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2023-11-13  
Project: 210199

Charles Li  
GSD Development & Management Inc.  
c/o Jenn Gaudet  
MHBC Planning

## **RE: 1166-1204 GORDON STREET, GUELPH TRANSPORTATION IMPACT STUDY ADDENDUM**

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In January 2022, **Paradigm Transportation Solutions Limited** (Paradigm) completed the Transportation Impact Study (TIS)<sup>1</sup> for the proposed residential development located at 1166-1204 Gordon Street in the City of Guelph. A TIS Addendum was later completed in May 2023<sup>2</sup> to address City comments.

The January 2022 TIS was based on a previous Site Plan comprising 134 apartment units and 22 townhouse units and the May 2023 TIS Addendum was based on 122 apartment units and 21 townhouse units.

The Site Plan has since been updated to remove a single townhouse unit for a reduced total of 20 townhouse units and no change to the total of 122 apartment units. **Figure 1** (attached) illustrates the updated Site Plan.

The May 2023 TIS Addendum estimated a townhouse trip generation of 10 AM peak hour trips and 12 PM peak hour trips. A reduction of one townhouse unit (from 21 to 20 units) would reduce the trip generation by one PM peak hour trip resulting in 10 AM peak hour trips (no change) and 11 PM peak hour trips. Therefore, the conclusions outlined in the January 2022 TIS and May 2023 TIS Addendum remain valid.

In addition to the townhouse unit reduction, the location of Driveway A (southerly driveway) has been relocated south, as illustrated in **Figure 1**. Driveway A was previously located opposite Lovering Lane (formerly Enemy Lane), creating a four-leg intersection under two-way stop control. With the relocation of Driveway A to the south, the driveway will no longer form a four-leg intersection with Lovering Lane. **Figure 2** (attached) illustrates the 2035 total traffic volumes with the former four-leg intersection separated into two three-leg intersections under

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<sup>1</sup> Paradigm Transportation Solutions Limited, *1166-1204 Gordon Street Guelph Transportation Impact Study Project #210199*, January 2022.

<sup>2</sup> Paradigm Transportation Solutions Limited, *1166-1204 Gordon Street Guelph Transportation Impact Study Addendum – Comment Response*, May 2023.

two-way stop control, and with adjustments for the updated trip generation. Synchro 11 analyses (attached as **Appendix A**) indicate that the two intersections are forecast to operate with LOS A or better during the AM and PM peak hours.

We trust that this addendum meets the requirements in support of the current Site Plan changes. Please do not hesitate to contact us if we can be of further assistance.

Yours very truly,

**PARADIGM TRANSPORTATION SOLUTIONS LIMITED**

A handwritten signature in black ink, appearing to read 'Rajan Philips', written over a horizontal line.

**Rajan Philips**

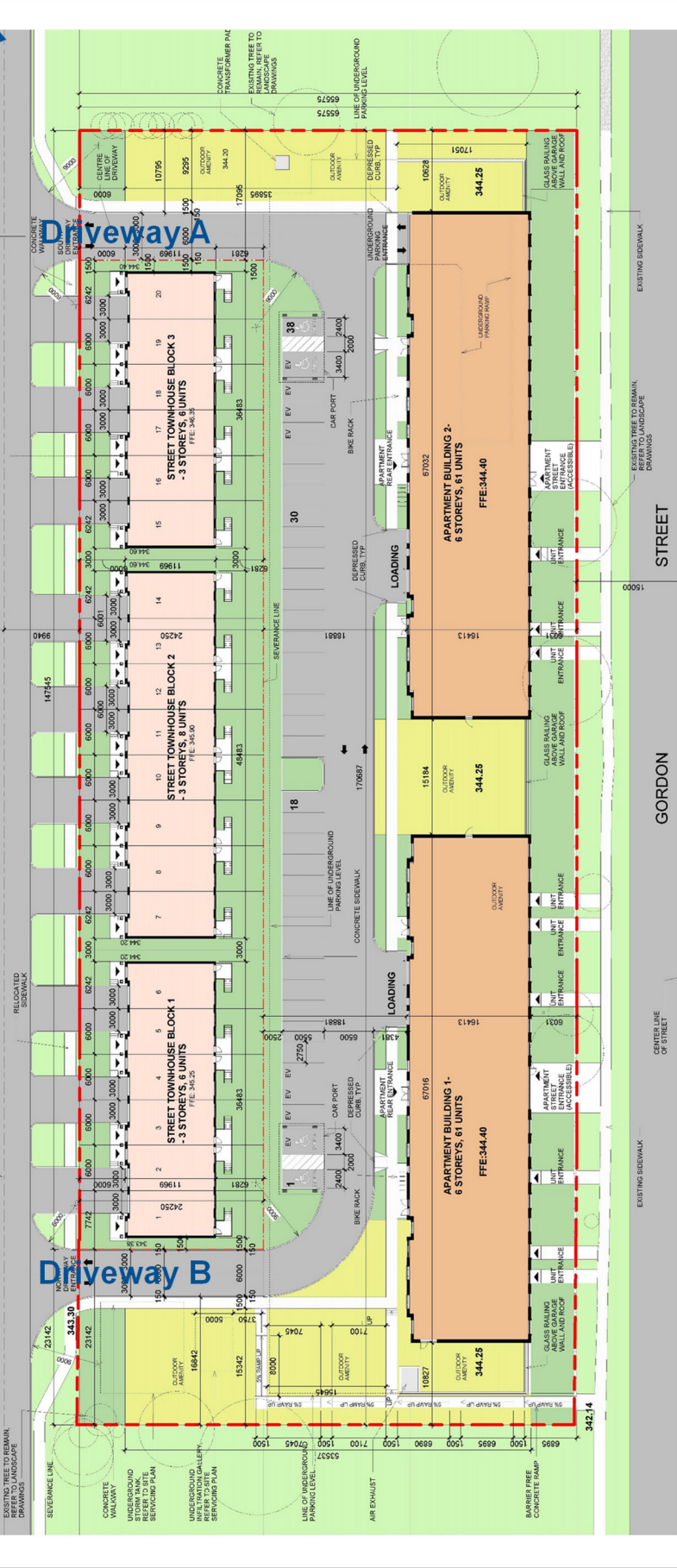
M.Sc, P.Eng.

Senior Transportation Consultant



## Attachments





PROJECT STATISTICS			ZONING COMPLIANCE		ZONING STATISTICS								COMPLIANCE STATISTICS				APARTMENT UNIT MIX									
DESCRIPTION	VALUES	REMARKS	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD
PROJECT STATISTICS	DESCRIPTION	VALUES	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD
TOWNHOUSE (R 80)	DESCRIPTION	VALUES	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD
APARTMENT (R 40)	DESCRIPTION	VALUES	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD
APARTMENT (R 40)	DESCRIPTION	VALUES	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD
APARTMENT (R 40)	DESCRIPTION	VALUES	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD
APARTMENT (R 40)	DESCRIPTION	VALUES	REQUIREMENT	PROVIDED	DENSITY	LOT AREA	LOT FRONTAGE	FRONT YARD	REAR YARD	MULLION COVERAGE	MAX. STOREYS	MIN. YARD	MIN. YARD	REAR YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD	MIN. YARD



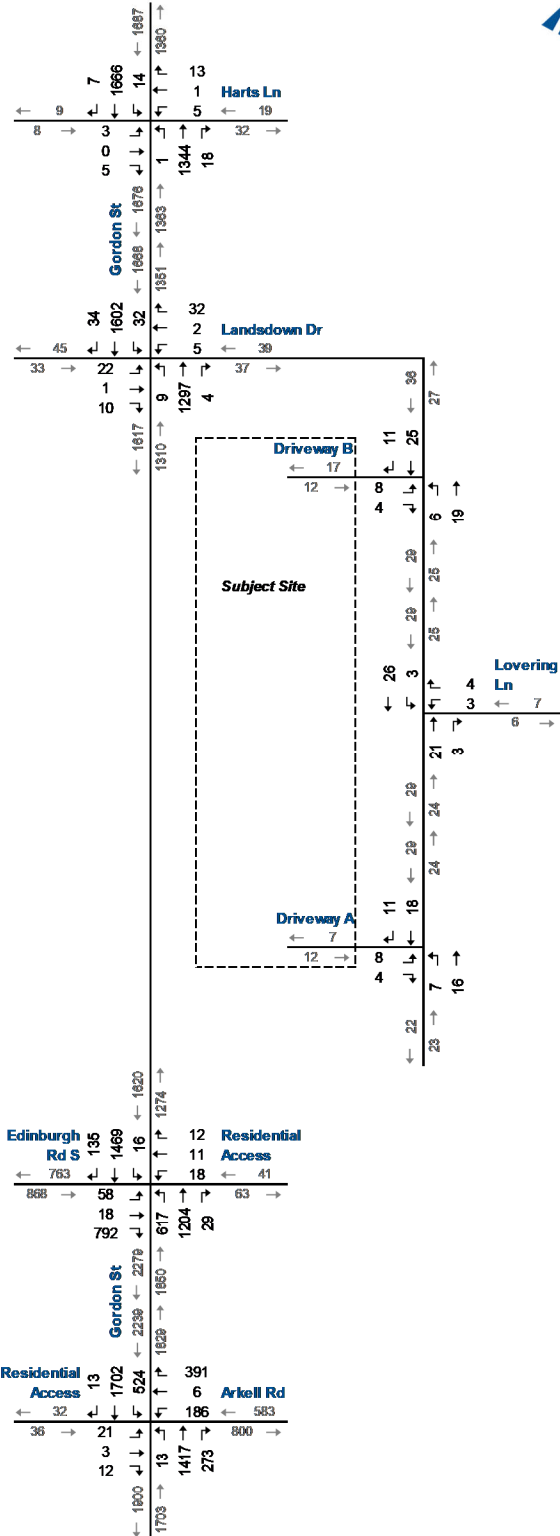
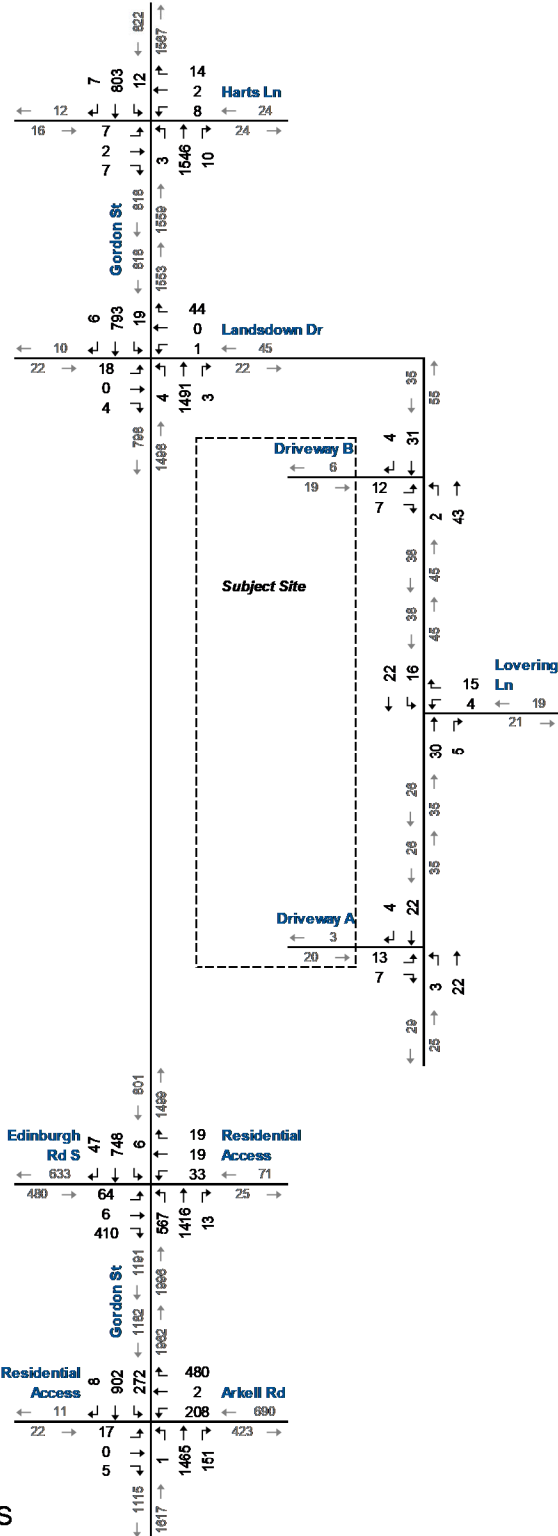
# Updated Site Plan

1166-1204 Gordon St, Guelph TIS 210199

Figure 1

**AM Peak Hour**

**PM Peak Hour**



NTS



# 2035 Total Traffic Volumes

# Appendix A

## Synchro 11 Reports



Lanes, Volumes, Timings  
6: Landsdown Drive & Lovering Lane

2035 Total AM  
Gordonview, Guelph TIS

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Volume (vph)	4	15	30	5	16	22
Future Volume (vph)	4	15	30	5	16	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.892		0.982			
Fit Protected	0.990					0.980
Satd. Flow (prot)	1678	0	1866	0	0	1862
Fit Permitted	0.990					0.980
Satd. Flow (perm)	1678	0	1866	0	0	1862
Link Speed (k/h)	50		50			50
Link Distance (m)	60.3		29.7			81.3
Travel Time (s)	4.3		2.1			5.9
Confl. Peds. (#/hr)	9	1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	4	16	33	5	17	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	38	0	0	41
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.0%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC  
6: Landsdown Drive & Lovering Lane

2035 Total AM  
Gordonview, Guelph TIS

Intersection

Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	4	15	30	5	16	22
Future Vol, veh/h	4	15	30	5	16	22
Conflicting Peds, #/hr	9	1	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, %	0	0	0	0	0	0
Mvmt Flow	4	16	33	5	17	24

Major/Minor

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	103	37	0
Stage 1	36	-	-
Stage 2	67	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	900	1041	-
Stage 1	992	-	-
Stage 2	961	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	883	1040	-
Mov Cap-2 Maneuver	883	-	-
Stage 1	992	-	-
Stage 2	943	-	-

Approach

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1002	1585
HCM Lane V/C Ratio	-	-	0.021	0.011
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Lanes, Volumes, Timings  
7: Landsdown Drive & Driveway A

2035 Total AM  
Gordonview, Guelph TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Volume (vph)	13	7	3	22	22	4
Future Volume (vph)	13	7	3	22	22	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951				0.981	
Flt Protected	0.969			0.994		
Satd. Flow (prot)	1751	0	0	1889	1864	0
Flt Permitted	0.969			0.994		
Satd. Flow (perm)	1751	0	0	1889	1864	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	50.9			66.5	29.7	
Travel Time (s)	3.7			4.8	2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	8	3	24	24	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	0	0	27	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.7%
ICU Level of Service A	
Analysis Period (min)	15

HCM 6th TWSC  
7: Landsdown Drive & Driveway A

2035 Total AM  
Gordonview, Guelph TIS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Intersection						
Int Delay, s/veh	2.8					
Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	13	7	3	22	22	4
Future Vol, veh/h	13	7	3	22	22	4
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, %	0	0	0	0	0	0
Mvmt Flow	14	8	3	24	24	4

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	56	26	28
Stage 1	26	-	-
Stage 2	30	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	957	1056	1599
Stage 1	1002	-	-
Stage 2	998	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	955	1056	1599
Mov Cap-2 Maneuver	955	-	-
Stage 1	1000	-	-
Stage 2	998	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	988	-
HCM Lane V/C Ratio	0.002	-	0.022	-
HCM Control Delay (s)	7.3	0	8.7	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-



Lanes, Volumes, Timings  
6: Landsdown Drive & Lovering Lane

2035 Total PM  
Gordonview, Guelph TIS

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Volume (vph)	3	4	21	3	3	26
Future Volume (vph)	3	4	21	3	3	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Friction	0.923		0.984			
Fit Protected	0.979					0.995
Satd. Flow (prot)	1717	0	1870	0	0	1890
Fit Permitted	0.979					0.995
Satd. Flow (perm)	1717	0	1870	0	0	1890
Link Speed (k/h)	50		50			50
Link Distance (m)	60.3		29.7			89.0
Travel Time (s)	4.3		2.1			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	4	23	3	3	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	26	0	0	31
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.9%
ICU Level of Service A	
Analysis Period (min)	15

HCM 6th TWSC  
6: Landsdown Drive & Lovering Lane

2035 Total PM  
Gordonview, Guelph TIS

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	3	4	21	3	3	26
Future Vol, veh/h	3	4	21	3	3	26
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, %	0	0	0	0	0	0
Mvmt Flow	3	4	23	3	3	28

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	59	25	0
Stage 1	25	-	-
Stage 2	34	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	953	1057	-
Stage 1	1003	-	-
Stage 2	994	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	951	1057	-
Mov Cap-2 Maneuver	951	-	-
Stage 1	1003	-	-
Stage 2	992	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1009	1601
HCM Lane V/C Ratio	-	-	0.008	0.002
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes, Volumes, Timings  
7: Landsdown Drive & Driveway A

2035 Total PM  
Gordonview, Guelph TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Volume (vph)	8	4	7	16	18	11
Future Volume (vph)	8	4	7	16	18	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.958				0.949	
Fit Protected	0.967			0.984		
Satd. Flow (prot)	1760	0	0	1870	1803	0
Fit Permitted	0.967			0.984		
Satd. Flow (perm)	1760	0	0	1870	1803	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	50.9			66.5	29.7	
Travel Time (s)	3.7			4.8	2.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	9	4	8	17	20	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	25	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.0%
ICU Level of Service A	
Analysis Period (min)	15

HCM 6th TWSC  
7: Landsdown Drive & Driveway A

2035 Total PM  
Gordonview, Guelph TIS

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	8	4	7	16	18	11
Future Vol, veh/h	8	4	7	16	18	11
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, %	0	0	0	0	0	0
Mvmt Flow	9	4	8	17	20	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	59	26	32
Stage 1	26	-	-
Stage 2	33	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	953	1056	1593
Stage 1	1002	-	-
Stage 2	995	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	948	1056	1593
Mov Cap-2 Maneuver	948	-	-
Stage 1	997	-	-
Stage 2	995	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	981	-
HCM Lane V/C Ratio	0.005	-	0.013	-
HCM Control Delay (s)	7.3	0	8.7	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0	-