Project's Access Application Document and Title



Summer Village of Sunrise Beach Council Policy

Number	Title	
C-ENV-CUL-1	Culvert Policy	
Approval	Originally Approved	Last Revised
(CAO Initinis)	Resolution No:	Resolution No:
(CAO initials)	Date:	Date:

Purpose

To establish the responsibility and size for culverts in the Summer Village. The Summer Village of Sunrise Beach requires proper and adequate drainage throughout the ditching system in the Summer Village. Each residential driveway is required to have a proper culvert installed to aid in the removal of water away from their property.

Policy Statement

The Summer Village of Sunrise Beach recognizes the need to establish a culvert policy as culverts are an integral part of the Summer Village storm sewer system

Responsibility

No person shall obstruct any drainage ditch or impede the flow of water within the Summer Village of Sunrise Beach.

No person shall install any culvert within the Summer Village of Sunrise Beach without authorization of the municipality.

Culverts for new property access are the responsibility of the property owner. Installation must be undertaken by an experienced contractor and authorized.

Culvert Size and Installation

All driveways into residential properties shall have a culvert of 12" (300mm) in diameter and shall be 20' (6m) in length excepting those streets designated as main drainage routes where culvert sizes and lengths are to be determined by the municipality.

Installation must be a at the direction of the Summer Village so as to reatain proper grade level and drainage and is to be undertaken by an experienced contractor on behalf of the resident. An approach Installation Application must be completed and is attached as Schedule "A".



Summer Village of Sunrise Beach Council Policy

Policy Notes

Requests for the purchase of culverts, replacement culverts and/or culverts for additional approaches or extensions to existing approaches must be made in writing to Council and will be authorized at Council's discretion.

Requests for the Municipality to cost-share in ditching/drainage work and/or the installation of a culvert must be made in writing to Council and will be authorized at Council's discretion.

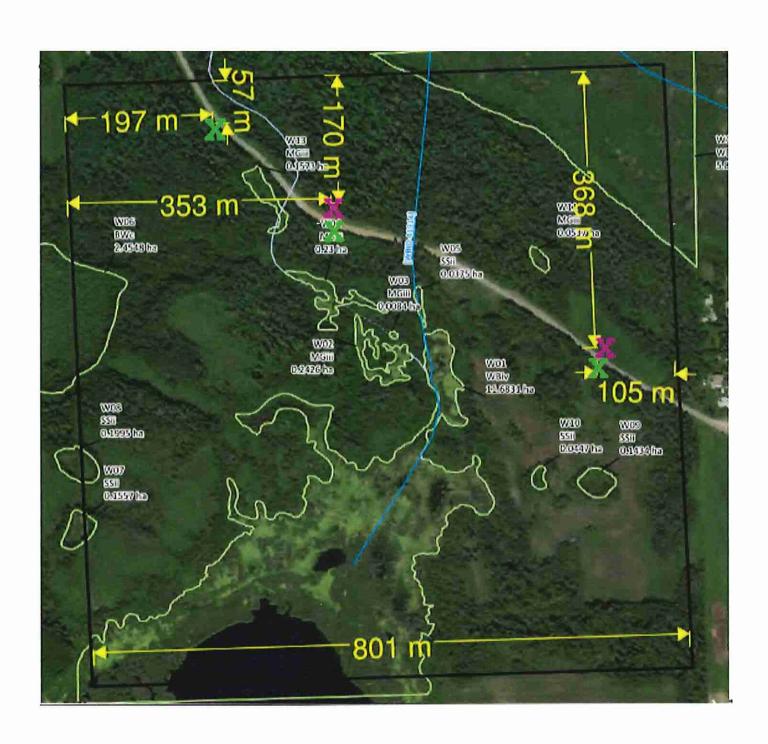
Revisions:

Resolution Number	MM/DD/YY



Summer Village of Sunrise Beach Council Policy

Proposed Ap	proach Location	n		
Plan	Block	Lot	Municipal /	Address cached drawing.
Applicant/La	L ndowner Infor	mation	see att	Lached drawing.
Applicant	ndowner mior	mation		Pagistared Councy Name (a) 15 d155
The state of the second distriction of the s	or Holdin	as Inc		Registered Owner Name(s) If different from
	ess:421 Cow		nt	Applicant: Mailing Address:
the same of the sa	Sherwood			City Province:
Postal CodeT				City Province:
Phone :780-	554-7877 c	Cell		Postal Code: Cell:
	@auinc.ca			Email:
Reason for Ch	nanging Existin	g Approach	or Request	
Provide a	access to	our pr	operty w	hich is restricted by the
				ty. As such, this requires
				den Drive.
	1.1			
				X_New Approach Existing Approach
Authorization				
I hereby make shown on the	application to sketch plan or	construct the revers	an approach e of this forr	in accordance with the plan, and at the location n.
			1	//
2021-05	-05		fe/l	
Date of Applic	ation		Signature o	of Applicant .
	For	Summer V		ly – Application Approval
				, and the second
Application No	ımber:			
Date of Approval	Name of SV (Of Sunrise Bea	ch Representat	ive Signature
Consoled Dunisted				
Special Provisi	ons:			
Fl. II. II				
Final Inspectio	n Accepted:			
Date of Approval	Name of SV	Of Sunrise Bea	ach Representa	tive Signature



Certified copy of Certificate of Citle



S

LINC SHORT LEGAL 0022 865 936 5;1;55;34;SE

TITLE NUMBER: 202 285 020 TRANSFER OF LAND DATE: 23/12/2020

AT THE TIME OF THIS CERTIFICATION

VIVCOR HOLDINGS INC. OF 421 COWAN POINT SHERWOOD PARK ALBERTA T8H 0E6

IS THE OWNER OF AN ESTATE IN FEE SIMPLE OF AND IN

MERIDIAN 5 RANGE 1 TOWNSHIP 55
SECTION 34
ALL THAT PORTION OF THE SOUTH EAST QUARTER
NOT COVERED BY THE WATERS OF SANDY LAKE AT THE TIME OF
THE SURVEY OF THE SAID LAKE
AS SHOWN UPON A PLAN OF SURVEY OF THE SAID TOWNSHIP DATED
29 JULY AD 1899
CONTAINING 61.2 HECTARES (151.20 ACRES) MORE OR LESS
EXCEPTING THEREOUT
1.62 HECTARES (4 ACRES) MORE OR LESS
AS SHOWN ON ROAD PLAN 2609NY

EXCEPTING THEREOUT ALL MINES AND MINERALS

SUBJECT TO THE ENCUMBRANCES, LIENS AND INTERESTS NOTIFIED BY MEMORANDUM UNDERWRITTEN OR ENDORSED HEREON, OR WHICH MAY HEREAFTER BE MADE IN THE REGISTER.

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION

NUMBER DATE (D/M/Y) PARTICULARS

33880R

16/12/1965 UTILITY RIGHT OF WAY
GRANTEE - FORTISALBERTA INC.
320-17 AVE SW
CALGARY
ALBERTA T2S2V1
AS TO PORTION OR PLAN:1119NY
"CONTAINING 1.25 ACRES"
(DATA UPDATED BY: TRANSFER OF UTILITY RIGHT
OF WAY 022197030)
(DATA UPDATED BY: CHANGE OF ADDRESS 092057659)
(DATA UPDATED BY: TRANSFER OF UTILITY RIGHT
OF WAY 122365965)

Certificate of Title

TITLE NUMBER: 202 285 020

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 23 DAY OF DECEMBER ,2020



SUPPLEMENTARY INFORMATION

VALUE: \$220,000
CONSIDERATION: \$220,000
MUNICIPALITY: LAC STE. ANNE COUNTY / SUMMER VILLAGE OF
SUNRISE BEACH

REFERENCE NUMBER:

172 247 686 +1 TOTAL INSTRUMENTS: 001



Highway 642 and Range Road 12A / Shedden Dr. 06/3/2021 Intersection:

Thursday Count Date: Count Day:

Addoz Engineering Inc. Counted By:

ALL VEHICLES AM Peak Hour Traffic Count at Highway 642 and Range Road 12A / Shedden Dr. Intersection

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7:15 - 7:30	0	2	0	0	4	0	0	0	1	0	0	0	7		
7:30 - 7:45	0	9	-	0	3	0	1	0	1	0	0	0	12		
7:45 - 8:00	0	2	0	0	2	0	0	0	1	0	0	0	8	30	
8:00 - 8:15	0	3	0	1	4	0	0	0	0	0	0	0	8	35	
8:15 - 8:30	0	12	0	0	12	0	0	0	1	0	0	0	25	53	
8:30 - 8:45	0	5	0	0	4	0	0	0	0	0	0	0	6	50	
8:45 - 9:00	0	5	0	1	6	0	0	0	0	0	0	0	15	22	0.57
Peak Hour	0	25	0	2	53	0	0	0	1	0	0	0	22		
App Total		25			31			1			0		22		
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ALL VEHICLES

PM Peak Hour Traffic Count at Highway 642 and Range Road 12A / Shedden Dr. Intersection

			ı			-		-							
Time Period	Hig	Highway 642 EB	EB	Higi	Highway 642 WB	WB	Rang	Range Road 12A NB	A NB	Private	Private Access - closed Gate	pesolo	Sum	4-P	PHF
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4:00 - 4:15	0	4	0	1	7	0	0	0	ဧ	0	0	0	15		
4:15 - 4:30	0	9	-	1	2	0	1	0	1	0	0	0	15		
4:30 - 4:45	0	4	0	2	5	0	0 -	0	Ļ	0	0	0	12		
4:45 - 5:00	0	7	1	3	11	0	0	0	0	0	0	0	22	64	
5:00 - 5:15	0	9	0	2	11	0	0	0	0	0	0	0	19	89	
5:15 - 5:30	0	6	0	1	10	0	0	0	1	0	0	0	21	74	
5:30 - 5:45	0	4	0	2	6	0	0	0	0	0	0	0	15	77	0.88
5:45 - 6:00	0	9	0	0	6	0	0	0	2	0	0	0	17	72	
Peak Hour	0	26	1	8	41	0	0	0	1	0	0	0	77		
App Total		27			49			-			0		77		
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Intersection: Highway 642 and Range Road 12A / Shedden Dr.

Count Date: 06/3/2021

Count Day: Thursday

Counted By: Addoz Engineering Inc.

TRUCKS, MULTI-AXLE VEHICLE, CITY BUS OR SCHOOL BUS

AM Peak Hour Traffic Count at Highway 642 and Range Road 12A / Shedden Dr. Intersection

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AM	_	Т	ď	7	E	œ	7	L	Я	7	Τ	В	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	1	0	0	0	0	0	0	0	0	0	0	,
7:45 - 8:00	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 - 8:15	0	0	0	1	0	0	0	0	0	0	0	0	1
8:15 - 8:30	0	9	0	0	9	0	0	0	0	0	0	0	12
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	2	0	0	0	0	0	0	0	0	0	0	2
Peak Hour	0	8	0	1	9	0	0	0	0	0	0	0	15
App Total		∞			7			0			0		15

TRUCKS, MULTI-AXLE VEHICLE, CITY BUS OR SCHOOL BUS

PM Peak Hour Traffic Count at Highway 642 and Range Road 12A / Shedden Dr. Intersection

Time Period)H	Highway 642 EB	EB	Hig	Highway 642 WB	٧B	Rang	Range Road 12A NB	A NB	Private A	Private Access - closed Gate	sed Gate	ë.
Ma	-	1	œ	7	1	œ	1	ш	2		T	ď	
4:00 – 4:15	0	0	0	0	0	0	0	0	,	0	0	0	1
4:15 - 4:30	0	1	0	0	1	0	0	0	0	0	0	0	2
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 – 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 5:15	0	1	0	0	1	0	0	0	0	0	0	0	2
5:15 - 5:30	0	0	0	0	2	0	0	0	0	0	0	0	2
5:30 - 5:45	0	0	0	1	0	0	0	0	0	0	0	0	٢
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	1	0	1	3	0	0	0	0	0	0	0	5
App Total		1			4			0			0		5

Intersection: Highway 642 and Range Road 12A / Shedden Dr.

Count Date: 06/3/2021

Count Day: Thursday

Counted By: Addoz Engineering Inc.

PASSENGER CARS, MINI-VANS, TWO AXLE TRUCKS, MOTOR CYCLES AND STATION WAGONS

4	M Peak	AM Peak Hour Tra	ffic Coun	it at High	ffic Count at Highway 642 and Range Road 12A / Shedden Dr. Intersection	ind Range	e Road	12A / Sh	edden D	r. Interse	ction		
Time Period	五	Highway 642	EB	Ĩ	Highway 642 WB	VB	Rang	Range Road 12A NB	2A NB	Private Ac	Private Access - closed Gate	sed Gate	Sum
AM	1	F	œ		T	œ	1	L	œ	7	1	ď	
7:00 - 7:15	0	2	0	0	0	0	0	0	1	0	0	0	3
7:15 - 7:30	0	2	0	0	4	0	0	0	1	0	0	0	7
7:30 - 7:45	0	သ	,	0	3	0	1	0	1	0	0	0	11
7:45 - 8:00	0	2	0	0	4	0	0	0	1	0	0	0	7
8:00 - 8:15	0	က	0	0	4	0	0	0	0	0	0	0	7
8:15 - 8:30	0	9	0	0	9	0	0	0	1	0	0	0	13
8:30 - 8:45	0	2	0	0	4	0	0	0	0	0	0	0	6
8:45 - 9:00	0	3	0	- 1	6	0	0	0	0	0	0	0	13
Peak Hour	0	17	0	1	23	0	0	0	1	0	0	0	42
App Total		17			24			1			0		42

PASSENGER CARS, MINI-VANS, TWO AXLE TRUCKS, MOTOR CYCLES AND STATION WAGONS

Ы	M Peak	PM Peak Hour Traffi	ffic Coun	t at High	c Count at Highway 642 and Range Road 12A / Shedden Dr. Intersection	and Range	Road	12A / Sh	edden Di	r. Interse	ction		
Time Period	Ī	Highway 642 EB	EB	Ĭ	Highway 642 WB	WB	Ran	Range Road 12A NB	2A NB	Private Access -	ccess - clo	closed Gate	Wil.S.
PM	7	H	œ		T	œ	_	F	œ	1	1	œ	
4:00 - 4:15	0	4	0	L	7	0	0	0	2	0	0	0	14
4:15 - 4:30	0	2	1	1	4	0	1	0	1	0	0	0	13
4:30 - 4:45	0	4	0	2	5	0	0	0	1	0	0	0	12
4:45 - 5:00	0	7	-	3	11	0	0	0	0	0	0	0	22
5:00 - 5:15	0	2	0	2	10	0	0	0	0	0	0	0	17
5:15 - 5:30	0	6	0	ı	8	0	0	0	1	0	0	0	19
5:30 - 5:45	0	4	0	1	6	0	0	0	0	0	0	0	14
5:45 - 6:00	0	9	0	0	6	0	0	0	2	0	0	0	17
Peak Hour	0	25	1	7	38	0	0	0	1	0	0	0	72
App Total		56			45			~			0		72
The same of the sa													

Highway 642 and Range Road 12A / Shedden Dr. 06/3/2021 Intersection:

Campground Development Traffic Impact Assessment, Sandy Lake, Alberta

Count Date:

Thursday Count Day:

Addoz Engineering Inc. Counted By:

BICYCLE AND PEDESTRIAN TRAFFIC

AM Beak Hour Traffic Count at Highway 642 and Range Road 12A / Shedden Dr. Intercection

AIM	AIN Peak	ноп	Lann	count	at HIG	Inway	047 5	Hour I ranic Count at Highway 64z and Kange Koad 1zA/ Shedden Dr. Intersection	ge RC	ad 12	A o	leagen	E	ersec	11011	
Time Period		Highwa	Highway 642 EB	EB.		Highway 642 WB	642 V	VB	Ra	Range Road 12A NB	ad 124	N NB	Private	Acces	ss - Clo	Private Access - Closed Gate
AM	7	-	œ	PED S. Side	7	ь	œ	PED N. Side	7	1	œ	PED E. Side	Ţ	H	œ	PED W. Side
7:00 - 7:15																
7:15 - 7:30																
7:30 - 7:45		1														
7:45 - 8:00						1										The second
8:00 - 8:15																
8:15 - 8:30																
8:30 - 8:45																
8:45 - 9:00						ľ	Ī			Ę				F		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BICYCLE AND PEDESTRIAN TRAFFIC

bo	3 33														
PM L	lighway	Highway 642 EB	B	Va s	Highway 642 WB	642 W	/B	Ra	Range Road 12A NB	ad 124	NB NB	Private	Acces	s - Clo	Private Access - Closed Gate
4:00 – 4:15	H	œ	PED S. Side	_	E	œ	PED N. Side		Н	œ	PED E. Side	7	H	œ	PED W. Side
													H		
4:15 – 4:30															
4:30 – 4:45															
4:45 – 5:00															
5:00 – 5:15															
5:15 - 5:30															
5:30 - 5:45															
5:45 - 6:00															
Peak Hour 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

06/2/2021 Count Date:

Addoz Engineering Inc. Wednesday Count Day: Counted By:

ALL VEHICLES
AM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection

		AINI	AIM PEAK HOU	LITALIC		at VICIO	y Road	alla oll	Court at victory Road and Siledden Di	Jr. Inter	. Illersection				
Time Period	Vic	Victory Road EB	88	Wil	Willow Way WB	٧B	Shed	Shedden Drive NB	a NB	Shec	Shedden Drive SB	S SB	Sum	4-P	PHF
AM	٦	T	œ			٣		Т	ď		F	ď		lotal	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	3	3		
7:15 - 7:30	0	0	0	0	0	0	2	0	0	0	0	0	2		
7:30 - 7:45	1	0	0	0	0	0	1	0	0	0	0	0	2		
7:45 - 8:00	0	0	0	0	0	0	-	0	0	0	0	0	٢	8	
8:00 - 8:15	0	0	0	0	0	0	ļ	0	0	0	0	2	3	8	
8:15 - 8:30	0	0		0	0	0	0	0	0	0	0	1	2	8	
8:30 - 8:45	J.	0	0	0	0	0		0	0	0	0	0	2	8	
8:45 - 9:00	ı	0	0	0	0	0		0	0	0	0	0	2	6	0.75
Peak Hour	2	0	1	0	0	0	3	0	0	0	0	3	6		
App Total		3			0			3			3		6		
% лн		%0			%0			%0			33%		11%		

ALL VEHICLES

PM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection

χ.		1 141 1	I M I can II ou I I ame count at victory word and cheaden bit microscenom			מראוכנס	y iroad	200	1	12111111	10000				
Time Period	Vic	Victory Road EB	EB	III.VV	Willow Way WB	٧B	Shec	Shedden Drive NB	NB .	She	Shedden Drive SB	e SB	Sum	4-P	PHF
PM	T	L	œ	7	T	ď		Е	ď		T	æ		l otal	
4:00 – 4:15	2	0	1	0	0	0	1	0	0	0	0	-	5		
4:15 - 4:30	1	0	1	0	1	0	0	1	0	0	1	-	9		
4:30 - 4:45	2	0	0	0	0	0	1	J	0	0	1	2	1		
4:45 - 5:00	က	1	ı	0	0	0	1	2	0	0	2	0	10	28	
5:00 - 5:15	ı	0	4	0	0	0	0	7	0	0	1	·	11	34	
5:15 - 5:30	0	0	1	0	0	0	4	1	0	0	1	0	7	32	08'0
5:30 - 5:45	2	0		0	0	0	0	0	0	0	0	0	3	31	
5:45 - 6:00	3	0	0	0	0	0	-	Ţ	0	0	0	-	9	27	
Peak Hour	9	1	9	0	0	0	9	8	0	0	5	3	35		
App Total		13			0			14			8		35		
% AH		%8			%0			%2			%0		%9		

06/2/2021 Count Date: Wednesday Count Day:

Addoz Engineering Inc. Counted By:

TRUCKS, MULTI-AXLE VEHICLE, CITY BUS OR SCHOOL BUS

AM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection

			The state of the s	100	Trees (VATE - VA	٥	10	2	CIV		Contract of the second	6	
lime Period	۷ د	Victory Road EB	EB	M	WIIIOW Way WE	n	She	Shedden Drive NB	NB	Sue	Shedden Drive SB	90	E I
AM	7	_	ď	7	_	ĸ		Τ	R	٦	T	R	
7:00 - 7:15													0
7:15 - 7:30					1 2								0
7:30 - 7:45													0
7:45 - 8:00													0
8:00 - 8:15												1	1
8:15 - 8:30													0
8:30 - 8:45													0
8:45 - 9:00													0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1	1
App Total		0			0			0			1		1

TRUCKS, MULTI-AXLE VEHICLE, CITY BUS OR SCHOOL BUS

PM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection

PM L T R L T R 4:00 – 4:15 4:15 – 4:30 4:45 – 4:30 4:45 – 5:00 1 4:45 – 5:00 1 1 1 5:00 – 5:15 5:00 – 5:15 5:15 – 5:30 5:30 – 5:45 1 </th <th>Willow Way WB S</th> <th>Shedden Drive NB</th> <th>Shedden Drive SB</th> <th>an's</th>	Willow Way WB S	Shedden Drive NB	Shedden Drive SB	an's
	T	⊢	L T L	
				0
				1
0 0 0 0	The second second		and the second second second	0
				1
0 0 0				1
1 0 0 0				0
1 0 0 0				0
1 0 0 0 0				0
	0	1 0	0 0 0	2
App Total 1 0	0	1	0	2

06/2/2021 Count Date:

Wednesday Count Day:

Addoz Engineering Inc. Counted By:

PASSENGER CARS, MINI-VANS, TWO AXLE TRUCKS, MOTOR CYCLES AND STATION WAGONS AM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection

		AIN LEAN !!	ויים	200	וו מו עוכוט	y Noad o	200	1000	י ווונכוסבר	-			
Time Period	Vie	Victory Road El	EB	X	/illow Way W	WB	She	Shedden Driv	rive NB	She	Shedden Drive	SB	Sum
AM	7	L	œ	1	Ī	2		T	Я		1	ĸ	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	3	3
7:15 - 7:30	0	0	0	0	0	0	2	0	0	0	0	0	2
7:30 - 7:45	J.	0	0	0	0	0	1	0	0	0	0	0	2
7:45 - 8:00	0	0	0	0	0	0	1	0	0	0	0	0	-
8:00 - 8:15	0	0	0	0	0	0	1	0	0	0	0	1	2
8:15 - 8:30	0	0	1	0	0	0	0	0	0	0	0	1	2
8:30 - 8:45	1	0	0	0	0	0	1	0	0	0	0	0	2
8:45 - 9:00	,	0	0	0	0	0	1	0	0	0	0	0	2
Peak Hour	2	0	1	0	0	0	3	0	0	0	0	2	8
App Total		က			0			က			2		8

PASSENGER CARS, MINI-VANS, TWO AXLE TRUCKS, MOTOR CYCLES AND STATION WAGONS

		PM Peak	Hour Tra	iffic Count	nt at Victory	Road	and She	Shedden Dr	. Intersection	tion			
Time Period	Ŋ	Victory Road E	EB	W	Willow Way WB	(B	She	Shedden Drive NB	e NB	Shed	Shedden Drive SB	SB	S. S.
MG	7	-	œ	T	T	ď	-		~		_	8	
4:00 - 4:15	2	0	,	0	0	0	1	0	0	0	0	1	2
4:15 - 4:30	1	0	1	0	1	0	0	0	0	0		1	2
4:30 - 4:45	2	0	0	0	0	0	1	1	0	0	1.	2	7
4:45 - 5:00	2	1	1	0	0	0	1	2	0	0	2	0	6
5:00 - 5:15	1	0	4	0	0	0	0	3	0	0	1	1	10
5:15 - 5:30	0	0	1	0	0	0	4	1	0	0	1	0	7
5:30 - 5:45	2	0	,	0	0	0	0	0	0	0	0	0	3
5:45 - 6:00	3	0	0	0	0	0	1	1	0	0	0	1	9
Peak Hour	2	1	9	0	0	0	9	7	0	0	5	3	33
App Total		12			0			13			80		33

06/2/2021 Count Date:

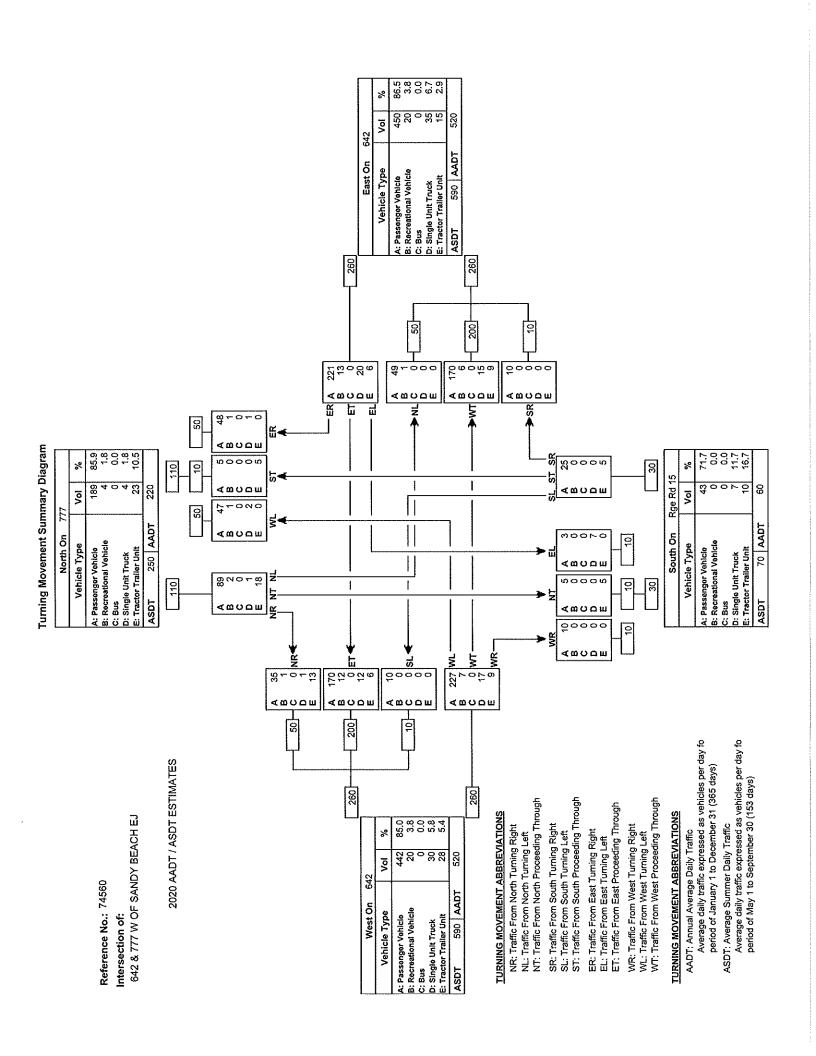
Addoz Engineering Inc. Wednesday Counted By: Count Day:

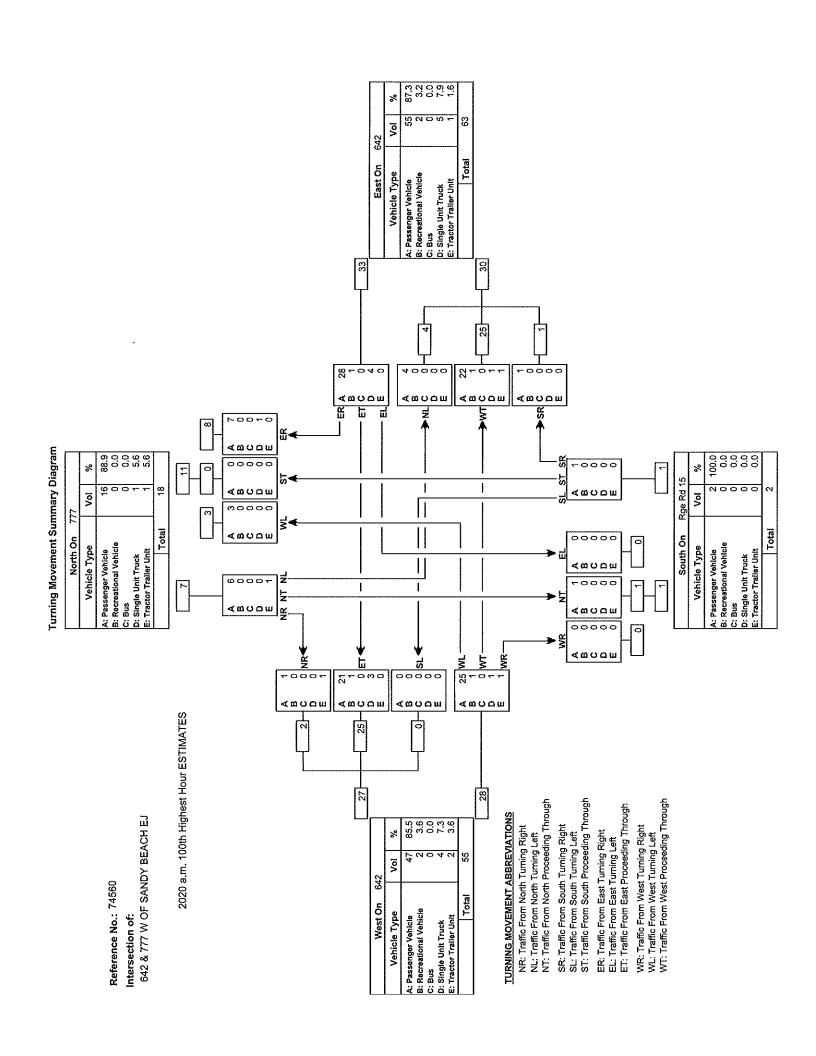
AM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection BICYCLE AND PEDESTRIAN TRAFFIC

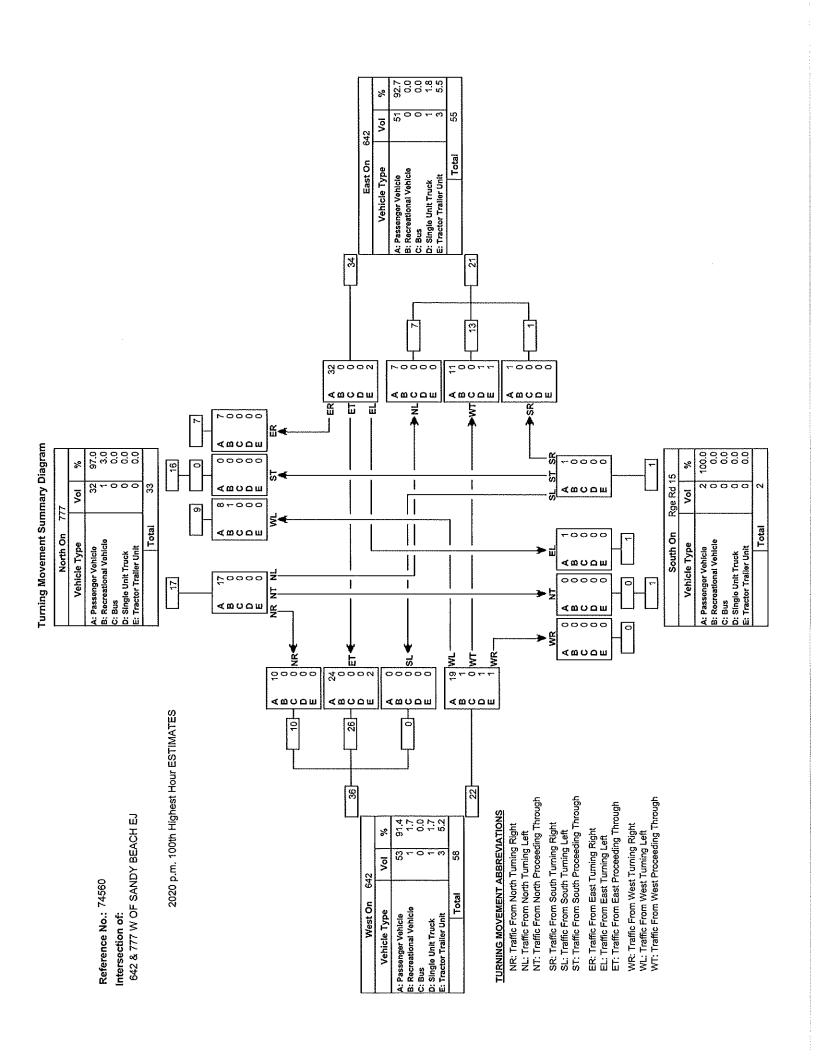
				management of the second state of the second s		-			The second second second							
Time Period		Victory Road EB	Road E	_B		Willow Way WB	Nay W	В	S	Shedden Drive NB	Drive	NB	o	Shedden Drive SB	n Drive	SB
AM	J	F	œ	PED S. Side		-	œ	PED N. Side		F	œ	PED E. Side	_	F	ď	PED W. Side
7:00 - 7:15																
7:15 - 7:30		-														
7:30 - 7:45												*				
7:45 - 8:00															ľ	
8:00 - 8:15										Б						ļ
8:15 - 8:30																
8:30 - 8:45													7			
8:45 - 9:00					H											
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

BICYCLE AND PEDESTRIAN TRAFFIC

		Pe Me	ak Ho	ur Traff	ic Col	unt at	Victo	ry Road	and	Shedo	len Di	PM Peak Hour Traffic Count at Victory Road and Shedden Dr. Intersection	ection			
Time Period	k	Victory	Victory Road EB	m		Willow	Willow Way WB	В	S	Shedden Drive NB	Drive	NB	o)	Shedden Drive SB	Drive	SB
Md		1	œ	PED S. Side	-	F	œ	PED N. Side	7	н	œ	PED E. Side	ال.	F	œ	PED W. Side
4:00 – 4:15																
4:15 - 4:30																
4:30 – 4:45																
4:45 - 5:00							-									
5:00 - 5:15												4				
5:15 - 5:30																
5:30 – 5:45												4			-	
5:45 - 6:00	-															
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	æ	0	0	0	0









Intersection	-				-	
	0.3					
TO STANCE TO THE PROPERTY OF THE PARTY OF TH	1722,50					
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	B			4	Y	
Traffic Vol, veh/h	30	0	2	35	0	1
Future Vol, veh/h	30	0	2	35	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
	ree	Free	Free	Free	Stop	Stop
RT Channelized	+	None		None		None
Storage Length		*	-	(*	0	
Veh in Median Storage, #	0	<u></u>		0	0	
Grade, %	0	9	i i	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	32	32	23	23	2	2
Mvmt Flow	53	0	4	61	0	2
VI. 2. 11.00	1 1	15			08. 4	
	jor1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	122	53
Stage 1	*3.	-	×	140	53	-
Stage 2	Ψ.	-	7.2		69	:=:
Critical Hdwy		-	4.33		6.42	6.22
Critical Hdwy Stg 1		-	2	-	5.42	7-1
Critical Hdwy Stg 2	+1	-			5.42	-
Follow-up Hdwy	_	-	2.407		3.518	3.318
Pot Cap-1 Maneuver	H 40	-	1428	14	873	1014
Stage 1	-	-	-	_	970	-
Stage 2					954	
Platoon blocked, %	41	-		14	22.4	
Mov Cap-1 Maneuver	-	180	1428		870	1014
Mov Cap-2 Maneuver	44		1420	84	870	-
Stage 1				() <u>-</u>	970	
Stage 2	20				951	
Olaye Z	ر ا		أعليا		901	فري
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		8.6	
HCM LOS			2000		Α	
Minor Lane/Major Mvmt	٨	IBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		1014	-	- Marie Control	1428	
HCM Lane V/C Ratio		0.002			0.002	_
HOW Lane VIO Rallo			_		7.5	0
HCM Control Doloy (a)		0.0				
HCM Long LOS		8.6		1/4		
HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh)		8.6 A 0	-		7.5 A	A

2.6 EBL EB 2 2 0 stop Sto	0 1 0 1 0 0	0 0	WBT	WBR 0 0	NBL 4	NBT ♣	NBR	SBL	SBT	SBR		-
2 2 0 top Sto	0 1 0 1 0 0 p Stop	0 0	0 0	0		- N. H. A. S.	NBR	SBL	SBT	SBR		-
2 2 0 top Ste	0 1 0 1 0 0 p Stop	0	0		4	472				CDIT		
2 2 0 top Ste	0 1 0 1 0 0 p Stop	0	0		4	443			4			
2 0 top Sto	0 0 p Stop	0		Λ		0	0	0	0	4		
top St	p Stop		0	U	4	0	0	0	0	4		
Yé.		Stop		0	0	0	0	0	0	0	- 1	
Yé.		Olop	Stop	Stop	Free	Free	Free	Free	Free	Free		
18			-	None		- 2	None	-		None		
		-	4	-		-	-		-	+		
-	0 -		0		-	0	-	- 44	0	-		
7. 4.	0 -	-	0	-	-	0	120	*	0	-		
75	5 75	75	75	75	75	75	75	75	75	75		
2			2	2	2	2	2	33	33	33		
3	0 1	0	0	0	5	0	0	0	0	5		
or2		Minor1		1	vlajor1			lajor2				
13			15			0			0	0		
							-					
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				6.22	4.12			4.43				
				-	10.050	-	-			-		
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			887	-			-		-	-		
					100	(#)	:#:					F
2000/			100000			-	(= .			-		
- 8	8 1081	1000	876		1616		-					
		100000000000000000000000000000000000000	876	-		-	-					
		1008	884									
		1019	892		7.5		-		-			
EB		WB			NB			SB				
74		1100						1182				
NI	L NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR					
					Parket Prog.	Section 2						
			-									
				1977	-							
- 1			110									
	75 7 2 3 3 10 11 3 10 11 12 6.5 12 5.5 18 4.01 88 9011 88 161 87 - 87 17 89 108 88	75 75 75 2 2 2 2 3 0 1 or2 13 13 3 3 3 3 - 10 1012 6.52 6.22 .12 5.5212 5.5212 5.5214 881 1081 .020 893011 887 - - 878 1081 - 878017 893018 884017 893018 884017 893018 884017 893018 884019 884010 884010 884011 887 -	75 75 75 75 2 2 2 2 2 3 0 1 0 or2	75 75 75 75 75 2 2 2 2 2 2 3 0 1 0 0 or2	75	75	75	75	75	75	75	75

Intersection						7.4
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	LDIT	VYDL	4	W/	Melt
Traffic Vol, veh/h	26	1	8	41	0	1
Future Vol, veh/h	26	1	8	41	0	1
	0	0	0	0	0	0
Conflicting Peds, #/hr			Free			
0	Free	Free		Free	Stop	Stop
RT Channelized	*	None	<u>.</u>		-	None
Storage Length	- 4	-		-	0	-
Veh in Median Storage, #		-		0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	4	8	8	2	2
Mvmt Flow	30	1	9	47	0	1
Major/Minor Ma	ajor1	- A	Major2	- 1	Minor1	
	0	0	31	0	96	31
Conflicting Flow All	0				31	
Stage 1		-			100000000	100
Stage 2	-	_	1.40		65	0.00
Critical Hdwy	- 2		4.18	1/4	Co. A.	6.22
Critical Hdwy Stg 1	4	**	2		5.42	-
Critical Hdwy Stg 2	(4)	12		-	5.42	
Follow-up Hdwy	-	-	2.272	-	3.518	
Pot Cap-1 Maneuver	*	- 4	1543	11,14	903	1043
Stage 1	***		2	2	992) E
Stage 2	-	547	FE	- 2	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	(4)		1543		898	1043
Mov Cap-2 Maneuver	-	-	9	H	898	
Stage 1	4	- 91	4		992	
Stage 2	-	-	-	-	952	
	ألي					
A	En		11105		ME	
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		8.5	
HCM LOS					A	
			1,11			
Minor Lane/Major Mvmt		VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		1043	-		1543	WD1
HCM Lane V/C Ratio		0.001			0.006	
						_
HCM Control Delay (s)		8.5				0
HCM Lane LOS		A	-		A	Α
HCM 95th %tile Q(veh)		0		ž.	0	

KI-												
Intersection			11.									
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	BEIN	IA/MAGAM	4		1000	4	, inchis	001	4	ODI
Traffic Vol, veh/h	6	1	6	0	0	0	6	8	0	0	5	3
Future Vol, veh/h	6	1	6	0	0	0	6	8	0	0	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized			None			None	-		None			None
Storage Length	-	-		<u>=</u>	-		-			-	-	*
Veh in Median Storage	e.# -	0	F.	4	0	(H)	2	0		- #	0	1
Grade, %	-	0	-	-	0	-	-	0	-		0	- 4
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	8	8	8	2	2	2	7	7	7	2	2	2
Mymt Flow	8	- 1	8	0	0	0	8	10	0	0	6	4
Major/Minor	Minor2		4	Minor1			Major1		- 1	Major2		
Conflicting Flow All	34	34	8	39	36	10	10	0	0	10	0	0
Stage 1	8	8		26	26							
Stage 2	26	26	-	13	10	: - :				-		
Critical Hdwy	7.18	6.58	6.28	7.12	6.52	6.22	4.17		(#)	4.12		
Critical Hdwy Stg 1	6.18	5.58	(0.000)E	6.12	5.52	: •:	A AUTO		3#3		-	
Critical Hdwy Stg 2	6.18	5.58		6.12	5.52			*	(41			
Follow-up Hdwy	3.572	4.072	3.372	3.518	4.018	3.318	2.263	-		2.218	-	(=
Pot Cap-1 Maneuver	958	847	1057	966	856	1071	1577	()		1610		Э.
Stage 1	998	877		992	874		-	-	·	+.	-	
Stage 2	976	862		1007	887		-	(#)				
Platoon blocked, %								: :			-	-
Mov Cap-1 Maneuver	954	843	1057	954	852	1071	1577	(-	*	1610		Ne.
Mov Cap-2 Maneuver	954	843		954	852	S#0			*	-	-	0₩
Stage 1	993	877	-	987	870	, m.	-		*			\#
Stage 2	971	858	-	998	887		•	:•::				: - :
Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.7			0			3.1			0		
HCM LOS	Α			Α								
Minor Lane/Major Mvn	nt	NBL	NBT	NRR	EBLn1\	NBI n1	SBL	SBT	SBR			
Capacity (veh/h)		1577	I ALLEM	11011	988	YDLIII	1610	UD1	COR			
HCM Lane V/C Ratio		0.005	100		0.016			*				
HCM Control Delay (s)	\	7.3	0		8.7	0	0					
HCM Lane LOS		7.3 A	A		Α.	A	A	: E	-			
HCM 95th %tile Q(veh	1	0	A -	-	0.1	A -	0					
HOW SOUL YOUR COLVER	1	U			U. I	-	U		188			

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	7	LDIN	TIDE	4	W	TVDIN.
Traffic Vol, veh/h	31	0	2	36	0	1
Future Vol, veh/h	31	0	2	36	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized	-iee	None	riee	None	Stop	None
Storage Length	-	None -	_	None -	0	-
Veh in Median Storage, #		-	-	0	0	
Grade, %			- Table -	0	0	
	0	E7		57		57
Peak Hour Factor	57	57	57		57	
Heavy Vehicles, %	32	32	23	23	2	2
Mvmt Flow	54	0	4	63	0	2
Major/Minor Ma	ajor1	1	Major2		Minor1	
Conflicting Flow All	0	0	54	0	125	54
Stage 1	-	-	54	-	54	54
Stage 2		- 450	-	-	71	_
		-	4.33		6.42	6.22
Critical Hdwy	188	170	4.33			
Critical Hdwy Stg 1		. 	-		5.42	
Critical Hdwy Stg 2	374		0.407		5.42	2 240
Follow-up Hdwy	3#4	: 1	2.407	-	3.518	
Pot Cap-1 Maneuver	2#1		1427	7	870	1013
Stage 1	::			-	969	1. 1. 1.
Stage 2	*				952	
Platoon blocked, %	1.00		-	-	-	1000
Mov Cap-1 Maneuver			1427		867	1013
Mov Cap-2 Maneuver				-	867	ī, 1 .
Stage 1	-				969	-
Stage 2		(*)	-		949	-
Approach	EB		WB	17.00	NB	
			0.4		8.6	
HCM Control Delay, s	0		0.4	15 W.		
HCM LOS					A	
Minor Lane/Major Mvmt		NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		1013			1427	
HCM Lane V/C Ratio		0.002			0.002	
HCM Control Delay (s)		8.6	-		-	0
HCM Lane LOS		A			07500	Ā
HCM 95th %tile Q(veh)		0				
FIGHT COLL VALUE CELVELL)		U			U	

Int Delay, s/Neh													
Int Delay, s/veh	Intersection												
Traffic Vol, veh/h		2.6											
Traffic Vol, veh/h	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	Lane Configurations		A.								2011/2011/00		
Future Vol, veh/h		2		1	0		0	4		0	0		4
Conflicting Peds, #/hr				1	0	0			0			0	
Stign Control Stop Stop		0	0	0	0	0	0	0	0	0			0
RT Channelized -		Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Storage Length													THE RESERVE OF THE PERSON NAMED IN
Grade, %	Storage Length	-		-							1 7 1		.=.
Peak Hour Factor	Veh in Median Storage	e,# -	0	10		0			0			0	
Heavy Vehicles, %	Grade, %	-	0		-	0	-	-	0	-	158	0	
Mynt Flow	Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Major/Minor Minor2 Minor1 Major1 Major2	Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	33	33	33
Conflicting Flow All	Mvmt Flow	3	0	1	0	0	0	5	0	0	0	0	5
Conflicting Flow All													
Conflicting Flow All	Major/Minor	Minor2			Minor1			Major1			Major2		
Stage 1	Conflicting Flow All	13	13	3	13	15			0			0	0
Critical Hdwy 7.12 6.52 6.22 7.12 6.52 6.22 7.12 6.52 6.22 4.12 - 4.43		3	3		10	10		14	*		#5		
Critical Hdwy Stg 1 6.12 5.52 - 6.12 5.52	Stage 2	10	10		3	5		12	-		***	-	4
Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52	Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	(#)		4.43	9	-
Follow-up Hdwy 3.518 4.018 3.318 3.518 4.018 3.318 2.218 2.497 Pot Cap-1 Maneuver 1004 881 1081 1004 879 - 1616 Stage 1 1020 893 - 1011 887 - 1020 892	Critical Hdwy Stg 1	6.12	5.52		6.12	5.52	-	3386	-		140	-	-
Pot Cap-1 Maneuver	Critical Hdwy Stg 2	6.12	5.52		6.12	5.52		-	1.44	180	**	-	- 4
Stage 1 1020 893 - 1011 887	Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	7.00	(=)	2.497	-	=
Stage 2	Pot Cap-1 Maneuver	1004	881	1081	1004	879		1616	140	:#:	(A)	-	*
Platoon blocked, %	Stage 1	1020	893	-	1011	887	-	200		-	(40)	-	-
Mov Cap-1 Maneuver - 878 1081 1000 876 - 1616 - <t< td=""><td>Stage 2</td><td>1011</td><td>887</td><td>*</td><td>1020</td><td>892</td><td></td><td>(00)</td><td>(**)</td><td>:4:</td><td>(40)</td><td>-</td><td>А</td></t<>	Stage 2	1011	887	*	1020	892		(00)	(**)	:4:	(40)	-	А
Mov Cap-2 Maneuver - 878 - 1000 876 - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>(=:</td> <td></td> <td>-</td> <td></td>									-	(=:		-	
Stage 1 1017 893 - 1008 884	Bright him Share and the control of			1081		- Charles		1616	340		*	- н	4
Stage 2 1008 884 - 1019 892 - - - - - - - - -				-	11/11/201-12/11		-	-	-	*	-	-	-
Approach EB WB NB SB HCM Control Delay, s 0 7.2 0 HCM LOS - A Minor Lane/Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR Capacity (veh/h) 1616 - - - - - - HCM Lane V/C Ratio 0.003 - - - - - - HCM Control Delay (s) 7.2 0 - - 0 0 - -								(A)	-	140	#1	#	-
HCM Control Delay, s	Stage 2	1008	884	-	1019	892	-	7#	-	(#)	-	-	-
HCM Control Delay, s 0 7.2 0 HCM LOS - A Minor Lane/Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR Capacity (veh/h) 1616 - - - - - - HCM Lane V/C Ratio 0.003 - - - - - - HCM Control Delay (s) 7.2 0 - - 0 0 - -													
Minor Lane/Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR Capacity (veh/h) 1616 - <td>Approach</td> <td>EB</td> <td></td> <td></td> <td>WB</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>SB</td> <td></td> <td></td>	Approach	EB			WB						SB		
Minor Lane/Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR Capacity (veh/h) 1616 - - - - - - - HCM Lane V/C Ratio 0.003 - - - - - - - HCM Control Delay (s) 7.2 0 - - 0 0 - -	HCM Control Delay, s				0			7.2			0		
Capacity (veh/h) 1616	HCM LOS	-			Α								
Capacity (veh/h) 1616													1
HCM Lane V/C Ratio 0.003 HCM Control Delay (s) 7.2 0 0 0	Minor Lane/Major Mvr	nt		NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR			
HCM Control Delay (s) 7.2 0 0 0	Capacity (veh/h)			Time				3,947					
	HCM Lane V/C Ratio		0.003							-			
HCMI and LOS A A - A A	HCM Control Delay (s)		0			0	0					
TIOM Latte Loo	HCM Lane LOS		Α	Α		-	Α	Α	-	·			
HCM 95th %tile Q(veh) 0	HCM 95th %tile Q(veh)	0					/# :					

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	LDI	YYDL	स	Y	Men
Traffic Vol, veh/h	27	1	8	42	0	- 1
Future Vol, veh/h	27	1	8	42	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
	_	Free	Free	Free		
Sign Control I RT Channelized	Free	None		None	Stop	Stop
					-	None
Storage Length	- 0		-	-	0	\ #
Veh in Median Storage, #		#/		0	0	ě
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	4	8	8	2	2
Mvmt Flow	31	1	9	48	0	1
Major/Minor Ma	alor4		Major?		Minor1	
	ajor1		Major2			00
Conflicting Flow All	0	0	32	0	98	32
Stage 1	-	-	- *		32	
Stage 2	-	-	-	-	66	-
Critical Hdwy	745	-	4.18		6.42	6.22
Critical Hdwy Stg 1	1941		-	w.	5.42	u u
Critical Hdwy Stg 2	-	-			5.42	
Follow-up Hdwy	1941	4	2.272	20	3.518	
Pot Cap-1 Maneuver	- 4		1542	- 4	901	1042
Stage 1	-		-	2	991	
Stage 2	-			-	957	-
Platoon blocked, %	144	-		40	mana di	
Mov Cap-1 Maneuver		-	1542		896	1042
Mov Cap-2 Maneuver	_	_	-		896	10.14
Stage 1	702	141		1 1 20	991	
Stage 2	-			5/	951	
Olago Z	_			•	001	
Approach	EB		WB		NB	اينا
HCM Control Delay, s	0		1.2		8.5	
HCM LOS	200				Α	
					7772277	
Minor Lane/Major Mvmt		NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		1042			1542	
HCM Lane V/C Ratio		0.001			0.006	÷
HCM Control Delay (s)		8.5			7.3	0
HCM Lane LOS		Α			Α	Α
HCM 95th %tile Q(veh)		0	-		- 20	

Intersection										يرا ب		- "	
Int Delay, s/veh	4.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4	HP.		4	11011	1100	4	, item		4	ODIT	
Traffic Vol, veh/h	6	1	6	0	0	0	6	8	0	0	5	3	
Future Vol, veh/h	6	1	6	0	0	0	6	8	0	0	5	3	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	Ctop	Otop	None	Ctop	Otop	None	1100	1100	None	1100	1100	None	
Storage Length	_	-	-	2	_	110110		_	-	-	2	140110	
Veh in Median Storage	# -	0	4	-	0		(#	0			0		
Grade, %		0	-	2	0	-	-	0			0		
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80	
Heavy Vehicles, %	8	8	8	2	2	2	7	7	7	2	2	2	
Mymt Flow	8	1	8	0	0	0	8	10	0	0	6	4	
WWIICEIOW	, O		U	U	U	U	U	10	U	U	U	:51/	
Major/Minor I	Minor2		1	Minor1			Major1			Major2			
Conflicting Flow All	34	34	8	39	36	10	10	0	0	10	0	0	
Stage 1	8	8		26	26		-					108	
Stage 2	26	26	-	13	10	-		-				:-	
Critical Hdwy	7.18	6.58	6.28	7.12	6.52	6.22	4.17		(#c	4.12			
Critical Hdwy Stg 1	6.18	5.58	-	6.12	5.52	-	: /.	-	(4.)	-	-		
Critical Hdwy Stg 2	6.18	5.58	*	6.12	5.52								
Follow-up Hdwy	3.572	4.072	3,372		4.018	3.318	2.263		. =0	2.218		(-	
Pot Cap-1 Maneuver	958	847	1057	966	856	1071	1577		H.	1610		(m.	
Stage 1	998	877		992	874	-	**					(i -	
Stage 2	976	862		1007	887								
Platoon blocked, %	7.000			15757	7/2/							(m)	
Mov Cap-1 Maneuver	954	843	1057	954	852	1071	1577	:=:	ж.	1610			
Mov Cap-2 Maneuver	954	843	-	954	852	-	NEWNA E		-	10 E (10 E)	-		
Stage 1	993	877	-/	987	870	(-		(#)					
Stage 2	971	858	-	998	887			(=8				(-	
	· · ·				30,								
Approach	EB			WB			NB			SB			
HCM Control Delay, s	8.7			0			3.1			0			
HCM LOS	Α			Α									
7 - 2 - 7 - 16													1 March
Minor Lane/Major Mvm	nt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR				
Capacity (veh/h)		1577	м		988	38.	1610	.#B					
HCM Lane V/C Ratio		0.005	-	-	0.016	875			= :				
HCM Control Delay (s)		7.3	0	E. I.	8.7	0	0	151					
HCM Lane LOS		Α	Α	-	Α	Α	Α		-				
HCM 95th %tile Q(veh)		0	-		0.1		0	. H.					

Interacellen						
Intersection Int Delay, s/veh	0.4					
	0.60000					
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	B			4	W	
Traffic Vol, veh/h	33	0	3	38	0	1
Future Vol, veh/h	33	0	3	38	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None	- <u>30</u>	None		None
Storage Length	£	2			0	
Veh in Median Storage, a	# 0		(6)	0	0	
Grade, %	0	ą	-	0	0	
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	32	32	23	23	2	2
Mvmt Flow	58	0	5	67	0	2
VI. 4. 100.	7				W .	
	ajor1		Major2		Minor1	
Conflicting Flow All	0	0	58	0	135	58
Stage 1	×.	- 4	= 11.4	-	58	-
Stage 2	-	-	-	-	77	2
Critical Hdwy			4.33	-	6.42	6.22
Critical Hdwy Stg 1	_	-	-	:=1	5.42	
Critical Hdwy Stg 2	L H		-		5.42	- 41
Follow-up Hdwy	-	14	2.407	æ	3.518	3.318
Pot Cap-1 Maneuver		194		-	Term will	1008
Stage 1	_	-	: <u>*</u>	94	965	-
Stage 2	2	-	-	-	946	
Platoon blocked, %		24		(4)		
Mov Cap-1 Maneuver	-		1422		856	1008
Mov Cap-2 Maneuver	4	V ₄	2	-	856	-
Stage 1	197.1	7.5			965	4
Stage 2		029	1/2	-	942	
0,550 2					014	
					()	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		8.6	
HCM LOS					Α	
Minor Lane/Major Mvmt	, A	VBLn1	EBT	EBR	WBL	WBT
	- 10					
Capacity (veh/h)	_ " .	1008	14		1422	2
HCM Control Polov (a)		0.002	12		0.004	-
HCM Control Delay (s)		8.6		-	7.5	0
HCM Lane LOS		A		-	A	Α
HCM 95th %tile Q(veh)		0	*	*	0	. t

Intersection													
Int Delay, s/veh	2.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	LUL	4	LDIT	NI DE	4	HOM	INDL	4	TIPIT	ODL	4	ODIT	
Traffic Vol, veh/h	3	0	1	0	0	0	4	0	0	0	0	4	
Future Vol, veh/h	3	0	1	0	0	0	4	0	0	0	0	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	4	4	None	- 10	-	None		-	None		-	None	
Storage Length	-					_	12	-		40		-	
Veh in Median Storage	.# -	0			0	-	12	0	120		0	- 4	T
Grade, %	_	0	-	-	0	- 2	545	0	-	-	0	-	
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	33	33	33	
Mvmt Flow	4	0	1	0	0	0	5	0	0	0	0	5	
Major/Minor	Minor2			Minor1		9	Wajor1			Major2			
Conflicting Flow All	13	13	3	13	15	0	5	0	0	0	0	0	
Stage 1	3	3	J	10	10	-	5		U	U	-	U	
Stage 2	10	10	-	3	5	- :	-	-	-		-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	_		4.43			
Critical Hdwy Stg 1	6.12	5.52	0,22	6.12	5.52	0.22	4,12	-	-	-	-	7.	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52		· ·		· · ·				
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218			2.497	-	-	
Pot Cap-1 Maneuver	1004	881	1081	1004	879	0.010	0.7200/20		-	2.701			
Stage 1	1020	893	-	1011	887	_	-					_	
Stage 2	1011	887	100	-	892			11-11					
Platoon blocked, %	1311	307		1020	502			-				-	
Mov Cap-1 Maneuver	*	878	1081	1000	876		1616			. To			
Mov Cap-2 Maneuver		878	-	1000	876		-		:*:	#3	-	-	
Stage 1	1017	893		1008	884		(#	(#)	(8)	.#X			
Stage 2	1008	884		1019	892	-							
##### #	11 07 07 25.	3 T. 1		2002 2003	10000								
Annuarit	ED			MD			AID			OD.			
Approach	EB		_	WB		-	NB			SB			
HCM Control Delay, s				0			7.2			0			
HCM LOS	-			A									
Minor Lane/Major Mvn	ıt	NBL	NBT	NBR	EBLn1\	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)		1616	181	15.	4 (W	-					
HCM Lane V/C Ratio		0.003			-	-							
HCM Control Delay (s)		7.2	0		-	0	0						
HCM Lane LOS		Α	Α	-		Α	Α	-	-				
HCM 95th %tile Q(veh)	0		1.5	-	-	*	- 18					

Intersection						
Int Delay, s/veh	0.9					
	190.00		111-1	****		1.0
Britan Carlo	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	P			4	W	
Traffic Vol, veh/h	29	1	9	45	0	1
Future Vol, veh/h	29	1	9	45	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None	8	None
Storage Length	-	-			0	•
Veh in Median Storage,	# 0			0	0	
Grade, %	0	-		0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	4	8	8	2	2
Mvmt Flow	33	1	10	51	0	1
inviner ion	00		10	0.1		
from a more	200		100			
Major/Minor Ma	ajor1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	105	34
Stage 1	-				34	-
Stage 2	-			-	71	-
Critical Hdwy	-		4.18	181	6.42	6.22
Critical Hdwy Stg 1				-	5.42	
Critical Hdwy Stg 2		- 4			5.42	-
Follow-up Hdwy	_	-	2.272		3.518	
Pot Cap-1 Maneuver	1 9		1540	4	893	1039
Stage 1	_		1070	-	988	1000
Stage 2	-		_	_	952	
Platoon blocked, %					302	-
			1540	-	007	1039
Mov Cap-1 Maneuver		all Ca	10.10	-	887	
Mov Cap-2 Maneuver	-		-	1241	887	-
Stage 1	2	- 3	- 2	-	988	-
Stage 2	-	=	22	-	945	1 <u>10</u> 1
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		8.5	-
	U		1.2			
HCM LOS					Α	
			-15			
Minor Lane/Major Mvmt		VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		1039	(e)		1540	
HCM Lane V/C Ratio		0.001	-		0.007	
HCM Control Delay (s)		8.5		120	7.4	0
HCM Lane LOS		Α		-	Α	A
HCM 95th %tile Q(veh)		0	116	-	0	A
HOW SOUT MILE Q(VEIT)		U			U	

Int Delay, s/veh
Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR
Cane Configurations
Traffic Vol, veh/h
Traffic Vol, veh/h
Future Vol, veh/hr
Conflicting Peds, #/hr
Sign Control Stop
RT Channelized
Veh in Median Storage, # - 0 - - 0 - - 0 0 - 0 0 - 0 0 - 0 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 0 - 0
Veh in Median Storage, # 0 - - 0 - - 0 0 - 0 0 - 0 0 - 0 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 0 - 0
Peak Hour Factor
Heavy Vehicles, %
Mynt Flow 9 1 9 0 0 9 11 0 0 8 4 Major/Minor Minor1 Major1 Major2 Conflicting Flow All 39 39 10 44 41 11 12 0 0 11 0 0 Stage 1 10 10 - 29 29 -
Major/Minor Minor2 Minor1 Major1 Major2
Conflicting Flow All 39 39 10 44 41 11 12 0 0 11 0 0 Stage 1 10 10 - 29 29 -
Conflicting Flow All 39 39 10 44 41 11 12 0 0 11 0 0 Stage 1 10 10 - 29 29 -
Conflicting Flow All 39 39 10 44 41 11 12 0 0 11 0 0 Stage 1 10 10 - 29 29 -
Stage 1 10 10 - 29 29 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Stage 2 29 29 - 15 12 - <th< td=""></th<>
Critical Hdwy Stg 1 6.18 5.58 - 6.12 5.52
Critical Hdwy Stg 1 6.18 5.58 - 6.12 5.52
Critical Hdwy Stg 2 6.18 5.58 - 6.12 5.52
Follow-up Hdwy 3.572 4.072 3.372 3.518 4.018 3.318 2.263 - 2.218 - Pot Cap-1 Maneuver 951 842 1054 958 851 1070 1575 - 1608 - Stage 1 996 875 - 988 871 Stage 2 973 859 - 1005 886
Pot Cap-1 Maneuver 951 842 1054 958 851 1070 1575 - - 1608 -
Stage 1 996 875 - 988 871 -
Stage 2 973 859 - 1005 886
Platoon blocked, % Mov Cap-1 Maneuver 946 837 1054 945 846 1070 1575 - 1608 Mov Cap-2 Maneuver 946 837 - 945 846 Stage 1 990 875 - 982 866 Stage 2 967 854 - 995 886 Approach EB WB NB SB HCM Control Delay, s 8.7 0 3.2 0
Mov Cap-1 Maneuver 946 837 1054 945 846 1070 1575 - - 1608 - - Mov Cap-2 Maneuver 946 837 - 945 846 -<
Mov Cap-2 Maneuver 946 837 - 945 846 - </td
Stage 1 990 875 - 982 866 -
Approach EB WB NB SB HCM Control Delay, s 8.7 0 3.2 0
Approach EB WB NB SB HCM Control Delay, s 8.7 0 3.2 0
HCM Control Delay, s 8.7 0 3.2 0
HCM Control Delay, s 8.7 0 3.2 0
HOW LOO
THE STATE OF THE S
Minor Lane/Major Mvmt NBL NBT NBR EBLn1WBLn1 SBL SBT SBR
Capacity (veh/h) 1575 985 - 1608
HCM Lane V/C Ratio 0.006 0.019
HCM Control Delay (s) 7.3 0 - 8.7 0 0
HCM Lane LOS A A - A A A
HCM 95th %tile Q(veh) 0 0.1 - 0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	LDIN	YYEIL	€	MPL	MAIN
Traffic Vol, veh/h	42	0	3	49	0	2
Future Vol, veh/h	42	0	3	49	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized	1166	None	riee	410.1	Stop	The second second
Storage Length						
	- 4	**	*	-	0	-
Veh in Median Storage,		ê	- 18	0	0	- 0
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	32	32	23	23	2	2
Mvmt Flow	74	0	5	86	0	4
Major/Minor Ma	ajor1		Major2	1	Minor1	
Conflicting Flow All	0	0	74	0	170	74
	0	U				
Stage 1				-	74	- T.
Stage 2	=0	-	4.00		96	0.00
Critical Hdwy	-	.== *	4.33	*	6.42	6.22
Critical Hdwy Stg 1	# 1	_	-		5.42	-
Critical Hdwy Stg 2		*	-		5.42	
Follow-up Hdwy			2.407	i 🎏	3.518	
Pot Cap-1 Maneuver	#		1402		820	988
Stage 1	-	-	-	J.	949	*
Stage 2	-			-	928	
Platoon blocked, %	-			<u></u>		
Mov Cap-1 Maneuver	-	-	1402	-	817	988
Mov Cap-2 Maneuver	48	2	2	-	817	2
Stage 1	-	2	2		949	-
Stage 2	20	2	2	14	924	4
			41			
Approach	EB		WB		NB	
HCM Control Delay, s	0	7	0.4		8.7	u, o
HCM LOS					A	
				4 i . i		
Minor Lane/Major Mvmt	1	VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		988			1402	
HCM Lane V/C Ratio		0.004	_		0.004	-
HCM Control Delay (s)		8.7			7.6	0
HCM Lane LOS		Α		_	Α.	A
HCM 95th %tile Q(veh)		0			0	A -
TOW JOHN JOHN Q(VEII)		U			U	

Intersection													
Int Delay, s/veh	2.4												
	00-00.00	E D.T.	EDD	WIDI	VAUDTE	WDD	MIDI	KIDT	NIDO	ODI	ODT	onn	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	•	4	0	^	4	0	H	4	•	^	4	-	
Traffic Vol, veh/h	3	0	2	0	0	0	5	0	0	0	0	5	
Future Vol, veh/h	3	0	2	0	0	0	5	0	0	0	0	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	_ 0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized			None			None	-	-	None	•	-	None	
Storage Length	-	-	-		-	-	121	-	121			72	
Veh in Median Storage	e, # -	0			0	-	7020	0	*		0	7/2	
Grade, %	•	0	-	# CT3072	0	-	(- C	0	140		0	-	
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	33	33	33	
Mvmt Flow	4	0	3	0	0	0	7	0	0	0	0	7	
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	18	18	4	19	21	0	7	0	0	0	0	0	
Stage 1	4	4	4	14	14	-	-	-	-	-	-		1 1
Stage 2	14	14	-	5	7	-	12		.80	- 150	-		
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12			4.43	-		
Critical Hdwy Stg 1	6.12	5.52	0,22	6.12	5.52	0.22	4.12	-	170	4.40		-	
Critical Hdwy Stg 2	6.12	5.52		6.12	5.52	_		_				3.7	
Follow-up Hdwy	3.518	4.018	3.318		4.018	3.318	2 218	-		2.497	-	-	
Pot Cap-1 Maneuver	996	876	1080	995	873	3.310	1614	_	-	2.431			
	1018	892	27.1500.00	1006	884	-	1014				-	-	
Stage 1 Stage 2	1006	884	120	404-	890	(5.	-	-	157.0			100	
	1000	004		1017	090					.51			
Platoon blocked, %		070	1000	000	070		1614						
Mov Cap-1 Maneuver		872 872	1080	989	870 870								
Mov Cap-2 Maneuver	1014	892	:=:	1002	880	-	.*		75	#.		•	
Stage 1		880	:=:	AND DESCRIPTION OF THE PERSON	890	- 18			100			IR	
Stage 2	1002	OOU	-	1014	090				5 1	#:			
Approach	EB			WB			NB			SB			Hi-
HCM Control Delay, s				0			7.2			0			
HCM LOS	194			Α									
Minor Lane/Major Mvn	nt	NBL	NBT	NBR	EBLn1\	WBLn1	SBL	SBT	SBR		بني		
Capacity (veh/h)		1614						+	- 8		4		
HCM Lane V/C Ratio		0.004		-	-	-							
		7.2	0			0	0		-				
HCM Control Delay (s)		1.6	V.										
HCM Control Delay (s) HCM Lane LOS		A	A	417./ -	-	A	Α		-				

Intersection	4			T. F.		
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4	LUIX	WAR	4	Y	TABIA
Traffic Vol, veh/h	36	1	11	57	0	1
Future Vol, veh/h	36	1	11	57	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized	-ree	The state of the s	- riee	THE RESERVE	Stop	The second secon
Storage Length	-	None -		None		None -
					0	
Veh in Median Storage, #				0	0	-
Grade, %	0	- 00	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	4	8	8	2	2
Mvmt Flow	41	1	13	65	0	1
Major/Minor Me	jor1		Major2		Minor1	
	_					10
Conflicting Flow All	0	0	42	0	133	42
Stage 1		=0		-	42	-: **)
Stage 2	-	-	-	*	91	-
Critical Hdwy		H ()	4.18		6.42	6.22
Critical Hdwy Stg 1		-	-	-	5.42	-
Critical Hdwy Stg 2		*			5.42	
Follow-up Hdwy	-	-	2.272	-	3.518	
Pot Cap-1 Maneuver	(4)		1529	*	861	1029
Stage 1	•	-	-	-	980	
Stage 2	-	-			933	
Platoon blocked, %	(=)	-				
Mov Cap-1 Maneuver	-	-	1529		853	1029
Mov Cap-2 Maneuver	_	-	-		853	-
Stage 1		-	- 1		980	-
Stage 2	-	100		_	925	6 A
Oldyo Z					525	
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		8.5	
HCM LOS					A	
					أثبي	
Minor Lang/Major Mumt	,	VBLn1	EBT	EDD	WBL	WBT
Minor Lane/Major Mvmt				EBR		
Capacity (veh/h)	15	1029	**		1529	18
HCM Lane V/C Ratio		0.001	:= 0.		0.008	14
HCM Control Delay (s)		8.5	-	-		0
HCM Lane LOS HCM 95th %tile Q(veh)		A 0	-	-		Α
			-	-		

ne				-								
Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4	111-11		4	
Traffic Vol, veh/h	8	1	8	0	0	0	8	11	0	0	7	4
Future Vol, veh/h	8	1	8	0	0	0	8	11	0	0	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized		-	None		- 10	None	-	-	None	-		None
Storage Length		-	-	_		-	-		-	_	12	-
Veh in Median Storage	.# -	0		¥	0	- 4	(4)	0			0	rer
Grade, %		0	-	<u> </u>	0	-	700	0		_	0	:44
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	8	8	8	2	2	2	7	7	7	2	2	2
Mvmt Flow	10	1	10	0	0	0	10	14	0	0	9	5
The state of the s	1060			100			* 300/	200				
Major/Minor	Minor2			Minor1			Major1		1	Major2		
Conflicting Flow All	46	46	12	51	48	14	14	0	0	14	0	0
Stage 1	12	12	9	34	34	-	1 - 2			17	-	-
Stage 2	34	34	-	17	14	-	- 45	-	4	-	_	-
Critical Hdwy	7.18	6.58	6.28	7.12	6.52	6.22	4.17	92		4.12	- 6	-
Critical Hdwy Stg 1	6.18	5.58	-	6.12	5.52	0,22	-	-		-	-	1
Critical Hdwy Stg 2	6.18	5.58	-	6.12	5.52							
Follow-up Hdwy	3.572	4.072	3.372	3.518	4.018	3.318	2.263		-	2.218	-	-
Pot Cap-1 Maneuver	941	834	1051	948	844	1066	1572	-	-	1604	\\\\\	
Stage 1	993	874	-	982	867				-	-	-	
Stage 2	967	855	1 2	1002	884						H	-
Platoon blocked, %	201	300						-				*
Mov Cap-1 Maneuver	936	829	1051	934	839	1066	1572		-	1604		-
Mov Cap-2 Maneuver	936	829	_	934	839					-	-	
Stage 1	987	874		976	862	-	-	₩		-	· (E	-
Stage 2	961	850	-	991	884				-	-		
Approach	EB			WB			NB		- 1	SB		
HCM Control Delay, s	8.8			0			3.1			0		
HCM LOS	A			Ā			Carrie					
	أأس			7/3								
Minor Lane/Major Mvn	nt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		1572	-		979							
HCM Lane V/C Ratio		0.006	-	_	0.022		-					
HCM Control Delay (s)		7.3	0	-	8.8	0	0	- 20		-1-		
HCM Lane LOS		A	A	-	A	A	A					
HCM 95th %tile Q(veh)	0	7		0.1		0	140				
TOTAL OUT THE SELECT		,,0			0.1		J					

-						
Intersection						
Int Delay, s/veh	1.9					
		1122	WWW.	200000000	95/20-00	
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	B			લી	KA	
Traffic Vol, veh/h	31	3	5	36	6	7
Future Vol, veh/h	31	3	5	36	6	7
Conflicting Peds, #/hr	0	0	0	0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		-	None
Storage Length	4:	**	4	-	0	
Veh in Median Storage,	# 0	w/	-	0	0	
Grade, %	0	220	_	0	0	1829
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	32	50	50	23	50	50
Mymt Flow	54	5	9	63	11	12
WWITHOW	54	5	9	03	11	12
Major/Minor Ma	ajor1	1	Major2		Minor1	-
Conflicting Flow All	0	0	59	0	138	57
Stage 1	-		00	-	57	-
Stage 2	2000				81	-
		-	4.6			
Critical Hdwy			VI MINE		6.9	6.7
Critical Hdwy Stg 1	 2	#1		-	5.9	*:•:
Critical Hdwy Stg 2		-			5.9	
Follow-up Hdwy		-	2.65	-	3.95	3.75
Pot Cap-1 Maneuver			1287		754	889
Stage 1		(*)	-	-	856	-
Stage 2	*		*		834	
Platoon blocked, %	•			-		
Mov Cap-1 Maneuver			1287		749	889
Mov Cap-2 Maneuver		-	-	<u>-</u>	749	-
Stage 1		-			856	140
Stage 2	-				828	
Glaye Z	_		-		020	(4)
عليا والمساوية						
Approach	EB		WB		NB	
HCM Control Delay, s	0		1		9.5	
HCM LOS	U				Α.	
TION LOG					А	-
Minor Lane/Major Mvmt	- 1	VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		818			1287	
HCM Lane V/C Ratio		0.028			0.007	
HCM Control Delay (s)		9.5			7.8	0
HCM Lane LOS		Α			Α.	A
HCM 95th %tile Q(veh)		0.1			0	A
How sour wife Q(ven)		0.1			U	183

2: Shedden Dr & Victory Rd/Willow Way

Intersection	T .			-									1. 1	16	
Int Delay, s/veh	2.4														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations		4			4			4			4				
Traffic Vol, veh/h	3	0	1	0	0	0	4	0	- 0	0	0	5			
Future Vol, veh/h	3	0	1	0	0	0	4	0	0	0	0	5			
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0			
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free			
RT Channelized			None	-		None	14	- 14	None	140	-	None			
Storage Length	14	_	4	-		2	72	:=:	-	-	~	-			
Veh in Median Storage,	# -	0	*		0		14	0	740	(w)	0	-			
Grade, %	-	0	-	-	0	2	-	0	24	-	0	¥			
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75			
Heavy Vehicles, %	50	50	50	50	50	50	50	50	50	50	50	50			
Mvmt Flow	4	0	1	0	0	0	5	0	0	0	0	7			
Major/Minor N	linor2			Minor1		1	Major1		N	/lajor2					
Conflicting Flow All	14	14	4	14	17	0	7	0	0	0	0	0			
Stage 1	4	4		10	10	-	7.5	-		-					
Stage 2	10	10		4	7		-	-	-			-			
Critical Hdwy	7.6	7	6.7	7.6	7	6.7	4.6	1.5		4.6		- 1			
Critical Hdwy Stg 1	6.6	6		6.6	6	-		-		-	÷	-			
Critical Hdwy Stg 2	6.6	6		6.6	6	-	15								
Follow-up Hdwy	3.95	4.45	3.75	3.95	4.45	3.75	2.65	-	-	2.65	+	÷			
Pot Cap-1 Maneuver	892	794	955	892	791	-	1350		187	4	4)	¥			
Stage 1	907	806		900	801	-		-	-						
Stage 2	900	801	-	907	803		· ·			-	*	+			
Platoon blocked, %								-	:=:			Ē			
Mov Cap-1 Maneuver	-	791	955	888	788		1350		100	1	*.				
Mov Cap-2 Maneuver	=	791	9 8 6	888	788	-			-	-		-			
Stage 1	903	806	.#E	896	798			A.V.	. .						
Stage 2	896	798		906	803	5	- 5		-	-	- 8	Ä			
Approach	EB			WB			NB			SB					
HCM Control Delay, s		-		0			7.7		1	0				, -	
HCM LOS				Α											
					TF								17		
Minor Lane/Major Mvml	t	NBL	NBT	NBR	EBLn1V	WBLn1	SBL	SBT	SBR				-		
Capacity (veh/h)		1350				- 1 6									
HCM Lane V/C Ratio		0.004	-			-	<u>=</u>	-	-						
HCM Control Delay (s)		7.7	0			0	0	(4)							
HCM Lane LOS		Α	A	-	-	A	A	-	(8)						
HCM 95th %tile Q(veh)		0		181			8	-							
75															

Intersection						
Int Delay, s/veh	2.4	- 15				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EBL	EDIT	INDL		Control III	Mac
Traffic Vol, veh/h	6	0	0	4	1 > 8	3
Future Vol, veh/h	6	0	0	7	8	3
Conflicting Peds, #/hr	0	0	0	0	0	0
	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		*	None
Storage Length	0		7.E		-	*
Veh in Median Storage,				0	0	÷
Grade, %	0			0	0	•
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	7	0	0	8	9	3
Major/Minor M	inor?	- 1	Anior4	A	laior?	
	inor2		Major1		Najor2	_
Conflicting Flow All	19	11	12	0	-	0
Stage 1	11	-		*		(#A)\
Stage 2	8	-	-			-
Critical Hdwy	7.4	7.2	5.1	14	•	
Critical Hdwy Stg 1	6.4	_	\ <u>~</u>	-	2#1	-
Critical Hdwy Stg 2	6.4	*	/#c		*	-
Follow-up Hdwy	4.4	4.2	3.1	-	7 4 7	-
Pot Cap-1 Maneuver	796	844	1148			*
Stage 1	808	-	-	-		# 1
Stage 2	811	-				-
Platoon blocked, %				-	**	140
Mov Cap-1 Maneuver	796	844	1148	-		-
Mov Cap-2 Maneuver	796	- ALL JANIES	12		-	48
Stage 1	808		100	74	-	
Stage 2	811	_	84	- 1	1	347
Jugo L	011					
Approach	EB		NB		SB	
HCM Control Delay, s	9.6		0		0	
HCM LOS	Α					
		3,17				
Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1148	-		-	-
HCM Lane V/C Ratio		1140		0.008	-	-
HCM Control Delay (s)		0			120	
HCM Lane LOS		A				-
		0	-		**	**
HCM 95th %tile Q(veh)		U	- *	U	· ·	-

Intersection						
Int Delay, s/veh	5.3					
	EDI	EPP	NIDI	NDT	CDT	CDD
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	M	4	2	ર્લ	₽	
Traffic Vol, veh/h	6	1_	1	1	2	3
Future Vol, veh/h	6	1	1	1	2	3
Conflicting Peds, #/hr	0	0	0	0	0	.0
	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	- 20	None	100	None
Storage Length	0	-	-	•	÷	
Veh in Median Storage, #	0	14	*	0	0	- 12
Grade, %	0			0	0	-
Peak Hour Factor	92	92	92	92	92	92
	100	100	100	100	100	100
Mymt Flow	7	1	1	1	2	3
HITHUT ION	10.1			- 4		U
Major/Minor Mir	nor2		Major1		Major2	
Conflicting Flow All	7	4	5	0	-	0
Stage 1	4			387		
Stage 2	3				-	-
Critical Hdwy	7.4	7.2	5.1			m.
Critical Hdwy Stg 1	6.4	1,2	0.1	-	-	
Critical Hdwy Stg 2	6.4		-	-	-	
				180		
Follow-up Hdwy	4.4	4.2	3.1	*	*	
	810	852	1156	- **		
•	814	-	•	; -		-
	815	2#0				
Platoon blocked, %				:=:	*	-
Mov Cap-1 Maneuver	809	852	1156	*		
	809				-	
	813					
3.1	815			-		-
Olago Z	010	=	***	177		
					-	-
Approach	EB		NB		SB	
HCM Control Delay, s	9.5		4.1		0	
HCM LOS	A		10.0			
TIOM LOG	/1					
Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1156		(9.112.28111		
HCM Lane V/C Ratio		0.001		0.009		-
HCM Control Delay (s)		8.1	0	9.5		
HCM Lane LOS		_	A			
HCM 95th %tile Q(veh)		A		A	-	
muly som wille (Jiven)		0	-	0		

Intersection	V SS				41.8	
Int Delay, s/veh	2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	^	LUIN	YYDL	4Î	WA.	New
Traffic Vol, veh/h	27	9	16	42	4	5
Future Vol, veh/h	27	9	16	42	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
The state of the s		Free	Free	Free	Stop	
RT Channelized	Free	None				Stop
				200112000	~	None
Storage Length	- 4 0	-		-	0	:#7
Veh in Median Storage, 7				0	0	186
Grade, %	0	- 00	- 00	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	50	50	8	50	50
Mvmt Flow	31	10	18	48	5	6
Major/Minor Ma	ajor1	N	Major2	N	Minor1	
Conflicting Flow All	0	0	41	0	120	36
Stage 1	0	-	4.1	Ū	36	30
					84	
Stage 2	-	-	10	-		6.7
Critical Hdwy	#	-	4.6		6.9	6.7
Critical Hdwy Stg 1	*	•			5.9	
Critical Hdwy Stg 2	- 5		0.05		5.9	0.75
Follow-up Hdwy	•	2)	2.65	Ā	3.95	3.75
Pot Cap-1 Maneuver	-	•	1309	*	773	915
Stage 1	•	•			876	
Stage 2	*	9)	1 to \$	*	831	
Platoon blocked, %	-	-		¥	2000000	
Mov Cap-1 Maneuver			1309		762	915
Mov Cap-2 Maneuver	(#)			= =	762	•
Stage 1			3		876	
Stage 2	-		<u> </u>	-	819	- 1
weed - ar						
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.1	4,	9.3	
HCM LOS					Α	
		- 5- 3-				
Minor Lane/Major Mvmt		VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		840	-		1309	-
HCM Lane V/C Ratio		0.012	-		0.014	-
HCM Control Delay (s)		9.3			TETELOATO	0
HCM Lane LOS		Α.	-		Α.	A
HCM 95th %tile Q(veh)		0	-		200	A
HOW SOUL YOURS CO (VEIL)		U	±0		U	

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4	7 4 11 10 10 10 10 10 10 10 10 10 10 10 10		4			4	
Traffic Vol, veh/h	7	1	6	0	0	0	6	8	0	0	5	4
Future Vol, veh/h	7	1	6	0	0	0	6	8	0	0	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized		9	None	(H		None	(A)		None	/#	283	None
Storage Length	-	ĕ	18	-	- +	-	*	-	2		-	197
Veh in Median Storage	,# -	0	- E	-	0	-	•	0		(<u>+</u>	0	
Grade, %	*	0	Ę		0	- 8	+	0	-	(*	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	50	50	50	50	50	50	50	50	50	50	50	50
Mvmt Flow	9	1	8	0	0	0	8	10	0	0	6	5
Major/Minor N	Minor2		ľ	Minor1		1	Major1		0	Vajor2		
Conflicting Flow All	35	35	9	39	37	10	11	0	0	10	0	0
Stage 1	9	9	-	26	26		15.00	-				-
Stage 2	26	26	_	13	11				_			
Critical Hdwy	7.6	7	6.7	7.6	7	6.7	4.6	-		4.6		(M)
Critical Hdwy Stg 1	6.6	6	-	6.6	6	-	-		-	-		: :
Critical Hdwy Stg 2	6.6	6	*	6.6	6	(#)	-		-		·	
Follow-up Hdwy	3.95	4.45	3.75	3.95	4.45	3.75	2.65		-	2.65	: = ;	(=)
Pot Cap-1 Maneuver	863	772	948	857	770	947	1345	-		1346	E#62	
Stage 1	901	801	-	881	787		*		-			:*:
Stage 2	881	787		896	800	: ** :	#X	*				.m
Platoon blocked, %		1117576										
Mov Cap-1 Maneuver	859	767	948	845	765	947	1345			1346	190	
Mov Cap-2 Maneuver	859	767	-	845	765	= 0.7/			-	-	1.00	
Stage 1	896	801		876	782	(4)						
Stage 2	876	782	×	888	800			-		-	:#	.
	- 7				17(7627)							
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.1			0			3.3			0		
HCM LOS	A			A			0.0					
IJOM EGO				//								
Minor Long Major Man		NDI	Мот	NDD	EDI41	MDI 54	SBL	SBT	SBR			
Minor Lane/Major Mvm	ı	NBL	NBT		EBLn1V							
Capacity (veh/h)		1345		160	887	*	1346					
HCM Lane V/C Ratio		0.006	-		0.02	-	-	= 7	-			
HCM Control Delay (s)		7.7	0	*	9.1	0	0			-		
HCM Lane LOS		Α	Α	•	Α	Α	Α	•				
HCM 95th %tile Q(veh)		0			0.1	(#)	0	-				

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		1100	4	7>	OPI
Traffic Vol, veh/h	4	0	0	5	21	8
Future Vol, veh/h	4	0	0	5	21	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- Ctop	None	1100	None	1100	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage,				0	0	
Grade, %	0		-	0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mymt Flow	4	0	0	5	23	9
WWIIITIOW	- 7	U	U	J	20	
\$150 W 25100	OI -					
	inor2		Major1		Major2	
Conflicting Flow All	33	28	32	0	-	0
Stage 1	28	-		125	- 100	
Stage 2	5		4	*	: <u>4</u> 3	
Critical Hdwy	7.4	7.2	5.1	*	740	-
Critical Hdwy Stg 1	6.4	_	_	-	-	-
Critical Hdwy Stg 2	6.4	-	- 74			
Follow-up Hdwy	4.4	4.2	3.1	-	-	140
Pot Cap-1 Maneuver	780	824	1125		-	
Stage 1	792	2	12	_	_	-
Stage 2	813		10		-	
Platoon blocked, %				-		
Mov Cap-1 Maneuver	780	824	1125	14		
Mov Cap-2 Maneuver	780	_			_	
Stage 1	792			- 10	1767	
Stage 2	813		E E			
Oldgo L	010					
K					100-174	
Approach	EB		NB		SB	
HCM Control Delay, s	9.6		0		0	
HCM LOS	Α					
						1 p 1 5
Minor Lane/Major Mvmt		NBL	NRT	EBLn1	SBT	SBR
Capacity (veh/h)		1125	IND I	20.00	001	OBIN.
HCM Lane V/C Ratio		1120		0.006	-	
HCM Control Delay (s)		0	-	9.6		
HCM Lane LOS		A	-	9.0 A	-	
HCM 95th %tile Q(veh)		0	-	120		-
TOW JOHN JOHN Q(VEII)		U		U		

Intersection						
Int Delay, s/veh	2.3					
		EDD	KIDL	KIPT	ODT	opp
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	M			4	ß	
Traffic Vol, veh/h	4	1	1	1	9	8
Future Vol, veh/h	4	1	1	1	9	. 8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None	· (6)	None	÷.	None
Storage Length	0	-		-	¥	9
Veh in Median Storage,	# 0	産	- 17	0	0	÷
Grade, %	0	14		0	0	- 4
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
	4	100	100	100	100	9
Mvmt Flow	4	T	1	1	10	9
Major/Minor M	inor2	٨	Major1	ı.	/ajor2	
Conflicting Flow All	18	15	19	0	-	0
		15	172.00			
Stage 1	15			-	-	•
Stage 2	3	// €	**	(*)	*	-
Critical Hdwy	7.4	7.2	5.1			
Critical Hdwy Stg 1	6.4	% =	-			-
Critical Hdwy Stg 2	6.4	7#	-			
Follow-up Hdwy	4.4	4.2	3.1	-		-
Pot Cap-1 Maneuver	797	839	1140			
Stage 1	804	-		:#:	-	-
Stage 2	815			341	-	
Platoon blocked, %	010					
	700	839	1140	-		
Mov Cap-1 Maneuver	796	101010	1140	-		
Mov Cap-2 Maneuver	796	9 .€	-	-	*	-
Stage 1	803				*	
Stage 2	815	(* *	-	-	-	-
Annyonah	EB		NID		SB	
Approach	- Busines		NB			
HCM Control Delay, s	9.5		4.1		0	
HCM LOS	Α					
Minor Lang/Major Munt		NBL	NOT	EBLn1	SBT	SBR
Minor Lane/Major Mvmt						
Capacity (veh/h)		1140			er.	
HCM Lane V/C Ratio		0.001		0.007	*	-
HCM Control Delay (s)		8.2	0	9.5	**	
HCM Lane LOS		Α	Α	Α	-	-
HCM 95th %tile Q(veh)		0		0		
ACCORDANCE OF THE PARTY OF THE				- 50		

2: Shedden Dr & Victory Rd/Willow Way

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	5	0	-1	0	0	0	4	0	0	0	0	7
Future Vol, veh/h	5	0	1	0	0	0	4	0	0	0	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized			None			None		-	None	-		None
Storage Length	_	:=1	21	2		-	72	-		140		_
Veh in Median Storage,	# -	0		- 4	0	-		0	100		0	-
Grade, %	-	0	-	2	0		2 4	0	-	**	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	50	50	50	50	50	50	50	50	50	50	50	50
Mvmt Flow	7	0	1	0	0	0	5	0	0	0	0	9
Major/Minor A	Minor2		N	dinor1		1	//ajor1		. N	/lajor2		
Conflicting Flow All	15	15	5	15	19	0	9	0	0	0	0	0
Stage 1	5	5	-	10	10	-	-	-	-		-	-
Stage 2	10	10	-	5	9	_		-	-	-	-	H.
Critical Hdwy	7.6	7	6.7	7.6	7	6.7	4.6			4.6		
Critical Hdwy Stg 1	6.6	6	0.7	6.6	6	0,7	- 1,0	_		-	-	=
Critical Hdwy Stg 2	6.6	6		6.6	6					- 50		
Follow-up Hdwy	3.95	4.45	3.75	3.95	4.45	3.75	2.65	-	-	2.65		
Pot Cap-1 Maneuver	890	793	954	890	789	5.75	1347			2.00		
Stage 1	906	805	554	900	801		1041	-	170	-		
Stage 2	900	801	- 7	906	801				-	(T)	- 2	9
Platoon blocked, %	300	001		000	001		100	16.	-	(5)		========
Mov Cap-1 Maneuver	. 	790	954	886	786		1347					-
Mov Cap-1 Maneuver	-	790	304	886	786		1047	-	-		-	-
Stage 1	902	805	-	896	798							
Stage 2	896	798	-	905	801	- N	-		-	-	-	
Glaye Z	080	190		900	001				.187	37.		_ fi
Approach	EB	==		WB			NB			SB		
And the same of th	60			0			7.7			0		
HCM LOS				A			1.1			U		
HCM LOS				А								
Minor Lane/Major Mvm		NBL	NBT	NIPD	EBLn1V	WRI n1	SBL	SBT	SBR			
		101111111111111111						001				
Capacity (veh/h) HCM Lane V/C Ratio		1347		9		ê	į.		180	-		
		0.004	-	•	+	-	-	*				
HCM Control Delay (s)		7.7	0			0	0	•	*			
HCM Lane LOS		A	Α	*	•	Α	Α	-				
HCM 95th %tile Q(veh)		0		9	- 1	- 8	ě					

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EDL	EDN	INDL	_ INCOME.	12000000	OBK
Traffic Vol, veh/h	14	0	0	4 25	17	8
Future Vol, veh/h	14	0	0	25	17	8
Conflicting Peds, #/hr	0	0	0	0	0	0
	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	*	None	(+	None
Storage Length	0	*	ě	-	-	•
Veh in Median Storage,				0	0	18.
Grade, %	0	*	-	0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	15	0	0	27	18	9
Major/Minor M	inor2	٨	Agiord	A	Najor2	-
			Major1			^
Conflicting Flow All	50	23	27	0	-	0
Stage 1	23	-	-	-	- 10	(94)
Stage 2	27	-	4	-	82	1945
Critical Hdwy	7.4	7.2	5.1		16	*
Critical Hdwy Stg 1	6.4	-	-		P#	-
Critical Hdwy Stg 2	6.4			-	-	
Follow-up Hdwy	4.4	4.2	3.1		-	14
Pot Cap-1 Maneuver	761	830	1131	- 14		
Stage 1	796	-	-	=	-	-
Stage 2	793		- 2	-	16	
Platoon blocked, %					12	-
Mov Cap-1 Maneuver	761	830	1131	1.2	74	- 10
Mov Cap-2 Maneuver	761			_	-	
Stage 1	796					16
Stage 2	793	(E)				72
Olugo Z	7.00					, T
Approach	EB		NB		SB	
HCM Control Delay, s	9.8		0		0	
HCM LOS	Α					
	15.					
		MEN	Mari	EDI 4	OPT	000
Minor Lane/Major Mvmt		NBL		EBLn1	SBT	SBR
Capacity (veh/h)		1131			- #	- 14
HCM Lane V/C Ratio						+
HCM Control Delay (s)		0		0.0	18	- 18
HCM Lane LOS		Α	-	12.1-2	ž	#
HCM 95th %tile Q(veh)		0		0.1	- 6	

Intersection						
Int Delay, s/veh	3					
		PPP	Net	MESTE	0.5.7	OPP
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			र्स	1>	
Traffic Vol, veh/h	13	0	0	12	9	8
Future Vol, veh/h	13	0	0	12	9	8
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, %	100	100	100	100	100	100
Mvmt Flow	14	0	0	13	10	9
			Mall St. 20	120		
	inor2		vajor1	N	/lajor2	_
Conflicting Flow All	28	15	19	0	*	0
Stage 1	15					
Stage 2	13		-	-		
Critical Hdwy	7.4	7.2	5.1	*		
Critical Hdwy Stg 1	6.4	(-)		-	-	-
Critical Hdwy Stg 2	6.4			₩/		
Follow-up Hdwy	4.4	4.2	3.1			-
Pot Cap-1 Maneuver	786	839	1140	90		
Stage 1	804	-	-			
Stage 2	806		-	-		-
Platoon blocked, %	000			-	-	
Mov Cap-1 Maneuver	786	839	1140			
Mov Cap-1 Maneuver	786	000	1140	-		
	804	* - :	:=:		-	2.00
Stage 1				*	*	(#
Stage 2	806	()(*)	(*)		-	
Approach	EB		NB		SB	
HCM Control Delay, s	9.7		0		0	
HCM LOS	Α		U		J	
TOW LOO	-/1					
KROOL SOUR COLL		AUST	NAT	EDI 4	OPT	ODD
Minor Lane/Major Mvmt		NBL		EBLn1	SBT	SBR
Capacity (veh/h)		1140	:			*
HCM Lane V/C Ratio			(#)	0.018	-	: •
HCM Control Delay (s)		0	150		-	
HCM Lane LOS		Α			e.	: •
HCM 95th %tile Q(veh)		0	J#4	0.1		

Intersection						
Int Delay, s/veh	5.2					
	//	man	Med	1.000	055	Ann.
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	1	
Traffic Vol, veh/h	11	3	2	3	4	6
Future Vol, veh/h	11	3	2	3	4	6
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, %	100	100	100	100	100	100
Mymt Flow	12	3	2	3	4	7
			_		-11	
TOTAL WOOD	MDS		100		100 100	
	Vinor2		Major1		Major2	
Conflicting Flow All	15	8	11	0	() = (0
Stage 1	8	-		-	1 14	
Stage 2	7	-		-		-
Critical Hdwy	7.4	7.2	5.1		74	
Critical Hdwy Stg 1	6.4	-	-	_	-	-
Critical Hdwy Stg 2	6.4			-	-	
Follow-up Hdwy	4.4	4.2	3.1	_		-
Pot Cap-1 Maneuver	801	847	1149			-
Stage 1	811	-	1170		-	-
Stage 2	812					
Platoon blocked, %	012	-			10.41	
Mov Cap-1 Maneuver	799	847	1149		1.2	
		- Control of	1149	-	-	
Mov Cap-2 Maneuver	799	21	-		172	-
Stage 1	809	-		-		- 20
Stage 2	812		- 2	-	1-	
Approach	EB		NB		SB	
HCM Control Delay, s	9.5		3.3		0	
HCM LOS	- The Court		0.0		U	
I IOW LOG	Α					
Minor Lane/Major Mvm	t	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1149	2		-	
HCM Lane V/C Ratio		0.002		0.019	14	
HCM Control Delay (s)		8.1	0	9.5	-	
HCM Lane LOS		A	A			
HCM 95th %tile Q(veh)		0	_		-	
How som wife Q(ven)		U		0,1		- 1

CN NE						
Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>	- C	10103-5-5	4	W	
Traffic Vol, veh/h	29	25	35	45	13	15
Future Vol, veh/h	29	25	35	45	13	15
Conflicting Peds, #/hr	0	0	0	0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None	Stop	None
Storage Length	-	None -		None -	0	None -
Veh in Median Storage, 7		-	-	0	0	
Grade, %	0	- 00	- 00	0	0	- 00
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	50	50	8	50	50
Mvmt Flow	33	28	40	51	15	17
Major/Minor Ma	ajor1	٨	Major2	0	Minor1	
Conflicting Flow All	0	0	61	0	178	47
Stage 1	-	·		-	47	41
			(#)			
Stage 2		::=:	10	.#1	131	0.7
Critical Hdwy	= (#	- *	4.6	**	6.9	6.7
Critical Hdwy Stg 1	(: •	*	*	5.9	
Critical Hdwy Stg 2	(e	700		:#:	5.9	
Follow-up Hdwy		-	2.65	; = /	3.95	3.75
Pot Cap-1 Maneuver	18		1285	*	713	901
Stage 1	=	7.5	: - :		866	-
Stage 2			(#1		789	-
Platoon blocked, %		-				
Mov Cap-1 Maneuver			1285	rex.	690	901
Mov Cap-2 Maneuver		((*)		-	690	
Stage 1		\e:	-		866	
Stage 2	-				764	
Olugo Z	يزد				, 07	
			00000		9/4	
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.5		9.8	
HCM LOS					Α	
N.D I D. I N.E N.E		LISAL	EDT	EDD	MDL	MOT
Minor Lane/Major Mvmt	P	VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		789	-		1285	
HCM Lane V/C Ratio		0.04	7.00	-	0.031	-
HCM Control Delay (s)		9.8		-	7.9	0
HCM Lane LOS		Α		:50	Α	Α
HCM 95th %tile Q(veh)		0.1	1.7		0.1	

Intersection			116	- 1												
Int Delay, s/veh	4.9															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		=		
Lane Configurations		4			4			4			4					
Traffic Vol, veh/h	10	1	7	0	0	0	7	9	0	0	6	5				
Future Vol, veh/h	10	1	7	0	0	0	7	9	0	0	6	5	*			
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0			7.5	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free				
RT Channelized			None		I B	None		200	None		16.	None				
Storage Length	-	-	-		-			, .	-	-		13. 11 .				
Veh in Median Storage,	# -	0			0			0			0					
Grade, %		0	-		0			0			0	x .=				
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80		-		
Heavy Vehicles, %	50	50	50	50	50	50	50	50	50	50	50	50				
Mvmt Flow	13	1	9	0	0	0	9	11	0	0	8	6				
Major/Minor M	linor2	. 15.0	1	Minor1			Vajor1			Major2						
Conflicting Flow All	40	40	11	45	43	11	14	0	0	11	0	0				
Stage 1	11	11		29	29	- 16			-		-	-			= 1	
Stage 2	29	29		16	14	-	-	-	**	-	-	72				
Critical Hdwy	7.6	7	6.7	7.6	7	6.7	4.6		-	4.6						
Critical Hdwy Stg 1	6.6	6	-	6.6	6	-		-	•		-	-				
Critical Hdwy Stg 2	6.6	6		6.6	6				EV.	-34	- 1				584	
Follow-up Hdwy	3.95	4.45	3.75	3.95	4.45	3.75	2.65		-	2.65		0#				
Pot Cap-1 Maneuver	856	767	946	849	764	946	1341			1345		- 6				
Stage 1	899	800		878	785	-		-	-	5		-				
Stage 2	878	785		893	797											
Platoon blocked, %								-			8					
Mov Cap-1 Maneuver	852	762	946	835	759	946	1341		0	1345	2				454	
Mov Cap-2 Maneuver	852	762	-	835	759	-				=	2	- 2				
Stage 1	893	800	-	872	780	Ě					-	- E				
Stage 2	872	780	·=·	883	797	÷	-	-	-	-	- 4	-				
														33		
Approach	EB			WB			NB			SB						
HCM Control Delay, s	9.2			0	T A		3.4			0	44				-	
HCM LOS	A			Α												
Minor Lane/Major Mvmt		NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR							
Capacity (veh/h)		1341		-		4	1345	-								
HCM Lane V/C Ratio		0.007			0.026		-									
HCM Control Delay (s)		7.7	0	-	707767	0	0	- 18								
HCM Lane LOS		A	A	-	A	A	A	-								
HCM 95th %tile Q(veh)		0	-		720 %		0			100			-	_		ч

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W.	EDIV	MDL	स्	\$ 1	MGO
Traffic Vol, veh/h	10	0	0	18	42	18
Future Vol, veh/h	10	0	0	18	42	18
Conflicting Peds, #/hr	0	0	0	0	0	0
	Stop		Free	Free	Free	Free
Sign Control RT Channelized	Stop	Stop	riee	None		None
Storage Length					*	None
	0		-	- 0	-	
Veh in Median Storage,			-	0	0	- Bo
Grade, %	0	- 00		0	0	- 00
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	11	0	0	20	46	20
Major/Minor N	Minor2	ì	Major1	V	/ajor2	
Conflicting Flow All	76	56	66	0	-	0
Stage 1	56	-	-	-	360	
Stage 2	20		76	-	-	_
Critical Hdwy	7.4	7.2	5.1		*	-
Critical Hdwy Stg 1	6.4	1,2	0.1		-	-
Critical Hdwy Stg 2	6.4	_	78.			
			3.1			
Follow-up Hdwy	4.4	4.2		<u>(</u> €)	***	-
Pot Cap-1 Maneuver	733	792	1088		#3	*
Stage 1	766	-	-		•	-
Stage 2	799	- *			•	.0
Platoon blocked, %				-	*	-
Mov Cap-1 Maneuver	733	792	1088	(4)		-
Mov Cap-2 Maneuver	733	*	(e:	**		-
Stage 1	766		(4)		#3	
Stage 2	799	-	7/ e r	-	*	*
Annroach	EB		AID		SB	
Approach	100 200		NB			
HCM Control Delay, s	10		0		0	-
HCM LOS	В					
Minor Lane/Major Mvm	t	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1088		733		-
HCM Lane V/C Ratio		-		0.015		-
HCM Control Delay (s)		0	-	10		
HCM Lane LOS				В		
		A	-			#7
HCM 95th %tile Q(veh)		0		0	(8)	:

Intersection						
Int Delay, s/veh	1.5					
	1.5400	EDD	MDI	NDT	CDT	ODD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	N/V	0	0	ર્લ	1>	2.09
Traffic Vol, veh/h	9	0	0	9	25	17
Future Vol, veh/h	9	0	0	9	25	17
Conflicting Peds, #/hr	0	0	0	0	0	_ 0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	2	None	-	None		None
Storage Length	0	*	•		i.e.	
Veh in Median Storage,		-		0	0	-
Grade, %	0	è	-	0	0	+
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	10	0	0	10	27	18
Mala di Mara		-	W. S. (00)		1-1-6	
	linor2		Major1		/lajor2	
Conflicting Flow All	46	36	45	0		0
Stage 1	36		-		-	-
Stage 2	10	-	-	-	-	•
Critical Hdwy	7.4	7.2	5.1		-	
Critical Hdwy Stg 1	6.4	-	-			
Critical Hdwy Stg 2	6.4		- 19		- **	
Follow-up Hdwy	4.4	4.2	3.1		-	140
Pot Cap-1 Maneuver	765	814	1111			
Stage 1	784	-			-	-
Stage 2	809	-	7#	-	-	
Platoon blocked, %	1000000				-	140
Mov Cap-1 Maneuver	765	814	1111			
Mov Cap-2 Maneuver	765	-		-		20
Stage 1	784		194			501
Stage 2	809		-	*	-	-
Olugo Z	000			أس		mi
Approach	EB		NB		SB	
HCM Control Delay, s	9.8		0		0	
HCM LOS	Α					
					. 1	
Minor Lane/Major Mvmt		NBL	NRT	EBLn1	SBT	SBR
Capacity (veh/h)		1111	NOT -		- 001	ODIN -
HCM Lane V/C Ratio				0.013	_	
		0	-			-
HCM Control Delay (s) HCM Lane LOS		0	_			*
		A	-	A		
HCM 95th %tile Q(veh)		0	-	0		

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		THE .	4	1	CDIN
Traffic Vol, veh/h	8	2	3	16	10	15
Future Vol, veh/h	8	2	3	16	10	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop	None	riee	None	riee	None
Storage Length	0	None -				
			_	0	0	
Veh in Median Storage		-	120	0		
Grade, %	0	- 00	-	0	0	- 00
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	9	2	3	17	11	16
Major/Minor	Minor2		Major1	N	Major2	
	42	19	27	0	wajorz -	0
Conflicting Flow All		40.00	2.74,8			0
Stage 1	19		180	(#.)	(8)	Ħ
Stage 2	23		F 4	i n :	; = ;	
Critical Hdwy	7.4	7.2	5.1	180		
Critical Hdwy Stg 1	6.4). *		; = :	:=0	
Critical Hdwy Stg 2	6.4	19	*			-
Follow-up Hdwy	4.4	4.2	3.1	:#s	:#:	
Pot Cap-1 Maneuver	770	834	1131	S#6		-
Stage 1	800	85	5 .5 7	; = ;		-
Stage 2	796	1071	(根)		,#Z	
Platoon blocked, %					#8	-
Mov Cap-1 Maneuver	768	834	1131	(#S		
Mov Cap-1 Maneuver	768	- 004	-	-		- Pa
Stage 1	798		art.		**	
	798		187	*		
Stage 2	790		S#.	-	# 0	۔
Approach	EB		NB		SB	
HCM Control Delay, s	9.7		1.3		0	
HCM LOS	A		11.5			
	**					
NIE - I - IND C AI		KIM	NOT	EDI	ODT	ODD
Minor Lane/Major Mvn	ıı	NBL		EBLn1	SBT	SBR
Capacity (veh/h)		1131			1 6	¥
HCM Lane V/C Ratio		0.003	200	0.014		÷.
HCM Control Delay (s)		8.2	0	9.7		-
HCM Lane LOS		Α	Α	Α		÷
HCM 95th %tile Q(veh)	0		0		*

Intersection						
Int Delay, s/veh	3.4					
			10.000	1115	10-1	A VISC
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4	Y	
Traffic Vol, veh/h	42	11	14	49	18	22
Future Vol, veh/h	42	11	14	49	18	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	2015	None
Storage Length	-		-	-	0	-
Veh in Median Storage,	# 0		34	0	0	-
Grade, %	0	-	-	0	0	
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	32	50	50	23	50	50
Mymt Flow	74	19	25	86	32	39
INIVIIII I IOW	14	13	20	00	JZ	39
Major/Minor M	ajor1	1	Major2	1	Minor1	
Conflicting Flow All	0	0	93	0	220	84
Stage 1			-		84	
Stage 2	_		-	-	136	
Critical Hdwy			4.6		6.9	6.7
Critical Hdwy Stg 1	-	-	4.0	-	5.9	0.7
Critical Hdwy Stg 2					5.9	
		>=	- 0.05			0.75
Follow-up Hdwy	-		2.65	-	3.95	3.75
Pot Cap-1 Maneuver			1248	197	673	858
Stage 1	-	7.0	3.00	:=::	831	
Stage 2	. *		:*:		785	
Platoon blocked, %	-					
Mov Cap-1 Maneuver		781	1248		659	858
Mov Cap-2 Maneuver	-		:-:	-	659	
Stage 1					831	
Stage 2	-		-		769	
-1-0					, 55	
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.8		10.3	
HCM LOS					В	
Minor Long Major M.		IDI4	EDT	CDD	MDI	MAIDT
Minor Lane/Major Mvmt	- P	VBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		755		(#)	1248	
HCM Lane V/C Ratio		0.093	-	-	0.02	
HCM Control Delay (s)		10.3	-	(#)	7.9	0
HCM Lane LOS		В	-	-	Α	Α
HCM 95th %tile Q(veh)		0.3		-	0.1	-

-												
Intersection												
Int Delay, s/veh	2										_	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	6	0	2	0	0	0	6	0	0	0	0	9
Future Vol, veh/h	6	0	2	0	0	0	6	0	0	0	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized			None			None			None			None
Storage Length	-		-		3#3	-		-	-	-		1-1
Veh in Median Storage,	# -	0		(#)	0	34 1	**	0			0	(н:
Grade, %	_	0			0	-	=0	0	-		0	(=)
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	50	50	50	50	50	50	50	50	50	50	50	50
Mvmt Flow	8	0	3	0	0	0	8	0	0	0	0	12
Major/Minor N	Ainor2		1	vinor1			Major1		1	Major2		
Conflicting Flow All	22	22	6	24	28	0	12	0	0	0	0	0
Stage 1	6	6		16	16	100	**		9	(e.		-
Stage 2	16	16		8	12		-	<u>=</u>		_		-
Critical Hdwy	7.6	7	6.7	7.6	7	6.7	4.6	- 4	9	4.6		
Critical Hdwy Stg 1	6.6	6	-	6.6	6		-	2	_	-		-
Critical Hdwy Stg 2	6.6	6		6.6	6		(#)	-	-		-	- 4
Follow-up Hdwy	3.95	4.45	3.75	3.95	4.45	3.75	2.65		2	2.65	-	-
Pot Cap-1 Maneuver	881	786	952	878	779		1344	T :		/ #	92	-
Stage 1	904	804	-	893	796	-			-	Viji		-
Stage 2	893	796	ě	902	799			- 1	*			140
Platoon blocked, %								+)				
Mov Cap-1 Maneuver	1.57	781	952	872	774		1344	8	- 8	- 16	-	-
Mov Cap-2 Maneuver	4.5	781	-	872	774	-	(#)	-	3	74	-	
Stage 1	899	804		888	791			9)	9	<u>11</u>	(#	¥
Stage 2	888	791		899	799	•		-	<u>22</u>	<u> </u>		
Approach	EB	1		WB			NB			SB		
HCM Control Delay, s				0			7.7			0		
HCM LOS	720			A			(10)			J		
TOW LOO												
Minor Lane/Major Mvm		NBL	NBT	MPD	EBLn1\	MRI n1	SBL	SBT	SBR			
		1344		NON	COLITIV	VDLIII	ODL -	OD I	ODIN			
Capacity (veh/h) HCM Lane V/C Ratio		0.006	*				(f)	-				
		7.7	0	=	-	0	0	_	-			
HCM Control Delay (s) HCM Lane LOS			0 A				A	-				
HCM 25th %tile Q(veh)		A 0	A		-	A	A	-	-			
HOW SOME WING (VEH)		U			7							

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	LDK	MDL	स्	7	ODIN
Traffic Vol, veh/h	14	0	0	26	17	8
Future Vol, veh/h	14	0	0	26	17	8
Conflicting Peds, #/hr	0	0	0	0	0	0
		Stop	Free	Free	Free	Free
RT Channelized	Stop	None	riee -	None		None
ALL THE REAL PROPERTY AND ADDRESS OF THE PARTY OF THE PAR					•	None
Storage Length	0	-	- 5	_	-	•
Veh in Median Storage,			ž	0	0	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	15	0	0	28	18	9
Major/Minor M	inor2	N	//ajor1	Ň	Najor2	
Conflicting Flow All	51	23	27	0	najuiz	0
Stage 1	23	23	-	-		-
	28					•
Stage 2		7 2	E 4) *		:-:
Critical Howy	7.4	7.2	5.1	(6)		(4)
Critical Hdwy Stg 1	6.4	-	-		-	· (#)
Critical Hdwy Stg 2	6.4	4.0			3.40	(4)
Follow-up Hdwy	4.4	4.2	3.1	-	-	-
Pot Cap-1 Maneuver	760	830	1131	/6	-	186
Stage 1	796	-	- 4	2	-	-
Stage 2	792			- 0	-	141
Platoon blocked, %				-) '	1: 4 1
Mov Cap-1 Maneuver	760	830	1131	-	- 1	146
Mov Cap-2 Maneuver	760	20	2	-		-
Stage 1	796				- 4	120
Stage 2	792	41	-		12	-
Awarente	ED		Me		OD	
Approach	EB		NB		SB	
HCM Control Delay, s	9.8		0		0	
HCM LOS	Α					
		Tag				
Minor Lane/Major Mvmt		NBL	NRT	EBLn1	SBT	SBR
Capacity (veh/h)		1131	IND I		001	ODIN.
HCM Lane V/C Ratio		-	-	0.02		
		0		Terror I		-
HCM Control Delay (s) HCM Lane LOS			-		-	
		A	2	31.3	-	-
HCM 95th %tile Q(veh)		0	-	0.1	12	166

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Paris de la Company de la Comp		EDIZ	IVDL			JUN
Lane Configurations	42	0	0	4	1	0
Traffic Vol, veh/h	13	0	0	13	9	8
Future Vol, veh/h	13	0	0	13	9	8
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None	-	None		None
Storage Length	0	-	_		-	_
Veh in Median Storag	e,# 0	12	2	0	0	1.00
Grade, %	0	-	-	0	0	Te
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	14	0	0	14	10	9
,	10.00					
to a second	2010 USS		Delicas Na			
Major/Minor	Minor2		Major1	٨	//ajor2	
Conflicting Flow All	29	15	19	0	-	0
Stage 1	15	1.00				
Stage 2	14	· *		-		-
Critical Hdwy	7.4	7.2	5.1			-
Critical Hdwy Stg 1	6.4		-	#4	-	-
Critical Hdwy Stg 2	6.4			-		
Follow-up Hdwy	4.4	4.2	3.1			_
Pot Cap-1 Maneuver	785	839	1140	-		
Stage 1	804	-	1140		-	_
	805					
Stage 2	000		ie:	182	***	
Platoon blocked, %		000		: * :		_=
Mov Cap-1 Maneuver		839	1140	370		
Mov Cap-2 Maneuver				-		-
Stage 1	804	i,e		-		*
Stage 2	805	:=	· ·		_ :=:	
Annegach	ED		ND	-	ep.	
			0		0	
HCM LOS	Α					
Minor Lane/Major My	mt	NBL	NBT	FBI n1	SBT	SBR
						<u></u>
	5)					ä
	6750					
HCM 95th %tile Q(ve	n)	0		0.1		
Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mv Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s HCM Lane LOS HCM 95th %tile Q(ve	A mts)	NBL 1140 - 0 A 0	(17)	0.018 9.7 A	SB 0	SBI

Intersection				-11		
Int Delay, s/veh	4.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	N/		TIPL	લ	1	ODIT
Traffic Vol, veh/h	11	3	2	4	6	6
Future Vol, veh/h	11	3	2	4	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0
	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop -	None	riee	None	riee	None
Storage Length	0	None -	-	None -		None
Veh in Median Storage, #		¥	2	0	0	
Grade, %	0	- 00	-	0	0	- 00:
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	12	3	2	4	7	7
Major/Minor Mi	nor2	N	Major1	- N	Major2	
Conflicting Flow All	19	11	14	0	najoiz	0
Stage 1	11	- 11	14	-	(-	U
Stage 2	8					890
Critical Hdwy		7.2	5.1	-	_	
	7.4	10.00	22777			
Critical Hdwy Stg 1	6.4	-	-	_	-	:: * :
Critical Hdwy Stg 2	6.4	-	0.4	- 18	196	310
Follow-up Hdwy	4.4	4.2	3.1		-	-
Pot Cap-1 Maneuver	796	844	1145			
Stage 1	808	-	-	-	-	
Stage 2	811	**		-		
Platoon blocked, %					V.	(4)
Mov Cap-1 Maneuver	794	844	1145	- (4	-	
Mov Cap-2 Maneuver	794	-	¥	-		19
Stage 1	806	A	-	-		- 1
Stage 2	811	-	÷	_	-	
Annyanah	ED		¥1m		OD.	
Approach	EB		NB		SB	
HCM Control Delay, s	9.6		2.7		0	
HCM LOS	Α					
						١
Minor Lane/Major Mymt		NBL	NRT	EBLn1	SBT	SBR
Capacity (veh/h)		1145	-		- 100	ODIN
HCM Lane V/C Ratio		0.002		0.019		
		8.2				:=:
HCM Control Delay (s)			0	9.6		*
HCM Lane LOS		A	Α	A	-	(#)
HCM 95th %tile Q(veh)		0	-	0.1		*

-						
Intersection						
Int Delay, s/veh	3.1					
	400000	EBR	AMD1	WPT	NBL	NBR
Name and Address of the Control of t	EBT	EBR	WBL	WBT		NDK
Lane Configurations	}	0.5	07	4	W	45
Traffic Vol, veh/h	36	25	37	57	13	15
Future Vol, veh/h	36	25	37	57	13	15
Conflicting Peds, #/hr	0	0	0	0	0	0
•	Free	Free	Free	Free	Stop	Stop
RT Channelized	*	None	-	None		None
Storage Length	-	- 120		Ψ:	0	2
Veh in Median Storage,	# 0	545	-	0	0	-
Grade, %	0	S a C	-	0	0	2
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	50	50	8	50	50
Mymt Flow	41	28	42	65	15	17
INVITIE I TOW	71	20	44	00	10	3.1
Major/Minor Major/Minor	ajor1	N	Major2	1	Minor1	
Conflicting Flow All	0	0	69	0	204	55
Stage 1	100	-			55	
Stage 2	.=	S - 2	170		149	-
Critical Hdwy	-		4.6		6.9	6.7
Critical Hdwy Stg 1	8=	-	7.0		5.9	- 0.7
Critical Hdwy Stg 2					5.9	-
		1.50				
Follow-up Hdwy	7. 9 1		2.65		3.95	3.75
Pot Cap-1 Maneuver	-	**	1276		688	892
Stage 1	17	:#:	: 		858	-
Stage 2		:#:	180	,#A	774	
Platoon blocked, %	T. 5	: **		:#S		
Mov Cap-1 Maneuver	-		1276	180	665	892
Mov Cap-2 Maneuver	-	:=:	-		665	
Stage 1					858	- TITE -
Stage 2	_	-	: = :	:	748	-
otago 2						
			1270=0		111111000	
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.1		9.9	
HCM LOS					Α	
		101	\$100 Etc., \$100	PT PT PT	Maria	LLIMA
Minor Lane/Major Mvmt		VBLn1	EBT		WBL	WBT
Capacity (veh/h)		770			1276	-
HCM Lane V/C Ratio		0.041		•	0.033	÷
HCM Control Delay (s)		9.9		- 1	7.9	0
HCM Lane LOS		Α		-	Α	Α
HCM 95th %tile Q(veh)		0.1		(6)	0.1	- 9
,,,,,,						

Intersection			العق									
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4	13-13	000	4	0211
Traffic Vol, veh/h	12	2	9	0	0	0	9	12	0	0	7	7
Future Vol, veh/h	12	2	9	0	0	0	9	12	0	0	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized			None	- 1		None			None			None
Storage Length	-		*	S#		-	-	400	-	-	(4)	-
Veh in Median Storage	,# -	0	-	1.00	0	-	-	0	- 2	14	0	120
Grade, %	-	0		74	0	-	_	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	50	50	50	50	50	50	50	50	50	50	50	50
Mvmt Flow	15	3	11	0	0	0	11	15	0	0	9	9
Major/Minor N	/linor2			Minor1		- 1	Major1		- 1	Major2		
Conflicting Flow All	51	51	14	58	55	15	18	0	0	15	0	0
Stage 1	14	14		37	37				-	-		-
Stage 2	37	37	-	21	18	-		-	-		(#2	-
Critical Hdwy	7.6	7	6.7	7.6	7	6.7	4.6			4.6		
Critical Hdwy Stg 1	6.6	6	-	6.6	6			_	-			-
Critical Hdwy Stg 2	6.6	6		6.6	6						-	
Follow-up Hdwy	3.95	4.45	3.75	3.95	4.45	3.75	2.65	-		2.65	-	-
Pot Cap-1 Maneuver	841	756	942	832	752	941	1336			1340		
Stage 1	895	797	-	869	778	-	H /s	-	-	-	: +:	-
Stage 2	869	778		887	794			-				
Platoon blocked, %								-	-		-	:•
Mov Cap-1 Maneuver	836	750	942	815	746	941	1336		18	1340	-	
Mov Cap-2 Maneuver	836	750	-	815	746	-	-	_	-		-	100
Stage 1	888	797		862	772	*	-				- 4	1 160
Stage 2	862	772	+	874	794		-			-	046	:•:
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.3			0			3.3			0		
HCM LOS	Α			Α								
				1,5								
Minor Lane/Major Mvm	t	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR	- E		
Capacity (veh/h)		1336			865	-	1340					
HCM Lane V/C Ratio		0.008	_		0.033	-	-	_				
HCM Control Delay (s)		7.7	0		9.3	0	0	-				
HCM Lane LOS		A	A	-	Α	A	A	- 0				
HCM 95th %tile Q(veh)		0	^		0.1	_	0					
Tom com your Quelly		U			0.1		U					

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W.	HUN	TAPE.	4	7	ODIT
Traffic Vol, veh/h	10	0	0	18	44	18
Future Vol, veh/h	10	0	0	18	44	18
	0	0	0	0	0	0
Conflicting Peds, #/hr						- 0.00
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		OF OF THE STATE OF	*	None
Storage Length	0	-	4.0	-	-	
Veh in Median Storage,		3 6 3		0	0	
Grade, %	0	-		0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	11	0	0	20	48	20
Major/Minor	linor2	A	Jaior1		/lajor2	
			Major1			
Conflicting Flow All	78	58	68	0	2	0
Stage 1	58			5 10		-
Stage 2	20	-	, .	.=.		-
Critical Hdwy	7.4	7.2	5.1	-	- 70	-
Critical Hdwy Stg 1	6.4	7.5	.=.	-	-	-
Critical Hdwy Stg 2	6.4	-	070			
Follow-up Hdwy	4.4	4.2	3.1	-	-	_ <u>=</u>
Pot Cap-1 Maneuver	731	789	1086	-	- 1	
Stage 1	764		-	-		-
Stage 2	799		-	- 3	- 2	- 4
Platoon blocked, %	100			_	-	-
Mov Cap-1 Maneuver	731	789	1086	27	1.1	
Mov Cap-1 Maneuver	731	709				
					-	
Stage 1	764	1.77	- 2	200	=	
Stage 2	799	7.50	-		-	•
Approach	EB		NB		SB	
HCM Control Delay, s	10		0		0	
HCM LOS	В		U		U	
TIOW LOG	D				-	
Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1086		731	9	*
HCM Lane V/C Ratio		14		0.015	4	
HCM Control Delay (s)		0	(6)	10	è	
HCM Lane LOS		A		В		
HCM 95th %tile Q(veh)		0	1		1	
HOM COM MAIN COLOR COLOR		U		U		

Intersection						
Int Delay, s/veh	1.3					
	2011/2011	EDD	NIDI	NDT	CDT	epp
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	NA.	^	0	4	♣	47
Traffic Vol, veh/h	9	0	0	13	27	17
Future Vol, veh/h	9	0	0	13	27	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	1 8	None	*	None
Storage Length	0				•	•
Veh in Median Storage				0	0	
Grade, %	0	-	Ē	0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	100	100	100	100	100
Mvmt Flow	10	0	0	14	29	18
MajorMinor	linor	, and a	Injord		Aniona	
	Minor2		Major1		/lajor2	
Conflicting Flow All	52	38	47	0		0
Stage 1	38				-	*
Stage 2	14	-	-	-	V.=	
Critical Hdwy	7.4	7.2	5.1			
Critical Hdwy Stg 1	6.4		-	-	(/ = :	
Critical Hdwy Stg 2	6.4		-	-		-
Follow-up Hdwy	4.4	4.2	3.1	-	(4	*
Pot Cap-1 Maneuver	759	812	1109			:00
Stage 1	783	-	-	2	74	-
Stage 2	805				X₩.	185
Platoon blocked, %				- 2		
Mov Cap-1 Maneuver	759	812	1109		- 18	5mg
Mov Cap-2 Maneuver	759	-			200	-
Stage 1	783	-	- 1		18	724
Stage 2	805	4	-		114	
Olage Z	000				أحيت	
Approach	EB		NB		SB	
HCM Control Delay, s	9.8		0		0	
HCM LOS	Α					
Minor Long/Major Muss		NDI	NDT	EDI nd	CDT	CDD
Minor Lane/Major Mvm	Į.	NBL		EBLn1	SBT	SBR
Capacity (veh/h)		1109	-	TAIL TO COME	-	
HCM Lane V/C Ratio		-		0.013	-	12
HCM Control Delay (s)		0	4	0.0	122	196
HCM Lane LOS		Α	-		-	-
HCM 95th %tile Q(veh)		0	-	0	- 0	-

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	0 0 92 100 13 Major2

Appendix D

Intersection Layout Assessment Worksheets



INPUT	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	728
Minor (intersecting) Road A.A.D.T	63
Left turn volume (V_{LT}), veh/h:	8
Advancing volume (V _{adv}), veh/h:	52
Opposing volume (V _{opp}), veh/h:	42
Left turn truck volume, trucks/h:	
Right turn volume (V _{RT}), veh/day:	1

	OUTPUT	Value
Percent left-turr	Percent left-turns in advancing volume:	2.8%
Percent trucks i	Percent trucks in left turn volume:	33.3%
Probability of co	Probability of conflict threshold:	%68.0
Calculated prob	Calculated probability of conflicting arrival:	%0.0
Calculated conf	Calculated conflicts per hour, veh/h:	0.0
	Type I	
	Detailed Method Not Required	
	base storage requirement	ı
	- standard storage length	ä
	+ additional truck storage	ŧ
	= total additional storage required	ī

CALIBRATION CONSTANTS	
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	2.0
Average time to clear, s:	1.9

121		
2041 Jun-20	In the different of the	1000
is: BG is: 13-	Type IV Warranted Type III warranted	006
Analys Analys	Type II	800
Year of Analysis: BG 2041 Date of Analysis: 13-Jun-2021		700 / h
		600 dv), veh /
rection: WB Period: AM Peak		"ح
Direction: WB Period: AM	d Wet	Volume
Direct Pel	etaile	400 ncing V
		300 Adva
Ą.	8	200
Main Rd: Highway 642 Minor Rd: Range Road 12A		100
Main Rd: Highway 642 Minor Rd: Range Road		0
Rd: H	1000 800 800 500 100 100 100 0	
Main Minor	η/dəν ,(_{qqo} V) əmuloV gnisoqqO	

Intersection Analysis
Rural Two-Lane Undivided Highways

INPUT	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	728
Minor (intersecting) Road A.A.D.T	63
Left turn volume (V_{LT}), veh/h:	11
Advancing volume (V _{adv}), veh/h:	89
Opposing volume (V_{opp}), veh/h:	37
Left turn truck volume, trucks/h:	9
Right turn volume (V_{RT}), veh/day:	

	OUTPUT	
Percent left-turn	Percent left-turns in advancing volume: 16.2%	
Percent trucks in	Percent trucks in left turn volume: 45.5%	
Probability of conflict threshold:	nflict threshold: 0.89%	
Calculated prob	Calculated probability of conflicting arrival: 0.0%	
Calculated confl	Calculated conflicts per hour, veh/h: 0.0	
	Type I	
	Detailed Method Not Required	
	base storage requirement -	
	 standard storage length 	
	+ additional truck storage	
	= total additional storage required	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	2.0
Average time to clear, s:	1.9

Advancing Volume (V_{adv}), veh/h

Year of Analysis: BG 2041 Date of Analysis: 13-Jun-2021	anted									/ ,	, ko	1000
sis: BG sis: 13-	Type IV Warranted Type III Warranted				//						/	006
Year of Analysis: BG 2041 Date of Analysis: 13-Jun-2	\frac{1}{\zert_1}										30	800
Year o Date o		//		//	//	/					\leftarrow	700
e X	Detailed Method Chart		//			/	/				25	009
rection: WB Period: PM Peak	Nethod									9		500
Direction: WB Period: PM	ailed I								/			400
u .	Det											300
4												200
Main Rd: Highway 642 Minor Rd: Range Road 12A											4	100
Jhwa nge I												
:: Ra Sa		1000			20 00	000	one	400	300	200	90	
n Ro or Rd		7				əwnjo			(-)	. 4	*-	
Mai					, ,,,							
	I								-y		-	

Alberton Intersection Analysis Rural Two-I and Ind

Intersection Analysis Rural Two-Lane Undivided Highways

INPUT	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	553
Minor (intersecting) Road A.A.D.T	193
Left turn volume (V _{LT}), veh/h:	S.
Advancing volume (V _{adv}), veh/h:	41
Opposing volume (V _{opp}), veh/h:	34
Left turn truck volume, trucks/h:	3
Right turn volume (V _{RT}), veh/day:	

	OUTPUT	Value
Percent left-turns in advancing volume:	advancing volume:	12.2%
Percent trucks in left turn volume:	t turn volume:	%0.09
Probability of conflict threshold:	t threshold:	0.89%
Calculated probabilit	Calculated probability of conflicting arrival:	%0.0
Calculated conflicts per hour, veh/h:	per hour, veh/h:	0.0
	Type I	
pe	Detailed Method Not Required	
	base storage requirement	1
	 standard storage length 	1
	+ additional truck storage	,
= to	= total additional storage required	11

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	2.0
Average time to clear, s:	1.9

Advancing Volume (Vadv), veh/h

Year of Analysis: Opening 2022 Date of Analysis: 06-Jul-2021 1000 Type IV Warranted Type III Warranted 900 800 700 Detailed Method Chart 900 Period: AM Peak Direction: WB 500 400 300 200 Main Rd: Highway 642 Minor Rd: Range Road 12A 100 1000 900 800 700 009 500 400 300 200 100 0 Opposing Volume (V_{opp}), veh/h

Intersection Analysis Rural Two-Lane Undivided Highways

INPUT	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	553
Minor (intersecting) Road A.A.D.T	193
Left turn volume (V_{LT}), veh/h:	16
Advancing volume (V _{adv}), veh/h:	58
Opposing volume (V _{opp}), veh/h:	36
Left turn truck volume, trucks/h:	63
Right turn volume (V _{RT}), veh/day:	i

0	OUTPUT	Value
Percent left-turns in advancing volume:	avancing volume:	27.6%
Percent trucks in left turn volume:	urn volume:	20.0%
Probability of conflict threshold:	hreshold:	0.89%
Calculated probability of conflicting arrival:	of conflicting arrival:	%0.0
Calculated conflicts per hour, veh/h:	er hour, veh/h:	0.0
	Type I	
Detai	Detailed Method Not Required	
	base storage requirement	,
	 standard storage length 	,
	+ additional truck storage	3
= tota	= total additional storage required	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	5.0
Average time to clear, s:	1.9

Advancing Volume (Vadv), veh/h

22			_
Year of Analysis: Opening 2022 Date of Analysis: 06-Jul-2021	nted)
sis: Ope sis: 06-	Type IV Warranted Type III Warranted)
f Analys f Analys	KT	5 2 8)
Year o Date o)
ag X	Chart)
ection: WB Period: PM Peak	Detailed Method Chart)
Direction: WB Period: PM	ailed M	8)
<u> </u>	Det)
4)
Highway 642 Range Road 12A			2
ghwa) ange F)
÷ 6.		1000 300 400 500 100 0	
Main Rd: Highway 642 Minor Rd: Range Road		ત\/ત∍ν ,(_{qqo} V) əmuloV ըnisoqqO	
~			



INPUT	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	742
Minor (intersecting) Road A.A.D.T	532
Left turn volume (V_{LT}), veh/h:	14
Advancing volume (V _{adv}), veh/h:	52
Opposing volume (V _{opp}), veh/h:	44
Left turn truck volume, trucks/h:	7
Right turn volume (V _{RT}), veh/day:	

	OUTPUT	Value
Percent left-turr	Percent left-turns in advancing volume:	26.9%
Percent trucks i	Percent trucks in left turn volume:	20.0%
Probability of co	Probability of conflict threshold:	%68.0
Calculated prob	Calculated probability of conflicting arrival:	%0.0
Calculated conf	Calculated conflicts per hour, veh/h:	0.0
	Type II	
	Detailed Method Not Required	
	base storage requirement	i
	- standard storage length	ï
	+ additional truck storage	•
	= total additional storage required	ī

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- 1 1	1/2/11
Variable	value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	2.0
Average time to clear, s:	1.9

27			
Year of Analysis: Interim 2026 Date of Analysis: 13-Jun-2021	Varranted Varranted Varranted Stranted	1000	
sis: Inte sis: 13-		006	
f Analys f Analys		800	
Year o	## 94.30	700	h/h
a X	Chart	009	adv), Ve
ection: WB Period: AM Peak	Detailed Method Chart	200	Advancing Volume (V _{adv}), veh/h
Direction: WB Period: AM	ailed M	400	ing Vol
Ω	Dett	300	Advanc
4		200	•
642 toad 12/		100	
Main Rd: Highway 642 Ainor Rd: Range Road			
;; ;; T II:	1000 1000 1000 1000 1000 1000 1000 100	0	
Main Rd: Highway 642 Minor Rd: Range Road 12A	ορρος (γ _{opp}), νεh/h		

Harbarian Intersection Analysis
Rural Two-Lane Undivided Highways

Year of Analysis: Interim 2026

Direction: WB

Main Rd: Highway 642

TUANI	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	742
Minor (intersecting) Road A.A.D.T	532
Left turn volume (V_{LT}), veh/h:	35
Advancing volume (V _{adv}), veh/h:	80
Opposing volume (V _{opp}), veh/h:	54
Left turn truck volume, trucks/h:	17
Right turn volume (V _{RT}), veh/day:	•

	OUTPUT	Value
Percent left-turr	Percent left-turns in advancing volume:	43.8%
Percent trucks i	Percent trucks in left turn volume:	48.6%
Probability of co	Probability of conflict threshold:	0.89%
Calculated prob	Calculated probability of conflicting arrival:	0.1%
Calculated conf	Calculated conflicts per hour, veh/h:	0.1
	Type II	
	Detailed Method Not Required	
	base storage requirement	(1)
	- standard storage length	T _i
	+ additional truck storage	3
	= total additional storage required	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	5.0
Average time to clear, s:	1.9

Advancing Volume (Vadv), veh/h

Date of Analysis: 13-Jun-2021	nted		
sis: 13	Type IV Warranted Type III Warranted		
f Analys	YT TY		1
Date o	.	5,00	E E
eak	Detailed Method Chart		1
Period: PM Peak	Vethoc		
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Minor Rd: Range Road 12A		d\/dəv ,(_{qqo} V) əmuloV gnisoqqO ፩ ያ	
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Classification: Protected A

Albertor Intersection Analysis

Rural Two-Lane Undivided Highways	
INPUT	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	879
Minor (intersecting) Road A.A.D.T	543
Left turn volume (V_{LT}), veh/h:	14
Advancing volume (V _{adv}), veh/h:	63
Opposing volume (V _{opp}), veh/h:	53
Left turn truck volume, trucks/h:	7
Right turn volume (V _{RT}), veh/day:	

	OUTPUT	Value
Percent left-turn	Percent left-turns in advancing volume:	22.2%
Percent trucks in	Percent trucks in left turn volume:	20.0%
Probability of co	Probability of conflict threshold:	%68.0
Calculated prob	Calculated probability of conflicting arrival:	0.1%
Calculated confl	Calculated conflicts per hour, veh/h:	0.0
	Type II	
	Detailed Method Not Required	
	base storage requirement	i
	 standard storage length 	ì
	+ additional truck storage	
	= total additional storage required	

CALIBRATION CONSTANTS	
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	2.0
Average time to clear, s:	1.9

Advancing Volume (V_{adv}), veh/h

Main Rd: Highway 642 Minor Rd: Range Road 12A Period: AM Peak Detailed Method Chart 1000 900 900 900 900 900 900 9												
Detailed Method Chart Detailed Method Chart	ture 2041 Jun-2021	anted						//		/ 6	\$ T	1000
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300 300	irection Period	iled M			/					/		400
Main Rd: Highway 642 Minor Rd: Range Road 12A 1000 Opposing Volume (V _{opp}), veh/h 200 300 100 0 100 200	Ω	Deta										300
Main Rd: Highway 642 Minor Rd: Range Road 12A Opposing Volume (V _{opp}), veh/h 200 200 100 100 0 100												200
Main Rd: Highway Minor Rd: Highway Minor Rd: Highway Molume (V _{opp}), veh/h 200 300 100 100 000 000 100 000 100 000 100 000 000 100 0000	642 oad 12A								_			
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Mbertan Intersection Analysis Rural Two-Lane Undivided Highways

Year of Analysis: Future 2041 Date of Analysis: 13-Jun-2021

Direction: WB Period: PM Peak

Main Rd: Highway 642 Minor Rd: Range Road 12A

TUPNI	Value
85 th percentile speed, km/h:	100
Main Road A.A.D.T.	879
Minor (intersecting) Road A.A.D.T	543
Left turn volume (V_{LT}), veh/h:	37
Advancing volume (V _{adv}), veh/h:	94
Opposing volume (V _{opp}), veh/h:	61
Left turn truck volume, trucks/h:	19
Right turn volume (V _{RT}), veh/day:	

	OUTPUT	Value
Percent left-turn	Percent left-turns in advancing volume: 39.	39.4%
Percent trucks in	Percent trucks in left turn volume: 51.	51.4%
Probability of co	Probability of conflict threshold: 0.8	%68.0
Calculated prob	Calculated probability of conflicting arrival: 0.2	0.2%
Calculated confl	Calculated conflicts per hour, veh/h: 0.	0.2
	Type II	
	Detailed Method Not Required	
	base storage requirement	
	 standard storage length 	
	+ additional truck storage	
	 total additional storage required 	

CALIBRATION CONSTANTS

0	
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway (gap), s:	2.0
Average time to clear, s:	1.9

Advancing Volume (V_{adv}), veh/h

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	Type IV Warranted Type III Warranted		006
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	Detailed Method Chart	5 3	009
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		Opposing Volume (V _{opp}), νεh/h	
7.1			



Guide for the Design of Roadway Lighting Volume 2 – Design TAC Intersection: Highway 642 and Range Road 12A Intersection – Year 2041 Future Conditions

1							T	1			
Score "R""W"			0	0	0	0		0			
Enter "R" Here			0	0	0	0	-	0			
Weight "W"			7	20	ις	10	of	ഹ			
Weight Subcategory (if applicable)			Raised and Operating Speed Less than 70 km/h on at least One Channelized Approach or	Raised and Operating Speed Less than 70 km/h or More on at least One Channelized Approach or	Painted Only		Horizontal Curvature Radius at or immediately Before Intersection on Any leg for Posted Speed limit of		THE		
	4		Left and Right Tum Lanes on all legs			< 25%	ection on Any leg	<750m	<600m	<340m	<190m
14	ಣ	Geometric Factors	Left Tum Lane(s) on Major Leg(s)			25% to 49%	tely Before Inters	750 to 1150m	600 to 950m	340 to 550m	190 to 320m
Rating Factor "R"	Right and/or Right Turn Left Turn Approach on Major only Leg(s)	Gec	Right Turn Lanes only on Major Leg(s)			50% to 74%	ius at or immedia	1150 to 1800m	950 to 1400m	550 to 950m	320 to 575m
				75% to 99%	al Curvature Rad	>1800m	>1400m	>950m	>575		
	0		None			100% or More	Horizont	Tangent	Tangent	Tangent	Tangent
Classification Factor			Channelization			Approach Sight Distance on the Most Constrained Approach (Relative to Recommended Minimum Intersection Sight Distance)		110 Km/hr	90 or 100 km/hr	70 or 80 km/hr	60 km/hr
Item No.			_			2	m				

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<70 or >110 Degree or offset intersection	>7% or Exceeds Maximum Guidelines for Type and Speed of Road	9<		y)	>5000	>2000	Intersection Not Signalized and Volume based Signal Warrant is Over 80% Satisfied	Over 50
70 to 110 Degree Angle	5.0 to 7.0% and meets design Guidelines for Type and Speed of Road	5	Operational Factors (O)	Either AADT (2-Way)	3000 to 5000	1500 to 2000	Intersection Not Signalized and Volume based Signal Warrant is Less than 60% to 80% Satisfied	30 to 50
	4.0 to 4.9% and meets design Guidelines for Type and Speed of Road	4	Operat	iii	2000 to 3000	1000 to 1500	Intersection Not Signalized and Volume based Signal Warrant is Less than 40% to 60% Satisfied	10 to 30
80 or 100 Degree Angle	3.1 to 3.9% and meets design Guidelines for Type and Speed of Road	3	***************************************		1000 to 2000	500 to 1000	Intersection Not Signalized and Volume based Signal Warrant is Less than 20% to 40% Satisfied	Up to 10
90 Degree Angle	<3.0%			7	<1000	<500	Intersection Not Signalized and Volume based Signal Warrant is Less than 20% Satisfied	No Pedestrian
Angle of intersection offset intersection	Downhill Approach Grades at or immediately Before intersection on any leg	Number of Legs	Subtotal Geometric Factors		On Major Road and	On Minor Road or	Signalization Warrant	Regular Nighttime Hourly Pedestrian Volume
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0	20	0	30		0	0		0				0	33
2	4	O			0			0					
ഹ	5	5			5			15					
								1 or 2 Collisions per year	1 or 2 Collisions per year				
Intersection includes Divided Highway	90 km/hr or Over	90 km/hr or Over		(ii	In Four Quadrant			llisions per east 1.5	er Million hicles per Average	ght-to-Day at least 1.5			
Primary/Primary	80 km/hr	80 km/hr	Subtotal Operational Factors	Environmental Factors (E)	In Three Quadrant	nmental Factors	Collision Factors (A)	3 or More Collisions per year or At least 1.5	Collisions per Million Entering Vehicles per Year and an Average	Ratio of All Night-to-Day Collisions of at least 1.5		ision Factors	nting Points
Primary/Secondary	70 km/hr	70 km/hr	Subtotal Opera	Environ	In Two Quadrant	Subtotal Environmental Factors	Colli					Subtotal Collision Factors	Total Warranting Points
Primary/ Rural Major, Primary/Rural Minor, or Primary/ Designated Community Access	60 km/hr	60 km/hr			In One Quadrant			1 Collision per year					
No Primary Road Involved	50 km/h or less	50 km/h or less			E			0 Collision	per year				manuschister mit Averstein sons en sens en sen
Intersection Roadway Classifications	Operating Speed or Posted Speed Limit on Major Road	Operating Speed or Posted Speed Limit on Minor Road			Lighted Development Within 150 m Radius of Intersection			Average Annual Nighttime	Collision Frequency or Rate	over Last Three Year (Only Collisions	Potentially Attributable to Inadequate	Lighting)	
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ZALIG CONSULTING LTD.



