TRANS-PLAN
67 Mowat Ave, Suite 331
Toronto, ON M6K 3E3
1 (877) 668 8784
1 (647) 931 7383
admin@trans-plan.com
trans-plan.com

December 22, 2023

2784805 Ontario Inc.
18 Erica Road
Thornhill, ON L4J 2G1
Attn: Mr. Gil Shcolyar

Re: Proposed Glamping Pods – Interim Use, 77 Wallings Road, Municipality of Dysart et al, County of Haliburton, ON – Traffic Brief

TRANS-PLAN is pleased to submit this Traffic Brief for the proposed six glamping pods at 77 Wallings Road in the Municipality of Dysart et al, County of Haliburton. Trans-Plan has previously prepared the following studies:

- Traffic Impact Study, 77 Wallings Road – September 2022
- County Road 21 & Wallings Road - Traffic Considerations Report – November 2022
- Letter Response to Traffic Comments of the Traffic Considerations Report – March 2023

61 residential units had been proposed on-site and was analyzed in the Traffic Impact Study. Due to the ongoing review of the Wallings Road intersection improvements, this Traffic Brief has been prepared for the proposed interim use of the subject site for the provision of six glamping pods (contemporary, self-contained accommodation that offers a mix of modern facilities and traditional camping). The site plan is provided in Attachment 1.

Study Area

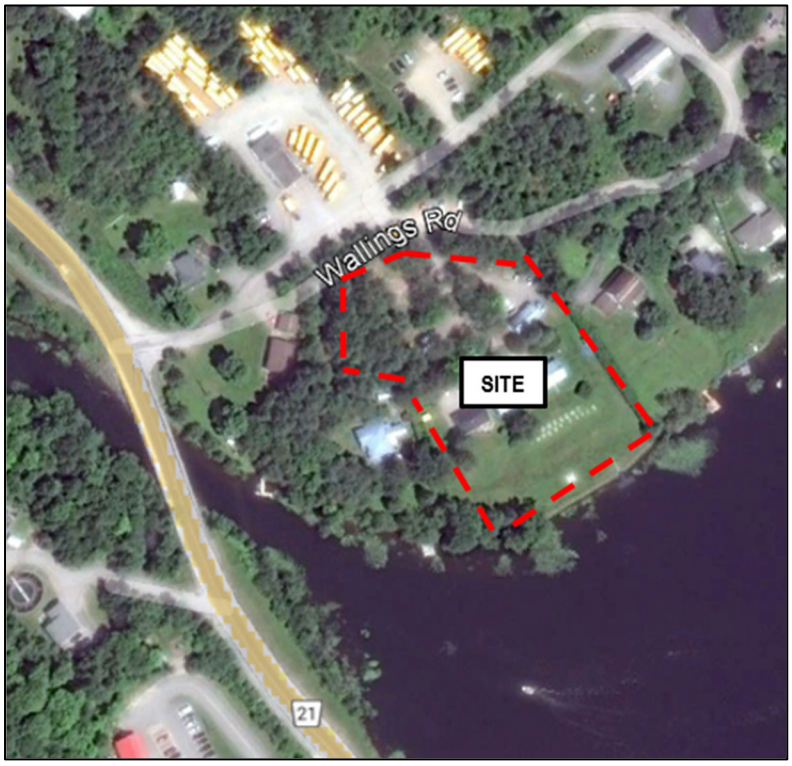
The subject site location, shown in Figure 1, is on the northeast quadrant of the County Road 21 and Wallings Road intersection, located in the Municipality of Dysart et al, County of Haliburton. Surrounding land uses near the site consist of mainly residential, with a post-secondary school south of the site, and the Fleming College-Haliburton Campus located north of the site. The Haliburton Bus Lines is located just north of the subject site on the opposite side of Wallings Road.

The boundary roadways located in the study area are described as follows:

County Road 21 (CR21) is an arterial roadway generally running in an east-west direction. CR21 maintains right-of-way (ROW) along the corridor and is under the jurisdiction of the County of Haliburton, and consists of two travel lanes, one in each direction. The posted speed limit within the study area is 50km/h.

Wallings Road is a local road under the jurisdiction of the County of Haliburton, running in a north-south direction. The speed limit is assumed to be 50 km/h. Wallings Road connects with CR21 in a T-style intersection, and is the only access to the Wallings Road area.

Figure 1 – Study Area



Existing Conditions

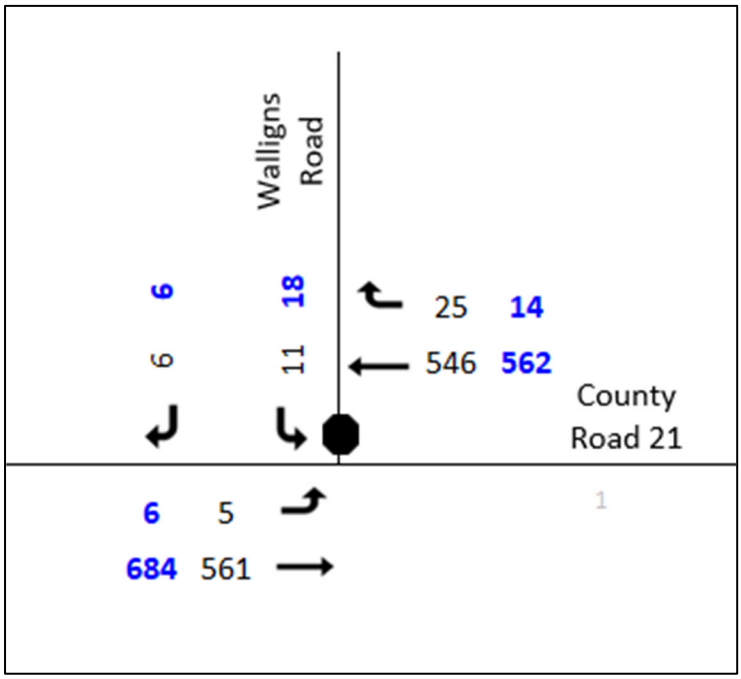
Similar to the previously prepared studies, the peak hour traffic volumes from the AECOM study - Traffic Corridor Assessment Study for County Road 21, December 2017, were utilized and were applied a two percent annual growth rate until 2023 to account for the existing traffic volumes under normal traffic patterns. The count dates, times and peak hours obtained from AECOM's report are summarized below in Table 1.

Table 1 – Turning Movement Counts, Study Area Intersections and Driveways

Location	Source	Count Date
County Road 21 and Wallings Road	AECOM Study (Figure 3)	Thursday May 18, 2017

The adjusted traffic volumes for the existing weekday AM and PM peak hours are provided in Figure 2.

Figure 2 – 2023 Adjusted Traffic Volumes, Weekday AM and PM Peak Hours



A capacity analysis was undertaken for the study area intersection using Synchro 11 analysis software. Capacity Analysis Sheets are provided in Attachment 2.

According to the MTO Traffic Impact Study Guidelines, individual movements that operate at a Level of Service (LOS) of D or better are generally acceptable for unsignalized intersections. The results of the analysis are shown in Table 2.

Table 2 – Capacity Analysis Results, Existing Conditions

Intersection	**Existing Traffic Conditions**			
Movement	**AM Peak Hour**		**PM Peak Hour**	
	Delay	**LOS**	**Delay**	**LOS**
County Road 21 & Wallings Road				
Eastbound Through / Left	0	A	0	A
Westbound Through / Right	0	A	0	A
Southbound Left / Right	20	C	27	D

The southbound movement, for exiting vehicles, operate at an acceptable LOS of C during the weekday AM peak hour, and an acceptable LOS of D during the weekday PM peak hour.

Future Conditions

The trip rates from the Institute of Transportation Engineers (ITE) Trip Generation manuals, 11th Edition, Land Use Codes (LUC) 260 – Recreational Homes, and LUC 210 – Single-Family Detached Housing were referenced to estimate the trip volumes generated by the site.

Table 3 – Site Trip Generation

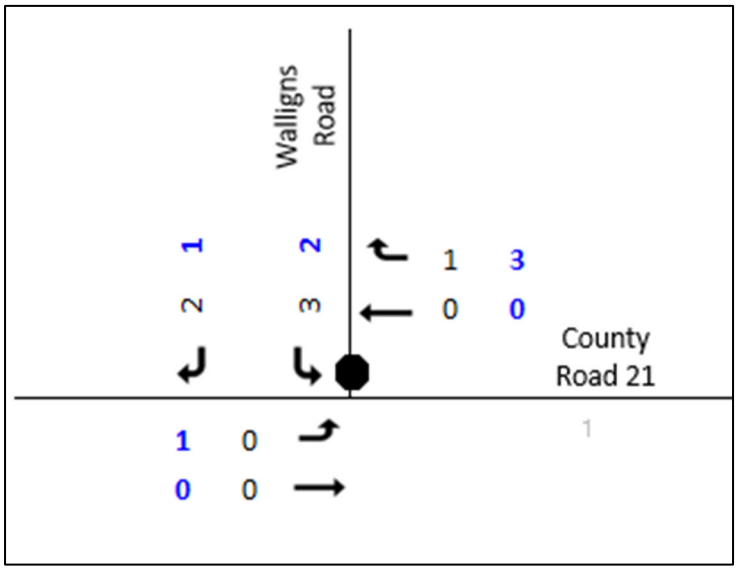
ITE Code 260							
Land Use		Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Recreational Homes	Distribution	55%	45%	100%	46%	54%	100%
	Equation	Ln(T) = 1.00Ln(X) - 1.53			Ln(T) = 0.93Ln(X) - 0.76		
	Rate	0.09	0.08	0.17	0.15	0.18	0.33
	Trips	1	0	1	1	1	2
ITE Code 210 (Used for analysis)							
Land Use		Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing	Distribution	25%	75%	100%	63%	37%	100%
	Equation	Ln(T) = 0.91Ln(X) + 0.12			Ln(T) = 0.94Ln(X) + 0.27		
	Rate	0.25	0.75	1.00	0.74	0.43	1.17
	Trips	**1**	**5**	**6**	**4**	**3**	**7**

Although the land use for recreational homes may be more appropriate for the subject site's interim use of glamping pods, only six studies were completed for the rates and generates minimal volumes. The trips generated utilizing the single-family detached housing were used for the traffic analysis for a conservative approach. The subject site is expected to generate approximately 6 and 7 two-way trips during the weekday AM and PM peak hours, respectively.

The existing directional distribution of traffic volumes along CR21 was analyzed to distribute the site traffic trips. Most traffic accessing CR21 from Wallings Road are travelling eastbound towards Haliburton during the AM and PM peak hours. Subsequently, most inbound traffic during the AM and PM peak hours are westbound vehicles. The volume percent split between southbound left and right-turning volumes at Wallings Road is approximately 60 percent eastbound / 40 percent westbound during the AM and PM peak hours.

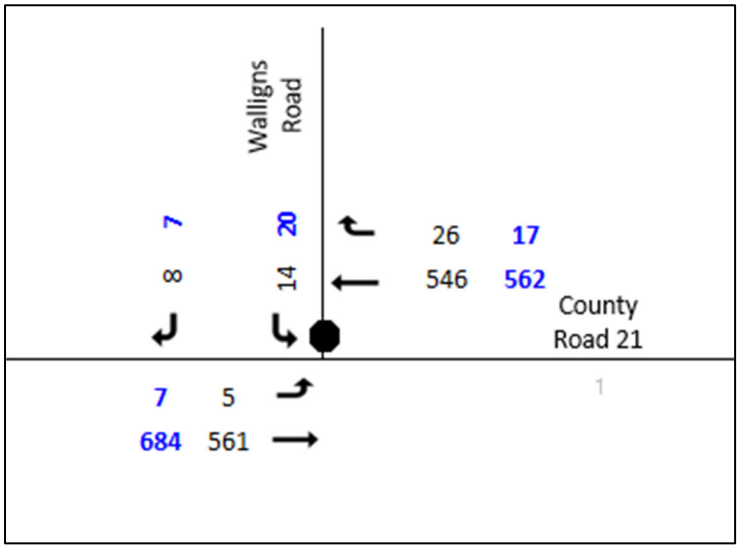
The site traffic assignment is provided in Figure 3.

Figure 3 – Site Traffic Distribution, Weekday AM and PM Peak Hours



With the interim use of the glamping pods, the estimated site trips were added onto the 2023 adjusted traffic volumes for this traffic analysis. The existing plus site traffic volumes during the weekday AM and PM peak hours, are shown in Figure 4.

Figure 4 – Future Traffic Volumes, Weekday AM and PM Peak Hours



Similarly to the existing conditions, a capacity analysis was undertaken for the study area intersection using Synchro 11 analysis software. The results are shown in Table 4, and Capacity Analysis Sheets are provided in Attachment 2.

Table 4 – Capacity Analysis Results, Future Conditions

Intersection	**Future Traffic Conditions**			
Movement	**AM Peak Hour**		**PM Peak Hour**	
	Delay	**LOS**	**Delay**	**LOS**
County Road 21 & Wallings Road				
Eastbound Through / Left	0	A	0	A
Westbound Through / Right	0	A	0	A
Southbound Left / Right	21	C	27	D

The southbound movement is expected to continue to operate at an acceptable LOS of C and D, during the weekday AM and PM peak hours respectively.

Based on our capacity analysis, the proposed interim use of glamping pods is expected to have little to no impact to the surrounding road network under existing roadway configurations due to the minimal vehicle trips generated. Trans-Plan is of the opinion that the glamping pods could be used as an interim use of the subject site while the roadway improvements of Wallings Road and County Road 21 continue to be discussed.

Respectfully submitted,

Anil Seegobin, P.Eng.
Partner, Engineer

Trans-Plan Transportation Inc.
Transportation Consultants

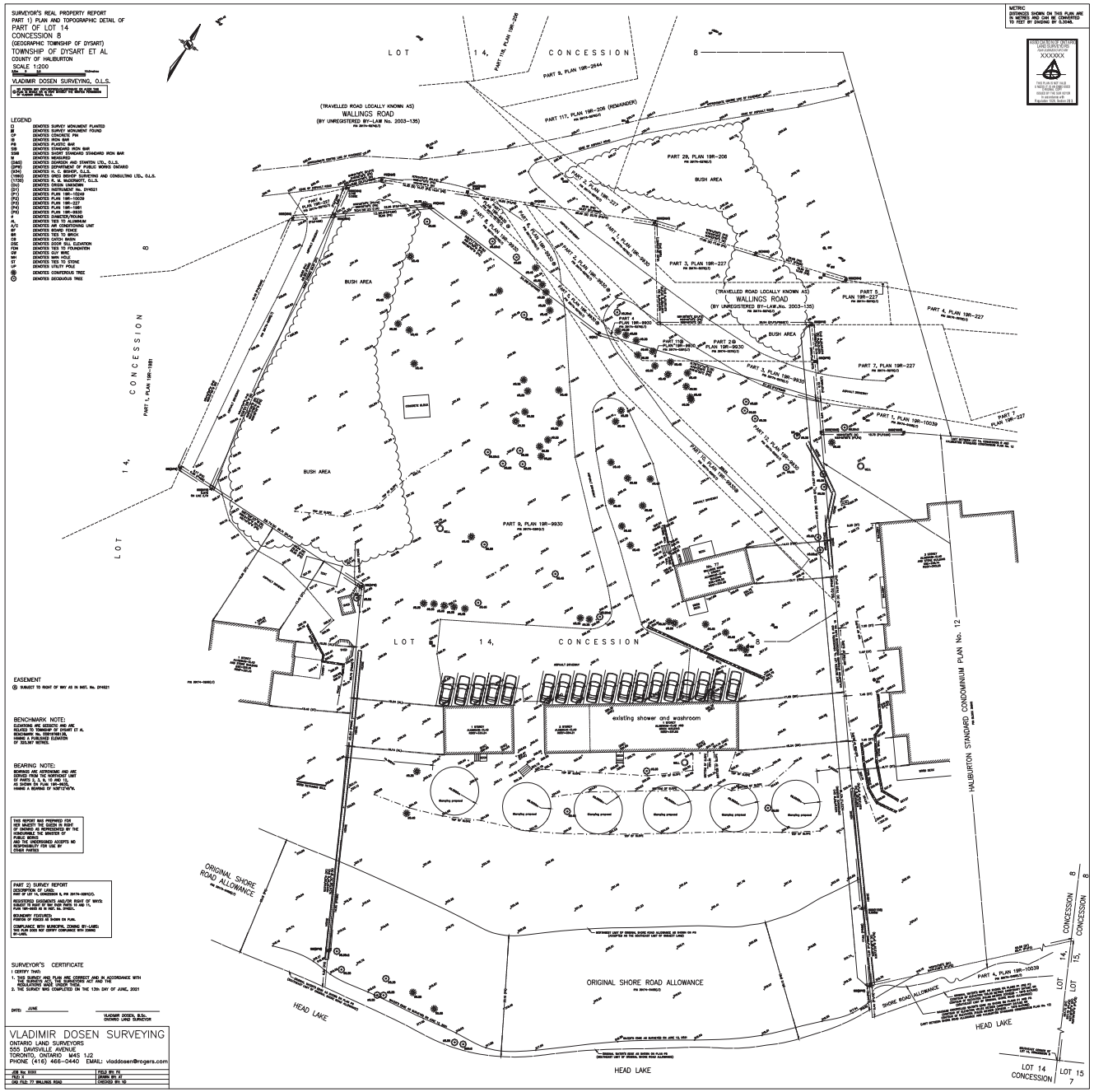
Charles Chung
Traffic Analyst

Attachment 1 – Site Plan

Attachment 2 – Capacity Analysis Sheets

ATTACHMENT 1

Site Plan


SURVEYOR'S REAL PROPERTY REPORT
PART 1) PLAN AND TOPOGRAPHIC DETAIL OF
PART OF LOT 14
CONCESSION 8
(GEOGRAPHIC TOWNSHIP OF DYSART)
TOWNSHIP OF DYSART ET AL
COUNTY OF HALIBURTON
SCALE 1:200
VLADIMIR DOSEN SURVEYING, O.L.S.
METRIC
DISTANCES SHOWN ON THIS PLAN ARE
IN METRES AND CAN BE CONVERTED
TO FEET BY DIVIDING BY 0.3048.
LEGEND
EASEMENT
BENCHMARK NOTE:
BEARING NOTE:
PART 2) SURVEY REPORT
SURVEYOR'S CERTIFICATE
I CERTIFY THAT:
DATED: JUNE
VLADIMIR DOSEN, B.Sc.
ONTARIO LAND SURVEYOR
VLADIMIR DOSEN SURVEYING
ONTARIO LAND SURVEYORS
555 DAVISVILLE AVENUE
TORONTO, ONTARIO M4S 1J2
PHONE (416) 486-0440 EMAIL: vladdosen@rogers.com
LOT 14, CONCESSION 8
LOT 14, CONCESSION 7
(TRAVELLED ROAD LOCALLY KNOWN AS)
WALLINGS ROAD
(BY UNREGISTERED BY-LAW No. 2003-135)
BUSH AREA
existing shower and washroom
ORIGINAL SHORE ROAD ALLOWANCE
HEAD LAKE
HALIBURTON STANDARD CONDOMINIUM PLAN No. 12
LOT 14 CONCESSION 8
LOT 15 CONCESSION 8
LOT 14 CONCESSION 7
LOT 15 7

ATTACHMENT 2

Capacity Analysis Sheets

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	561	546	25	11	6
Future Volume (Veh/h)	5	561	546	25	11	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	610	593	27	12	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	620				1226	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				1226	606
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	99
cM capacity (veh/h)	960				196	497

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	615	620	19
Volume Left	5	0	12
Volume Right	0	27	7
cSH	960	1700	252
Volume to Capacity	0.01	0.36	0.08
Queue Length 95th (m)	0.1	0.0	1.8
Control Delay (s)	0.1	0.0	20.4
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	20.4
Approach LOS			C

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		43.5%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	684	562	14	18	6
Future Volume (Veh/h)	6	684	562	14	18	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	743	611	15	20	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	626				1376	618
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	626				1376	618
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	99
cM capacity (veh/h)	956				159	489

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	750	626	27
Volume Left	7	0	20
Volume Right	0	15	7
cSH	956	1700	193
Volume to Capacity	0.01	0.37	0.14
Queue Length 95th (m)	0.2	0.0	3.6
Control Delay (s)	0.2	0.0	26.7
Lane LOS	A		D
Approach Delay (s)	0.2	0.0	26.7
Approach LOS			D

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		50.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	561	546	26	14	8
Future Volume (Veh/h)	5	561	546	26	14	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	610	593	28	15	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	621				1227	607
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621				1227	607
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	98
cM capacity (veh/h)	960				196	496

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	615	621	24
Volume Left	5	0	15
Volume Right	0	28	9
cSH	960	1700	253
Volume to Capacity	0.01	0.37	0.09
Queue Length 95th (m)	0.1	0.0	2.4
Control Delay (s)	0.1	0.0	20.7
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	20.7
Approach LOS			C

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		43.5%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	684	562	17	20	7
Future Volume (Veh/h)	7	684	562	17	20	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	743	611	18	22	8
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	629				1379	620
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				1379	620
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				86	98
cM capacity (veh/h)	953				158	488

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	751	629	30
Volume Left	8	0	22
Volume Right	0	18	8
cSH	953	1700	193
Volume to Capacity	0.01	0.37	0.16
Queue Length 95th (m)	0.2	0.0	4.1
Control Delay (s)	0.2	0.0	27.1
Lane LOS	A		D
Approach Delay (s)	0.2	0.0	27.1
Approach LOS			D

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		51.6%	ICU Level of Service A
Analysis Period (min)		15	