1242, 1250, 1260, 1270 Gordon Street and 9 Valley Road

Traffic Impact Study

August 12, 2021

Prepared for:

The Tricar Group

Prepared by:

Stantec Consulting Ltd.

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1.0 INTRODUCTION

1.1 BACKGROUND

Stantec has been retained by The Tricar Group to conduct a Traffic Impact Study in support of a Draft Plan Approval and Zoning By-law Amendment for the proposed development located at 1242, 1250, 1260, 1270 Gordon Street and 9 Valley Road (1250 Gordon Street) in the City of Guelph. The site is currently occupied by two detached homes; another two homes are located on the path of the proposed extension of Landsdown Drive to Edinburgh Road South. The development is proposed to comprise of two ten-storey residential buildings with a total of 325 dwelling units and is anticipated to be fully built-out and occupied by 2024.

A pre-consultation had been conducted with the City of Guelph to identify the project scope of work and methodology. The additional scope of work requested during pre-consultation has been incorporated into the study. The pre-consultation correspondence is attached for reference in **Appendix A**. The study is conducted in accordance with requirements outlined in the *City of Guelph Traffic Impact Study Guidelines, April 2016.*

1.2 SCOPE AND METHODOLOGY

The scope of the study is as follows:

- Summarize the existing conditions at the study area intersections;
- Prepare traffic forecasts for the 2024, 2029, and 2034 horizon years which represent the full build-out of the proposed development, five-year and ten-year horizons following full build-out; and
- Assess the transportation impacts and requirements related to the background traffic forecasts and the total traffic forecasts which include the traffic generated by the proposed development.

The methodology of the study is as follows:

- The future weekday AM and PM peak hours background traffic is estimated for 2024, 2029, and 2034 based upon a 1.5% per annum growth rate. The background traffic forecasts also include additional traffic generated by the full build-out of nearby developments;
- The increase in traffic generated by the proposed development is based on the practices outlined in the ITE Trip Generation Manual, 10th Edition;
- The future background traffic is combined with the net increase in subject site traffic to determine the total traffic volumes for the 2024, 2029, and 2034 horizon years;
- The future peak hour intersection operations are analyzed for the future background and future total traffic conditions using Synchro 10.2 software;
- The proposed on-site parking supply, truck circulation, and access sightlines are reviewed;
- A Transportation Demand Management strategy is proposed to mitigate the dependency on single-occupant vehicles; and

- Determine the net impact of the subject site traffic on the study area intersections and provide recommendations for road and/or traffic control improvements to address the identified impacts.

1.3 STUDY AREA

The following intersections comprise the study area used to determine the operational impacts of the proposed development:

- Gordon Street / Kortright Road West;
- Gordon Street / Harts Lane;
- Gordon Street / Landsdown Drive;
- Gordon Street / Valley Road;
- Gordon Street / Edinburgh Road South;
- Gordon Street / Arkell Road;
- Gordon Street / Vaughan Street; and
- Gordon Street / Heritage Drive.

The study area is illustrated in **Figure 1**.

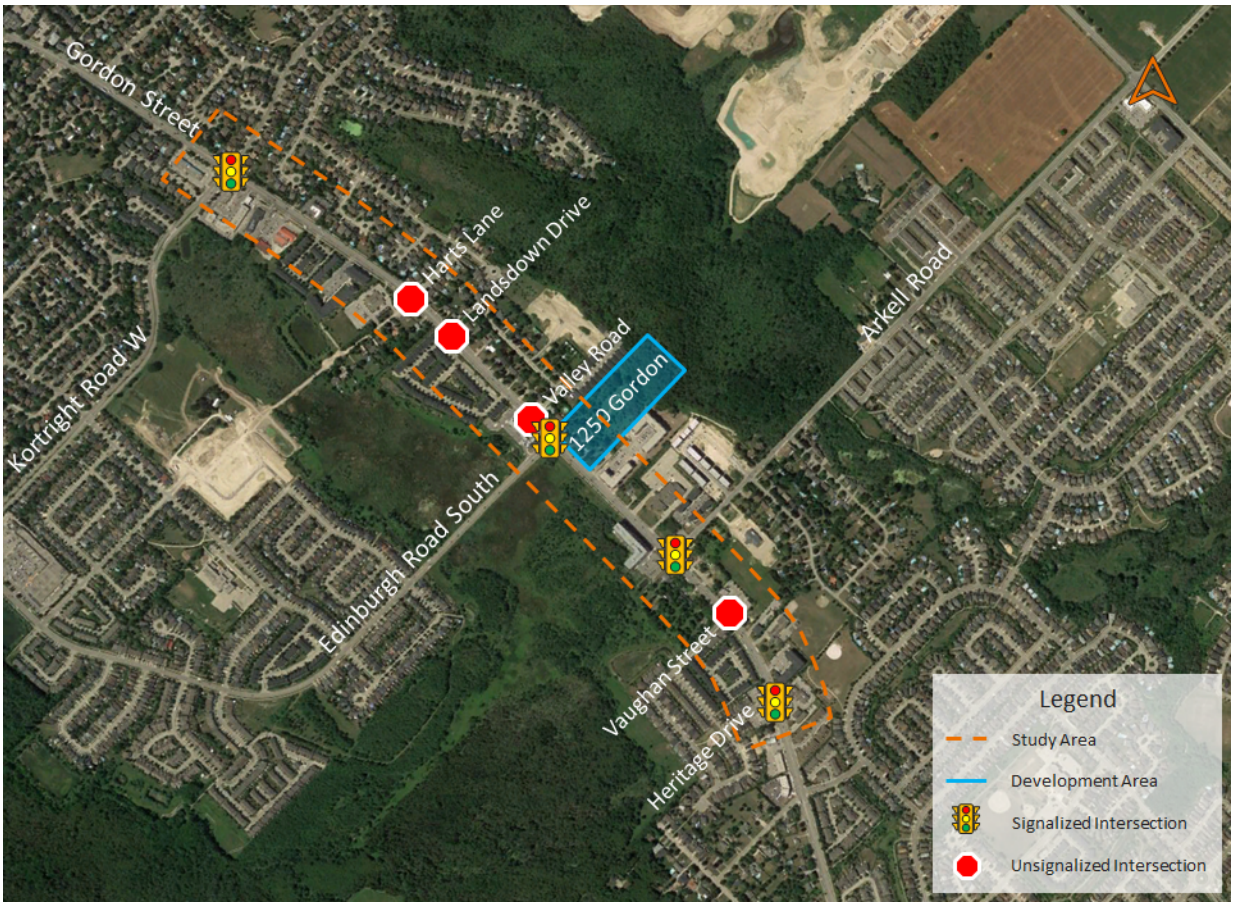

Figure 1 - Study Area

2.0 PROPOSED DEVELOPMENT

The proposed development includes two ten-storey residential buildings with a total of 325 apartment units at the municipal address of 1242, 1250, 1260, 1270 Gordon Street and 9 Valley Road in the City of Guelph. The development is expected to be completed and occupied by 2024. Vehicular access to the site will be via an access on to the proposed extension of Landsdown Drive to Edinburgh Road South and a service access to the residential property to the south. The access on to the Landsdown Drive extension is approximately 75 metres east of Gordon Street.

There is a total of 519 vehicular parking spaces proposed with 95 surface spaces and 424 underground spaces. Of the 519 parking spaces, 15 spaces will be accessible parking spaces, and 83 will be assigned to visitors. In addition, 521 bicycle parking spaces will be provided in the underground parking area.

The proposed site plan is illustrated in **Figure 2**; a full-sized site plan is attached in **Appendix B**.

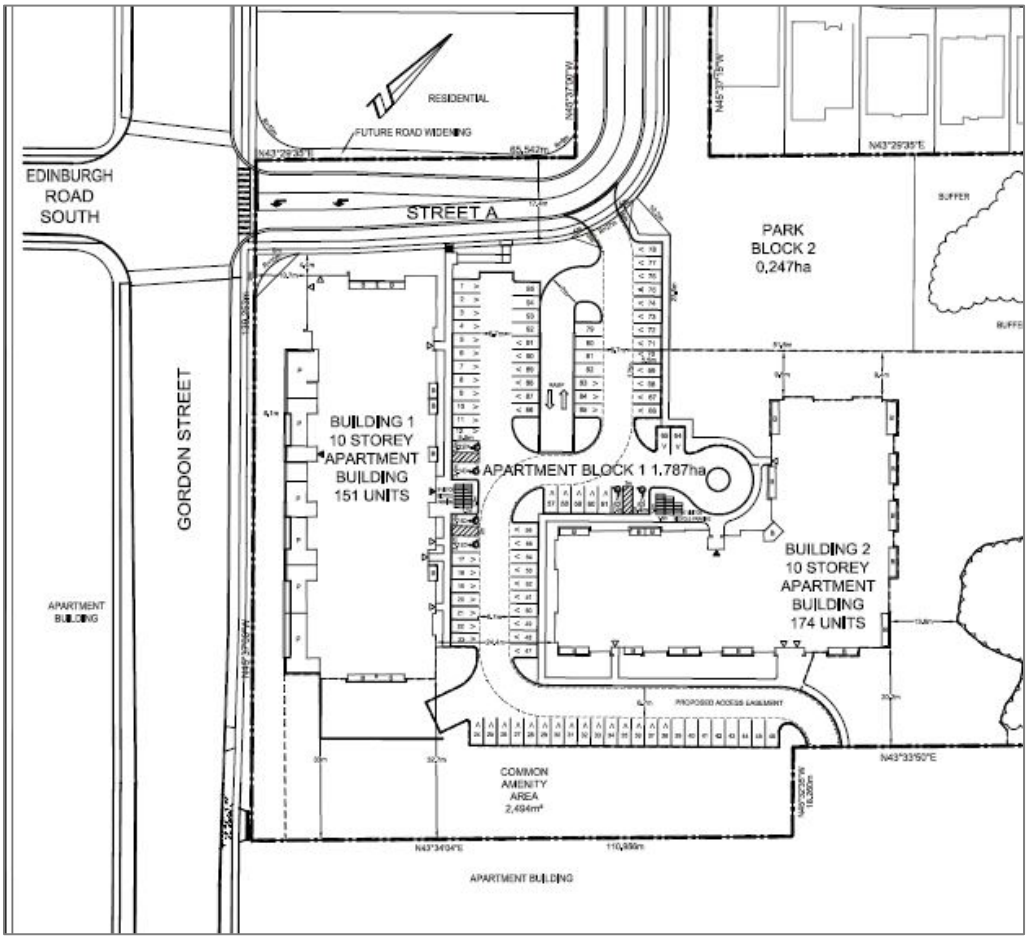

Figure 2 - Site Plan

3.0 EXISTING CONDITIONS

3.1 ROADS AND TRAFFIC CONTROL

The characteristics of the roads and intersections in the vicinity of the subject site are described below. Reference is made to the City of Guelph's *Official Plan Amendment Number 48: Schedule 5 Road & Rail Network*. All roadways in the study area fall under the jurisdiction of the City of Guelph. The existing lane configurations and intersection traffic control within the study area are illustrated in **Figure 3**.

- **Gordon Street** is a four-lane north-south arterial roadway with a posted speed limit of 60 km/h. Gordon Street provides access to downtown Guelph and Guelph University to the north and Highway 401 to the south. The roadway forms signalized intersections with Kortright Road, Edinburgh Road South, Arkell Road, and Heritage Drive; auxiliary left turn lanes are provided on all approaches to these intersections apart from Heritage Drive.
- **Kortright Road** is a four-lane east-west arterial road west of Gordon Street and a two-lane local road east of Gordon Street. The roadway operates under a posted speed limit of 50 km/h. Kortright Road West provides access to Highway 6 to the west.
- **Harts Lane** is a two-lane east-west local road and does not have a posted speed limit. It is assumed that the roadway operates under the statutory speed limit of 50 km/h. The stop-controlled intersection of Harts Lane with Gordon Street has controlled east and west approaches.
- **Landsdown Drive** is a two-lane east-west local road and does not have a posted speed limit. It is assumed that the roadway operates under the statutory speed limit of 50 km/h. The stop-controlled intersection of Landsdown Drive with Gordon Street has controlled east and west approaches.
- **Valley Road** is a two-lane east-west local road and does not have a posted speed limit. It is assumed that the roadway operates under the statutory speed limit of 50 km/h. The stop-controlled intersection of Valley Road with Gordon Street has a controlled east approach.
- **Edinburgh Road South** is a two-lane east-west arterial road and does not have a posted speed limit within the study area. It is assumed that the roadway operates under the statutory speed limit of 50 km/h. Edinburgh Road South curves to intersect with Kortright Road West, providing access to the north.
- **Arkell Road** is a two-lane east-west arterial road with a posted speed limit of 50 km/h.
- **Vaughan Street** is a two-lane east-west local road and does not have a posted speed limit. It is assumed that the roadway operates under the statutory speed limit of 50 km/h. The east-west approaches to the intersection with Gordon Street are stop-controlled.
- **Heritage Drive** is a two-lane east-west local road and does not have a posted speed limit. It is assumed that the roadway operates under the statutory speed limit of 50 km/h.

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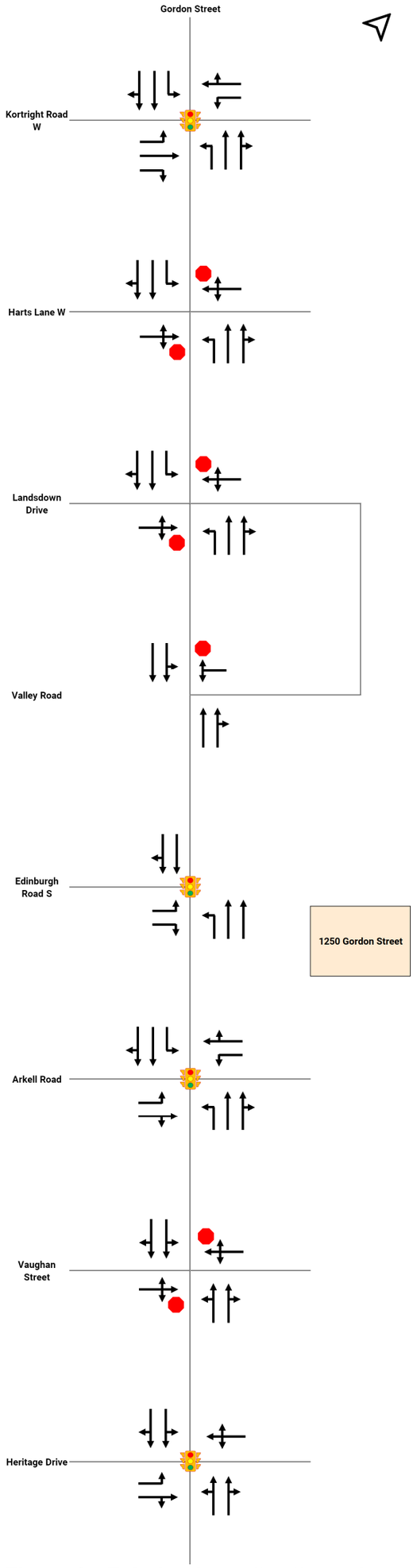

Figure 3 - Existing Lane Configurations

3.2 TRANSIT SERVICE

Guelph Transit provides regular transit service within the study area through Route 1 Edinburgh College, Route 2 College Edinburgh, Route 5 Goodwin, and Route 99 Mainline. GO Transit provides bus service to the study area through Route 29 Guelph/Mississauga, and Route 48 407 West Bus. The approximate bus frequency per route is summarized in **Table 1**. The bus routes in the area are illustrated in **Figure 4**.

The subject site will be well serviced by transit during the AM and PM peak hours. The closest bus stops are located on the north approach to the intersection of Gordon Street with Edinburgh Road South, which is approximately 100 metres from the subject site.

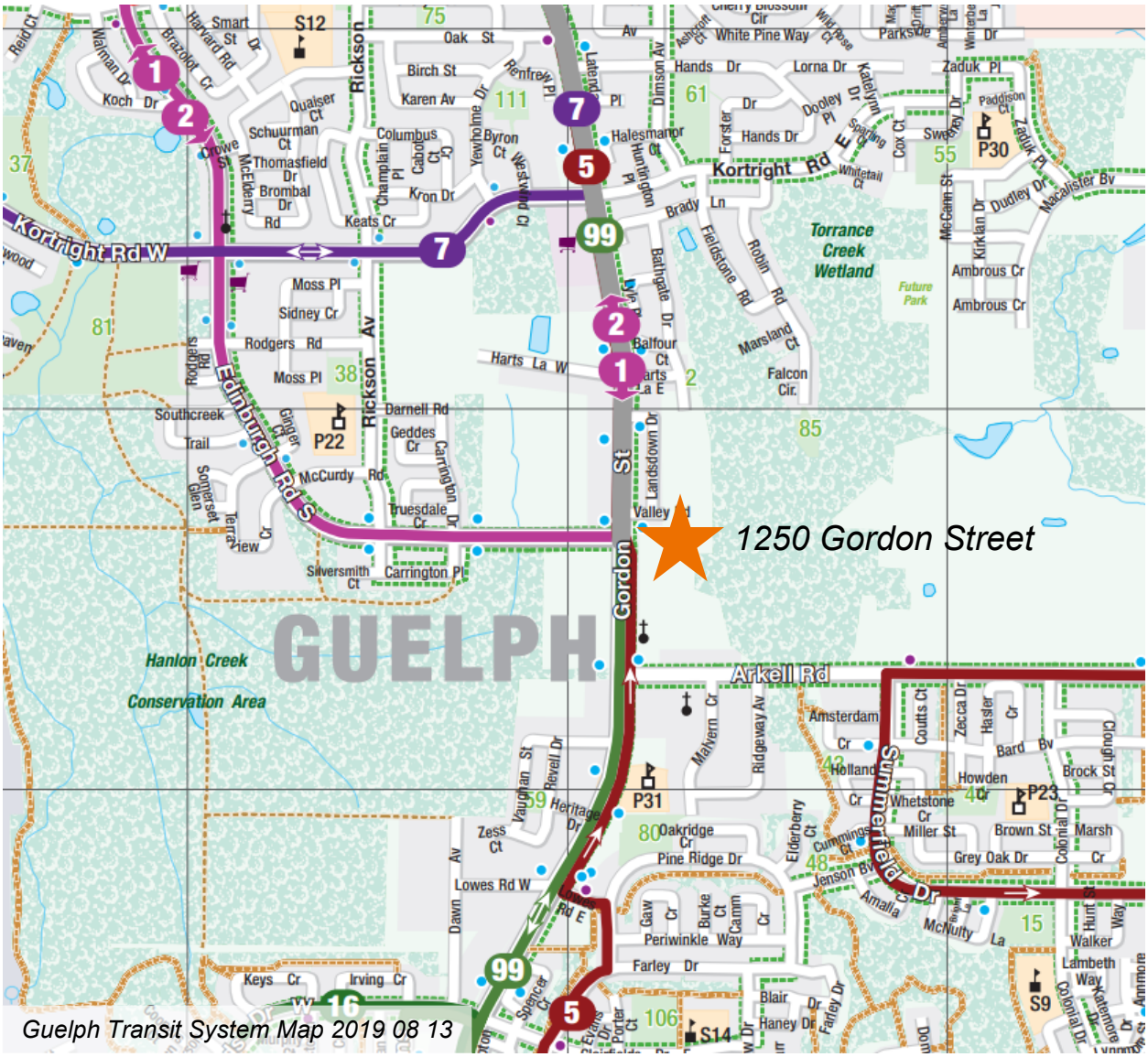

Figure 4 - Existing Transit Service

Table 1 - Existing Bus Frequency

Bus Route	Route Name	AM Peak Period		PM Peak Period	
		Northbound	Southbound	Northbound	Southbound
1	Edinburgh College	-	30 minutes	-	30 minutes
2	College Edinburgh	30 minutes	-	30 minutes	-
5	Goodwin	20 minutes	-	20 minutes	-
29 (GO)	Guelph/Mississauga	30 minutes	65 minutes	30 minutes	30 minutes
48 (GO)	407 West Bus	30 minutes	70 minutes	65 minutes	70 minutes
99	Mainline	10 minutes	10 minutes	10 minutes	10 minutes

3.3 ACTIVE TRANSPORTATION FACILITIES

Sidewalks are currently provided on both sides of Gordon Street, Kortright Road, and Edinburgh Road South. Harts Lane has sidewalks available on both sides of the roadway east of Gordon Street. Sidewalks are available on the south side of the roadways along Landsdown Drive, Valley Road, and Arkell Road. The study area accommodates pedestrian movements to the closest commercial destinations and transit connections.

Bicycle lanes are provided on both sides of Gordon Street, paved shoulders are provided on both sides of Arkell Road, and wide curb lanes are provided along Edinburgh Road South in the study area. All other roadways would require that cyclists travel in mixed traffic. The bicycle lanes along Gordon Street provide long-distance north-south connections, connecting the study area to downtown Guelph.

3.4 TRAFFIC DATA AND OBSERVATIONS

The City of Guelph provided the most recent weekday traffic count information for the study area intersections of Gordon Street with Kortright Road, Landsdown Drive, Valley Road, Edinburgh Road South, Arkell Road, Vaughan Street, and Heritage Drive. Traffic Survey Analysis Inc. was retained by Stantec to collect weekday turning movement counts at the intersection of Gordon Street with Harts Lane. The collected data information is summarized in **Table 2**.

Traffic data is provided for reference in **Appendix C**. The balanced existing weekday 2019 AM and PM peak hour traffic volumes are illustrated in **Figure 5** and **Figure 6**, respectively.

Table 2 - Data Collection Summary

Intersection	Control	AM Peak	PM Peak	Source	Date
Gordon / Kortright	Signal	8:00 – 9:00	4:45 – 5:45	Guelph	March 26, 2019
Gordon / Harts	Stop Signs	8:00 – 9:00	4:45 – 5:45	Stantec	July 9, 2019
Gordon / Landsdown	Stop Signs	9:00 – 10:00	5:45 – 6:45	Guelph	March 27, 2019
Gordon / Valley	Stop Signs	9:00 – 10:00	5:45 – 6:45	Guelph	March 27, 2019
Gordon / Edinburgh	Signal	9:00 – 10:00	5:45 – 6:45	Guelph	March 27, 2019
Gordon / Arkell	Signal	9:00 – 10:00	5:45 – 6:45	Guelph	March 27, 2019
Gordon / Vaughan	Stop Signs	8:00 – 9:00	4:45 – 5:45	Guelph	October 17, 2019
Gordon / Heritage	Signal	8:00 – 9:00	5:00 – 6:00	Guelph	May 29, 2019

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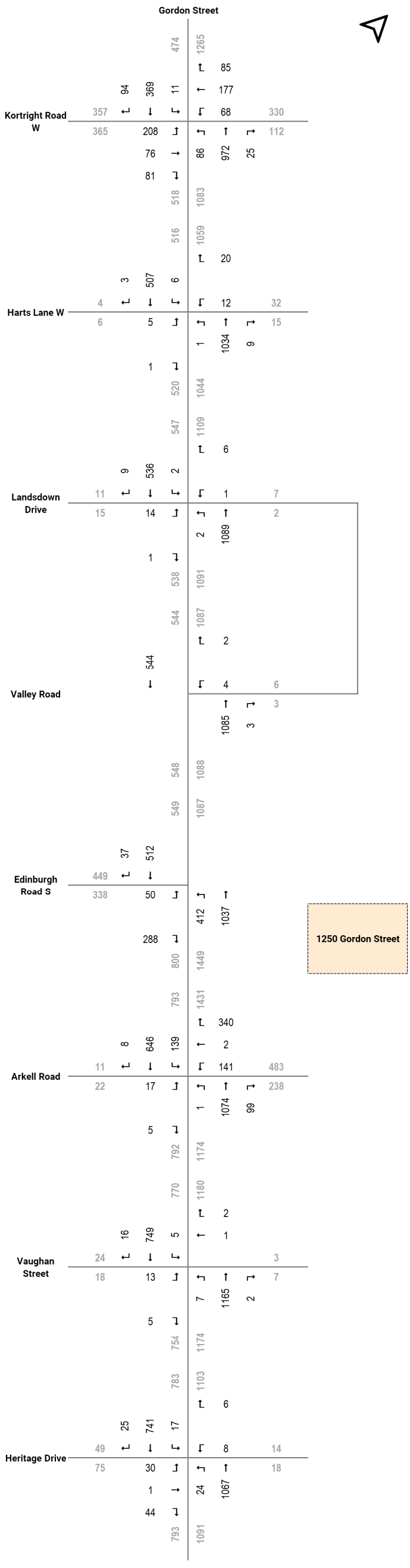

Figure 5 – Existing 2019 AM Traffic Volumes

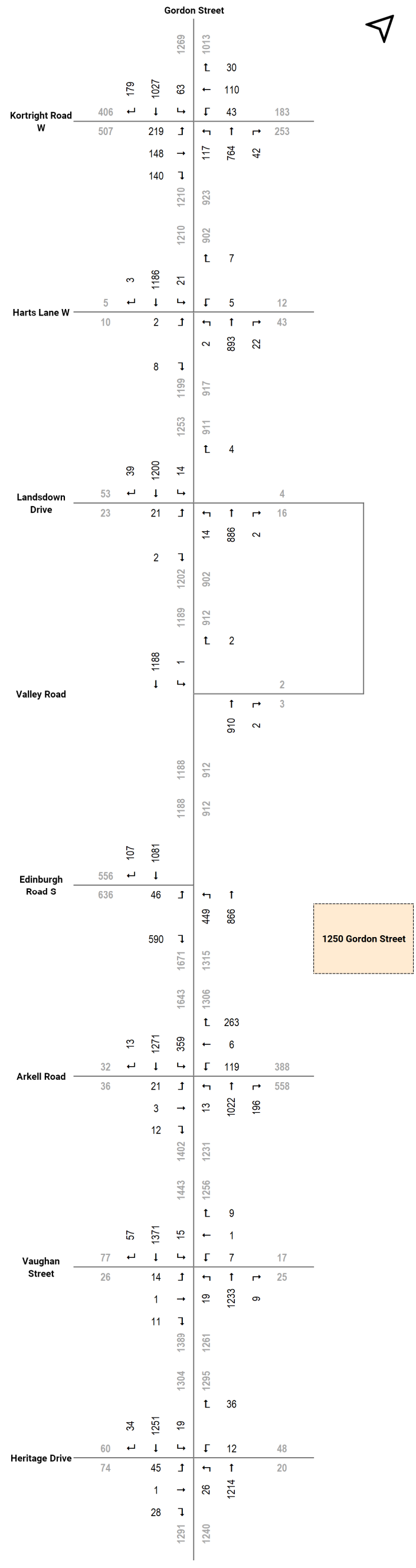

Figure 6 – Existing 2019 PM Traffic Volumes

3.5 BASE YEAR (2019) TRAFFIC OPERATIONS

Intersection operations are typically measured in terms of level of service (LOS). The LOS is assigned on the basis of average delay per vehicle and includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS ranges from LOS A for 10 seconds or less average delay to LOS F for average delay greater than 80 seconds. For unsignalized intersections, the LOS ranges from LOS A for 10 seconds or less average delay to LOS F for average delay greater than 50 seconds.

The *City of Guelph Traffic Impact Study Guidelines* identifies the following signalized intersection analysis thresholds:

- Volume/capacity (V/C) ratios for overall intersection operations, through movements, or shared through/turning movements are increased to 0.85 or above;
- V/C ratios for exclusive turning movements are increased to 0.90 or above; or
- Estimated 95th percentile queue for an individual movement exceeds the available storage length.

The following thresholds apply to unsignalized intersections in the study area:

- Average delay level of service (LOS) on individual movements exceeds LOS “E”; or
- Estimated 95th percentile queue for an individual movement exceeds the available storage length.

To assess the existing peak hour traffic conditions, a capacity analysis was undertaken for the study area intersections using Trafficware Synchro 10.2 software, which implements the methods of the 2000/2010 Highway Capacity Manual.

The key parameters used in the analysis include:

- Existing lane configurations;
- Heavy vehicle percentages and peak hour factors as derived from existing traffic counts;
- Signal timing plans as provided by the City; and
- Synchro default values for all other inputs.

The results of the analysis are summarized in **Table 3** with the Synchro analysis outputs provided for reference in **Appendix D**. The following deficiencies have been identified under existing conditions:

- **Gordon Street & Kortright Road:** The eastbound left movement experiences a relatively high volume to capacity ratio during the AM peak hour due to the high number of vehicles turning left.
- **Gordon Street & Edinburgh Road:** The eastbound right, southbound through, and the overall intersection are approaching capacity during the PM peak hour due to the high number of vehicles crossing the intersection. The southbound approach experiences a 140 metre 95th percentile queue length which extends beyond Valley Road and begins to block the upstream residential access.

- **Gordon Street & Arkell Road:** The northbound through movement experiences a relatively high volume to capacity ratio during the PM peak hour due to the combination of high northbound volumes and a constrained signal split due to the southbound left advanced turn phase.
- **Gordon Street & Harts Lane:** The westbound approach operates under a relatively high delay during the PM peak hour due to the high uncontrolled north-south volumes along Gordon Street which result in few available gaps for left turning vehicles.
- **Gordon Street & Landsdown Drive:** The eastbound approach operates under a very high delay during the PM peak hour due to the high uncontrolled north-south volumes along Gordon Street which result in few available gaps for left turning vehicles.
- **Gordon Street & Vaughan Street:** The eastbound approach operates under a relatively high delay (LOS of "E") during the PM peak hour due to the high uncontrolled north-south volumes along Gordon Street which limits the available gaps for eastbound left and through vehicles.

Table 3 - Existing 2019 Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	66	0.91	66	D	42	0.76	56
	EBT	C	25	0.15	19	C	28	0.33	34
	EBR	C	24	0.05	9	C	26	0.09	12
	WBL	C	25	0.19	17	C	27	0.15	13
	WBTR	C	28	0.52	53	C	28	0.30	30
	NBL	B	13	0.16	22	C	31	0.48	32
	NBTR	C	20	0.53	102	C	21	0.45	79
	SBL	B	11	0.04	2	A	9	0.18	10
	SBTR	B	13	0.26	35	B	20	0.72	126
	Overall	C	24	0.65	-	C	23	0.71	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	D	27	0.04	<1	D	29	0.07	1
	WBLTR	D	29	0.19	5	E	37	0.10	2
	NBL	A	8	0.00	<1	B	11	0.00	<1
	NBTR	Unopposed Movement							
	SBL	B	10	0.01	<1	B	10	0.03	<1
	SBTR	Unopposed Movement							
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	D	26	0.09	2	F	179	0.59	16
	WBLTR	C	15	0.02	<1	B	12	0.01	<1
	NBL	A	8	0.00	<1	B	12	0.03	1
	NBTR	Unopposed Movement							
	SBL	B	10	0.00	<1	A	10	0.02	<1
	SBTR	Unopposed Movement							

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Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Valley Road *Unsignalized*	WBLR	D	26	0.04	<1	B	10	0.00	<1
	NBTR	Unopposed Movement							
	SBLT	Unopposed Movement							
Gordon Street & Edinburgh Road *Signalized*	EBL	D	43	0.50	19	D	43	0.44	18
	EBR	C	31	0.44	27	D	48	0.94	162
	NBL	B	11	0.64	89	B	10	0.69	88
	NBT	A	8	0.43	107	A	7	0.34	79
	SBTR	A	8	0.29	52	D	41	0.90	140
	Overall	B	12	0.65	-	C	28	0.92	-
Gordon Street & Arkell Road *Signalized*	EBL	C	33	0.24	8	C	34	0.25	10
	EBTR	C	30	0.00	<1	C	32	0.02	5
	WBL	D	42	0.67	41	D	40	0.61	35
	WBTR	C	33	0.40	32	C	33	0.22	20
	NBLT	A	8	0.00	0	B	16	0.08	5
	NBTR	B	16	0.70	130	C	31	0.87	143
	SBL	C	24	0.49	23	D	38	0.82	75
	SBTR	A	3	0.31	20	A	4	0.57	49
	Overall	B	17	0.67	-	C	21	0.81	-
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	25	0.09	2	E	46	0.24	7
	WBLTR	C	26	0.02	<1	D	34	0.12	3
	NBLT	A	<1	0.01	0	A	1	0.04	1
	NBTR	Unopposed Movement							
	SBLT	A	<1	0.01	<1	A	1	0.03	<1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	D	42	0.41	17
	EBTR	D	39	0.04	10	D	38	0.03	8
	WBLTR	D	39	0.01	2	D	39	0.12	12
	NBLT	A	4	0.45	42	A	4	0.51	55
	SBLT	A	3	0.32	28	A	6	0.52	64
	Overall	A	5	0.44	-	A	7	0.51	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

4.0 FUTURE CONDITIONS

4.1 PLANNED NETWORK IMPROVEMENTS

The subject development is located on the Gordon Street "Intensification Corridor" which extends from Stone Road to Clairfields Drive; the Intensification Corridor has seen significant development over the last decade and will continue to evolve over time. The City of Guelph has initiated a Municipal Class Environmental Assessment (EA) study for proposed improvements to Gordon Street, between Edinburgh Road and Lowes Road. The EA will identify and assess improvements to accommodate the future planning and intensification along Gordon Street with a more holistic approach to infrastructure improvements that will consider pedestrians, cyclists, transit, and automobiles. The EA is currently too preliminary to identify recommended improvements, and as such has not been incorporated into the planned network improvements for the future horizon years.

The City of Guelph has identified that a centre turn lane will be located along Gordon Street after 2020; this roadway improvement has been incorporated into the Synchro models for all horizon years.

4.2 HORIZON YEARS AND BACKGROUND TRAFFIC GROWTH

The horizon years considered for the analysis of all study area intersections are 2024, 2029, and 2034, which represent the anticipated full build-out/occupancy, five years, and ten years following the full build-out/occupancy. A 1.5% per annum growth rate, identified during pre-consultation, is applied to the 2019 base year traffic volumes to account for increases resulting from general population and employment growth, excluding local roadways connecting to residential neighbourhoods which are not expected to experience traffic growth apart from what is planned from developments. The following study area roadways are excluded from general background traffic growth:

- Kortright Road East (east of Gordon Street);
- Harts Lane East;
- Landsdown Drive;
- Valley Road;
- Arkell Road (west of Gordon Street);
- Vaughan Street; and
- Heritage Drive.

The following developments have been identified in consultation with the City and have been incorporated into the background traffic forecasts:

- *1300 Gordon Street:* Residential, 32 apartment units
- *1340 Gordon Street:* Commercial, 700 square metres

- *33 Arkell Road/1408 Gordon Street and 39-47 Arkell Road:* Residential, 51 apartment units, 41 townhouse units
- *190-216 Arkell Road:* Residential, 66 townhouse units
- *388 Arkell Road:* High School, 1,200 students
- *1353-1389 Gordon Street:* Residential, 50 townhouse units
- *1354 Gordon Street:* Residential, 88 apartment units; Retail, 400 square metres; Restaurant, 400 square metres; Gas Station, 8 fueling stations with 231 square metres convenience store
- *1533-1557 Gordon Street and 34 Lowes Road West:* Residential, 89 units
- *19-59 Lowes Road west:* Single detached, 36 units

Background development traffic volumes were extracted from the *1300 Gordon Street Transportation Impact Study Update* (1300 Gordon Street TIS) prepared by Paradigm Transportation Solutions Ltd. in December of 2019, as provided by the City of Guelph. The study area of the 1300 Gordon Street TIS extended from Edinburgh Road South to Heritage Drive; traffic volumes north of Edinburgh Road South were assigned to the subject study's network by applying the existing AM and PM turning movement proportions at the northern intersections. As with the application of general annual background growth, the background development trips were not routed to local residential roadways.

The forecasted trips generated by the background developments is illustrated in **Figure 7** and **Figure 8**, with the future background traffic volumes (including the existing, general background growth, and background development volumes) illustrated in **Figure 9** through **Figure 14** for the horizon years.

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Future Conditions
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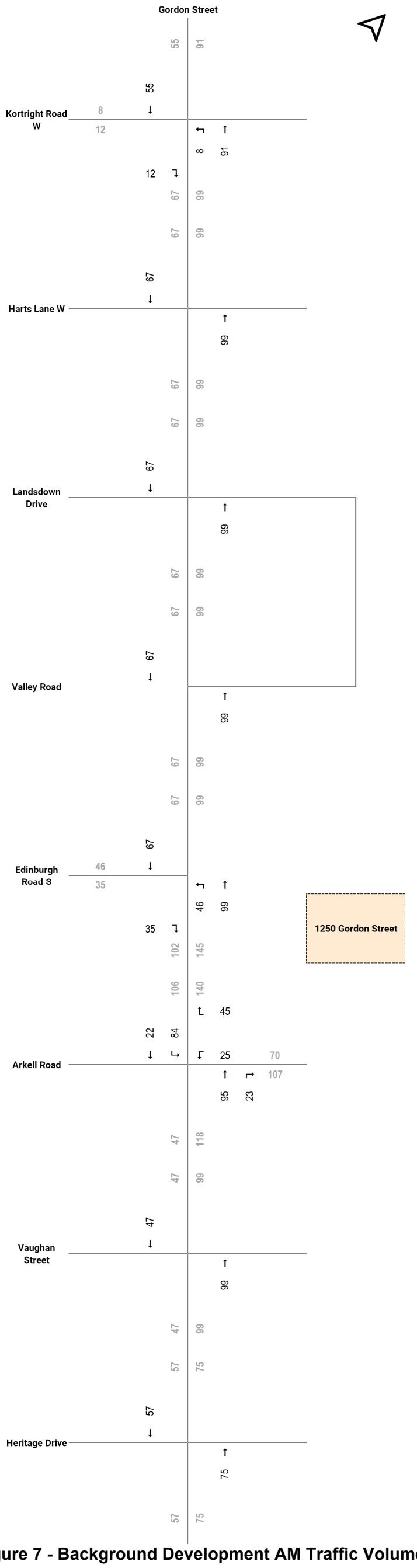

Figure 7 - Background Development AM Traffic Volumes

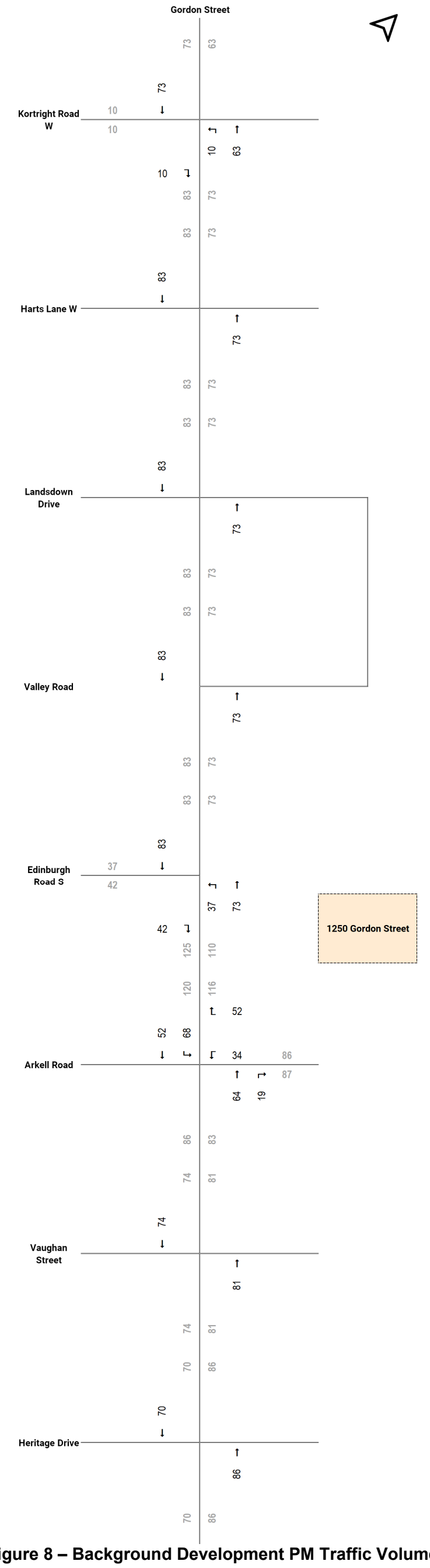

Figure 8 – Background Development PM Traffic Volumes

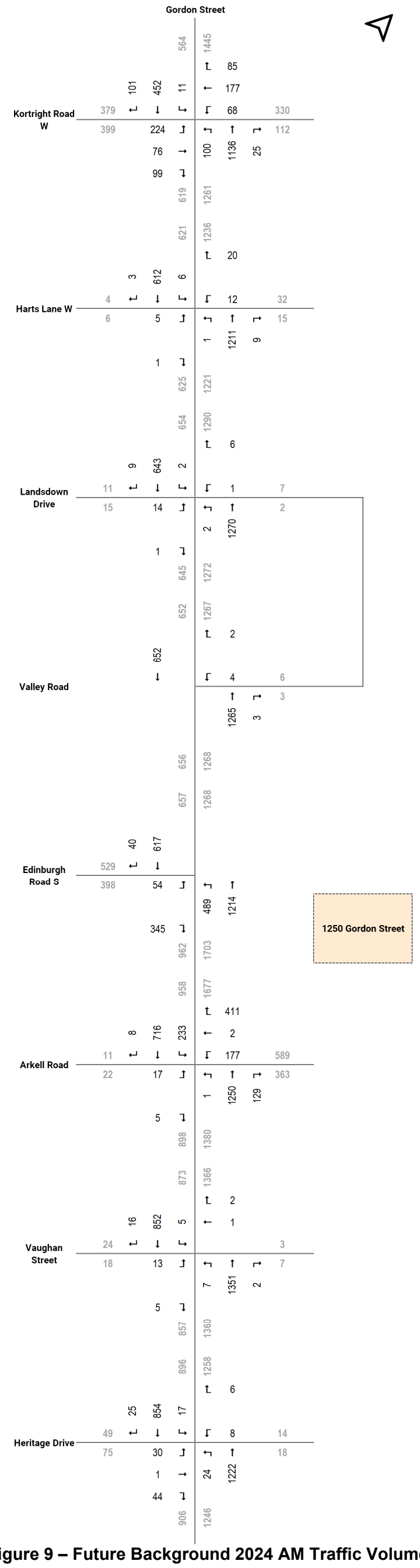

Figure 9 – Future Background 2024 AM Traffic Volumes

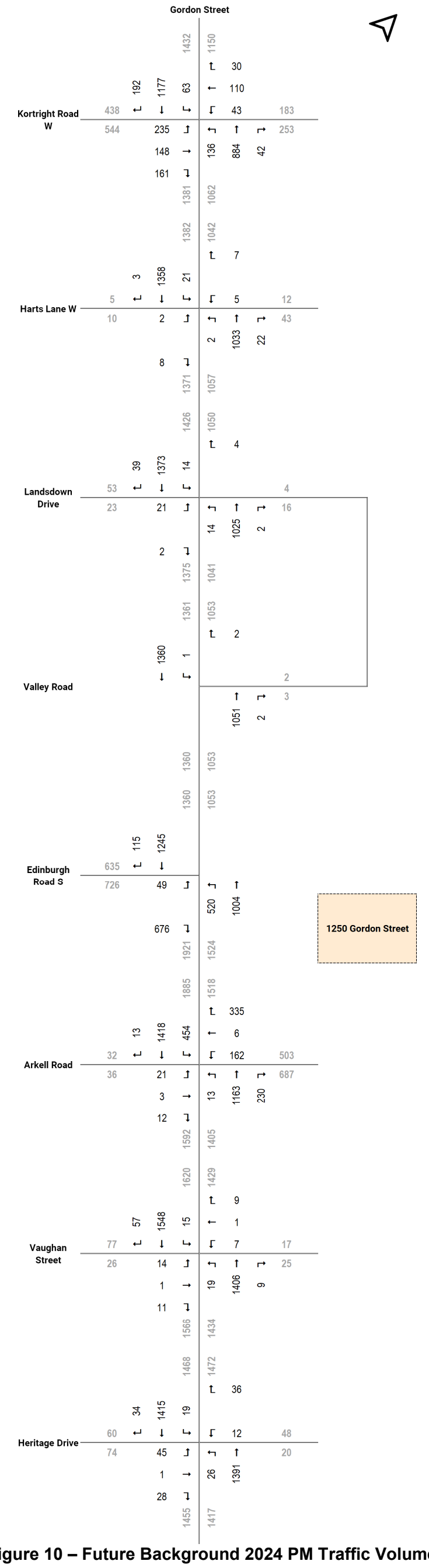

Figure 10 – Future Background 2024 PM Traffic Volumes

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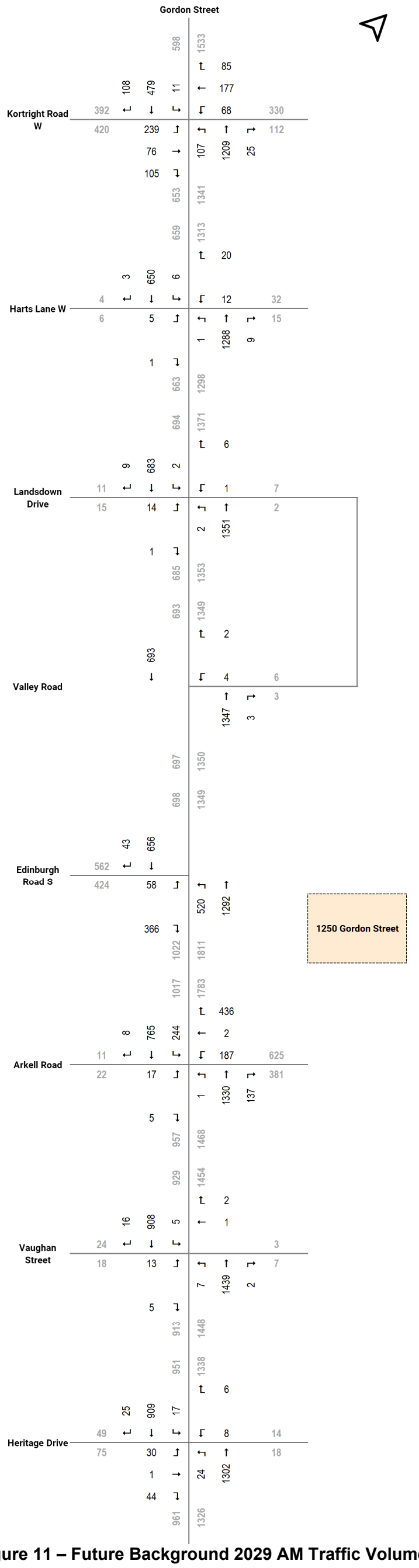

Figure 11 – Future Background 2029 AM Traffic Volumes

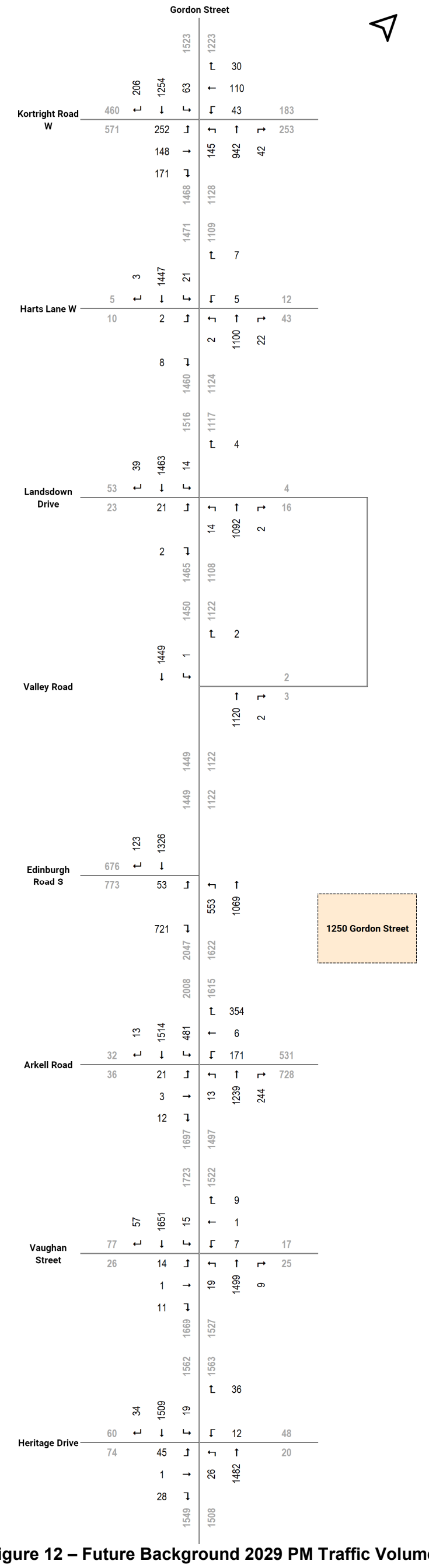

Figure 12 – Future Background 2029 PM Traffic Volumes

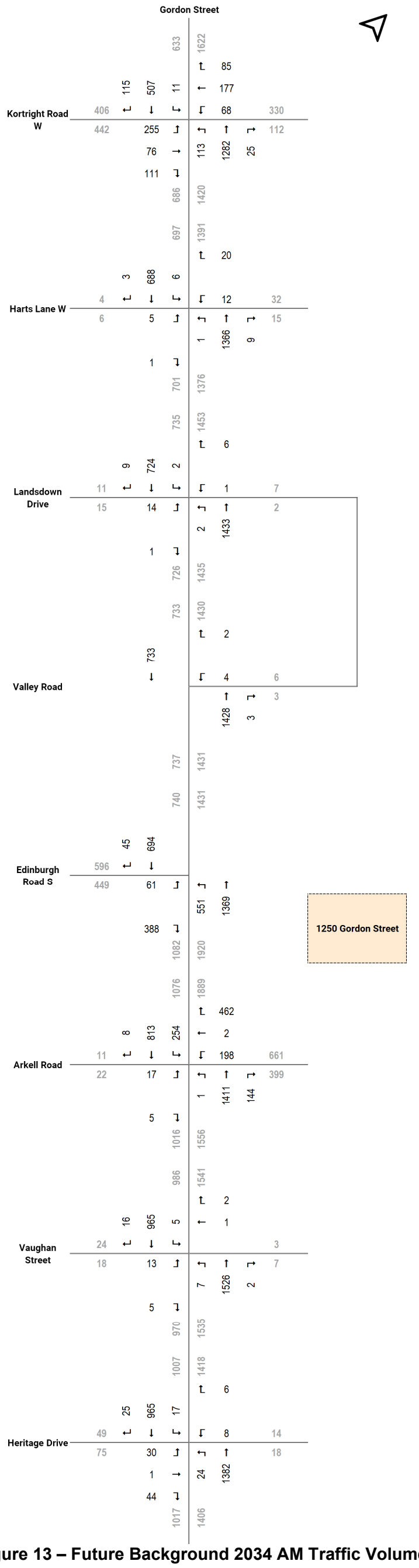

Figure 13 – Future Background 2034 AM Traffic Volumes

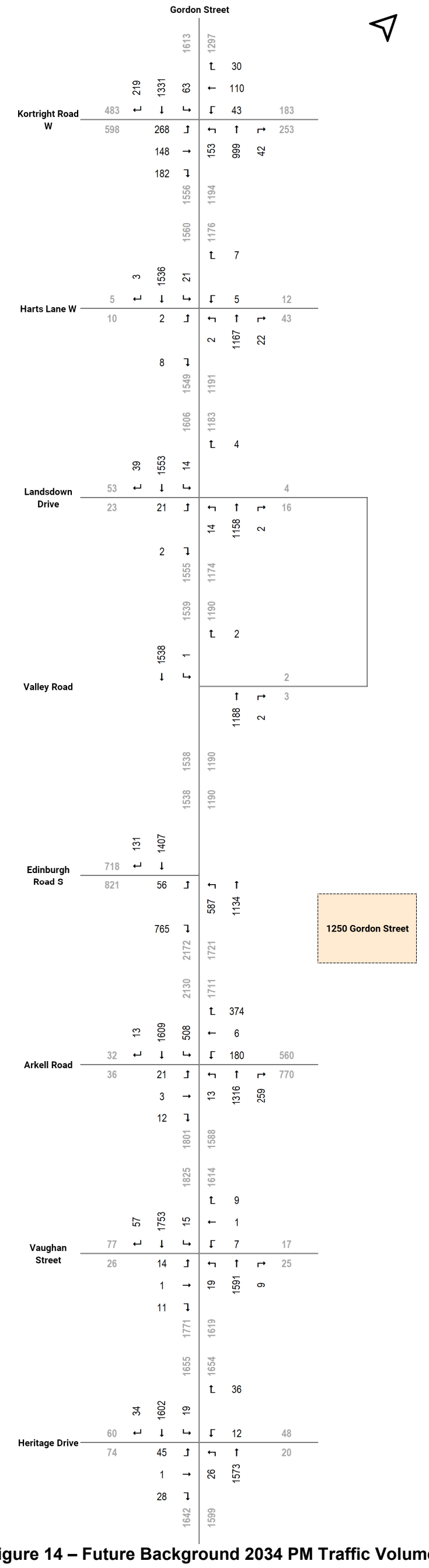

Figure 14 – Future Background 2034 PM Traffic Volumes

4.3 SITE TRIP GENERATION

The number of vehicular trips generated by the proposed development is estimated using information contained in the Institute of Transportation Engineers (ITE) publication, "Trip Generation, 10th Edition". Specifically, the AM and PM peak hour trips are estimated using the trip generation formulae for "Multifamily Housing (Low-Rise)" (ITE land use code #220) for the townhouse units, and "Multifamily Housing (High-Rise)" (ITE land use code #222) for the apartment units. It is noted that for the purpose of this study, the trip generation is based on a former iteration of the site plan which included 9 townhomes and 368 apartment units as shown in Table 4, resulting in 121 and 141 two-way trips during the AM and PM peak hours, respectively. The revised site plan illustrated in Figure 2 reflects a new reduced unit count of 325 apartment units as shown in Table 5.

With the revised unit count, the overall net reduction in auto trips is 17 two-way trips and 22 two-way trips during the AM and PM peak hours, respectively. As the reduction in trips is minimal and is not anticipated to alter the analysis findings, the retained initial trip generation estimate in Table 4 represents a slightly conservative analysis during the AM and PM peak hours that were used in this assessment.

The site generated trips are summarized in Table 4.

Table 4 - Site Trip Generation (based on an initial plan that was carried over in the study)

Category	Units	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Land Use Code #220 Multifamily Housing (Low-Rise)	9 DU	100%	23%	77%	100%	63%	37%
		5	1	4	7	4	3
Land Use Code #222 Multifamily Housing (High-Rise)	368 DU	100%	24%	76%	100%	61%	39%
		116	28	88	134	82	52
Total Trips		*121*	*29*	*92*	*141*	*86*	*55*

Equations:
LUC #220 AM: Ln(T) = 0.95 Ln(X) - 0.51
LUC #220 PM: Ln(T) = 0.89 Ln(X) - 0.02
LUC #222 AM: T = 0.28(X) + 12.86
LUC #222 PM: T = 0.34(X) + 8.56

Table 5 - Site Trip Generation (based on revised site plan)

Category	Units	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Land Use Code #222 Multifamily Housing (High-Rise)	325 DU	100%	24%	76%	100%	61%	39%
		104	25	79	119	73	46
Net Difference		***-17***	***-4***	***-13***	***-22***	***-13***	***-9***

Equations:
LUC #222 AM: T = 0.28(X) + 12.86
LUC #222 PM: T = 0.34(X) + 8.56

4.4 SITE TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of site generated trips for the proposed development is based on the existing travel patterns from the collected turning movement counts. The total volumes entering and exiting the study area during the AM and PM peak hours is used to calculate the inbound and outbound proportions. As with the nearby development and background growth, the site trips are not assigned to local residential roadways in the study area, namely:

- Kortright Road East (east of Gordon Street);
- Harts Lane East;
- Landsdown Drive;
- Valley Road;
- Arkell Road (west of Gordon Street);
- Vaughan Street; and
- Heritage Drive.

The trip distribution is summarized in **Table 6**. The extension of Landsdown Drive will be completed alongside the proposed development and will accommodate site generated traffic. Assigned trip volumes are summarized in Figure 15 and Figure 16.

Table 6 - Site Trip Distribution

To / From	Roadway	AM Peak Hour		PM Peak Hour	
		Inbound	Outbound	Inbound	Outbound
North	Gordon Street	17%	41%	31%	26%
East	Arkell Road	17%	8%	10%	14%
South	Gordon Street	41%	26%	31%	36%
West	Kortright Road W	13%	12%	13%	10%
	Edinburgh Road S	12%	14%	16%	14%
	Total	*100%*	*100%*	*100%*	*100%*

4.5 FUTURE TOTAL TRAFFIC

The future background traffic was combined with the net increase in subject site traffic to determine the total traffic volumes for the 2024, 2029, and 2034 horizon years. The forecasted future total traffic volumes are illustrated in Figure 17 through Figure 22.

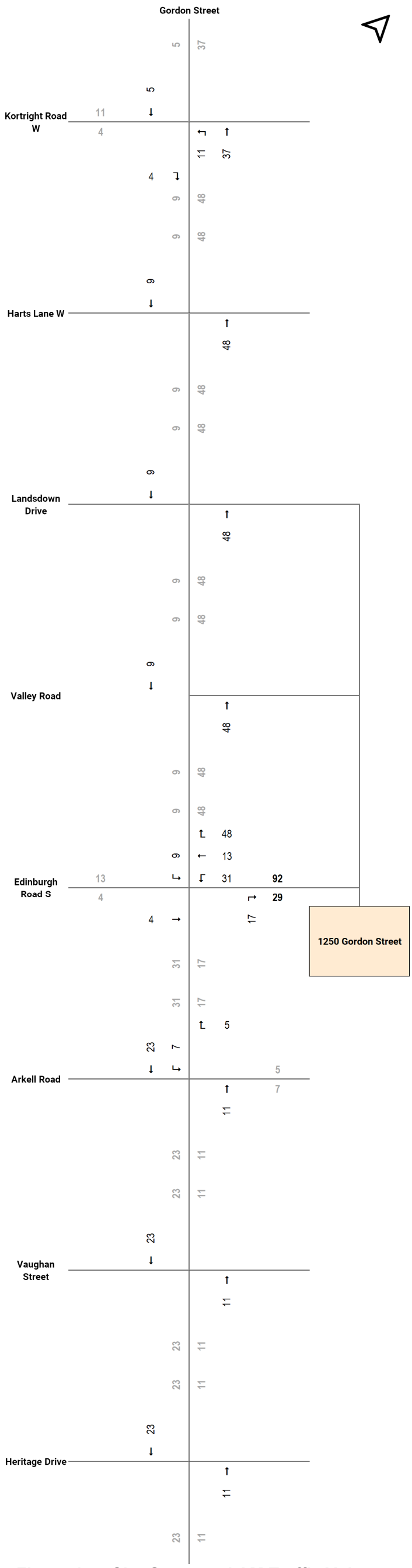

Figure 15 – Site Generated AM Traffic Volumes

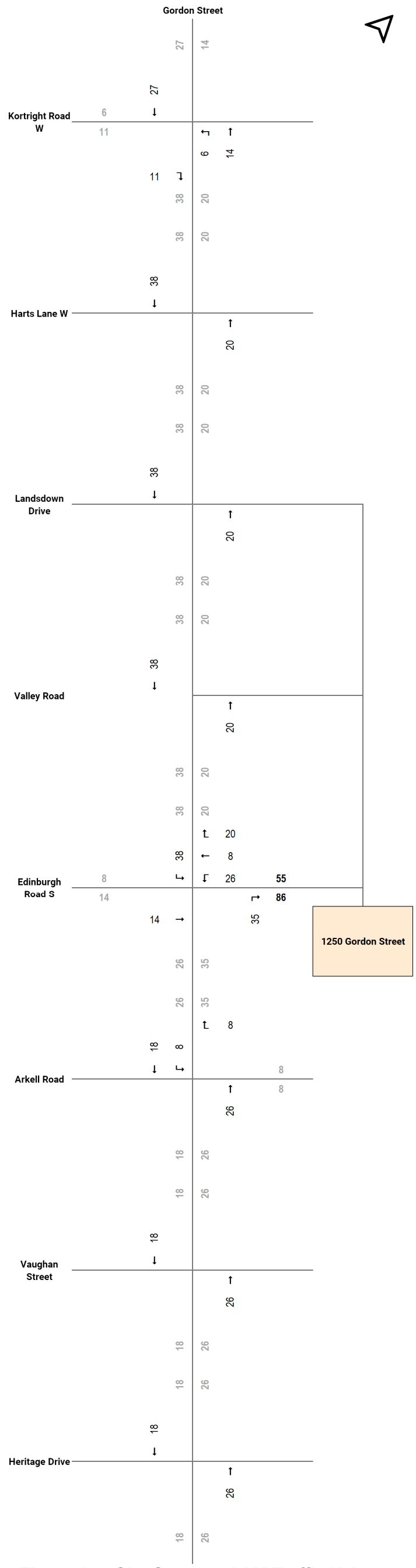

Figure 16 – Site Generated AM Traffic Volumes

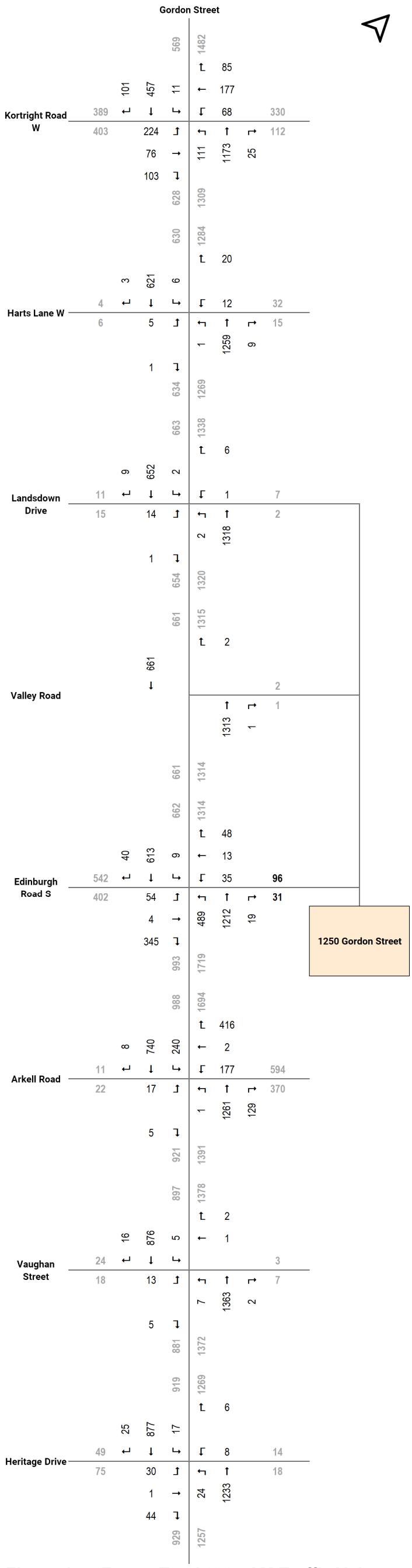

Figure 17 – Future Total 2024 AM Traffic Volumes

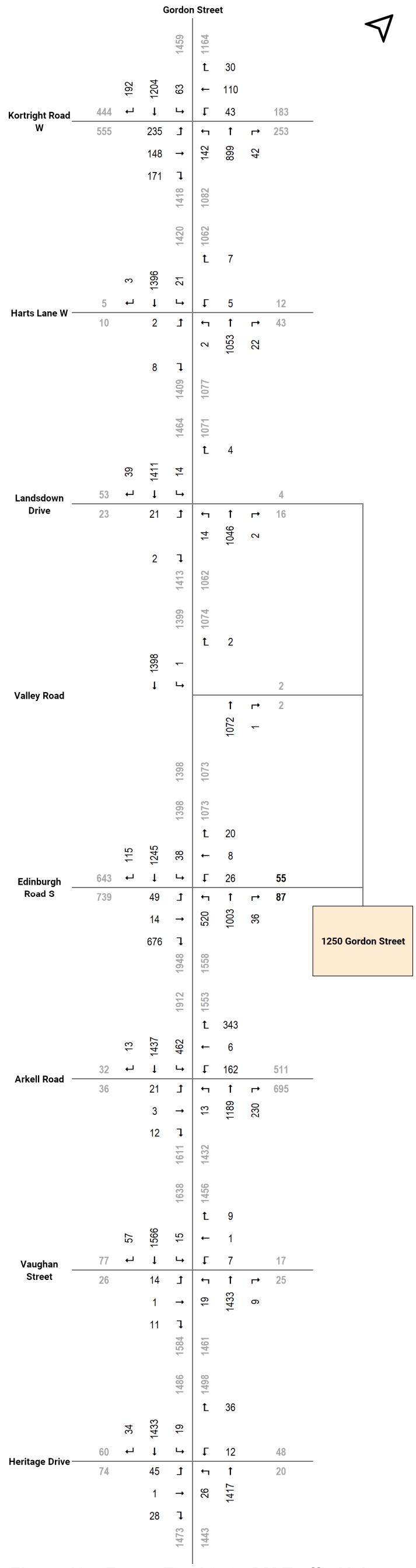

Figure 18 – Future Total 2024 PM Traffic Volumes

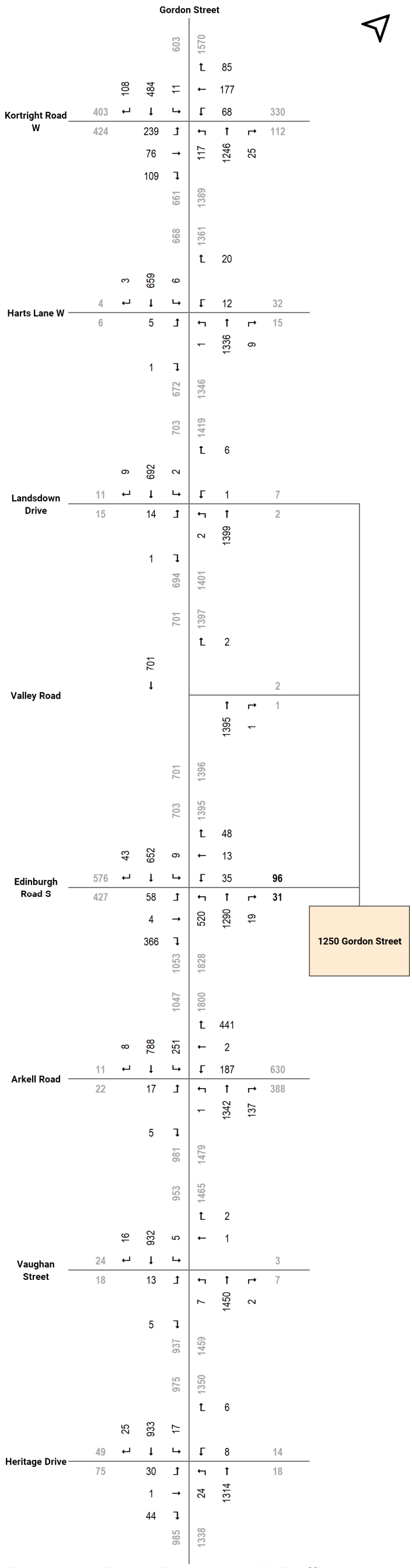

Figure 19 – Future Total 2029 AM Traffic Volumes

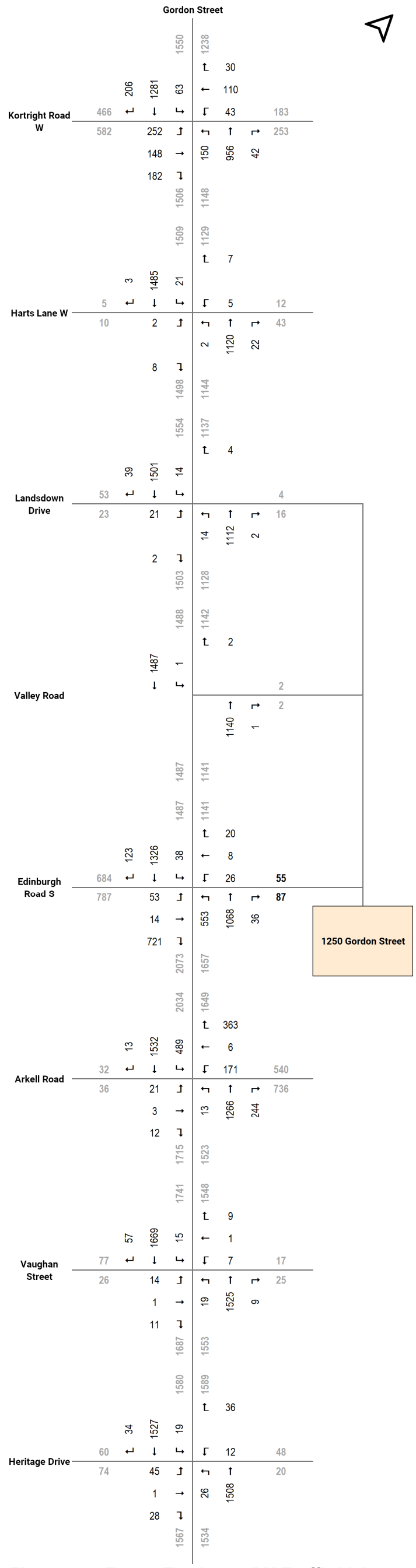

Figure 20 – Future Total 2029 PM Traffic Volumes

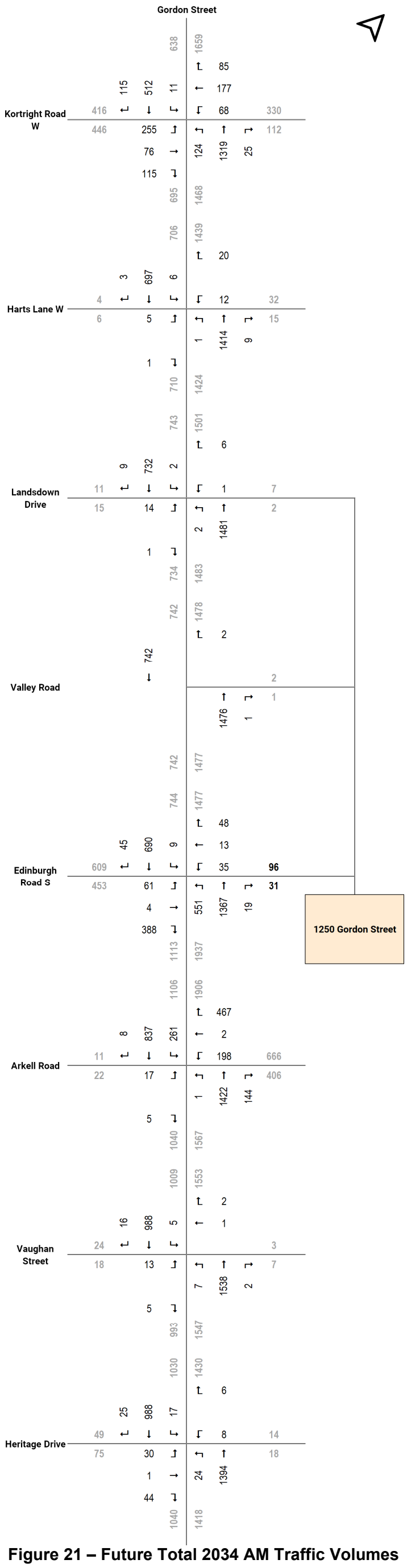

Figure 21 – Future Total 2034 AM Traffic Volumes

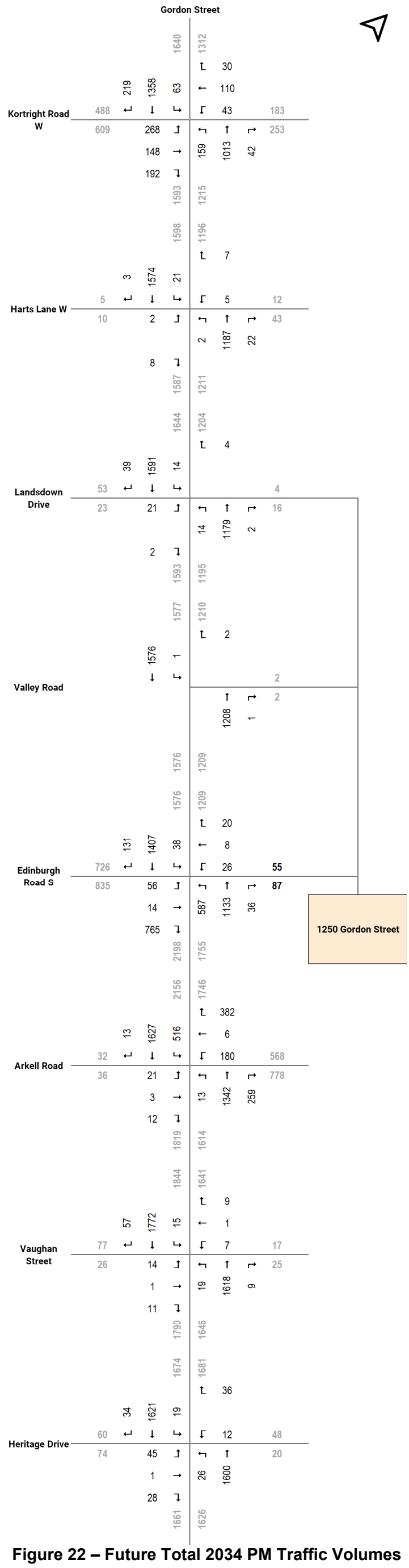

Figure 22 – Future Total 2034 PM Traffic Volumes

5.0 TRANSPORTATION IMPACT ASSESSMENT

5.1 FUTURE BACKGROUND TRAFFIC OPERATIONS

A level of service analysis was undertaken to assess the operating conditions for the future weekday AM and PM peak hour total traffic forecasts for the 2024, 2029, and 2034 horizon years.

5.1.1 2024 Future Background Conditions

The same methodology, lane arrangements (with the addition of a centre left turn lane along Gordon Street), and traffic control devices used in the analysis of existing conditions are applied to the 2024 future background conditions. The 2024 future background conditions are summarized in **Table 7** with the Synchro analysis outputs provided for reference in **Appendix D**. The following impacts and deficiencies have been identified as a result of the nearby developments and future background traffic growth:

- **Gordon Street & Kortright Road:** The eastbound left deficiency becomes slightly exacerbated as a result of the future background traffic growth, resulting in a LOS of “E” and V/C ratio of 0.92.

- **Gordon Street & Landsdown Drive:** The existing LOS “F” deficiency is improved to a LOS of “E” as a result of the introduction of the centre left turn lane along Gordon Street.

- **Gordon Street & Edinburgh Road:** The intersection experiences exacerbated conditions as a result of the background growth. The eastbound right and southbound through/right movements are forecasted to operate at-capacity and at LOS “F” and LOS “E”, respectively.

  It is recommended to increase the cycle length to 120 seconds during the PM peak hour to better accommodate the increased traffic volumes at the intersection and to bring the overall intersection within capacity. To allow for signal coordination, it is also recommended to increase the cycle lengths at other intersections to 120 seconds during the PM peak hour. Deficiencies are expected to remain following the increase in cycle length, however, further improvement would require geometric improvements such as an additional eastbound right turning lane or a southbound right turning lane; the eastbound right turning lane is not recommended due to the construction of the future westbound approach to the intersection which would require split east-west phasing and further exacerbate the observed deficiencies. The auxiliary southbound right turn lane is not recommended at this time due to the utility works and impact on the adjacent bus stop; the following future background and future total scenarios will identify the impact of the horizon year growth and site generated traffic.

- **Gordon Street & Arkell Road:** The intersection experiences exacerbated conditions as a result of the background growth. Additional deficiencies are noted on the northbound through/right and overall intersection volume to capacity ratios during the AM peak hour. During the PM peak hour, the northbound through/right, southbound left, and overall intersection are forecasted to operate at-capacity, and the southbound left movement will operate with a LOS of “F”.

- **120 Second PM Peak Cycle Length:** The increase to a 120 second cycle length at the study area intersections during the PM peak hour will result in slight increases in delay on some movements at the periphery intersections, but will generally improve the delay and capacity utilization at the overall intersections, and bring the main intersections of Gordon Street with Edinburgh Road and Arkell Road within capacity. It is recommended to implement the 120 second cycle length to all intersections along the corridor during the PM peak hour to maintain the coordination between signals.

Table 7 - 2024 Future Background Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	68	0.92	73	D	43	0.78	60
	EBT	C	24	0.15	19	C	27	0.32	34
	EBR	C	24	0.07	10	C	26	0.13	14
	WBL	C	25	0.18	18	C	26	0.15	13
	WBTR	C	28	0.50	53	C	27	0.29	30
	NBL	B	17	0.21	26	C	35	0.63	39
	NBTR	C	26	0.63	123	C	23	0.53	95
	SBL	B	12	0.06	3	B	10	0.21	10
	SBTR	B	14	0.32	44	C	24	0.83	169
	Overall	C	27	0.72	-	C	26	0.79	-
	With Improvements: 120 Second Cycle Length & Optimized Splits								
	EBL	-	-	-	-	E	69	0.88	90
	EBT	-	-	-	-	D	38	0.34	46
	EBR	-	-	-	-	D	35	0.14	18
	WBL	-	-	-	-	D	36	0.16	17
	WBTR	-	-	-	-	D	37	0.32	42
	NBL	-	-	-	-	C	29	0.62	37
	NBTR	-	-	-	-	B	11	0.47	73
	SBL	-	-	-	-	B	11	0.20	11
	SBTR	-	-	-	-	C	23	0.75	180
	Overall	-	-	-	-	C	25	0.77	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	C	17	0.02	0	C	20	0.04	1
	WBLTR	C	22	0.14	4	C	18	0.05	1
	NBL	A	9	0.00	0	B	13	0.00	0
	NBTR	Unopposed Movement							
	SBL	B	12	0.01	0	B	11	0.04	1
	SBTR	Unopposed Movement							

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	C	16	0.05	1	E	48	0.23	6
	WBLTR	B	13	0.02	0	B	12	0.01	0
	NBL	A	9	0.00	0	B	14	0.03	1
	NBTR	Unopposed Movement							
	SBL	B	11	0.00	0	B	11	0.02	1
	SBTR	Unopposed Movement							
Gordon Street & Valley Road *Unsignalized*	WBLR	C	18	0.02	1	B	11	0.00	0
	NBTR	Unopposed Movement							
	SBL	-	-	-	-	B	11	0.00	0
	SBT	Unopposed Movement							
Gordon Street & Edinburgh Road *Signalized*	EBL	D	40	0.40	20	D	44	0.48	19
	EBR	C	25	0.52	45	F	88	1.09	201
	NBL	B	13	0.75	90	B	11	0.80	95
	NBT	B	11	0.52	120	A	7	0.40	85
	SBTR	B	19	0.44	68	E	67	1.05	177
	Overall	B	15	0.75	-	D	46	1.07	-
	With Improvements: 120 Second Cycle Length & Optimized Splits								
	EBL	-	-	-	-	E	56	0.46	24
	EBR	-	-	-	-	E	71	1.02	239
	NBL	-	-	-	-	C	34	0.77	131
	NBT	-	-	-	-	A	6	0.38	66
	SBTR	-	-	-	-	F	81	1.02	229
	Overall	-	-	-	-	C	34	0.97	-
Gordon Street & Arkell Road *Signalized*	EBL	C	32	0.23	9	C	33	0.27	10
	EBTR	A	<1	0.00	<1	C	30	0.02	5
	WBL	D	47	0.76	53	D	45	0.72	46
	WBTR	D	42	0.70	68	C	33	0.35	29
	NBL	A	<1	0.00	<1	B	13	0.10	1
	NBTR	C	28	0.92	188	D	51	1.02	180
	SBL	D	54	0.82	59	F	81	1.09	90
	SBTR	A	4	0.35	24	A	5	0.65	47
	Overall	C	27	0.86	-	D	35	1.05	-
	With Improvements: 120 Second Cycle Length & Optimized Splits								
	EBL	-	-	-	-	D	49	0.36	13
	EBTR	-	-	-	-	D	43	0.02	7
	WBL	-	-	-	-	E	77	0.85	72
	WBTR	-	-	-	-	D	45	0.28	30

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
	NBL	-	-	-	-	B	19	0.09	3
	NBTR	-	-	-	-	D	45	0.97	224
	SBL	-	-	-	-	D	54	0.97	98
	SBTR	-	-	-	-	A	8	0.60	73
	Overall	-	-	-	-	C	34	0.97	-
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	16	0.05	1	D	26	0.14	4
	WBLTR	C	18	0.01	0	C	22	0.07	2
	NBL	B	11	0.01	0	B	14	0.05	1
	NBTR	Unopposed Movement							
	SBL	B	12	0.01	0	B	13	0.03	1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	D	42	0.41	17
	EBTR	D	39	0.04	10	D	38	0.03	8
	WBLTR	D	39	0.01	2	D	39	0.12	12
	NBL	A	2	0.06	3	A	3	0.12	4
	NBTR	A	4	0.46	47	A	4	0.51	61
	SBL	A	4	0.06	3	A	4	0.08	1
	SBTR	A	5	0.33	43	A	6	0.54	69
	Overall	A	6	0.45	-	A	6	0.52	-
	With Improvements: 120 Second Cycle Length & Optimized Splits								
	EBL	-	-	-	-	E	56	0.40	22
	EBTR	-	-	-	-	D	52	0.03	9
	WBLTR	-	-	-	-	D	53	0.14	14
	NBL	-	-	-	-	A	3	0.11	4
	NBTR	-	-	-	-	A	4	0.48	63
	SBL	-	-	-	-	A	1	0.07	1
	SBTR	-	-	-	-	A	2	0.51	24
	Overall	-	-	-	-	A	5	0.50	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

5.1.2 2029 Future Background Conditions

The same methodology, lane arrangements, and traffic control devices used in the analysis of future background 2024 conditions are applied to the 2029 future background conditions, including the recommended improvements in the future background 2024 scenario (increase in cycle length to 120 seconds during the PM peak hour). The 2029 future background conditions are summarized in **Table 8** with the Synchro analysis outputs provided for reference in **Appendix D**. The following impacts and deficiencies have been identified as a result of the future background traffic growth:

- **Gordon Street & Kortright Road:** The eastbound left deficiency noted during the AM peak hour is forecasted to become slightly exacerbated and the movement will also become deficient during the PM peak hour as a result of background traffic growth.
- **Gordon Street & Landsdown Drive:** The eastbound left/through/right movement will become further exacerbated, increasing from a LOS of “E” in the 2024 PM peak hour to a LOS of “F” in the 2029 PM peak hour due to the reduced availability of acceptable gaps in the major roadway flows.
- **Gordon Street & Edinburgh Road:** The intersection will experience increased deficiencies during the PM peak hour, with the eastbound left movement increasing in delay to a LOS of “E”, the southbound through/right increasing from a LOS of “E” to a LOS of “F”, and the overall intersection operating at a LOS of “E”.
- **Gordon Street & Arkell Road:** The deficiencies on the northbound through/right, southbound left, and overall intersection noted in the future background 2024 conditions will become exacerbated and exceed the available capacity. It is recommended to consider implementing a northbound right turn lane to accommodate the relatively high right turning volumes and to separate the mixed through and right turning vehicles to improve the efficiency of the northbound through movement.
- **Gordon Street & Heritage Drive:** The eastbound left movement increases to a LOS of “E”; however, the movement operates on the low end of LOS “E” and would not improve significantly with an increase in the time allocated to the east-west signal phases.

Table 8 - 2029 Future Background Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	68	0.93	79	E	70	0.90	99
	EBT	C	24	0.14	19	D	36	0.32	46
	EBR	C	23	0.07	11	C	35	0.17	22
	WBL	C	24	0.18	18	C	35	0.16	17
	WBTR	C	27	0.48	53	D	36	0.30	42
	NBL	B	18	0.24	28	D	46	0.73	47
	NBTR	C	28	0.68	133	B	11	0.51	77
	SBL	B	13	0.07	3	B	12	0.22	11
	SBTR	B	15	0.35	47	C	27	0.82	201
	Overall	C	28	0.76	-	C	28	0.83	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	C	18	0.02	1	C	22	0.05	1
	WBLTR	C	24	0.16	4	C	20	0.05	1
	NBL	A	9	0.00	0	B	14	0.00	0

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
	NBTR	Unopposed Movement							
	SBL	B	13	0.01	0	B	12	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	C	16	0.05	1	F	57	0.26	7
	WBLTR	B	13	0.02	0	B	13	0.01	0
	NBL	A	9	0.00	0	B	14	0.04	1
	NBTR	Unopposed Movement							
	SBL	B	12	0.00	0	B	11	0.02	1
	SBTR	Unopposed Movement							
Gordon Street & Valley Road *Unsignalized*	WBLR	C	19	0.02	1	B	11	0.00	0
	NBTR	Unopposed Movement							
	SBL	-	-	-	-	B	11	0.00	0
	SBT	Unopposed Movement							
Gordon Street & Edinburgh Road *Signalized*	EBL	D	40	0.42	21	E	57	0.48	25
	EBR	C	22	0.52	53	F	92	1.08	264
	NBL	B	16	0.78	88	C	34	0.81	130
	NBT	B	11	0.55	120	A	7	0.41	66
	SBTR	C	23	0.52	73	F	105	1.09	254
	Overall	B	17	0.78	-	E	64	1.09	-
Gordon Street & Arkell Road *Signalized*	EBL	C	32	0.23	9	D	48	0.36	14
	EBTR	C	29	0.00	0	D	42	0.02	7
	WBL	D	48	0.78	60	F	81	0.88	77
	WBTR	D	48	0.79	80	D	45	0.30	32
	NBL	B	12	0.00	0	B	19	0.10	3
	NBTR	D	43	1.00	207	E	67	1.05	249
	SBL	E	57	0.83	64	E	57	1.01	97
	SBTR	A	4	0.38	27	A	9	0.64	73
	Overall	D	35	0.92	-	D	43	1.01	-
	With Improvements: Auxiliary Northbound Right Turn Lane								
	EBL	C	31	0.23	9	D	48	0.36	14
	EBTR	C	28	0.00	0	D	42	0.02	7
	WBL	D	43	0.74	60	F	81	0.88	78
	WBTR	E	66	0.91	97	D	45	0.30	32
	NBL	B	11	0.00	0	C	20	0.11	4
	NBT	C	26	0.89	167	C	35	0.88	191
	NBR	A	8	0.16	7	C	21	0.33	32
	SBL	E	69	0.90	73	D	47	0.98	95
	SBTR	A	5	0.39	27	A	10	0.64	81

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
	Overall	C	30	0.93	-	C	29	0.98	-
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	17	0.06	1	D	32	0.18	5
	WBLTR	C	18	0.01	0	D	25	0.09	2
	NBL	B	11	0.01	0	C	15	0.05	1
	NBTR	Unopposed Movement							
	SBL	B	13	0.0	0	B	14	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	E	56	0.40	22
	EBTR	D	39	0.04	10	D	52	0.03	9
	WBLTR	D	39	0.01	2	D	53	0.14	14
	NBL	A	2	0.06	3	A	3	0.12	4
	NBTR	A	4	0.49	52	A	4	0.52	70
	SBL	A	5	0.07	3	A	1	0.08	1
	SBTR	A	6	0.35	46	A	2	0.54	25
	Overall	A	6	0.48	-	A	5	0.53	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

5.1.3 2034 Future Background Conditions

The same methodology, lane arrangements, and traffic control devices used in the analysis of the future background 2029 conditions are applied to the 2034 future background conditions, including the recommended improvements in the future background 2029 scenario (increase to 120 second PM peak hour cycle length, and introduction of a northbound right turn lane at Gordon Street / Arkell Road). The 2034 future background conditions are summarized in **Table 9** with the Synchro analysis outputs provided for reference in **Appendix D**. The following impacts and deficiencies have been identified as a result of the future background traffic growth:

- **Gordon Street & Kortright Road:** The deficiencies identified under the future background 2029 conditions are slightly exacerbated during the AM and PM peak hours.
- **Gordon Street & Landsdown Drive:** The deficiency on the eastbound left/through/right movement during the PM peak hour will become slightly exacerbated, increasing from 57 seconds of delay to 68 seconds as a result of the limited availability of acceptable gaps in traffic along Gordon Street.
- **Gordon Street & Edinburgh Road:** The deficiencies identified in the future background 2029 conditions will become further exacerbated, pushing the overall intersection delay to a LOS of “F”. As noted previously, there is little opportunity to improve the intersection operations with geometric improvements on the eastbound approach due to the future extension, however, a southbound right turn lane may be considered.

- **Gordon Street & Arkell Road:** The deficiencies identified in the future background 2029 (with improvements) conditions will become slightly exacerbated, pushing the westbound left movement volume to capacity ratio above the acceptable threshold. The southbound left and overall intersection will operate at-capacity, however, alleviating the deficiencies may require additional geometric improvements for automobiles at the intersection which may impact other more vulnerable modes such as pedestrians and cyclists.

Table 9 - 2034 Future Background Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	69	0.94	85	E	73	0.92	108
	EBT	C	23	0.14	19	D	36	0.31	46
	EBR	C	22	0.07	11	C	34	0.21	26
	WBL	C	23	0.17	18	C	34	0.15	17
	WBTR	C	26	0.46	53	D	35	0.29	42
	NBL	B	19	0.27	30	D	50	0.77	53
	NBTR	C	31	0.74	142	B	13	0.55	85
	SBL	B	14	0.09	3	B	13	0.24	11
	SBTR	B	16	0.38	50	C	33	0.89	240
	Overall	C	29	0.81	-	C	31	0.89	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	C	18	0.02	1	C	24	0.05	1
	WBLTR	D	27	0.17	5	C	21	0.05	1
	NBL	A	9	0.00	0	B	15	0.01	0
	NBTR	Unopposed Movement							
	SBL	B	13	0.02	0	B	12	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	C	17	0.05	1	F	68	0.30	8
	WBLTR	B	13	0.02	0	B	13	0.01	0
	NBL	A	9	0.00	0	C	15	0.04	1
	NBTR	Unopposed Movement							
	SBL	B	12	0.00	0	B	11	0.03	1
	SBTR	Unopposed Movement							
Gordon Street & Valley Road *Unsignalized*	WBLR	C	20	0.02	1	B	12	0.00	0
	NBTR	Unopposed Movement							
	SBL	-	-	-	-	B	11	0.00	0
	SBT	Unopposed Movement							
Gordon Street & Edinburgh Road	EBL	D	40	0.44	22	E	57	0.50	26
	EBR	C	21	0.56	61	F	118	1.15	288

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Signalized	NBL	B	16	0.83	92	D	41	0.87	157
	NBT	B	11	0.58	124	A	7	0.43	76
	SBTR	C	26	0.58	77	F	132	1.16	279
	Overall	B	17	0.82	-	F	80	1.16	-
Gordon Street & Arkell Road *Signalized*	EBL	C	30	0.23	9	D	48	0.36	14
	EBTR	C	27	0.00	0	D	42	0.02	7
	WBL	D	41	0.73	66	F	87	0.91	83
	WBTR	E	74	0.96	109	D	45	0.31	32
	NBL	B	12	0.00	0	C	22	0.12	3
	NBT	D	38	0.98	184	D	46	0.97	211
	NBR	A	9	0.17	8	C	22	0.36	35
	SBL	E	74	0.92	77	D	51	1.00	93
	SBTR	A	5	0.42	29	B	11	0.68	81
	Overall	D	37	0.97	-	C	33	1.00	-
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	17	0.06	1	E	37	0.20	5
	WBLTR	C	19	0.01	0	D	28	0.10	2
	NBL	B	11	0.01	0	C	17	0.06	2
	NBTR	Unopposed Movement							
	SBL	B	14	0.01	0	B	14	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	E	56	0.40	22
	EBTR	D	39	0.04	10	D	52	0.03	9
	WBLTR	D	39	0.01	2	D	53	0.14	14
	NBL	A	2	0.07	3	A	3	0.14	4
	NBTR	A	4	0.52	58	A	4	0.55	78
	SBL	A	5	0.07	2	A	2	0.09	0
	SBTR	A	6	0.37	50	A	2	0.57	25
	Overall	A	6	0.51	-	A	5	0.56	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

5.2 FUTURE TOTAL TRAFFIC OPERATIONS

A level of service analysis was undertaken to assess the operating conditions for the future weekday AM and PM peak hour total traffic forecasts for the 2024, 2029, and 2034 horizon years, including the optimizations and improvements recommended as part of the future background conditions analysis. The future total analysis includes the addition of site generated traffic and the proposed site accesses, including the extension of Edinburgh Road to Landsdown Drive.

5.2.1 2024 Future Total Conditions

The same methodology, parameters, lane arrangements, and traffic control devices used in the analysis of future background conditions are applied to the 2024 future total conditions, including the recommended improvements of increasing the signal cycle lengths to 120 seconds during the PM peak hour.

The 2024 future total conditions are summarized in **Table 10** with the Synchro analysis outputs provided for reference in **Appendix D**. The following impacts and deficiencies have been identified as a result of the site generated traffic:

- **Gordon Street & Landsdown Drive:** The eastbound left/through/right movement during the PM peak hour experiences slightly exacerbated conditions, increasing from a LOS of “E” (48 seconds) in the 2024 future background to a LOS of “F” (52 seconds).
- **Gordon Street & Edinburgh Road:** The intersection will experience slightly exacerbated conditions, increasing the overall intersection volume to capacity ratio from 0.97 in the 2024 future background to 1.01 in the 2024 future total conditions.
- **Gordon Street & Arkell Road:** The southbound left turning movement will experience exacerbated conditions, increasing from a LOS of “D” (54 seconds) to a LOS of “E” (56 seconds) during the AM and PM peak hours. The northbound through/right movement is shown to reach capacity, operating with a V/C ratio of 1.00.
- Based on the analysis findings, the proposed site generated traffic is anticipated to have a minor impact on the projected traffic operations at the study area intersections relative to the background conditions.

Table 10 - 2024 Future Total Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	68	0.92	73	E	69	0.88	90
	EBT	C	24	0.15	19	D	38	0.34	46
	EBR	C	24	0.07	10	D	36	0.17	22
	WBL	C	25	0.18	18	D	36	0.16	17
	WBTR	C	28	0.50	53	D	37	0.32	42

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
	NBL	B	17	0.24	28	C	32	0.66	40
	NBTR	C	26	0.65	127	B	11	0.48	74
	SBL	B	12	0.06	3	B	11	0.20	11
	SBTR	B	15	0.33	44	C	24	0.76	186
	Overall	C	27	0.74	-	C	25	0.79	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	C	17	0.02	1	C	21	0.05	1
	WBLTR	C	23	0.15	4	C	19	0.05	1
	NBL	A	9	0.00	0	B	13	0.00	0
	NBTR	Unopposed Movement							
	SBL	B	12	0.01	0	B	11	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	C	16	0.05	1	F	52	0.24	7
	WBLTR	B	13	0.02	0	B	12	0.01	0
	NBL	A	9	0.00	0	B	14	0.04	1
	NBTR	Unopposed Movement							
	SBL	B	12	0.00	0	B	11	0.02	1
	SBTR	Unopposed Movement							
Gordon Street & Valley Road *Unsignalized*	WBLR	B	11	0.00	0	B	11	0.00	0
	NBTR	Unopposed Movement							
	SBL	-	-	-	-	B	11	0.00	0
	SBT	Unopposed Movement							
Gordon Street & Edinburgh Road *Signalized*	EBLT	D	44	0.55	21	E	64	0.62	29
	EBR	C	25	0.52	45	E	74	1.02	236
	WBLTR	D	39	0.37	22	D	51	0.27	20
	NBL	B	15	0.77	89	D	36	0.81	129
	NBTR	B	12	0.53	124	A	7	0.40	71
	SBL	B	14	0.05	4	D	36	0.20	13
	SBTR	B	18	0.43	68	E	76	1.01	229
	Overall	B	17	0.77	-	D	50	1.01	-
Gordon Street & Arkell Road *Signalized*	EBL	C	32	0.23	9	D	49	0.36	13
	EBTR	C	29	0.00	0	D	43	0.02	7
	WBL	D	47	0.76	54	E	77	0.85	72
	WBTR	D	43	0.73	71	D	45	0.29	31
	NBL	B	10	0.00	0	B	19	0.09	3
	NBTR	C	29	0.93	191	D	52	1.00	231
	SBL	E	56	0.83	63	E	56	0.97	106
	SBTR	A	4	0.36	26	A	8	0.61	80
	Overall	C	28	0.87	-	D	36	0.97	-

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	16	0.06	1	D	29	0.16	4
	WBLTR	C	18	0.01	0	C	24	0.08	2
	NBL	B	11	0.01	0	B	14	0.05	1
	NBTR	Unopposed Movement							
	SBL	B	13	0.01	0	B	13	0.03	1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	E	56	0.40	22
	EBTR	D	39	0.04	10	D	52	0.03	9
	WBLTR	D	39	0.01	2	D	53	0.14	14
	NBL	A	2	0.06	3	A	3	0.11	4
	NBTR	A	4	0.47	48	A	4	0.49	65
	SBL	A	4	0.06	3	A	1	0.07	0
	SBTR	A	5	0.34	44	A	2	0.51	24
	Overall	A	6	0.46	-	A	5	0.50	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

5.2.2 2029 Future Total Conditions

The same methodology, parameters, lane arrangements, and traffic control devices used in the analysis of future background conditions are applied to the 2029 future total conditions, including the recommended improvements of increasing the signal cycle lengths to 120 seconds during the PM peak hour and introducing an auxiliary northbound right turn lane at the intersection of Gordon Street / Arkell Road.

The 2029 future total conditions are summarized in **Table 11** with the Synchro analysis outputs provided for reference in **Appendix D**. The conditions of the study area intersections are similar to those observed in the 2029 future background conditions, although slightly exacerbated with the addition of site generated trips. No additional deficiencies result from the addition of site generated trips.

Table 11 - 2029 Future Total Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	68	0.93	79	E	70	0.90	99
	EBT	C	24	0.14	19	D	36	0.32	46
	EBR	C	23	0.07	11	D	35	0.21	26
	WBL	C	24	0.18	18	C	35	0.16	17
	WBTR	C	27	0.48	53	D	36	0.30	42

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
	NBL	B	18	0.26	32	D	46	0.76	50
	NBTR	C	30	0.70	145	B	13	0.52	82
	SBL	B	14	0.08	3	B	12	0.22	11
	SBTR	B	16	0.36	47	C	28	0.84	211
	Overall	C	29	0.78	-	C	28	0.85	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	C	18	0.02	1	C	23	0.05	1
	WBLTR	D	26	0.17	4	C	20	0.05	1
	NBL	A	9	0.00	0	B	14	0.01	0
	NBTR	Unopposed Movement							
	SBL	B	13	0.02	0	B	12	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	C	16	0.05	1	F	61	0.27	8
	WBLTR	B	13	0.02	0	B	12	0.01	0
	NBL	A	9	0.00	0	B	15	0.04	1
	NBTR	Unopposed Movement							
	SBL	B	12	0.00	0	B	11	0.02	1
	SBTR	Unopposed Movement							
Gordon Street & Valley Road *Unsignalized*	WBLR	B	11	0.00	0	B	11	0.00	0
	NBTR	Unopposed Movement							
	SBL	-	-	-	-	B	11	0.00	0
	SBT	Unopposed Movement							
Gordon Street & Edinburgh Road *Signalized*	EBLT	D	45	0.57	23	E	62	0.61	30
	EBR	C	22	0.53	53	F	88	1.07	260
	WBLTR	D	39	0.36	22	D	52	0.30	20
	NBL	B	18	0.80	94	D	42	0.85	168
	NBTR	B	11	0.57	134	A	7	0.43	83
	SBL	B	17	0.06	4	D	36	0.22	12
	SBTR	C	23	0.51	73	F	104	1.09	253
	Overall	B	18	0.80	-	E	64	1.08	-
Gordon Street & Arkell Road *Signalized*	EBL	C	31	0.23	9	D	48	0.36	14
	EBTR	C	28	0.00	0	D	42	0.02	7
	WBL	D	43	0.73	60	F	81	0.88	77
	WBTR	E	68	0.93	99	D	45	0.30	32
	NBL	B	10	0.00	0	C	20	0.11	3
	NBT	C	27	0.90	169	D	37	0.91	197
	NBR	A	9	0.16	7	C	21	0.33	33
	SBL	E	73	0.92	76	D	47	0.98	98
	SBTR	A	5	0.40	30	B	10	0.65	87

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
	Overall	C	31	0.95	-	C	30	0.98	-
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	17	0.06	1	D	33	0.18	5
	WBLTR	C	19	0.01	0	D	26	0.09	2
	NBL	B	11	0.01	0	C	16	0.06	1
	NBTR	Unopposed Movement							
	SBL	B	13	0.01	0	B	14	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	E	56	0.40	22
	EBTR	D	39	0.04	10	D	52	0.03	9
	WBLTR	D	39	0.01	2	D	53	0.14	14
	NBL	A	2	0.06	3	A	3	0.12	4
	NBTR	A	4	0.50	53	A	4	0.52	72
	SBL	A	4	0.07	2	A	2	0.08	0
	SBTR	A	5	0.36	47	A	2	0.54	24
	Overall	A	6	0.48	-	A	5	0.53	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

5.2.3 2034 Future Total Conditions

The same methodology, parameters, lane arrangements, and traffic control devices used in the analysis of future background conditions are applied to the 2034 future total conditions, including the recommended improvements of increasing the signal cycle lengths to 120 seconds during the PM peak hour and introducing an auxiliary northbound right turn lane at the intersection of Gordon Street / Arkell Road.

The 2034 future total conditions are summarized in **Table 12** with the Synchro analysis outputs provided for reference in **Appendix D**. The following impacts and deficiencies have been identified as a result of the site generated traffic:

- **Gordon Street & Edinburgh Road:** The northbound left turning movement is expected to experience exacerbated conditions, increasing from a volume to capacity ratio of 0.87 in the 2034 future background PM peak hour to a 0.92 in the 2034 future total PM peak hour.

- **Gordon Street & Arkell Road:** The northbound through movement is shown to reach capacity during the AM peak hour, increasing from a volume to capacity ratio of 0.98 to a 1.00. The southbound left movement will increase from a LOS of “D” to a LOS of “E” during the PM peak hour. It is noted that there is limited opportunity to improve the intersection operations through additional improvements, as a signal cycle length of 120 seconds during the PM peak hour, signal split optimization, and a northbound right turn lane has been added to the intersection in previous scenarios. Further mitigation of deficiencies may require widening of Gordon Street with

additional through lanes, as auxiliary lanes are proposed on the movement forecasted to experience high turning volumes.

Table 12 - 2034 Future Total Operational Conditions

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Kortright Road *Signalized*	EBL	E	69	0.94	85	E	73	0.92	108
	EBT	C	23	0.14	19	D	36	0.31	46
	EBR	C	22	0.08	11	C	35	0.23	29
	WBL	C	23	0.17	18	C	34	0.15	17
	WBTR	C	26	0.46	53	D	35	0.29	42
	NBL	B	19	0.29	31	D	51	0.79	56
	NBTR	C	32	0.76	160	B	13	0.55	89
	SBL	B	15	0.09	3	B	13	0.25	11
	SBTR	B	17	0.39	50	C	34	0.91	248
	Overall	C	30	0.82	-	C	31	0.90	-
Gordon Street & Harts Lane *Unsignalized*	EBLTR	C	19	0.02	1	C	25	0.06	1
	WBLTR	D	28	0.18	5	C	21	0.06	1
	NBL	A	9	0.00	0	B	15	0.01	0
	NBTR	Unopposed Movement							
	SBL	B	14	0.02	0	B	12	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Landsdown Drive *Unsignalized*	EBLTR	C	17	0.05	1	F	73	0.32	9
	WBLTR	B	13	0.02	0	B	12	0.01	0
	NBL	A	9	0.00	0	C	16	0.04	1
	NBTR	Unopposed Movement							
	SBL	B	13	0.00	0	B	11	0.03	1
	SBTR	Unopposed Movement							
Gordon Street & Valley Road *Unsignalized*	WBLR	B	11	0.00	0	B	11	0.00	0
	NBTR	Unopposed Movement							
	SBL	-	-	-	-	B	11	0.00	0
	SBT	Unopposed Movement							
Gordon Street & Edinburgh Road *Signalized*	EBLT	D	45	0.58	23	E	63	0.63	31
	EBR	C	21	0.55	61	F	122	1.16	287
	WBLTR	D	38	0.37	22	D	52	0.30	20
	NBL	B	18	0.85	95	D	48	0.92	172
	NBTR	B	12	0.60	129	A	8	0.46	80
	SBL	B	18	0.07	3	D	35	0.23	11
	SBTR	C	25	0.57	77	F	121	1.14	274
	Overall	B	19	0.85	-	E	77	1.15	-

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	95th Q	LOS	Delay	V/C	95th Q
Gordon Street & Arkell Road *Signalized*	EBL	C	30	0.23	9	D	48	0.36	14
	EBTR	C	27	0.00	0	D	42	0.02	7
	WBL	D	41	0.73	66	F	87	0.91	83
	WBTR	E	78	0.97	111	D	45	0.32	33
	NBL	B	12	0.00	0	C	22	0.12	3
	NBT	D	43	1.00	187	D	50	0.99	219
	NBR	A	9	0.18	8	C	22	0.37	35
	SBL	E	78	0.94	79	E	55	1.01	98
	SBTR	A	6	0.43	32	B	11	0.69	89
	Overall	D	39	0.98	-	D	35	1.02	-
Gordon Street & Vaughan Street/Private Driveway *Unsignalized*	EBLTR	C	17	0.06	1	E	38	0.20	6
	WBLTR	C	19	0.01	0	D	29	0.10	3
	NBL	B	11	0.01	0	C	17	0.06	2
	NBTR	Unopposed Movement							
	SBL	B	14	0.01	0	B	14	0.04	1
	SBTR	Unopposed Movement							
Gordon Street & Heritage Drive/Private Driveway *Signalized*	EBL	D	41	0.32	13	E	56	0.40	22
	EBTR	D	39	0.04	10	D	52	0.03	9
	WBLTR	D	39	0.01	2	D	53	0.14	14
	NBL	A	2	0.07	3	A	4	0.14	4
	NBTR	A	4	0.53	59	A	4	0.56	80
	SBL	A	4	0.07	2	A	2	0.09	0
	SBTR	A	5	0.38	50	A	2	0.58	25
	Overall	A	6	0.51	-	A	5	0.56	-

Notes: 95th percentile queues are reported in metres for signalized and unsignalized intersections.

6.0 GEOMETRIC CONSIDERATIONS

6.1 GORDON STREET / EDINBURGH ROAD CONCEPT PLAN

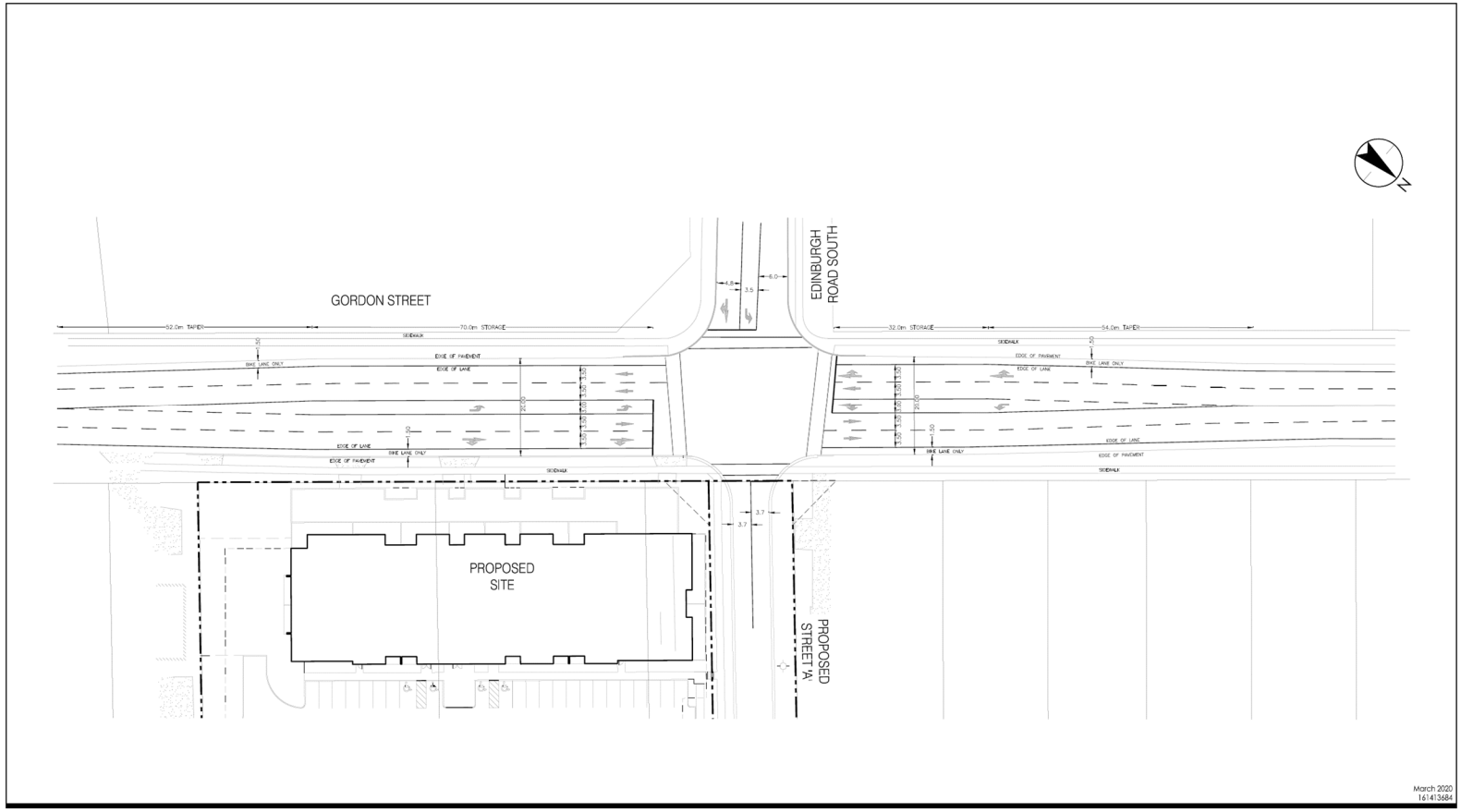

Figure 23 - Gordon Street / Edinburgh Road Concept Plan

6.2 TURNING MANEUVER ASSESSMENT

Turning maneuver templates for fire trucks, garbage trucks, and moving trucks were prepared using AutoTURN. The truck turning templates are attached in **Appendix E** of reference.

6.3 SIGHTLINE ASSESSMENT

In this section, sight distance triangles are evaluated for left-turning and right-turning movements from the proposed east approach to the intersection of Gordon Street / Edinburgh Road and Valley Road / Landsdown Road-New Road to ensure that they meet the minimum requirements as outlined in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Road (2017) (TAC Manual) *Figure 9.9.2: Departure Sight Triangles (Stop-Controlled)*. The posted speed limit along Gordon Street is 60 km/h while Valley Road has no posted speed limit, resulting in the statutory speed limit of 50 km/h.

Sight distance triangles are measured 4.4 metres away from the major roadway along the minor roadway approaches, to the intersection sight distance (ISD) along the major roadway from the minor roadway. The calculation for determining the ISD is provided below, with V_{major} representing the design speed of the major roadway in km/h, and t_g representing the time gap for minor road vehicles to enter the major roadway in seconds. A time gap of 7.5 seconds is applied, as per *Table 9.9.3: Time Gap for Base B1, Left Turn from Stop*. A design speed of 20 km/h above the posted speed limit is applied along the major roadway, resulting in a design speed of 80 km/h along Gordon Street, and 70 km/h along Valley Road.

$Equation\ 9.9.1 \quad ISD = 0.278 * V_{major} * t_g$

Required sight distances for left-turning vehicles along with approximate available sight distances, extracted through Google Street View observations, are summarized in **Table 13** and illustrated in **Figure 24**. The left-turning departure sight triangles are used to determine whether adequate sight distances are available due to right turning vehicles generally accepting shorter gaps, which would result in a smaller required ISD.

As shown in **Table 13**, the new east leg at the intersection of Gordon Street / Edinburgh Road is expected to have sufficient sightlines for departing vehicles. The new south leg at the intersection of Valley Road with Landsdown Drive will not have sufficient sightlines at the stopped position due to the vertical curvature of Valley Road between Gordon Street and Landsdown Drive, and the horizontal curvature east of Landsdown Drive which results in a residence on the north side of Valley Road obstructing the available sightlines. It is noted that sufficient sight distance will be available towards the right on the approach to the intersection due to the proposed park, and the vehicles approaching from the left are expected to travel slower due to the intersection with Gordon Street and the vertical curvature. Additionally, the constrained sightlines at the intersection can be further mitigated with an all-way stop-control, as the eastbound and westbound vehicles would be required to stop.

Table 13 - Left-Turning Departure Sight Triangles

Access	Movement	Direction	Time Gap	Required Distance	Available Distance	Requirement Met
Edinburgh Road	Exit	Left	8.5	190 m	>200 m	Yes
		Right			>250 m	Yes
Valley Road / Landsdown Drive	Exit	Left	7.5	150 m	60 m	No
		Right			90 m	No

Figure 24 – Available and Required Sight Distances

7.0 PARKING CONSIDERATIONS

7.1 ZONING BY-LAW REQUIREMENTS

The proposed site will have a zoning designation of Zone R.4B – High Density Apartment Zone. Per the City of Guelph Zoning By-law Section 5.1.2 – Regulations Governing R.4 Zones, off-street parking regulations for this zone are stipulated in Section 4.1.3.

The parking requirements as per the City of Guelph Zoning By-law, Section 4.13 - Off Street Parking and the number of parking spaces proposed on-site are compared in **Table 14** to ensure that sufficient parking supply is proposed. The table also includes the required parking spaces calculated based on the parking rates extracted from Institute of Transportation Engineers (ITS) Parking Generation Manual, 5th Edition.

Table 14 – Parking Requirements Summary

Required Parking Type	Parking Demand				Parking Supply
	Zoning By-law		ITE		
	Requirements	Required Number	Requirements	Required	
Apartment (325 units)	For the first 20 units: 1.5 per unit, and for each unit in excess of 20: 1.25 per unit	412	0.98 Parking Generation 222	319	421
Visitor Parking	A minimum of 20% of the calculated total required number of Parking Spaces shall be provided for the Use of visitors	83	Zoning By-law ratio applied	64	83
Accessible Parking	For more than 400 required parking spaces: 1 additional space per 100 required spaces	5		5	15
Total Vehicle Parking-		**500**	**-**	**388**	**519**
Bicycle Parking	**1 space per unit, in addition to an extra 2 spaces per 20 units**	**358**	**-**	**-**	**521**

As shown in **Table 14**, according to the By-law, the site is required to provide at least 500 total vehicle parking spaces (412 residents for, 83 for visitors, and 5 accessible spaces). The site is proposing to provide 519 parking spaces (421 for residents, 83 for visitors, and 15 accessible spaces) to accommodate the residential use which exceeds the minimum total vehicle parking and residential parking requirements by 19 spaces.

A review of the floor plan (level 1) found that the proposed aisle width for the surface parking spaces is approximately 6.7-meters which does not meet the 7-meter aisle width for surface non-structured parking spaces as per the Development Engineering Manual.

A review of the drive aisle minimum width requirements for the City of Guelph's neighboring jurisdictions was conducted and the minimum aisle width requirements for residential parking aisles with 90-degree angle parking spaces were reviewed as shown in Table 15 below. The review found that only one of the five municipalities (Mississauga) requires an aisle width of 7.0m. Toronto, Milton and Cambridge require a minimum aisle width of 6.0m and the zoning by-law for Kitchener does not state a clear minimum aisle width requirement. In comparison with the neighboring municipalities, it is anticipated that the same combination of vehicles will utilize the surface parking spaces within the proposed development. On this basis, it is concluded that the proposed aisle width of 6.7m is appropriate and sufficient for the proposed development.

To supplement the above, turning maneuvers with a Ford F-150 Super Cab (representative of one of the largest vehicles to utilize the surface parking spaces with a total length of approximately 5.9m) were performed using AutoTURN software, and it was found that the subject vehicle does not encroach on adjacent parking spaces when performing typical parking maneuvers. The Ford F-150 truck turning templates are attached in **Appendix E** of reference.

Table 15 - Drive Isle Minimum Width Requirements - City of Guelph Neighboring Jurisdictions

Municipality	By-Law (Section)	Aisle Width Requirement
Toronto	569-2013 (200.5.1)	6.0
Milton	016-2014 (5.7)	6.0
Cambridge	150-85 (2.2.3)	6.0
Kitchener	85-1	No Requirement
Mississauga	0308-2011 (3.1.1.5.1)	7.0

8.0 TRANSPORTATION DEMAND MANAGEMENT

New residents at the proposed development may not be aware of the transit and active transportation facilities available to them in the area. Increasing awareness of sustainable modes of transportation is anticipated to improve their utilization. Other opportunities for encouraging sustainable modes of transportation include provision of long-term and short-term bicycle parking spaces and providing connections to active transportation infrastructure. The proposed are measures are detailed below.

8.1 CYCLING FACILITIES

The number of required and proposed bicycle parking spaces were summarized in **Table 14**, highlighting that the proposed development will provide over one bicycle parking space per dwelling unit. The subject development is well situated for bicycle use due to the bicycle lanes along Gordon Street and the direct connection to the University of Guelph and Downtown Guelph.

8.2 SUPPORTIVE LANDSCAPING AND BENCHES

Accommodations for pedestrians should be provided, including safe and attractive walkways on-site, benches, landscaping, and lighting to enhance pedestrian mobility, comfort, and safety which will in turn promote the use of active transportation modes.

8.3 TRANSIT & ACTIVE TRANSPORTATION INFORMATION PACKAGES

It is recommended to consider provision of travel information packages for new residents who move into the building. These packages should include:

1) Local transit schedule/services (Guelph Transit & GO Transit);
2) City of Guelph cycling route maps;
3) Active transportation networks;
4) Local carsharing programs; and
5) Bicycle and walking safety information.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions of the Traffic Impact Study are as follows:

- The proposed development will be well serviced by transit during the AM and PM peak hours via Guelph Transit (GT) Route 2 College Edinburgh, GT Route 5 Goodwin, GT Route 99 Mainline, GO Route 29 Guelph/Mississauga, and GO Route 48 407 West Bus. Nearby transit stops are located on the north approach to the intersection of Gordon Street with Edinburgh Road, approximately 100 metres from the subject site.

- Sidewalks are provided throughout most of the study to accommodate pedestrian movements and provide connection to nearby commercial destinations and transit connections. Bicycle lanes are provided along both sides of Gordon Street to accommodate long-distance north-south connections, connecting the study area to downtown Guelph, however, cycling along other roadways would be accommodated within the vehicle travelled portion of the roadways.

- The existing 2019 operational conditions experience several deficiencies during the PM peak hour, and a deficiency on the eastbound left movement at Gordon Street / Kortright Road during the AM peak hour. All movements remain within their available capacities and only the stop-controlled eastbound approach at Gordon Street / Landsdown Drive experiences delays high enough to reach a LOS of “F”.

- The proposed development is estimated to generate a total of 104 trips (25 inbound and 79 outbound) during the AM peak hour and 119 trips (73 inbound and 46 outbound) during the PM peak hour.

- The future background 2024 conditions generally experience exacerbated conditions relative to the existing conditions due to the annual growth and nearby development trips, however, some movements experienced slight improvements in operations due to the introduction of the centre left turn lane along Gordon Street. An increase in cycle length to 120 seconds will improve the overall intersection operations at the most deficient intersections, Gordon Street with Edinburgh Road and Arkell Road, and bring the overall volume to capacity ratios at the intersections below 1.00.

- The future background 2029 conditions become exacerbated as a result of the annual increase in vehicular volumes throughout the network and additional deficiencies will be introduced as a result. The intersections of Gordon Street with Edinburgh Road and Arkell Road will continue to experience the most deficiencies and the intersection with Arkell Road may require a northbound right turn lane to alleviate the intersection deficiencies. The intersection with Edinburgh Road has limited opportunity for improvement due to the future east leg approach that will be introduced with the proposed development, however, a southbound right turn lane would alleviate the experienced deficiencies. The southbound right turn lane hasn’t been incorporated into the

subject analysis due to the impact that this geometric improvement would have on the adjacent transit stop and utility poles.

- The future background 2034 conditions will become slightly exacerbated relative to the 2029 future background conditions as a result of the annual growth of vehicular volumes.
- The future total 2024 conditions will become slightly exacerbated relative to the future background 2024 conditions, experiencing an increase in the overall intersection V/C ratio from 0.97 to 1.01 at Gordon Street / Edinburgh Road. The northbound through/right at Gordon Street / Arkell Road will reach capacity, increasing from a V/C ratio of 0.97 to 1.00. Based on the 2024 future total analysis findings, the proposed site generated traffic is anticipated to have a minor impact on the projected traffic operations at the study area intersections relative to the background conditions.
- The future total 2029 conditions generally reflect those identified in the future background 2029 conditions, although slightly exacerbated with the addition of site generated trips; no additional deficiencies result from the addition of site generated trips.
- The future total 2034 conditions will become slightly exacerbated relative to the future background 2034 conditions, experiencing an increase in the V/C ratio on the northbound left turning movement at Gordon Street / Edinburgh Road from a 0.87 to a 0.92. The northbound through movement at Gordon Street / Arkell Road will reach capacity during the AM peak hour, increasing from a 0.98 to a 1.00, while the southbound left at the intersection increases in delay from a LOS of “D” to a LOS of “E” during the PM peak hour.
- The sightline assessment highlights that the new east approach to the intersection of Gordon Street / Edinburgh Road is expected to have sufficient sightlines, while the new south approach to the intersection of Valley Road / Landsdown Drive will experience constrained sightlines. The constrained sightlines are due to the vertical curvature of Valley Road between Gordon Street and Landsdown Drive, and due to the horizontal curvature of Valley Road east of Landsdown Drive. The risk of these constrained sightlines can be mitigated by implementing all-way stop-control at the intersection and will also be mitigated slightly by the reduced speed of vehicles from the west due to the intersection with Gordon Street and the vertical curve, and due to the open park area on the approach to the intersection which will allow drivers to see towards the east for the full required sight distance.
- The parking review identifies that the proposed parking satisfies or exceeds the required parking supply on-site, where the total vehicle parking provided within the site is 519 spaces, exceeding the 500 spaces as the minimum requirement as per the By-law.
- The subject site is well situated for use of alternatives modes such as transit, cycling, and walking. Transportation demand management strategies such as information packages should be considered for distribution to new residents to raise awareness of and to promote these alternative modes.

The recommendations of the Traffic Impact Study are as follows:

- Future Background 2024: Increase the cycle lengths at signalized intersections to 120 seconds during the PM peak hour to alleviate the forecasted intersection capacity deficiencies.
- Future Background 2029: Implement a northbound right turn lane at Gordon Street / Arkell Road to alleviate the forecasted deficiencies.
- TDM: Implement TDM measures to promote the use of alternative modes of transportation such as transit, cycling, and walking. These measures can include the distribution of information packages to new residents to raise awareness of the local facilities, reduce reliance on single occupant vehicles, and promote the use of more sustainable modes of transportation.

APPENDICES

Appendix A PRE-CONSULTATION CORRESPONDENCE

Kaczmarek, Martin

From: Julie Tot <Julie.Tot@guelph.ca>
Sent: June 28, 2019 3:21 PM
To: Kaczmarek, Martin
Cc: Gwen Zhang; Jennifer Juste
Subject: RE: Terms of Reference | 1250 Gordon Street TIS

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Martin,

Transportation Services staff have reviewed the submitted terms of reference for the proposed development at 1242, 1250, 1260 Gordon Street and 9 Valley Road.

Include the following analysis in the report.
- Study area: to add intersections at Harts Lane, Landsdown, and Valley.
- Background development: to add the developments at 1354 Gordon Street.
- Future scenarios: to add a scenario for 10 years after build out
- Consider the future centre turn lane on Gordon Street after 2020.
- Sightline Assessment: add the intersection of Valley Rd at Landsdown Rd/New Road

Let me know if you have any further questions.

Regards,

Julie Tot, Traffic Technologist II
Transportation Services, **Engineering and Transportation Services**
City of Guelph
T 519-822-1260 extension 2048
E julie.tot@guelph.ca

From: Kaczmarek, Martin <Martin.Kaczmarek@stantec.com>
Sent: June-26-19 2:43 PM
To: Chris DeVriendt <Chris.DeVriendt@guelph.ca>
Cc: Bendig, Brandie <Brandie.Bendig@stantec.com>; Alimam, Naji <Naji.Alimam@stantec.com>; Gwen Zhang <Gwen.Zhang@guelph.ca>
Subject: Terms of Reference | 1250 Gordon Street TIS

Good afternoon Chris,

We've been retained by The Tricar Group to prepare a Traffic Impact Study for the proposed development located at 1242, 1250, 1260 Gordon Street and 9 Valley Road (1250 Gordon Street) in the City of Guelph. Please see attached for the Terms of Reference for the 1250 Gordon Street TIS. Could you please let us know at your earliest convenience if the City accepts the proposed methodology and scope of work?

Feel free to contact us if you have any questions or comments.

Thanks,
Martin B. Kaczmarek E.I.T.
Transportation Planner

Direct: 416 507-3443
Martin.Kaczmarek@Stantec.com

Stantec
100-401 Wellington Street West
Toronto ON M5V 1E7

Kaczmarek, Martin

From: Gwen Zhang <Gwen.Zhang@guelph.ca>
Sent: January 14, 2020 3:56 PM
To: Hendriksen, Chris
Cc: Kaczmarek, Martin; Bendig, Brandie; Jennifer Juste; Munshif Muccaram; Benita van Miltenburg
Subject: RE: Terms of Reference | 1250 Gordon Street TIS
Attachments: 190669 (1300 Gordon St) Final 1.0.0 - 2019.12.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Chris,

Yes, please provide an updated ToR. Please include the following additional requirements on top of those dated June 28, 2019.

1. We suggest a 1.5% per annum growth rate for the general background growth;
2. For the purpose of this study, include the following sites as part of background traffic growth from other developments. See the attachment for details. Please note not all sites have been approved.
   1) 1300 Gordon Street: Residential, 32 apartment units
   2) 1340 Gordon Street: Commercial, 700 square metres
   3) 33 Arkell Road/1408 Gordon Street and 39-47 Arkell Road: Residential, 51 apartment units, 41 townhouse units
   4) 190-216 Arkell Road: Residential, 66 townhouse units
   5) 388 Arkell Road: High School, 1,200 students
   6) 1353-1389 Gordon Street: Residential, 50 townhouse units
   7) 1354 Gordon Street: Residential, 88 apartment units; Retail, 400 square metres; Restaurant, 400 square metres; Gas Station, 8 fueling stations with 231 square metres convenience store
   8) 1533-1557 Gordon Street and 34 Lowes Road West: Residential, 89 units
   9) 19-59 Lowes Road west: Single detached, 36 units
3. Provide a concept plan showing lane configurations at the intersection of Gordon Street and Edinburgh Road.
4. Provide Traffic Geometrics Plan to illustrate the turning movements of fire/garbage/moving trucks on-site. The program AutoTurn shall be used and the plan will need to be endorsed by a professional engineer.
5. Include TDM considerations to mitigate the number of single-occupancy vehicle trips being generated by this site.
6. Include cyclists in any new traffic counts.
7. Provide an adequate distance between the two proposed driveways on the Edinburgh Road easterly extension.

Should you have any questions or need any clarifications, please feel free to contact us.

Regards,

Gwen Zhang, M.Sc., P.Eng | Transportation Planning Engineer
Engineering and Transportation Services
T 519-822-1260 x 2638
E gwen.zhang@guelph.ca

From: Hendriksen, Chris <Chris.Hendriksen@stantec.com>
Sent: Monday, December 23, 2019 2:14 PM

To: Julie Tot <Julie.Tot@guelph.ca>; Gwen Zhang <Gwen.Zhang@guelph.ca>; Jennifer Juste <Jennifer.Juste@guelph.ca>
Cc: Kaczmarek, Martin <Martin.Kaczmarek@stantec.com>; Bendig, Brandie <Brandie.Bendig@stantec.com>
Subject: RE: Terms of Reference | 1250 Gordon Street TIS

Good afternoon. Further to the email below, we will incorporate the requested analyses. Do you need to see an updated TOR submitted or can we use the below as confirmation of approval?

Thanks

Chris

From: Julie Tot <Julie.Tot@guelph.ca>
Sent: Friday, June 28, 2019 3:21 PM
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Regards,

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City of Guelph
T 519-822-1260 extension 2048
E julie.tot@guelph.ca

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Kaczmarek, Martin

From: Gwen Zhang <Gwen.Zhang@guelph.ca>
Sent: January 29, 2020 5:13 PM
To: Kaczmarek, Martin
Cc: Bendig, Brandie; Jennifer Juste; Munshif Muccaram; Benita van Miltenburg; Hendriksen, Chris
Subject: RE: Terms of Reference | 1250 Gordon Street TIS

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Martin,

We generally agree with the updated ToR. To fully understand the development impact on Gordon Street, please add the following two intersections:

1. Gordon Street at Vaughan Street
2. Gordon Street at Heritage Drive

Thanks,

Gwen Zhang, M.Sc., P.Eng | Transportation Planning Engineer
Engineering and Transportation Services
T 519-822-1260 x 2638
E gwen.zhang@guelph.ca

From: Kaczmarek, Martin <Martin.Kaczmarek@stantec.com>
Sent: Wednesday, January 29, 2020 1:48 PM
To: Gwen Zhang <Gwen.Zhang@guelph.ca>
Cc: Bendig, Brandie <Brandie.Bendig@stantec.com>; Jennifer Juste <Jennifer.Juste@guelph.ca>; Munshif Muccaram <Munshif.Muccaram@guelph.ca>; Benita van Miltenburg <Benita.VanMiltenburg@guelph.ca>; Hendriksen, Chris <Chris.Hendriksen@stantec.com>
Subject: RE: Terms of Reference | 1250 Gordon Street TIS

Hi Gwen,

I've attached the updated Terms of Reference; could you please let us know if the City approves of the proposed scope and methodology?

Thanks,

Martin B. Kaczmarek P.Eng.
Transportation Engineer

Direct: 416 507-3443
Martin.Kaczmarek@Stantec.com

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Regards,

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City of Guelph
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E julie.tot@guelph.ca

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Cc: Bendig, Brandie <Brandie.Bendig@stantec.com>; Alimam, Naji <Naji.Alimam@stantec.com>; Gwen Zhang <Gwen.Zhang@guelph.ca>
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Kaczmarek, Martin

From: Gwen Zhang <Gwen.Zhang@guelph.ca>
Sent: February 25, 2020 9:47 AM
To: Kaczmarek, Martin
Subject: Terms of Reference for 1250 Gordon Street Traffic Impact Study
Attachments: let_1250Gordon_ToR_2020-01-31.pdf

Hi Martin,

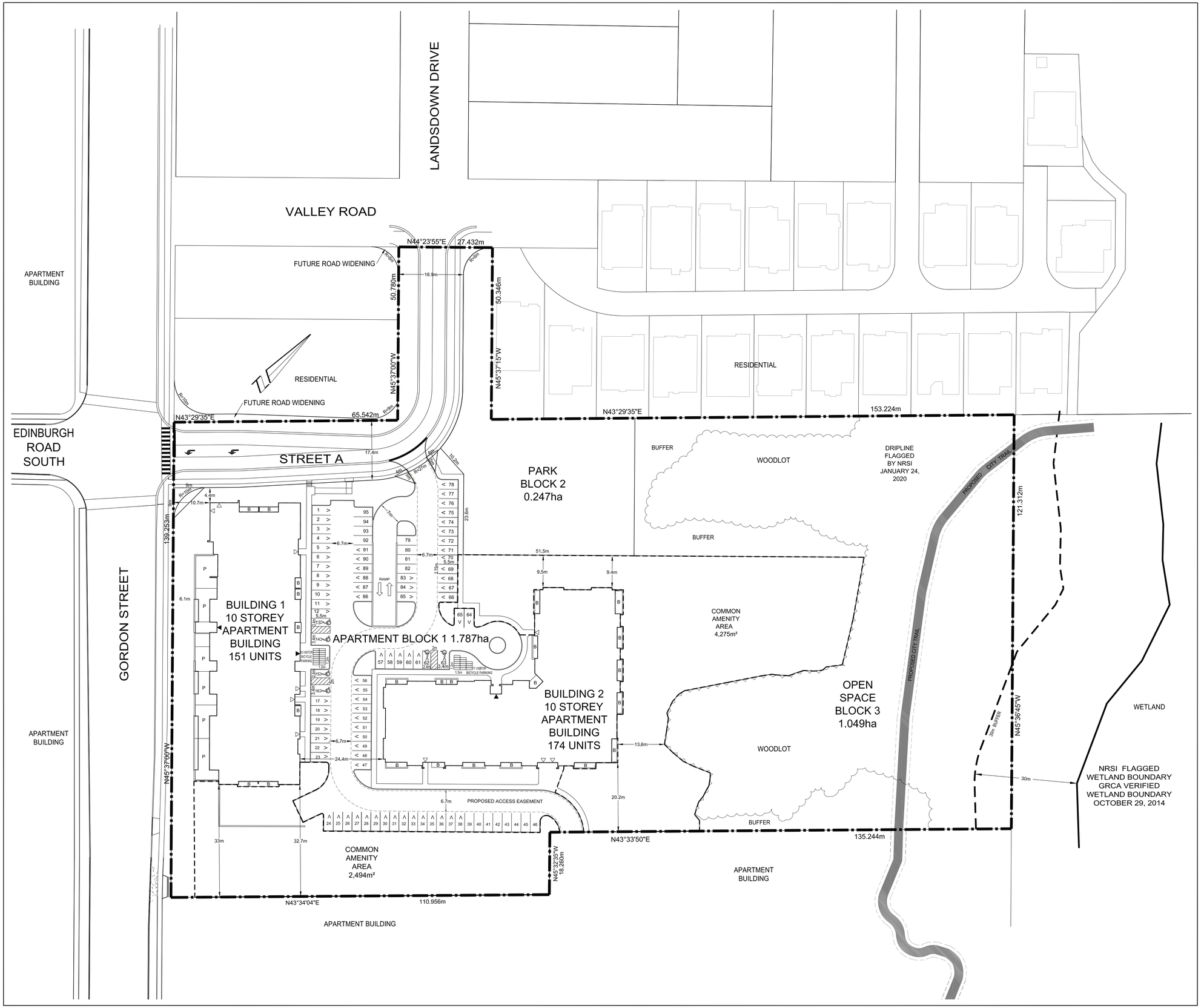
This is to confirm that the attached Terms of Reference is acceptable for the Traffic Impact Study at 1250 Gordon Street.

Please contact us if you have any questions.

Regards,

Gwen Zhang, M.Sc., P.Eng | Transportation Planning Engineer
Engineering and Transportation Services
T 519-822-1260 x 2638
E gwen.zhang@guelph.ca

Appendix B SITE PLAN



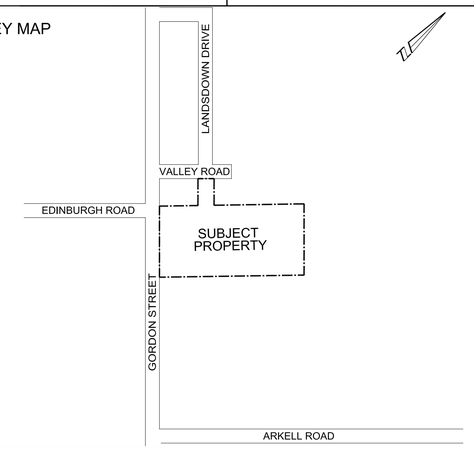
ASTRID J. CLOS
PLANNING CONSULTANTS

423 Woolwich Street, Suite 201
Guelph , Ontario N1H 3X3
Email: astrid.clos@ajcplanning.ca
Phone: (519) 836-7526 (836-PLAN)

1242-1260 GORDON STREET AND 9 VALLEY ROAD DRAFT PLAN OF SUBDIVISION

DATE: JULY 5, 2021	SCALE 1:500
PROJECT No. 1944	DRAWN BY: A.R.N.

KEY MAP



LEGAL DESCRIPTION

PART OF LOT 6, CONCESSION 8
(GEOGRAPHIC TOWNSHIP OF PUSLINCH)
AND LOT 15, REGISTERED PLAN 488
CITY OF GUELPH

LAND USE SCHEDULE

DESCRIPTION	BLOCK	UNITS	AREA (hectares)
APARTMENT	1	325	1.787
PARK	2		0.247
OPEN SPACE	3		1.049
ROAD			0.240
TOTAL		325	3.323

ADDITIONAL INFORMATION

(UNDER SECTION 51(17) OF THE PLANNING ACT)

INFORMATION REQUIRED BY CLAUSES a,b,c,d,e,f,g,j and I ARE AS SHOWN ON THE DRAFT PLAN OF SUBDIVISION

h) municipal water supply
i) sand and silt with some gravel and trace clay
k) municipal sanitary

OWNER'S CERTIFICATE

I AUTHORIZE ASTRID J. CLOS, PLANNING CONSULTANTS TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION.

ADAM CARAPELLA, VICE PRESIDENT
TRICAR PROPERTIES LIMITED

APRIL 27, 2020
DATE

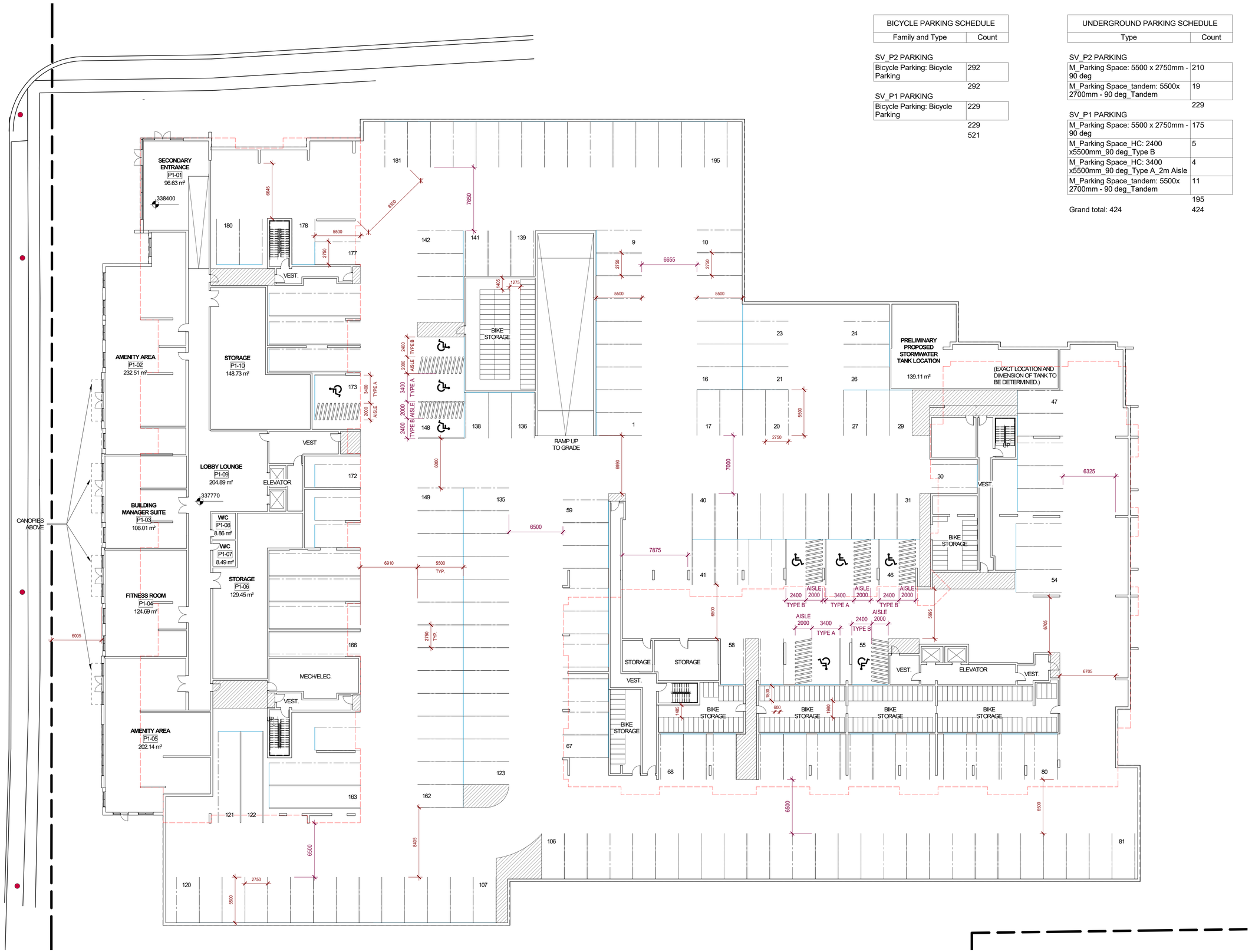
SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE CORRECTLY SHOWN.

JAMES LAWS, O.L.S.
VAN HARTEN SURVEYING INC.

MARCH 23, 2020
DATE

Jul 5, 2021-1:44:41 PM (27883-19)
H:\19-278\27883-19\ACAD\1944 Draft Plan 9 Valley Road (W).dwg



BICYCLE PARKING SCHEDULE	
Family and Type	Count
SV_P2 PARKING	
Bicycle Parking: Bicycle Parking	292
	292
SV_P1 PARKING	
Bicycle Parking: Bicycle Parking	229
	229
	521

UNDERGROUND PARKING SCHEDULE	
Type	Count
SV_P2 PARKING	
M_Parking Space: 5500 x 2750mm - 90 deg	210
M_Parking Space_tandem: 5500x 2700mm - 90 deg_Tandem	19
	229
SV_P1 PARKING	
M_Parking Space: 5500 x 2750mm - 90 deg	175
M_Parking Space_HC: 2400 x5500mm_90 deg_Type B	5
M_Parking Space_HC: 3400 x5500mm_90 deg_Type A_2m Aisle	4
M_Parking Space_tandem: 5500x 2700mm - 90 deg_Tandem	11
	195
Grand total: 424	424

kasian

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REV.	YYYY-MM-DD	REVISION / DRAWING ISSUE	REVIEW

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SEAL

PROJECT

1250 GORDON STREET - MASTER

GUELPH, ONTARIO, CANADA

DRAWING TITLE

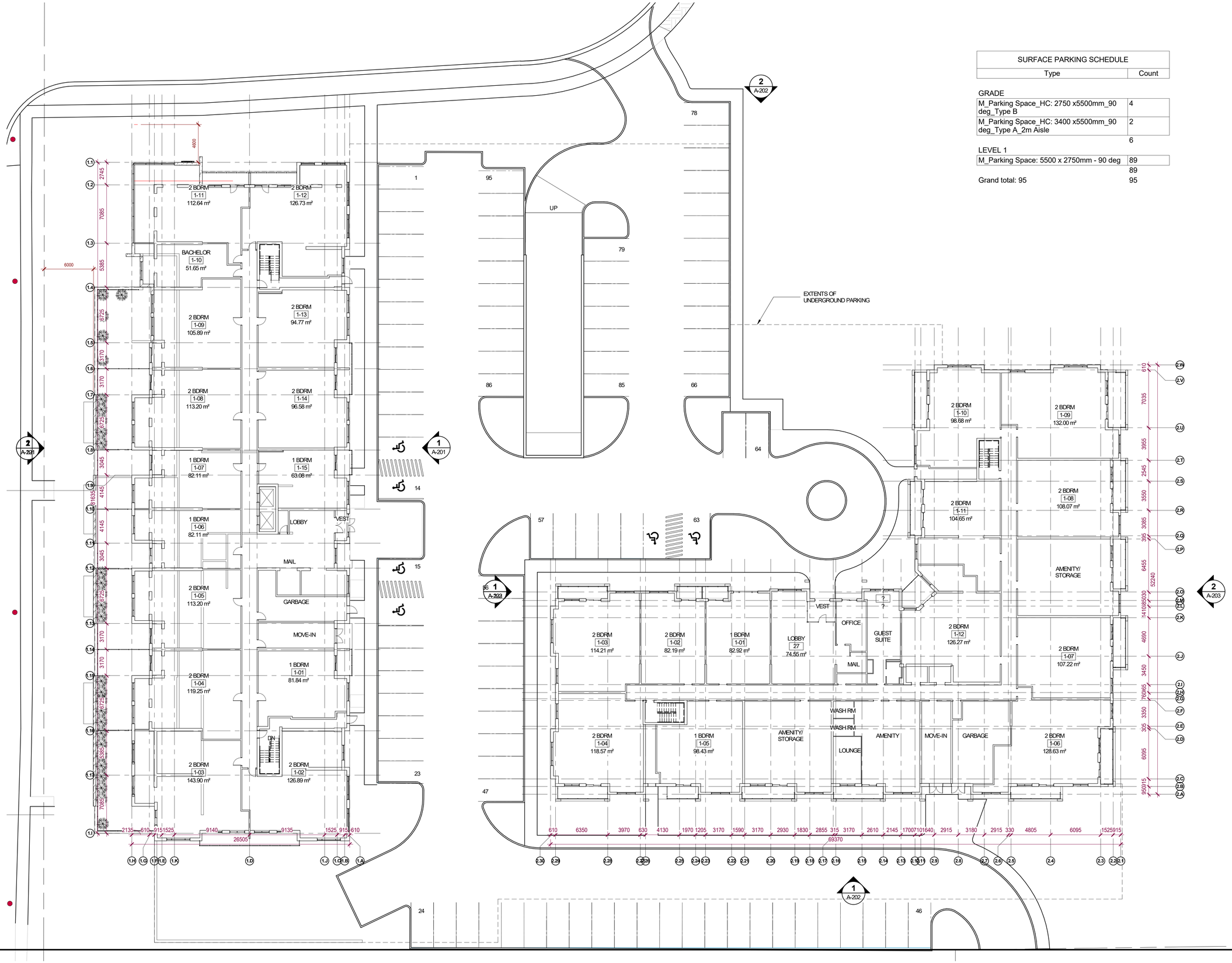
FLOOR PLAN - LEVEL P1

DRAWING ISSUE

PROJECT NO.	PLOT DATE	DRAWN
201233	2021-07-06	Author
	SCALE: 1 : 200	REVIEWED: Checker

DRAWING NO. A-102

REVISION



SURFACE PARKING SCHEDULE	
Type	Count
GRADE	
M_Parking Space_HC: 2750 x5500mm_90 deg_Type B	4
M_Parking Space_HC: 3400 x5500mm_90 deg_Type A_2m Aisle	2
	6
LEVEL 1	
M_Parking Space: 5500 x 2750mm - 90 deg	89
	89
Grand total: 95	95

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REV.	YYYY-MM-DD	REVISION / DRAWING ISSUE	REVIEW

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PROJECT

1250 GORDON STREET - MASTER

GUELPH, ONTARIO, CANADA

DRAWING TITLE

FLOOR PLAN - LEVEL 1

DRAWING ISSUE

PROJECT NO.	PLOT DATE	DRAWN
201233	2021-07-06	Author
	SCALE 1 : 200	REVIEWED Checker

DRAWING NO. A-103

REVISION

Appendix C TRAFFIC DATA

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 9:00:00
To: 10:00:00

Municipality: Guelph
Site #: 1907200001
Intersection: Gordon St & Landsdown Dr-Reside
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1656
North Entering: 547
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	1	55	0	56
Cars	8	481	2	491
Totals	9	536	2	

Heavys	0
Trucks	111
Cars	998
Totals	1109

East Leg Total: 9
East Entering: 7
East Peds: 3
Peds Cross: ⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	1	10	11

Residential Access

Cars	Trucks	Heavys	Totals
6	0	0	6
0	0	0	0
1	0	0	1
7	0	0	

N
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Landsdown Dr

Heavys	Trucks	Cars	Totals
0	0	14	14
0	0	0	0
0	0	1	1
0	0	15	

Cars	Trucks	Heavys	Totals
2	0	0	2

Gordon St

Peds Cross: ⧗
West Peds: 6
West Entering: 15
West Leg Total: 26

Cars	483
Trucks	55
Heavys	0
Totals	538

Cars	2	978	0	980
Trucks	0	111	0	111
Heavys	0	0	0	0
Totals	2	1089	0	

Peds Cross: ⋈
South Peds: 20
South Entering: 1091
South Leg Total: 1629

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Guelph
Site #: 1907200001
Intersection: Gordon St & Landsdown Dr-Reside
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1571
North Entering: 793
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	0	103	1	104
Cars	13	672	4	689
Totals	13	775	5	

Heavys	0
Trucks	76
Cars	702
Totals	778

East Leg Total: 13
East Entering: 5
East Peds: 5
Peds Cross: ⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	0	17	17

Residential Access

Cars	Trucks	Heavys	Totals
4	0	0	4
0	0	0	0
1	0	0	1
5	0	0	

N
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Heavys	Trucks	Cars	Totals
0	0	11	11
0	0	0	0
0	0	5	5
0	0	16	

Landsdown Dr

Cars	Trucks	Heavys	Totals
5	3	0	8

Gordon St

Peds Cross: ⧗
West Peds: 7
West Entering: 16
West Leg Total: 33

Cars	678
Trucks	103
Heavys	0
Totals	781

Cars	4	687	1	692
Trucks	0	76	2	78
Heavys	0	0	0	0
Totals	4	763	3	

Peds Cross: ⋈
South Peds: 19
South Entering: 770
South Leg Total: 1551

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:30:00
To: 19:30:00

One Hour Peak
From: 17:45:00
To: 18:45:00

Municipality: Guelph
Site #: 1907200001
Intersection: Gordon St & Landsdown Dr-Reside
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 2164
North Entering: 1253
North Peds: 1
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	3	79	0	82
Cars	36	1121	14	1171
Totals	39	1200	14	

Heavys	0
Trucks	86
Cars	825
Totals	911

East Leg Total: 20
East Entering: 4
East Peds: 6
Peds Cross: ⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	3	50	53

Residential Access

Cars	Trucks	Heavys	Totals
3	1	0	4
0	0	0	0
0	0	0	0
3	1	0	

N
W E
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Landsdown Dr

Heavys	Trucks	Cars	Totals
0	3	18	21
0	0	0	0
0	0	2	2
0	3	20	

Cars	Trucks	Heavys	Totals
16	0	0	16

Gordon St

Peds Cross: ⧗
West Peds: 17
West Entering: 23
West Leg Total: 76

Cars	1123
Trucks	79
Heavys	0
Totals	1202

Cars	14	804	2	820
Trucks	0	82	0	82
Heavys	0	0	0	0
Totals	14	886	2	

Peds Cross: ⋈
South Peds: 8
South Entering: 902
South Leg Total: 2104

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Guelph
Site #: 1907200001
Intersection: Gordon St & Landsdown Dr-Reside
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total:	12038
North Entering:	5834
North Peds:	3
Peds Cross:	⋈

Heavys	0	0	0	0
Trucks	5	606	7	618
Cars	105	5077	34	5216
Totals	110	5683	41	

Heavys	0
Trucks	689
Cars	5515
Totals	6204

East Leg Total:	97
East Entering:	45
East Peds:	44
Peds Cross:	⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	7	144	151

Residential Access

Cars	Trucks	Heavys	Totals
33	7	0	40
0	0	0	0
5	0	0	5
38	7	0	

N
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Heavys	Trucks	Cars	Totals
0	5	92	97
0	0	0	0
0	0	28	28
0	5	120	

Landsdown Dr

Cars	Trucks	Heavys	Totals
42	10	0	52

Gordon St

Peds Cross:	⧗
West Peds:	72
West Entering:	125
West Leg Total:	276

Cars	5110
Trucks	606
Heavys	0
Totals	5716

Cars	39	5390	8	5437
Trucks	2	677	3	682
Heavys	0	0	0	0
Totals	41	6067	11	

Peds Cross:	⋈
South Peds:	102
South Entering:	6119
South Leg Total:	11835

Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Gordon St & Landsdown Dr-Resid | **Count Date:** 27-Mar-19 | **Municipality:** Guelph

North Approach Totals						North/South Total Approaches	South Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	2	287	0	289	1	551	8:00:00	0	261	1	262	3
9:00:00	4	421	2	427	0	1038	9:00:00	2	609	0	611	7
10:00:00	2	536	9	547	0	1638	10:00:00	2	1089	0	1091	20
12:00:00	4	272	6	282	0	642	12:00:00	0	360	0	360	15
13:00:00	4	692	7	703	0	1482	13:00:00	4	773	2	779	24
17:00:00	4	842	18	864	0	1664	17:00:00	7	791	2	800	12
18:00:00	10	1080	14	1104	1	1961	18:00:00	3	852	2	857	11
19:00:00	10	1132	41	1183	1	2095	19:00:00	18	892	2	912	6
Totals:	40	5262	97	5399	3	11071		36	5627	9	5672	98

East Approach Totals						East/West Total Approaches	West Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	2	2	0	9	8:00:00	3	0	4	7	3
9:00:00	1	0	7	8	4	17	9:00:00	9	0	0	9	5
10:00:00	1	0	6	7	3	22	10:00:00	14	0	1	15	6
12:00:00	1	0	6	7	3	16	12:00:00	7	0	2	9	4
13:00:00	1	0	4	5	7	21	13:00:00	12	0	4	16	4
17:00:00	1	0	3	4	7	26	17:00:00	14	0	8	22	10
18:00:00	0	0	4	4	8	12	18:00:00	6	0	2	8	17
19:00:00	0	0	5	5	8	28	19:00:00	21	0	2	23	13
Totals:	5	0	37	42	40	151		86	0	23	109	62

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	7	17	35	23	37	27	18	28

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200001

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	1	1	57	57	0	0	0	0	11	11	0	0	0	0	0	0	0	0	0	0
7:30:00	1	0	106	49	0	0	0	0	23	12	0	0	0	0	0	0	0	0	1	1
7:45:00	1	0	171	65	0	0	0	0	33	10	0	0	0	0	0	0	0	0	1	0
8:00:00	1	0	238	67	0	0	1	1	49	16	0	0	0	0	0	0	0	0	1	0
8:15:00	1	0	318	80	0	0	3	2	61	12	0	0	0	0	0	0	0	0	1	0
8:30:00	1	0	411	93	0	0	5	2	84	23	0	0	0	0	0	0	0	0	1	0
8:45:00	1	0	498	87	1	1	5	0	102	18	0	0	0	0	0	0	0	0	1	0
9:00:00	1	0	593	95	2	1	5	0	115	13	0	0	0	0	0	0	0	0	1	0
9:15:00	1	0	685	92	3	1	5	0	129	14	0	0	0	0	0	0	0	0	1	0
9:30:00	1	0	793	108	5	2	5	0	138	9	1	1	0	0	0	0	0	0	1	0
9:45:00	3	2	937	144	8	3	5	0	156	18	1	0	0	0	0	0	0	0	1	0
10:00:00	3	0	1074	137	10	2	5	0	170	14	1	0	0	0	0	0	0	0	1	0
10:00:55	3	0	1074	0	10	0	5	0	170	0	1	0	0	0	0	0	0	0	1	0
11:30:00	3	0	1074	0	10	0	5	0	170	0	1	0	0	0	0	0	0	0	1	0
11:45:00	5	2	1215	141	13	3	5	0	189	19	1	0	0	0	0	0	0	0	1	0
12:00:00	7	2	1309	94	16	3	5	0	207	18	1	0	0	0	0	0	0	0	1	0
12:15:00	8	1	1437	128	18	2	5	0	223	16	1	0	0	0	0	0	0	0	1	0
12:30:00	8	0	1592	155	18	0	5	0	243	20	1	0	0	0	0	0	0	0	1	0
12:45:00	9	1	1755	163	22	4	6	1	271	28	1	0	0	0	0	0	0	0	1	0
13:00:00	10	1	1917	162	23	1	6	0	291	20	1	0	0	0	0	0	0	0	1	0
13:15:00	12	2	2080	163	28	5	6	0	318	27	1	0	0	0	0	0	0	0	1	0
13:30:00	12	0	2264	184	31	3	6	0	346	28	1	0	0	0	0	0	0	0	1	0
13:32:15	12	0	2264	0	31	0	6	0	346	0	1	0	0	0	0	0	0	0	1	0
16:30:00	12	0	2264	0	31	0	6	0	346	0	1	0	0	0	0	0	0	0	1	0
16:45:00	13	1	2461	197	33	2	6	0	371	25	1	0	0	0	0	0	0	0	1	0
17:00:00	14	1	2661	200	41	8	6	0	389	18	1	0	0	0	0	0	0	0	1	0
17:15:00	17	3	2886	225	44	3	6	0	402	13	1	0	0	0	0	0	0	0	1	0
17:30:00	18	1	3121	235	49	5	6	0	429	27	1	0	0	0	0	0	0	0	1	0
17:45:00	19	1	3358	237	49	0	6	0	457	28	2	1	0	0	0	0	0	0	1	0
18:00:00	24	5	3652	294	54	5	6	0	478	21	2	0	0	0	0	0	0	0	2	1
18:15:00	26	2	3913	261	64	10	6	0	500	22	2	0	0	0	0	0	0	0	2	0
18:30:00	30	4	4206	293	71	7	6	0	520	20	4	2	0	0	0	0	0	0	2	0
18:45:00	33	3	4479	273	85	14	6	0	536	16	5	1	0	0	0	0	0	0	2	0
19:00:00	34	1	4697	218	92	7	6	0	565	29	5	0	0	0	0	0	0	0	3	1
19:15:00	34	0	4906	209	97	5	6	0	588	23	5	0	0	0	0	0	0	0	3	0
19:30:00	34	0	5077	171	105	8	7	1	606	18	5	0	0	0	0	0	0	0	3	0
19:45:00	34	0	5077	0	105	0	7	0	606	0	5	0	0	0	0	0	0	0	3	0
19:47:18	34	0	5077	0	105	0	7	0	606	0	5	0	0	0	0	0	0	0	3	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	3	2	0	0	0	0	2	0	0	0	0	0	0	0	2	2
8:45:00	1	1	0	0	7	4	0	0	0	0	2	0	0	0	0	0	0	0	2	0
9:00:00	1	0	0	0	7	0	0	0	0	0	2	0	0	0	0	0	0	0	4	2
9:15:00	1	0	0	0	9	2	0	0	0	0	2	0	0	0	0	0	0	0	5	1
9:30:00	2	1	0	0	10	1	0	0	0	0	2	0	0	0	0	0	0	0	7	2
9:45:00	2	0	0	0	13	3	0	0	0	0	2	0	0	0	0	0	0	0	7	0
10:00:00	2	0	0	0	13	0	0	0	0	0	2	0	0	0	0	0	0	0	7	0
10:00:55	2	0	0	0	13	0	0	0	0	0	2	0	0	0	0	0	0	0	7	0
11:30:00	2	0	0	0	13	0	0	0	0	0	2	0	0	0	0	0	0	0	7	0
11:45:00	2	0	0	0	16	3	0	0	0	0	3	1	0	0	0	0	0	0	9	2
12:00:00	3	1	0	0	18	2	0	0	0	0	3	0	0	0	0	0	0	0	10	1
12:15:00	3	0	0	0	19	1	0	0	0	0	3	0	0	0	0	0	0	0	14	4
12:30:00	3	0	0	0	20	1	0	0	0	0	3	0	0	0	0	0	0	0	15	1
12:45:00	3	0	0	0	20	0	0	0	0	0	3	0	0	0	0	0	0	0	16	1
13:00:00	4	1	0	0	22	2	0	0	0	0	3	0	0	0	0	0	0	0	17	1
13:15:00	4	0	0	0	23	1	0	0	0	0	3	0	0	0	0	0	0	0	20	3
13:30:00	4	0	0	0	24	1	0	0	0	0	3	0	0	0	0	0	0	0	20	0
13:32:15	4	0	0	0	24	0	0	0	0	0	3	0	0	0	0	0	0	0	20	0
16:30:00	4	0	0	0	24	0	0	0	0	0	3	0	0	0	0	0	0	0	20	0
16:45:00	4	0	0	0	25	1	0	0	0	0	3	0	0	0	0	0	0	0	24	4
17:00:00	5	1	0	0	25	0	0	0	0	0	3	0	0	0	0	0	0	0	24	0
17:15:00	5	0	0	0	25	0	0	0	0	0	3	0	0	0	0	0	0	0	30	6
17:30:00	5	0	0	0	25	0	0	0	0	0	3	0	0	0	0	0	0	0	31	1
17:45:00	5	0	0	0	27	2	0	0	0	0	3	0	0	0	0	0	0	0	31	0
18:00:00	5	0	0	0	28	1	0	0	0	0	4	1	0	0	0	0	0	0	32	1
18:15:00	5	0	0	0	29	1	0	0	0	0	4	0	0	0	0	0	0	0	34	2
18:30:00	5	0	0	0	29	0	0	0	0	0	4	0	0	0	0	0	0	0	35	1
18:45:00	5	0	0	0	30	1	0	0	0	0	4	0	0	0	0	0	0	0	37	2
19:00:00	5	0	0	0	31	1	0	0	0	0	6	2	0	0	0	0	0	0	40	3
19:15:00	5	0	0	0	32	1	0	0	0	0	6	0	0	0	0	0	0	0	44	4
19:30:00	5	0	0	0	33	1	0	0	0	0	7	1	0	0	0	0	0	0	44	0
19:45:00	5	0	0	0	33	0	0	0	0	0	7	0	0	0	0	0	0	0	44	0
19:47:18	5	0	0	0	33	0	0	0	0	0	7	0	0	0	0	0	0	0	44	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	35	35	0	0	0	0	10	10	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	89	54	0	0	0	0	22	12	1	1	0	0	0	0	0	0	2	2
7:45:00	0	0	142	53	0	0	0	0	40	18	1	0	0	0	0	0	0	0	3	1
8:00:00	0	0	211	69	0	0	0	0	50	10	1	0	0	0	0	0	0	0	3	0
8:15:00	0	0	286	75	0	0	0	0	64	14	1	0	0	0	0	0	0	0	3	0
8:30:00	0	0	387	101	0	0	0	0	82	18	1	0	0	0	0	0	0	0	3	0
8:45:00	1	1	539	152	0	0	0	0	104	22	1	0	0	0	0	0	0	0	6	3
9:00:00	2	1	738	199	0	0	0	0	132	28	1	0	0	0	0	0	0	0	10	4
9:15:00	2	0	988	250	0	0	0	0	161	29	1	0	0	0	0	0	0	0	15	5
9:30:00	2	0	1225	237	0	0	0	0	192	31	1	0	0	0	0	0	0	0	19	4
9:45:00	3	1	1460	235	0	0	0	0	214	22	1	0	0	0	0	0	0	0	24	5
10:00:00	4	1	1716	256	0	0	0	0	243	29	1	0	0	0	0	0	0	0	30	6
10:00:55	4	0	1716	0	0	0	0	0	243	0	1	0	0	0	0	0	0	0	30	0
11:30:00	4	0	1716	0	0	0	0	0	243	0	1	0	0	0	0	0	0	0	30	0
11:45:00	4	0	1882	166	0	0	0	0	263	20	1	0	0	0	0	0	0	0	39	9
12:00:00	4	0	2043	161	0	0	0	0	276	13	1	0	0	0	0	0	0	0	45	6
12:15:00	5	1	2212	169	0	0	0	0	299	23	1	0	0	0	0	0	0	0	56	11
12:30:00	7	2	2391	179	0	0	0	0	321	22	1	0	0	0	0	0	0	0	60	4
12:45:00	8	1	2568	177	1	1	0	0	335	14	2	1	0	0	0	0	0	0	64	4
13:00:00	8	0	2737	169	1	0	0	0	355	20	2	0	0	0	0	0	0	0	69	5
13:15:00	10	2	2899	162	1	0	0	0	377	22	2	0	0	0	0	0	0	0	73	4
13:30:00	11	1	3078	179	1	0	0	0	397	20	3	1	0	0	0	0	0	0	79	6
13:32:15	11	0	3078	0	1	0	0	0	397	0	3	0	0	0	0	0	0	0	79	0
16:30:00	11	0	3078	0	1	0	0	0	397	0	3	0	0	0	0	0	0	0	79	0
16:45:00	12	1	3245	167	1	0	1	1	428	31	3	0	0	0	0	0	0	0	81	2
17:00:00	14	2	3435	190	2	1	1	0	448	20	3	0	0	0	0	0	0	0	81	0
17:15:00	14	0	3607	172	3	1	1	0	471	23	3	0	0	0	0	0	0	0	86	5
17:30:00	14	0	3779	172	3	0	1	0	500	29	3	0	0	0	0	0	0	0	86	0
17:45:00	15	1	3987	208	4	1	1	0	526	26	3	0	0	0	0	0	0	0	88	2
18:00:00	17	2	4190	203	4	0	1	0	545	19	3	0	0	0	0	0	0	0	92	4
18:15:00	20	3	4391	201	5	1	1	0	563	18	3	0	0	0	0	0	0	0	95	3
18:30:00	26	6	4606	215	5	0	1	0	585	22	3	0	0	0	0	0	0	0	96	1
18:45:00	29	3	4791	185	6	1	1	0	608	23	3	0	0	0	0	0	0	0	96	0
19:00:00	34	5	4999	208	6	0	2	1	628	20	3	0	0	0	0	0	0	0	98	2
19:15:00	38	4	5179	180	7	1	2	0	654	26	3	0	0	0	0	0	0	0	99	1
19:30:00	39	1	5390	211	8	1	2	0	677	23	3	0	0	0	0	0	0	0	102	3
19:45:00	39	0	5390	0	8	0	2	0	677	0	3	0	0	0	0	0	0	0	102	0
19:47:18	39	0	5390	0	8	0	2	0	677	0	3	0	0	0	0	0	0	0	102	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200001

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	1	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	3	1
7:45:00	3	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:00:00	3	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:15:00	5	2	0	0	4	0	1	1	0	0	0	0	0	0	0	0	0	0	3	0
8:30:00	6	1	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	4	1
8:45:00	7	1	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	5	1
9:00:00	11	4	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	8	3
9:15:00	19	8	0	0	5	1	1	0	0	0	0	0	0	0	0	0	0	0	10	2
9:30:00	25	6	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	11	1
9:45:00	25	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	14	3
10:00:00	25	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	14	0
10:00:55	25	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	14	0
11:30:00	25	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	14	0
11:45:00	27	2	0	0	7	2	2	1	0	0	0	0	0	0	0	0	0	0	16	2
12:00:00	31	4	0	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	18	2
12:15:00	31	0	0	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	18	0
12:30:00	39	8	0	0	8	1	2	0	0	0	0	0	0	0	0	0	0	0	18	0
12:45:00	42	3	0	0	9	1	2	0	0	0	0	0	0	0	0	0	0	0	21	3
13:00:00	43	1	0	0	11	2	2	0	0	0	0	0	0	0	0	0	0	0	22	1
13:15:00	49	6	0	0	12	1	2	0	0	0	0	0	0	0	0	0	0	0	24	2
13:30:00	50	1	0	0	13	1	2	0	0	0	0	0	0	0	0	0	0	0	25	1
13:32:15	50	0	0	0	13	0	2	0	0	0	0	0	0	0	0	0	0	0	25	0
16:30:00	50	0	0	0	13	0	2	0	0	0	0	0	0	0	0	0	0	0	25	0
16:45:00	54	4	0	0	14	1	2	0	0	0	0	0	0	0	0	0	0	0	29	4
17:00:00	57	3	0	0	19	5	2	0	0	0	0	0	0	0	0	0	0	0	32	3
17:15:00	59	2	0	0	19	0	2	0	0	0	0	0	0	0	0	0	0	0	37	5
17:30:00	60	1	0	0	19	0	2	0	0	0	0	0	0	0	0	0	0	0	37	0
17:45:00	61	1	0	0	20	1	2	0	0	0	0	0	0	0	0	0	0	0	42	5
18:00:00	63	2	0	0	21	1	2	0	0	0	0	0	0	0	0	0	0	0	49	7
18:15:00	66	3	0	0	21	0	3	1	0	0	0	0	0	0	0	0	0	0	54	5
18:30:00	75	9	0	0	21	0	5	2	0	0	0	0	0	0	0	0	0	0	55	1
18:45:00	79	4	0	0	22	1	5	0	0	0	0	0	0	0	0	0	0	0	59	4
19:00:00	81	2	0	0	23	1	5	0	0	0	0	0	0	0	0	0	0	0	62	3
19:15:00	87	6	0	0	27	4	5	0	0	0	0	0	0	0	0	0	0	0	66	4
19:30:00	92	5	0	0	28	1	5	0	0	0	0	0	0	0	0	0	0	0	72	6
19:45:00	92	0	0	0	28	0	5	0	0	0	0	0	0	0	0	0	0	0	72	0
19:47:18	92	0	0	0	28	0	5	0	0	0	0	0	0	0	0	0	0	0	72	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 9:00:00
To: 10:00:00

Municipality: Guelph
Site #: 1907200002
Intersection: Gordon St & Valley Rd
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1631
North Entering: 544
North Peds: 2
Peds Cross: ⋈

Heavys	0	0	0
Trucks	53	0	53
Cars	491	0	491
Totals	544	0	

Heavys	0
Trucks	112
Cars	975
Totals	1087

East Leg Total: 9
East Entering: 6
East Peds: 9
Peds Cross: ⧗

Gordon St

	Cars	Trucks	Heavys	Totals
	2	0	0	2
	4	0	0	4
	6	0	0	

N
W E
S

Valley Rd

Cars	Trucks	Heavys	Totals
3	0	0	3

Gordon St

Cars	495
Trucks	53
Heavys	0
Totals	548

Cars	973	3	976
Trucks	112	0	112
Heavys	0	0	0
Totals	1085	3	

Peds Cross: ⋈
South Peds: 39
South Entering: 1088
South Leg Total: 1636

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Guelph
Site #: 1907200002
Intersection: Gordon St & Valley Rd
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1562
North Entering: 788
North Peds: 5
Peds Cross: ⋈

Heavys	0	0	0
Trucks	103	0	103
Cars	683	2	685
Totals	786	2	

Heavys	0
Trucks	79
Cars	695
Totals	774

East Leg Total: 13
East Entering: 6
East Peds: 12
Peds Cross: ⧗

Gordon St

	Cars	Trucks	Heavys	Totals
	2	1	0	3
	3	0	0	3
	5	1	0	

N
W E
S

Valley Rd

	Cars	Trucks	Heavys	Totals
	7	0	0	7

Gordon St

Cars	686
Trucks	103
Heavys	0
Totals	789

Cars	693	5	698
Trucks	78	0	78
Heavys	0	0	0
Totals	771	5	

Peds Cross: ⋈
South Peds: 27
South Entering: 776
South Leg Total: 1565

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:30:00
To: 19:30:00

One Hour Peak
From: 17:45:00
To: 18:45:00

Municipality: Guelph
Site #: 1907200002
Intersection: Gordon St & Valley Rd
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 2101
North Entering: 1189
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	79	0	79
Cars	1109	1	1110
Totals	1188	1	

Heavys	0
Trucks	83
Cars	829
Totals	912

East Leg Total: 5
East Entering: 2
East Peds: 6
Peds Cross: ⧗

Gordon St

Cars	Trucks	Heavys	Totals
2	0	0	2
0	0	0	0
2	0	0	

N
W E
S

Valley Rd

Cars	Trucks	Heavys	Totals
3	0	0	3

Gordon St

Cars	1109
Trucks	79
Heavys	0
Totals	1188

Cars	827	2	829
Trucks	83	0	83
Heavys	0	0	0
Totals	910	2	

Peds Cross: ⋈
South Peds: 38
South Entering: 912
South Leg Total: 2100

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Guelph
Site #: 1907200002
Intersection: Gordon St & Valley Rd
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 11871
North Entering: 5732
North Peds: 11
Peds Cross: ⋈

Heavys	0	0	0
Trucks	598	0	598
Cars	5129	5	5134
Totals	5727	5	

Heavys	0
Trucks	685
Cars	5454
Totals	6139

East Leg Total: 55
East Entering: 28
East Peds: 56
Peds Cross: ⋈

Gordon St

	Cars	Trucks	Heavys	Totals
	15	1	0	16
	11	1	0	12
	26	2	0	

N
W E
S

Valley Rd

Cars	Trucks	Heavys	Totals
27	0	0	27

Gordon St

Cars	5140		
Trucks	599		
Heavys	0		
Totals	5739		

Cars	5439	22	5461
Trucks	684	0	684
Heavys	0	0	0
Totals	6123	22	

Peds Cross: ⋈
South Peds: 220
South Entering: 6145
South Leg Total: 11884

Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Gordon St & Valley Rd | **Count Date:** 27-Mar-19 | **Municipality:** Guelph

North Approach Totals						North/South Total Approaches	South Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	286	0	286	0	548	8:00:00	0	262	0	262	3
9:00:00	0	425	0	425	2	1036	9:00:00	0	609	2	611	21
10:00:00	0	544	0	544	2	1632	10:00:00	0	1085	3	1088	39
12:00:00	0	277	0	277	0	636	12:00:00	0	357	2	359	22
13:00:00	1	700	0	701	2	1483	13:00:00	0	779	3	782	27
17:00:00	2	854	0	856	3	1661	17:00:00	0	802	3	805	32
18:00:00	0	1072	0	1072	0	1934	18:00:00	0	858	4	862	30
19:00:00	1	1136	0	1137	0	2068	19:00:00	0	929	2	931	33
Totals:	4	5294	0	5298	9	10998		0	5681	19	5700	207

East Approach Totals						East/West Total Approaches	West Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	1	0	8:00:00	0	0	0	0	0
9:00:00	2	0	1	3	2	3	9:00:00	0	0	0	0	0
10:00:00	4	0	2	6	9	6	10:00:00	0	0	0	0	0
12:00:00	0	0	1	1	2	1	12:00:00	0	0	0	0	0
13:00:00	3	0	5	8	12	8	13:00:00	0	0	0	0	0
17:00:00	0	0	1	1	11	1	17:00:00	0	0	0	0	0
18:00:00	0	0	4	4	7	4	18:00:00	0	0	0	0	0
19:00:00	0	0	1	1	7	1	19:00:00	0	0	0	0	0
Totals:	9	0	15	24	51	24		0	0	0	0	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	3	25	45	22	32	35	30	33

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200002

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	52	52	0	0	0	0	12	12	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	107	55	0	0	0	0	23	11	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	170	63	0	0	0	0	32	9	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	238	68	0	0	0	0	48	16	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	319	81	0	0	0	0	60	12	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	410	91	0	0	0	0	83	23	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	501	91	0	0	0	0	100	17	0	0	0	0	0	0	0	0	1	1
9:00:00	0	0	598	97	0	0	0	0	113	13	0	0	0	0	0	0	0	0	2	1
9:15:00	0	0	693	95	0	0	0	0	127	14	0	0	0	0	0	0	0	0	4	2
9:30:00	0	0	803	110	0	0	0	0	134	7	0	0	0	0	0	0	0	0	4	0
9:45:00	0	0	947	144	0	0	0	0	152	18	0	0	0	0	0	0	0	0	4	0
10:00:00	0	0	1089	142	0	0	0	0	166	14	0	0	0	0	0	0	0	0	4	0
10:00:59	0	0	1089	0	0	0	0	0	166	0	0	0	0	0	0	0	0	0	4	0
11:30:00	0	0	1089	0	0	0	0	0	166	0	0	0	0	0	0	0	0	0	4	0
11:45:00	0	0	1237	148	0	0	0	0	184	18	0	0	0	0	0	0	0	0	4	0
12:00:00	0	0	1331	94	0	0	0	0	201	17	0	0	0	0	0	0	0	0	4	0
12:15:00	0	0	1462	131	0	0	0	0	219	18	0	0	0	0	0	0	0	0	4	0
12:30:00	1	1	1612	150	0	0	0	0	239	20	0	0	0	0	0	0	0	0	4	0
12:45:00	1	0	1776	164	0	0	0	0	266	27	0	0	0	0	0	0	0	0	5	1
13:00:00	1	0	1946	170	0	0	0	0	286	20	0	0	0	0	0	0	0	0	6	1
13:15:00	2	1	2109	163	0	0	0	0	313	27	0	0	0	0	0	0	0	0	8	2
13:30:00	3	1	2295	186	0	0	0	0	342	29	0	0	0	0	0	0	0	0	9	1
13:30:36	3	0	2295	0	0	0	0	0	342	0	0	0	0	0	0	0	0	0	9	0
16:30:00	3	0	2295	0	0	0	0	0	342	0	0	0	0	0	0	0	0	0	9	0
16:45:00	3	0	2492	197	0	0	0	0	367	25	0	0	0	0	0	0	0	0	9	0
17:00:00	3	0	2701	209	0	0	0	0	385	18	0	0	0	0	0	0	0	0	9	0
17:15:00	3	0	2921	220	0	0	0	0	398	13	0	0	0	0	0	0	0	0	9	0
17:30:00	3	0	3166	245	0	0	0	0	425	27	0	0	0	0	0	0	0	0	9	0
17:45:00	3	0	3401	235	0	0	0	0	454	29	0	0	0	0	0	0	0	0	9	0
18:00:00	3	0	3682	281	0	0	0	0	476	22	0	0	0	0	0	0	0	0	9	0
18:15:00	3	0	3935	253	0	0	0	0	498	22	0	0	0	0	0	0	0	0	9	0
18:30:00	4	1	4243	308	0	0	0	0	517	19	0	0	0	0	0	0	0	0	9	0
18:45:00	4	0	4510	267	0	0	0	0	533	16	0	0	0	0	0	0	0	0	9	0
19:00:00	4	0	4735	225	0	0	0	0	559	26	0	0	0	0	0	0	0	0	9	0
19:15:00	5	1	4952	217	0	0	0	0	580	21	0	0	0	0	0	0	0	0	9	0
19:30:00	5	0	5129	177	0	0	0	0	598	18	0	0	0	0	0	0	0	0	11	2
19:45:00	5	0	5129	0	0	0	0	0	598	0	0	0	0	0	0	0	0	0	11	0
19:45:51	5	0	5129	0	0	0	0	0	598	0	0	0	0	0	0	0	0	0	11	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200002

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0
8:45:00	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1
9:00:00	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	1
9:15:00	1	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	4	1
9:30:00	2	1	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	6	2
9:45:00	5	3	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0
10:00:00	5	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	12	6
10:00:59	5	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	12	0
11:30:00	5	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	12	0
11:45:00	5	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	12	0
12:00:00	5	0	0	0	4	1	1	0	0	0	0	0	0	0	0	0	0	0	14	2
12:15:00	5	0	0	0	6	2	1	0	0	0	0	0	0	0	0	0	0	0	18	4
12:30:00	5	0	0	0	7	1	1	0	0	0	0	0	0	0	0	0	0	0	21	3
12:45:00	6	1	0	0	8	1	1	0	0	0	1	1	0	0	0	0	0	0	24	3
13:00:00	8	2	0	0	8	0	1	0	0	0	1	0	0	0	0	0	0	0	26	2
13:15:00	8	0	0	0	8	0	1	0	0	0	1	0	0	0	0	0	0	0	31	5
13:30:00	8	0	0	0	9	1	1	0	0	0	1	0	0	0	0	0	0	0	33	2
13:30:36	8	0	0	0	9	0	1	0	0	0	1	0	0	0	0	0	0	0	33	0
16:30:00	8	0	0	0	9	0	1	0	0	0	1	0	0	0	0	0	0	0	33	0
16:45:00	8	0	0	0	9	0	1	0	0	0	1	0	0	0	0	0	0	0	36	3
17:00:00	8	0	0	0	9	0	1	0	0	0	1	0	0	0	0	0	0	0	37	1
17:15:00	8	0	0	0	11	2	1	0	0	0	1	0	0	0	0	0	0	0	42	5
17:30:00	8	0	0	0	12	1	1	0	0	0	1	0	0	0	0	0	0	0	43	1
17:45:00	8	0	0	0	12	0	1	0	0	0	1	0	0	0	0	0	0	0	43	0
18:00:00	8	0	0	0	13	1	1	0	0	0	1	0	0	0	0	0	0	0	44	1
18:15:00	8	0	0	0	13	0	1	0	0	0	1	0	0	0	0	0	0	0	45	1
18:30:00	8	0	0	0	14	1	1	0	0	0	1	0	0	0	0	0	0	0	46	1
18:45:00	8	0	0	0	14	0	1	0	0	0	1	0	0	0	0	0	0	0	49	3
19:00:00	8	0	0	0	14	0	1	0	0	0	1	0	0	0	0	0	0	0	51	2
19:15:00	8	0	0	0	14	0	1	0	0	0	1	0	0	0	0	0	0	0	54	3
19:30:00	11	3	0	0	15	1	1	0	0	0	1	0	0	0	0	0	0	0	56	2
19:45:00	11	0	0	0	15	0	1	0	0	0	1	0	0	0	0	0	0	0	56	0
19:45:51	11	0	0	0	15	0	1	0	0	0	1	0	0	0	0	0	0	0	56	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200002

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	39	39	0	0	0	0	8	8	0	0	0	0	0	0	0	0	1	1
7:30:00	0	0	89	50	0	0	0	0	20	12	0	0	0	0	0	0	0	0	2	1
7:45:00	0	0	145	56	0	0	0	0	38	18	0	0	0	0	0	0	0	0	2	0
8:00:00	0	0	215	70	0	0	0	0	47	9	0	0	0	0	0	0	0	0	3	1
8:15:00	0	0	292	77	1	1	0	0	60	13	0	0	0	0	0	0	0	0	5	2
8:30:00	0	0	396	104	1	0	0	0	79	19	0	0	0	0	0	0	0	0	10	5
8:45:00	0	0	550	154	2	1	0	0	100	21	0	0	0	0	0	0	0	0	17	7
9:00:00	0	0	744	194	2	0	0	0	127	27	0	0	0	0	0	0	0	0	24	7
9:15:00	0	0	994	250	2	0	0	0	156	29	0	0	0	0	0	0	0	0	35	11
9:30:00	0	0	1228	234	2	0	0	0	185	29	0	0	0	0	0	0	0	0	47	12
9:45:00	0	0	1480	252	3	1	0	0	208	23	0	0	0	0	0	0	0	0	52	5
10:00:00	0	0	1717	237	5	2	0	0	239	31	0	0	0	0	0	0	0	0	63	11
10:00:59	0	0	1717	0	5	0	0	0	239	0	0	0	0	0	0	0	0	0	63	0
11:30:00	0	0	1717	0	5	0	0	0	239	0	0	0	0	0	0	0	0	0	63	0
11:45:00	0	0	1885	168	7	2	0	0	258	19	0	0	0	0	0	0	0	0	72	9
12:00:00	0	0	2042	157	7	0	0	0	271	13	0	0	0	0	0	0	0	0	85	13
12:15:00	0	0	2219	177	7	0	0	0	295	24	0	0	0	0	0	0	0	0	92	7
12:30:00	0	0	2388	169	7	0	0	0	317	22	0	0	0	0	0	0	0	0	102	10
12:45:00	0	0	2569	181	9	2	0	0	332	15	0	0	0	0	0	0	0	0	106	4
13:00:00	0	0	2741	172	10	1	0	0	351	19	0	0	0	0	0	0	0	0	112	6
13:15:00	0	0	2906	165	11	1	0	0	374	23	0	0	0	0	0	0	0	0	121	9
13:30:00	0	0	3081	175	12	1	0	0	395	21	0	0	0	0	0	0	0	0	129	8
13:30:36	0	0	3081	0	12	0	0	0	395	0	0	0	0	0	0	0	0	0	129	0
16:30:00	0	0	3081	0	12	0	0	0	395	0	0	0	0	0	0	0	0	0	129	0
16:45:00	0	0	3261	180	12	0	0	0	428	33	0	0	0	0	0	0	0	0	137	8
17:00:00	0	0	3446	185	13	1	0	0	448	20	0	0	0	0	0	0	0	0	144	7
17:15:00	0	0	3625	179	13	0	0	0	476	28	0	0	0	0	0	0	0	0	154	10
17:30:00	0	0	3796	171	14	1	0	0	503	27	0	0	0	0	0	0	0	0	160	6
17:45:00	0	0	3999	203	16	2	0	0	530	27	0	0	0	0	0	0	0	0	161	1
18:00:00	0	0	4204	205	17	1	0	0	548	18	0	0	0	0	0	0	0	0	174	13
18:15:00	0	0	4422	218	17	0	0	0	567	19	0	0	0	0	0	0	0	0	181	7
18:30:00	0	0	4634	212	18	1	0	0	588	21	0	0	0	0	0	0	0	0	193	12
18:45:00	0	0	4826	192	18	0	0	0	613	25	0	0	0	0	0	0	0	0	199	6
19:00:00	0	0	5047	221	19	1	0	0	634	21	0	0	0	0	0	0	0	0	207	8
19:15:00	0	0	5229	182	19	0	0	0	660	26	0	0	0	0	0	0	0	0	217	10
19:30:00	0	0	5439	210	22	3	0	0	684	24	0	0	0	0	0	0	0	0	220	3
19:45:00	0	0	5439	0	22	0	0	0	684	0	0	0	0	0	0	0	0	0	220	0
19:45:51	0	0	5439	0	22	0	0	0	684	0	0	0	0	0	0	0	0	0	220	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200002

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45:51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 9:00:00
To: 10:00:00

Municipality: Guelph
Site #: 1907200003
Intersection: Gordon St & Edinburgh Rd S
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total:	1636
North Entering:	549
North Peds:	38
Peds Cross:	⋈

Heavys	0	0	0
Trucks	1	52	53
Cars	36	460	496
Totals	37	512	

Heavys	0
Trucks	112
Cars	975
Totals	1087

Gordon St

Heavys	Trucks	Cars	Totals
0	39	410	449

Edinburgh Rd S

N
W E
S

Heavys	Trucks	Cars	Totals
0	9	41	50
0	17	271	288
0	26	312	

Gordon St

Peds Cross:	⋈
West Peds:	0
West Entering:	338
West Leg Total:	787

Cars	731
Trucks	69
Heavys	0
Totals	800

Cars	374	934	1308
Trucks	38	103	141
Heavys	0	0	0
Totals	412	1037	

Peds Cross:	⋈
South Peds:	0
South Entering:	1449
South Leg Total:	2249

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Guelph
Site #: 1907200003
Intersection: Gordon St & Edinburgh Rd S
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1561
North Entering: 788
North Peds: 27
Peds Cross: ⋈

Heavys	0	0	0
Trucks	3	100	103
Cars	31	654	685
Totals	34	754	

Heavys	0
Trucks	78
Cars	695
Totals	773

Gordon St

Heavys	Trucks	Cars	Totals
0	25	268	293

Edinburgh Rd S

N
W E
S

Heavys	Trucks	Cars	Totals
0	3	24	27
0	33	314	347
0	36	338	

Gordon St

Peds Cross: ⋈
West Peds: 12
West Entering: 374
West Leg Total: 667

Cars	968
Trucks	133
Heavys	0
Totals	1101

Cars	237	671	908
Trucks	22	75	97
Heavys	0	0	0
Totals	259	746	

Peds Cross: ⋈
South Peds: 4
South Entering: 1005
South Leg Total: 2106

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:30:00
To: 19:30:00

One Hour Peak
From: 17:45:00
To: 18:45:00

Municipality: Guelph
Site #: 1907200003
Intersection: Gordon St & Edinburgh Rd S
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total:	2100
North Entering:	1188
North Peds:	36
Peds Cross:	⋈

Heavys	0	0	0
Trucks	5	74	79
Cars	102	1007	1109
Totals	107	1081	

Heavys	0
Trucks	83
Cars	829
Totals	912

Gordon St

Heavys	Trucks	Cars	Totals
0	36	520	556

Edinburgh Rd S

N
W E
S

Heavys	Trucks	Cars	Totals
0	8	38	46
0	42	548	590
0	50	586	

Gordon St

Peds Cross:	⋈
West Peds:	35
West Entering:	636
West Leg Total:	1192

Cars	1555
Trucks	116
Heavys	0
Totals	1671

Cars	418	791	1209
Trucks	31	75	106
Heavys	0	0	0
Totals	449	866	

Peds Cross:	⋈
South Peds:	25
South Entering:	1315
South Leg Total:	2986

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Guelph
Site #: 1907200003
Intersection: Gordon St & Edinburgh Rd S
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total:	11876
North Entering:	5736
North Peds:	232
Peds Cross:	⋈

Heavys	0	0	0
Trucks	27	572	599
Cars	330	4807	5137
Totals	357	5379	

Heavys	0
Trucks	679
Cars	5461
Totals	6140

Gordon St

Heavys	Trucks	Cars	Totals
0	224	2706	2930

Edinburgh Rd S

N
W E
S

Heavys	Trucks	Cars	Totals
0	48	239	287
0	228	2581	2809
0	276	2820	

Gordon St

Peds Cross:	⋈
West Peds:	115
West Entering:	3096
West Leg Total:	6026

Cars	7388		
Trucks	800		
Heavys	0		
Totals	8188		

Cars	2376	5222	7598
Trucks	197	631	828
Heavys	0	0	0
Totals	2573	5853	

Peds Cross:	⋈
South Peds:	58
South Entering:	8426
South Leg Total:	16614

Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Gordon St & Edinburgh Rd S | **Count Date:** 27-Mar-19 | **Municipality:** Guelph

North Approach Totals						North/South Total Approaches	South Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	277	9	286	4	642	8:00:00	117	239	0	356	1
9:00:00	0	413	15	428	21	1264	9:00:00	246	590	0	836	0
10:00:00	0	512	37	549	38	1998	10:00:00	412	1037	0	1449	0
12:00:00	0	259	17	276	21	751	12:00:00	130	345	0	475	4
13:00:00	0	666	34	700	27	1714	13:00:00	260	754	0	1014	4
17:00:00	0	811	44	855	33	1936	17:00:00	317	764	0	1081	4
18:00:00	0	1003	68	1071	37	2336	18:00:00	445	820	0	1265	18
19:00:00	0	1040	96	1136	33	2462	19:00:00	443	883	0	1326	20
Totals:	0	4981	320	5301	214	13103		2370	5432	0	7802	51

East Approach Totals						East/West Total Approaches	West Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0	161	8:00:00	18	0	143	161	2
9:00:00	0	0	0	0	0	233	9:00:00	22	0	211	233	5
10:00:00	0	0	0	0	0	338	10:00:00	50	0	288	338	0
12:00:00	0	0	0	0	0	147	12:00:00	15	0	132	147	5
13:00:00	0	0	0	0	0	342	13:00:00	29	0	313	342	11
17:00:00	0	0	0	0	0	455	17:00:00	37	0	418	455	16
18:00:00	0	0	0	0	0	534	18:00:00	41	0	493	534	33
19:00:00	0	0	0	0	0	634	19:00:00	50	0	584	634	29
Totals:	0	0	0	0	0	2844		262	0	2582	2844	101

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	23	43	88	40	60	74	96	103

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200003

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	52	52	0	0	0	0	11	11	1	1	0	0	0	0	0	0	1	1
7:30:00	0	0	107	55	0	0	0	0	22	11	1	0	0	0	0	0	0	0	3	2
7:45:00	0	0	165	58	5	5	0	0	31	9	1	0	0	0	0	0	0	0	3	0
8:00:00	0	0	230	65	8	3	0	0	47	16	1	0	0	0	0	0	0	0	4	1
8:15:00	0	0	308	78	11	3	0	0	58	11	2	1	0	0	0	0	0	0	6	2
8:30:00	0	0	395	87	15	4	0	0	82	24	2	0	0	0	0	0	0	0	11	5
8:45:00	0	0	485	90	18	3	0	0	99	17	2	0	0	0	0	0	0	0	18	7
9:00:00	0	0	578	93	22	4	0	0	112	13	2	0	0	0	0	0	0	0	25	7
9:15:00	0	0	665	87	30	8	0	0	126	14	2	0	0	0	0	0	0	0	36	11
9:30:00	0	0	766	101	41	11	0	0	133	7	2	0	0	0	0	0	0	0	47	11
9:45:00	0	0	905	139	49	8	0	0	151	18	2	0	0	0	0	0	0	0	52	5
10:00:00	0	0	1038	133	58	9	0	0	164	13	3	1	0	0	0	0	0	0	63	11
10:00:53	0	0	1038	0	58	0	0	0	164	0	3	0	0	0	0	0	0	0	63	0
11:30:00	0	0	1038	0	58	0	0	0	164	0	3	0	0	0	0	0	0	0	63	0
11:45:00	0	0	1176	138	67	9	0	0	181	17	4	1	0	0	0	0	0	0	72	9
12:00:00	0	0	1264	88	73	6	0	0	197	16	5	1	0	0	0	0	0	0	84	12
12:15:00	0	0	1384	120	84	11	0	0	214	17	6	1	0	0	0	0	0	0	91	7
12:30:00	0	0	1526	142	90	6	0	0	232	18	7	1	0	0	0	0	0	0	101	10
12:45:00	0	0	1685	159	96	6	0	0	258	26	8	1	0	0	0	0	0	0	105	4
13:00:00	0	0	1849	164	104	8	0	0	278	20	8	0	0	0	0	0	0	0	111	6
13:15:00	0	0	2001	152	114	10	0	0	305	27	8	0	0	0	0	0	0	0	120	9
13:30:00	0	0	2180	179	121	7	0	0	332	27	10	2	0	0	0	0	0	0	128	8
13:32:08	0	0	2180	0	121	0	0	0	332	0	10	0	0	0	0	0	0	0	128	0
16:30:00	0	0	2180	0	121	0	0	0	332	0	10	0	0	0	0	0	0	0	128	0
16:45:00	0	0	2367	187	131	10	0	0	357	25	10	0	0	0	0	0	0	0	136	8
17:00:00	0	0	2562	195	146	15	0	0	376	19	10	0	0	0	0	0	0	0	144	8
17:15:00	0	0	2771	209	156	10	0	0	389	13	10	0	0	0	0	0	0	0	154	10
17:30:00	0	0	3002	231	170	14	0	0	412	23	14	4	0	0	0	0	0	0	161	7
17:45:00	0	0	3229	227	178	8	0	0	440	28	15	1	0	0	0	0	0	0	169	8
18:00:00	0	0	3479	250	209	31	0	0	462	22	15	0	0	0	0	0	0	0	181	12
18:15:00	0	0	3714	235	227	18	0	0	483	21	16	1	0	0	0	0	0	0	188	7
18:30:00	0	0	3995	281	254	27	0	0	499	16	19	3	0	0	0	0	0	0	200	12
18:45:00	0	0	4236	241	280	26	0	0	514	15	20	1	0	0	0	0	0	0	205	5
19:00:00	0	0	4446	210	295	15	0	0	535	21	25	5	0	0	0	0	0	0	214	9
19:15:00	0	0	4641	195	316	21	0	0	555	20	26	1	0	0	0	0	0	0	224	10
19:30:00	0	0	4807	166	330	14	0	0	572	17	27	1	0	0	0	0	0	0	232	8
19:45:00	0	0	4807	0	330	0	0	0	572	0	27	0	0	0	0	0	0	0	232	0
19:45:30	0	0	4807	0	330	0	0	0	572	0	27	0	0	0	0	0	0	0	232	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200003

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00:53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:32:08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200003

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	22	22	37	37	0	0	1	1	9	9	0	0	0	0	0	0	0	0	0	0
7:30:00	42	20	81	44	0	0	4	3	20	11	0	0	0	0	0	0	0	0	0	0
7:45:00	77	35	132	51	0	0	13	9	33	13	0	0	0	0	0	0	0	0	1	1
8:00:00	100	23	198	66	0	0	17	4	41	8	0	0	0	0	0	0	0	0	1	0
8:15:00	134	34	274	76	0	0	20	3	54	13	0	0	0	0	0	0	0	0	1	0
8:30:00	174	40	375	101	0	0	23	3	71	17	0	0	0	0	0	0	0	0	1	0
8:45:00	254	80	526	151	0	0	30	7	92	21	0	0	0	0	0	0	0	0	1	0
9:00:00	328	74	713	187	0	0	35	5	116	24	0	0	0	0	0	0	0	0	1	0
9:15:00	427	99	956	243	0	0	42	7	144	28	0	0	0	0	0	0	0	0	1	0
9:30:00	512	85	1175	219	0	0	50	8	171	27	0	0	0	0	0	0	0	0	1	0
9:45:00	602	90	1416	241	0	0	65	15	192	21	0	0	0	0	0	0	0	0	1	0
10:00:00	702	100	1647	231	0	0	73	8	219	27	0	0	0	0	0	0	0	0	1	0
10:00:53	702	0	1647	0	0	0	73	0	219	0	0	0	0	0	0	0	0	0	1	0
11:30:00	702	0	1647	0	0	0	73	0	219	0	0	0	0	0	0	0	0	0	1	0
11:45:00	763	61	1812	165	0	0	75	2	237	18	0	0	0	0	0	0	0	0	2	1
12:00:00	823	60	1962	150	0	0	82	7	249	12	0	0	0	0	0	0	0	0	5	3
12:15:00	870	47	2131	169	0	0	86	4	269	20	0	0	0	0	0	0	0	0	7	2
12:30:00	936	66	2296	165	0	0	91	5	290	21	0	0	0	0	0	0	0	0	7	0
12:45:00	996	60	2472	176	0	0	96	5	305	15	0	0	0	0	0	0	0	0	8	1
13:00:00	1064	68	2642	170	0	0	101	5	323	18	0	0	0	0	0	0	0	0	9	1
13:15:00	1114	50	2802	160	0	0	108	7	345	22	0	0	0	0	0	0	0	0	9	0
13:30:00	1173	59	2967	165	0	0	113	5	365	20	0	0	0	0	0	0	0	0	11	2
13:32:08	1173	0	2967	0	0	0	113	0	365	0	0	0	0	0	0	0	0	0	11	0
16:30:00	1173	0	2967	0	0	0	113	0	365	0	0	0	0	0	0	0	0	0	11	0
16:45:00	1264	91	3138	171	0	0	124	11	396	31	0	0	0	0	0	0	0	0	11	0
17:00:00	1350	86	3315	177	0	0	132	8	414	18	0	0	0	0	0	0	0	0	13	2
17:15:00	1451	101	3485	170	0	0	136	4	440	26	0	0	0	0	0	0	0	0	18	5
17:30:00	1562	111	3651	166	0	0	147	11	465	25	0	0	0	0	0	0	0	0	19	1
17:45:00	1658	96	3848	197	0	0	151	4	490	25	0	0	0	0	0	0	0	0	24	5
18:00:00	1768	110	4043	195	0	0	159	8	506	16	0	0	0	0	0	0	0	0	31	7
18:15:00	1876	108	4250	207	0	0	169	10	523	17	0	0	0	0	0	0	0	0	36	5
18:30:00	1976	100	4457	207	0	0	171	2	543	20	0	0	0	0	0	0	0	0	41	5
18:45:00	2076	100	4639	182	0	0	182	11	565	22	0	0	0	0	0	0	0	0	49	8
19:00:00	2180	104	4848	209	0	0	190	8	584	19	0	0	0	0	0	0	0	0	51	2
19:15:00	2275	95	5021	173	0	0	195	5	608	24	0	0	0	0	0	0	0	0	56	5
19:30:00	2376	101	5222	201	0	0	197	2	631	23	0	0	0	0	0	0	0	0	58	2
19:45:00	2376	0	5222	0	0	0	197	0	631	0	0	0	0	0	0	0	0	0	58	0
19:45:30	2376	0	5222	0	0	0	197	0	631	0	0	0	0	0	0	0	0	0	58	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200003

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	1	1	0	0	21	21	0	0	0	0	3	3	0	0	0	0	0	0	0	0
7:30:00	7	6	0	0	50	29	1	1	0	0	5	2	0	0	0	0	0	0	1	1
7:45:00	12	5	0	0	90	40	1	0	0	0	8	3	0	0	0	0	0	0	2	1
8:00:00	16	4	0	0	131	41	2	1	0	0	12	4	0	0	0	0	0	0	2	0
8:15:00	18	2	0	0	166	35	2	0	0	0	14	2	0	0	0	0	0	0	3	1
8:30:00	21	3	0	0	210	44	4	2	0	0	18	4	0	0	0	0	0	0	4	1
8:45:00	26	5	0	0	259	49	4	0	0	0	25	7	0	0	0	0	0	0	5	1
9:00:00	33	7	0	0	326	67	7	3	0	0	28	3	0	0	0	0	0	0	7	2
9:15:00	40	7	0	0	389	63	8	1	0	0	30	2	0	0	0	0	0	0	7	0
9:30:00	55	15	0	0	455	66	10	2	0	0	34	4	0	0	0	0	0	0	7	0
9:45:00	66	11	0	0	517	62	12	2	0	0	36	2	0	0	0	0	0	0	7	0
10:00:00	74	8	0	0	597	80	16	4	0	0	45	9	0	0	0	0	0	0	7	0
10:00:53	74	0	0	0	597	0	16	0	0	0	45	0	0	0	0	0	0	0	7	0
11:30:00	74	0	0	0	597	0	16	0	0	0	45	0	0	0	0	0	0	0	7	0
11:45:00	80	6	0	0	658	61	17	1	0	0	53	8	0	0	0	0	0	0	9	2
12:00:00	87	7	0	0	716	58	18	1	0	0	58	5	0	0	0	0	0	0	12	3
12:15:00	94	7	0	0	782	66	22	4	0	0	65	7	0	0	0	0	0	0	13	1
12:30:00	100	6	0	0	856	74	23	1	0	0	69	4	0	0	0	0	0	0	15	2
12:45:00	106	6	0	0	931	75	23	0	0	0	79	10	0	0	0	0	0	0	21	6
13:00:00	110	4	0	0	1001	70	24	1	0	0	86	7	0	0	0	0	0	0	23	2
13:15:00	115	5	0	0	1088	87	25	1	0	0	91	5	0	0	0	0	0	0	25	2
13:30:00	124	9	0	0	1170	82	26	1	0	0	102	11	0	0	0	0	0	0	27	2
13:32:08	124	0	0	0	1170	0	26	0	0	0	102	0	0	0	0	0	0	0	27	0
16:30:00	124	0	0	0	1170	0	26	0	0	0	102	0	0	0	0	0	0	0	27	0
16:45:00	133	9	0	0	1276	106	28	2	0	0	110	8	0	0	0	0	0	0	32	5
17:00:00	142	9	0	0	1387	111	29	1	0	0	118	8	0	0	0	0	0	0	39	7
17:15:00	151	9	0	0	1482	95	31	2	0	0	132	14	0	0	0	0	0	0	51	12
17:30:00	157	6	0	0	1593	111	33	2	0	0	143	11	0	0	0	0	0	0	55	4
17:45:00	166	9	0	0	1709	116	35	2	0	0	153	10	0	0	0	0	0	0	63	8
18:00:00	175	9	0	0	1831	122	37	2	0	0	167	14	0	0	0	0	0	0	72	9
18:15:00	187	12	0	0	1971	140	39	2	0	0	179	12	0	0	0	0	0	0	78	6
18:30:00	194	7	0	0	2109	138	40	1	0	0	188	9	0	0	0	0	0	0	87	9
18:45:00	204	10	0	0	2257	148	43	3	0	0	195	7	0	0	0	0	0	0	98	11
19:00:00	217	13	0	0	2371	114	45	2	0	0	211	16	0	0	0	0	0	0	101	3
19:15:00	226	9	0	0	2475	104	47	2	0	0	222	11	0	0	0	0	0	0	112	11
19:30:00	239	13	0	0	2581	106	48	1	0	0	228	6	0	0	0	0	0	0	115	3
19:45:00	239	0	0	0	2581	0	48	0	0	0	228	0	0	0	0	0	0	0	115	0
19:45:30	239	0	0	0	2581	0	48	0	0	0	228	0	0	0	0	0	0	0	115	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 9:00:00
To: 10:00:00

Municipality: Guelph
Site #: 1907200004
Intersection: Gordon St & Arkell Rd-Residential
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total:	2224
North Entering:	793
North Peds:	48
Peds Cross:	⋈

Heavys	0	0	0	0
Trucks	1	58	11	70
Cars	7	588	128	723
Totals	8	646	139	

Heavys	0
Trucks	141
Cars	1290
Totals	1431

East Leg Total:	721
East Entering:	483
East Peds:	2
Peds Cross:	⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	1	10	11

Residential Access

Cars	Trucks	Heavys	Totals
307	33	0	340
2	0	0	2
122	19	0	141
431	52	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	1	16	17
0	0	0	0
0	1	4	5
0	2	20	

Arkell Rd

Cars	Trucks	Heavys	Totals
215	23	0	238

Gordon St

Peds Cross:	⧗
West Peds:	5
West Entering:	22
West Leg Total:	33

Cars	714
Trucks	78
Heavys	0
Totals	792

Cars	1	967	87	1055
Trucks	0	107	12	119
Heavys	0	0	0	0
Totals	1	1074	99	

Peds Cross:	⋈
South Peds:	2
South Entering:	1174
South Leg Total:	1966

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Guelph
Site #: 1907200004
Intersection: Gordon St & Arkell Rd-Residential /
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 2062
North Entering: 1086
North Peds: 39
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	3	108	22	133
Cars	14	759	180	953
Totals	17	867	202	

Heavys	0
Trucks	94
Cars	882
Totals	976

East Leg Total: 535
East Entering: 259
East Peds: 2
Peds Cross: ⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	3	19	22

Residential Access

Cars	Trucks	Heavys	Totals
156	17	0	173
0	0	0	0
79	7	0	86
235	24	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	2	17	19
0	0	0	0
0	0	5	5
0	2	22	

Arkell Rd

Cars	Trucks	Heavys	Totals
243	33	0	276

Gordon St

Peds Cross: ⧗
West Peds: 8
West Entering: 24
West Leg Total: 46

Cars	843
Trucks	115
Heavys	0
Totals	958

Cars	5	709	63	777
Trucks	0	75	11	86
Heavys	0	0	0	0
Totals	5	784	74	

Peds Cross: ⋈
South Peds: 5
South Entering: 863
South Leg Total: 1821

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:30:00
To: 19:30:00

One Hour Peak
From: 17:45:00
To: 18:45:00

Municipality: Guelph
Site #: 1907200004
Intersection: Gordon St & Arkell Rd-Residential
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 2949
North Entering: 1643
North Peds: 27
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	0	92	29	121
Cars	13	1179	330	1522
Totals	13	1271	359	

Heavys	0
Trucks	107
Cars	1199
Totals	1306

East Leg Total: 946
East Entering: 388
East Peds: 4
Peds Cross: ⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	1	31	32

Residential Access

Cars	Trucks	Heavys	Totals
234	29	0	263
6	0	0	6
103	16	0	119
343	45	0	

N
W E
S

Arkell Rd

Cars	Trucks	Heavys	Totals
509	49	0	558

Heavys	Trucks	Cars	Totals
0	0	21	21
0	0	3	3
0	1	11	12
0	1	35	

Gordon St

Peds Cross: ⧗
West Peds: 12
West Entering: 36
West Leg Total: 68

Cars	1293
Trucks	109
Heavys	0
Totals	1402

Cars	12	944	176	1132
Trucks	1	78	20	99
Heavys	0	0	0	0
Totals	13	1022	196	

Peds Cross: ⋈
South Peds: 8
South Entering: 1231
South Leg Total: 2633

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Guelph
Site #: 1907200004
Intersection: Gordon St & Arkell Rd-Residential
TFR File #: 1
Count date: 27-Mar-19

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 16432
North Entering: 8093
North Peds: 219
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	9	654	155	818
Cars	96	5776	1403	7275
Totals	105	6430	1558	

Heavys	0
Trucks	828
Cars	7511
Totals	8339

East Leg Total: 5048
East Entering: 2606
East Peds: 44
Peds Cross: ⧗

Gordon St

Heavys	Trucks	Cars	Totals
0	11	158	169

Residential Access

Cars	Trucks	Heavys	Totals
1585	191	0	1776
16	0	0	16
714	100	0	814
2315	291	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	6	103	109
0	2	11	13
0	5	51	56
0	13	165	

Arkell Rd

Cars	Trucks	Heavys	Totals
2179	263	0	2442

Gordon St

Peds Cross: ⧗
West Peds: 61
West Entering: 178
West Leg Total: 347

Cars	6541
Trucks	759
Heavys	0
Totals	7300

Cars	46	5823	765	6634
Trucks	2	631	106	739
Heavys	0	0	0	0
Totals	48	6454	871	

Peds Cross: ⋈
South Peds: 26
South Entering: 7373
South Leg Total: 14673

Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Gordon St & Arkell Rd-Residential | **Count Date:** 27-Mar-19 | **Municipality:** Guelph

North Approach Totals						North/South Total Approaches	South Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	37	381	1	419	5	698	8:00:00	0	248	31	279	0
9:00:00	117	511	3	631	16	1320	9:00:00	1	603	85	689	1
10:00:00	139	646	8	793	48	1967	10:00:00	1	1074	99	1174	2
12:00:00	76	317	3	396	16	790	12:00:00	1	358	35	394	0
13:00:00	165	767	19	951	48	1824	13:00:00	6	794	73	873	5
17:00:00	240	968	18	1226	32	2201	17:00:00	7	857	111	975	4
18:00:00	293	1135	19	1447	24	2615	18:00:00	14	987	167	1168	3
19:00:00	338	1241	21	1600	23	2850	19:00:00	11	1034	205	1250	11
Totals:	1405	5966	92	7463	212	14265		41	5955	806	6802	26

East Approach Totals						East/West Total Approaches	West Approach Totals					
	Includes Cars, Trucks, & Heavys							Includes Cars, Trucks, & Heavys				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds		Hour Ending	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	66	1	97	164	1	171	8:00:00	2	2	3	7	2
9:00:00	102	0	206	308	2	327	9:00:00	12	4	3	19	4
10:00:00	141	2	340	483	2	505	10:00:00	17	0	5	22	5
12:00:00	40	0	106	146	4	151	12:00:00	3	1	1	5	4
13:00:00	72	0	181	253	6	274	13:00:00	17	0	4	21	7
17:00:00	102	2	189	293	7	316	17:00:00	16	0	7	23	13
18:00:00	127	7	255	389	8	422	18:00:00	15	2	16	33	6
19:00:00	115	3	269	387	5	420	19:00:00	20	3	10	33	14
Totals:	765	15	1643	2423	35	2586		102	12	49	163	55

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	75	135	210	60	142	156	176	172

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200004

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	4	4	66	66	1	1	1	1	14	14	0	0	0	0	0	0	0	0	1	1
7:30:00	7	3	142	76	1	0	1	0	27	13	0	0	0	0	0	0	0	0	3	2
7:45:00	17	10	236	94	1	0	3	2	40	13	0	0	0	0	0	0	0	0	4	1
8:00:00	31	14	322	86	1	0	6	3	59	19	0	0	0	0	0	0	0	0	5	1
8:15:00	56	25	415	93	1	0	8	2	69	10	0	0	0	0	0	0	0	0	6	1
8:30:00	74	18	529	114	1	0	14	6	91	22	0	0	0	0	0	0	0	0	7	1
8:45:00	97	23	642	113	2	1	19	5	115	24	1	1	0	0	0	0	0	0	13	6
9:00:00	132	35	763	121	3	1	22	3	129	14	1	0	0	0	0	0	0	0	21	8
9:15:00	164	32	890	127	3	0	24	2	143	14	1	0	0	0	0	0	0	0	34	13
9:30:00	190	26	1026	136	6	3	26	2	151	8	1	0	0	0	0	0	0	0	42	8
9:45:00	219	29	1189	163	6	0	26	0	171	20	1	0	0	0	0	0	0	0	49	7
10:00:00	260	41	1351	162	10	4	33	7	187	16	2	1	0	0	0	0	0	0	69	20
10:01:50	260	0	1351	0	10	0	33	0	187	0	2	0	0	0	0	0	0	0	69	0
11:30:00	260	0	1351	0	10	0	33	0	187	0	2	0	0	0	0	0	0	0	69	0
11:45:00	290	30	1518	167	11	1	41	8	205	18	3	1	0	0	0	0	0	0	78	9
12:00:00	322	32	1634	116	12	1	47	6	221	16	3	0	0	0	0	0	0	0	85	7
12:15:00	349	27	1772	138	18	6	50	3	243	22	3	0	0	0	0	0	0	0	106	21
12:30:00	385	36	1940	168	21	3	53	3	262	19	3	0	0	0	0	0	0	0	114	8
12:45:00	425	40	2139	199	26	5	63	10	288	26	4	1	0	0	0	0	0	0	121	7
13:00:00	469	44	2310	171	28	2	65	2	312	24	6	2	0	0	0	0	0	0	133	12
13:15:00	507	38	2501	191	30	2	68	3	341	29	6	0	0	0	0	0	0	0	144	11
13:30:00	565	58	2699	198	35	5	75	7	370	29	6	0	0	0	0	0	0	0	153	9
13:32:14	565	0	2699	0	35	0	75	0	370	0	6	0	0	0	0	0	0	0	153	0
16:30:00	565	0	2699	0	35	0	75	0	370	0	6	0	0	0	0	0	0	0	153	0
16:45:00	625	60	2924	225	42	7	79	4	399	29	6	0	0	0	0	0	0	0	159	6
17:00:00	687	62	3167	243	46	4	87	8	423	24	6	0	0	0	0	0	0	0	165	6
17:15:00	745	58	3405	238	52	6	93	6	438	15	6	0	0	0	0	0	0	0	175	10
17:30:00	805	60	3668	263	57	5	98	5	464	26	6	0	0	0	0	0	0	0	179	4
17:45:00	864	59	3925	257	63	6	106	8	492	28	7	1	0	0	0	0	0	0	183	4
18:00:00	952	88	4204	279	64	1	115	9	521	29	7	0	0	0	0	0	0	0	189	6
18:15:00	1018	66	4509	305	69	5	127	12	543	22	7	0	0	0	0	0	0	0	194	5
18:30:00	1109	91	4820	311	73	4	131	4	562	19	7	0	0	0	0	0	0	0	198	4
18:45:00	1194	85	5104	284	76	3	135	4	584	22	7	0	0	0	0	0	0	0	210	12
19:00:00	1266	72	5353	249	83	7	139	4	613	29	9	2	0	0	0	0	0	0	212	2
19:15:00	1338	72	5565	212	90	7	147	8	641	28	9	0	0	0	0	0	0	0	213	1
19:30:00	1403	65	5776	211	96	6	155	8	654	13	9	0	0	0	0	0	0	0	219	6
19:45:00	1403	0	5776	0	96	0	155	0	654	0	9	0	0	0	0	0	0	0	219	0
19:45:34	1403	0	5776	0	96	0	155	0	654	0	9	0	0	0	0	0	0	0	219	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200004

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	6	6	0	0	20	20	4	4	0	0	3	3	0	0	0	0	0	0	1	1
7:30:00	17	11	0	0	34	14	6	2	0	0	6	3	0	0	0	0	0	0	1	0
7:45:00	43	26	1	1	60	26	11	5	0	0	12	6	0	0	0	0	0	0	1	0
8:00:00	55	12	1	0	85	25	11	0	0	0	12	0	0	0	0	0	0	0	1	0
8:15:00	70	15	1	0	114	29	14	3	0	0	15	3	0	0	0	0	0	0	1	0
8:30:00	100	30	1	0	149	35	16	2	0	0	21	6	0	0	0	0	0	0	1	0
8:45:00	122	22	1	0	211	62	19	3	0	0	25	4	0	0	0	0	0	0	3	2
9:00:00	148	26	1	0	272	61	20	1	0	0	31	6	0	0	0	0	0	0	3	0
9:15:00	174	26	1	0	352	80	25	5	0	0	38	7	0	0	0	0	0	0	4	1
9:30:00	205	31	3	2	428	76	30	5	0	0	46	8	0	0	0	0	0	0	4	0
9:45:00	241	36	3	0	494	66	34	4	0	0	58	12	0	0	0	0	0	0	4	0
10:00:00	270	29	3	0	579	85	39	5	0	0	64	6	0	0	0	0	0	0	5	1
10:01:50	270	0	3	0	579	0	39	0	0	0	64	0	0	0	0	0	0	0	5	0
11:30:00	270	0	3	0	579	0	39	0	0	0	64	0	0	0	0	0	0	0	5	0
11:45:00	288	18	3	0	636	57	43	4	0	0	69	5	0	0	0	0	0	0	6	1
12:00:00	305	17	3	0	675	39	44	1	0	0	74	5	0	0	0	0	0	0	9	3
12:15:00	319	14	3	0	703	28	46	2	0	0	81	7	0	0	0	0	0	0	11	2
12:30:00	332	13	3	0	741	38	48	2	0	0	90	9	0	0	0	0	0	0	15	4
12:45:00	349	17	3	0	781	40	49	1	0	0	97	7	0	0	0	0	0	0	15	0
13:00:00	370	21	3	0	831	50	51	2	0	0	99	2	0	0	0	0	0	0	15	0
13:15:00	393	23	3	0	857	26	52	1	0	0	104	5	0	0	0	0	0	0	16	1
13:30:00	411	18	3	0	897	40	55	3	0	0	107	3	0	0	0	0	0	0	17	1
13:32:14	411	0	3	0	897	0	55	0	0	0	107	0	0	0	0	0	0	0	17	0
16:30:00	411	0	3	0	897	0	55	0	0	0	107	0	0	0	0	0	0	0	17	0
16:45:00	432	21	5	2	935	38	59	4	0	0	117	10	0	0	0	0	0	0	19	2
17:00:00	462	30	5	0	997	62	61	2	0	0	122	5	0	0	0	0	0	0	22	3
17:15:00	489	27	5	0	1042	45	65	4	0	0	127	5	0	0	0	0	0	0	24	2
17:30:00	513	24	6	1	1108	66	68	3	0	0	134	7	0	0	0	0	0	0	27	3
17:45:00	547	34	9	3	1171	63	74	6	0	0	138	4	0	0	0	0	0	0	28	1
18:00:00	572	25	12	3	1230	59	78	4	0	0	144	6	0	0	0	0	0	0	30	2
18:15:00	603	31	12	0	1296	66	81	3	0	0	154	10	0	0	0	0	0	0	30	0
18:30:00	627	24	13	1	1348	52	83	2	0	0	161	7	0	0	0	0	0	0	31	1
18:45:00	650	23	15	2	1405	57	90	7	0	0	167	6	0	0	0	0	0	0	32	1
19:00:00	673	23	15	0	1467	62	92	2	0	0	176	9	0	0	0	0	0	0	35	3
19:15:00	689	16	15	0	1520	53	97	5	0	0	184	8	0	0	0	0	0	0	39	4
19:30:00	714	25	16	1	1585	65	100	3	0	0	191	7	0	0	0	0	0	0	44	5
19:45:00	714	0	16	0	1585	0	100	0	0	0	191	0	0	0	0	0	0	0	44	0
19:45:34	714	0	16	0	1585	0	100	0	0	0	191	0	0	0	0	0	0	0	44	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200004

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	36	36	3	3	0	0	7	7	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	81	45	6	3	0	0	18	11	1	1	0	0	0	0	0	0	0	0
7:45:00	0	0	135	54	15	9	0	0	36	18	6	5	0	0	0	0	0	0	0	0
8:00:00	0	0	199	64	24	9	0	0	49	13	7	1	0	0	0	0	0	0	0	0
8:15:00	0	0	272	73	34	10	0	0	61	12	7	0	0	0	0	0	0	0	1	1
8:30:00	0	0	362	90	53	19	0	0	77	16	10	3	0	0	0	0	0	0	1	0
8:45:00	0	0	528	166	70	17	0	0	100	23	12	2	0	0	0	0	0	0	1	0
9:00:00	1	1	729	201	98	28	0	0	122	22	18	6	0	0	0	0	0	0	1	0
9:15:00	1	0	973	244	118	20	0	0	148	26	22	4	0	0	0	0	0	0	2	1
9:30:00	1	0	1199	226	146	28	0	0	175	27	25	3	0	0	0	0	0	0	2	0
9:45:00	2	1	1455	256	165	19	0	0	200	25	26	1	0	0	0	0	0	0	2	0
10:00:00	2	0	1696	241	185	20	0	0	229	29	30	4	0	0	0	0	0	0	3	1
10:01:50	2	0	1696	0	185	0	0	0	229	0	30	0	0	0	0	0	0	0	3	0
11:30:00	2	0	1696	0	185	0	0	0	229	0	30	0	0	0	0	0	0	0	3	0
11:45:00	2	0	1860	164	206	21	0	0	246	17	32	2	0	0	0	0	0	0	3	0
12:00:00	3	1	2023	163	217	11	0	0	260	14	33	1	0	0	0	0	0	0	3	0
12:15:00	3	0	2201	178	233	16	0	0	277	17	34	1	0	0	0	0	0	0	4	1
12:30:00	5	2	2388	187	257	24	0	0	297	20	35	1	0	0	0	0	0	0	6	2
12:45:00	6	1	2580	192	272	15	0	0	310	13	38	3	0	0	0	0	0	0	8	2
13:00:00	9	3	2749	169	283	11	0	0	328	18	40	2	0	0	0	0	0	0	8	0
13:15:00	9	0	2920	171	301	18	0	0	352	24	45	5	0	0	0	0	0	0	8	0
13:30:00	10	1	3097	177	320	19	0	0	372	20	46	1	0	0	0	0	0	0	11	3
13:32:14	10	0	3097	0	320	0	0	0	372	0	46	0	0	0	0	0	0	0	11	0
16:30:00	10	0	3097	0	320	0	0	0	372	0	46	0	0	0	0	0	0	0	11	0
16:45:00	13	3	3312	215	348	28	0	0	401	29	54	8	0	0	0	0	0	0	11	0
17:00:00	16	3	3514	202	375	27	0	0	420	19	59	5	0	0	0	0	0	0	12	1
17:15:00	19	3	3725	211	412	37	0	0	443	23	63	4	0	0	0	0	0	0	14	2
17:30:00	20	1	3935	210	447	35	1	1	471	28	68	5	0	0	0	0	0	0	14	0
17:45:00	23	3	4172	237	489	42	1	0	495	24	71	3	0	0	0	0	0	0	15	1
18:00:00	28	5	4407	235	526	37	2	1	514	19	75	4	0	0	0	0	0	0	15	0
18:15:00	30	2	4635	228	573	47	2	0	532	18	81	6	0	0	0	0	0	0	22	7
18:30:00	30	0	4888	253	630	57	2	0	549	17	88	7	0	0	0	0	0	0	22	0
18:45:00	35	5	5116	228	665	35	2	0	573	24	91	3	0	0	0	0	0	0	23	1
19:00:00	39	4	5364	248	713	48	2	0	591	18	93	2	0	0	0	0	0	0	26	3
19:15:00	42	3	5582	218	741	28	2	0	611	20	101	8	0	0	0	0	0	0	26	0
19:30:00	46	4	5823	241	765	24	2	0	631	20	106	5	0	0	0	0	0	0	26	0
19:45:00	46	0	5823	0	765	0	2	0	631	0	106	0	0	0	0	0	0	0	26	0
19:45:34	46	0	5823	0	765	0	2	0	631	0	106	0	0	0	0	0	0	0	26	0

Ontario Traffic Inc.

Count Date: 27-Mar-19 Site #: 1907200004

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30:00	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45:00	2	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
8:00:00	2	0	2	0	2	1	0	0	0	0	1	1	0	0	0	0	0	0	2	0
8:15:00	4	2	2	0	2	0	1	1	0	0	1	0	0	0	0	0	0	0	4	2
8:30:00	8	4	3	1	3	1	1	0	0	0	1	0	0	0	0	0	0	0	5	1
8:45:00	8	0	5	2	5	2	1	0	1	1	1	0	0	0	0	0	0	0	5	0
9:00:00	13	5	5	0	5	0	1	0	1	0	1	0	0	0	0	0	0	0	6	1
9:15:00	19	6	5	0	6	1	2	1	1	0	1	0	0	0	0	0	0	0	7	1
9:30:00	23	4	5	0	7	1	2	0	1	0	1	0	0	0	0	0	0	0	7	0
9:45:00	27	4	5	0	8	1	2	0	1	0	1	0	0	0	0	0	0	0	9	2
10:00:00	29	2	5	0	9	1	2	0	1	0	2	1	0	0	0	0	0	0	11	2
10:01:50	29	0	5	0	9	0	2	0	1	0	2	0	0	0	0	0	0	0	11	0
11:30:00	29	0	5	0	9	0	2	0	1	0	2	0	0	0	0	0	0	0	11	0
11:45:00	31	2	5	0	9	0	2	0	1	0	2	0	0	0	0	0	0	0	13	2
12:00:00	32	1	6	1	9	0	2	0	1	0	3	1	0	0	0	0	0	0	15	2
12:15:00	35	3	6	0	10	1	2	0	1	0	3	0	0	0	0	0	0	0	15	0
12:30:00	39	4	6	0	10	0	2	0	1	0	3	0	0	0	0	0	0	0	18	3
12:45:00	41	2	6	0	12	2	2	0	1	0	3	0	0	0	0	0	0	0	20	2
13:00:00	47	6	6	0	13	1	4	2	1	0	3	0	0	0	0	0	0	0	22	2
13:15:00	52	5	6	0	13	0	4	0	1	0	3	0	0	0	0	0	0	0	25	3
13:30:00	56	4	6	0	15	2	4	0	1	0	3	0	0	0	0	0	0	0	26	1
13:32:14	56	0	6	0	15	0	4	0	1	0	3	0	0	0	0	0	0	0	26	0
16:30:00	56	0	6	0	15	0	4	0	1	0	3	0	0	0	0	0	0	0	26	0
16:45:00	57	1	6	0	18	3	4	0	1	0	3	0	0	0	0	0	0	0	27	1
17:00:00	62	5	6	0	20	2	5	1	1	0	3	0	0	0	0	0	0	0	35	8
17:15:00	64	2	6	0	21	1	5	0	1	0	3	0	0	0	0	0	0	0	35	0
17:30:00	68	4	6	0	26	5	5	0	1	0	3	0	0	0	0	0	0	0	39	4
17:45:00	72	4	7	1	30	4	5	0	1	0	4	1	0	0	0	0	0	0	40	1
18:00:00	77	5	8	1	34	4	5	0	1	0	5	1	0	0	0	0	0	0	41	1
18:15:00	82	5	9	1	36	2	5	0	1	0	5	0	0	0	0	0	0	0	48	7
18:30:00	85	3	9	0	37	1	5	0	1	0	5	0	0	0	0	0	0	0	50	2
18:45:00	93	8	10	1	41	4	5	0	1	0	5	0	0	0	0	0	0	0	52	2
19:00:00	96	3	11	1	44	3	6	1	1	0	5	0	0	0	0	0	0	0	55	3
19:15:00	100	4	11	0	49	5	6	0	2	1	5	0	0	0	0	0	0	0	58	3
19:30:00	103	3	11	0	51	2	6	0	2	0	5	0	0	0	0	0	0	0	61	3
19:45:00	103	0	11	0	51	0	6	0	2	0	5	0	0	0	0	0	0	0	61	0
19:45:34	103	0	11	0	51	0	6	0	2	0	5	0	0	0	0	0	0	0	61	0

Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5

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File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 1

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Gordon St From North					Kortright Rd E From East					Gordon St From South					Kortright Rd W From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	10	56	5	1	72	8	19	9	0	36	4	83	7	0	94	4	7	14	2	27	229
07:15 AM	19	79	1	1	100	4	17	8	1	30	4	99	15	1	119	9	8	21	2	40	289
07:30 AM	20	82	0	1	103	10	39	10	0	59	2	162	16	1	181	7	18	33	3	61	404
07:45 AM	20	80	2	8	110	11	32	10	0	53	4	193	12	0	209	22	13	54	4	93	465
Total	69	297	8	11	385	33	107	37	1	178	14	537	50	2	603	42	46	122	11	221	1387
08:00 AM	16	81	4	1	102	14	37	19	3	73	8	253	22	5	288	17	14	56	7	94	557
08:15 AM	26	87	1	4	118	28	57	21	0	106	7	253	20	0	280	13	19	46	1	79	583
08:30 AM	24	105	3	0	132	25	49	22	0	96	2	224	25	0	251	24	20	53	5	102	581
08:45 AM	28	96	3	0	127	18	34	6	0	58	8	242	19	0	269	27	23	53	1	104	558
Total	94	369	11	5	479	85	177	68	3	333	25	972	86	5	1088	81	76	208	14	379	2279
11:00 AM	23	135	2	5	165	6	13	4	1	24	5	165	19	3	192	21	11	33	3	68	449
11:15 AM	25	143	14	1	183	14	10	6	4	34	2	193	17	3	215	16	9	43	4	72	504
11:30 AM	29	173	11	3	216	7	17	4	4	32	4	148	14	5	171	33	15	18	6	72	491
11:45 AM	24	161	5	4	194	14	10	7	1	32	7	150	27	4	188	37	13	35	6	91	505
Total	101	612	32	13	758	41	50	21	10	122	18	656	77	15	766	107	48	129	19	303	1949
12:00 PM	47	163	9	1	220	12	15	7	0	34	7	179	19	0	205	25	11	24	2	62	521
12:15 PM	28	150	13	8	199	10	11	9	1	31	7	161	14	2	184	27	25	33	7	92	506
12:30 PM	25	136	9	8	178	7	10	8	3	28	9	208	27	0	244	27	10	35	5	77	527
12:45 PM	31	167	8	2	208	7	24	8	4	43	1	151	19	4	175	26	12	31	7	76	502
Total	131	616	39	19	805	36	60	32	8	136	24	699	79	6	808	105	58	123	21	307	2056
01:00 PM	36	205	5	2	248	7	15	7	1	30	2	168	21	2	193	17	18	34	6	75	546
01:15 PM	32	171	9	2	214	8	18	5	0	31	2	169	15	1	187	19	18	27	8	72	504
01:30 PM	45	155	6	2	208	12	8	7	1	28	7	158	22	2	189	24	9	30	4	67	492
01:45 PM	31	142	4	0	177	7	14	7	0	28	6	160	28	1	195	22	13	31	2	68	468
Total	144	673	24	6	847	34	55	26	2	117	17	655	86	6	764	82	58	122	20	282	2010
03:00 PM	36	132	5	2	175	6	33	13	4	56	9	167	24	8	208	27	27	49	2	105	544
03:15 PM	34	171	1	2	208	4	34	7	0	45	9	187	28	3	227	21	18	30	6	75	555

Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5

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File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 2

Groups Printed- Cars - Trucks - Heavys - Cyclists

	Gordon St From North					Kortright Rd E From East					Gordon St From South					Kortright Rd W From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:30 PM	30	176	12	5	223	8	11	8	6	33	9	171	23	3	206	41	31	50	3	125	587
03:45 PM	39	198	11	3	251	8	16	5	0	29	6	163	19	3	191	21	35	48	5	109	580
Total	139	677	29	12	857	26	94	33	10	163	33	688	94	17	832	110	111	177	16	414	2266
04:00 PM	44	282	7	0	333	3	21	8	3	35	17	181	21	2	221	30	20	41	7	98	687
04:15 PM	47	234	15	1	297	11	21	8	3	43	12	168	37	7	224	40	40	44	17	141	705
04:30 PM	48	249	16	2	315	10	26	6	2	44	12	154	26	3	195	39	33	42	4	118	672
04:45 PM	37	240	14	5	296	5	24	8	5	42	12	191	25	2	230	32	42	65	15	154	722
Total	176	1005	52	8	1241	29	92	30	13	164	53	694	109	14	870	141	135	192	43	511	2786
05:00 PM	48	270	15	2	335	11	37	18	7	73	12	203	21	3	239	31	37	58	7	133	780
05:15 PM	48	273	18	1	340	5	22	7	3	37	9	167	33	3	212	44	31	49	7	131	720
05:30 PM	46	244	16	8	314	9	27	10	3	49	9	203	38	7	257	33	38	47	14	132	752
05:45 PM	42	220	8	8	278	14	24	9	11	58	12	207	26	5	250	39	26	45	6	116	702
Total	184	1007	57	19	1267	39	110	44	24	217	42	780	118	18	958	147	132	199	34	512	2954
Grand Total	1038	5256	252	93	6639	323	745	291	71	1430	226	5681	699	83	6689	815	664	1272	178	2929	17687
Apprch %	15.6	79.2	3.8	1.4		22.6	52.1	20.3	5		3.4	84.9	10.4	1.2		27.8	22.7	43.4	6.1		
Total %	5.9	29.7	1.4	0.5	37.5	1.8	4.2	1.6	0.4	8.1	1.3	32.1	4	0.5	37.8	4.6	3.8	7.2	1	16.6	
Cars	994	5074	247	93	6408	316	723	288	71	1398	219	5457	694	83	6453	803	650	1214	178	2845	17104
% Cars	95.8	96.5	98	100	96.5	97.8	97	99	100	97.8	96.9	96.1	99.3	100	96.5	98.5	97.9	95.4	100	97.1	96.7
Trucks	3	26	3	0	32	1	9	0	0	10	1	35	1	0	37	5	2	12	0	19	98
% Trucks	0.3	0.5	1.2	0	0.5	0.3	1.2	0	0	0.7	0.4	0.6	0.1	0	0.6	0.6	0.3	0.9	0	0.6	0.6
Heavys	41	152	2	0	195	4	13	3	0	20	6	185	4	0	195	6	11	45	0	62	472
% Heavys	3.9	2.9	0.8	0	2.9	1.2	1.7	1	0	1.4	2.7	3.3	0.6	0	2.9	0.7	1.7	3.5	0	2.1	2.7
Cyclists	0	4	0	0	4	2	0	0	0	2	0	4	0	0	4	1	1	1	0	3	13
% Cyclists	0	0.1	0	0	0.1	0.6	0	0	0	0.1	0	0.1	0	0	0.1	0.1	0.2	0.1	0	0.1	0.1

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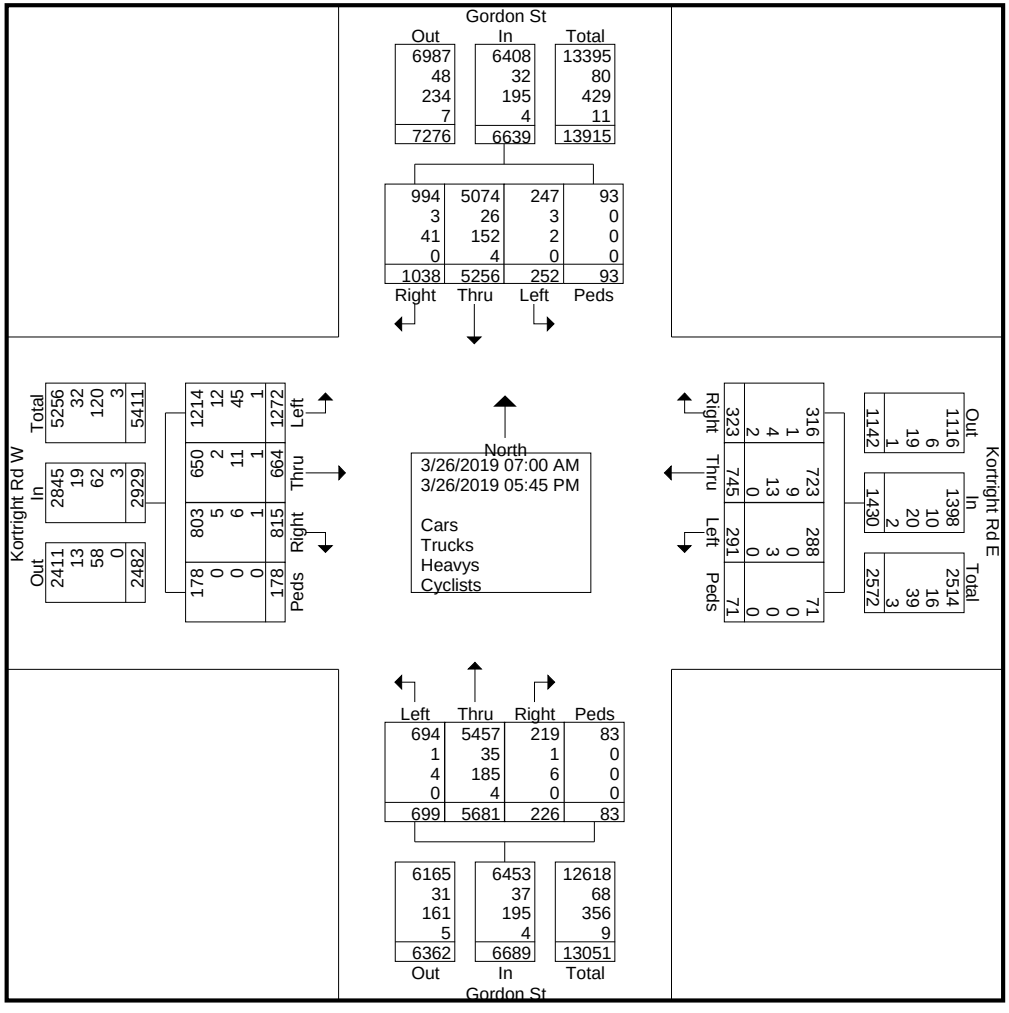
Thornhill, ON L3T 4T5
"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 3



Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5

"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 4

	Gordon St From North					Kortright Rd E From East					Gordon St From South					Kortright Rd W From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	16	81	**4**	1	102	14	37	19	**3**	73	**8**	**253**	22	**5**	**288**	17	14	**56**	**7**	94	557
08:15 AM	26	87	1	**4**	118	**28**	**57**	21	0	**106**	7	253	20	0	280	13	19	46	1	79	**583**
08:30 AM	24	**105**	3	0	**132**	25	49	**22**	0	96	2	224	**25**	0	251	24	20	53	5	102	581
08:45 AM	**28**	96	3	0	127	18	34	6	0	58	8	242	19	0	269	**27**	**23**	53	1	**104**	558
Total Volume	94	369	11	5	479	85	177	68	3	333	25	972	86	5	1088	81	76	208	14	379	2279
% App. Total	19.6	77	2.3	1		25.5	53.2	20.4	0.9		2.3	89.3	7.9	0.5		21.4	20.1	54.9	3.7		
PHF	.839	.879	.688	.313	.907	.759	.776	.773	.250	.785	.781	.960	.860	.250	.944	.750	.826	.929	.500	.911	.977
Cars	88	346	11	5	450	82	170	68	3	323	21	922	84	5	1032	79	74	199	14	366	2171
% Cars	93.6	93.8	100	100	93.9	96.5	96.0	100	100	97.0	84.0	94.9	97.7	100	94.9	97.5	97.4	95.7	100	96.6	95.3
Trucks	0	4	0	0	4	0	3	0	0	3	1	14	0	0	15	2	0	2	0	4	26
% Trucks	0	1.1	0	0	0.8	0	1.7	0	0	0.9	4.0	1.4	0	0	1.4	2.5	0	1.0	0	1.1	1.1
Heavys	6	19	0	0	25	1	4	0	0	5	3	33	2	0	38	0	2	6	0	8	76
% Heavys	6.4	5.1	0	0	5.2	1.2	2.3	0	0	1.5	12.0	3.4	2.3	0	3.5	0	2.6	2.9	0	2.1	3.3
Cyclists	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	0	0	1	0	1	6
% Cyclists	0	0	0	0	0	2.4	0	0	0	0.6	0	0.3	0	0	0.3	0	0	0.5	0	0.3	0.3

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318 Simonston Blvd
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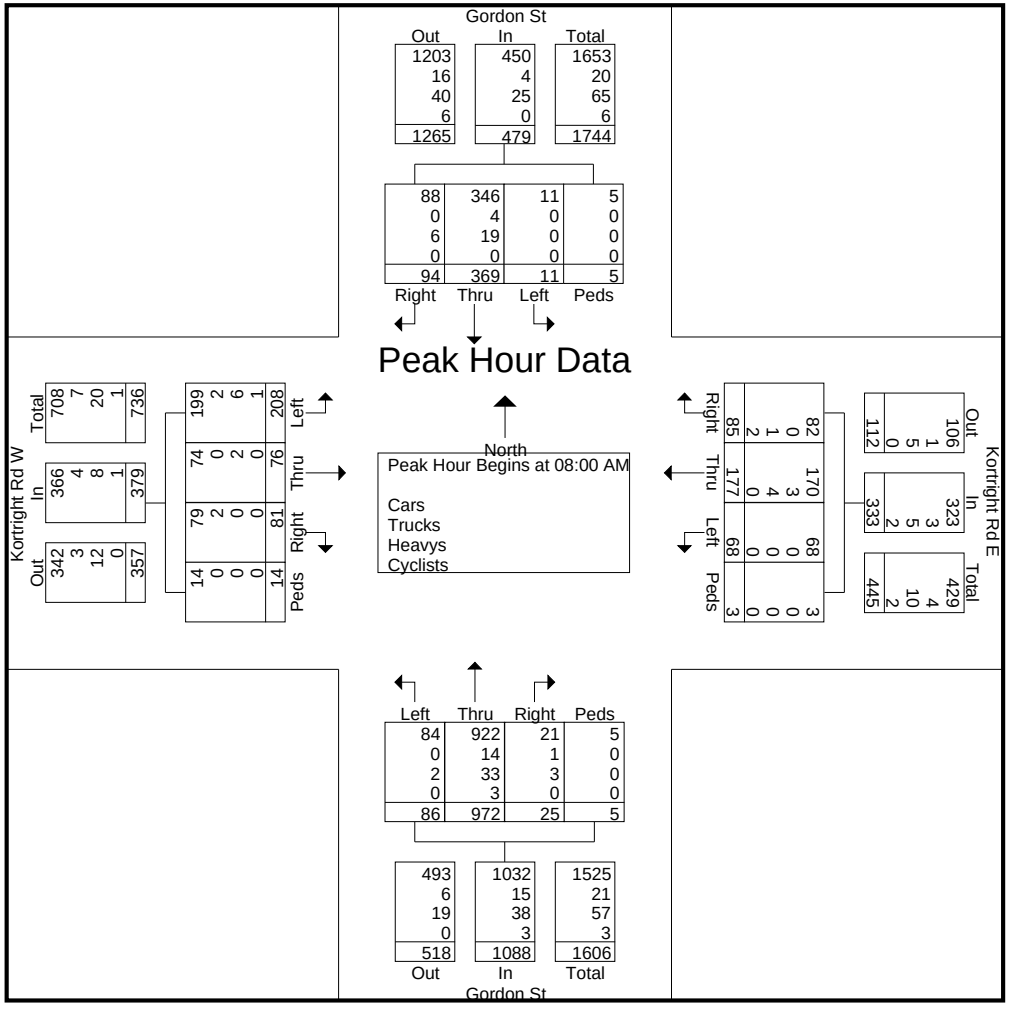
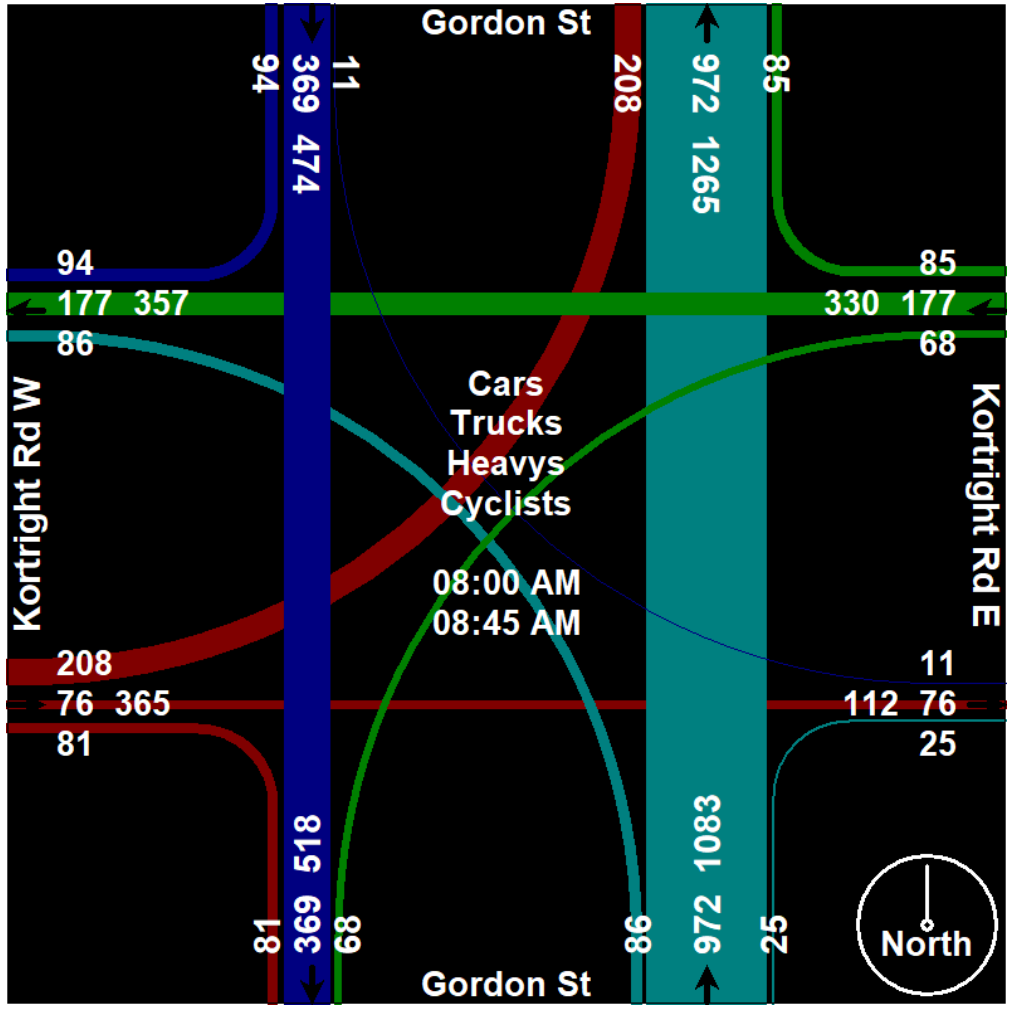
File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 5



Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5
"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 6



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318 Simonston Blvd
Thornhill, ON L3T 4T5

"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 7

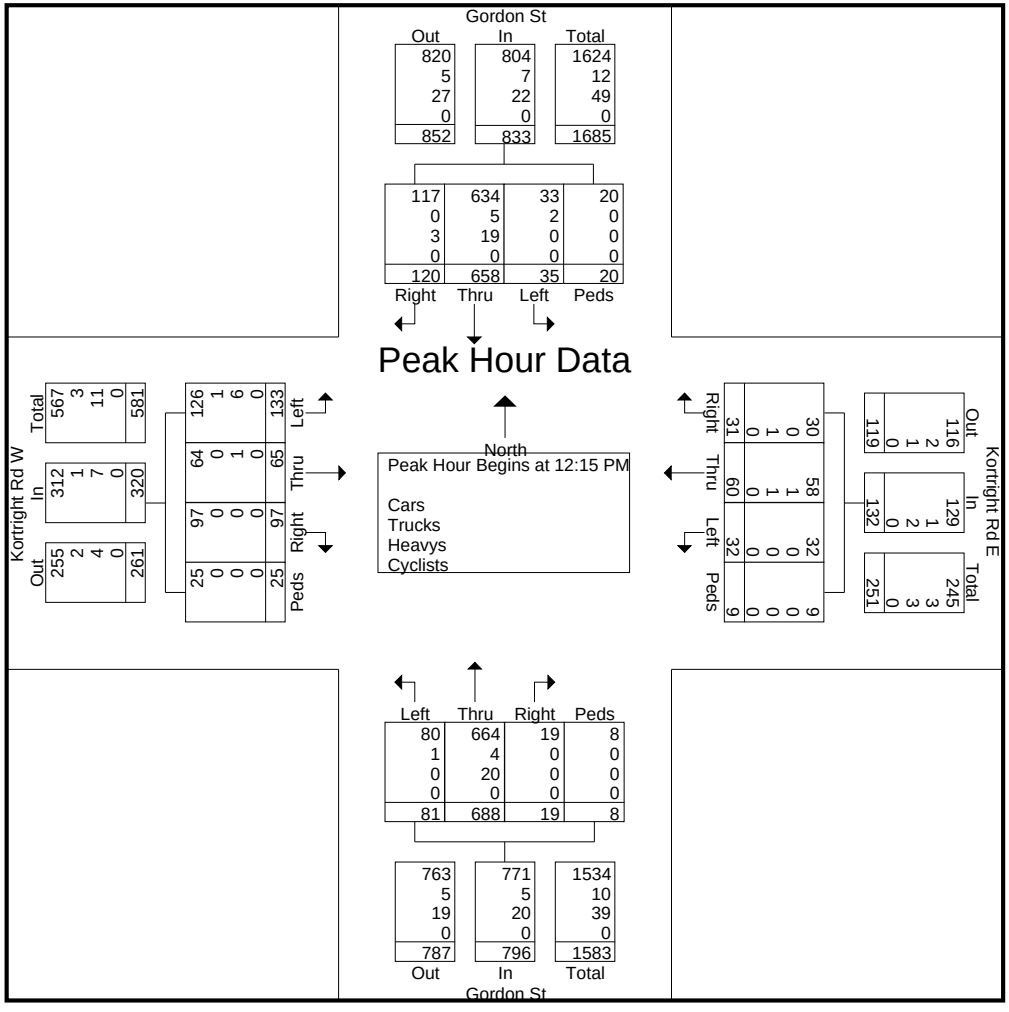
	Gordon St From North					Kortright Rd E From East					Gordon St From South					Kortright Rd W From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:15 PM																					
12:15 PM	28	150	**13**	**8**	199	**10**	11	**9**	1	31	7	161	14	2	184	**27**	**25**	33	**7**	**92**	506
12:30 PM	25	136	9	8	178	7	10	8	3	28	**9**	**208**	**27**	0	**244**	27	10	**35**	5	77	527
12:45 PM	31	167	8	2	208	7	**24**	8	**4**	**43**	1	151	19	**4**	175	26	12	31	7	76	502
01:00 PM	**36**	**205**	5	2	**248**	7	15	7	1	30	2	168	21	2	193	17	18	34	6	75	**546**
Total Volume	120	658	35	20	833	31	60	32	9	132	19	688	81	8	796	97	65	133	25	320	2081
% App. Total	14.4	79	4.2	2.4		23.5	45.5	24.2	6.8		2.4	86.4	10.2	1		30.3	20.3	41.6	7.8		
PHF	.833	.802	.673	.625	.840	.775	.625	.889	.563	.767	.528	.827	.750	.500	.816	.898	.650	.950	.893	.870	.953
Cars	117	634	33	20	804	30	58	32	9	129	19	664	80	8	771	97	64	126	25	312	2016
% Cars	97.5	96.4	94.3	100	96.5	96.8	96.7	100	100	97.7	100	96.5	98.8	100	96.9	100	98.5	94.7	100	97.5	96.9
Trucks	0	5	2	0	7	0	1	0	0	1	0	4	1	0	5	0	0	1	0	1	14
% Trucks	0	0.8	5.7	0	0.8	0	1.7	0	0	0.8	0	0.6	1.2	0	0.6	0	0	0.8	0	0.3	0.7
Heavys	3	19	0	0	22	1	1	0	0	2	0	20	0	0	20	0	1	6	0	7	51
% Heavys	2.5	2.9	0	0	2.6	3.2	1.7	0	0	1.5	0	2.9	0	0	2.5	0	1.5	4.5	0	2.2	2.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5

"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 8



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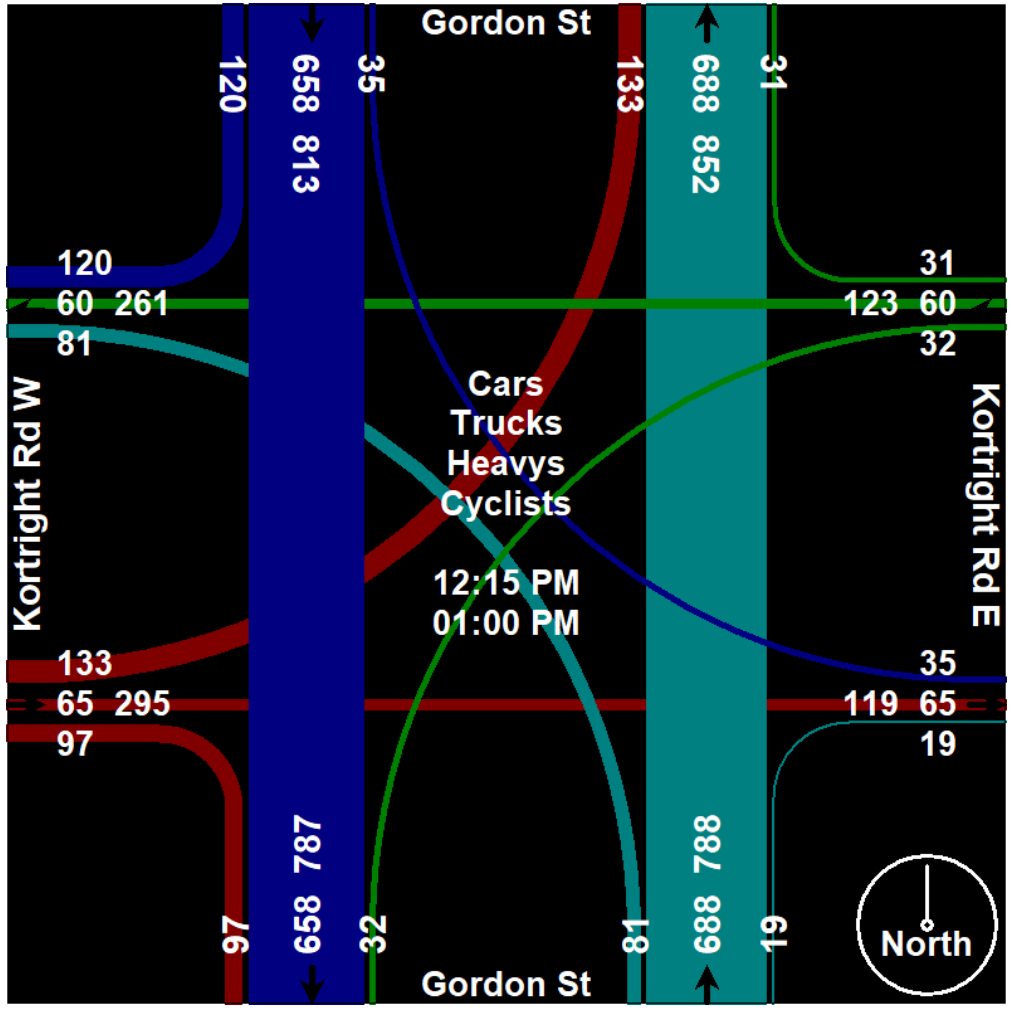
318 Simonston Blvd
Thornhill, ON L3T 4T5
"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 9



Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5

"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 10

	Gordon St From North					Kortright Rd E From East					Gordon St From South					Kortright Rd W From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	37	240	14	5	296	5	24	8	5	42	**12**	191	25	2	230	32	**42**	**65**	**15**	**154**	722
05:00 PM	**48**	270	15	2	335	**11**	**37**	**18**	**7**	**73**	12	**203**	21	3	239	31	37	58	7	133	**780**
05:15 PM	48	**273**	**18**	1	**340**	5	22	7	3	37	9	167	33	3	212	**44**	31	49	7	131	720
05:30 PM	46	244	16	**8**	314	9	27	10	3	49	9	203	**38**	**7**	**257**	33	38	47	14	132	752
Total Volume	179	1027	63	16	1285	30	110	43	18	201	42	764	117	15	938	140	148	219	43	550	2974
% App. Total	13.9	79.9	4.9	1.2		14.9	54.7	21.4	9		4.5	81.4	12.5	1.6		25.5	26.9	39.8	7.8		
PHF	.932	.940	.875	.500	.945	.682	.743	.597	.643	.688	.875	.941	.770	.536	.912	.795	.881	.842	.717	.893	.953
Cars	173	1010	63	16	1262	30	109	43	18	200	42	741	117	15	915	140	147	213	43	543	2920
% Cars	96.6	98.3	100	100	98.2	100	99.1	100	100	99.5	100	97.0	100	100	97.5	100	99.3	97.3	100	98.7	98.2
Trucks	0	2	0	0	2	0	1	0	0	1	0	3	0	0	3	0	0	1	0	1	7
% Trucks	0	0.2	0	0	0.2	0	0.9	0	0	0.5	0	0.4	0	0	0.3	0	0	0.5	0	0.2	0.2
Heavys	6	15	0	0	21	0	0	0	0	0	0	20	0	0	20	0	0	5	0	5	46
% Heavys	3.4	1.5	0	0	1.6	0	0	0	0	0	0	2.6	0	0	2.1	0	0	2.3	0	0.9	1.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0.2	0.0

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318 Simonston Blvd
Thornhill, ON L3T 4T5

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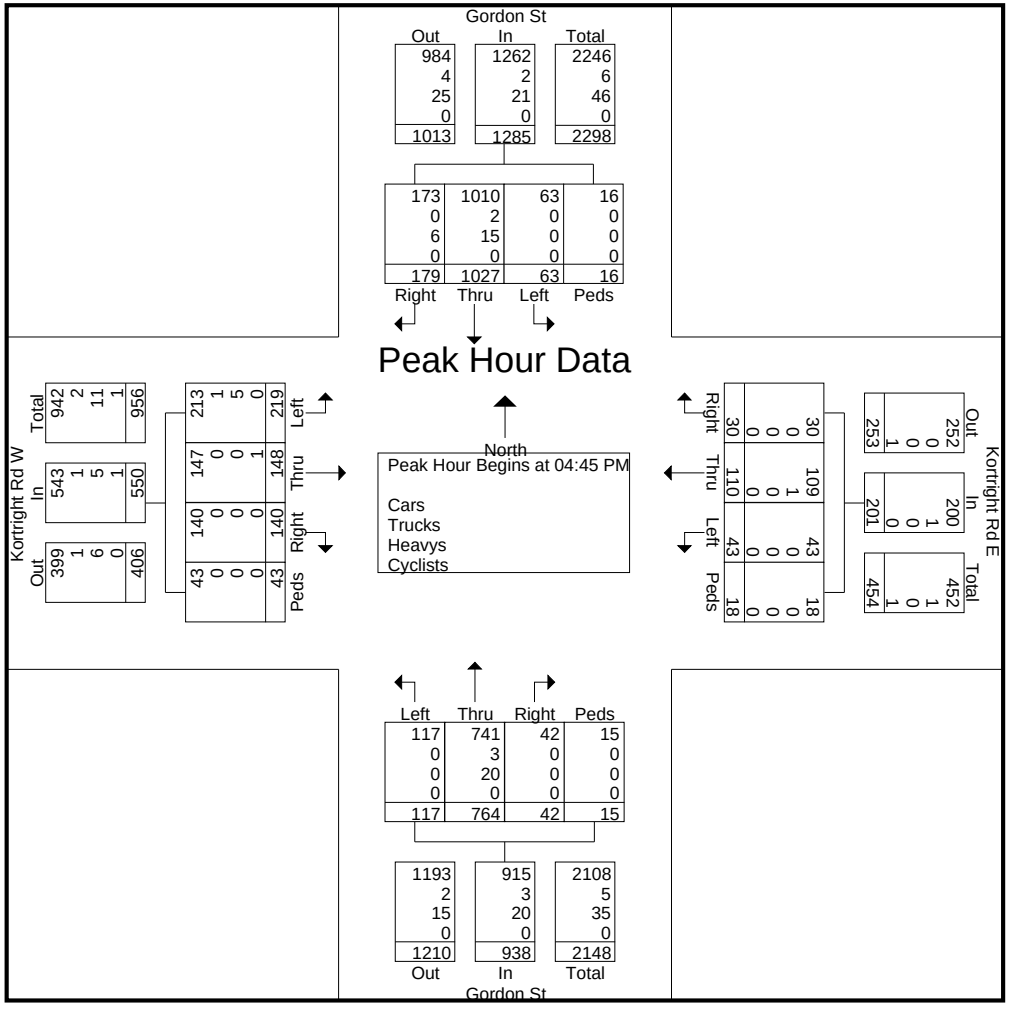
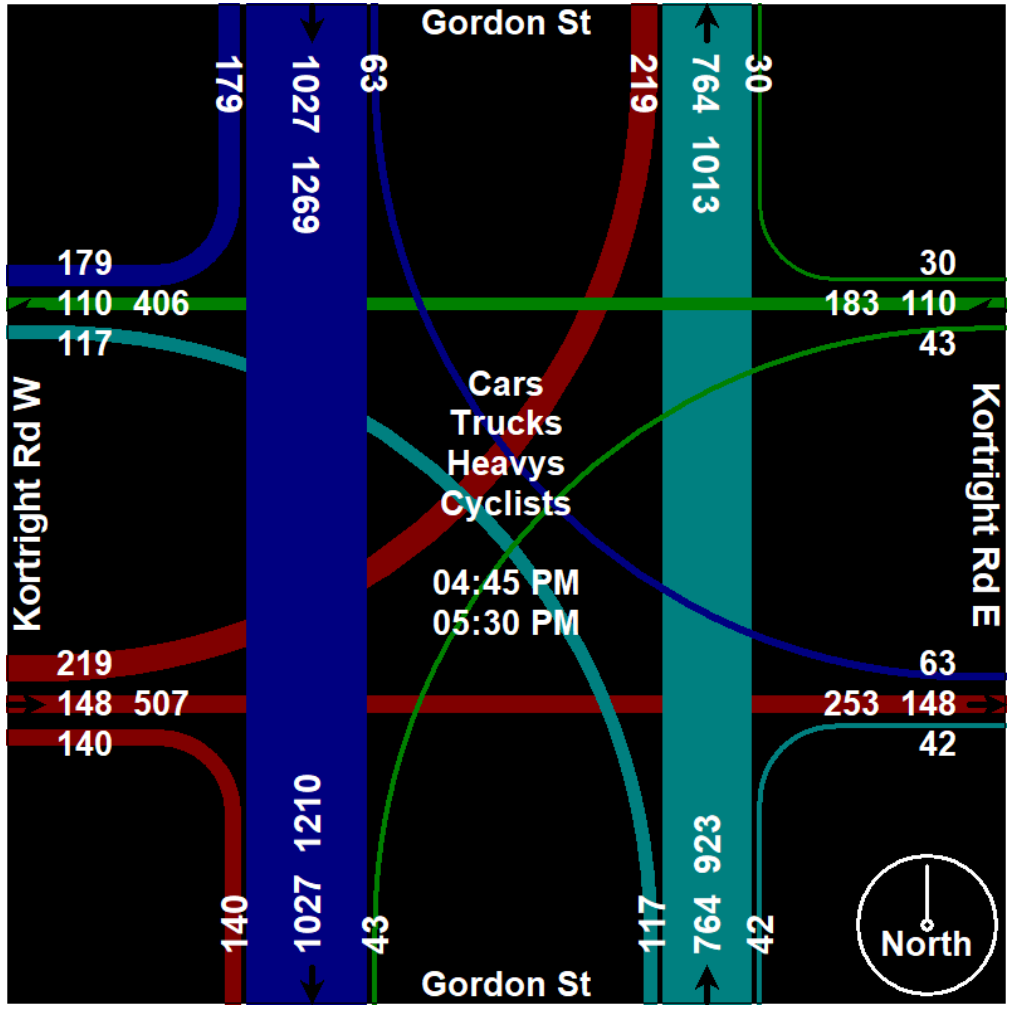
File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 11



Horizon Data Services Ltd

318 Simonston Blvd
Thornhill, ON L3T 4T5
"we always count...never estimated"

File Name : Gordon St at Kortright Rd
Site Code : 00000000
Start Date : 3/26/2019
Page No : 12



Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Guelph
Site #: 1906000010
Intersection: Gordon St & Heritage Dr
TFR File #: 1
Count date: 29-May-19

Weather conditions: Sunny

Person counted: AlenaB
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1886
North Entering: 783
North Peds: 18
Peds Cross: ⋈

Cyclists	0	1	0	1
Trucks	0	22	0	22
Cars	25	718	17	760
Totals	25	741	17	

Cyclists	15
Trucks	44
Cars	1044
Totals	1103

East Leg Total: 32
East Entering: 14
East Peds: 8
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	2	47	49

Heritage Dr

Cars	Trucks	Cyclists	Totals
6	0	0	6
0	0	0	0
7	1	0	8
13	1	0	

N
W E
S

Cyclists	Trucks	Cars	Totals
0	2	28	30
0	0	1	1
0	1	43	44
0	3	72	

Driveway

Cars	Trucks	Cyclists	Totals
18	0	0	18

Gordon St

Peds Cross: ⧗
West Peds: 8
West Entering: 75
West Leg Total: 124

Cars	768
Trucks	24
Cyclists	1
Totals	793

Cars	22	1010	0	1032
Trucks	2	42	0	44
Cyclists	0	15	0	15
Totals	24	1067	0	

Peds Cross: ⋈
South Peds: 4
South Entering: 1091
South Leg Total: 1884

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Guelph
Site #: 1906000010
Intersection: Gordon St & Heritage Dr
TFR File #: 1
Count date: 29-May-19

Weather conditions: Sunny

Person counted: AlenaB
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1883
North Entering: 964
North Peds: 6
Peds Cross: ⋈

Cyclists	0	5	0	5
Trucks	0	18	0	18
Cars	27	886	28	941
Totals	27	909	28	

Cyclists	1
Trucks	22
Cars	896
Totals	919

East Leg Total: 61
East Entering: 32
East Peds: 4
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	0	52	52

Heritage Dr

Cyclists	Trucks	Cars	Totals
1	1	40	42
0	0	0	0
0	1	27	28
1	2	67	

N
W E
S

Cars	Trucks	Cyclists	Totals
17	2	0	19
2	0	0	2
11	0	0	11
30	2	0	

Driveway

Cars	Trucks	Cyclists	Totals
29	0	0	29

Gordon St

Peds Cross: ⧗
West Peds: 9
West Entering: 70
West Leg Total: 122

Cars	924
Trucks	19
Cyclists	5
Totals	948

Cars	23	839	1	863
Trucks	0	19	0	19
Cyclists	0	0	0	0
Totals	23	858	1	

Peds Cross: ⋈
South Peds: 5
South Entering: 882
South Leg Total: 1830

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

Municipality: Guelph
Site #: 1906000010
Intersection: Gordon St & Heritage Dr
TFR File #: 1
Count date: 29-May-19

Weather conditions: Sunny

Person counted: AlenaB
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 2549
North Entering: 1254
North Peds: 5
Peds Cross: ⋈

Cyclists	0	8	0	8
Trucks	0	17	0	17
Cars	34	1176	19	1229
Totals	34	1201	19	

Cyclists	4
Trucks	16
Cars	1275
Totals	1295

East Leg Total: 68
East Entering: 48
East Peds: 18
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	0	60	60

Heritage Dr

Cyclists	Trucks	Cars	Totals
0	0	45	45
0	0	1	1
0	0	28	28
0	0	74	

Cars	Trucks	Cyclists	Totals
36	0	0	36
0	0	0	0
12	0	0	12
48	0	0	

N
W E
S

Driveway

Cars	Trucks	Cyclists	Totals
20	0	0	20

Gordon St

Peds Cross: ⧗
West Peds: 4
West Entering: 74
West Leg Total: 134

Cars	1216
Trucks	17
Cyclists	8
Totals	1241

Cars	26	1194	0	1220
Trucks	0	16	0	16
Cyclists	0	4	0	4
Totals	26	1214	0	

Peds Cross: ⋈
South Peds: 1
South Entering: 1240
South Leg Total: 2481

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Eight Hour Peak Diagram

Eight Hour Peak
From: 8:00:00
To: 16:00:00

Municipality: Guelph
Site #: 1906000010
Intersection: Gordon St & Heritage Dr
TFR File #: 1
Count date: 29-May-19

Weather conditions: Sunny

Person counted: AlenaB
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total:	9429
North Entering:	4623
North Peds:	39
Peds Cross:	⋈

Cyclists	0	13	0	13
Trucks	0	114	1	115
Cars	129	4263	103	4495
Totals	129	4390	104	

Cyclists	25
Trucks	159
Cars	4622
Totals	4806

East Leg Total:	264
East Entering:	151
East Peds:	30
Peds Cross:	⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	5	230	235

Heritage Dr

Cyclists	Trucks	Cars	Totals
1	5	160	166
0	0	4	4
1	7	123	131
2	12	287	

Cars	Trucks	Cyclists	Totals
89	3	1	93
5	0	0	5
51	2	0	53
145	5	1	

N
W E
S

Driveway

Cars	Trucks	Cyclists	Totals
112	1	0	113

Gordon St

Peds Cross:	⧗
West Peds:	37
West Entering:	301
West Leg Total:	536

Cars	4437
Trucks	123
Cyclists	14
Totals	4574

Cars	96	4373	5	4474
Trucks	5	151	0	156
Cyclists	0	23	0	23
Totals	101	4547	5	

Peds Cross:	⋈
South Peds:	13
South Entering:	4653
South Leg Total:	9227

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

Municipality: Guelph
Site #: 1906000010
Intersection: Gordon St & Heritage Dr
TFR File #: 1
Count date: 29-May-19

Weather conditions: Sunny

Person counted: AlenaB
Person prepared:
Person checked:

**** Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 15693
North Entering: 7773
North Peds: 59
Peds Cross: ⋈

Cyclists	0	30	0	30
Trucks	0	166	1	167
Cars	220	7203	153	7576
Totals	220	7399	154	

Cyclists	32
Trucks	219
Cars	7669
Totals	7920

East Leg Total: 420
East Entering: 255
East Peds: 59
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	6	383	389

Heritage Dr

Cyclists	Trucks	Cars	Totals
1	8	275	284
0	0	5	5
1	8	195	204
2	16	475	

N
W E
S

Cars	Trucks	Cyclists	Totals
163	3	1	167
7	0	0	7
79	2	0	81
249	5	1	

Driveway

Cars	Trucks	Cyclists	Totals
164	1	0	165

Gordon St

Peds Cross: ⧗
West Peds: 53
West Entering: 493
West Leg Total: 882

Cars	7477
Trucks	176
Cyclists	31
Totals	7684

Cars	156	7231	6	7393
Trucks	6	208	0	214
Cyclists	0	30	0	30
Totals	162	7469	6	

Peds Cross: ⋈
South Peds: 17
South Entering: 7637
South Leg Total: 15321

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.
Traffic Count Summary

Intersection: Gordon St & Heritage Dr | **Count Date:** 29-May-19 | **Municipality:** Guelph

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	North/South Total Approaches
	Left	Thru	Right	Grand Total		
7:00:00	0	0	0	0	0	0
8:00:00	8	620	21	649	10	1250
9:00:00	17	741	25	783	18	1874
11:00:00	0	0	0	0	0	0
12:00:00	14	816	26	856	2	1676
13:00:00	31	903	31	965	6	1845
14:00:00	24	871	20	915	6	1798
15:00:00	0	0	0	0	0	0
16:00:00	18	1059	27	1104	7	2083
17:00:00	23	1188	36	1247	5	2390
18:00:00	19	1201	34	1254	5	2494
Totals:	154	7399	220	7773	59	15410

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0
8:00:00	9	592	0	601	2
9:00:00	24	1067	0	1091	4
11:00:00	0	0	0	0	0
12:00:00	14	804	2	820	1
13:00:00	23	855	2	880	5
14:00:00	15	868	0	883	2
15:00:00	0	0	0	0	0
16:00:00	25	953	1	979	1
17:00:00	26	1116	1	1143	1
18:00:00	26	1214	0	1240	1
S Totals:	162	7469	6	7637	17

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	East/West Total Approaches
	Left	Thru	Right	Grand Total		
7:00:00	0	0	0	0	0	0
8:00:00	1	0	7	8	5	54
9:00:00	8	0	6	14	8	89
11:00:00	0	0	0	0	0	0
12:00:00	16	2	18	36	9	80
13:00:00	12	1	19	32	3	92
14:00:00	8	2	26	36	6	92
15:00:00	0	0	0	0	0	0
16:00:00	9	0	24	33	4	99
17:00:00	15	2	31	48	6	120
18:00:00	12	0	36	48	18	122
Totals:	81	7	167	255	59	748

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0
8:00:00	23	0	23	46	4
9:00:00	30	1	44	75	8
11:00:00	0	0	0	0	0
12:00:00	24	1	19	44	5
13:00:00	41	0	19	60	6
14:00:00	31	1	24	56	9
15:00:00	0	0	0	0	0
16:00:00	40	1	25	66	9
17:00:00	50	0	22	72	8
18:00:00	45	1	28	74	4
W Totals:	284	5	204	493	53

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	12:00	13:00	14:00	16:00	17:00	18:00
Crossing Values:	36	61	45	65	49	58	73	64

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 29-May-19 Site #: 1906000010

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Cyclists - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	2	112	112	3	3	0	0	7	7	0	0	0	0	0	0	0	0	0	0
7:30:00	3	1	262	150	9	6	0	0	11	4	0	0	0	0	1	1	0	0	3	3
7:45:00	7	4	422	160	13	4	0	0	14	3	0	0	0	0	2	1	0	0	6	3
8:00:00	8	1	598	176	21	8	0	0	18	4	0	0	0	0	4	2	0	0	10	4
8:15:00	12	4	776	178	25	4	0	0	25	7	0	0	0	0	4	0	0	0	13	3
8:30:00	15	3	958	182	31	6	0	0	32	7	0	0	0	0	4	0	0	0	20	7
8:45:00	19	4	1131	173	33	2	0	0	37	5	0	0	0	0	5	1	0	0	24	4
9:00:00	25	6	1316	185	46	13	0	0	40	3	0	0	0	0	5	0	0	0	28	4
9:10:10	25	0	1316	0	46	0	0	0	40	0	0	0	0	0	5	0	0	0	28	0
11:00:00	25	0	1316	0	46	0	0	0	40	0	0	0	0	0	5	0	0	0	28	0
11:15:00	28	3	1487	171	49	3	1	1	46	6	0	0	0	0	5	0	0	0	28	0
11:30:00	34	6	1688	201	57	8	1	0	52	6	0	0	0	0	5	0	0	0	29	1
11:45:00	37	3	1900	212	64	7	1	0	56	4	0	0	0	0	6	1	0	0	30	1
12:00:00	38	1	2109	209	72	8	1	0	62	6	0	0	0	0	6	0	0	0	30	0
12:15:00	42	4	2329	220	76	4	1	0	66	4	0	0	0	0	6	0	0	0	31	1
12:30:00	52	10	2537	208	85	9	1	0	72	6	0	0	0	0	6	0	0	0	32	1
12:45:00	59	7	2761	224	93	8	1	0	80	8	0	0	0	0	6	0	0	0	34	2
13:00:00	69	10	2991	230	103	10	1	0	83	3	0	0	0	0	6	0	0	0	36	2
13:15:00	74	5	3200	209	107	4	1	0	86	3	0	0	0	0	6	0	0	0	36	0
13:30:00	80	6	3423	223	112	5	1	0	90	4	0	0	0	0	11	5	0	0	38	2
13:45:00	86	6	3610	187	121	9	1	0	96	6	0	0	0	0	12	1	0	0	42	4
14:00:00	93	7	3837	227	123	2	1	0	101	5	0	0	0	0	13	1	0	0	42	0
14:10:10	93	0	3837	0	123	0	1	0	101	0	0	0	0	0	13	0	0	0	42	0
15:00:00	93	0	3837	0	123	0	1	0	101	0	0	0	0	0	13	0	0	0	42	0
15:15:00	99	6	4087	250	129	6	1	0	105	4	0	0	0	0	16	3	0	0	44	2
15:30:00	101	2	4347	260	134	5	1	0	112	7	0	0	0	0	16	0	0	0	45	1
15:45:00	107	6	4600	253	141	7	1	0	121	9	0	0	0	0	16	0	0	0	48	3
16:00:00	111	4	4861	261	150	9	1	0	132	11	0	0	0	0	17	1	0	0	49	1
16:15:00	116	5	5154	293	159	9	1	0	135	3	0	0	0	0	17	0	0	0	49	0
16:30:00	124	8	5457	303	169	10	1	0	143	8	0	0	0	0	21	4	0	0	52	3
16:45:00	130	6	5732	275	177	8	1	0	146	3	0	0	0	0	21	0	0	0	54	2
17:00:00	134	4	6027	295	186	9	1	0	149	3	0	0	0	0	22	1	0	0	54	0
17:15:00	136	2	6325	298	190	4	1	0	152	3	0	0	0	0	22	0	0	0	56	2
17:30:00	142	6	6615	290	202	12	1	0	159	7	0	0	0	0	26	4	0	0	56	0
17:45:00	146	4	6910	295	209	7	1	0	163	4	0	0	0	0	29	3	0	0	56	0
18:00:00	153	7	7203	293	220	11	1	0	166	3	0	0	0	0	30	1	0	0	59	3
18:10:10	153	0	7203	0	220	0	1	0	166	0	0	0	0	0	30	0	0	0	59	0
18:15:15	153	0	7203	0	220	0	1	0	166	0	0	0	0	0	30	0	0	0	59	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 29-May-19 Site #: 1906000010

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45:00	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
8:00:00	1	1	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	5	3
8:15:00	2	1	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	6	1
8:30:00	4	2	0	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0	7	1
8:45:00	4	0	0	0	11	1	1	1	0	0	0	0	0	0	0	0	0	0	12	5
9:00:00	8	4	0	0	13	2	1	0	0	0	0	0	0	0	0	0	0	0	13	1
9:10:10	8	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	13	0
11:00:00	8	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	13	0
11:15:00	14	6	1	1	16	3	1	0	0	0	1	1	0	0	0	0	0	0	15	2
11:30:00	15	1	1	0	19	3	1	0	0	0	1	0	0	0	0	0	1	1	20	5
11:45:00	21	6	2	1	24	5	2	1	0	0	1	0	0	0	0	0	1	0	21	1
12:00:00	23	2	2	0	29	5	2	0	0	0	1	0	0	0	0	0	1	0	22	1
12:15:00	23	0	2	0	33	4	2	0	0	0	1	0	0	0	0	0	1	0	22	0
12:30:00	27	4	2	0	40	7	2	0	0	0	1	0	0	0	0	0	1	0	22	0
12:45:00	33	6	3	1	43	3	2	0	0	0	1	0	0	0	0	0	1	0	23	1
13:00:00	35	2	3	0	48	5	2	0	0	0	1	0	0	0	0	0	1	0	25	2
13:15:00	37	2	3	0	55	7	2	0	0	0	3	2	0	0	0	0	1	0	26	1
13:30:00	38	1	4	1	57	2	2	0	0	0	3	0	0	0	0	0	1	0	26	0
13:45:00	41	3	5	1	64	7	2	0	0	0	3	0	0	0	0	0	1	0	28	2
14:00:00	43	2	5	0	72	8	2	0	0	0	3	0	0	0	0	0	1	0	31	3
14:10:10	43	0	5	0	72	0	2	0	0	0	3	0	0	0	0	0	1	0	31	0
15:00:00	43	0	5	0	72	0	2	0	0	0	3	0	0	0	0	0	1	0	31	0
15:15:00	44	1	5	0	76	4	2	0	0	0	3	0	0	0	0	0	1	0	33	2
15:30:00	46	2	5	0	85	9	2	0	0	0	3	0	0	0	0	0	1	0	33	0
15:45:00	51	5	5	0	89	4	2	0	0	0	3	0	0	0	0	0	1	0	35	2
16:00:00	52	1	5	0	96	7	2	0	0	0	3	0	0	0	0	0	1	0	35	0
16:15:00	57	5	6	1	102	6	2	0	0	0	3	0	0	0	0	0	1	0	37	2
16:30:00	61	4	6	0	110	8	2	0	0	0	3	0	0	0	0	0	1	0	39	2
16:45:00	66	5	6	0	116	6	2	0	0	0	3	0	0	0	0	0	1	0	40	1
17:00:00	67	1	7	1	127	11	2	0	0	0	3	0	0	0	0	0	1	0	41	1
17:15:00	67	0	7	0	135	8	2	0	0	0	3	0	0	0	0	0	1	0	42	1
17:30:00	70	3	7	0	140	5	2	0	0	0	3	0	0	0	0	0	1	0	53	11
17:45:00	74	4	7	0	148	8	2	0	0	0	3	0	0	0	0	0	1	0	59	6
18:00:00	79	5	7	0	163	15	2	0	0	0	3	0	0	0	0	0	1	0	59	0
18:10:10	79	0	7	0	163	0	2	0	0	0	3	0	0	0	0	0	1	0	59	0
18:15:15	79	0	7	0	163	0	2	0	0	0	3	0	0	0	0	0	1	0	59	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 29-May-19 Site #: 1906000010

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	81	81	0	0	0	0	7	7	0	0	0	0	0	0	0	0	1	1
7:30:00	2	2	184	103	0	0	0	0	13	6	0	0	0	0	0	0	0	0	2	1
7:45:00	5	3	380	196	0	0	0	0	19	6	0	0	0	0	1	1	0	0	2	0
8:00:00	9	4	563	183	0	0	0	0	27	8	0	0	0	0	2	1	0	0	2	0
8:15:00	11	2	787	224	0	0	1	1	36	9	0	0	0	0	9	7	0	0	2	0
8:30:00	18	7	1052	265	0	0	2	1	50	14	0	0	0	0	11	2	0	0	3	1
8:45:00	25	7	1320	268	0	0	2	0	57	7	0	0	0	0	15	4	0	0	6	3
9:00:00	31	6	1573	253	0	0	2	0	69	12	0	0	0	0	17	2	0	0	6	0
9:10:10	31	0	1573	0	0	0	2	0	69	0	0	0	0	0	17	0	0	0	6	0
11:00:00	31	0	1573	0	0	0	2	0	69	0	0	0	0	0	17	0	0	0	6	0
11:15:00	34	3	1774	201	0	0	2	0	79	10	0	0	0	0	19	2	0	0	6	0
11:30:00	36	2	1950	176	0	0	3	1	89	10	0	0	0	0	19	0	0	0	7	1
11:45:00	40	4	2155	205	2	2	4	1	98	9	0	0	0	0	19	0	0	0	7	0
12:00:00	43	3	2339	184	2	0	4	0	105	7	0	0	0	0	19	0	0	0	7	0
12:15:00	48	5	2555	216	3	1	4	0	112	7	0	0	0	0	22	3	0	0	8	1
12:30:00	50	2	2738	183	3	0	5	1	117	5	0	0	0	0	22	0	0	0	8	0
12:45:00	57	7	2949	211	3	0	5	0	120	3	0	0	0	0	22	0	0	0	8	0
13:00:00	65	8	3170	221	4	1	5	0	126	6	0	0	0	0	22	0	0	0	12	4
13:15:00	67	2	3374	204	4	0	5	0	132	6	0	0	0	0	22	0	0	0	13	1
13:30:00	73	6	3577	203	4	0	5	0	136	4	0	0	0	0	22	0	0	0	13	0
13:45:00	76	3	3792	215	4	0	5	0	145	9	0	0	0	0	24	2	0	0	13	0
14:00:00	80	4	4010	218	4	0	5	0	152	7	0	0	0	0	24	0	0	0	14	1
14:10:10	80	0	4010	0	4	0	5	0	152	0	0	0	0	0	24	0	0	0	14	0
15:00:00	80	0	4010	0	4	0	5	0	152	0	0	0	0	0	24	0	0	0	14	0
15:15:00	86	6	4245	235	4	0	5	0	159	7	0	0	0	0	24	0	0	0	14	0
15:30:00	91	5	4488	243	4	0	5	0	169	10	0	0	0	0	24	0	0	0	14	0
15:45:00	101	10	4696	208	4	0	5	0	175	6	0	0	0	0	25	1	0	0	14	0
16:00:00	105	4	4936	240	5	1	5	0	178	3	0	0	0	0	25	0	0	0	15	1
16:15:00	109	4	5209	273	6	1	6	1	182	4	0	0	0	0	25	0	0	0	15	0
16:30:00	116	7	5480	271	6	0	6	0	186	4	0	0	0	0	26	1	0	0	15	0
16:45:00	120	4	5773	293	6	0	6	0	190	4	0	0	0	0	26	0	0	0	16	1
17:00:00	130	10	6037	264	6	0	6	0	192	2	0	0	0	0	26	0	0	0	16	0
17:15:00	137	7	6317	280	6	0	6	0	196	4	0	0	0	0	27	1	0	0	16	0
17:30:00	144	7	6622	305	6	0	6	0	202	6	0	0	0	0	30	3	0	0	16	0
17:45:00	149	5	6938	316	6	0	6	0	204	2	0	0	0	0	30	0	0	0	17	1
18:00:00	156	7	7231	293	6	0	6	0	208	4	0	0	0	0	30	0	0	0	17	0
18:10:10	156	0	7231	0	6	0	6	0	208	0	0	0	0	0	30	0	0	0	17	0
18:15:15	156	0	7231	0	6	0	6	0	208	0	0	0	0	0	30	0	0	0	17	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 29-May-19 Site #: 1906000010

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	1	1	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30:00	8	7	0	0	10	4	0	0	0	0	0	0	0	0	0	0	0	0	2	1
7:45:00	18	10	0	0	17	7	1	1	0	0	1	1	0	0	0	0	0	0	2	0
8:00:00	21	3	0	0	22	5	2	1	0	0	1	0	0	0	0	0	0	0	4	2
8:15:00	29	8	0	0	32	10	3	1	0	0	1	0	0	0	0	0	0	0	8	4
8:30:00	33	4	0	0	42	10	4	1	0	0	2	1	0	0	0	0	0	0	10	2
8:45:00	43	10	1	1	56	14	4	0	0	0	2	0	0	0	0	0	0	0	11	1
9:00:00	49	6	1	0	65	9	4	0	0	0	2	0	0	0	0	0	0	0	12	1
9:10:10	49	0	1	0	65	0	4	0	0	0	2	0	0	0	0	0	0	0	12	0
11:00:00	49	0	1	0	65	0	4	0	0	0	2	0	0	0	0	0	0	0	12	0
11:15:00	57	8	2	1	67	2	4	0	0	0	2	0	0	0	0	0	0	0	14	2
11:30:00	62	5	2	0	71	4	4	0	0	0	2	0	0	0	0	0	0	0	15	1
11:45:00	68	6	2	0	74	3	5	1	0	0	2	0	0	0	0	0	0	0	16	1
12:00:00	72	4	2	0	83	9	5	0	0	0	3	1	0	0	0	0	0	0	17	1
12:15:00	80	8	2	0	85	2	5	0	0	0	3	0	0	0	0	0	0	0	19	2
12:30:00	86	6	2	0	89	4	5	0	0	0	3	0	0	0	0	0	0	0	19	0
12:45:00	92	6	2	0	96	7	6	1	0	0	3	0	0	0	0	0	0	0	21	2
13:00:00	112	20	2	0	102	6	6	0	0	0	3	0	0	0	0	0	0	0	23	2
13:15:00	118	6	2	0	109	7	6	0	0	0	3	0	1	1	0	0	0	0	27	4
13:30:00	126	8	2	0	116	7	6	0	0	0	4	1	1	0	0	0	0	0	28	1
13:45:00	132	6	2	0	120	4	6	0	0	0	4	0	1	0	0	0	0	0	32	4
14:00:00	142	10	3	1	125	5	6	0	0	0	4	0	1	0	0	0	0	0	32	0
14:10:10	142	0	3	0	125	0	6	0	0	0	4	0	1	0	0	0	0	0	32	0
15:00:00	142	0	3	0	125	0	6	0	0	0	4	0	1	0	0	0	0	0	32	0
15:15:00	151	9	3	0	130	5	6	0	0	0	5	1	1	0	0	0	0	0	36	4
15:30:00	161	10	3	0	137	7	7	1	0	0	7	2	1	0	0	0	0	0	38	2
15:45:00	170	9	3	0	140	3	7	0	0	0	8	1	1	0	0	0	0	0	39	1
16:00:00	181	11	4	1	145	5	7	0	0	0	8	0	1	0	0	0	1	1	41	2
16:15:00	189	8	4	0	154	9	8	1	0	0	8	0	1	0	0	0	1	0	43	2
16:30:00	202	13	4	0	162	8	8	0	0	0	8	0	1	0	0	0	1	0	46	3
16:45:00	215	13	4	0	165	3	8	0	0	0	8	0	1	0	0	0	1	0	47	1
17:00:00	230	15	4	0	167	2	8	0	0	0	8	0	1	0	0	0	1	0	49	2
17:15:00	246	16	5	1	177	10	8	0	0	0	8	0	1	0	0	0	1	0	49	0
17:30:00	253	7	5	0	182	5	8	0	0	0	8	0	1	0	0	0	1	0	51	2
17:45:00	263	10	5	0	190	8	8	0	0	0	8	0	1	0	0	0	1	0	52	1
18:00:00	275	12	5	0	195	5	8	0	0	0	8	0	1	0	0	0	1	0	53	1
18:10:10	275	0	5	0	195	0	8	0	0	0	8	0	1	0	0	0	1	0	53	0
18:15:15	275	0	5	0	195	0	8	0	0	0	8	0	1	0	0	0	1	0	53	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Guelph
Site #: 1906000017
Intersection: Gordon St & Vaughan St
TFR File #: 1
Count date: 17-Oct-19

Weather conditions: Cloudy

Person counted: EvgeniiP
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1950
North Entering: 770
North Peds: 0
Peds Cross: ⋈

Cyclists	0	1	0	1
Trucks	1	36	0	37
Cars	15	712	5	732
Totals	16	749	5	

Cyclists	2
Trucks	65
Cars	1113
Totals	1180

East Leg Total: 10
East Entering: 3
East Peds: 1
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	3	21	24

Vaughan St

Cars	Trucks	Cyclists	Totals
1	1	0	2
1	0	0	1
0	0	0	0
2	1	0	

N
W E
S

Cyclists	Trucks	Cars	Totals
0	0	13	13
0	0	0	0
0	0	5	5
0	0	18	

Vaughan St

Cars	Trucks	Cyclists	Totals
6	1	0	7

Gordon St

Peds Cross: ⧗
West Peds: 1
West Entering: 18
West Leg Total: 42

Cars	717
Trucks	36
Cyclists	1
Totals	754

Cars	5	1099	1	1105
Trucks	2	64	1	67
Cyclists	0	2	0	2
Totals	7	1165	2	

Peds Cross: ⋈
South Peds: 0
South Entering: 1174
South Leg Total: 1928

Comments

Accu-Traffic Inc.

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 12:45:00
To: 13:45:00

Municipality: Guelph
Site #: 1906000017
Intersection: Gordon St & Vaughan St
TFR File #: 1
Count date: 17-Oct-19

Weather conditions: Cloudy

Person counted: EvgeniiP
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 1980
North Entering: 1036
North Peds: 0
Peds Cross: ⋈

Cyclists	0	1	0	1
Trucks	0	39	0	39
Cars	17	970	9	996
Totals	17	1010	9	

Cyclists	3
Trucks	30
Cars	911
Totals	944

East Leg Total: 50
East Entering: 30
East Peds: 3
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	0	25	25

Vaughan St

Cars	Trucks	Cyclists	Totals
23	0	0	23
0	0	0	0
7	0	0	7
30	0	0	

N
W E
S

Cyclists	Trucks	Cars	Totals
0	0	12	12
0	0	0	0
0	0	8	8
0	0	20	

Vaughan St

Cars	Trucks	Cyclists	Totals
20	0	0	20

Gordon St

Peds Cross: ⧗
West Peds: 2
West Entering: 20
West Leg Total: 45

Cars	985
Trucks	39
Cyclists	1
Totals	1025

Cars	8	876	11	895
Trucks	0	30	0	30
Cyclists	0	3	0	3
Totals	8	909	11	

Peds Cross: ⋈
South Peds: 0
South Entering: 928
South Leg Total: 1953

Comments

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

Municipality: Guelph
Site #: 1906000017
Intersection: Gordon St & Vaughan St
TFR File #: 1
Count date: 17-Oct-19

Weather conditions: Cloudy

Person counted: EvgeniiP
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 2699
North Entering: 1443
North Peds: 0
Peds Cross: ⋈

Cyclists	0	3	0	3
Trucks	0	20	0	20
Cars	57	1348	15	1420
Totals	57	1371	15	

Cyclists	1
Trucks	19
Cars	1236
Totals	1256

East Leg Total: 42
East Entering: 17
East Peds: 2
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	0	77	77

Vaughan St

Cars	Trucks	Cyclists	Totals
9	0	0	9
1	0	0	1
7	0	0	7
17	0	0	

N
W E
S

Cyclists	Trucks	Cars	Totals
0	0	14	14
0	0	1	1
0	0	11	11
0	0	26	

Vaughan St

Cars	Trucks	Cyclists	Totals
25	0	0	25

Gordon St

Peds Cross: ⧗
West Peds: 3
West Entering: 26
West Leg Total: 103

Cars	1366
Trucks	20
Cyclists	3
Totals	1389

Cars	19	1213	9	1241
Trucks	0	19	0	19
Cyclists	0	1	0	1
Totals	19	1233	9	

Peds Cross: ⋈
South Peds: 0
South Entering: 1261
South Leg Total: 2650

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Eight Hour Peak Diagram

Eight Hour Peak
From: 8:00:00
To: 16:00:00

Municipality: Guelph
Site #: 1906000017
Intersection: Gordon St & Vaughan St
TFR File #: 1
Count date: 17-Oct-19

Weather conditions: Cloudy

Person counted: EvgeniiP
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 9740
North Entering: 4714
North Peds: 0
Peds Cross: ⋈

Cyclists	0	7	0	7
Trucks	8	164	0	172
Cars	97	4383	55	4535
Totals	105	4554	55	

Cyclists	11
Trucks	193
Cars	4822
Totals	5026

East Leg Total: 166
East Entering: 71
East Peds: 10
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	11	131	142

Vaughan St

Cars	Trucks	Cyclists	Totals
51	2	0	53
2	0	0	2
16	0	0	16
69	2	0	

N
W E
S

Cyclists	Trucks	Cars	Totals
1	1	58	60
0	0	2	2
0	1	32	33
1	2	92	

Vaughan St

Cars	Trucks	Cyclists	Totals
93	2	0	95

Gordon St

Peds Cross: ⧗
West Peds: 9
West Entering: 95
West Leg Total: 237

Cars	4431
Trucks	165
Cyclists	7
Totals	4603

Cars	32	4713	36	4781
Trucks	3	190	2	195
Cyclists	0	10	0	10
Totals	35	4913	38	

Peds Cross: ⋈
South Peds: 3
South Entering: 4986
South Leg Total: 9589

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

Municipality: Guelph
Site #: 1906000017
Intersection: Gordon St & Vaughan St
TFR File #: 1
Count date: 17-Oct-19

Weather conditions: Cloudy

Person counted: EvgeniiP
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Gordon St runs N/S

North Leg Total: 16183
North Entering: 8061
North Peds: 0
Peds Cross: ⋈

Cyclists	0	19	0	19
Trucks	15	228	0	243
Cars	193	7521	85	7799
Totals	208	7768	85	

Cyclists	17
Trucks	273
Cars	7832
Totals	8122

East Leg Total: 240
East Entering: 98
East Peds: 17
Peds Cross: ⧗

Gordon St

Cyclists	Trucks	Cars	Totals
0	18	258	276

Vaughan St

Cars	Trucks	Cyclists	Totals
68	2	0	70
3	0	0	3
25	0	0	25
96	2	0	

N
W E
S

Cyclists	Trucks	Cars	Totals
1	1	96	98
0	0	3	3
0	2	54	56
1	3	153	

Vaughan St

Cars	Trucks	Cyclists	Totals
140	2	0	142

Gordon St

Peds Cross: ⧗
West Peds: 21
West Entering: 157
West Leg Total: 433

Cars	7600
Trucks	230
Cyclists	19
Totals	7849

Cars	62	7668	52	7782
Trucks	3	270	2	275
Cyclists	0	16	0	16
Totals	65	7954	54	

Peds Cross: ⋈
South Peds: 5
South Entering: 8073
South Leg Total: 15922

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.
Traffic Count Summary

Intersection: Gordon St & Vaughan St | **Count Date:** 17-Oct-19 | **Municipality:** Guelph

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	621	11	632	0	1269	8:00:00	1	635	1	637	2
9:00:00	5	749	16	770	0	1944	9:00:00	7	1165	2	1174	0
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	19	832	18	869	0	1800	12:00:00	5	916	10	931	3
13:00:00	18	959	16	993	0	1900	13:00:00	5	893	9	907	0
14:00:00	10	966	17	993	0	1894	14:00:00	7	883	11	901	0
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	3	1048	38	1089	0	2162	16:00:00	11	1056	6	1073	0
17:00:00	12	1312	35	1359	0	2552	17:00:00	17	1169	7	1193	0
18:00:00	18	1281	57	1356	0	2613	18:00:00	12	1237	8	1257	0
Totals:	85	7768	208	8061	0	16134	S Totals:	65	7954	54	8073	5

East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	2	2	1	15	8:00:00	9	0	4	13	5
9:00:00	0	1	2	3	1	21	9:00:00	13	0	5	18	1
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	3	0	7	10	0	22	12:00:00	6	0	6	12	1
13:00:00	6	0	8	14	1	38	13:00:00	17	0	7	24	6
14:00:00	6	0	26	32	3	53	14:00:00	13	0	8	21	1
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	1	1	10	12	5	32	16:00:00	11	2	7	20	0
17:00:00	3	0	8	11	4	25	17:00:00	9	0	5	14	5
18:00:00	6	1	7	14	2	49	18:00:00	20	1	14	35	2
Totals:	25	3	70	98	17	255	W Totals:	98	3	56	157	21

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	12:00	13:00	14:00	16:00	17:00	18:00
Crossing Values:	11	14	12	23	19	14	12	27

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 17-Oct-19 Site #: 1906000017

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Cyclists - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	111	111	0	0	0	0	5	5	0	0	0	0	1	1	0	0	0	0
7:30:00	0	0	272	161	3	3	0	0	10	5	2	2	0	0	2	1	0	0	0	0
7:45:00	0	0	436	164	5	2	0	0	16	6	3	1	0	0	2	0	0	0	0	0
8:00:00	0	0	596	160	6	1	0	0	22	6	5	2	0	0	3	1	0	0	0	0
8:15:00	0	0	731	135	8	2	0	0	29	7	5	0	0	0	3	0	0	0	0	0
8:30:00	2	2	888	157	11	3	0	0	40	11	6	1	0	0	3	0	0	0	0	0
8:45:00	3	1	1092	204	18	7	0	0	50	10	6	0	0	0	3	0	0	0	0	0
9:00:00	5	2	1308	216	21	3	0	0	58	8	6	0	0	0	4	1	0	0	0	0
9:10:10	5	0	1308	0	21	0	0	0	58	0	6	0	0	0	4	0	0	0	0	0
11:00:00	5	0	1308	0	21	0	0	0	58	0	6	0	0	0	4	0	0	0	0	0
11:15:00	6	1	1472	164	22	1	0	0	68	10	6	0	0	0	4	0	0	0	0	0
11:30:00	6	0	1697	225	26	4	0	0	72	4	6	0	0	0	5	1	0	0	0	0
11:45:00	13	7	1900	203	34	8	0	0	78	6	7	1	0	0	5	0	0	0	0	0
12:00:00	24	11	2111	211	38	4	0	0	86	8	7	0	0	0	5	0	0	0	0	0
12:15:00	32	8	2346	235	45	7	0	0	91	5	7	0	0	0	5	0	0	0	0	0
12:30:00	38	6	2564	218	48	3	0	0	96	5	7	0	0	0	6	1	0	0	0	0
12:45:00	42	4	2777	213	50	2	0	0	109	13	7	0	0	0	6	0	0	0	0	0
13:00:00	42	0	3038	261	54	4	0	0	117	8	7	0	0	0	6	0	0	0	0	0
13:15:00	43	1	3280	242	60	6	0	0	127	10	7	0	0	0	7	1	0	0	0	0
13:30:00	48	5	3516	236	63	3	0	0	136	9	7	0	0	0	7	0	0	0	0	0
13:45:00	51	3	3747	231	67	4	0	0	148	12	7	0	0	0	7	0	0	0	0	0
14:00:00	52	1	3962	215	71	4	0	0	157	9	7	0	0	0	8	1	0	0	0	0
14:10:10	52	0	3962	0	71	0	0	0	157	0	7	0	0	0	8	0	0	0	0	0
15:00:00	52	0	3962	0	71	0	0	0	157	0	7	0	0	0	8	0	0	0	0	0
15:15:00	52	0	4193	231	78	7	0	0	160	3	8	1	0	0	8	0	0	0	0	0
15:30:00	52	0	4429	236	87	9	0	0	162	2	12	4	0	0	9	1	0	0	0	0
15:45:00	54	2	4689	260	95	8	0	0	177	15	12	0	0	0	9	0	0	0	0	0
16:00:00	55	1	4979	290	103	8	0	0	186	9	13	1	0	0	10	1	0	0	0	0
16:15:00	60	5	5310	331	109	6	0	0	193	7	14	1	0	0	13	3	0	0	0	0
16:30:00	61	1	5630	320	114	5	0	0	201	8	14	0	0	0	13	0	0	0	0	0
16:45:00	65	4	5931	301	124	10	0	0	204	3	15	1	0	0	16	3	0	0	0	0
17:00:00	67	2	6257	326	136	12	0	0	213	9	15	0	0	0	17	1	0	0	0	0
17:15:00	71	4	6617	360	150	14	0	0	217	4	15	0	0	0	18	1	0	0	0	0
17:30:00	74	3	6961	344	167	17	0	0	221	4	15	0	0	0	19	1	0	0	0	0
17:45:00	80	6	7279	318	181	14	0	0	224	3	15	0	0	0	19	0	0	0	0	0
18:00:00	85	5	7521	242	193	12	0	0	228	4	15	0	0	0	19	0	0	0	0	0
18:10:10	85	0	7521	0	193	0	0	0	228	0	15	0	0	0	19	0	0	0	0	0
18:15:15	85	0	7521	0	193	0	0	0	228	0	15	0	0	0	19	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 17-Oct-19 Site #: 1906000017

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
8:30:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:45:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
9:00:00	0	0	1	0	3	1	0	0	0	0	1	1	0	0	0	0	0	0	2	0
9:10:10	0	0	1	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
11:00:00	0	0	1	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
11:15:00	1	1	1	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
11:30:00	3	2	1	0	7	4	0	0	0	0	1	0	0	0	0	0	0	0	2	0
11:45:00	3	0	1	0	9	2	0	0	0	0	1	0	0	0	0	0	0	0	2	0
12:00:00	3	0	1	0	10	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0
12:15:00	3	0	1	0	12	2	0	0	0	0	2	1	0	0	0	0	0	0	2	0
12:30:00	4	1	1	0	15	3	0	0	0	0	2	0	0	0	0	0	0	0	3	1
12:45:00	6	2	1	0	16	1	0	0	0	0	2	0	0	0	0	0	0	0	3	0
13:00:00	9	3	1	0	17	1	0	0	0	0	2	0	0	0	0	0	0	0	3	0
13:15:00	11	2	1	0	18	1	0	0	0	0	2	0	0	0	0	0	0	0	3	0
13:30:00	12	1	1	0	20	2	0	0	0	0	2	0	0	0	0	0	0	0	4	1
13:45:00	13	1	1	0	39	19	0	0	0	0	2	0	0	0	0	0	0	0	6	2
14:00:00	15	2	1	0	43	4	0	0	0	0	2	0	0	0	0	0	0	0	6	0
14:10:10	15	0	1	0	43	0	0	0	0	0	2	0	0	0	0	0	0	0	6	0
15:00:00	15	0	1	0	43	0	0	0	0	0	2	0	0	0	0	0	0	0	6	0
15:15:00	15	0	1	0	44	1	0	0	0	0	2	0	0	0	0	0	0	0	9	3
15:30:00	15	0	1	0	47	3	0	0	0	0	2	0	0	0	0	0	0	0	9	0
15:45:00	15	0	2	1	49	2	0	0	0	0	2	0	0	0	0	0	0	0	10	1
16:00:00	16	1	2	0	53	4	0	0	0	0	2	0	0	0	0	0	0	0	11	1
16:15:00	16	0	2	0	54	1	0	0	0	0	2	0	0	0	0	0	0	0	12	1
16:30:00	17	1	2	0	54	0	0	0	0	0	2	0	0	0	0	0	0	0	12	0
16:45:00	17	0	2	0	59	5	0	0	0	0	2	0	0	0	0	0	0	0	14	2
17:00:00	19	2	2	0	61	2	0	0	0	0	2	0	0	0	0	0	0	0	15	1
17:15:00	20	1	2	0	64	3	0	0	0	0	2	0	0	0	0	0	0	0	15	0
17:30:00	21	1	3	1	65	1	0	0	0	0	2	0	0	0	0	0	0	0	15	0
17:45:00	24	3	3	0	68	3	0	0	0	0	2	0	0	0	0	0	0	0	16	1
18:00:00	25	1	3	0	68	0	0	0	0	0	2	0	0	0	0	0	0	0	17	1
18:10:10	25	0	3	0	68	0	0	0	0	0	2	0	0	0	0	0	0	0	17	0
18:15:15	25	0	3	0	68	0	0	0	0	0	2	0	0	0	0	0	0	0	17	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 17-Oct-19 Site #: 1906000017

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	81	81	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	211	130	0	0	0	0	18	9	0	0	0	0	1	1	0	0	0	0
7:45:00	1	1	394	183	1	1	0	0	26	8	0	0	0	0	1	0	0	0	0	0
8:00:00	1	0	598	204	1	0	0	0	36	10	0	0	0	0	1	0	0	0	2	2
8:15:00	1	0	864	266	1	0	0	0	56	20	1	1	0	0	1	0	0	0	2	0
8:30:00	1	0	1144	280	1	0	1	1	71	15	1	0	0	0	2	1	0	0	2	0
8:45:00	2	1	1425	281	2	1	2	1	92	21	1	0	0	0	3	1	0	0	2	0
9:00:00	6	4	1697	272	2	0	2	0	100	8	1	0	0	0	3	0	0	0	2	0
9:10:10	6	0	1697	0	2	0	2	0	100	0	1	0	0	0	3	0	0	0	2	0
11:00:00	6	0	1697	0	2	0	2	0	100	0	1	0	0	0	3	0	0	0	2	0
11:15:00	7	1	1931	234	4	2	2	0	109	9	1	0	0	0	5	2	0	0	4	2
11:30:00	9	2	2135	204	5	1	2	0	116	7	1	0	0	0	5	0	0	0	5	1
11:45:00	10	1	2347	212	8	3	2	0	126	10	1	0	0	0	5	0	0	0	5	0
12:00:00	11	1	2576	229	11	3	2	0	135	9	2	1	0	0	5	0	0	0	5	0
12:15:00	13	2	2772	196	15	4	2	0	144	9	2	0	0	0	6	1	0	0	5	0
12:30:00	14	1	2993	221	17	2	2	0	153	9	2	0	0	0	6	0	0	0	5	0
12:45:00	15	1	3191	198	17	0	2	0	161	8	2	0	0	0	6	0	0	0	5	0
13:00:00	16	1	3434	243	20	3	2	0	167	6	2	0	0	0	8	2	0	0	5	0
13:15:00	18	2	3650	216	22	2	2	0	175	8	2	0	0	0	8	0	0	0	5	0
13:30:00	21	3	3857	207	25	3	2	0	186	11	2	0	0	0	9	1	0	0	5	0
13:45:00	23	2	4067	210	28	3	2	0	191	5	2	0	0	0	9	0	0	0	5	0
14:00:00	23	0	4286	219	31	3	2	0	197	6	2	0	0	0	9	0	0	0	5	0
14:10:10	23	0	4286	0	31	0	2	0	197	0	2	0	0	0	9	0	0	0	5	0
15:00:00	23	0	4286	0	31	0	2	0	197	0	2	0	0	0	9	0	0	0	5	0
15:15:00	24	1	4513	227	33	2	3	1	207	10	2	0	0	0	10	1	0	0	5	0
15:30:00	28	4	4794	281	37	4	3	0	216	9	2	0	0	0	10	0	0	0	5	0
15:45:00	32	4	5045	251	37	0	3	0	222	6	2	0	0	0	11	1	0	0	5	0
16:00:00	33	1	5311	266	37	0	3	0	226	4	2	0	0	0	11	0	0	0	5	0
16:15:00	34	1	5574	263	40	3	3	0	234	8	2	0	0	0	11	0	0	0	5	0
16:30:00	39	5	5833	259	41	1	3	0	241	7	2	0	0	0	14	3	0	0	5	0
16:45:00	41	2	6146	313	41	0	3	0	247	6	2	0	0	0	15	1	0	0	5	0
17:00:00	50	9	6446	300	44	3	3	0	256	9	2	0	0	0	15	0	0	0	5	0
17:15:00	52	2	6770	324	45	1	3	0	258	2	2	0	0	0	16	1	0	0	5	0
17:30:00	57	5	7064	294	47	2	3	0	263	5	2	0	0	0	16	0	0	0	5	0
17:45:00	60	3	7359	295	50	3	3	0	266	3	2	0	0	0	16	0	0	0	5	0
18:00:00	62	2	7668	309	52	2	3	0	270	4	2	0	0	0	16	0	0	0	5	0
18:10:10	62	0	7668	0	52	0	3	0	270	0	2	0	0	0	16	0	0	0	5	0
18:15:15	62	0	7668	0	52	0	3	0	270	0	2	0	0	0	16	0	0	0	5	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 17-Oct-19 Site #: 1906000017

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30:00	4	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
7:45:00	6	2	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	1
8:00:00	9	3	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5	2
8:15:00	13	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
8:30:00	19	6	0	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	5	0
8:45:00	21	2	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	6	1
9:00:00	22	1	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0
9:10:10	22	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
11:00:00	22	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
11:15:00	23	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
11:30:00	25	2	0	0	11	2	0	0	0	0	0	0	0	0	0	0	0	0	6	0
11:45:00	27	2	0	0	12	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0
12:00:00	28	1	0	0	14	2	0	0	0	0	1	1	0	0	0	0	0	0	7	1
12:15:00	31	3	0	0	15	1	1	1	0	0	1	0	0	0	0	0	0	0	7	0
12:30:00	35	4	0	0	15	0	1	0	0	0	1	0	1	1	0	0	0	0	8	1
12:45:00	40	5	0	0	19	4	1	0	0	0	1	0	1	0	0	0	0	0	11	3
13:00:00	43	3	0	0	21	2	1	0	0	0	1	0	1	0	0	0	0	0	13	2
13:15:00	47	4	0	0	22	1	1	0	0	0	1	0	1	0	0	0	0	0	13	0
13:30:00	50	3	0	0	24	2	1	0	0	0	1	0	1	0	0	0	0	0	13	0
13:45:00	52	2	0	0	27	3	1	0	0	0	1	0	1	0	0	0	0	0	13	0
14:00:00	56	4	0	0	29	2	1	0	0	0	1	0	1	0	0	0	0	0	14	1
14:10:10	56	0	0	0	29	0	1	0	0	0	1	0	1	0	0	0	0	0	14	0
15:00:00	56	0	0	0	29	0	1	0	0	0	1	0	1	0	0	0	0	0	14	0
15:15:00	58	2	1	1	29	0	1	0	0	0	1	0	1	0	0	0	0	0	14	0
15:30:00	62	4	2	1	32	3	1	0	0	0	1	0	1	0	0	0	0	0	14	0
15:45:00	64	2	2	0	35	3	1	0	0	0	1	0	1	0	0	0	0	0	14	0
16:00:00	67	3	2	0	36	1	1	0	0	0	1	0	1	0	0	0	0	0	14	0
16:15:00	68	1	2	0	37	1	1	0	0	0	1	0	1	0	0	0	0	0	16	2
16:30:00	71	3	2	0	39	2	1	0	0	0	1	0	1	0	0	0	0	0	17	1
16:45:00	75	4	2	0	39	0	1	0	0	0	2	1	1	0	0	0	0	0	17	0
17:00:00	76	1	2	0	40	1	1	0	0	0	2	0	1	0	0	0	0	0	19	2
17:15:00	80	4	2	0	44	4	1	0	0	0	2	0	1	0	0	0	0	0	20	1
17:30:00	86	6	2	0	50	6	1	0	0	0	2	0	1	0	0	0	0	0	20	0
17:45:00	89	3	3	1	50	0	1	0	0	0	2	0	1	0	0	0	0	0	20	0
18:00:00	96	7	3	0	54	4	1	0	0	0	2	0	1	0	0	0	0	0	21	1
18:10:10	96	0	3	0	54	0	1	0	0	0	2	0	1	0	0	0	0	0	21	0
18:15:15	96	0	3	0	54	0	1	0	0	0	2	0	1	0	0	0	0	0	21	0

Traffic Signal Timing Information

Main Street: Gordon Street
Side Street: Kortright Road
Signal Operation: Semi-actuated
Coordinated: Yes (Period 1)

Movement		**Period 1**	**Period 2**
Gordon Street Northbound Left Turn Green	*	6	Omit
Gordon Street Northbound Left Turn Amber	*	3	
Gordon Street Southbound Left Turn Green	*	6	Omit
Gordon Street Southbound Left Turn Amber	*	3	
Gordon Street Walk		20	20
Gordon Street Flashing Don't Walk		19	19
Gordon Street Through Green		39	39
Gordon Street Amber		4	4
All-Red		2	2
Kortright Road Walk	*	10	10
Kortright Road Flashing Don't Walk		20	20
Kortright Road Through Green	*	30	30
Kortright Road Amber		4	4
All-Red		2	2
Cycle Length		90	Varies

All times displayed in seconds
* Actuated Phase

Period 1: 07:00-21:00 Monday-Friday
09:00-21:00 Saturday
10:00-21:00 Sunday

Period 2: All other periods. This is FREE operation.

Traffic Signal Timing Information

Main Street: Gordon Street
Side Street: Edinburgh Road South
Signal Operation: Semi-actuated
Coordinated: Yes (during Period 1)

Movement		Period 1	Period 2
Gordon Street Northbound Left Turn Green/ Edinburgh Road Eastbound Right Turn Green	*	15	Omit
Gordon Street Northbound Left Turn Amber/ Edinburgh Road Eastbound Right Turn Amber		3	
Gordon Street Walk		25	18
Gordon Street Flashing Don't Walk		14	14
Gordon Street Through Green		39	32
Gordon Street Amber		4	4
All-Red		2	2
Edinburgh Road Walk	*	7	7
Edinburgh Road Flashing Don't Walk		14	14
Edinburgh Road Through Green	*	21	21
Edinburgh Road Amber		4	4
All-Red		2	2
Cycle Length		90	Varies

All times displayed in seconds
* Actuated Phase

Period 1: 07:00-21:00 Monday-Friday
09:00-21:00 Saturday
10:00-21:00 Sunday

Period 2: All other periods. This is FREE operation.

Traffic Signal Timing Information

Main Street: Gordon Street
Side Street: Heritage Drive
Signal Operation: Semi-actuated
Coordinated: Yes (Period 1)

Movement		**Period 1**	**Period 2**
Gordon Street Walk		45	20
Gordon Street Flashing Don't Walk		12	12
Gordon Street Through Green		57	32
Gordon Street Amber		4	4
All-Red		2	2
Heritage Drive Walk	*	7	7
Heritage Drive Flashing Don't Walk		14	14
Heritage Drive Through Green	*	21	21
Heritage Drive Amber		4	4
All-Red		2	2
Cycle Length		90	Varies

All times displayed in seconds
* Actuated Phase

Period 1: 07:00-21:00 Monday-Friday
09:00-21:00 Saturday
10:00-21:00 Sunday

Period 2: All other periods. This is FREE operation.

CITY OF GUELPH

Traffic Signal Timing Parameters

Database Date	From Field		Prepared Date:	July. 19 2019
			Completed By:	Sh.H
			Checked By:	

Location: Edinburgh Road South at Kortright Road West

Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.) WALK	Pedestrian Minimum (sec.) FDWALK	Amber (sec.)	All Red (sec.)	GREEN TIME PERIOD (sec.) Free Period	1 Period	2 Period	3 Period	4 Period	5 Period
1	WBLT	6.0			3.0		6.0	9.0	9.0	9.0		
2	EB	10.0	8.0	17.0	4.0	2.0	26.0	33.0	33.0	33.0	33.0	
3	SBLT	6.0			3.0		6.0	9.0	9.0	9.0		
4	NB	10.0	8.0	19.0	4.0	2.0	28.0	39.0	39.0	39.0	37.0	
5	EBLT	6.0			3.0		6.0	9.0	9.0	9.0		
6	WB	10.0	8.0	17.0	4.0	2.0	26.0	33.0	33.0	33.0	33.0	
7	NBLT	6.0			3.0		12.0	15.0	15.0	15.0		
8	SB	10.0	8.0	19.0	4.0	2.0	29.0	33.0	33.0	33.0	37.0	

System Control	Yes
Local Control	Yes
Semi-Actuated Mode	Yes

TIME (M-F)	Period	CYCLE LENGTH (sec.)	OFFSET (sec.)
0:00 - 7:00	Free		
7:00-9:00	1	90	32
9:00-15:00	2	90	79
15:0021:00	3	90	40
TIME (Sat)	**Period**	**CYCLE LENGTH (sec.)**	**OFFSET (sec.)**
07:00- 09:00	4	70	40
09:00 - 15:00	2	90	79
15:00 - 21:00	3	90	40
TIME (Sun)	**Period**	**CYCLE LENGTH (sec.)**	**OFFSET (sec.)**
07:00- 10:00	4	70	40
10:00 - 15:00	2	90	79
15:00 - 19:00	3	90	40
19:00 - 21:00	4	70	40

Gordon Street & Harts Lane

Morning Peak Diagram

Specified Period
From: 6:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Guelph
Site #: 0000000044
Intersection: Gordon Street & Harts Lane
TFR File #: 1
Count date: 9-Jul-2019

Weather conditions:
Clear
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon Street runs N/S

North Leg Total: 1575
North Entering: 516
North Peds: 0
Peds Cross: ⋈

Heavys	0	12	0	12
Trucks	0	11	0	11
Cars	3	484	6	493
Totals	3	507	6	

Heavys	21
Trucks	22
Cars	1016
Totals	1059

East Leg Total: 47
East Entering: 32
East Peds: 4
Peds Cross: ⧗

Gordon Street

Heavys	Trucks	Cars	Totals
0	0	4	4

Harts Lane

Cars	Trucks	Heavys	Totals
20	0	0	20
0	0	0	0
11	1	0	12
31	1	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	5	5
0	0	0	0
0	0	1	1
0	0	6	

Harts Lane

Cars	Trucks	Heavys	Totals
15	0	0	15

Gordon Street

Peds Cross: ⧗
West Peds: 7
West Entering: 6
West Leg Total: 10

Cars	496
Trucks	12
Heavys	12
Totals	520

Cars	1	991	9	1001
Trucks	0	22	0	22
Heavys	0	21	0	21
Totals	1	1034	9	

Peds Cross: ⋈
South Peds: 0
South Entering: 1044
South Leg Total: 1564

Comments

Gordon Street & Harts Lane

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:15:00
To: 13:15:00

Municipality: Guelph
Site #: 0000000044
Intersection: Gordon Street & Harts Lane
TFR File #: 1
Count date: 9-Jul-2019

Weather conditions:
Clear
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon Street runs N/S

North Leg Total: 1411
North Entering: 686
North Peds: 0
Peds Cross: ⋈

Heavys	0	11	0	11
Trucks	0	12	0	12
Cars	4	646	13	663
Totals	4	669	13	

Heavys	15
Trucks	2
Cars	708
Totals	725

East Leg Total: 43
East Entering: 20
East Peds: 1
Peds Cross: ⧗

Gordon Street

Heavys	Trucks	Cars	Totals
0	0	7	7

Harts Lane

Cars	Trucks	Heavys	Totals
12	0	0	12
1	0	0	1
7	0	0	7
20	0	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	1	1
0	0	0	0
0	0	8	8
0	0	9	

Harts Lane

Cars	Trucks	Heavys	Totals
23	0	0	23

Gordon Street

Peds Cross: ⧗
West Peds: 8
West Entering: 9
West Leg Total: 16

Cars	661
Trucks	12
Heavys	11
Totals	684

Cars	2	695	10	707
Trucks	0	2	0	2
Heavys	0	15	0	15
Totals	2	712	10	

Peds Cross: ⋈
South Peds: 0
South Entering: 724
South Leg Total: 1408

Comments

Gordon Street & Harts Lane

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

Municipality: Guelph
Site #: 0000000044
Intersection: Gordon Street & Harts Lane
TFR File #: 1
Count date: 9-Jul-2019

Weather conditions:
Clear
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon Street runs N/S

North Leg Total: 2012
North Entering: 1110
North Peds: 1
Peds Cross: ⋈

Heavys	0	12	0	12
Trucks	0	3	0	3
Cars	3	1071	21	1095
Totals	3	1086	21	

Heavys	18
Trucks	3
Cars	881
Totals	902

East Leg Total: 55
East Entering: 12
East Peds: 9
Peds Cross: ⧗

Gordon Street

Heavys	Trucks	Cars	Totals
0	0	5	5

Harts Lane

Cars	Trucks	Heavys	Totals
7	0	0	7
0	0	0	0
5	0	0	5
12	0	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	2	2
0	0	0	0
0	0	8	8
0	0	10	

Harts Lane

Cars	Trucks	Heavys	Totals
42	0	1	43

Gordon Street

Peds Cross: ⧗
West Peds: 19
West Entering: 10
West Leg Total: 15

Cars	1084
Trucks	3
Heavys	12
Totals	1099

Cars	2	872	21	895
Trucks	0	3	0	3
Heavys	0	18	1	19
Totals	2	893	22	

Peds Cross: ⋈
South Peds: 0
South Entering: 917
South Leg Total: 2016

Comments

Gordon Street & Harts Lane

Total Count Diagram

Municipality: Guelph
Site #: 0000000044
Intersection: Gordon Street & Harts Lane
TFR File #: 1
Count date: 9-Jul-2019

Weather conditions:
Clear
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Gordon Street runs N/S

North Leg Total: 11169
North Entering: 5333
North Peds: 1
Peds Cross: ⋈

Heavys	0	100	0	100
Trucks	0	44	0	44
Cars	16	5098	75	5189
Totals	16	5242	75	

Heavys	133
Trucks	56
Cars	5647
Totals	5836

East Leg Total: 314
East Entering: 150
East Peds: 22
Peds Cross: ⧗

Gordon Street

Heavys	Trucks	Cars	Totals
0	0	25	25

Harts Lane

Cars	Trucks	Heavys	Totals
87	0	0	87
1	0	0	1
61	1	0	62
149	1	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	21	21
0	0	1	1
0	1	20	21
0	1	42	

Harts Lane

Cars	Trucks	Heavys	Totals
162	1	1	164

Gordon Street

Peds Cross: ⧗
West Peds: 55
West Entering: 43
West Leg Total: 68

Cars	5179
Trucks	46
Heavys	100
Totals	5325

Cars	8	5539	86	5633
Trucks	0	56	1	57
Heavys	0	133	1	134
Totals	8	5728	88	

Peds Cross: ⋈
South Peds: 0
South Entering: 5824
South Leg Total: 11149

Comments

Gordon Street & Harts Lane
Traffic Count Summary

Intersection: Gordon Street & Harts Lane | **Count Date:** 9-Jul-2019 | **Municipality:** Guelph

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
6:00:00	0	0	0	0	0	0
7:00:00	1	261	1	263	0	560
8:00:00	1	413	1	415	0	1043
9:00:00	6	507	3	516	0	1560
12:00:00	6	303	1	310	0	626
13:00:00	12	666	1	679	0	1388
16:00:00	6	354	3	363	0	701
17:00:00	14	1057	1	1072	0	1921
18:00:00	19	993	2	1014	1	1908
19:00:00	10	688	3	701	0	1450
Totals:	75	5242	16	5333	1	11157

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
6:00:00	0	0	0	0	0
7:00:00	0	295	2	297	0
8:00:00	1	624	3	628	0
9:00:00	1	1034	9	1044	0
12:00:00	0	311	5	316	0
13:00:00	1	699	9	709	0
16:00:00	1	332	5	338	0
17:00:00	2	827	20	849	0
18:00:00	2	872	20	894	0
19:00:00	0	734	15	749	0
	8	5728	88	5824	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
6:00:00	0	0	0	0	0	0
7:00:00	11	0	3	14	1	14
8:00:00	8	0	11	19	3	20
9:00:00	12	0	20	32	4	38
12:00:00	3	0	6	9	2	12
13:00:00	9	0	10	19	0	25
16:00:00	0	1	7	8	1	14
17:00:00	5	0	8	13	1	19
18:00:00	9	0	6	15	8	25
19:00:00	5	0	16	21	2	26
Totals:	62	1	87	150	22	193

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
6:00:00	0	0	0	0	0
7:00:00	0	0	0	0	4
8:00:00	1	0	0	1	5
9:00:00	5	0	1	6	7
12:00:00	1	0	2	3	2
13:00:00	1	0	5	6	13
16:00:00	3	0	3	6	0
17:00:00	4	0	2	6	4
18:00:00	3	0	7	10	16
19:00:00	3	1	1	5	4
	21	1	21	43	55

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	12:00	13:00	16:00	17:00	18:00	19:00
Crossing Values:	9	17	4	10	4	9	13	9

Traffic Signal Timing Information

Main Street: Gordon Street
Side Street: Arkell Road
Signal Operation: Semi-actuated
Coordinated: Yes (during Period 1)

Movement		Period 1	Period 2
Gordon Street Southbound Left Turn Green/ Gordon Street Southbound Through Green/ Arkell Road Westbound Right Turn Green	*	15	Omit
Gordon Street Southbound Left Turn Amber/ Gordon Street Southbound Through Green/ Arkell Road Westbound Right Turn Amber		3	
Gordon Street Walk		25	18
Gordon Street Flashing Don't Walk		14	14
Gordon Street Through Green		39	32
Gordon Street Amber		4	4
All-Red		2	2
Arkell Road Walk	*	7	7
Arkell Road Flashing Don't Walk		14	14
Arkell Road Through Green	*	21	21
Arkell Road Amber		4	4
All-Red		2	2
Cycle Length		90	Varies

All times displayed in seconds
* Actuated Phase

Period 1: 07:00-21:00 Monday-Friday
09:00-21:00 Saturday
10:00-21:00 Sunday

Period 2: All other periods. This is FREE operation.

Appendix D SYNCHRO ANALYSIS OUTPUTS

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	212	78	83	69	268	88	1018	11	473
v/c Ratio	0.91	0.15	0.17	0.19	0.54	0.15	0.50	0.03	0.27
Control Delay	72.0	23.4	6.0	24.2	27.9	14.8	20.9	8.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	23.4	6.0	24.2	27.9	14.8	20.9	8.5	13.3
Queue Length 50th (m)	34.5	10.0	0.0	8.9	34.1	6.8	53.8	0.7	23.1
Queue Length 95th (m)	#66.9	19.0	9.2	17.9	53.3	22.1	102.8	2.9	35.5
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		35.0	
Base Capacity (vph)	285	626	568	440	604	579	2023	354	1768
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.12	0.15	0.16	0.44	0.15	0.50	0.03	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	76	81	68	177	85	86	972	25	11	369	94
Future Volume (vph)	208	76	81	68	177	85	86	972	25	11	369	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1781	3516		1785	3418	
Flt Permitted	0.46	1.00	1.00	0.71	1.00		0.44	1.00		0.24	1.00	
Satd. Flow (perm)	857	1879	1538	1322	1754		824	3516		444	3418	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	212	78	83	69	181	87	88	992	26	11	377	96
RTOR Reduction (vph)	0	0	60	0	21	0	0	2	0	0	22	0
Lane Group Flow (vph)	212	78	23	69	247	0	88	1016	0	11	451	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	24.5	24.5	24.5	24.5	24.5		53.5	49.3		46.5	45.3	
Effective Green, g (s)	24.5	24.5	24.5	24.5	24.5		53.5	49.3		46.5	45.3	
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27		0.59	0.55		0.52	0.50	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	233	511	418	359	477		545	1925		247	1720	
v/s Ratio Prot		0.04			0.14		c0.01	c0.29		0.00	0.13	
v/s Ratio Perm	c0.25		0.01	0.05			0.09			0.02		
v/c Ratio	0.91	0.15	0.05	0.19	0.52		0.16	0.53		0.04	0.26	
Uniform Delay, d1	31.7	24.9	24.2	25.2	27.7		7.9	12.9		10.9	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.75	1.50		1.00	1.00	
Incremental Delay, d2	35.1	0.1	0.1	0.3	1.0		0.1	1.0		0.1	0.4	
Delay (s)	66.8	25.0	24.2	25.4	28.7		13.9	20.5		11.0	13.2	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		48.6			28.0			19.9			13.1	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1034	9	6	507	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1034	9	6	507	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1124	10	7	551	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1160	1714	284	1426	1710	571	561			1138		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1160	1714	284	1426	1710	571	561			1138		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	100	85	100	95	100			99		
cM capacity (veh/h)	143	89	714	89	90	467	1014			619		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	749	385	7	367	187
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	164	181	1014	1700	1700	619	1700	1700
Volume to Capacity	0.04	0.19	0.00	0.44	0.23	0.01	0.22	0.11
Queue Length 95th (m)	0.9	5.3	0.0	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	27.7	29.7	8.6	0.0	0.0	10.9	0.0	0.0
Lane LOS	D	D	A			B		
Approach Delay (s)	27.7	29.7	0.0			0.1		
Approach LOS	D	D						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	38.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1089	0	2	536	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1089	0	2	536	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1146	0	2	564	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								352				
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	1162	1732	312	1460	1736	576	579			1149		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1025	1637	312	1345	1642	395	579			1011		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	100	99	100	99	100			100		
cM capacity (veh/h)	174	93	673	101	93	566	999			644		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	764	382	2	376	197
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	183	341	999	1700	1700	644	1700	1700
Volume to Capacity	0.09	0.02	0.00	0.45	0.22	0.00	0.22	0.12
Queue Length 95th (m)	2.2	0.5	0.0	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	26.6	15.8	8.6	0.0	0.0	10.6	0.0	0.0
Lane LOS	D	C	A			B		
Approach Delay (s)	26.6	15.8	0.0			0.0		
Approach LOS	D	C						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	45.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	1085	3	0	544
Future Volume (Veh/h)	4	2	1085	3	0	544
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	2	1167	3	0	585
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			71			
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	1509	596			1179	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1337	318			968	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	126	607			640	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	778	392	195	390
Volume Left	4	0	0	0	0
Volume Right	2	0	3	0	0
cSH	171	1700	1700	640	1700
Volume to Capacity	0.04	0.46	0.23	0.00	0.23
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	26.8	0.0	0.0	0.0	0.0
Lane LOS	D				
Approach Delay (s)	26.8	0.0		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	53	306	438	1103	584
v/c Ratio	0.30	0.57	0.60	0.40	0.28
Control Delay	41.3	11.7	11.2	8.8	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	11.7	11.2	8.8	10.4
Queue Length 50th (m)	8.6	11.6	44.0	65.2	35.0
Queue Length 95th (m)	19.1	27.7	89.5	107.2	52.7
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		70.0		
Base Capacity (vph)	353	586	763	2755	2096
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.52	0.57	0.40	0.28

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	288	412	1037	512	37
Future Volume (vph)	50	288	412	1037	512	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1513	1507	1638	3245	3227	
Flt Permitted	0.95	1.00	0.40	1.00	1.00	
Satd. Flow (perm)	1513	1507	694	3245	3227	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	306	438	1103	545	39
RTOR Reduction (vph)	0	166	0	0	4	0
Lane Group Flow (vph)	53	140	438	1103	580	0
Confl. Peds. (#/hr)	38					
Heavy Vehicles (%)	18%	6%	9%	10%	10%	3%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	6.4	19.0	71.6	71.6	56.0	
Effective Green, g (s)	6.4	19.0	71.6	71.6	56.0	
Actuated g/C Ratio	0.07	0.21	0.80	0.80	0.62	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	107	318	684	2581	2007	
v/s Ratio Prot	c0.04	0.06	c0.09	0.34	0.18	
v/s Ratio Perm		0.03	c0.42			
v/c Ratio	0.50	0.44	0.64	0.43	0.29	
Uniform Delay, d1	40.2	30.9	2.8	2.8	7.8	
Progression Factor	1.00	1.00	3.67	2.72	1.09	
Incremental Delay, d2	3.6	1.0	1.5	0.4	0.4	
Delay (s)	43.8	31.8	11.7	8.1	8.9	
Level of Service	D	C	B	A	A	
Approach Delay (s)	33.6			9.1	8.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	5	150	364	1	1248	148	696
v/c Ratio	0.24	0.01	0.67	0.72	0.00	0.70	0.47	0.31
Control Delay	37.4	0.0	48.6	14.2	13.0	16.3	18.0	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	0.0	48.6	14.2	13.0	16.3	18.0	4.2
Queue Length 50th (m)	2.7	0.0	24.2	5.7	0.1	41.7	4.5	12.8
Queue Length 95th (m)	8.6	0.0	41.4	32.0	m0.2	#131.5	23.3	20.6
Internal Link Dist (m)		134.7		213.6		178.4		379.1
Turn Bay Length (m)	50.0		60.0		50.0		85.0	
Base Capacity (vph)	99	505	291	563	402	1777	409	2245
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.01	0.52	0.65	0.00	0.70	0.36	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	141	2	340	1	1074	99	139	646	8
Future Volume (vph)	17	0	5	141	2	340	1	1074	99	139	646	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.97	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1640	1312		1576	1349		1781	3194		1653	3266	
Flt Permitted	0.25	1.00		0.75	1.00		0.39	1.00		0.14	1.00	
Satd. Flow (perm)	429	1312		1251	1349		726	3194		242	3266	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	150	2	362	1	1143	105	148	687	9
RTOR Reduction (vph)	0	4	0	0	267	0	0	6	0	0	1	0
Lane Group Flow (vph)	18	1	0	150	97	0	1	1242	0	148	695	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.1	16.1		16.1	16.1		50.0	50.0		61.9	61.9	
Effective Green, g (s)	16.1	16.1		16.1	16.1		50.0	50.0		61.9	61.9	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.56	0.56		0.69	0.69	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	76	234		223	241		403	1774		305	2246	
v/s Ratio Prot		0.00			0.07			c0.39		c0.05	0.21	
v/s Ratio Perm	0.04			c0.12			0.00			0.28		
v/c Ratio	0.24	0.00		0.67	0.40		0.00	0.70		0.49	0.31	
Uniform Delay, d1	31.7	30.4		34.5	32.7		8.9	14.5		8.4	5.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	0.84		2.73	0.63	
Incremental Delay, d2	1.6	0.0		7.8	1.1		0.0	2.2		1.2	0.3	
Delay (s)	33.3	30.4		42.2	33.8		8.9	14.4		24.1	3.8	
Level of Service	C	C		D	C		A	B		C	A	
Approach Delay (s)		32.7			36.3			14.4			7.4	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1165	2	5	749	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1165	2	5	749	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1266	2	5	814	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								240			202	
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94	0.91	0.94			0.91		
vC, conflicting volume	1485	2118	416	1706	2126	635	832			1269		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1076	1752	239	1312	1760	390	683			1090		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	91	100	99	100	99	100	99			99		
cM capacity (veh/h)	160	79	719	108	78	445	698			587		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	19	3	641	635	412	424
Volume Left	14	0	8	0	5	0
Volume Right	5	2	0	2	0	17
cSH	201	174	698	1700	587	1700
Volume to Capacity	0.09	0.02	0.01	0.37	0.01	0.25
Queue Length 95th (m)	2.3	0.4	0.3	0.0	0.2	0.0
Control Delay (s)	24.7	26.1	0.3	0.0	0.3	0.0
Lane LOS	C	D	A		A	
Approach Delay (s)	24.7	26.1	0.2		0.1	
Approach LOS	C	D				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	31	46	14	1125	808
v/c Ratio	0.27	0.25	0.09	0.43	0.31
Control Delay	43.3	15.8	4.5	3.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.8	2.7
Queue Length 50th (m)	5.1	0.2	0.0	26.3	10.2
Queue Length 95th (m)	13.2	9.7	1.9	42.1	28.0
Internal Link Dist (m)		93.6	64.7	179.8	215.7
Turn Bay Length (m)	25.0				
Base Capacity (vph)	299	395	328	2594	2589
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.43	0.31

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1067	0	17	741	25
Future Volume (vph)	30	1	44	8	0	6	24	1067	0	17	741	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.98			0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.85			0.94			1.00			1.00	
Flt Protected	0.95	1.00			0.97			1.00			1.00	
Satd. Flow (prot)	1630	1546			1574			3426			3448	
Flt Permitted	0.75	1.00			0.80			0.92			0.92	
Satd. Flow (perm)	1284	1546			1291			3172			3166	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1100	0	18	764	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	0	1125	0	0	807	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8			71.2			71.2	
Effective Green, g (s)	6.8	6.8			6.8			71.2			71.2	
Actuated g/C Ratio	0.08	0.08			0.08			0.79			0.79	
Clearance Time (s)	6.0	6.0			6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	97	116			97			2509			2504	
v/s Ratio Prot		0.00										
v/s Ratio Perm	c0.02				0.00			c0.35			0.25	
v/c Ratio	0.32	0.04			0.01			0.45			0.32	
Uniform Delay, d1	39.4	38.6			38.5			3.0			2.6	
Progression Factor	1.00	1.00			1.00			1.00			0.85	
Incremental Delay, d2	1.9	0.1			0.0			0.6			0.3	
Delay (s)	41.3	38.7			38.5			3.6			2.6	
Level of Service	D	D			D			A			A	
Approach Delay (s)		39.8			38.5			3.6			2.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	231	156	147	45	148	123	848	66	1269
v/c Ratio	0.76	0.33	0.30	0.15	0.32	0.47	0.45	0.16	0.72
Control Delay	46.4	28.0	5.6	24.8	24.5	26.9	22.9	8.4	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	28.0	5.6	24.8	24.5	26.9	22.9	8.4	21.3
Queue Length 50th (m)	36.7	21.9	0.0	6.0	18.2	14.9	54.0	3.8	86.4
Queue Length 95th (m)	55.8	34.0	12.1	13.0	30.4	31.9	78.8	10.3	125.7
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		35.0	
Base Capacity (vph)	409	626	617	400	609	262	1887	417	1767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.25	0.24	0.11	0.24	0.47	0.45	0.16	0.72

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	148	140	43	110	30	117	764	42	63	1027	179
Future Volume (vph)	219	148	140	43	110	30	117	764	42	63	1027	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1764	1879	1557	1766	1793		1784	3535		1782	3469	
Flt Permitted	0.66	1.00	1.00	0.65	1.00		0.12	1.00		0.29	1.00	
Satd. Flow (perm)	1228	1879	1557	1200	1793		219	3535		541	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	231	156	147	45	116	32	123	804	44	66	1081	188
RTOR Reduction (vph)	0	0	110	0	13	0	0	4	0	0	14	0
Lane Group Flow (vph)	231	156	37	45	135	0	123	844	0	66	1255	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	22.4	22.4	22.4	22.4	22.4		54.5	47.4		50.7	45.5	
Effective Green, g (s)	22.4	22.4	22.4	22.4	22.4		54.5	47.4		50.7	45.5	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.61	0.53		0.56	0.51	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	305	467	387	298	446		256	1861		376	1753	
v/s Ratio Prot		0.08			0.08		c0.04	0.24		0.01	c0.36	
v/s Ratio Perm	c0.19		0.02	0.04			0.25			0.09		
v/c Ratio	0.76	0.33	0.09	0.15	0.30		0.48	0.45		0.18	0.72	
Uniform Delay, d1	31.3	27.7	26.0	26.4	27.5		11.4	13.2		9.1	17.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		2.60	1.49		1.00	1.00	
Incremental Delay, d2	10.3	0.4	0.1	0.2	0.4		1.4	0.8		0.2	2.5	
Delay (s)	41.6	28.1	26.1	26.6	27.8		31.1	20.6		9.4	19.8	
Level of Service	D	C	C	C	C		C	C		A	B	
Approach Delay (s)		33.4			27.6			21.9			19.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	893	22	21	1186	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	893	22	21	1186	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	971	24	23	1289	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1854	2364	665	1696	2353	508	1311			1004		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1854	2364	665	1696	2353	508	1311			1004		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	98	91	100	98	100			97		
cM capacity (veh/h)	43	34	400	57	34	511	525			692		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	647	348	23	859	433
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	159	125	525	1700	1700	692	1700	1700
Volume to Capacity	0.07	0.10	0.00	0.38	0.20	0.03	0.51	0.25
Queue Length 95th (m)	1.7	2.6	0.1	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	29.3	37.1	11.9	0.0	0.0	10.4	0.0	0.0
Lane LOS	D	E	B			B		
Approach Delay (s)	29.3	37.1	0.0			0.2		
Approach LOS	D	E						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	886	2	14	1200	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	886	2	14	1200	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	943	2	15	1277	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								352				
pX, platoon unblocked	0.98	0.98		0.98	0.98	0.98				0.98		
vC, conflicting volume	1851	2326	684	1658	2345	480	1335			951		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1830	2313	684	1634	2333	433	1335			913		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	42	100	99	100	100	99	97			98		
cM capacity (veh/h)	38	35	387	62	34	499	515			737		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	629	316	15	851	467
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	41	499	515	1700	1700	737	1700	1700
Volume to Capacity	0.59	0.01	0.03	0.37	0.19	0.02	0.50	0.27
Queue Length 95th (m)	16.2	0.2	0.7	0.0	0.0	0.5	0.0	0.0
Control Delay (s)	179.1	12.3	12.2	0.0	0.0	10.0	0.0	0.0
Lane LOS	F	B	B			A		
Approach Delay (s)	179.1	12.3	0.2			0.1		
Approach LOS	F	B						

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	910	2	1	1188
Future Volume (Veh/h)	0	2	910	2	1	1188
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	978	2	1	1277
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			71			
pX, platoon unblocked	0.93	0.93			0.93	
vC, conflicting volume	1664	496			986	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1558	299			828	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	93	648			749	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	2	652	328	427	851
Volume Left	0	0	0	1	0
Volume Right	2	0	2	0	0
cSH	648	1700	1700	749	1700
Volume to Capacity	0.00	0.38	0.19	0.00	0.50
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0
Control Delay (s)	10.6	0.0	0.0	0.0	0.0
Lane LOS	B			A	
Approach Delay (s)	10.6	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	47	608	463	893	1224
v/c Ratio	0.27	0.91	0.68	0.32	0.85
Control Delay	40.6	42.1	13.3	7.3	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	42.1	13.3	7.3	35.0
Queue Length 50th (m)	7.6	86.4	69.1	70.5	117.7
Queue Length 95th (m)	17.5	#162.9	m#88.3	m80.4	139.6
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		70.0		
Base Capacity (vph)	356	671	678	2784	1440
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.91	0.68	0.32	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	590	449	866	1081	107
Future Volume (vph)	46	590	449	866	1081	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1526	1482	1668	3275	3279	
Flt Permitted	0.95	1.00	0.10	1.00	1.00	
Satd. Flow (perm)	1526	1482	176	3275	3279	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	47	608	463	893	1114	110
RTOR Reduction (vph)	0	16	0	0	9	0
Lane Group Flow (vph)	47	592	463	893	1215	0
Confl. Peds. (#/hr)	36	25	35			35
Heavy Vehicles (%)	17%	7%	7%	9%	7%	5%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	6.3	38.1	71.7	71.7	36.9	
Effective Green, g (s)	6.3	38.1	71.7	71.7	36.9	
Actuated g/C Ratio	0.07	0.42	0.80	0.80	0.41	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	106	627	667	2609	1344	
v/s Ratio Prot	0.03	c0.33	0.25	0.27	c0.37	
v/s Ratio Perm		0.07	0.31			
v/c Ratio	0.44	0.94	0.69	0.34	0.90	
Uniform Delay, d1	40.2	24.9	18.6	2.6	24.9	
Progression Factor	1.00	1.00	0.45	2.57	1.29	
Incremental Delay, d2	2.9	23.1	1.9	0.2	8.5	
Delay (s)	43.1	48.0	10.2	6.8	40.7	
Level of Service	D	D	B	A	D	
Approach Delay (s)	47.6			7.9	40.7	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	15	123	277	13	1256	370	1323
v/c Ratio	0.25	0.06	0.61	0.61	0.08	0.88	0.81	0.57
Control Delay	38.0	16.7	46.6	10.5	13.2	27.4	36.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	16.7	46.6	10.5	13.2	27.4	36.9	4.0
Queue Length 50th (m)	3.4	0.5	20.2	0.9	0.8	102.2	45.7	17.2
Queue Length 95th (m)	9.7	5.2	34.5	20.4	m1.8	#144.3	m#75.9	m49.1
Internal Link Dist (m)		134.7		213.6		183.7		379.1
Turn Bay Length (m)	50.0		60.0		50.0		85.0	
Base Capacity (vph)	122	365	287	530	158	1433	455	2338
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.04	0.43	0.52	0.08	0.88	0.81	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	119	6	263	13	1022	196	359	1271	13
Future Volume (vph)	21	3	12	119	6	263	13	1022	196	359	1271	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1527		1564	1382		1649	3203		1653	3332	
Flt Permitted	0.29	1.00		0.75	1.00		0.21	1.00		0.09	1.00	
Satd. Flow (perm)	528	1527		1231	1382		360	3203		163	3332	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	123	6	271	13	1054	202	370	1310	13
RTOR Reduction (vph)	0	10	0	0	226	0	0	17	0	0	1	0
Lane Group Flow (vph)	22	5	0	123	51	0	13	1239	0	370	1322	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.9	14.9		14.9	14.9		39.8	39.8		63.1	63.1	
Effective Green, g (s)	14.9	14.9		14.9	14.9		39.8	39.8		63.1	63.1	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.44	0.44		0.70	0.70	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	87	252		203	228		159	1416		450	2336	
v/s Ratio Prot		0.00			0.04			c0.39		c0.19	0.40	
v/s Ratio Perm	0.04			c0.10			0.04			0.39		
v/c Ratio	0.25	0.02		0.61	0.22		0.08	0.87		0.82	0.57	
Uniform Delay, d1	32.7	31.4		34.8	32.5		14.5	22.8		23.8	6.7	
Progression Factor	1.00	1.00		1.00	1.00		0.78	0.86		1.34	0.47	
Incremental Delay, d2	1.5	0.0		5.0	0.5		0.9	7.1		5.7	0.5	
Delay (s)	34.2	31.5		39.9	33.0		12.2	26.8		37.6	3.6	
Level of Service	C	C		D	C		B	C		D	A	
Approach Delay (s)		33.1			35.1			26.6			11.0	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1233	9	15	1371	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1233	9	15	1371	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1298	9	16	1443	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								230			208	
pX, platoon unblocked	0.86	0.86	0.80	0.86	0.86	0.87	0.80			0.87		
vC, conflicting volume	2206	2857	754	2110	2882	656	1506			1309		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1424	2180	188	1313	2209	320	1129			1067		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	80	97	98	92	97	98	96			97		
cM capacity (veh/h)	77	37	659	92	36	595	499			577		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	28	17	669	658	738	782
Volume Left	15	7	20	0	16	0
Volume Right	12	9	0	9	0	60
cSH	116	143	499	1700	577	1700
Volume to Capacity	0.24	0.12	0.04	0.39	0.03	0.46
Queue Length 95th (m)	6.7	3.0	1.0	0.0	0.6	0.0
Control Delay (s)	45.5	33.5	1.2	0.0	0.8	0.0
Lane LOS	E	D	A		A	
Approach Delay (s)	45.5	33.5	0.6		0.4	
Approach LOS	E	D				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	46	30	49	1266	1331
v/c Ratio	0.35	0.16	0.27	0.49	0.50
Control Delay	44.4	15.9	20.1	4.6	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	15.9	20.1	4.6	6.8
Queue Length 50th (m)	7.6	0.2	1.9	33.8	61.1
Queue Length 95th (m)	17.3	7.7	11.7	54.8	64.3
Internal Link Dist (m)		81.9	49.4	66.9	205.6
Turn Bay Length (m)	25.0				
Base Capacity (vph)	315	392	380	2570	2636
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.08	0.13	0.49	0.50

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1214	0	19	1251	34
Future Volume (vph)	45	1	28	12	0	36	26	1214	0	19	1251	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.99			0.99			1.00			1.00	
Flpb, ped/bikes	0.99	1.00			1.00			1.00			1.00	
Frt	1.00	0.85			0.90			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1774	1586			1643			3531			3517	
Flt Permitted	0.73	1.00			0.91			0.90			0.92	
Satd. Flow (perm)	1354	1586			1508			3171			3251	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1239	0	19	1277	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	0	1266	0	0	1330	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.5	7.5			7.5			70.5			70.5	
Effective Green, g (s)	7.5	7.5			7.5			70.5			70.5	
Actuated g/C Ratio	0.08	0.08			0.08			0.78			0.78	
Clearance Time (s)	6.0	6.0			6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	112	132			125			2483			2546	
v/s Ratio Prot		0.00										
v/s Ratio Perm	c0.03				0.01			0.40			c0.41	
v/c Ratio	0.41	0.03			0.12			0.51			0.52	
Uniform Delay, d1	39.2	37.9			38.2			3.5			3.6	
Progression Factor	1.00	1.00			1.00			1.00			1.58	
Incremental Delay, d2	2.4	0.1			0.4			0.8			0.7	
Delay (s)	41.6	38.0			38.6			4.3			6.3	
Level of Service	D	D			D			A			A	
Approach Delay (s)		40.2			38.6			4.3			6.3	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues

101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	78	101	69	268	102	1185	11	564
v/c Ratio	0.92	0.15	0.20	0.18	0.52	0.20	0.60	0.04	0.33
Control Delay	71.7	22.9	5.6	23.6	26.8	17.3	26.5	8.7	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	22.9	5.6	23.6	26.8	17.3	26.5	8.7	14.8
Queue Length 50th (m)	36.7	9.7	0.0	8.6	33.0	12.0	88.4	0.7	31.0
Queue Length 95th (m)	#73.0	19.0	10.1	17.9	53.3	26.1	123.2	2.9	43.6
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	292	626	580	440	604	514	1981	287	1724
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.12	0.17	0.16	0.44	0.20	0.60	0.04	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	76	99	68	177	85	100	1136	25	11	452	101
Future Volume (vph)	224	76	99	68	177	85	100	1136	25	11	452	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1782	3519		1785	3430	
Flt Permitted	0.47	1.00	1.00	0.71	1.00		0.38	1.00		0.17	1.00	
Satd. Flow (perm)	875	1879	1538	1322	1754		720	3519		325	3430	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	229	78	101	69	181	87	102	1159	26	11	461	103
RTOR Reduction (vph)	0	0	72	0	21	0	0	1	0	0	19	0
Lane Group Flow (vph)	229	78	29	69	247	0	102	1184	0	11	545	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	25.6	25.6	25.6	25.6	25.6		52.4	48.2		45.3	44.1	
Effective Green, g (s)	25.6	25.6	25.6	25.6	25.6		52.4	48.2		45.3	44.1	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28		0.58	0.54		0.50	0.49	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	248	534	437	376	498		481	1884		183	1680	
v/s Ratio Prot		0.04			0.14		c0.01	c0.34		0.00	0.16	
v/s Ratio Perm	c0.26		0.02	0.05			0.11			0.03		
v/c Ratio	0.92	0.15	0.07	0.18	0.50		0.21	0.63		0.06	0.32	
Uniform Delay, d1	31.2	24.0	23.5	24.3	26.8		8.6	14.6		12.0	13.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.96	1.70		1.00	1.00	
Incremental Delay, d2	36.9	0.1	0.1	0.2	0.8		0.2	1.4		0.1	0.5	
Delay (s)	68.1	24.2	23.5	24.5	27.6		17.0	26.3		12.1	14.4	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		48.7			27.0			25.6			14.4	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1211	9	6	612	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1211	9	6	612	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1316	10	7	665	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1370	2020	341	1674	2016	667	675			1330		
vC1, stage 1 conf vol	688	688		1327	1327							
vC2, stage 2 conf vol	682	1332		348	689							
vCu, unblocked vol	1370	2020	341	1674	2016	667	675			1330		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	91	100	95	100			99		
cM capacity (veh/h)	286	195	656	149	201	405	920			524		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	877	449	7	443	225
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	316	247	920	1700	1700	524	1700	1700
Volume to Capacity	0.02	0.14	0.00	0.52	0.26	0.01	0.26	0.13
Queue Length 95th (m)	0.4	3.7	0.0	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	16.6	22.0	8.9	0.0	0.0	12.0	0.0	0.0
Lane LOS	C	C	A			B		
Approach Delay (s)	16.6	22.0	0.0			0.1		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	43.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1270	0	2	643	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1270	0	2	643	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1337	0	2	677	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.86	0.86		0.86	0.86	0.86				0.86		
vC, conflicting volume	1370	2036	369	1708	2040	672	692			1340		
vC1, stage 1 conf vol	692	692		1344	1344							
vC2, stage 2 conf vol	678	1344		364	696							
vCu, unblocked vol	1114	1884	369	1505	1889	306	692			1079		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	100	99	100	99	100			100		
cM capacity (veh/h)	345	220	619	192	220	600	907			563		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	891	446	2	451	235
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	355	460	907	1700	1700	563	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.52	0.26	0.00	0.27	0.14
Queue Length 95th (m)	1.1	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	15.6	12.9	9.0	0.0	0.0	11.4	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	15.6	12.9	0.0			0.0		
Approach LOS	C	B						

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	50.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	1265	3	0	652
Future Volume (Veh/h)	4	2	1265	3	0	652
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	2	1360	3	0	701
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			71			
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1760	692			1372	
vC1, stage 1 conf vol	1370					
vC2, stage 2 conf vol	390					
vCu, unblocked vol	1539	281			1081	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	230	607			549	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	6	907	456	0	350	350
Volume Left	4	0	0	0	0	0
Volume Right	2	0	3	0	0	0
cSH	290	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.53	0.27	0.00	0.21	0.21
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	17.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	17.7	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	57	367	520	1291	699
v/c Ratio	0.32	0.53	0.73	0.50	0.43
Control Delay	41.6	13.6	14.4	11.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	13.6	14.4	11.9	19.7
Queue Length 50th (m)	9.3	25.1	64.3	107.3	53.1
Queue Length 95th (m)	20.1	45.4	m90.5	m120.4	68.4
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	353	686	715	2592	1631
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.53	0.73	0.50	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	345	489	1214	617	40
Future Volume (vph)	54	345	489	1214	617	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1513	1507	1638	3245	3228	
Flt Permitted	0.95	1.00	0.31	1.00	1.00	
Satd. Flow (perm)	1513	1507	541	3245	3228	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	57	367	520	1291	656	43
RTOR Reduction (vph)	0	98	0	0	5	0
Lane Group Flow (vph)	57	269	520	1291	694	0
Confl. Peds. (#/hr)	38					
Heavy Vehicles (%)	18%	6%	9%	10%	10%	3%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.5	30.9	69.5	69.5	44.1	
Effective Green, g (s)	8.5	30.9	69.5	69.5	44.1	
Actuated g/C Ratio	0.09	0.34	0.77	0.77	0.49	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	142	517	690	2505	1581	
v/s Ratio Prot	0.04	c0.13	c0.19	0.40	0.22	
v/s Ratio Perm		0.05	c0.39			
v/c Ratio	0.40	0.52	0.75	0.52	0.44	
Uniform Delay, d1	38.4	23.6	5.4	3.9	14.9	
Progression Factor	1.00	1.00	2.04	2.71	1.19	
Incremental Delay, d2	1.9	0.9	2.3	0.4	0.9	
Delay (s)	40.2	24.6	13.2	10.9	18.6	
Level of Service	D	C	B	B	B	
Approach Delay (s)	26.7			11.5	18.6	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	5	188	439	1	1467	248	771
v/c Ratio	0.23	0.01	0.76	0.85	0.00	0.92	0.81	0.35
Control Delay	36.7	0.0	53.7	26.2	13.0	30.8	49.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	0.0	53.7	26.2	13.0	30.8	49.7	4.3
Queue Length 50th (m)	2.6	0.0	30.1	19.1	0.1	127.3	31.8	18.0
Queue Length 95th (m)	8.7	0.0	#53.6	#68.1	m0.2	#188.8	#59.6	24.3
Internal Link Dist (m)		134.7		213.6		178.4		379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	
Base Capacity (vph)	91	476	291	556	335	1597	353	2185
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.01	0.65	0.79	0.00	0.92	0.70	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	177	2	411	1	1250	129	233	716	8
Future Volume (vph)	17	0	5	177	2	411	1	1250	129	233	716	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1651	1312		1576	1349		1781	3188		1653	3267	
Flt Permitted	0.22	1.00		0.75	1.00		0.36	1.00		0.08	1.00	
Satd. Flow (perm)	390	1312		1251	1349		674	3188		145	3267	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	188	2	437	1	1330	137	248	762	9
RTOR Reduction (vph)	0	4	0	0	253	0	0	8	0	0	1	0
Lane Group Flow (vph)	18	1	0	188	186	0	1	1459	0	248	770	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.8	17.8		17.8	17.8		44.9	44.9		60.2	60.2	
Effective Green, g (s)	17.8	17.8		17.8	17.8		44.9	44.9		60.2	60.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.50	0.50		0.67	0.67	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	77	259		247	266		336	1590		303	2185	
v/s Ratio Prot		0.00			0.14			c0.46		c0.11	0.24	
v/s Ratio Perm	0.05			c0.15			0.00			0.43		
v/c Ratio	0.23	0.00		0.76	0.70		0.00	0.92		0.82	0.35	
Uniform Delay, d1	30.4	29.0		34.1	33.6		11.3	20.8		24.0	6.5	
Progression Factor	1.00	1.00		1.00	1.00		0.89	0.88		1.66	0.56	
Incremental Delay, d2	1.6	0.0		12.9	8.1		0.0	9.5		14.3	0.4	
Delay (s)	31.9	29.0		47.0	41.7		10.1	27.8		54.3	4.0	
Level of Service	C	C		D	D		B	C		D	A	
Approach Delay (s)		31.3			43.3			27.8			16.3	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1351	2	5	852	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1351	2	5	852	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1468	2	5	926	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.92	0.92	0.91	0.92	0.92	0.88	0.91			0.88		
vC, conflicting volume	1698	2432	472	1964	2440	736	944			1471		
vC1, stage 1 conf vol	946	946		1486	1486							
vC2, stage 2 conf vol	752	1487		478	954							
vCu, unblocked vol	1166	1965	237	1455	1973	416	753			1255		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	100	99			99		
cM capacity (veh/h)	295	180	704	151	183	411	637			491		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	979	491	5	617	326
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	348	290	637	1700	1700	491	1700	1700
Volume to Capacity	0.05	0.01	0.01	0.58	0.29	0.01	0.36	0.19
Queue Length 95th (m)	1.3	0.2	0.3	0.0	0.0	0.2	0.0	0.0
Control Delay (s)	15.9	17.5	10.7	0.0	0.0	12.4	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	15.9	17.5	0.1			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1260	18	906
v/c Ratio	0.27	0.25	0.09	0.06	0.45	0.06	0.32
Control Delay	43.3	15.8	4.5	3.0	3.9	5.7	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.0	3.9	5.7	5.1
Queue Length 50th (m)	5.1	0.2	0.0	0.8	30.1	0.8	22.7
Queue Length 95th (m)	13.2	9.7	1.9	2.8	47.3	m3.3	43.1
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	441	2807	316	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.06	0.45	0.06	0.32

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1222	0	17	854	25
Future Volume (vph)	30	1	44	8	0	6	24	1222	0	17	854	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1783	3451	
Flt Permitted	0.75	1.00			0.80		0.31	1.00		0.21	1.00	
Satd. Flow (perm)	1284	1546			1291		540	3433		386	3451	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1260	0	18	880	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1260	0	18	905	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		427	2715		305	2730	
v/s Ratio Prot		0.00						c0.37			0.26	
v/s Ratio Perm	c0.02				0.00		0.05			0.05		
v/c Ratio	0.32	0.04			0.01		0.06	0.46		0.06	0.33	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.1		2.1	2.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.89	1.68	
Incremental Delay, d2	1.9	0.1			0.0		0.3	0.6		0.3	0.3	
Delay (s)	41.3	38.7			38.5		2.3	3.7		4.2	4.8	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			3.6			4.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	156	169	45	148	143	975	66	1441
v/c Ratio	0.78	0.32	0.33	0.15	0.31	0.62	0.53	0.19	0.83
Control Delay	47.1	27.2	6.2	24.2	23.8	36.3	25.4	9.0	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	27.2	6.2	24.2	23.8	36.3	25.4	9.0	26.4
Queue Length 50th (m)	39.1	21.5	1.2	5.9	17.9	19.6	67.1	3.9	112.3
Queue Length 95th (m)	60.3	34.0	14.0	13.0	30.4	#39.6	95.1	10.3	#169.6
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	410	626	625	401	609	232	1855	356	1729
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.25	0.27	0.11	0.24	0.62	0.53	0.19	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	148	161	43	110	30	136	884	42	63	1177	192
Future Volume (vph)	235	148	161	43	110	30	136	884	42	63	1177	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1764	1879	1557	1766	1793		1785	3539		1783	3475	
Flt Permitted	0.66	1.00	1.00	0.65	1.00		0.09	1.00		0.23	1.00	
Satd. Flow (perm)	1231	1879	1557	1205	1793		162	3539		436	3475	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	156	169	45	116	32	143	931	44	66	1239	202
RTOR Reduction (vph)	0	0	119	0	13	0	0	3	0	0	13	0
Lane Group Flow (vph)	247	156	50	45	135	0	143	972	0	66	1428	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	23.2	23.2	23.2	23.2	23.2		53.8	46.5		49.8	44.5	
Effective Green, g (s)	23.2	23.2	23.2	23.2	23.2		53.8	46.5		49.8	44.5	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.60	0.52		0.55	0.49	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	317	484	401	310	462		228	1828		320	1718	
v/s Ratio Prot		0.08			0.08		c0.05	0.27		0.01	c0.41	
v/s Ratio Perm	c0.20		0.03	0.04			0.32			0.10		
v/c Ratio	0.78	0.32	0.13	0.15	0.29		0.63	0.53		0.21	0.83	
Uniform Delay, d1	31.0	27.0	25.6	25.8	26.8		15.0	14.5		9.9	19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.97	1.52		1.00	1.00	
Incremental Delay, d2	11.5	0.4	0.1	0.2	0.4		5.1	1.1		0.3	4.8	
Delay (s)	42.5	27.4	25.8	26.0	27.2		34.5	23.1		10.2	24.4	
Level of Service	D	C	C	C	C		C	C		B	C	
Approach Delay (s)		33.4			26.9			24.5			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1033	22	21	1358	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1033	22	21	1358	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1123	24	23	1476	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2117	2702	758	1941	2692	584	1498			1156		
vC1, stage 1 conf vol	1542	1542		1148	1148							
vC2, stage 2 conf vol	574	1160		793	1544							
vCu, unblocked vol	2117	2702	758	1941	2692	584	1498			1156		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	100			96		
cM capacity (veh/h)	110	135	348	176	137	456	446			607		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	749	398	23	984	495
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	249	282	446	1700	1700	607	1700	1700
Volume to Capacity	0.04	0.05	0.00	0.44	0.23	0.04	0.58	0.29
Queue Length 95th (m)	1.0	1.1	0.1	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	20.1	18.4	13.1	0.0	0.0	11.2	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	20.1	18.4	0.0			0.2		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	48.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1025	2	14	1373	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1025	2	14	1373	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1090	2	15	1461	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.95	0.95		0.95	0.95	0.95				0.95		
vC, conflicting volume	2108	2656	776	1898	2676	553	1519			1098		
vC1, stage 1 conf vol	1528	1528		1127	1127							
vC2, stage 2 conf vol	580	1128		770	1549							
vCu, unblocked vol	2062	2639	776	1841	2659	426	1519			1000		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	78	100	99	100	100	99	97			98		
cM capacity (veh/h)	100	142	337	189	132	488	438			662		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	727	365	15	974	528
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	107	488	438	1700	1700	662	1700	1700
Volume to Capacity	0.23	0.01	0.03	0.43	0.21	0.02	0.57	0.31
Queue Length 95th (m)	6.1	0.2	0.8	0.0	0.0	0.5	0.0	0.0
Control Delay (s)	48.4	12.4	13.5	0.0	0.0	10.6	0.0	0.0
Lane LOS	E	B	B			B		
Approach Delay (s)	48.4	12.4	0.2			0.1		
Approach LOS	E	B						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1051	2	1	1360
Future Volume (Veh/h)	0	2	1051	2	1	1360
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1130	2	1	1462
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.91	0.91			0.91	
vC, conflicting volume	1908	572			1138	
vC1, stage 1 conf vol	1137					
vC2, stage 2 conf vol	771					
vCu, unblocked vol	1797	326			949	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	246	610			661	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	753	379	1	731	731
Volume Left	0	0	0	1	0	0
Volume Right	2	0	2	0	0	0
cSH	610	1700	1700	661	1700	1700
Volume to Capacity	0.00	0.44	0.22	0.00	0.43	0.43
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.9	0.0	0.0	10.5	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	10.9	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	51	697	536	1035	1403
v/c Ratio	0.29	1.04	0.79	0.37	0.98
Control Delay	41.0	72.6	15.7	7.8	47.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	72.6	15.7	7.8	47.7
Queue Length 50th (m)	8.2	~134.8	75.2	76.2	137.1
Queue Length 95th (m)	18.6	#201.2	m#95.3	m85.3	#177.5
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	356	669	682	2782	1430
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	1.04	0.79	0.37	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	49	676	520	1004	1245	115
Future Volume (vph)	49	676	520	1004	1245	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1526	1482	1668	3275	3282	
Flt Permitted	0.95	1.00	0.10	1.00	1.00	
Satd. Flow (perm)	1526	1482	177	3275	3282	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	51	697	536	1035	1284	119
RTOR Reduction (vph)	0	9	0	0	8	0
Lane Group Flow (vph)	51	688	536	1035	1395	0
Confl. Peds. (#/hr)	36	25	35			35
Heavy Vehicles (%)	17%	7%	7%	9%	7%	5%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	6.3	38.4	71.7	71.7	36.6	
Effective Green, g (s)	6.3	38.4	71.7	71.7	36.6	
Actuated g/C Ratio	0.07	0.43	0.80	0.80	0.41	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	106	632	672	2609	1334	
v/s Ratio Prot	0.03	c0.39	0.28	0.32	c0.42	
v/s Ratio Perm		0.08	0.35			
v/c Ratio	0.48	1.09	0.80	0.40	1.05	
Uniform Delay, d1	40.3	25.8	20.8	2.7	26.7	
Progression Factor	1.00	1.00	0.42	2.55	1.25	
Incremental Delay, d2	3.4	62.5	2.6	0.2	33.7	
Delay (s)	43.7	88.3	11.3	7.1	67.1	
Level of Service	D	F	B	A	E	
Approach Delay (s)	85.3			8.6	67.1	
Approach LOS	F			A	E	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	15	167	351	13	1436	468	1475
v/c Ratio	0.27	0.05	0.72	0.68	0.10	1.02	1.08	0.65
Control Delay	38.0	16.1	51.6	12.2	13.8	52.0	72.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	16.1	51.6	12.2	13.8	52.0	72.5	5.4
Queue Length 50th (m)	3.2	0.4	26.9	4.3	0.8	~139.2	~81.4	39.6
Queue Length 95th (m)	10.0	5.2	46.2	28.9	m1.8	#180.3	m#90.7	m47.5
Internal Link Dist (m)		134.7		213.6		183.7		379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	
Base Capacity (vph)	102	365	287	568	133	1404	433	2264
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.04	0.58	0.62	0.10	1.02	1.08	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	162	6	335	13	1163	230	454	1418	13
Future Volume (vph)	21	3	12	162	6	335	13	1163	230	454	1418	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1757	1527		1564	1380		1650	3201		1653	3333	
Flt Permitted	0.24	1.00		0.75	1.00		0.18	1.00		0.10	1.00	
Satd. Flow (perm)	438	1527		1231	1380		309	3201		166	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	167	6	345	13	1199	237	468	1462	13
RTOR Reduction (vph)	0	10	0	0	261	0	0	18	0	0	1	0
Lane Group Flow (vph)	22	5	0	167	90	0	13	1418	0	468	1474	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.9	16.9		16.9	16.9		39.0	39.0		61.1	61.1	
Effective Green, g (s)	16.9	16.9		16.9	16.9		39.0	39.0		61.1	61.1	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.43	0.43		0.68	0.68	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	82	286		231	259		133	1387		428	2262	
v/s Ratio Prot		0.00			0.07			0.44		c0.23	0.44	
v/s Ratio Perm	0.05			c0.14			0.04			c0.51		
v/c Ratio	0.27	0.02		0.72	0.35		0.10	1.02		1.09	0.65	
Uniform Delay, d1	31.3	29.8		34.3	31.8		15.1	25.5		27.8	8.3	
Progression Factor	1.00	1.00		1.00	1.00		0.77	0.87		1.26	0.56	
Incremental Delay, d2	1.8	0.0		10.6	0.8		1.3	28.7		46.1	0.1	
Delay (s)	33.0	29.8		45.0	32.6		13.0	50.9		81.2	4.8	
Level of Service	C	C		D	C		B	D		F	A	
Approach Delay (s)		31.7			36.6			50.6			23.2	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1406	9	15	1548	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1406	9	15	1548	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1480	9	16	1629	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.81	0.81	0.73	0.81	0.81	0.84	0.73			0.84		
vC, conflicting volume	2484	3225	848	2386	3250	746	1692			1491		
vC1, stage 1 conf vol	1694	1694		1526	1526							
vC2, stage 2 conf vol	790	1531		859	1724							
vCu, unblocked vol	1483	2392	71	1362	2424	317	1220			1204		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	99	98	95	99	98	95			97		
cM capacity (veh/h)	132	126	721	145	119	574	424			492		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	987	502	16	1086	603
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	203	235	424	1700	1700	492	1700	1700
Volume to Capacity	0.14	0.07	0.05	0.58	0.30	0.03	0.64	0.35
Queue Length 95th (m)	3.6	1.8	1.1	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	25.6	21.5	13.9	0.0	0.0	12.6	0.0	0.0
Lane LOS	D	C	B			B		
Approach Delay (s)	25.6	21.5	0.2			0.1		
Approach LOS	D	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1419	19	1479
v/c Ratio	0.35	0.16	0.27	0.11	0.50	0.08	0.52
Control Delay	44.4	15.9	20.1	4.4	4.5	5.1	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	15.9	20.1	4.4	4.5	5.1	6.1
Queue Length 50th (m)	7.6	0.2	1.9	0.9	38.1	0.9	58.4
Queue Length 95th (m)	17.3	7.7	11.7	3.7	60.5	m1.8	69.0
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	315	392	380	236	2864	253	2852
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.08	0.13	0.11	0.50	0.08	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1391	0	19	1415	34
Future Volume (vph)	45	1	28	12	0	36	26	1391	0	19	1415	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1774	1586			1643		1784	3535		1782	3521	
Flt Permitted	0.73	1.00			0.91		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	1354	1586			1508		291	3535		314	3521	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1419	0	19	1444	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1419	0	19	1478	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.5	7.5			7.5		70.5	70.5		70.5	70.5	
Effective Green, g (s)	7.5	7.5			7.5		70.5	70.5		70.5	70.5	
Actuated g/C Ratio	0.08	0.08			0.08		0.78	0.78		0.78	0.78	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	132			125		227	2769		245	2758	
v/s Ratio Prot		0.00						0.40			c0.42	
v/s Ratio Perm	c0.03				0.01		0.09			0.06		
v/c Ratio	0.41	0.03			0.12		0.12	0.51		0.08	0.54	
Uniform Delay, d1	39.2	37.9			38.2		2.3	3.5		2.2	3.6	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.40	1.39	
Incremental Delay, d2	2.4	0.1			0.4		1.1	0.7		0.5	0.6	
Delay (s)	41.6	38.0			38.6		3.4	4.2		3.6	5.7	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		40.2			38.6			4.2			5.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	156	169	45	148	143	975	66	1441
v/c Ratio	0.88	0.34	0.34	0.16	0.33	0.61	0.47	0.18	0.75
Control Delay	73.0	37.9	8.3	34.6	34.6	28.5	11.4	9.1	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	37.9	8.3	34.6	34.6	28.5	11.4	9.1	24.9
Queue Length 50th (m)	54.8	29.6	2.5	8.1	25.6	10.8	65.4	5.0	136.9
Queue Length 95th (m)	#90.0	46.3	18.2	17.3	42.0	36.7	72.5	10.8	180.0
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	332	548	561	324	531	260	2092	363	1921
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.28	0.30	0.14	0.28	0.55	0.47	0.18	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	148	161	43	110	30	136	884	42	63	1177	192
Future Volume (vph)	235	148	161	43	110	30	136	884	42	63	1177	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3538		1783	3470	
Flt Permitted	0.62	1.00	1.00	0.60	1.00		0.09	1.00		0.25	1.00	
Satd. Flow (perm)	1140	1879	1550	1113	1791		164	3538		471	3470	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	156	169	45	116	32	143	931	44	66	1239	202
RTOR Reduction (vph)	0	0	117	0	9	0	0	2	0	0	9	0
Lane Group Flow (vph)	247	156	52	45	139	0	143	973	0	66	1432	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	29.6	29.6	29.6	29.6	29.6		78.4	70.3		71.2	66.1	
Effective Green, g (s)	29.6	29.6	29.6	29.6	29.6		78.4	70.3		71.2	66.1	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.65	0.59		0.59	0.55	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	281	463	382	274	441		232	2072		335	1911	
v/s Ratio Prot		0.08			0.08		c0.05	0.27		0.01	c0.41	
v/s Ratio Perm	c0.22		0.03	0.04			0.35			0.11		
v/c Ratio	0.88	0.34	0.14	0.16	0.32		0.62	0.47		0.20	0.75	
Uniform Delay, d1	43.5	37.1	35.2	35.5	36.9		17.2	14.2		10.7	20.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.43	0.70		1.00	1.00	
Incremental Delay, d2	25.2	0.4	0.2	0.3	0.4		4.6	0.7		0.3	2.7	
Delay (s)	68.7	37.6	35.4	35.8	37.3		29.2	10.7		11.0	23.4	
Level of Service	E	D	D	D	D		C	B		B	C	
Approach Delay (s)		50.4			37.0			13.1			22.8	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1033	22	21	1358	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1033	22	21	1358	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1123	24	23	1476	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2117	2702	758	1941	2692	584	1498			1156		
vC1, stage 1 conf vol	1542	1542		1148	1148							
vC2, stage 2 conf vol	574	1160		793	1544							
vCu, unblocked vol	2117	2702	758	1941	2692	584	1498			1156		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	100			96		
cM capacity (veh/h)	110	135	348	176	137	456	446			607		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	749	398	23	984	495
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	249	282	446	1700	1700	607	1700	1700
Volume to Capacity	0.04	0.05	0.00	0.44	0.23	0.04	0.58	0.29
Queue Length 95th (m)	1.0	1.1	0.1	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	20.1	18.4	13.1	0.0	0.0	11.2	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	20.1	18.4	0.0			0.2		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	48.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1025	2	14	1373	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1025	2	14	1373	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1090	2	15	1461	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.95	0.95		0.95	0.95	0.95				0.95		
vC, conflicting volume	2108	2656	776	1898	2676	553	1519			1098		
vC1, stage 1 conf vol	1528	1528		1127	1127							
vC2, stage 2 conf vol	580	1128		770	1549							
vCu, unblocked vol	2061	2638	776	1838	2659	421	1519			996		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	78	100	99	100	100	99	97			98		
cM capacity (veh/h)	100	142	337	189	132	491	438			663		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	727	365	15	974	528
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	107	491	438	1700	1700	663	1700	1700
Volume to Capacity	0.23	0.01	0.03	0.43	0.21	0.02	0.57	0.31
Queue Length 95th (m)	6.1	0.2	0.8	0.0	0.0	0.5	0.0	0.0
Control Delay (s)	48.3	12.4	13.5	0.0	0.0	10.6	0.0	0.0
Lane LOS	E	B	B			B		
Approach Delay (s)	48.3	12.4	0.2			0.1		
Approach LOS	E	B						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1051	2	1	1360
Future Volume (Veh/h)	0	2	1051	2	1	1360
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1130	2	1	1462
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.92	0.92			0.92	
vC, conflicting volume	1908	572			1138	
vC1, stage 1 conf vol	1137					
vC2, stage 2 conf vol	771					
vCu, unblocked vol	1815	365			979	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	243	585			653	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	753	379	1	731	731
Volume Left	0	0	0	1	0	0
Volume Right	2	0	2	0	0	0
cSH	585	1700	1700	653	1700	1700
Volume to Capacity	0.00	0.44	0.22	0.00	0.43	0.43
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.2	0.0	0.0	10.5	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.2	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	51	697	536	1035	1403
v/c Ratio	0.37	0.98	0.76	0.37	1.00
Control Delay	59.0	59.0	34.1	7.0	72.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	59.0	34.1	7.0	72.4
Queue Length 50th (m)	11.6	145.7	115.9	60.3	~186.0
Queue Length 95th (m)	23.8	#239.1	m131.0	m66.0	#229.5
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	267	714	705	2771	1402
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.98	0.76	0.37	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	49	676	520	1004	1245	115
Future Volume (vph)	49	676	520	1004	1245	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1526	1480	1668	3275	3279	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1526	1480	133	3275	3279	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	51	697	536	1035	1284	119
RTOR Reduction (vph)	0	8	0	0	6	0
Lane Group Flow (vph)	51	689	536	1035	1397	0
Confl. Peds. (#/hr)	36	25	35			35
Heavy Vehicles (%)	17%	7%	7%	9%	7%	5%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.8	55.0	99.2	99.2	50.0	
Effective Green, g (s)	8.8	55.0	99.2	99.2	50.0	
Actuated g/C Ratio	0.07	0.46	0.83	0.83	0.42	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	678	700	2707	1366	
v/s Ratio Prot	0.03	c0.39	0.29	0.32	c0.43	
v/s Ratio Perm		0.07	0.34			
v/c Ratio	0.46	1.02	0.77	0.38	1.02	
Uniform Delay, d1	53.3	32.5	27.3	2.6	35.0	
Progression Factor	1.00	1.00	1.15	2.36	1.53	
Incremental Delay, d2	3.0	38.8	2.2	0.2	27.3	
Delay (s)	56.3	71.3	33.7	6.4	81.0	
Level of Service	E	E	C	A	F	
Approach Delay (s)	70.3			15.7	81.0	
Approach LOS	E			B	F	

Intersection Summary			
HCM 2000 Control Delay	51.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	15	167	351	13	1436	468	1475
v/c Ratio	0.36	0.06	0.86	0.69	0.09	0.97	0.96	0.60
Control Delay	61.5	22.9	84.4	12.9	20.1	45.3	50.6	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	22.9	84.4	12.9	20.1	45.3	50.6	8.7
Queue Length 50th (m)	4.6	0.6	38.0	1.2	1.4	172.1	97.2	72.5
Queue Length 95th (m)	13.4	6.6	#72.4	30.1	m3.4	#224.7	m98.6	m73.1
Internal Link Dist (m)		134.7		213.6		183.7		379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	
Base Capacity (vph)	67	276	214	523	142	1480	485	2468
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.05	0.78	0.67	0.09	0.97	0.96	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	162	6	335	13	1163	230	454	1418	13
Future Volume (vph)	21	3	12	162	6	335	13	1163	230	454	1418	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1756	1522		1558	1364		1649	3200		1653	3333	
Flt Permitted	0.21	1.00		0.75	1.00		0.18	1.00		0.07	1.00	
Satd. Flow (perm)	385	1522		1227	1364		309	3200		120	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	167	6	345	13	1199	237	468	1462	13
RTOR Reduction (vph)	0	10	0	0	290	0	0	14	0	0	1	0
Lane Group Flow (vph)	22	5	0	167	61	0	13	1422	0	468	1474	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.2	19.2		19.2	19.2		55.0	55.0		88.8	88.8	
Effective Green, g (s)	19.2	19.2		19.2	19.2		55.0	55.0		88.8	88.8	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.46	0.46		0.74	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	243		196	218		141	1466		482	2466	
v/s Ratio Prot		0.00			0.04			0.44		c0.25	0.44	
v/s Ratio Perm	0.06			c0.14			0.04			c0.47		
v/c Ratio	0.36	0.02		0.85	0.28		0.09	0.97		0.97	0.60	
Uniform Delay, d1	44.9	42.5		49.0	44.3		18.4	31.7		37.5	7.3	
Progression Factor	1.00	1.00		1.00	1.00		0.95	0.90		1.07	1.10	
Incremental Delay, d2	3.6	0.0		28.2	0.7		1.2	16.4		13.9	0.3	
Delay (s)	48.5	42.5		77.2	45.0		18.6	45.0		54.0	8.2	
Level of Service	D	D		E	D		B	D		D	A	
Approach Delay (s)		46.1			55.4			44.8			19.3	
Approach LOS		D			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1406	9	15	1548	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1406	9	15	1548	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1480	9	16	1629	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.85	0.85	0.79	0.85	0.85	0.87	0.79			0.87		
vC, conflicting volume	2484	3225	848	2386	3250	746	1692			1491		
vC1, stage 1 conf vol	1694	1694		1526	1526							
vC2, stage 2 conf vol	790	1531		859	1724							
vCu, unblocked vol	1727	2600	261	1611	2630	423	1336			1275		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	99	98	95	99	98	95			97		
cM capacity (veh/h)	119	118	583	135	111	510	410			482		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	987	502	16	1086	603
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	180	217	410	1700	1700	482	1700	1700
Volume to Capacity	0.16	0.08	0.05	0.58	0.30	0.03	0.64	0.35
Queue Length 95th (m)	4.1	1.9	1.2	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	28.6	23.0	14.2	0.0	0.0	12.7	0.0	0.0
Lane LOS	D	C	B			B		
Approach Delay (s)	28.6	23.0	0.2			0.1		
Approach LOS	D	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1419	19	1479
v/c Ratio	0.34	0.19	0.31	0.11	0.47	0.07	0.49
Control Delay	58.0	20.3	26.5	3.7	3.7	1.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	3.7	3.7	1.8	1.9
Queue Length 50th (m)	10.4	0.2	2.7	1.0	40.9	0.5	20.4
Queue Length 95th (m)	21.6	9.1	14.2	3.6	62.8	m0.8	23.7
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	255	3004	273	2991
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.11	0.47	0.07	0.49

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1391	0	19	1415	34
Future Volume (vph)	45	1	28	12	0	36	26	1391	0	19	1415	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1781	3521	
Flt Permitted	0.89	1.00			0.91		0.16	1.00		0.17	1.00	
Satd. Flow (perm)	1652	1585			1506		301	3535		323	3521	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1419	0	19	1444	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1419	0	19	1478	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		249	2934		268	2922	
v/s Ratio Prot		0.00						0.40			c0.42	
v/s Ratio Perm	c0.03				0.01		0.09			0.06		
v/c Ratio	0.40	0.03			0.14		0.11	0.48		0.07	0.51	
Uniform Delay, d1	53.4	52.0			52.4		1.9	2.9		1.8	3.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.52	0.42	
Incremental Delay, d2	2.3	0.1			0.6		0.9	0.6		0.4	0.5	
Delay (s)	55.7	52.1			53.0		2.8	3.5		1.4	1.8	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			3.5			1.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	244	78	107	69	268	109	1260	11	599
v/c Ratio	0.93	0.14	0.20	0.18	0.50	0.23	0.65	0.04	0.35
Control Delay	72.0	22.4	5.5	23.1	25.9	17.8	28.1	8.9	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	22.4	5.5	23.1	25.9	17.8	28.1	8.9	15.3
Queue Length 50th (m)	38.7	9.4	0.0	8.4	32.0	13.3	96.6	0.8	33.6
Queue Length 95th (m)	#79.1	19.0	10.5	17.9	53.3	28.2	132.6	2.9	46.8
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	296	626	584	440	604	482	1943	257	1694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.12	0.18	0.16	0.44	0.23	0.65	0.04	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	76	105	68	177	85	107	1209	25	11	479	108
Future Volume (vph)	239	76	105	68	177	85	107	1209	25	11	479	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1783	3520		1785	3429	
Flt Permitted	0.48	1.00	1.00	0.71	1.00		0.36	1.00		0.14	1.00	
Satd. Flow (perm)	890	1879	1538	1322	1754		680	3520		272	3429	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	244	78	107	69	181	87	109	1234	26	11	489	110
RTOR Reduction (vph)	0	0	75	0	20	0	0	1	0	0	20	0
Lane Group Flow (vph)	244	78	32	69	248	0	109	1259	0	11	579	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	26.5	26.5	26.5	26.5	26.5		51.5	47.3		44.6	43.4	
Effective Green, g (s)	26.5	26.5	26.5	26.5	26.5		51.5	47.3		44.6	43.4	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29		0.57	0.53		0.50	0.48	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	262	553	452	389	516		451	1849		154	1653	
v/s Ratio Prot		0.04			0.14		c0.01	c0.36		0.00	0.17	
v/s Ratio Perm	c0.27		0.02	0.05			0.12			0.03		
v/c Ratio	0.93	0.14	0.07	0.18	0.48		0.24	0.68		0.07	0.35	
Uniform Delay, d1	30.9	23.4	22.9	23.6	26.1		9.1	15.8		12.8	14.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.95	1.68		1.00	1.00	
Incremental Delay, d2	37.4	0.1	0.1	0.2	0.7		0.2	1.8		0.2	0.6	
Delay (s)	68.3	23.5	22.9	23.9	26.8		17.9	28.2		13.0	15.1	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		48.8			26.2			27.4			15.1	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1288	9	6	650	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1288	9	6	650	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1400	10	7	707	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1454	2146	362	1780	2142	709	717			1414		
vC1, stage 1 conf vol	730	730		1411	1411							
vC2, stage 2 conf vol	724	1416		368	731							
vCu, unblocked vol	1454	2146	362	1780	2142	709	717			1414		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	90	100	94	100			99		
cM capacity (veh/h)	267	178	636	132	183	380	887			487		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	933	477	7	471	239
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	295	223	887	1700	1700	487	1700	1700
Volume to Capacity	0.02	0.16	0.00	0.55	0.28	0.01	0.28	0.14
Queue Length 95th (m)	0.5	4.1	0.0	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	17.5	24.1	9.1	0.0	0.0	12.5	0.0	0.0
Lane LOS	C	C	A			B		
Approach Delay (s)	17.5	24.1	0.0			0.1		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	45.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1351	0	2	683	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1351	0	2	683	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1422	0	2	719	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	1454	2162	390	1814	2167	714	734			1425		
vC1, stage 1 conf vol	734	734		1429	1429							
vC2, stage 2 conf vol	721	1429		384	738							
vCu, unblocked vol	1157	2001	390	1585	2007	274	734			1122		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	99	100	99	100			100		
cM capacity (veh/h)	329	203	600	175	204	610	875			527		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	948	474	2	479	249
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	339	451	875	1700	1700	527	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.56	0.28	0.00	0.28	0.15
Queue Length 95th (m)	1.1	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	16.2	13.1	9.1	0.0	0.0	11.9	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	16.2	13.1	0.0			0.0		
Approach LOS	C	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	1347	3	0	693
Future Volume (Veh/h)	4	2	1347	3	0	693
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	2	1448	3	0	745
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			71			
pX, platoon unblocked	0.83	0.83			0.83	
vC, conflicting volume	1870	736			1460	
vC1, stage 1 conf vol	1458					
vC2, stage 2 conf vol	412					
vCu, unblocked vol	1636	269			1142	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	210	603			509	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	6	965	486	0	372	372
Volume Left	4	0	0	0	0	0
Volume Right	2	0	3	0	0	0
cSH	268	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.57	0.29	0.00	0.22	0.22
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	18.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	18.7	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	62	389	553	1374	744
v/c Ratio	0.35	0.52	0.76	0.53	0.50
Control Delay	41.9	14.0	15.6	12.5	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	14.0	15.6	12.5	22.9
Queue Length 50th (m)	10.1	28.8	76.2	113.8	60.3
Queue Length 95th (m)	21.4	53.2	m88.8	m120.7	72.9
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	353	742	730	2586	1474
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.52	0.76	0.53	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	366	520	1292	656	43
Future Volume (vph)	58	366	520	1292	656	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1513	1507	1638	3245	3228	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1513	1507	473	3245	3228	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	389	553	1374	698	46
RTOR Reduction (vph)	0	79	0	0	5	0
Lane Group Flow (vph)	62	310	553	1374	739	0
Confl. Peds. (#/hr)	38					
Heavy Vehicles (%)	18%	6%	9%	10%	10%	3%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.7	35.3	69.3	69.3	39.7	
Effective Green, g (s)	8.7	35.3	69.3	69.3	39.7	
Actuated g/C Ratio	0.10	0.39	0.77	0.77	0.44	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	146	591	708	2498	1423	
v/s Ratio Prot	0.04	c0.16	c0.23	0.42	0.23	
v/s Ratio Perm		0.05	c0.37			
v/c Ratio	0.42	0.52	0.78	0.55	0.52	
Uniform Delay, d1	38.3	20.9	9.6	4.1	18.2	
Progression Factor	1.00	1.00	1.48	2.68	1.21	
Incremental Delay, d2	2.0	0.8	2.0	0.3	1.3	
Delay (s)	40.3	21.8	16.1	11.4	23.3	
Level of Service	D	C	B	B	C	
Approach Delay (s)	24.3			12.7	23.3	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	5	199	466	1	1561	260	823
v/c Ratio	0.23	0.01	0.78	0.89	0.00	1.00	0.82	0.38
Control Delay	36.5	0.0	54.6	32.1	14.0	46.0	51.1	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	0.0	54.6	32.1	14.0	46.0	51.1	4.4
Queue Length 50th (m)	2.5	0.0	31.5	25.4	0.1	~164.9	34.6	20.0
Queue Length 95th (m)	8.8	0.0	#60.0	#80.5	m0.2	#207.5	#64.7	26.6
Internal Link Dist (m)		134.7		213.6		178.4		379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	
Base Capacity (vph)	88	457	291	553	311	1559	353	2162
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.01	0.68	0.84	0.00	1.00	0.74	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	187	2	436	1	1330	137	244	765	8
Future Volume (vph)	17	0	5	187	2	436	1	1330	137	244	765	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1653	1312		1576	1349		1782	3188		1653	3268	
Flt Permitted	0.22	1.00		0.75	1.00		0.34	1.00		0.09	1.00	
Satd. Flow (perm)	378	1312		1251	1349		641	3188		149	3268	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	199	2	464	1	1415	146	260	814	9
RTOR Reduction (vph)	0	4	0	0	248	0	0	8	0	0	1	0
Lane Group Flow (vph)	18	1	0	199	218	0	1	1553	0	260	822	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.4	18.4		18.4	18.4		43.8	43.8		59.6	59.6	
Effective Green, g (s)	18.4	18.4		18.4	18.4		43.8	43.8		59.6	59.6	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.49	0.49		0.66	0.66	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	77	268		255	275		311	1551		312	2164	
v/s Ratio Prot		0.00			c0.16			c0.49		c0.12	0.25	
v/s Ratio Perm	0.05			0.16			0.00			0.43		
v/c Ratio	0.23	0.00		0.78	0.79		0.00	1.00		0.83	0.38	
Uniform Delay, d1	29.9	28.5		33.9	34.0		11.9	23.1		25.1	6.9	
Progression Factor	1.00	1.00		1.00	1.00		0.97	0.88		1.66	0.54	
Incremental Delay, d2	1.6	0.0		14.3	14.4		0.0	22.4		15.2	0.4	
Delay (s)	31.5	28.5		48.2	48.4		11.5	42.7		56.8	4.1	
Level of Service	C	C		D	D		B	D		E	A	
Approach Delay (s)		30.8			48.3			42.7			16.8	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1439	2	5	908	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1439	2	5	908	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1564	2	5	987	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.91	0.91	0.90	0.91	0.91	0.86	0.90			0.86		
vC, conflicting volume	1807	2590	503	2090	2597	784	1005			1567		
vC1, stage 1 conf vol	1006	1006		1582	1582							
vC2, stage 2 conf vol	800	1583		508	1015							
vCu, unblocked vol	1197	2060	230	1510	2068	418	787			1331		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	100	99			99		
cM capacity (veh/h)	279	163	701	133	166	401	607			451		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	1043	523	5	658	346
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	331	272	607	1700	1700	451	1700	1700
Volume to Capacity	0.06	0.01	0.01	0.61	0.31	0.01	0.39	0.20
Queue Length 95th (m)	1.4	0.3	0.3	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	16.5	18.4	11.0	0.0	0.0	13.1	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	16.5	18.4	0.1			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1342	18	963
v/c Ratio	0.27	0.25	0.09	0.06	0.48	0.06	0.34
Control Delay	43.3	15.8	4.5	3.1	4.1	6.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.1	4.1	6.1	5.8
Queue Length 50th (m)	5.1	0.2	0.0	0.8	33.3	1.1	34.1
Queue Length 95th (m)	13.2	9.7	1.9	2.8	52.3	m3.2	45.8
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	414	2807	285	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.06	0.48	0.06	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1302	0	17	909	25
Future Volume (vph)	30	1	44	8	0	6	24	1302	0	17	909	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1783	3452	
Flt Permitted	0.75	1.00			0.80		0.29	1.00		0.19	1.00	
Satd. Flow (perm)	1284	1546			1291		506	3433		349	3452	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1342	0	18	937	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1342	0	18	962	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		400	2715		276	2730	
v/s Ratio Prot		0.00						c0.39			0.28	
v/s Ratio Perm	c0.02				0.00		0.05			0.05		
v/c Ratio	0.32	0.04			0.01		0.06	0.49		0.07	0.35	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.2		2.1	2.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.96	1.89	
Incremental Delay, d2	1.9	0.1			0.0		0.3	0.6		0.4	0.3	
Delay (s)	41.3	38.7			38.5		2.4	3.9		4.5	5.5	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			3.8			5.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	244	78	107	69	268	109	1260	11	599
v/c Ratio	0.93	0.14	0.20	0.18	0.50	0.23	0.65	0.04	0.35
Control Delay	72.0	22.4	5.5	23.1	25.9	18.0	28.6	8.9	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	22.4	5.5	23.1	25.9	18.0	28.6	8.9	15.3
Queue Length 50th (m)	38.7	9.4	0.0	8.4	32.0	13.4	96.6	0.8	33.6
Queue Length 95th (m)	#79.1	19.0	10.5	17.9	53.3	28.4	132.6	2.9	46.8
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	296	626	584	440	604	482	1943	257	1694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.12	0.18	0.16	0.44	0.23	0.65	0.04	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	76	105	68	177	85	107	1209	25	11	479	108
Future Volume (vph)	239	76	105	68	177	85	107	1209	25	11	479	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1783	3520		1785	3429	
Flt Permitted	0.48	1.00	1.00	0.71	1.00		0.36	1.00		0.14	1.00	
Satd. Flow (perm)	890	1879	1538	1322	1754		680	3520		272	3429	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	244	78	107	69	181	87	109	1234	26	11	489	110
RTOR Reduction (vph)	0	0	75	0	20	0	0	1	0	0	20	0
Lane Group Flow (vph)	244	78	32	69	248	0	109	1259	0	11	579	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	26.5	26.5	26.5	26.5	26.5		51.5	47.3		44.6	43.4	
Effective Green, g (s)	26.5	26.5	26.5	26.5	26.5		51.5	47.3		44.6	43.4	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29		0.57	0.53		0.50	0.48	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	262	553	452	389	516		451	1849		154	1653	
v/s Ratio Prot		0.04			0.14		c0.01	c0.36		0.00	0.17	
v/s Ratio Perm	c0.27		0.02	0.05			0.12			0.03		
v/c Ratio	0.93	0.14	0.07	0.18	0.48		0.24	0.68		0.07	0.35	
Uniform Delay, d1	30.9	23.4	22.9	23.6	26.1		9.1	15.8		12.8	14.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.96	1.71		1.00	1.00	
Incremental Delay, d2	37.4	0.1	0.1	0.2	0.7		0.2	1.8		0.2	0.6	
Delay (s)	68.3	23.5	22.9	23.9	26.8		18.0	28.7		13.0	15.1	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		48.8			26.2			27.9			15.1	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1288	9	6	650	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1288	9	6	650	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1400	10	7	707	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1454	2146	362	1780	2142	709	717			1414		
vC1, stage 1 conf vol	730	730		1411	1411							
vC2, stage 2 conf vol	724	1416		368	731							
vCu, unblocked vol	1454	2146	362	1780	2142	709	717			1414		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	90	100	94	100			99		
cM capacity (veh/h)	267	178	636	132	183	380	887			487		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	933	477	7	471	239
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	295	223	887	1700	1700	487	1700	1700
Volume to Capacity	0.02	0.16	0.00	0.55	0.28	0.01	0.28	0.14
Queue Length 95th (m)	0.5	4.1	0.0	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	17.5	24.1	9.1	0.0	0.0	12.5	0.0	0.0
Lane LOS	C	C	A			B		
Approach Delay (s)	17.5	24.1	0.0			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1351	0	2	683	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1351	0	2	683	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1422	0	2	719	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	1454	2162	390	1814	2167	714	734			1425		
vC1, stage 1 conf vol	734	734		1429	1429							
vC2, stage 2 conf vol	721	1429		384	738							
vCu, unblocked vol	1157	2001	390	1585	2007	274	734			1122		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	99	100	99	100			100		
cM capacity (veh/h)	329	203	600	175	204	610	875			527		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	948	474	2	479	249
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	339	451	875	1700	1700	527	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.56	0.28	0.00	0.28	0.15
Queue Length 95th (m)	1.1	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	16.2	13.1	9.1	0.0	0.0	11.9	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	16.2	13.1	0.0			0.0		
Approach LOS	C	B						

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	52.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	1347	3	0	693
Future Volume (Veh/h)	4	2	1347	3	0	693
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	2	1448	3	0	745
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			71			
pX, platoon unblocked	0.83	0.83			0.83	
vC, conflicting volume	1870	736			1460	
vC1, stage 1 conf vol	1458					
vC2, stage 2 conf vol	412					
vCu, unblocked vol	1636	269			1142	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	210	603			509	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	6	965	486	0	372	372
Volume Left	4	0	0	0	0	0
Volume Right	2	0	3	0	0	0
cSH	268	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.57	0.29	0.00	0.22	0.22
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	18.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	18.7	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	62	389	553	1374	744
v/c Ratio	0.35	0.52	0.76	0.53	0.50
Control Delay	41.9	14.0	15.4	11.8	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	14.0	15.4	11.8	22.9
Queue Length 50th (m)	10.1	28.8	73.0	112.2	60.3
Queue Length 95th (m)	21.4	53.2	m94.9	m129.6	72.9
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	353	742	730	2586	1474
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.52	0.76	0.53	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	366	520	1292	656	43
Future Volume (vph)	58	366	520	1292	656	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1513	1507	1638	3245	3228	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1513	1507	473	3245	3228	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	389	553	1374	698	46
RTOR Reduction (vph)	0	79	0	0	5	0
Lane Group Flow (vph)	62	310	553	1374	739	0
Confl. Peds. (#/hr)	38					
Heavy Vehicles (%)	18%	6%	9%	10%	10%	3%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.7	35.3	69.3	69.3	39.7	
Effective Green, g (s)	8.7	35.3	69.3	69.3	39.7	
Actuated g/C Ratio	0.10	0.39	0.77	0.77	0.44	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	146	591	708	2498	1423	
v/s Ratio Prot	0.04	c0.16	c0.23	0.42	0.23	
v/s Ratio Perm		0.05	c0.37			
v/c Ratio	0.42	0.52	0.78	0.55	0.52	
Uniform Delay, d1	38.3	20.9	9.6	4.1	18.2	
Progression Factor	1.00	1.00	1.34	2.49	1.21	
Incremental Delay, d2	2.0	0.8	2.7	0.4	1.3	
Delay (s)	40.3	21.8	15.4	10.7	23.3	
Level of Service	D	C	B	B	C	
Approach Delay (s)	24.3			12.0	23.3	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	5	199	466	1	1415	146	260	823
v/c Ratio	0.23	0.01	0.74	0.95	0.00	0.89	0.20	0.89	0.39
Control Delay	36.8	0.0	50.2	46.5	12.0	27.3	5.3	62.0	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	0.0	50.2	46.5	12.0	27.3	5.3	62.0	5.0
Queue Length 50th (m)	2.5	0.0	31.5	37.8	0.1	118.1	2.7	34.2	20.0
Queue Length 95th (m)	8.8	0.0	#60.0	#96.8	m0.2	#166.8	7.0	#73.3	26.7
Internal Link Dist (m)		134.7		213.6		178.4			379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	25.0	
Base Capacity (vph)	83	457	291	511	314	1592	721	302	2128
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.68	0.91	0.00	0.89	0.20	0.86	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	187	2	436	1	1330	137	244	765	8
Future Volume (vph)	17	0	5	187	2	436	1	1330	137	244	765	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1654	1312		1576	1349		1782	3245	1394	1653	3268	
Flt Permitted	0.21	1.00		0.75	1.00		0.34	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	359	1312		1251	1349		641	3245	1394	148	3268	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	199	2	464	1	1415	146	260	814	9
RTOR Reduction (vph)	0	4	0	0	201	0	0	0	37	0	1	0
Lane Group Flow (vph)	18	1	0	199	265	0	1	1415	109	260	822	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	19.4	19.4		19.4	19.4		44.1	44.1	44.1	58.6	58.6	
Effective Green, g (s)	19.4	19.4		19.4	19.4		44.1	44.1	44.1	58.6	58.6	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.49	0.49	0.49	0.65	0.65	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	77	282		269	290		314	1590	683	288	2127	
v/s Ratio Prot		0.00			c0.20			0.44		c0.12	0.25	
v/s Ratio Perm	0.05			0.16			0.00		0.08	c0.47		
v/c Ratio	0.23	0.00		0.74	0.91		0.00	0.89	0.16	0.90	0.39	
Uniform Delay, d1	29.2	27.7		32.9	34.5		11.7	20.8	12.7	25.0	7.3	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.87	0.63	1.71	0.58	
Incremental Delay, d2	1.6	0.0		10.2	31.3		0.0	7.4	0.5	26.5	0.5	
Delay (s)	30.7	27.7		43.1	65.8		10.9	25.6	8.4	69.3	4.7	
Level of Service	C	C		D	E		B	C	A	E	A	
Approach Delay (s)		30.1			59.0			24.0			20.2	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1439	2	5	908	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1439	2	5	908	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1564	2	5	987	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.91	0.91	0.90	0.91	0.91	0.86	0.90			0.86		
vC, conflicting volume	1807	2590	503	2090	2597	784	1005			1567		
vC1, stage 1 conf vol	1006	1006		1582	1582							
vC2, stage 2 conf vol	800	1583		508	1015							
vCu, unblocked vol	1181	2042	218	1493	2050	418	777			1331		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	100	99			99		
cM capacity (veh/h)	281	164	711	133	166	401	610			451		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	1043	523	5	658	346
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	335	273	610	1700	1700	451	1700	1700
Volume to Capacity	0.06	0.01	0.01	0.61	0.31	0.01	0.39	0.20
Queue Length 95th (m)	1.4	0.3	0.3	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	16.4	18.3	11.0	0.0	0.0	13.1	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	16.4	18.3	0.1			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1342	18	963
v/c Ratio	0.27	0.25	0.09	0.06	0.48	0.06	0.34
Control Delay	43.3	15.8	4.5	3.1	4.1	6.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.1	4.1	6.1	5.8
Queue Length 50th (m)	5.1	0.2	0.0	0.8	33.3	1.1	34.0
Queue Length 95th (m)	13.2	9.7	1.9	2.8	52.3	m3.1	46.7
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	414	2807	285	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.06	0.48	0.06	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1302	0	17	909	25
Future Volume (vph)	30	1	44	8	0	6	24	1302	0	17	909	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1783	3452	
Flt Permitted	0.75	1.00			0.80		0.29	1.00		0.19	1.00	
Satd. Flow (perm)	1284	1546			1291		506	3433		349	3452	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1342	0	18	937	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1342	0	18	962	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		400	2715		276	2730	
v/s Ratio Prot		0.00						c0.39			0.28	
v/s Ratio Perm	c0.02				0.00		0.05			0.05		
v/c Ratio	0.32	0.04			0.01		0.06	0.49		0.07	0.35	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.2		2.1	2.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.96	1.90	
Incremental Delay, d2	1.9	0.1			0.0		0.3	0.6		0.4	0.3	
Delay (s)	41.3	38.7			38.5		2.4	3.9		4.5	5.5	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			3.8			5.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	265	156	180	45	148	153	1036	66	1537
v/c Ratio	0.89	0.32	0.35	0.16	0.31	0.73	0.50	0.20	0.82
Control Delay	73.5	36.8	9.9	33.8	33.6	45.2	12.0	9.7	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	36.8	9.9	33.8	33.6	45.2	12.0	9.7	28.8
Queue Length 50th (m)	58.3	28.8	5.2	7.9	24.9	20.6	69.6	5.4	163.1
Queue Length 95th (m)	#99.7	46.3	22.2	17.3	42.0	#47.2	76.7	10.8	201.0
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	335	548	558	327	531	230	2052	331	1869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.28	0.32	0.14	0.28	0.67	0.50	0.20	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	148	171	43	110	30	145	942	42	63	1254	206
Future Volume (vph)	252	148	171	43	110	30	145	942	42	63	1254	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3540		1783	3469	
Flt Permitted	0.62	1.00	1.00	0.61	1.00		0.06	1.00		0.23	1.00	
Satd. Flow (perm)	1148	1879	1550	1123	1791		116	3540		425	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	156	180	45	116	32	153	992	44	66	1320	217
RTOR Reduction (vph)	0	0	111	0	9	0	0	3	0	0	10	0
Lane Group Flow (vph)	265	156	69	45	139	0	153	1033	0	66	1527	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	31.0	31.0	31.0	31.0	31.0		77.0	68.9		69.4	64.3	
Effective Green, g (s)	31.0	31.0	31.0	31.0	31.0		77.0	68.9		69.4	64.3	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.64	0.57		0.58	0.54	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	296	485	400	290	462		209	2032		303	1858	
v/s Ratio Prot		0.08			0.08		c0.06	0.29		0.01	c0.44	
v/s Ratio Perm	c0.23		0.04	0.04			0.41			0.12		
v/c Ratio	0.90	0.32	0.17	0.16	0.30		0.73	0.51		0.22	0.82	
Uniform Delay, d1	42.9	36.0	34.5	34.4	35.8		28.6	15.4		11.7	23.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.20	0.68		1.00	1.00	
Incremental Delay, d2	27.2	0.4	0.2	0.3	0.4		11.9	0.9		0.4	4.2	
Delay (s)	70.1	36.4	34.7	34.6	36.2		46.1	11.3		12.1	27.3	
Level of Service	E	D	C	C	D		D	B		B	C	
Approach Delay (s)		50.8			35.8			15.8			26.7	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1100	22	21	1447	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1100	22	21	1447	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1196	24	23	1573	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2250	2872	807	2062	2862	620	1595			1229		
vC1, stage 1 conf vol	1640	1640		1221	1221							
vC2, stage 2 conf vol	611	1233		842	1641							
vCu, unblocked vol	2250	2872	807	2062	2862	620	1595			1229		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	100			96		
cM capacity (veh/h)	96	120	323	159	123	432	409			569		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	797	423	23	1049	527
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	225	260	409	1700	1700	569	1700	1700
Volume to Capacity	0.05	0.05	0.00	0.47	0.25	0.04	0.62	0.31
Queue Length 95th (m)	1.2	1.2	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	21.8	19.6	13.8	0.0	0.0	11.6	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	21.8	19.6	0.0			0.2		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	50.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1092	2	14	1463	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1092	2	14	1463	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1162	2	15	1556	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.94	0.94		0.94	0.94	0.94				0.94		
vC, conflicting volume	2240	2824	824	2017	2843	589	1614			1170		
vC1, stage 1 conf vol	1624	1624		1199	1199							
vC2, stage 2 conf vol	616	1200		818	1644							
vCu, unblocked vol	2187	2811	824	1949	2832	423	1614			1044		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	75	100	99	100	100	99	96			98		
cM capacity (veh/h)	87	128	313	173	118	483	403			627		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	775	389	15	1037	560
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	93	483	403	1700	1700	627	1700	1700
Volume to Capacity	0.26	0.01	0.04	0.46	0.23	0.02	0.61	0.33
Queue Length 95th (m)	7.2	0.2	0.9	0.0	0.0	0.6	0.0	0.0
Control Delay (s)	56.9	12.5	14.3	0.0	0.0	10.9	0.0	0.0
Lane LOS	F	B	B			B		
Approach Delay (s)	56.9	12.5	0.2			0.1		
Approach LOS	F	B						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1120	2	1	1449
Future Volume (Veh/h)	0	2	1120	2	1	1449
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1204	2	1	1558
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.91	0.91			0.91	
vC, conflicting volume	2030	609			1212	
vC1, stage 1 conf vol	1211					
vC2, stage 2 conf vol	819					
vCu, unblocked vol	1936	378			1040	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	224	567			614	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	803	403	1	779	779
Volume Left	0	0	0	1	0	0
Volume Right	2	0	2	0	0	0
cSH	567	1700	1700	614	1700	1700
Volume to Capacity	0.00	0.47	0.24	0.00	0.46	0.46
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.4	0.0	0.0	10.9	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	55	743	570	1102	1494
v/c Ratio	0.39	1.04	0.81	0.40	1.07
Control Delay	59.5	75.9	34.4	7.3	90.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	75.9	34.4	7.3	90.3
Queue Length 50th (m)	12.6	~190.2	124.6	65.8	~210.2
Queue Length 95th (m)	25.1	#264.1	m130.9	m66.5	#254.2
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	267	714	705	2767	1398
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	1.04	0.81	0.40	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	53	721	553	1069	1326	123
Future Volume (vph)	53	721	553	1069	1326	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1526	1479	1668	3275	3279	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1526	1479	133	3275	3279	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	743	570	1102	1367	127
RTOR Reduction (vph)	0	5	0	0	6	0
Lane Group Flow (vph)	55	738	570	1102	1488	0
Confl. Peds. (#/hr)	36	25	35			35
Heavy Vehicles (%)	17%	7%	7%	9%	7%	5%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	9.0	55.2	99.0	99.0	49.8	
Effective Green, g (s)	9.0	55.2	99.0	99.0	49.8	
Actuated g/C Ratio	0.08	0.46	0.82	0.82	0.41	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	114	680	700	2701	1360	
v/s Ratio Prot	0.04	c0.42	0.31	0.34	c0.45	
v/s Ratio Perm		0.08	0.36			
v/c Ratio	0.48	1.08	0.81	0.41	1.09	
Uniform Delay, d1	53.3	32.4	28.5	2.8	35.1	
Progression Factor	1.00	1.00	1.12	2.36	1.53	
Incremental Delay, d2	3.2	59.7	2.3	0.1	51.3	
Delay (s)	56.5	92.1	34.3	6.7	105.0	
Level of Service	E	F	C	A	F	
Approach Delay (s)	89.7			16.1	105.0	
Approach LOS	F			B	F	

Intersection Summary			
HCM 2000 Control Delay	64.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	15	176	371	13	1529	496	1574
v/c Ratio	0.36	0.06	0.88	0.70	0.10	1.05	1.01	0.64
Control Delay	61.6	22.9	86.9	12.8	20.3	67.1	52.5	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	22.9	86.9	12.8	20.3	67.1	52.5	9.4
Queue Length 50th (m)	4.6	0.6	40.3	1.2	1.4	~206.0	~112.7	79.7
Queue Length 95th (m)	13.5	6.6	#77.7	31.6	m3.3	#249.2	m97.4	m73.0
Internal Link Dist (m)		134.7		213.6		183.7		379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	
Base Capacity (vph)	65	276	214	539	125	1453	492	2453
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.05	0.82	0.69	0.10	1.05	1.01	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	171	6	354	13	1239	244	481	1514	13
Future Volume (vph)	21	3	12	171	6	354	13	1239	244	481	1514	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1759	1522		1558	1364		1649	3200		1653	3333	
Flt Permitted	0.20	1.00		0.75	1.00		0.16	1.00		0.07	1.00	
Satd. Flow (perm)	376	1522		1227	1364		279	3200		122	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	176	6	365	13	1277	252	496	1561	13
RTOR Reduction (vph)	0	10	0	0	305	0	0	14	0	0	1	0
Lane Group Flow (vph)	22	5	0	176	66	0	13	1515	0	496	1573	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.7	19.7		19.7	19.7		54.0	54.0		88.3	88.3	
Effective Green, g (s)	19.7	19.7		19.7	19.7		54.0	54.0		88.3	88.3	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.45	0.45		0.74	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	249		201	223		125	1440		489	2452	
v/s Ratio Prot		0.00			0.05			0.47		c0.26	0.47	
v/s Ratio Perm	0.06			c0.14			0.05			c0.48		
v/c Ratio	0.36	0.02		0.88	0.30		0.10	1.05		1.01	0.64	
Uniform Delay, d1	44.6	42.1		49.0	44.1		19.0	33.0		38.3	7.9	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.90		1.08	1.11	
Incremental Delay, d2	3.6	0.0		31.8	0.7		1.5	37.6		15.9	0.1	
Delay (s)	48.2	42.1		80.8	44.8		19.2	67.4		57.3	9.0	
Level of Service	D	D		F	D		B	E		E	A	
Approach Delay (s)		45.7			56.4			67.0			20.5	
Approach LOS		D			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	42.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1499	9	15	1651	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1499	9	15	1651	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1578	9	16	1738	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.82	0.82	0.75	0.82	0.82	0.86	0.75			0.86		
vC, conflicting volume	2642	3432	902	2538	3458	796	1801			1589		
vC1, stage 1 conf vol	1803	1803		1624	1624							
vC2, stage 2 conf vol	838	1629		914	1833							
vCu, unblocked vol	1781	2742	208	1655	2773	427	1404			1353		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	99	98	94	99	98	95			96		
cM capacity (veh/h)	103	103	603	118	97	497	369			440		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	1052	535	16	1159	639
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	160	194	369	1700	1700	440	1700	1700
Volume to Capacity	0.18	0.09	0.05	0.62	0.31	0.04	0.68	0.38
Queue Length 95th (m)	4.7	2.2	1.3	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	32.2	25.4	15.3	0.0	0.0	13.5	0.0	0.0
Lane LOS	D	D	C			B		
Approach Delay (s)	32.2	25.4	0.2			0.1		
Approach LOS	D	D						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1512	19	1575
v/c Ratio	0.34	0.19	0.31	0.12	0.50	0.08	0.53
Control Delay	58.0	20.3	26.5	4.0	4.0	1.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	4.0	4.0	1.8	1.9
Queue Length 50th (m)	10.4	0.2	2.7	1.0	45.4	0.4	21.6
Queue Length 95th (m)	21.6	9.1	14.2	3.7	69.7	m0.8	24.9
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	227	3004	245	2994
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.12	0.50	0.08	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1482	0	19	1509	34
Future Volume (vph)	45	1	28	12	0	36	26	1482	0	19	1509	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1781	3522	
Flt Permitted	0.89	1.00			0.91		0.14	1.00		0.15	1.00	
Satd. Flow (perm)	1652	1585			1506		267	3535		288	3522	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1512	0	19	1540	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1512	0	19	1574	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		221	2934		239	2923	
v/s Ratio Prot		0.00						0.43			c0.45	
v/s Ratio Perm	c0.03				0.01		0.10			0.07		
v/c Ratio	0.40	0.03			0.14		0.12	0.52		0.08	0.54	
Uniform Delay, d1	53.4	52.0			52.4		1.9	3.0		1.9	3.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.50	0.39	
Incremental Delay, d2	2.3	0.1			0.6		1.1	0.7		0.5	0.6	
Delay (s)	55.7	52.1			53.0		3.1	3.7		1.4	1.8	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			3.7			1.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	265	156	180	45	148	153	1036	66	1537
v/c Ratio	0.89	0.32	0.35	0.16	0.31	0.73	0.50	0.20	0.82
Control Delay	73.5	36.8	9.9	33.8	33.6	43.0	13.9	9.7	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	36.8	9.9	33.8	33.6	43.0	13.9	9.7	28.8
Queue Length 50th (m)	58.3	28.8	5.2	7.9	24.9	19.8	77.4	5.4	163.1
Queue Length 95th (m)	#99.7	46.3	22.2	17.3	42.0	#47.1	80.1	10.8	201.0
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	335	548	558	327	531	230	2052	331	1869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.28	0.32	0.14	0.28	0.67	0.50	0.20	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	148	171	43	110	30	145	942	42	63	1254	206
Future Volume (vph)	252	148	171	43	110	30	145	942	42	63	1254	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3540		1783	3469	
Flt Permitted	0.62	1.00	1.00	0.61	1.00		0.06	1.00		0.23	1.00	
Satd. Flow (perm)	1148	1879	1550	1123	1791		116	3540		425	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	156	180	45	116	32	153	992	44	66	1320	217
RTOR Reduction (vph)	0	0	111	0	9	0	0	3	0	0	10	0
Lane Group Flow (vph)	265	156	69	45	139	0	153	1033	0	66	1527	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	31.0	31.0	31.0	31.0	31.0		77.0	68.9		69.4	64.3	
Effective Green, g (s)	31.0	31.0	31.0	31.0	31.0		77.0	68.9		69.4	64.3	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.64	0.57		0.58	0.54	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	296	485	400	290	462		209	2032		303	1858	
v/s Ratio Prot		0.08			0.08		c0.06	0.29		0.01	c0.44	
v/s Ratio Perm	c0.23		0.04	0.04			0.41			0.12		
v/c Ratio	0.90	0.32	0.17	0.16	0.30		0.73	0.51		0.22	0.82	
Uniform Delay, d1	42.9	36.0	34.5	34.4	35.8		28.6	15.4		11.7	23.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.09	0.80		1.00	1.00	
Incremental Delay, d2	27.2	0.4	0.2	0.3	0.4		11.9	0.9		0.4	4.2	
Delay (s)	70.1	36.4	34.7	34.6	36.2		43.0	13.1		12.1	27.3	
Level of Service	E	D	C	C	D		D	B		B	C	
Approach Delay (s)		50.8			35.8			17.0			26.7	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1100	22	21	1447	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1100	22	21	1447	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1196	24	23	1573	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2250	2872	807	2062	2862	620	1595			1229		
vC1, stage 1 conf vol	1640	1640		1221	1221							
vC2, stage 2 conf vol	611	1233		842	1641							
vCu, unblocked vol	2250	2872	807	2062	2862	620	1595			1229		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	100			96		
cM capacity (veh/h)	96	120	323	159	123	432	409			569		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	797	423	23	1049	527
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	225	260	409	1700	1700	569	1700	1700
Volume to Capacity	0.05	0.05	0.00	0.47	0.25	0.04	0.62	0.31
Queue Length 95th (m)	1.2	1.2	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	21.8	19.6	13.8	0.0	0.0	11.6	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	21.8	19.6	0.0			0.2		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1092	2	14	1463	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1092	2	14	1463	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1162	2	15	1556	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.94	0.94		0.94	0.94	0.94				0.94		
vC, conflicting volume	2240	2824	824	2017	2843	589	1614			1170		
vC1, stage 1 conf vol	1624	1624		1199	1199							
vC2, stage 2 conf vol	616	1200		818	1644							
vCu, unblocked vol	2187	2811	824	1949	2832	423	1614			1044		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	75	100	99	100	100	99	96			98		
cM capacity (veh/h)	87	128	313	173	118	483	403			627		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	775	389	15	1037	560
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	93	483	403	1700	1700	627	1700	1700
Volume to Capacity	0.26	0.01	0.04	0.46	0.23	0.02	0.61	0.33
Queue Length 95th (m)	7.2	0.2	0.9	0.0	0.0	0.6	0.0	0.0
Control Delay (s)	56.9	12.5	14.3	0.0	0.0	10.9	0.0	0.0
Lane LOS	F	B	B			B		
Approach Delay (s)	56.9	12.5	0.2			0.1		
Approach LOS	F	B						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1120	2	1	1449
Future Volume (Veh/h)	0	2	1120	2	1	1449
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1204	2	1	1558
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.91	0.91			0.91	
vC, conflicting volume	2030	609			1212	
vC1, stage 1 conf vol	1211					
vC2, stage 2 conf vol	819					
vCu, unblocked vol	1936	378			1040	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	224	567			614	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	803	403	1	779	779
Volume Left	0	0	0	1	0	0
Volume Right	2	0	2	0	0	0
cSH	567	1700	1700	614	1700	1700
Volume to Capacity	0.00	0.47	0.24	0.00	0.46	0.46
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.4	0.0	0.0	10.9	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	55	743	570	1102	1494
v/c Ratio	0.39	1.04	0.81	0.40	1.07
Control Delay	59.5	75.9	39.9	7.2	90.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	75.9	39.9	7.2	90.3
Queue Length 50th (m)	12.6	~190.2	125.2	56.5	~210.2
Queue Length 95th (m)	25.1	#264.1 m	#160.0	m78.0	#254.2
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	267	714	705	2767	1398
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	1.04	0.81	0.40	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	53	721	553	1069	1326	123
Future Volume (vph)	53	721	553	1069	1326	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1526	1479	1668	3275	3279	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1526	1479	133	3275	3279	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	743	570	1102	1367	127
RTOR Reduction (vph)	0	5	0	0	6	0
Lane Group Flow (vph)	55	738	570	1102	1488	0
Confl. Peds. (#/hr)	36	25	35			35
Heavy Vehicles (%)	17%	7%	7%	9%	7%	5%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	9.0	55.2	99.0	99.0	49.8	
Effective Green, g (s)	9.0	55.2	99.0	99.0	49.8	
Actuated g/C Ratio	0.08	0.46	0.82	0.82	0.41	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	114	680	700	2701	1360	
v/s Ratio Prot	0.04	c0.42	0.31	0.34	c0.45	
v/s Ratio Perm		0.08	0.36			
v/c Ratio	0.48	1.08	0.81	0.41	1.09	
Uniform Delay, d1	53.3	32.4	28.5	2.8	35.1	
Progression Factor	1.00	1.00	1.25	2.28	1.53	
Incremental Delay, d2	3.2	59.7	4.0	0.2	51.3	
Delay (s)	56.5	92.1	39.7	6.6	105.0	
Level of Service	E	F	D	A	F	
Approach Delay (s)	89.7			17.8	105.0	
Approach LOS	F			B	F	

Intersection Summary			
HCM 2000 Control Delay	65.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	22	15	176	371	13	1277	252	496	1574
v/c Ratio	0.36	0.06	0.88	0.70	0.11	0.88	0.38	0.97	0.64
Control Delay	61.6	22.9	86.9	12.8	22.2	35.7	15.0	43.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	22.9	86.9	12.8	22.2	35.7	15.0	43.8	10.3
Queue Length 50th (m)	4.6	0.6	40.3	1.2	1.5	147.1	20.7	103.0	86.0
Queue Length 95th (m)	13.5	6.6	#77.7	31.6	m3.5	#190.7	32.3	m94.7	m80.5
Internal Link Dist (m)		134.7		213.6		183.7			379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	25.0	
Base Capacity (vph)	65	276	214	539	123	1451	668	517	2453
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.05	0.82	0.69	0.11	0.88	0.38	0.96	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	171	6	354	13	1239	244	481	1514	13
Future Volume (vph)	21	3	12	171	6	354	13	1239	244	481	1514	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1759	1522		1558	1364		1649	3305	1414	1653	3333	
Flt Permitted	0.20	1.00		0.75	1.00		0.16	1.00	1.00	0.07	1.00	
Satd. Flow (perm)	376	1522		1227	1364		279	3305	1414	126	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	176	6	365	13	1277	252	496	1561	13
RTOR Reduction (vph)	0	10	0	0	305	0	0	0	47	0	1	0
Lane Group Flow (vph)	22	5	0	176	66	0	13	1277	205	496	1573	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	19.7	19.7		19.7	19.7		52.7	52.7	52.7	88.3	88.3	
Effective Green, g (s)	19.7	19.7		19.7	19.7		52.7	52.7	52.7	88.3	88.3	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.44	0.44	0.44	0.74	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	61	249		201	223		122	1451	620	507	2452	
v/s Ratio Prot		0.00			0.05			0.39		c0.27	0.47	
v/s Ratio Perm	0.06			c0.14			0.05		0.14	c0.45		
v/c Ratio	0.36	0.02		0.88	0.30		0.11	0.88	0.33	0.98	0.64	
Uniform Delay, d1	44.6	42.1		49.0	44.1		19.8	30.8	22.1	36.6	7.9	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.89	0.88	1.07	1.22	
Incremental Delay, d2	3.6	0.0		31.8	0.7		1.6	7.2	1.3	7.7	0.1	
Delay (s)	48.2	42.1		80.8	44.8		20.0	34.7	20.6	46.9	9.8	
Level of Service	D	D		F	D		C	C	C	D	A	
Approach Delay (s)		45.7			56.4			32.3			18.7	
Approach LOS		D			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1499	9	15	1651	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1499	9	15	1651	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1578	9	16	1738	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.82	0.82	0.75	0.82	0.82	0.86	0.75			0.86		
vC, conflicting volume	2642	3432	902	2538	3458	796	1801			1589		
vC1, stage 1 conf vol	1803	1803		1624	1624							
vC2, stage 2 conf vol	838	1629		914	1833							
vCu, unblocked vol	1781	2742	208	1655	2773	427	1404			1353		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	99	98	94	99	98	95			96		
cM capacity (veh/h)	103	103	603	118	97	497	369			440		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	1052	535	16	1159	639
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	160	194	369	1700	1700	440	1700	1700
Volume to Capacity	0.18	0.09	0.05	0.62	0.31	0.04	0.68	0.38
Queue Length 95th (m)	4.7	2.2	1.3	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	32.2	25.4	15.3	0.0	0.0	13.5	0.0	0.0
Lane LOS	D	D	C			B		
Approach Delay (s)	32.2	25.4	0.2			0.1		
Approach LOS	D	D						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1512	19	1575
v/c Ratio	0.34	0.19	0.31	0.12	0.50	0.08	0.53
Control Delay	58.0	20.3	26.5	4.0	4.0	2.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	4.0	4.0	2.1	2.3
Queue Length 50th (m)	10.4	0.2	2.7	1.0	45.4	0.5	21.2
Queue Length 95th (m)	21.6	9.1	14.2	3.7	69.7	m0.8	24.2
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	227	3004	245	2994
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.12	0.50	0.08	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1482	0	19	1509	34
Future Volume (vph)	45	1	28	12	0	36	26	1482	0	19	1509	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1781	3522	
Flt Permitted	0.89	1.00			0.91		0.14	1.00		0.15	1.00	
Satd. Flow (perm)	1652	1585			1506		267	3535		288	3522	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1512	0	19	1540	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1512	0	19	1574	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		221	2934		239	2923	
v/s Ratio Prot		0.00						0.43			c0.45	
v/s Ratio Perm	c0.03				0.01		0.10			0.07		
v/c Ratio	0.40	0.03			0.14		0.12	0.52		0.08	0.54	
Uniform Delay, d1	53.4	52.0			52.4		1.9	3.0		1.9	3.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.58	0.53	
Incremental Delay, d2	2.3	0.1			0.6		1.1	0.7		0.5	0.6	
Delay (s)	55.7	52.1			53.0		3.1	3.7		1.6	2.2	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			3.7			2.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	260	78	113	69	268	115	1334	11	634
v/c Ratio	0.94	0.14	0.21	0.17	0.48	0.25	0.70	0.05	0.38
Control Delay	72.6	22.1	5.4	22.8	25.1	18.2	29.9	9.0	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	22.1	5.4	22.8	25.1	18.2	29.9	9.0	16.0
Queue Length 50th (m)	41.6	9.3	0.0	8.3	31.7	14.4	104.0	0.8	36.2
Queue Length 95th (m)	#85.1	19.0	10.8	17.9	53.3	30.0	#142.7	2.9	49.9
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	301	626	588	440	604	454	1904	229	1658
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.12	0.19	0.16	0.44	0.25	0.70	0.05	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	76	111	68	177	85	113	1282	25	11	507	115
Future Volume (vph)	255	76	111	68	177	85	113	1282	25	11	507	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1783	3521		1785	3428	
Flt Permitted	0.49	1.00	1.00	0.71	1.00		0.34	1.00		0.12	1.00	
Satd. Flow (perm)	904	1879	1538	1322	1754		639	3521		221	3428	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	260	78	113	69	181	87	115	1308	26	11	517	117
RTOR Reduction (vph)	0	0	78	0	20	0	0	1	0	0	20	0
Lane Group Flow (vph)	260	78	35	69	248	0	115	1333	0	11	614	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	27.5	27.5	27.5	27.5	27.5		50.5	46.3		43.7	42.5	
Effective Green, g (s)	27.5	27.5	27.5	27.5	27.5		50.5	46.3		43.7	42.5	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.56	0.51		0.49	0.47	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	276	574	469	403	535		422	1811		128	1618	
v/s Ratio Prot		0.04			0.14		c0.02	c0.38		0.00	0.18	
v/s Ratio Perm	c0.29		0.02	0.05			0.14			0.04		
v/c Ratio	0.94	0.14	0.07	0.17	0.46		0.27	0.74		0.09	0.38	
Uniform Delay, d1	30.5	22.6	22.2	22.9	25.3		9.7	17.1		13.9	15.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.92	1.67		1.00	1.00	
Incremental Delay, d2	38.6	0.1	0.1	0.2	0.6		0.3	2.3		0.3	0.7	
Delay (s)	69.1	22.7	22.3	23.1	25.9		18.8	30.8		14.2	15.9	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		49.3			25.3			29.9			15.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1366	9	6	688	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1366	9	6	688	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1485	10	7	748	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1537	2272	382	1885	2268	752	758			1499		
vC1, stage 1 conf vol	770	770		1496	1496							
vC2, stage 2 conf vol	766	1501		389	772							
vCu, unblocked vol	1537	2272	382	1885	2268	752	758			1499		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	89	100	94	100			98		
cM capacity (veh/h)	249	162	617	116	167	356	857			452		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	990	505	7	499	252
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	276	202	857	1700	1700	452	1700	1700
Volume to Capacity	0.02	0.17	0.00	0.58	0.30	0.02	0.29	0.15
Queue Length 95th (m)	0.5	4.6	0.0	0.0	0.0	0.4	0.0	0.0
Control Delay (s)	18.3	26.5	9.2	0.0	0.0	13.1	0.0	0.0
Lane LOS	C	D	A			B		
Approach Delay (s)	18.3	26.5	0.0			0.1		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	48.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1433	0	2	724	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1433	0	2	724	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1508	0	2	762	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.81	0.81		0.81	0.81	0.81				0.81		
vC, conflicting volume	1540	2292	412	1921	2296	757	777			1511		
vC1, stage 1 conf vol	776	776		1515	1515							
vC2, stage 2 conf vol	764	1515		406	781							
vCu, unblocked vol	1201	2127	412	1670	2132	235	777			1164		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	99	100	99	100			100		
cM capacity (veh/h)	314	187	581	160	188	625	844			491		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	1005	503	2	508	263
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	323	442	844	1700	1700	491	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.59	0.30	0.00	0.30	0.15
Queue Length 95th (m)	1.2	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	16.7	13.3	9.3	0.0	0.0	12.4	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	16.7	13.3	0.0			0.0		
Approach LOS	C	B						

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	54.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	1428	3	0	733
Future Volume (Veh/h)	4	2	1428	3	0	733
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	2	1535	3	0	788
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			71			
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1978	780			1547	
vC1, stage 1 conf vol	1546					
vC2, stage 2 conf vol	433					
vCu, unblocked vol	1736	252			1201	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	190	603			471	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	6	1023	515	0	394	394
Volume Left	4	0	0	0	0	0
Volume Right	2	0	3	0	0	0
cSH	247	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.60	0.30	0.00	0.23	0.23
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	20.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	20.0	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	65	413	586	1456	786
v/c Ratio	0.36	0.54	0.80	0.56	0.56
Control Delay	42.1	15.1	16.2	12.2	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	15.1	16.2	12.2	24.6
Queue Length 50th (m)	10.6	34.4	73.2	118.7	64.4
Queue Length 95th (m)	22.0	61.0	m92.1	m124.7	77.2
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	353	764	728	2582	1404
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.54	0.80	0.56	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	61	388	551	1369	694	45
Future Volume (vph)	61	388	551	1369	694	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1513	1507	1638	3245	3228	
Flt Permitted	0.95	1.00	0.25	1.00	1.00	
Satd. Flow (perm)	1513	1507	422	3245	3228	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	65	413	586	1456	738	48
RTOR Reduction (vph)	0	67	0	0	5	0
Lane Group Flow (vph)	65	346	586	1456	781	0
Confl. Peds. (#/hr)	38					
Heavy Vehicles (%)	18%	6%	9%	10%	10%	3%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.8	37.2	69.2	69.2	37.8	
Effective Green, g (s)	8.8	37.2	69.2	69.2	37.8	
Actuated g/C Ratio	0.10	0.41	0.77	0.77	0.42	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	147	622	708	2495	1355	
v/s Ratio Prot	0.04	c0.18	c0.26	0.45	0.24	
v/s Ratio Perm		0.05	c0.37			
v/c Ratio	0.44	0.56	0.83	0.58	0.58	
Uniform Delay, d1	38.3	20.1	12.9	4.4	20.0	
Progression Factor	1.00	1.00	0.99	2.45	1.20	
Incremental Delay, d2	2.1	1.1	2.7	0.3	1.7	
Delay (s)	40.4	21.2	15.5	11.0	25.8	
Level of Service	D	C	B	B	C	
Approach Delay (s)	23.8			12.3	25.8	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	5	211	493	1	1501	153	270	874
v/c Ratio	0.24	0.01	0.73	0.97	0.00	0.98	0.22	0.91	0.42
Control Delay	37.1	0.0	48.6	52.9	12.0	40.1	5.6	63.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	0.0	48.6	52.9	12.0	40.1	5.6	63.7	5.3
Queue Length 50th (m)	2.5	0.0	33.8	45.3	0.1	131.2	3.0	35.7	22.2
Queue Length 95th (m)	8.9	0.0	#65.5	#108.8	m0.2	#184.1	7.6	#76.8	29.2
Internal Link Dist (m)		134.7		213.6		178.4			379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	25.0	
Base Capacity (vph)	77	442	291	508	287	1530	695	302	2075
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.01	0.73	0.97	0.00	0.98	0.22	0.89	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	198	2	462	1	1411	144	254	813	8
Future Volume (vph)	17	0	5	198	2	462	1	1411	144	254	813	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1657	1312		1576	1349		1782	3245	1394	1653	3268	
Flt Permitted	0.19	1.00		0.75	1.00		0.32	1.00	1.00	0.09	1.00	
Satd. Flow (perm)	335	1312		1251	1349		609	3245	1394	153	3268	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	211	2	491	1	1501	153	270	865	9
RTOR Reduction (vph)	0	4	0	0	195	0	0	0	39	0	1	0
Lane Group Flow (vph)	18	1	0	211	298	0	1	1501	114	270	873	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	20.8	20.8		20.8	20.8		42.5	42.5	42.5	57.2	57.2	
Effective Green, g (s)	20.8	20.8		20.8	20.8		42.5	42.5	42.5	57.2	57.2	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.47	0.47	0.47	0.64	0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	77	303		289	311		287	1532	658	292	2076	
v/s Ratio Prot		0.00			c0.22			c0.46		c0.12	0.27	
v/s Ratio Perm	0.05			0.17			0.00		0.08	0.47		
v/c Ratio	0.23	0.00		0.73	0.96		0.00	0.98	0.17	0.92	0.42	
Uniform Delay, d1	28.1	26.6		32.0	34.2		12.6	23.3	13.7	26.0	8.2	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.88	0.63	1.69	0.57	
Incremental Delay, d2	1.6	0.0		9.1	39.7		0.0	17.7	0.5	29.6	0.5	
Delay (s)	29.7	26.6		41.1	73.9		11.7	38.2	9.1	73.7	5.2	
Level of Service	C	C		D	E		B	D	A	E	A	
Approach Delay (s)		29.0			64.1			35.5			21.4	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1526	2	5	965	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1526	2	5	965	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1659	2	5	1049	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.90	0.90	0.88	0.90	0.90	0.84	0.88			0.84		
vC, conflicting volume	1916	2746	534	2216	2754	832	1067			1662		
vC1, stage 1 conf vol	1068	1068		1677	1677							
vC2, stage 2 conf vol	848	1678		540	1077							
vCu, unblocked vol	1193	2117	198	1527	2125	414	803			1405		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	99	99			99		
cM capacity (veh/h)	268	148	718	117	151	395	583			413		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	1106	555	5	699	367
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	321	256	583	1700	1700	413	1700	1700
Volume to Capacity	0.06	0.01	0.01	0.65	0.33	0.01	0.41	0.22
Queue Length 95th (m)	1.4	0.3	0.3	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	16.9	19.2	11.3	0.0	0.0	13.8	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	16.9	19.2	0.1			0.1		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	56.6%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1425	18	1021
v/c Ratio	0.27	0.25	0.09	0.06	0.51	0.07	0.36
Control Delay	43.3	15.8	4.5	3.2	4.3	6.1	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.2	4.3	6.1	5.9
Queue Length 50th (m)	5.1	0.2	0.0	0.8	36.8	1.1	36.9
Queue Length 95th (m)	13.2	9.7	1.9	2.9	57.7	m2.9	49.6
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	387	2807	257	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.06	0.51	0.07	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1382	0	17	965	25
Future Volume (vph)	30	1	44	8	0	6	24	1382	0	17	965	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1783	3453	
Flt Permitted	0.75	1.00			0.80		0.27	1.00		0.17	1.00	
Satd. Flow (perm)	1284	1546			1291		474	3433		315	3453	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1425	0	18	995	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1425	0	18	1020	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		374	2715		249	2731	
v/s Ratio Prot		0.00						c0.42			0.30	
v/s Ratio Perm	c0.02				0.00		0.05			0.06		
v/c Ratio	0.32	0.04			0.01		0.07	0.52		0.07	0.37	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.4		2.1	2.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.91	1.86	
Incremental Delay, d2	1.9	0.1			0.0		0.3	0.7		0.5	0.4	
Delay (s)	41.3	38.7			38.5		2.4	4.1		4.5	5.5	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			4.1			5.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	282	156	192	45	148	161	1096	66	1632
v/c Ratio	0.92	0.31	0.37	0.15	0.30	0.76	0.54	0.22	0.89
Control Delay	76.0	36.1	11.6	33.3	33.0	47.2	13.7	10.2	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.0	36.1	11.6	33.3	33.0	47.2	13.7	10.2	33.6
Queue Length 50th (m)	62.2	28.4	7.9	7.8	24.6	23.1	78.7	5.5	185.7
Queue Length 95th (m)	#108.6	46.3	26.2	17.3	42.0	#53.2	84.7	10.8	#240.5
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	336	548	555	329	531	228	2026	301	1832
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.28	0.35	0.14	0.28	0.71	0.54	0.22	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	148	182	43	110	30	153	999	42	63	1331	219
Future Volume (vph)	268	148	182	43	110	30	153	999	42	63	1331	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3542		1783	3469	
Flt Permitted	0.62	1.00	1.00	0.61	1.00		0.06	1.00		0.20	1.00	
Satd. Flow (perm)	1155	1879	1550	1130	1791		114	3542		384	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	282	156	192	45	116	32	161	1052	44	66	1401	231
RTOR Reduction (vph)	0	0	107	0	9	0	0	2	0	0	10	0
Lane Group Flow (vph)	282	156	85	45	139	0	161	1094	0	66	1622	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	32.1	32.1	32.1	32.1	32.1		75.9	68.0		67.9	63.0	
Effective Green, g (s)	32.1	32.1	32.1	32.1	32.1		75.9	68.0		67.9	63.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27		0.63	0.57		0.57	0.52	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	308	502	414	302	479		209	2007		274	1821	
v/s Ratio Prot		0.08			0.08		c0.06	0.31		0.01	c0.47	
v/s Ratio Perm	c0.24		0.05	0.04			0.42			0.13		
v/c Ratio	0.92	0.31	0.21	0.15	0.29		0.77	0.55		0.24	0.89	
Uniform Delay, d1	42.6	35.1	34.1	33.5	34.9		31.7	16.3		12.6	25.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.09	0.74		1.00	1.00	
Incremental Delay, d2	30.2	0.4	0.2	0.2	0.3		15.2	1.0		0.5	7.0	
Delay (s)	72.9	35.5	34.3	33.8	35.2		49.8	13.1		13.1	32.5	
Level of Service	E	D	C	C	D		D	B		B	C	
Approach Delay (s)		51.9			34.9			17.8			31.7	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1167	22	21	1536	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1167	22	21	1536	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1268	24	23	1670	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2384	3042	856	2183	3031	656	1692			1301		
vC1, stage 1 conf vol	1736	1736		1293	1293							
vC2, stage 2 conf vol	647	1305		890	1738							
vCu, unblocked vol	2384	3042	856	2183	3031	656	1692			1301		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	99			96		
cM capacity (veh/h)	83	108	300	144	110	409	376			535		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	845	447	23	1113	560
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	203	239	376	1700	1700	535	1700	1700
Volume to Capacity	0.05	0.05	0.01	0.50	0.26	0.04	0.65	0.33
Queue Length 95th (m)	1.3	1.3	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	23.7	20.9	14.6	0.0	0.0	12.0	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	23.7	20.9	0.0			0.2		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1158	2	14	1553	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1158	2	14	1553	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1232	2	15	1652	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	2370	2990	872	2135	3009	624	1710			1240		
vC1, stage 1 conf vol	1720	1720		1269	1269							
vC2, stage 2 conf vol	651	1270		866	1740							
vCu, unblocked vol	2318	2989	872	2063	3010	425	1710			1093		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	71	100	99	100	100	99	96			97		
cM capacity (veh/h)	75	115	291	158	105	475	370			593		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	821	413	15	1101	592
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	80	475	370	1700	1700	593	1700	1700
Volume to Capacity	0.30	0.01	0.04	0.48	0.24	0.03	0.65	0.35
Queue Length 95th (m)	8.4	0.2	1.0	0.0	0.0	0.6	0.0	0.0
Control Delay (s)	67.8	12.6	15.1	0.0	0.0	11.2	0.0	0.0
Lane LOS	F	B	C			B		
Approach Delay (s)	67.8	12.6	0.2			0.1		
Approach LOS	F	B						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1188	2	1	1538
Future Volume (Veh/h)	0	2	1188	2	1	1538
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1277	2	1	1654
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	2151	646			1285	
vC1, stage 1 conf vol	1284					
vC2, stage 2 conf vol	867					
vCu, unblocked vol	2059	391			1100	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	206	550			576	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	851	428	1	827	827
Volume Left	0	0	0	1	0	0
Volume Right	2	0	2	0	0	0
cSH	550	1700	1700	576	1700	1700
Volume to Capacity	0.00	0.50	0.25	0.00	0.49	0.49
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.6	0.0	0.0	11.3	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.6	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	789	605	1169	1586
v/c Ratio	0.41	1.11	0.86	0.42	1.13
Control Delay	59.9	97.6	40.6	7.6	113.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	97.6	40.6	7.6	113.0
Queue Length 50th (m)	13.3	~213.7	134.0	65.6	~234.7
Queue Length 95th (m)	26.0	#288.6	m#157.9	m76.3	#279.1
Internal Link Dist (m)	459.7			379.1	47.4
Turn Bay Length (m)	70.0		25.0		
Base Capacity (vph)	267	712	703	2764	1398
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	1.11	0.86	0.42	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	765	587	1134	1407	131
Future Volume (vph)	56	765	587	1134	1407	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1526	1479	1668	3275	3279	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1526	1479	133	3275	3279	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	58	789	605	1169	1451	135
RTOR Reduction (vph)	0	4	0	0	6	0
Lane Group Flow (vph)	58	785	605	1169	1580	0
Confl. Peds. (#/hr)	36	25	35			35
Heavy Vehicles (%)	17%	7%	7%	9%	7%	5%
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	9.1	55.2	98.9	98.9	49.8	
Effective Green, g (s)	9.1	55.2	98.9	98.9	49.8	
Actuated g/C Ratio	0.08	0.46	0.82	0.82	0.41	
Clearance Time (s)	6.0	3.0	3.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	115	680	699	2699	1360	
v/s Ratio Prot	0.04	c0.44	0.33	0.36	c0.48	
v/s Ratio Perm		0.09	0.38			
v/c Ratio	0.50	1.15	0.87	0.43	1.16	
Uniform Delay, d1	53.3	32.4	29.7	2.9	35.1	
Progression Factor	1.00	1.00	1.20	2.32	1.51	
Incremental Delay, d2	3.5	85.4	5.0	0.2	78.4	
Delay (s)	56.7	117.8	40.7	6.9	131.5	
Level of Service	E	F	D	A	F	
Approach Delay (s)	113.6			18.4	131.5	
Approach LOS	F			B	F	

Intersection Summary			
HCM 2000 Control Delay	80.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	22	15	186	392	13	1357	267	524	1672
v/c Ratio	0.36	0.06	0.91	0.71	0.12	0.97	0.41	0.99	0.68
Control Delay	61.4	22.8	92.0	12.8	22.8	46.6	16.0	47.9	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	22.8	92.0	12.8	22.8	46.6	16.0	47.9	11.0
Queue Length 50th (m)	4.6	0.6	43.0	1.2	1.5	162.6	22.5	~115.9	94.2
Queue Length 95th (m)	13.5	6.6	#83.6	32.2	m3.3	#211.9	34.6	m93.7	m81.0
Internal Link Dist (m)		134.7		213.6		183.7			379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	25.0	
Base Capacity (vph)	64	276	214	556	107	1404	649	527	2441
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.05	0.87	0.71	0.12	0.97	0.41	0.99	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	180	6	374	13	1316	259	508	1609	13
Future Volume (vph)	21	3	12	180	6	374	13	1316	259	508	1609	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1760	1522		1558	1363		1650	3305	1414	1653	3333	
Flt Permitted	0.20	1.00		0.75	1.00		0.15	1.00	1.00	0.07	1.00	
Satd. Flow (perm)	369	1522		1227	1363		253	3305	1414	129	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	186	6	386	13	1357	267	524	1659	13
RTOR Reduction (vph)	0	10	0	0	321	0	0	0	48	0	1	0
Lane Group Flow (vph)	22	5	0	186	71	0	13	1357	219	524	1671	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	20.1	20.1		20.1	20.1		51.0	51.0	51.0	87.9	87.9	
Effective Green, g (s)	20.1	20.1		20.1	20.1		51.0	51.0	51.0	87.9	87.9	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.42	0.42	0.42	0.73	0.73	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	61	254		205	228		107	1404	600	525	2441	
v/s Ratio Prot		0.00			0.05			0.41		c0.28	0.50	
v/s Ratio Perm	0.06			c0.15			0.05		0.15	c0.45		
v/c Ratio	0.36	0.02		0.91	0.31		0.12	0.97	0.36	1.00	0.68	
Uniform Delay, d1	44.3	41.7		49.0	43.9		20.9	33.7	23.5	37.0	8.6	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.90	0.88	1.08	1.21	
Incremental Delay, d2	3.6	0.0		37.9	0.8		2.0	15.8	1.5	11.3	0.1	
Delay (s)	47.9	41.8		86.9	44.6		21.5	46.0	22.1	51.3	10.5	
Level of Service	D	D		F	D		C	D	C	D	B	
Approach Delay (s)		45.4			58.2			41.9			20.3	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1591	9	15	1753	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1591	9	15	1753	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1675	9	16	1845	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.79	0.79	0.71	0.79	0.79	0.84	0.71			0.84		
vC, conflicting volume	2797	3636	956	2688	3662	844	1908			1686		
vC1, stage 1 conf vol	1910	1910		1722	1722							
vC2, stage 2 conf vol	887	1726		967	1940							
vCu, unblocked vol	1819	2875	131	1683	2907	423	1468			1429		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	99	98	93	99	98	94			96		
cM capacity (veh/h)	89	91	640	103	84	488	331			402		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	1117	567	16	1230	675
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	142	173	331	1700	1700	402	1700	1700
Volume to Capacity	0.20	0.10	0.06	0.66	0.33	0.04	0.72	0.40
Queue Length 95th (m)	5.4	2.4	1.5	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	36.6	28.1	16.6	0.0	0.0	14.3	0.0	0.0
Lane LOS	E	D	C			B		
Approach Delay (s)	36.6	28.1	0.2			0.1		
Approach LOS	E	D						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1605	19	1670
v/c Ratio	0.34	0.19	0.31	0.13	0.53	0.09	0.56
Control Delay	58.0	20.3	26.5	4.3	4.2	2.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	4.3	4.2	2.2	2.4
Queue Length 50th (m)	10.4	0.2	2.7	1.0	50.7	0.5	22.4
Queue Length 95th (m)	21.6	9.1	14.2	3.9	77.7	m0.7	25.3
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	201	3004	218	2994
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.13	0.53	0.09	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1573	0	19	1602	34
Future Volume (vph)	45	1	28	12	0	36	26	1573	0	19	1602	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1782	3522	
Flt Permitted	0.89	1.00			0.91		0.13	1.00		0.14	1.00	
Satd. Flow (perm)	1652	1585			1506		237	3535		257	3522	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1605	0	19	1635	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1605	0	19	1669	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		196	2934		213	2923	
v/s Ratio Prot		0.00						0.45			c0.47	
v/s Ratio Perm	c0.03				0.01		0.11			0.07		
v/c Ratio	0.40	0.03			0.14		0.14	0.55		0.09	0.57	
Uniform Delay, d1	53.4	52.0			52.4		2.0	3.2		1.9	3.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.56	0.50	
Incremental Delay, d2	2.3	0.1			0.6		1.5	0.7		0.6	0.6	
Delay (s)	55.7	52.1			53.0		3.4	3.9		1.6	2.3	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			3.9			2.3	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	78	105	69	268	113	1223	11	569
v/c Ratio	0.92	0.15	0.21	0.18	0.52	0.22	0.62	0.04	0.33
Control Delay	71.7	22.9	5.6	23.6	26.8	17.4	27.1	8.8	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	22.9	5.6	23.6	26.8	17.4	27.1	8.8	14.8
Queue Length 50th (m)	36.7	9.7	0.0	8.6	33.0	13.1	90.1	0.7	31.4
Queue Length 95th (m)	#73.0	19.0	10.4	17.9	53.3	29.7	135.3	2.9	44.1
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	292	626	582	440	604	512	1981	274	1721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.12	0.18	0.16	0.44	0.22	0.62	0.04	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	76	103	68	177	85	111	1173	25	11	457	101
Future Volume (vph)	224	76	103	68	177	85	111	1173	25	11	457	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1782	3519		1785	3431	
Flt Permitted	0.47	1.00	1.00	0.71	1.00		0.38	1.00		0.16	1.00	
Satd. Flow (perm)	875	1879	1538	1322	1754		714	3519		303	3431	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	229	78	105	69	181	87	113	1197	26	11	466	103
RTOR Reduction (vph)	0	0	75	0	21	0	0	1	0	0	19	0
Lane Group Flow (vph)	229	78	30	69	247	0	113	1222	0	11	550	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	25.6	25.6	25.6	25.6	25.6		52.4	48.2		45.2	44.0	
Effective Green, g (s)	25.6	25.6	25.6	25.6	25.6		52.4	48.2		45.2	44.0	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28		0.58	0.54		0.50	0.49	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	248	534	437	376	498		479	1884		171	1677	
v/s Ratio Prot		0.04			0.14		c0.01	c0.35		0.00	0.16	
v/s Ratio Perm	c0.26		0.02	0.05			0.12			0.03		
v/c Ratio	0.92	0.15	0.07	0.18	0.50		0.24	0.65		0.06	0.33	
Uniform Delay, d1	31.2	24.0	23.5	24.3	26.8		8.6	14.9		12.2	14.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.96	1.71		1.00	1.00	
Incremental Delay, d2	36.9	0.1	0.1	0.2	0.8		0.2	1.6		0.2	0.5	
Delay (s)	68.1	24.2	23.6	24.5	27.6		17.2	27.0		12.4	14.5	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		48.4			27.0			26.1			14.5	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1259	9	6	621	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1259	9	6	621	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1368	10	7	675	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1406	2082	346	1732	2078	693	685			1382		
vC1, stage 1 conf vol	698	698		1379	1379							
vC2, stage 2 conf vol	708	1384		352	699							
vCu, unblocked vol	1406	2082	346	1732	2078	693	685			1382		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	91	100	94	100			99		
cM capacity (veh/h)	277	185	652	138	191	389	912			500		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	912	466	7	450	228
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	306	232	912	1700	1700	500	1700	1700
Volume to Capacity	0.02	0.15	0.00	0.54	0.27	0.01	0.26	0.13
Queue Length 95th (m)	0.5	4.0	0.0	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	17.0	23.2	9.0	0.0	0.0	12.3	0.0	0.0
Lane LOS	C	C	A			B		
Approach Delay (s)	17.0	23.2	0.0			0.1		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	45.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1318	0	2	652	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1318	0	2	652	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1387	0	2	686	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85				0.85		
vC, conflicting volume	1404	2094	374	1762	2099	696	701			1390		
vC1, stage 1 conf vol	700	700		1394	1394							
vC2, stage 2 conf vol	704	1394		368	705							
vCu, unblocked vol	1132	1940	374	1551	1946	304	701			1116		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	100	99	100	99	100			100		
cM capacity (veh/h)	340	210	615	180	211	594	900			540		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	925	462	2	457	238
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	350	448	900	1700	1700	540	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.54	0.27	0.00	0.27	0.14
Queue Length 95th (m)	1.1	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	15.8	13.2	9.0	0.0	0.0	11.7	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	15.8	13.2	0.0			0.0		
Approach LOS	C	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1313	1	0	661
Future Volume (Veh/h)	0	2	1313	1	0	661
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1412	1	0	711
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	1816	718			1422	
vC1, stage 1 conf vol	1422					
vC2, stage 2 conf vol	394					
vCu, unblocked vol	1587	277			1117	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	218	603			526	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	941	472	0	356	356
Volume Left	0	0	0	0	0	0
Volume Right	2	0	1	0	0	0
cSH	603	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.55	0.28	0.00	0.21	0.21
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	11.0	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	367	104	520	1310	10	695
v/c Ratio	0.46	0.54	0.45	0.75	0.51	0.05	0.42
Control Delay	46.9	13.5	25.9	16.4	13.1	17.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	13.5	25.9	16.4	13.1	17.2	19.5
Queue Length 50th (m)	10.1	24.9	8.4	63.9	108.6	1.1	52.7
Queue Length 95th (m)	21.2	45.0	22.1	m89.8	m124.9	m4.4	68.1
Internal Link Dist (m)	459.7		99.5		379.1		47.4
Turn Bay Length (m)				25.0		25.0	
Base Capacity (vph)	246	685	381	697	2556	195	1636
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.54	0.27	0.75	0.51	0.05	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	4	345	35	13	48	489	1212	19	9	613	40
Future Volume (vph)	54	4	345	35	13	48	489	1212	19	9	613	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.96	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1470	1507		1687		1638	3241		1750	3228	
Flt Permitted		0.69	1.00		0.85		0.32	1.00		0.21	1.00	
Satd. Flow (perm)		1060	1507		1467		546	3241		387	3228	
Peak-hour factor, PHF	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Adj. Flow (vph)	57	4	367	38	14	52	520	1289	21	10	652	43
RTOR Reduction (vph)	0	0	99	0	47	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	61	268	0	57	0	520	1309	0	10	690	0
Confl. Peds. (#/hr)	38											
Heavy Vehicles (%)	18%	2%	6%	2%	2%	2%	9%	10%	2%	2%	10%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		9.5	30.7		9.5		68.5	68.5		44.3	44.3	
Effective Green, g (s)		9.5	30.7		9.5		68.5	68.5		44.3	44.3	
Actuated g/C Ratio		0.11	0.34		0.11		0.76	0.76		0.49	0.49	
Clearance Time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		111	514		154		672	2466		190	1588	
v/s Ratio Prot			0.12				c0.18	0.40			0.21	
v/s Ratio Perm		c0.06	0.05		0.04		c0.41			0.03		
v/c Ratio		0.55	0.52		0.37		0.77	0.53		0.05	0.43	
Uniform Delay, d1		38.2	23.8		37.5		5.6	4.3		11.9	14.8	
Progression Factor		1.00	1.00		1.00		2.27	2.59		1.10	1.18	
Incremental Delay, d2		5.5	1.0		1.5		2.6	0.4		0.5	0.9	
Delay (s)		43.7	24.7		39.0		15.4	11.5		13.6	18.3	
Level of Service		D	C		D		B	B		B	B	
Approach Delay (s)		27.4			39.0			12.6			18.3	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	5	188	445	1	1478	255	796
v/c Ratio	0.23	0.01	0.76	0.86	0.00	0.93	0.82	0.36
Control Delay	36.7	0.0	53.7	27.8	13.0	32.3	50.4	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	0.0	53.7	27.8	13.0	32.3	50.4	4.8
Queue Length 50th (m)	2.6	0.0	30.1	20.8	0.1	~133.5	33.1	20.0
Queue Length 95th (m)	8.7	0.0	#53.6	#71.0	m0.2	#191.0	#63.2	27.4
Internal Link Dist (m)		134.7		213.6		178.4		379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	
Base Capacity (vph)	91	467	291	555	326	1590	353	2185
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.01	0.65	0.80	0.00	0.93	0.72	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	177	2	416	1	1261	129	240	740	8
Future Volume (vph)	17	0	5	177	2	416	1	1261	129	240	740	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1312		1576	1349		1782	3188		1653	3267	
Flt Permitted	0.22	1.00		0.75	1.00		0.35	1.00		0.08	1.00	
Satd. Flow (perm)	391	1312		1251	1349		658	3188		146	3267	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	188	2	443	1	1341	137	255	787	9
RTOR Reduction (vph)	0	4	0	0	252	0	0	8	0	0	1	0
Lane Group Flow (vph)	18	1	0	188	193	0	1	1470	0	255	795	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.8	17.8		17.8	17.8		44.7	44.7		60.2	60.2	
Effective Green, g (s)	17.8	17.8		17.8	17.8		44.7	44.7		60.2	60.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.50	0.50		0.67	0.67	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	77	259		247	266		326	1583		306	2185	
v/s Ratio Prot		0.00			0.14			c0.46		c0.12	0.24	
v/s Ratio Perm	0.05			c0.15			0.00			0.44		
v/c Ratio	0.23	0.00		0.76	0.73		0.00	0.93		0.83	0.36	
Uniform Delay, d1	30.4	29.0		34.1	33.8		11.4	21.2		24.4	6.5	
Progression Factor	1.00	1.00		1.00	1.00		0.89	0.88		1.62	0.61	
Incremental Delay, d2	1.6	0.0		12.9	9.5		0.0	10.5		16.0	0.4	
Delay (s)	31.9	29.0		47.0	43.3		10.2	29.1		55.6	4.4	
Level of Service	C	C		D	D		B	C		E	A	
Approach Delay (s)		31.3			44.4			29.1			16.8	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1363	2	5	876	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1363	2	5	876	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1482	2	5	952	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.92	0.92	0.91	0.92	0.92	0.87	0.91			0.87		
vC, conflicting volume	1731	2472	486	1991	2480	743	970			1485		
vC1, stage 1 conf vol	972	972		1500	1500							
vC2, stage 2 conf vol	760	1501		491	980							
vCu, unblocked vol	1176	1983	235	1459	1991	418	768			1267		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	100	99			99		
cM capacity (veh/h)	289	177	702	148	180	409	624			485		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	988	496	5	635	334
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	341	287	624	1700	1700	485	1700	1700
Volume to Capacity	0.06	0.01	0.01	0.58	0.29	0.01	0.37	0.20
Queue Length 95th (m)	1.3	0.2	0.3	0.0	0.0	0.2	0.0	0.0
Control Delay (s)	16.2	17.7	10.8	0.0	0.0	12.5	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	16.2	17.7	0.1			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1271	18	930
v/c Ratio	0.27	0.25	0.09	0.06	0.45	0.06	0.33
Control Delay	43.3	15.8	4.5	3.1	3.9	5.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.1	3.9	5.6	4.9
Queue Length 50th (m)	5.1	0.2	0.0	0.8	30.5	0.8	22.5
Queue Length 95th (m)	13.2	9.7	1.9	2.8	47.8	m3.1	42.8
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	430	2807	311	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.06	0.45	0.06	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1233	0	17	877	25
Future Volume (vph)	30	1	44	8	0	6	24	1233	0	17	877	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1783	3452	
Flt Permitted	0.75	1.00			0.80		0.30	1.00		0.20	1.00	
Satd. Flow (perm)	1284	1546			1291		526	3433		381	3452	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1271	0	18	904	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1271	0	18	929	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		416	2715		301	2730	
v/s Ratio Prot		0.00						c0.37			0.27	
v/s Ratio Perm	c0.02				0.00		0.05			0.05		
v/c Ratio	0.32	0.04			0.01		0.06	0.47		0.06	0.34	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.1		2.1	2.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.85	1.61	
Incremental Delay, d2	1.9	0.1			0.0		0.3	0.6		0.4	0.3	
Delay (s)	41.3	38.7			38.5		2.3	3.7		4.2	4.6	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			3.7			4.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	156	180	45	148	149	990	66	1469
v/c Ratio	0.88	0.34	0.36	0.16	0.33	0.65	0.47	0.19	0.77
Control Delay	73.0	37.9	9.8	34.6	34.6	32.4	11.2	9.2	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	37.9	9.8	34.6	34.6	32.4	11.2	9.2	25.6
Queue Length 50th (m)	54.8	29.6	4.8	8.1	25.6	14.1	66.3	5.0	142.8
Queue Length 95th (m)	#90.0	46.3	21.5	17.3	42.0	40.3	73.8	10.8	185.8
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	332	548	560	324	531	252	2092	356	1916
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.28	0.32	0.14	0.28	0.59	0.47	0.19	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	148	171	43	110	30	142	899	42	63	1204	192
Future Volume (vph)	235	148	171	43	110	30	142	899	42	63	1204	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3539		1783	3472	
Flt Permitted	0.62	1.00	1.00	0.60	1.00		0.08	1.00		0.25	1.00	
Satd. Flow (perm)	1140	1879	1550	1113	1791		153	3539		461	3472	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	156	180	45	116	32	149	946	44	66	1267	202
RTOR Reduction (vph)	0	0	115	0	9	0	0	2	0	0	9	0
Lane Group Flow (vph)	247	156	65	45	139	0	149	988	0	66	1460	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	29.6	29.6	29.6	29.6	29.6		78.4	70.3		71.1	66.0	
Effective Green, g (s)	29.6	29.6	29.6	29.6	29.6		78.4	70.3		71.1	66.0	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.65	0.59		0.59	0.55	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	281	463	382	274	441		227	2073		329	1909	
v/s Ratio Prot		0.08			0.08		c0.05	0.28		0.01	c0.42	
v/s Ratio Perm	c0.22		0.04	0.04			0.38			0.11		
v/c Ratio	0.88	0.34	0.17	0.16	0.32		0.66	0.48		0.20	0.76	
Uniform Delay, d1	43.5	37.1	35.5	35.5	36.9		18.5	14.3		10.8	21.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.33	0.68		1.00	1.00	
Incremental Delay, d2	25.2	0.4	0.2	0.3	0.4		6.4	0.8		0.3	3.0	
Delay (s)	68.7	37.6	35.7	35.8	37.3		31.0	10.5		11.1	23.9	
Level of Service	E	D	D	D	D		C	B		B	C	
Approach Delay (s)		50.2			37.0			13.2			23.4	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1053	22	21	1396	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1053	22	21	1396	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1145	24	23	1517	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2169	2766	779	1984	2755	594	1539			1178		
vC1, stage 1 conf vol	1584	1584		1170	1170							
vC2, stage 2 conf vol	586	1182		814	1585							
vCu, unblocked vol	2169	2766	779	1984	2755	594	1539			1178		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	100			96		
cM capacity (veh/h)	104	129	337	170	132	449	430			595		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	763	406	23	1011	509
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	239	275	430	1700	1700	595	1700	1700
Volume to Capacity	0.05	0.05	0.00	0.45	0.24	0.04	0.59	0.30
Queue Length 95th (m)	1.1	1.1	0.1	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	20.8	18.7	13.4	0.0	0.0	11.3	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	20.8	18.7	0.0			0.2		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	49.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1046	2	14	1411	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1046	2	14	1411	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1113	2	15	1501	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.94	0.94		0.94	0.94	0.94				0.94		
vC, conflicting volume	2160	2720	796	1940	2739	564	1559			1121		
vC1, stage 1 conf vol	1568	1568		1150	1150							
vC2, stage 2 conf vol	592	1151		790	1589							
vCu, unblocked vol	2105	2701	796	1871	2722	405	1559			998		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	77	100	99	100	100	99	96			98		
cM capacity (veh/h)	95	136	327	185	127	499	423			655		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	742	373	15	1001	541
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	101	499	423	1700	1700	655	1700	1700
Volume to Capacity	0.24	0.01	0.04	0.44	0.22	0.02	0.59	0.32
Queue Length 95th (m)	6.6	0.2	0.8	0.0	0.0	0.5	0.0	0.0
Control Delay (s)	51.6	12.3	13.8	0.0	0.0	10.6	0.0	0.0
Lane LOS	F	B	B			B		
Approach Delay (s)	51.6	12.3	0.2			0.1		
Approach LOS	F	B						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1072	1	1	1398
Future Volume (Veh/h)	0	2	1072	1	1	1398
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1153	1	1	1503
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.91	0.91			0.91	
vC, conflicting volume	1951	583			1160	
vC1, stage 1 conf vol	1160					
vC2, stage 2 conf vol	792					
vCu, unblocked vol	1848	345			979	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	238	595			646	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	769	385	1	752	752
Volume Left	0	0	0	1	0	0
Volume Right	2	0	1	0	0	0
cSH	595	1700	1700	646	1700	1700
Volume to Capacity	0.00	0.45	0.23	0.00	0.44	0.44
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.1	0.0	0.0	10.6	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.1	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	697	59	536	1073	41	1403
v/c Ratio	0.52	0.98	0.34	0.80	0.40	0.19	0.98
Control Delay	65.1	60.1	37.2	36.4	8.1	37.1	67.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	60.1	37.2	36.4	8.1	37.1	67.8
Queue Length 50th (m)	15.1	142.8	8.1	116.4	64.9	9.1	~186.4
Queue Length 95th (m)	28.5	#236.4	20.0	m129.2	m71.7	m13.7	#229.7
Internal Link Dist (m)	459.7		108.1		379.1		47.4
Turn Bay Length (m)				25.0		25.0	
Base Capacity (vph)	209	709	289	667	2715	213	1425
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.98	0.20	0.80	0.40	0.19	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	14	676	26	8	20	520	1003	36	38	1245	115
Future Volume (vph)	49	14	676	26	8	20	520	1003	36	38	1245	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	3.0		4.5		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1517	1477		1709		1668	3265		1750	3279	
Flt Permitted		0.76	1.00		0.83		0.07	1.00		0.27	1.00	
Satd. Flow (perm)		1198	1477		1450		131	3265		491	3279	
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Adj. Flow (vph)	51	15	697	28	9	22	536	1034	39	41	1284	119
RTOR Reduction (vph)	0	0	15	0	20	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	66	682	0	39	0	536	1071	0	41	1397	0
Confl. Peds. (#/hr)	36		25				35					35
Heavy Vehicles (%)	17%	2%	7%	2%	2%	2%	7%	9%	2%	2%	7%	5%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		10.7	54.2		12.2		97.3	97.3		50.8	50.8	
Effective Green, g (s)		10.7	54.2		12.2		97.3	97.3		50.8	50.8	
Actuated g/C Ratio		0.09	0.45		0.10		0.81	0.81		0.42	0.42	
Clearance Time (s)		6.0	3.0		4.5		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		106	667		147		663	2647		207	1388	
v/s Ratio Prot			c0.37				0.29	0.33			c0.43	
v/s Ratio Perm		0.06	0.09		0.03		0.36			0.08		
v/c Ratio		0.62	1.02		0.27		0.81	0.40		0.20	1.01	
Uniform Delay, d1		52.7	32.9		49.8		29.4	3.2		21.8	34.6	
Progression Factor		1.00	1.00		1.00		1.13	2.21		1.56	1.54	
Incremental Delay, d2		10.9	40.7		1.0		2.9	0.2		1.6	22.6	
Delay (s)		63.6	73.6		50.7		36.1	7.2		35.6	75.8	
Level of Service		E	E		D		D	A		D	E	
Approach Delay (s)		72.8			50.7			16.8			74.6	
Approach LOS		E			D			B			E	

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	15	167	360	13	1463	476	1494
v/c Ratio	0.36	0.06	0.86	0.70	0.10	1.00	0.96	0.61
Control Delay	61.5	22.9	84.4	13.0	20.2	51.8	51.8	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	22.9	84.4	13.0	20.2	51.8	51.8	8.8
Queue Length 50th (m)	4.6	0.6	38.0	1.2	1.4	~180.0	~100.3	76.2
Queue Length 95th (m)	13.4	6.6	#72.4	30.6	m3.4	#231.8	m#106.9	m80.6
Internal Link Dist (m)		134.7		213.6		183.7		379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	
Base Capacity (vph)	67	276	214	530	136	1465	494	2468
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.05	0.78	0.68	0.10	1.00	0.96	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	162	6	343	13	1189	230	462	1437	13
Future Volume (vph)	21	3	12	162	6	343	13	1189	230	462	1437	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1522		1558	1364		1649	3202		1653	3333	
Flt Permitted	0.21	1.00		0.75	1.00		0.17	1.00		0.07	1.00	
Satd. Flow (perm)	385	1522		1227	1364		303	3202		121	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	167	6	354	13	1226	237	476	1481	13
RTOR Reduction (vph)	0	10	0	0	297	0	0	13	0	0	1	0
Lane Group Flow (vph)	22	5	0	167	63	0	13	1450	0	476	1493	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.2	19.2		19.2	19.2		54.4	54.4		88.8	88.8	
Effective Green, g (s)	19.2	19.2		19.2	19.2		54.4	54.4		88.8	88.8	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.45	0.45		0.74	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	243		196	218		137	1451		490	2466	
v/s Ratio Prot		0.00			0.05			0.45		c0.25	0.45	
v/s Ratio Perm	0.06			c0.14			0.04			c0.46		
v/c Ratio	0.36	0.02		0.85	0.29		0.09	1.00		0.97	0.61	
Uniform Delay, d1	44.9	42.5		49.0	44.4		18.7	32.8		37.4	7.4	
Progression Factor	1.00	1.00		1.00	1.00		0.95	0.90		1.07	1.10	
Incremental Delay, d2	3.6	0.0		28.2	0.7		1.2	22.3		15.2	0.3	
Delay (s)	48.5	42.5		77.2	45.1		19.0	51.9		55.5	8.4	
Level of Service	D	D		E	D		B	D		E	A	
Approach Delay (s)		46.1			55.3			51.6			19.8	
Approach LOS		D			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1433	9	15	1566	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1433	9	15	1566	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1508	9	16	1648	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.85	0.85	0.78	0.85	0.85	0.87	0.78			0.87		
vC, conflicting volume	2516	3272	857	2423	3298	760	1711			1519		
vC1, stage 1 conf vol	1713	1713		1554	1554							
vC2, stage 2 conf vol	804	1559		868	1743							
vCu, unblocked vol	1734	2628	254	1624	2658	425	1348			1297		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	99	98	95	99	98	95			97		
cM capacity (veh/h)	116	115	585	130	108	506	403			470		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	1005	512	16	1099	609
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	176	210	403	1700	1700	470	1700	1700
Volume to Capacity	0.16	0.08	0.05	0.59	0.30	0.03	0.65	0.36
Queue Length 95th (m)	4.2	2.0	1.2	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	29.2	23.6	14.4	0.0	0.0	12.9	0.0	0.0
Lane LOS	D	C	B			B		
Approach Delay (s)	29.2	23.6	0.2			0.1		
Approach LOS	D	C						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1446	19	1497
v/c Ratio	0.34	0.19	0.31	0.11	0.48	0.07	0.50
Control Delay	58.0	20.3	26.5	3.7	3.8	1.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	3.7	3.8	1.8	1.9
Queue Length 50th (m)	10.4	0.2	2.7	1.0	42.1	0.4	20.5
Queue Length 95th (m)	21.6	9.1	14.2	3.6	64.6	m0.8	23.8
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	250	3004	265	2991
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.11	0.48	0.07	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1417	0	19	1433	34
Future Volume (vph)	45	1	28	12	0	36	26	1417	0	19	1433	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1781	3521	
Flt Permitted	0.89	1.00			0.91		0.16	1.00		0.17	1.00	
Satd. Flow (perm)	1652	1585			1506		294	3535		312	3521	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1446	0	19	1462	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1446	0	19	1496	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		244	2934		258	2922	
v/s Ratio Prot		0.00						0.41			c0.42	
v/s Ratio Perm	c0.03				0.01		0.09			0.06		
v/c Ratio	0.40	0.03			0.14		0.11	0.49		0.07	0.51	
Uniform Delay, d1	53.4	52.0			52.4		1.9	2.9		1.8	3.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.51	0.41	
Incremental Delay, d2	2.3	0.1			0.6		0.9	0.6		0.5	0.5	
Delay (s)	55.7	52.1			53.0		2.8	3.5		1.4	1.8	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			3.5			1.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	244	78	111	69	268	119	1297	11	604
v/c Ratio	0.93	0.14	0.21	0.18	0.50	0.25	0.67	0.04	0.37
Control Delay	72.0	22.4	5.4	23.1	25.9	18.1	29.3	8.9	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	22.4	5.4	23.1	25.9	18.1	29.3	8.9	15.9
Queue Length 50th (m)	38.7	9.4	0.0	8.4	32.0	14.7	99.8	0.8	34.1
Queue Length 95th (m)	#79.1	19.0	10.7	17.9	53.3	31.8	145.4	2.9	47.3
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	296	626	586	440	604	476	1943	247	1626
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.12	0.19	0.16	0.44	0.25	0.67	0.04	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	76	109	68	177	85	117	1246	25	11	484	108
Future Volume (vph)	239	76	109	68	177	85	117	1246	25	11	484	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1783	3520		1785	3430	
Flt Permitted	0.48	1.00	1.00	0.71	1.00		0.36	1.00		0.14	1.00	
Satd. Flow (perm)	890	1879	1538	1322	1754		667	3520		258	3430	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	244	78	111	69	181	87	119	1271	26	11	494	110
RTOR Reduction (vph)	0	0	78	0	20	0	0	1	0	0	20	0
Lane Group Flow (vph)	244	78	33	69	248	0	119	1296	0	11	584	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	26.5	26.5	26.5	26.5	26.5		51.5	47.3		43.4	42.2	
Effective Green, g (s)	26.5	26.5	26.5	26.5	26.5		51.5	47.3		43.4	42.2	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29		0.57	0.53		0.48	0.47	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	262	553	452	389	516		459	1849		144	1608	
v/s Ratio Prot		0.04			0.14		c0.02	c0.37		0.00	0.17	
v/s Ratio Perm	c0.27		0.02	0.05			0.13			0.04		
v/c Ratio	0.93	0.14	0.07	0.18	0.48		0.26	0.70		0.08	0.36	
Uniform Delay, d1	30.9	23.4	22.9	23.6	26.1		9.2	16.0		13.4	15.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.95	1.72		1.00	1.00	
Incremental Delay, d2	37.4	0.1	0.1	0.2	0.7		0.3	2.0		0.2	0.6	
Delay (s)	68.3	23.5	23.0	23.9	26.8		18.2	29.5		13.6	15.9	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		48.6			26.2			28.6			15.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1336	9	6	659	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1336	9	6	659	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1452	10	7	716	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1488	2206	366	1836	2203	735	726			1466		
vC1, stage 1 conf vol	738	738		1463	1463							
vC2, stage 2 conf vol	750	1468		373	740							
vCu, unblocked vol	1488	2206	366	1836	2203	735	726			1466		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	89	100	94	100			98		
cM capacity (veh/h)	258	168	632	122	174	365	881			465		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	968	494	7	477	242
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	287	210	881	1700	1700	465	1700	1700
Volume to Capacity	0.02	0.17	0.00	0.57	0.29	0.02	0.28	0.14
Queue Length 95th (m)	0.5	4.4	0.0	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	17.8	25.5	9.1	0.0	0.0	12.9	0.0	0.0
Lane LOS	C	D	A			B		
Approach Delay (s)	17.8	25.5	0.0			0.1		
Approach LOS	C	D						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1399	0	2	692	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1399	0	2	692	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1473	0	2	728	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	1489	2222	394	1869	2227	740	743			1476		
vC1, stage 1 conf vol	742	742		1480	1480							
vC2, stage 2 conf vol	746	1480		389	747							
vCu, unblocked vol	1172	2059	394	1631	2065	265	743			1156		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	99	100	99	100			100		
cM capacity (veh/h)	325	194	596	165	195	610	869			504		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	982	491	2	485	252
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	334	440	869	1700	1700	504	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.58	0.29	0.00	0.29	0.15
Queue Length 95th (m)	1.1	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	16.3	13.3	9.2	0.0	0.0	12.2	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	16.3	13.3	0.0			0.0		
Approach LOS	C	B						

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	53.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1395	1	0	701
Future Volume (Veh/h)	0	2	1395	1	0	701
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1500	1	0	754
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.82	0.82			0.82	
vC, conflicting volume	1926	762			1510	
vC1, stage 1 conf vol	1510					
vC2, stage 2 conf vol	416					
vCu, unblocked vol	1683	257			1174	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	199	604			487	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	1000	501	0	377	377
Volume Left	0	0	0	0	0	0
Volume Right	2	0	1	0	0	0
cSH	604	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.59	0.29	0.00	0.22	0.22
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	11.0	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	66	389	104	553	1393	10	740
v/c Ratio	0.47	0.52	0.44	0.78	0.55	0.06	0.50
Control Delay	47.3	13.9	25.3	17.8	13.1	17.9	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	13.9	25.3	17.8	13.1	17.9	22.5
Queue Length 50th (m)	10.9	28.5	8.4	74.4	113.7	1.2	60.1
Queue Length 95th (m)	22.5	52.9	21.9	m#94.8	m134.4	m4.1	72.6
Internal Link Dist (m)	459.7		92.9		379.1		47.4
Turn Bay Length (m)				25.0		25.0	
Base Capacity (vph)	246	741	381	709	2542	162	1478
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.52	0.27	0.78	0.55	0.06	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	4	366	35	13	48	520	1290	19	9	652	43
Future Volume (vph)	58	4	366	35	13	48	520	1290	19	9	652	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.96	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1468	1507		1687		1638	3242		1750	3228	
Flt Permitted		0.69	1.00		0.85		0.28	1.00		0.19	1.00	
Satd. Flow (perm)		1059	1507		1463		478	3242		356	3228	
Peak-hour factor, PHF	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Adj. Flow (vph)	62	4	389	38	14	52	553	1372	21	10	694	46
RTOR Reduction (vph)	0	0	81	0	46	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	66	308	0	58	0	553	1392	0	10	735	0
Confl. Peds. (#/hr)	38											
Heavy Vehicles (%)	18%	2%	6%	2%	2%	2%	9%	10%	2%	2%	10%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		9.8	35.1		9.8		68.2	68.2		39.9	39.9	
Effective Green, g (s)		9.8	35.1		9.8		68.2	68.2		39.9	39.9	
Actuated g/C Ratio		0.11	0.39		0.11		0.76	0.76		0.44	0.44	
Clearance Time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		115	587		159		688	2456		157	1431	
v/s Ratio Prot			0.15				c0.23	0.43			0.23	
v/s Ratio Perm		c0.06	0.06		0.04		c0.38			0.03		
v/c Ratio		0.57	0.53		0.36		0.80	0.57		0.06	0.51	
Uniform Delay, d1		38.1	21.1		37.2		9.9	4.6		14.3	18.1	
Progression Factor		1.00	1.00		1.00		1.52	2.38		1.10	1.19	
Incremental Delay, d2		6.8	0.9		1.4		3.1	0.4		0.8	1.3	
Delay (s)		44.9	21.9		38.6		18.1	11.4		16.5	22.8	
Level of Service		D	C		D		B	B		B	C	
Approach Delay (s)		25.2			38.6			13.3			22.7	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	5	199	471	1	1428	146	267	847
v/c Ratio	0.23	0.01	0.73	0.96	0.00	0.90	0.20	0.91	0.40
Control Delay	36.8	0.0	49.4	48.1	11.0	28.6	5.3	65.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	0.0	49.4	48.1	11.0	28.6	5.3	65.0	5.5
Queue Length 50th (m)	2.5	0.0	31.5	39.2	0.1	120.0	2.8	35.6	22.0
Queue Length 95th (m)	8.9	0.0	#60.0	#98.9	m0.2	#169.3	7.0	#75.9	29.7
Internal Link Dist (m)		134.7		213.6		178.4			379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	25.0	
Base Capacity (vph)	82	451	291	510	305	1580	716	301	2120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.68	0.92	0.00	0.90	0.20	0.89	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	187	2	441	1	1342	137	251	788	8
Future Volume (vph)	17	0	5	187	2	441	1	1342	137	251	788	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1654	1312		1576	1349		1782	3245	1394	1653	3268	
Flt Permitted	0.20	1.00		0.75	1.00		0.33	1.00	1.00	0.09	1.00	
Satd. Flow (perm)	355	1312		1251	1349		626	3245	1394	149	3268	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	199	2	469	1	1428	146	267	838	9
RTOR Reduction (vph)	0	4	0	0	199	0	0	0	37	0	1	0
Lane Group Flow (vph)	18	1	0	199	272	0	1	1428	109	267	846	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	19.6	19.6		19.6	19.6		43.8	43.8	43.8	58.4	58.4	
Effective Green, g (s)	19.6	19.6		19.6	19.6		43.8	43.8	43.8	58.4	58.4	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.49	0.49	0.49	0.65	0.65	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	77	285		272	293		304	1579	678	290	2120	
v/s Ratio Prot		0.00			c0.20			0.44		c0.12	0.26	
v/s Ratio Perm	0.05			0.16			0.00		0.08	c0.48		
v/c Ratio	0.23	0.00		0.73	0.93		0.00	0.90	0.16	0.92	0.40	
Uniform Delay, d1	29.0	27.6		32.8	34.5		11.9	21.2	12.9	25.5	7.5	
Progression Factor	1.00	1.00		1.00	1.00		0.86	0.88	0.63	1.68	0.63	
Incremental Delay, d2	1.6	0.0		9.7	33.6		0.0	8.4	0.5	30.0	0.5	
Delay (s)	30.6	27.6		42.5	68.1		10.2	26.9	8.5	72.8	5.2	
Level of Service	C	C		D	E		B	C	A	E	A	
Approach Delay (s)		29.9			60.5			25.2			21.4	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1450	2	5	932	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1450	2	5	932	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1576	2	5	1013	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.91	0.91	0.89	0.91	0.91	0.86	0.89			0.86		
vC, conflicting volume	1839	2628	516	2116	2635	790	1031			1579		
vC1, stage 1 conf vol	1032	1032		1594	1594							
vC2, stage 2 conf vol	806	1595		522	1041							
vCu, unblocked vol	1185	2051	212	1489	2060	416	790			1339		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	100	99			99		
cM capacity (veh/h)	276	161	712	131	164	401	598			446		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	1051	527	5	675	355
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	329	270	598	1700	1700	446	1700	1700
Volume to Capacity	0.06	0.01	0.01	0.62	0.31	0.01	0.40	0.21
Queue Length 95th (m)	1.4	0.3	0.3	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	16.6	18.5	11.1	0.0	0.0	13.2	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	16.6	18.5	0.1			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1355	18	988
v/c Ratio	0.27	0.25	0.09	0.06	0.48	0.06	0.35
Control Delay	43.3	15.8	4.5	3.1	4.1	5.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.1	4.1	5.9	5.7
Queue Length 50th (m)	5.1	0.2	0.0	0.8	33.9	1.1	34.2
Queue Length 95th (m)	13.2	9.7	1.9	2.8	53.1	m2.9	46.6
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	402	2807	281	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.06	0.48	0.06	0.35

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1314	0	17	933	25
Future Volume (vph)	30	1	44	8	0	6	24	1314	0	17	933	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1783	3452	
Flt Permitted	0.75	1.00			0.80		0.28	1.00		0.18	1.00	
Satd. Flow (perm)	1284	1546			1291		492	3433		343	3452	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1355	0	18	962	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1355	0	18	987	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		389	2715		271	2730	
v/s Ratio Prot		0.00						c0.39			0.29	
v/s Ratio Perm	c0.02				0.00		0.05			0.05		
v/c Ratio	0.32	0.04			0.01		0.06	0.50		0.07	0.36	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.2		2.1	2.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.90	1.84	
Incremental Delay, d2	1.9	0.1			0.0		0.3	0.7		0.4	0.3	
Delay (s)	41.3	38.7			38.5		2.4	3.9		4.4	5.4	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			3.9			5.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-08-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	265	156	192	45	148	158	1050	66	1565
v/c Ratio	0.89	0.32	0.38	0.16	0.31	0.75	0.51	0.20	0.84
Control Delay	73.5	36.8	11.4	33.8	33.6	44.9	13.5	9.7	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	36.8	11.4	33.8	33.6	44.9	13.5	9.7	29.8
Queue Length 50th (m)	58.3	28.8	7.7	7.9	24.9	21.6	78.0	5.4	169.7
Queue Length 95th (m)	#99.7	46.3	25.8	17.3	42.0	#50.5	82.2	10.8	#211.2
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	335	548	556	327	531	229	2052	325	1863
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.28	0.35	0.14	0.28	0.69	0.51	0.20	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	148	182	43	110	30	150	956	42	63	1281	206
Future Volume (vph)	252	148	182	43	110	30	150	956	42	63	1281	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3540		1783	3471	
Flt Permitted	0.62	1.00	1.00	0.61	1.00		0.06	1.00		0.22	1.00	
Satd. Flow (perm)	1148	1879	1550	1123	1791		112	3540		417	3471	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	156	192	45	116	32	158	1006	44	66	1348	217
RTOR Reduction (vph)	0	0	110	0	9	0	0	3	0	0	10	0
Lane Group Flow (vph)	265	156	82	45	139	0	158	1047	0	66	1555	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	31.0	31.0	31.0	31.0	31.0		77.0	68.9		69.2	64.1	
Effective Green, g (s)	31.0	31.0	31.0	31.0	31.0		77.0	68.9		69.2	64.1	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.64	0.57		0.58	0.53	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	296	485	400	290	462		209	2032		298	1854	
v/s Ratio Prot		0.08			0.08		c0.06	0.30		0.01	c0.45	
v/s Ratio Perm	c0.23		0.05	0.04			0.42			0.12		
v/c Ratio	0.90	0.32	0.21	0.16	0.30		0.76	0.52		0.22	0.84	
Uniform Delay, d1	42.9	36.0	34.9	34.4	35.8		30.5	15.5		11.8	23.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.05	0.77		1.00	1.00	
Incremental Delay, d2	27.2	0.4	0.3	0.3	0.4		13.7	0.9		0.4	4.7	
Delay (s)	70.1	36.4	35.1	34.6	36.2		45.6	12.8		12.2	28.3	
Level of Service	E	D	D	C	D		D	B		B	C	
Approach Delay (s)		50.6			35.8			17.1			27.7	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1120	22	21	1485	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1120	22	21	1485	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1217	24	23	1614	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2302	2934	828	2104	2924	630	1636			1250		
vC1, stage 1 conf vol	1680	1680		1242	1242							
vC2, stage 2 conf vol	622	1254		862	1682							
vCu, unblocked vol	2302	2934	828	2104	2924	630	1636			1250		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	97	100	98	99			96		
cM capacity (veh/h)	90	115	313	154	118	425	395			559		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	811	430	23	1076	541
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	216	253	395	1700	1700	559	1700	1700
Volume to Capacity	0.05	0.05	0.01	0.48	0.25	0.04	0.63	0.32
Queue Length 95th (m)	1.2	1.2	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	22.6	20.0	14.2	0.0	0.0	11.7	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	22.6	20.0	0.0			0.2		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1112	2	14	1501	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1112	2	14	1501	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1183	2	15	1597	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.92	0.92		0.92	0.92	0.92				0.92		
vC, conflicting volume	2291	2886	844	2058	2905	600	1655			1191		
vC1, stage 1 conf vol	1664	1664		1220	1220							
vC2, stage 2 conf vol	626	1221		838	1685							
vCu, unblocked vol	2233	2876	844	1981	2897	402	1655			1042		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	73	100	99	100	100	99	96			98		
cM capacity (veh/h)	82	123	304	169	113	493	389			620		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	789	396	15	1065	573
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	87	493	389	1700	1700	620	1700	1700
Volume to Capacity	0.27	0.01	0.04	0.46	0.23	0.02	0.63	0.34
Queue Length 95th (m)	7.7	0.2	0.9	0.0	0.0	0.6	0.0	0.0
Control Delay (s)	61.1	12.4	14.6	0.0	0.0	10.9	0.0	0.0
Lane LOS	F	B	B			B		
Approach Delay (s)	61.1	12.4	0.2			0.1		
Approach LOS	F	B						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	58.7%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1140	1	1	1487
Future Volume (Veh/h)	0	2	1140	1	1	1487
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1226	1	1	1599
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	2072	620			1233	
vC1, stage 1 conf vol	1232					
vC2, stage 2 conf vol	840					
vCu, unblocked vol	1968	354			1036	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	220	580			607	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	817	410	1	800	800
Volume Left	0	0	0	1	0	0
Volume Right	2	0	1	0	0	0
cSH	580	1700	1700	607	1700	1700
Volume to Capacity	0.00	0.48	0.24	0.00	0.47	0.47
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.2	0.0	0.0	10.9	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.2	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	743	59	570	1140	41	1494
v/c Ratio	0.52	1.03	0.34	0.84	0.42	0.21	1.07
Control Delay	63.8	71.8	38.1	42.4	8.4	36.8	89.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	71.8	38.1	42.4	8.4	36.8	89.7
Queue Length 50th (m)	15.9	~177.1	8.2	125.9	62.1	9.2	~210.4
Queue Length 95th (m)	29.7	#260.4	20.2	m#168.4	m83.6	m12.4	#253.8
Internal Link Dist (m)	459.7		90.1		379.1		47.4
Turn Bay Length (m)				25.0		25.0	
Base Capacity (vph)	217	721	267	677	2707	195	1398
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	1.03	0.22	0.84	0.42	0.21	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	14	721	26	8	20	553	1068	36	38	1326	123
Future Volume (vph)	53	14	721	26	8	20	553	1068	36	38	1326	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.95		1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1509	1477		1709		1668	3265		1750	3279	
Flt Permitted		0.79	1.00		0.81		0.08	1.00		0.25	1.00	
Satd. Flow (perm)		1246	1477		1424		133	3265		459	3279	
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Adj. Flow (vph)	55	15	743	28	9	22	570	1101	39	41	1367	127
RTOR Reduction (vph)	0	0	15	0	20	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	70	728	0	39	0	570	1138	0	41	1488	0
Confl. Peds. (#/hr)	36		25				35					35
Heavy Vehicles (%)	17%	2%	7%	2%	2%	2%	7%	9%	2%	2%	7%	5%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		11.0	55.2		11.0		97.0	97.0		49.8	49.8	
Effective Green, g (s)		11.0	55.2		11.0		97.0	97.0		49.8	49.8	
Actuated g/C Ratio		0.09	0.46		0.09		0.81	0.81		0.41	0.41	
Clearance Time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		114	679		130		672	2639		190	1360	
v/s Ratio Prot			c0.40				0.31	0.35			c0.45	
v/s Ratio Perm		0.06	0.10		0.03		0.37			0.09		
v/c Ratio		0.61	1.07		0.30		0.85	0.43		0.22	1.09	
Uniform Delay, d1		52.5	32.4		50.9		30.1	3.4		22.6	35.1	
Progression Factor		1.00	1.00		1.00		1.24	2.11		1.53	1.52	
Incremental Delay, d2		9.4	55.7		1.3		5.2	0.3		1.8	51.1	
Delay (s)		61.9	88.1		52.2		42.4	7.4		36.2	104.4	
Level of Service		E	F		D		D	A		D	F	
Approach Delay (s)		85.9			52.2			19.1			102.6	
Approach LOS		F			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	63.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	22	15	176	380	13	1305	252	504	1592
v/c Ratio	0.36	0.06	0.88	0.71	0.11	0.91	0.38	0.98	0.65
Control Delay	61.6	22.9	86.9	12.8	22.2	38.4	15.3	44.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	22.9	86.9	12.8	22.2	38.4	15.3	44.3	10.6
Queue Length 50th (m)	4.6	0.6	40.3	1.2	1.5	152.4	21.0	106.2	89.3
Queue Length 95th (m)	13.5	6.6	#77.7	31.7	m3.5	#197.8	32.7	m98.5	m87.9
Internal Link Dist (m)		134.7		213.6		183.7			379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	25.0	
Base Capacity (vph)	65	276	214	547	119	1435	661	516	2453
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.05	0.82	0.69	0.11	0.91	0.38	0.98	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	171	6	363	13	1266	244	489	1532	13
Future Volume (vph)	21	3	12	171	6	363	13	1266	244	489	1532	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1759	1522		1558	1363		1649	3305	1414	1653	3333	
Flt Permitted	0.20	1.00		0.75	1.00		0.16	1.00	1.00	0.07	1.00	
Satd. Flow (perm)	376	1522		1227	1363		274	3305	1414	126	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	176	6	374	13	1305	252	504	1579	13
RTOR Reduction (vph)	0	10	0	0	313	0	0	0	46	0	1	0
Lane Group Flow (vph)	22	5	0	176	67	0	13	1305	206	504	1591	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	19.7	19.7		19.7	19.7		52.2	52.2	52.2	88.3	88.3	
Effective Green, g (s)	19.7	19.7		19.7	19.7		52.2	52.2	52.2	88.3	88.3	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.44	0.44	0.44	0.74	0.74	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	61	249		201	223		119	1437	615	513	2452	
v/s Ratio Prot		0.00			0.05			0.39		c0.27	0.48	
v/s Ratio Perm	0.06			c0.14			0.05		0.15	c0.45		
v/c Ratio	0.36	0.02		0.88	0.30		0.11	0.91	0.33	0.98	0.65	
Uniform Delay, d1	44.6	42.1		49.0	44.1		20.1	31.7	22.4	36.6	8.0	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.90	0.88	1.07	1.24	
Incremental Delay, d2	3.6	0.0		31.8	0.8		1.6	9.0	1.3	8.3	0.1	
Delay (s)	48.2	42.1		80.8	44.9		20.4	37.4	21.0	47.4	10.1	
Level of Service	D	D		F	D		C	D	C	D	B	
Approach Delay (s)		45.7			56.2			34.6			19.0	
Approach LOS		D			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1525	9	15	1669	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1525	9	15	1669	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1605	9	16	1757	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.82	0.82	0.75	0.82	0.82	0.85	0.75			0.85		
vC, conflicting volume	2674	3478	912	2574	3504	809	1820			1616		
vC1, stage 1 conf vol	1822	1822		1652	1652							
vC2, stage 2 conf vol	852	1656		923	1852							
vCu, unblocked vol	1785	2766	198	1664	2797	426	1417			1374		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	99	98	94	99	98	94			96		
cM capacity (veh/h)	100	101	607	114	94	495	362			430		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	1070	544	16	1171	646
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	156	188	362	1700	1700	430	1700	1700
Volume to Capacity	0.18	0.09	0.06	0.63	0.32	0.04	0.69	0.38
Queue Length 95th (m)	4.8	2.2	1.3	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	33.0	26.0	15.5	0.0	0.0	13.7	0.0	0.0
Lane LOS	D	D	C			B		
Approach Delay (s)	33.0	26.0	0.2			0.1		
Approach LOS	D	D						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1539	19	1593
v/c Ratio	0.34	0.19	0.31	0.12	0.51	0.08	0.53
Control Delay	58.0	20.3	26.5	4.0	4.0	2.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	4.0	4.0	2.1	2.3
Queue Length 50th (m)	10.4	0.2	2.7	1.0	46.9	0.5	21.3
Queue Length 95th (m)	21.6	9.1	14.2	3.8	72.0	m0.8	24.2
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	222	3004	237	2994
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.12	0.51	0.08	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1508	0	19	1527	34
Future Volume (vph)	45	1	28	12	0	36	26	1508	0	19	1527	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1781	3522	
Flt Permitted	0.89	1.00			0.91		0.14	1.00		0.15	1.00	
Satd. Flow (perm)	1652	1585			1506		261	3535		279	3522	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1539	0	19	1558	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1539	0	19	1592	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		216	2934		231	2923	
v/s Ratio Prot		0.00						0.44			c0.45	
v/s Ratio Perm	c0.03				0.01		0.10			0.07		
v/c Ratio	0.40	0.03			0.14		0.12	0.52		0.08	0.54	
Uniform Delay, d1	53.4	52.0			52.4		1.9	3.1		1.9	3.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.56	0.52	
Incremental Delay, d2	2.3	0.1			0.6		1.2	0.7		0.5	0.6	
Delay (s)	55.7	52.1			53.0		3.1	3.7		1.6	2.2	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			3.7			2.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	260	78	117	69	268	127	1372	11	639
v/c Ratio	0.94	0.14	0.21	0.17	0.48	0.28	0.72	0.05	0.40
Control Delay	72.6	22.1	5.3	22.8	25.1	18.5	30.7	9.1	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	22.1	5.3	22.8	25.1	18.5	30.7	9.1	16.7
Queue Length 50th (m)	41.6	9.3	0.0	8.3	31.7	16.1	108.0	0.8	36.6
Queue Length 95th (m)	#85.1	19.0	10.9	17.9	53.3	m31.7	#160.1	2.9	50.4
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		50.0		25.0	
Base Capacity (vph)	301	626	590	440	604	447	1904	220	1589
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.12	0.20	0.16	0.44	0.28	0.72	0.05	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	76	115	68	177	85	124	1319	25	11	512	115
Future Volume (vph)	255	76	115	68	177	85	124	1319	25	11	512	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1879	1538	1778	1754		1783	3521		1785	3429	
Flt Permitted	0.49	1.00	1.00	0.71	1.00		0.33	1.00		0.11	1.00	
Satd. Flow (perm)	904	1879	1538	1322	1754		625	3521		207	3429	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	260	78	117	69	181	87	127	1346	26	11	522	117
RTOR Reduction (vph)	0	0	81	0	20	0	0	1	0	0	21	0
Lane Group Flow (vph)	260	78	36	69	248	0	127	1371	0	11	618	0
Confl. Peds. (#/hr)	5		5	5		5	14		3	3		14
Confl. Bikes (#/hr)			2									3
Heavy Vehicles (%)	1%	0%	2%	0%	2%	0%	0%	1%	4%	0%	1%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	27.5	27.5	27.5	27.5	27.5		50.5	46.3		42.4	41.2	
Effective Green, g (s)	27.5	27.5	27.5	27.5	27.5		50.5	46.3		42.4	41.2	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.56	0.51		0.47	0.46	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	276	574	469	403	535		431	1811		118	1569	
v/s Ratio Prot		0.04			0.14		c0.02	c0.39		0.00	0.18	
v/s Ratio Perm	c0.29		0.02	0.05			0.14			0.04		
v/c Ratio	0.94	0.14	0.08	0.17	0.46		0.29	0.76		0.09	0.39	
Uniform Delay, d1	30.5	22.6	22.2	22.9	25.3		9.8	17.4		14.6	16.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.92	1.68		1.00	1.00	
Incremental Delay, d2	38.6	0.1	0.1	0.2	0.6		0.3	2.6		0.3	0.7	
Delay (s)	69.1	22.7	22.3	23.1	25.9		19.1	31.8		14.9	16.9	
Level of Service	E	C	C	C	C		B	C		B	B	
Approach Delay (s)		49.1			25.3			30.7			16.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	12	0	20	1	1414	9	6	697	3
Future Volume (Veh/h)	5	0	1	12	0	20	1	1414	9	6	697	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	1	13	0	22	1	1537	10	7	758	3
Pedestrians		7			4							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		1			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1573	2334	388	1942	2330	778	768			1551		
vC1, stage 1 conf vol	780	780		1548	1548							
vC2, stage 2 conf vol	792	1553		394	782							
vCu, unblocked vol	1573	2334	388	1942	2330	778	768			1551		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.7	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	88	100	94	100			98		
cM capacity (veh/h)	241	153	613	108	159	342	849			431		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	35	1	1025	522	7	505	256
Volume Left	5	13	1	0	0	7	0	0
Volume Right	1	22	0	0	10	0	0	3
cSH	268	190	849	1700	1700	431	1700	1700
Volume to Capacity	0.02	0.18	0.00	0.60	0.31	0.02	0.30	0.15
Queue Length 95th (m)	0.5	5.0	0.0	0.0	0.0	0.4	0.0	0.0
Control Delay (s)	18.7	28.2	9.2	0.0	0.0	13.5	0.0	0.0
Lane LOS	C	D	A			B		
Approach Delay (s)	18.7	28.2	0.0			0.1		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	49.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	1	1	0	6	2	1481	0	2	732	9
Future Volume (Veh/h)	14	0	1	1	0	6	2	1481	0	2	732	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	0	1	1	0	6	2	1559	0	2	771	9
Pedestrians		6			3			20				
Lane Width (m)		3.5			3.5			3.5				
Walking Speed (m/s)		1.1			1.1			1.1				
Percent Blockage		1			0			2				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.80	0.80		0.80	0.80	0.80				0.80		
vC, conflicting volume	1575	2352	416	1976	2356	782	786			1562		
vC1, stage 1 conf vol	786	786		1566	1566							
vC2, stage 2 conf vol	790	1566		410	790							
vCu, unblocked vol	1210	2185	416	1714	2191	214	786			1193		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	100	99	100	99	100			100		
cM capacity (veh/h)	311	179	577	151	180	633	837			470		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	16	7	2	1039	520	2	514	266
Volume Left	15	1	2	0	0	2	0	0
Volume Right	1	6	0	0	0	0	0	9
cSH	320	434	837	1700	1700	470	1700	1700
Volume to Capacity	0.05	0.02	0.00	0.61	0.31	0.00	0.30	0.16
Queue Length 95th (m)	1.2	0.4	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	16.8	13.4	9.3	0.0	0.0	12.7	0.0	0.0
Lane LOS	C	B	A			B		
Approach Delay (s)	16.8	13.4	0.0			0.0		
Approach LOS	C	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1476	1	0	742
Future Volume (Veh/h)	0	2	1476	1	0	742
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1587	1	0	798
Pedestrians	9		39			2
Lane Width (m)	3.5		3.5			3.5
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	1		4			0
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	2034	805			1597	
vC1, stage 1 conf vol	1596					
vC2, stage 2 conf vol	438					
vCu, unblocked vol	1781	228			1228	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	181	612			451	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	1058	530	0	399	399
Volume Left	0	0	0	0	0	0
Volume Right	2	0	1	0	0	0
cSH	612	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.62	0.31	0.00	0.23	0.23
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.9	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	69	413	104	586	1475	10	782
v/c Ratio	0.49	0.54	0.44	0.83	0.58	0.07	0.56
Control Delay	47.3	15.0	25.6	18.8	13.7	18.0	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	15.0	25.6	18.8	13.7	18.0	24.2
Queue Length 50th (m)	11.4	34.3	8.7	76.1	120.3	1.2	64.2
Queue Length 95th (m)	23.1	60.8	22.1	m#95.8	m129.1	m3.9	76.9
Internal Link Dist (m)	459.7		82.3		379.1		47.4
Turn Bay Length (m)				25.0		25.0	
Base Capacity (vph)	246	765	379	706	2533	142	1404
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.54	0.27	0.83	0.58	0.07	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	4	388	35	13	48	551	1367	19	9	690	45
Future Volume (vph)	61	4	388	35	13	48	551	1367	19	9	690	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.96	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1467	1507		1687		1638	3242		1750	3228	
Flt Permitted		0.69	1.00		0.85		0.25	1.00		0.18	1.00	
Satd. Flow (perm)		1059	1507		1461		426	3242		328	3228	
Peak-hour factor, PHF	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Adj. Flow (vph)	65	4	413	38	14	52	586	1454	21	10	734	48
RTOR Reduction (vph)	0	0	68	0	44	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	69	345	0	60	0	586	1474	0	10	777	0
Confl. Peds. (#/hr)	38											
Heavy Vehicles (%)	18%	2%	6%	2%	2%	2%	9%	10%	2%	2%	10%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		10.1	37.2		10.1		67.9	67.9		37.8	37.8	
Effective Green, g (s)		10.1	37.2		10.1		67.9	67.9		37.8	37.8	
Actuated g/C Ratio		0.11	0.41		0.11		0.75	0.75		0.42	0.42	
Clearance Time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		118	622		163		686	2445		137	1355	
v/s Ratio Prot			0.17				c0.26	0.45			0.24	
v/s Ratio Perm		c0.07	0.06		0.04		c0.39			0.03		
v/c Ratio		0.58	0.55		0.37		0.85	0.60		0.07	0.57	
Uniform Delay, d1		38.0	20.1		37.0		13.5	5.0		15.6	19.9	
Progression Factor		1.00	1.00		1.00		1.12	2.31		1.09	1.18	
Incremental Delay, d2		7.2	1.1		1.4		3.2	0.3		1.0	1.7	
Delay (s)		45.2	21.2		38.4		18.3	11.8		18.0	25.3	
Level of Service		D	C		D		B	B		B	C	
Approach Delay (s)		24.6			38.4			13.7			25.2	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	5	211	499	1	1513	153	278	899
v/c Ratio	0.23	0.01	0.73	0.98	0.00	1.00	0.22	0.92	0.43
Control Delay	36.9	0.0	48.0	55.3	12.0	44.2	5.6	65.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	0.0	48.0	55.3	12.0	44.2	5.6	65.7	5.8
Queue Length 50th (m)	2.5	0.0	33.8	47.1	0.1	133.1	3.1	36.9	24.4
Queue Length 95th (m)	9.0	0.0	#65.5	#111.4	m0.2	#186.5	7.5	#79.2	32.3
Internal Link Dist (m)		134.7		213.6		178.4			379.1
Turn Bay Length (m)	50.0		60.0		50.0		25.0	25.0	
Base Capacity (vph)	77	435	291	507	277	1516	690	303	2069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.01	0.73	0.98	0.00	1.00	0.22	0.92	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	0	5	198	2	467	1	1422	144	261	837	8
Future Volume (vph)	17	0	5	198	2	467	1	1422	144	261	837	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.93		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1657	1312		1576	1349		1782	3245	1394	1653	3268	
Flt Permitted	0.19	1.00		0.75	1.00		0.32	1.00	1.00	0.09	1.00	
Satd. Flow (perm)	332	1312		1251	1349		594	3245	1394	154	3268	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	5	211	2	497	1	1513	153	278	890	9
RTOR Reduction (vph)	0	4	0	0	193	0	0	0	39	0	1	0
Lane Group Flow (vph)	18	1	0	211	306	0	1	1513	114	278	898	0
Confl. Peds. (#/hr)	48		2	2		48	5		2	2		5
Heavy Vehicles (%)	6%	0%	20%	13%	0%	10%	0%	10%	12%	8%	9%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	21.0	21.0		21.0	21.0		42.1	42.1	42.1	57.0	57.0	
Effective Green, g (s)	21.0	21.0		21.0	21.0		42.1	42.1	42.1	57.0	57.0	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.47	0.47	0.47	0.63	0.63	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	77	306		291	314		277	1517	652	295	2069	
v/s Ratio Prot		0.00			c0.23			c0.47		c0.12	0.27	
v/s Ratio Perm	0.05			0.17			0.00		0.08	0.47		
v/c Ratio	0.23	0.00		0.73	0.97		0.00	1.00	0.18	0.94	0.43	
Uniform Delay, d1	28.0	26.5		31.8	34.2		12.8	23.9	13.9	26.5	8.3	
Progression Factor	1.00	1.00		1.00	1.00		0.93	0.88	0.63	1.67	0.62	
Incremental Delay, d2	1.6	0.0		8.7	43.4		0.0	21.5	0.5	33.5	0.6	
Delay (s)	29.5	26.5		40.5	77.6		11.9	42.5	9.3	77.6	5.7	
Level of Service	C	C		D	E		B	D	A	E	A	
Approach Delay (s)		28.9			66.6			39.4			22.7	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	0	5	0	1	2	7	1538	2	5	988	16
Future Volume (Veh/h)	13	0	5	0	1	2	7	1538	2	5	988	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	5	0	1	2	8	1672	2	5	1074	17
Pedestrians		1			1							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								240			202	
pX, platoon unblocked	0.90	0.90	0.87	0.90	0.90	0.84	0.87			0.84		
vC, conflicting volume	1948	2784	546	2242	2792	838	1092			1675		
vC1, stage 1 conf vol	1094	1094		1690	1690							
vC2, stage 2 conf vol	854	1691		552	1102							
vCu, unblocked vol	1195	2125	190	1522	2134	413	815			1415		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.9	4.7			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.8	2.5			2.2		
p0 queue free %	95	100	99	100	99	99	99			99		
cM capacity (veh/h)	264	145	720	115	148	394	572			408		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	19	3	8	1115	559	5	716	375
Volume Left	14	0	8	0	0	5	0	0
Volume Right	5	2	0	0	2	0	0	17
cSH	317	254	572	1700	1700	408	1700	1700
Volume to Capacity	0.06	0.01	0.01	0.66	0.33	0.01	0.42	0.22
Queue Length 95th (m)	1.4	0.3	0.3	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	17.1	19.3	11.4	0.0	0.0	13.9	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	17.1	19.3	0.1			0.1		
Approach LOS	C	C						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	46	14	25	1437	18	1045
v/c Ratio	0.27	0.25	0.09	0.07	0.51	0.07	0.37
Control Delay	43.3	15.8	4.5	3.2	4.4	5.9	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	15.8	4.5	3.2	4.4	5.9	5.8
Queue Length 50th (m)	5.1	0.2	0.0	0.8	37.4	1.2	37.0
Queue Length 95th (m)	13.2	9.7	1.9	2.9	58.5	m2.8	49.5
Internal Link Dist (m)		93.6	64.7		179.8		215.7
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	299	395	328	376	2807	253	2824
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.12	0.04	0.07	0.51	0.07	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1	44	8	0	6	24	1394	0	17	988	25
Future Volume (vph)	30	1	44	8	0	6	24	1394	0	17	988	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1546			1574		1650	3433		1784	3453	
Flt Permitted	0.75	1.00			0.80		0.27	1.00		0.17	1.00	
Satd. Flow (perm)	1284	1546			1291		461	3433		310	3453	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	1	45	8	0	6	25	1437	0	18	1019	26
RTOR Reduction (vph)	0	42	0	0	13	0	0	0	0	0	1	0
Lane Group Flow (vph)	31	4	0	0	1	0	25	1437	0	18	1044	0
Confl. Peds. (#/hr)	18		4	4		18	8		8	8		8
Heavy Vehicles (%)	7%	0%	2%	13%	0%	0%	8%	4%	0%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Effective Green, g (s)	6.8	6.8			6.8		71.2	71.2		71.2	71.2	
Actuated g/C Ratio	0.08	0.08			0.08		0.79	0.79		0.79	0.79	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	116			97		364	2715		245	2731	
v/s Ratio Prot		0.00						c0.42			0.30	
v/s Ratio Perm	c0.02				0.00		0.05			0.06		
v/c Ratio	0.32	0.04			0.01		0.07	0.53		0.07	0.38	
Uniform Delay, d1	39.4	38.6			38.5		2.1	3.4		2.1	2.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.86	1.80	
Incremental Delay, d2	1.9	0.1			0.0		0.4	0.7		0.5	0.4	
Delay (s)	41.3	38.7			38.5		2.4	4.1		4.4	5.4	
Level of Service	D	D			D		A	A		A	A	
Approach Delay (s)		39.8			38.5			4.1			5.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
101: Gordon Street & Kortright Road W/Kortright Road E

03-09-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	282	156	202	45	148	167	1110	66	1660
v/c Ratio	0.92	0.31	0.39	0.15	0.30	0.78	0.55	0.22	0.91
Control Delay	76.0	36.1	12.9	33.3	33.0	48.0	13.9	10.3	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.0	36.1	12.9	33.3	33.0	48.0	13.9	10.3	35.3
Queue Length 50th (m)	62.2	28.4	9.9	7.8	24.6	24.3	81.6	5.5	191.7
Queue Length 95th (m)	#108.6	46.3	29.1	17.3	42.0	#56.3	89.1	10.8	#248.0
Internal Link Dist (m)		379.8			190.3		510.4		242.8
Turn Bay Length (m)	50.0			20.0		25.0		25.0	
Base Capacity (vph)	336	548	554	329	531	228	2026	296	1828
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.28	0.36	0.14	0.28	0.73	0.55	0.22	0.91

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	148	192	43	110	30	159	1013	42	63	1358	219
Future Volume (vph)	268	148	192	43	110	30	159	1013	42	63	1358	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1758	1879	1550	1760	1791		1785	3542		1784	3471	
Flt Permitted	0.62	1.00	1.00	0.61	1.00		0.06	1.00		0.20	1.00	
Satd. Flow (perm)	1155	1879	1550	1130	1791		114	3542		376	3471	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	282	156	202	45	116	32	167	1066	44	66	1429	231
RTOR Reduction (vph)	0	0	106	0	9	0	0	2	0	0	10	0
Lane Group Flow (vph)	282	156	96	45	139	0	167	1108	0	66	1650	0
Confl. Peds. (#/hr)	16		15	15		16	43		18	18		43
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	32.1	32.1	32.1	32.1	32.1		75.9	68.0		67.8	62.9	
Effective Green, g (s)	32.1	32.1	32.1	32.1	32.1		75.9	68.0		67.8	62.9	
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27		0.63	0.57		0.56	0.52	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	308	502	414	302	479		211	2007		269	1819	
v/s Ratio Prot		0.08			0.08		c0.07	0.31		0.01	c0.48	
v/s Ratio Perm	c0.24		0.06	0.04			0.43			0.13		
v/c Ratio	0.92	0.31	0.23	0.15	0.29		0.79	0.55		0.25	0.91	
Uniform Delay, d1	42.6	35.1	34.3	33.5	34.9		32.9	16.4		12.7	25.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.02	0.75		1.00	1.00	
Incremental Delay, d2	30.2	0.4	0.3	0.2	0.3		17.1	1.0		0.5	8.1	
Delay (s)	72.9	35.5	34.6	33.8	35.2		50.7	13.3		13.2	34.0	
Level of Service	E	D	C	C	D		D	B		B	C	
Approach Delay (s)		51.7			34.9			18.2			33.2	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	8	5	0	7	2	1187	22	21	1574	3
Future Volume (Veh/h)	2	0	8	5	0	7	2	1187	22	21	1574	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	9	5	0	8	2	1290	24	23	1711	3
Pedestrians		19			9						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	2436	3104	876	2226	3094	667	1733			1323		
vC1, stage 1 conf vol	1778	1778		1315	1315							
vC2, stage 2 conf vol	658	1327		910	1779							
vCu, unblocked vol	2436	3104	876	2226	3094	667	1733			1323		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	97	96	100	98	99			96		
cM capacity (veh/h)	78	103	291	139	105	402	362			524		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	13	2	860	454	23	1141	573
Volume Left	2	5	2	0	0	23	0	0
Volume Right	9	8	0	0	24	0	0	3
cSH	195	233	362	1700	1700	524	1700	1700
Volume to Capacity	0.06	0.06	0.01	0.51	0.27	0.04	0.67	0.34
Queue Length 95th (m)	1.4	1.3	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	24.6	21.4	15.0	0.0	0.0	12.2	0.0	0.0
Lane LOS	C	C	B			B		
Approach Delay (s)	24.6	21.4	0.0			0.2		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	53.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	0	2	0	0	4	14	1179	2	14	1591	39
Future Volume (Veh/h)	21	0	2	0	0	4	14	1179	2	14	1591	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	22	0	2	0	0	4	15	1254	2	15	1693	41
Pedestrians		17			6			8			1	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		2			1			1			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								352				
pX, platoon unblocked	0.91	0.91		0.91	0.91	0.91				0.91		
vC, conflicting volume	2422	3052	892	2178	3072	635	1751			1262		
vC1, stage 1 conf vol	1760	1760		1291	1291							
vC2, stage 2 conf vol	662	1292		886	1781							
vCu, unblocked vol	2365	3058	892	2095	3079	399	1751			1088		
tC, single (s)	7.8	6.5	6.9	7.5	6.5	7.4	4.1			4.1		
tC, 2 stage (s)	6.8	5.5		6.5	5.5							
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	69	100	99	100	100	99	96			97		
cM capacity (veh/h)	71	110	282	155	100	488	357			586		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	24	4	15	836	420	15	1129	605
Volume Left	22	0	15	0	0	15	0	0
Volume Right	2	4	0	0	2	0	0	41
cSH	76	488	357	1700	1700	586	1700	1700
Volume to Capacity	0.32	0.01	0.04	0.49	0.25	0.03	0.66	0.36
Queue Length 95th (m)	8.9	0.2	1.0	0.0	0.0	0.6	0.0	0.0
Control Delay (s)	73.2	12.4	15.5	0.0	0.0	11.3	0.0	0.0
Lane LOS	F	B	C			B		
Approach Delay (s)	73.2	12.4	0.2			0.1		
Approach LOS	F	B						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	61.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1208	1	1	1576
Future Volume (Veh/h)	0	2	1208	1	1	1576
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2	1299	1	1	1695
Pedestrians	6		38			
Lane Width (m)	3.5		3.5			
Walking Speed (m/s)	1.1		1.1			
Percent Blockage	1		4			
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			71			
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	2193	656			1306	
vC1, stage 1 conf vol	1306					
vC2, stage 2 conf vol	888					
vCu, unblocked vol	2092	361			1093	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	202	566			571	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	2	866	434	1	848	848
Volume Left	0	0	0	1	0	0
Volume Right	2	0	1	0	0	0
cSH	566	1700	1700	571	1700	1700
Volume to Capacity	0.00	0.51	0.26	0.00	0.50	0.50
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.4	0.0	0.0	11.3	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.4	0.0		0.0		
Approach LOS	B					

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	789	59	605	1207	41	1586
v/c Ratio	0.54	1.11	0.34	0.92	0.45	0.22	1.11
Control Delay	64.0	99.5	37.6	46.6	8.6	36.2	104.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	99.5	37.6	46.6	8.6	36.2	104.0
Queue Length 50th (m)	16.6	~212.2	8.1	135.3	68.0	9.1	~231.6
Queue Length 95th (m)	30.6	#287.5	20.1	m#172.9	m80.3	m11.8	m#274.3
Internal Link Dist (m)	459.7		86.4		379.1		47.4
Turn Bay Length (m)				25.0		25.0	
Base Capacity (vph)	216	709	266	660	2699	185	1426
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	1.11	0.22	0.92	0.45	0.22	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	14	765	26	8	20	587	1133	36	38	1407	131
Future Volume (vph)	56	14	765	26	8	20	587	1133	36	38	1407	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1506	1476		1709		1668	3266		1750	3279	
Flt Permitted		0.79	1.00		0.81		0.07	1.00		0.23	1.00	
Satd. Flow (perm)		1240	1476		1421		131	3266		429	3279	
Peak-hour factor, PHF	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Adj. Flow (vph)	58	15	789	28	9	22	605	1168	39	41	1451	135
RTOR Reduction (vph)	0	0	15	0	20	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	73	774	0	39	0	605	1206	0	41	1580	0
Confl. Peds. (#/hr)	36		25				35					35
Heavy Vehicles (%)	17%	2%	7%	2%	2%	2%	7%	9%	2%	2%	7%	5%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		11.2	54.2		11.2		96.8	96.8		50.8	50.8	
Effective Green, g (s)		11.2	54.2		11.2		96.8	96.8		50.8	50.8	
Actuated g/C Ratio		0.09	0.45		0.09		0.81	0.81		0.42	0.42	
Clearance Time (s)		6.0	3.0		6.0		3.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		115	666		132		656	2634		181	1388	
v/s Ratio Prot			c0.42				0.33	0.37			c0.48	
v/s Ratio Perm		0.06	0.11		0.03		0.41			0.10		
v/c Ratio		0.63	1.16		0.30		0.92	0.46		0.23	1.14	
Uniform Delay, d1		52.4	32.9		50.7		32.4	3.6		22.1	34.6	
Progression Factor		1.00	1.00		1.00		1.20	2.04		1.52	1.53	
Incremental Delay, d2		10.9	89.0		1.3		8.9	0.2		1.8	68.2	
Delay (s)		63.3	121.9		52.0		47.7	7.5		35.4	121.2	
Level of Service		E	F		D		D	A		D	F	
Approach Delay (s)		116.9			52.0			20.9			119.0	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	76.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	22	15	186	400	13	1384	267	532	1690
v/c Ratio	0.36	0.06	0.91	0.72	0.12	0.99	0.41	1.01	0.69
Control Delay	61.4	22.8	92.0	12.8	23.2	50.5	16.2	51.3	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	22.8	92.0	12.8	23.2	50.5	16.2	51.3	11.3
Queue Length 50th (m)	4.6	0.6	43.0	1.2	1.5	167.8	22.7	~119.7	98.8
Queue Length 95th (m)	13.5	6.6	#83.6	32.7	m3.2	#219.2	35.0	m98.2	m89.7
Internal Link Dist (m)		134.7		213.6		183.7			379.1
Turn Bay Length (m)	50.0		60.0		25.0		25.0	25.0	
Base Capacity (vph)	64	276	214	563	105	1404	648	527	2441
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.05	0.87	0.71	0.12	0.99	0.41	1.01	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3	12	180	6	382	13	1342	259	516	1627	13
Future Volume (vph)	21	3	12	180	6	382	13	1342	259	516	1627	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1760	1522		1558	1363		1650	3305	1414	1653	3333	
Flt Permitted	0.20	1.00		0.75	1.00		0.14	1.00	1.00	0.07	1.00	
Satd. Flow (perm)	369	1522		1227	1363		248	3305	1414	129	3333	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	22	3	12	186	6	394	13	1384	267	532	1677	13
RTOR Reduction (vph)	0	10	0	0	328	0	0	0	47	0	1	0
Lane Group Flow (vph)	22	5	0	186	72	0	13	1384	220	532	1689	0
Confl. Peds. (#/hr)	27		8	8		27	12		4	4		12
Heavy Vehicles (%)	0%	0%	8%	13%	0%	11%	8%	8%	10%	8%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	20.1	20.1		20.1	20.1		51.0	51.0	51.0	87.9	87.9	
Effective Green, g (s)	20.1	20.1		20.1	20.1		51.0	51.0	51.0	87.9	87.9	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.42	0.42	0.42	0.73	0.73	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	61	254		205	228		105	1404	600	525	2441	
v/s Ratio Prot		0.00			0.05			0.42		c0.29	0.51	
v/s Ratio Perm	0.06			c0.15			0.05		0.16	c0.46		
v/c Ratio	0.36	0.02		0.91	0.32		0.12	0.99	0.37	1.01	0.69	
Uniform Delay, d1	44.3	41.7		49.0	43.9		20.9	34.1	23.5	37.1	8.7	
Progression Factor	1.00	1.00		1.00	1.00		0.94	0.90	0.88	1.08	1.22	
Incremental Delay, d2	3.6	0.0		37.9	0.8		2.1	19.3	1.5	15.2	0.1	
Delay (s)	47.9	41.8		86.9	44.7		21.8	49.9	22.1	55.2	10.8	
Level of Service	D	D		F	D		C	D	C	E	B	
Approach Delay (s)		45.4			58.1			45.2			21.4	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	11	7	1	9	19	1618	9	15	1772	57
Future Volume (Veh/h)	14	1	11	7	1	9	19	1618	9	15	1772	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	15	1	12	7	1	9	20	1703	9	16	1865	60
Pedestrians		3			2							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (m)								230			208	
pX, platoon unblocked	0.79	0.79	0.71	0.79	0.79	0.83	0.71			0.83		
vC, conflicting volume	2831	3684	966	2726	3710	858	1928			1714		
vC1, stage 1 conf vol	1930	1930		1750	1750							
vC2, stage 2 conf vol	901	1754		977	1960							
vCu, unblocked vol	1819	2898	116	1687	2930	419	1481			1451		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	99	98	93	99	98	94			96		
cM capacity (veh/h)	87	88	647	99	81	487	324			392		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	28	17	20	1135	577	16	1243	682
Volume Left	15	7	20	0	0	16	0	0
Volume Right	12	9	0	0	9	0	0	60
cSH	138	168	324	1700	1700	392	1700	1700
Volume to Capacity	0.20	0.10	0.06	0.67	0.34	0.04	0.73	0.40
Queue Length 95th (m)	5.5	2.5	1.5	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	37.6	28.9	16.8	0.0	0.0	14.6	0.0	0.0
Lane LOS	E	D	C			B		
Approach Delay (s)	37.6	28.9	0.2			0.1		
Approach LOS	E	D						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	30	49	27	1633	19	1689
v/c Ratio	0.34	0.19	0.31	0.14	0.54	0.09	0.56
Control Delay	58.0	20.3	26.5	4.5	4.3	2.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	20.3	26.5	4.5	4.3	2.2	2.4
Queue Length 50th (m)	10.4	0.2	2.7	1.0	52.3	0.5	22.5
Queue Length 95th (m)	21.6	9.1	14.2	3.9	79.9	m0.7	25.3
Internal Link Dist (m)		81.9	49.4		66.9		205.6
Turn Bay Length (m)	25.0			25.0		50.0	
Base Capacity (vph)	330	340	330	196	3004	210	2994
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.15	0.14	0.54	0.09	0.56

Intersection Summary

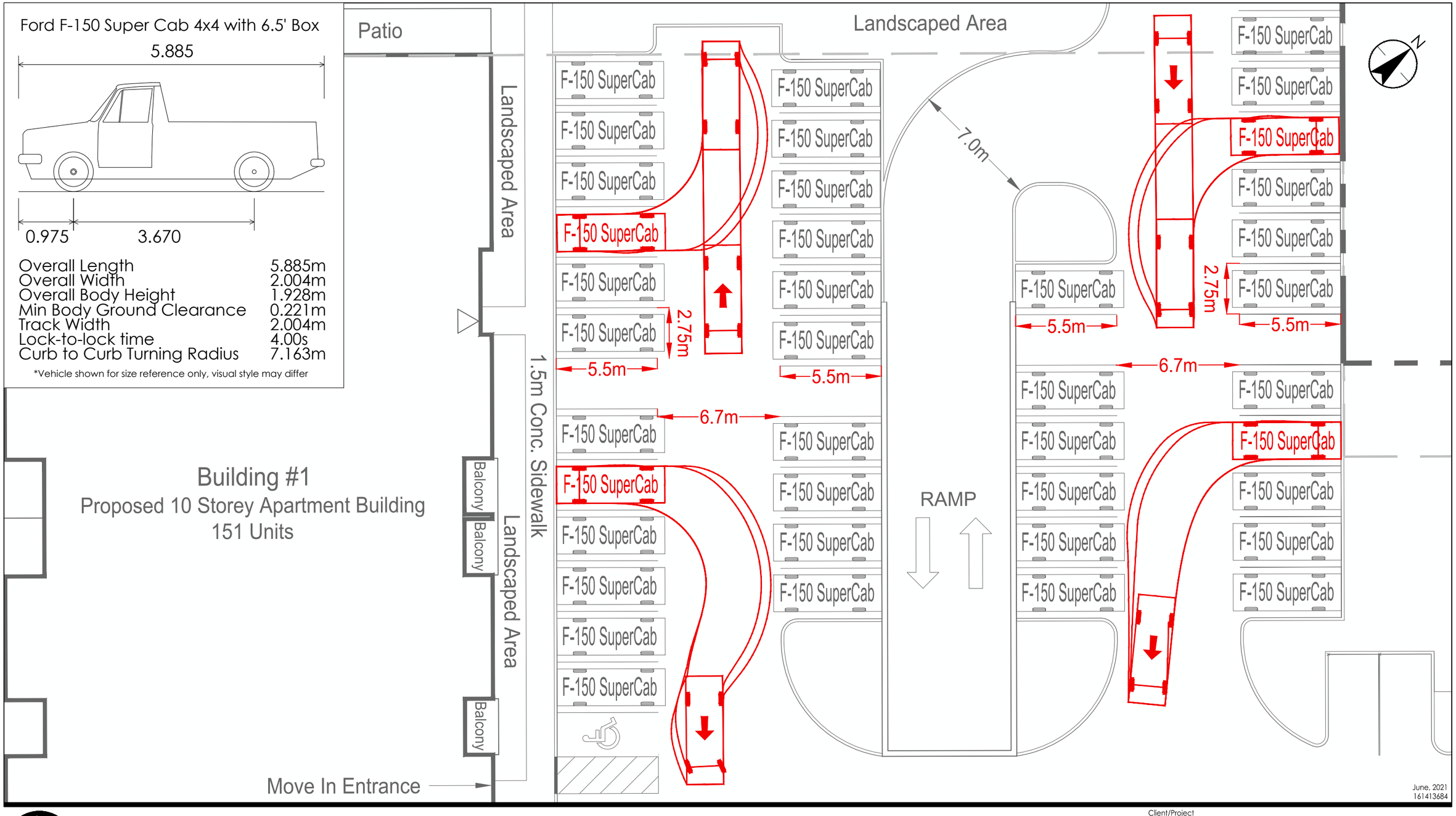
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	28	12	0	36	26	1600	0	19	1621	34
Future Volume (vph)	45	1	28	12	0	36	26	1600	0	19	1621	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.90		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1585			1641		1784	3535		1782	3523	
Flt Permitted	0.89	1.00			0.91		0.12	1.00		0.13	1.00	
Satd. Flow (perm)	1652	1585			1506		231	3535		248	3523	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	1	29	12	0	37	27	1633	0	19	1654	35
RTOR Reduction (vph)	0	27	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	46	3	0	0	15	0	27	1633	0	19	1688	0
Confl. Peds. (#/hr)	5		1	1		5	4		18	18		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Effective Green, g (s)	8.4	8.4			8.4		99.6	99.6		99.6	99.6	
Actuated g/C Ratio	0.07	0.07			0.07		0.83	0.83		0.83	0.83	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	110			105		191	2934		205	2924	
v/s Ratio Prot		0.00						0.46			c0.48	
v/s Ratio Perm	c0.03				0.01		0.12			0.08		
v/c Ratio	0.40	0.03			0.14		0.14	0.56		0.09	0.58	
Uniform Delay, d1	53.4	52.0			52.4		2.0	3.2		1.9	3.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.54	0.50	
Incremental Delay, d2	2.3	0.1			0.6		1.5	0.8		0.7	0.6	
Delay (s)	55.7	52.1			53.0		3.5	4.0		1.7	2.3	
Level of Service	E	D			D		A	A		A	A	
Approach Delay (s)		54.3			53.0			4.0			2.3	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix E TRUCK TURNING TEMPLATES



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June, 2021
161413684

Stantec

600-171 Queens Avenue
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Tel. 519-645-2007
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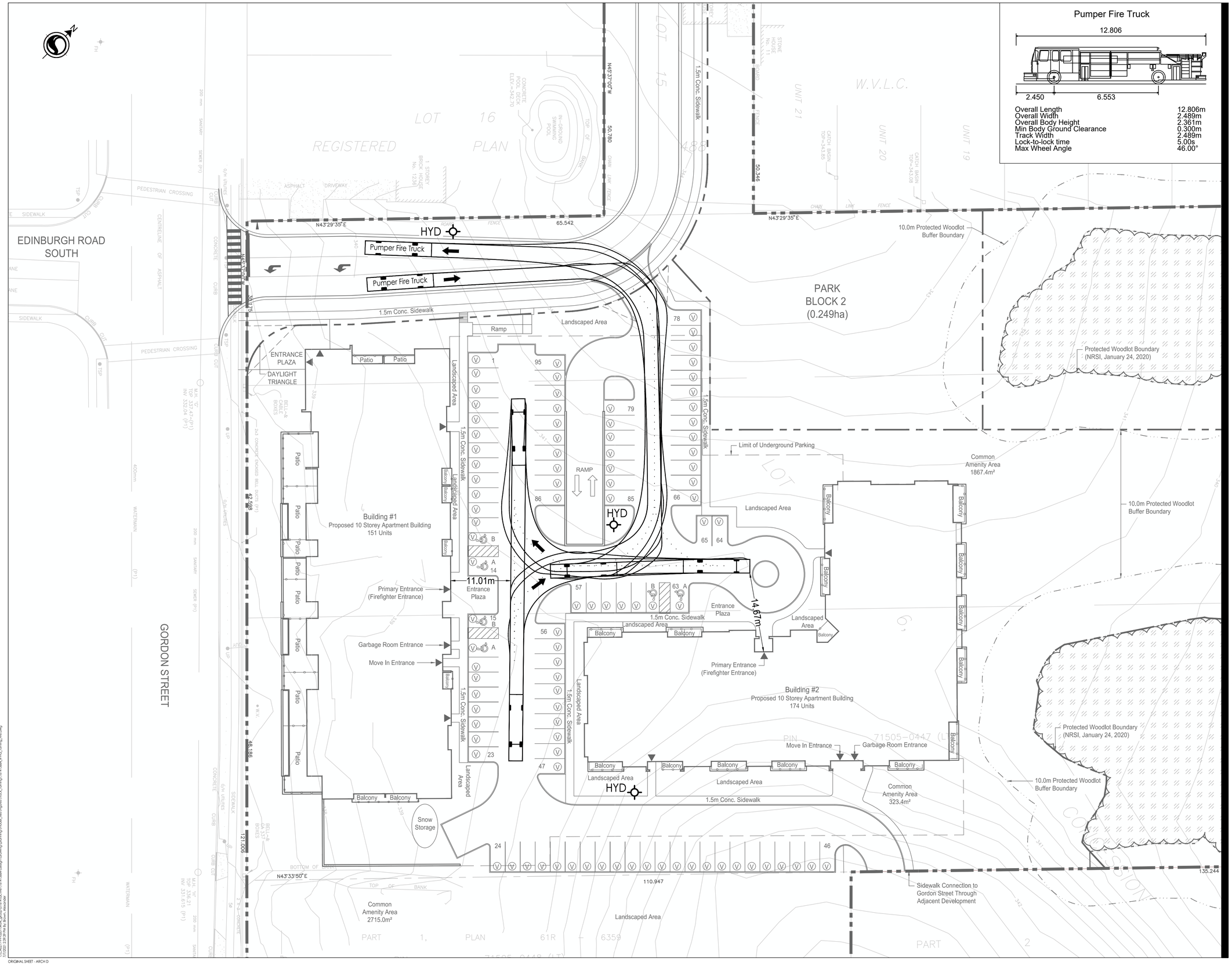
HORZ – 1 : 3500
35 0 70m

Client/Project
Tricar Developments Inc.
1250 Gordon Street
Guelph, ON Canada

Figure No.
1.0

Title
Parking Space Accessibility
with 6.7m Drive Isle



Pumper Fire Truck

Overall Length	12.806m
Overall Width	2.489m
Overall Body Height	2.361m
Min Body Ground Clearance	0.300m
Track Width	2.489m
Lock-to-lock time	5.00s
Max Wheel Angle	46.00°

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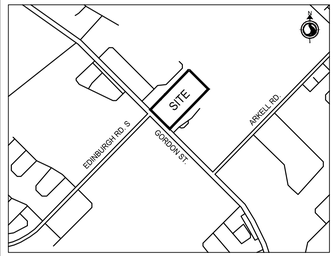
Key Map NTS.



Revision/Issue	By	Appd	YYYY.MM.DD
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0. ISSUED FOR SITE PLAN APPROVAL	AB	CH	2020.03.13

File Name: 161413684_R-FIG_Turning_Fire	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD
	AB	AB	CH	2020.03.13

Permit-Seal

Client/Project
TRICAR DEVELOPMENTS INC.

1250 GORDON STREET

GUELPH, ON

Title
TRUCK TURNING FIRE TRUCK

Project No. 161413684

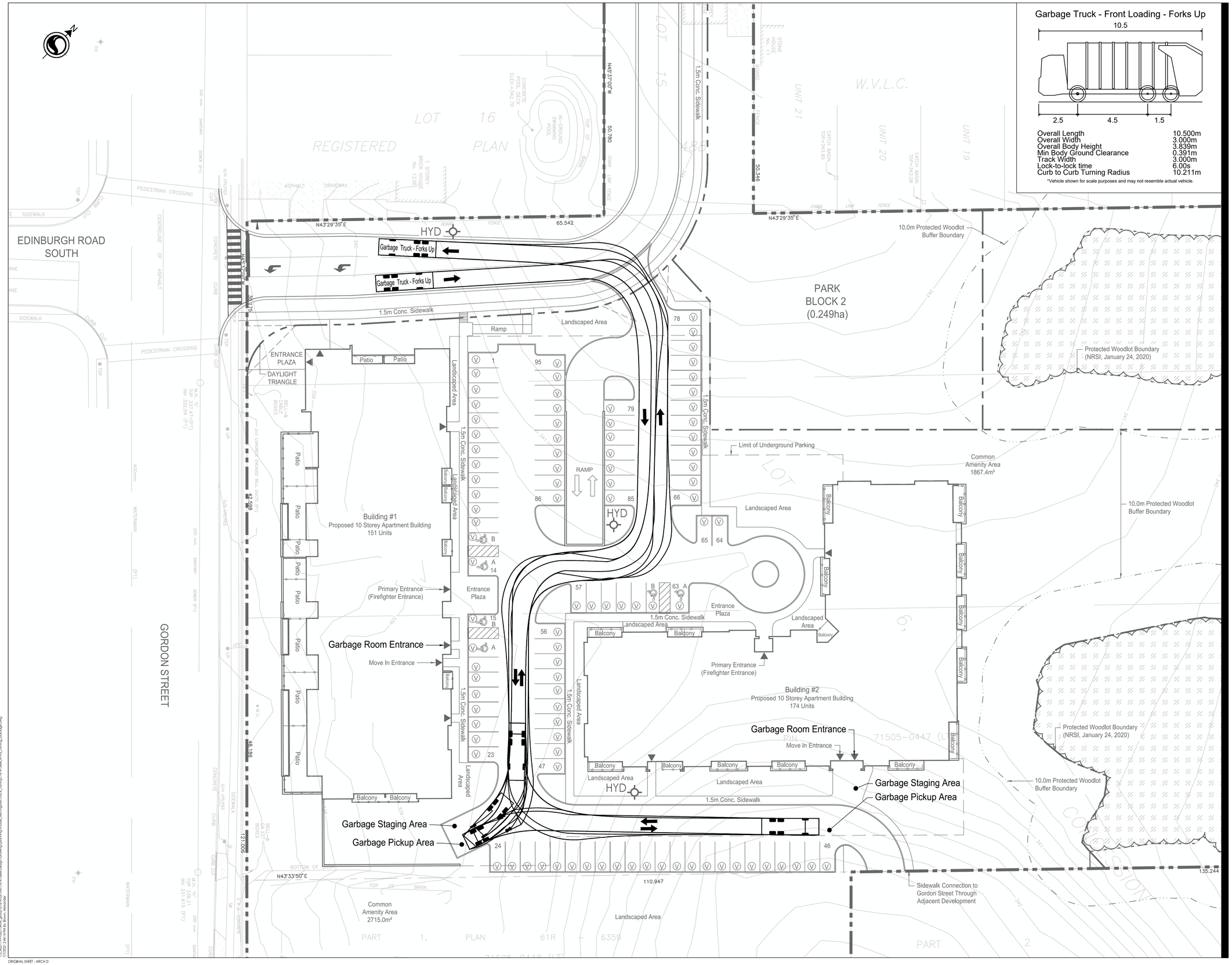
Scale 1:300 (0 3 9 15m)

Revision 1

Sheet 1 of 3

Drawing No. AT-1

ORIGINAL SHEET - ARCH D



Garbage Truck - Front Loading - Forks Up

Overall Length	10.500m
Overall Width	3.000m
Overall Body Height	3.839m
Min Body Ground Clearance	0.391m
Track Width	3.000m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	10.211m

*Vehicle shown for scale purposes and may not resemble actual vehicle.

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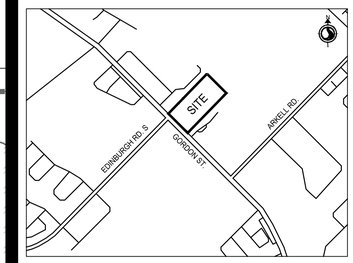
Key Map NTS.



Revision/Issue	By	Appd	YYYY.MM.DD
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0. ISSUED FOR SITE PLAN APPROVAL	AB	CH	2020.03.13

File Name: 161413684_R-FIG_Turning_Garbage	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD
	AB	AB	CH	2020.03.13

Permit-Seal

Client/Project
TRICAR DEVELOPMENTS INC.

1250 GORDON STREET

GUELPH, ON

Title
TRUCK TURNING
GARBAGE TRUCK

Project No. 161413684

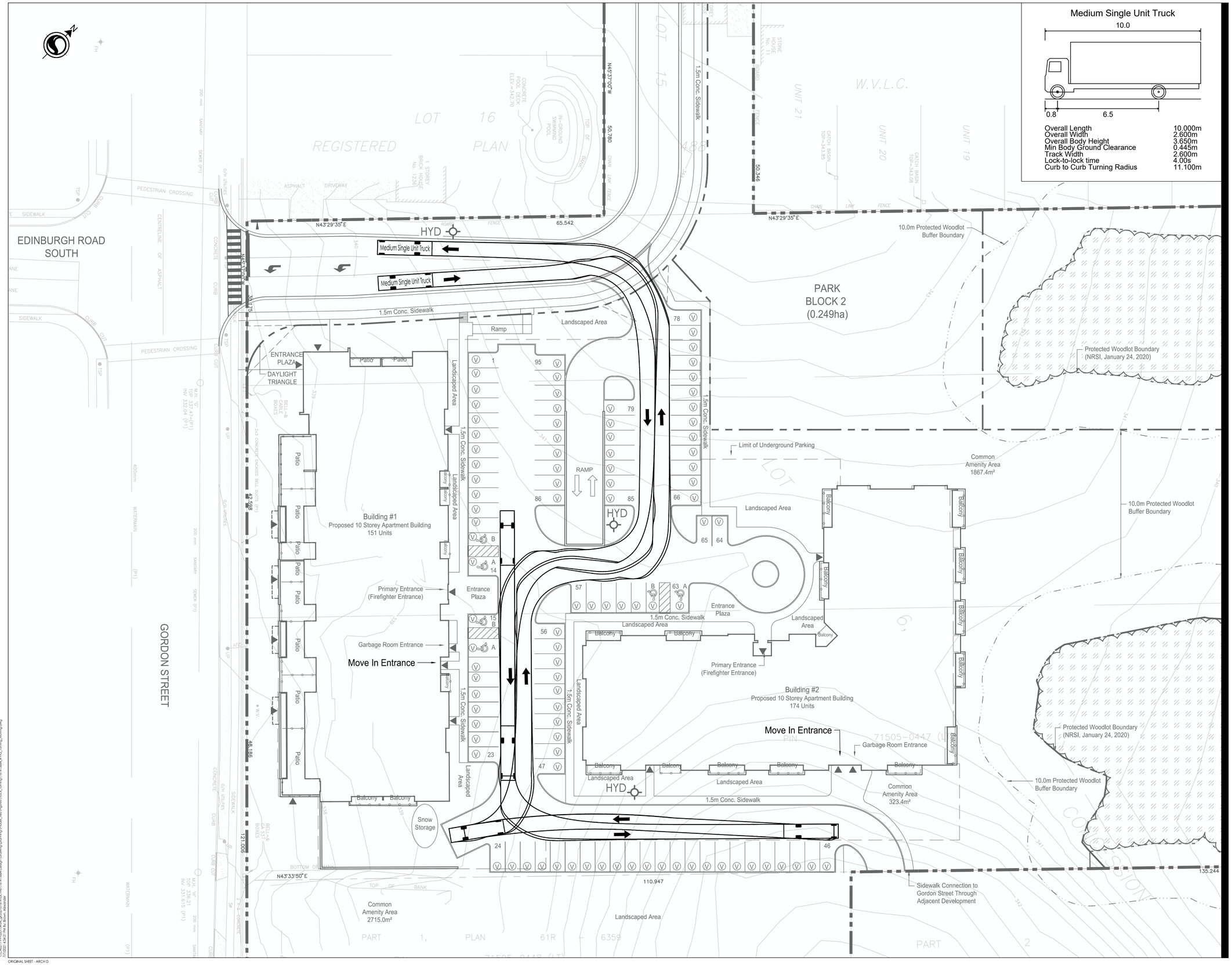
Scale 1:300 (0 3 9 15m)

Revision 1

Sheet 2 of 3

Drawing No. AT-2

ORIGINAL SHEET - ARCH D



Medium Single Unit Truck

Overall Length	10.000m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	11.100m

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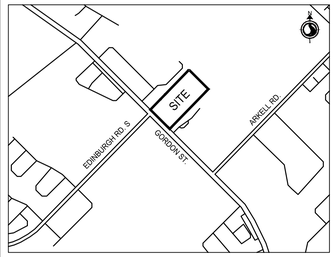
Key Map NTS.



Revision/Issue	By	Appd	YYYY.MM.DD
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0. ISSUED FOR SITE PLAN APPROVAL	AB	CH	2020.03.13

File Name: 161413684_R-FIG_Turning_Moving	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD
	AB	AB	CH	2020.03.13

Permit-Seal

Client/Project
TRICAR DEVELOPMENTS INC.

1250 GORDON STREET

GUELPH, ON

Title
TRUCK TURNING MOVING TRUCK

Project No. 161413684

Scale 1:300 (0 3 9 15m)

Revision 1

Sheet 3 of 3

Drawing No. **AT-3**

ORIGINAL SHEET - ARCH D