APPENDIX 11

TRAFFIC IMPACT STUDY

Millford Development Ltd.
Proposed Condominium
Development, Eagle Street,
Newmarket

Project No. 10-024

March 2011

Traffic Impact Study









GENIVAR Consultants LP. 2800 Fourteenth Avenue, Suite 210, Markham, Ontario L3R 0E4 Telephone: 905.946.8900 • Fax: 905.946.8966 • www.genivar.com

Contact: Sharon Sterling, MCIP, RPP . E-mail: Sharon.Sterling@genivar.com

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10-024

March 2011

Ms. Angela Orsi Millford Development Ltd. c/o Peter E. Allen & Associates 704 Gagnon Place Newmarket, ON L3X 1V8

Re:

Eagle Street Proposed Condominium Development

Traffic Impact Study - Final

Dear Ms. Orsi:

Attached is our Traffic Impact Study for the Eagle Street proposed condominium development in Newmarket, Final Report for your submission application.

Should you have any questions, please feel free to contact me in the office.

Yours truly,

GENIVAR Consultants LP

Sharon Sterling, MCIP, RPP Director, Traffic Management

Anil Seegobin, P.Eng Traffic Engineer



cc: Mr. John de Valence, OAA MRAIC, PDA Architects, john.devalence@pda-architects.ca

Mr. Andrew Ip, P.Eng, Principal, Masongsong Associates Engineering Limited, andrewi@maeng.ca

Mr. Peter Allen, Planning Consultant, Peter E. Allen & Associates, allenp@idirect.com

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Transmittal Letter

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1. Introduction

GENIVAR Consultants LP has been retained to complete a Traffic Impact Study for a residential development located at the northeast quadrant of Yonge Street and Eagle Street in the town of Newmarket. The site location is shown in Figure 1. The proposed development consists of 38 townhouses and a condominium building with 154 units. Access to and from the site is proposed at the north side of Eagle Street.

This report includes the following:

- → a review of the existing adjacent roadway network
- → an estimate of the traffic generated by the site and distributed and assigned to the boundary roads
- → an assessment of future background and future total traffic conditions at the intersections and site driveways
- → a review of site accesses to ensure efficient traffic operations
- → a review of the layout of internal roadways
- → site plan and roadway improvement recommendations
- → a review of site parking requirements with consideration for future transit use

Information used in this Traffic Impact Study includes:

- → North Yonge Street Corridor Class Environmental Assessment, August 2008
- → Town of Newmarket Site Plan Approval Process Manual and Development Standards Checklist document
- → Town of Newmarket Engineering Design Standards and Criteria
- → Town of Newmarket Comprehensive Zoning By-law, 3rd Draft, May 2010
- → Town of Newmarket Official Plan, 2006
- → York Region Access Guidelines for Regional Roads, 2007
- → York Region Transit website
- → York Region Average Annual Daily Traffic volumes at Yonge Street near Eagle Street, 2004 to 2009
- → site plan and site statistics prepared by PDA Architects, May 2010
- → turning movement count, Yonge Street and Eagle Street, York Region, Wednesday February 11, 2009
- → turning movement count, Eagle Street and Sandford Street/Carol Avenue, Town of Newmarket, Wednesday October 14, 2009

- → turning movement counts at Eagle Street and Dixon Boulevard and at Eagle Street and Donlin Avenue, GENIVAR, Thursday May 27, 2010
- → signal timing plans for Yonge Street and Eagle Street and for Eagle Street and Sandford Street/Carol Avenue, York Region
- → gap and queue survey at Eagle Street between Dixon Boulevard and Donlin Avenue, GENIVAR, Thursday May 27 and Wednesday June 2, 2010
- → plan and profile drawings, Eagle Street from Yonge Street to Sandford Street/Carol Avenue, York Region, P-1017-028-005, P-1017-028-006, P-1017-028-007
- → 2006 Transportation Tomorrow Survey (TTS) data
- → Geometric Design Guide for Canadian Roads, 1999 Edition, Transportation Association of Canada (TAC)
- → Trip Generation, 8th Edition, Institute of Transportation Engineers (ITE)
- → recorded observations and photographs from a site visit completed by GENIVAR staff, May 27, 2010

Intersection capacity and queuing analyses were completed using Synchro 7.0 and SimTraffic 7.0 software.

Prior to commencing the analysis for this project, GENIVAR staff contacted transportation staff at the Town of Newmarket and York Region and submitted the Terms of Reference outlining the proposed study methodology and assumptions. The assumptions and methodology used in the report reflect comments received from Town and Region staff. The Terms of Reference for the study and Town of Newmarket comments are provided in Appendix A.

GENIVAR has worked with Town staff, John de Valence, PDA Architects and Peter E. Allen, Peter E. Allen & Associates, Planning Consultants, in developing the transportation proposals and their design incorporated in this report.

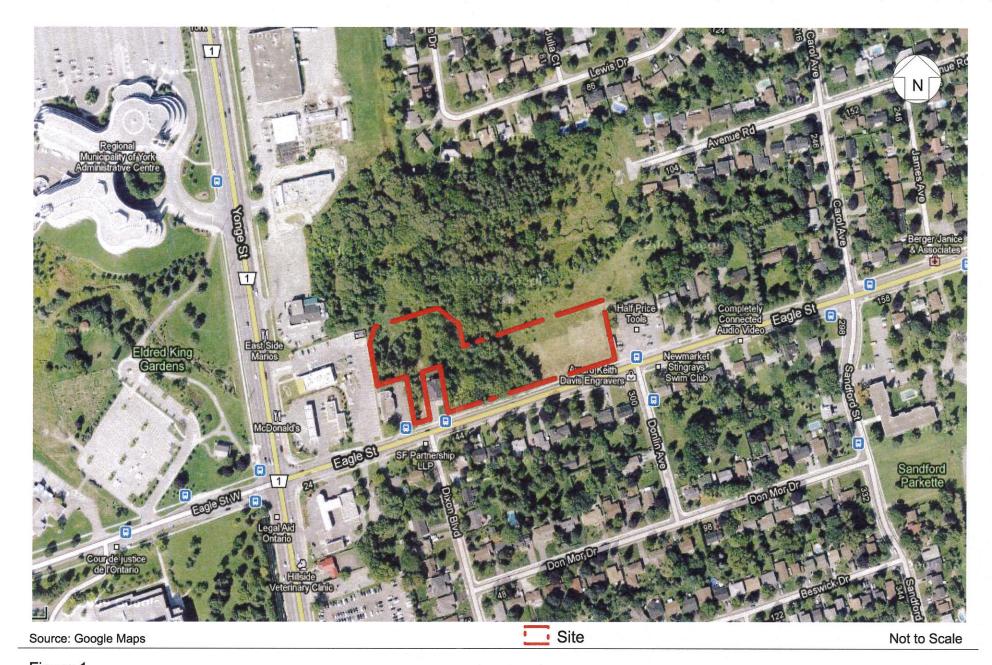


Figure 1 Site Location Proposed Condominium Development, Eagle Street, Traffic Impact Study



2. Existing Land Use and Proposed Development

2.1 Existing Site

The site is located at the north side of Eagle Street, roughly between Dixon Boulevard and Donlin Avenue. The site is currently vacant.

2.1.1 Adjacent Land Uses

The study area includes Eagle Street, extending from Yonge Street to Sandford Street/Carol Avenue.

At the intersection of Yonge Street and Eagle Street, there is an ESSO service station at the northeast corner, a Petro Canada service station at the southeast corner, Ontario Court House, Judicial District of York at the southwest quadrant and Doane House Hospice and Eldred King Gardens at the northwest quadrant.

The remaining land uses at Eagle Street between Yonge Street and Sandford Street/Carol Avenue are mainly residential single family dwellings.

2.2 Proposed Land Use

The proposed development consists of two parcels: Parcel A and Parcel B. Parcel A is a condominium building with 154 units. Parcel B contains 38 townhouse units. Parcel A and Parcel B combined contain 192 units.

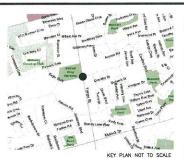
The proposed site plan is provided in Figure 2. The proposed development is expected to be completed in one phase, within a five-year horizon period.

2.2.1 Site Access

Access to the site is proposed to be provided by two driveways, described as follows:

- a full-moves driveway located approximately 58 metres east of Dixon Boulevard (measured from centreline to centreline), with a 9.0 metre curb radii and a 7.5 metre width
- a right-in/right-out driveway located approximately 19.0 metres west of Donlin Avenue (measured from centreline to centreline), with an 8.0 inbound curb radius, a 12.0 metre outbound curb radius, a 4.0 metre entrance width and a 6.0 metre exit width

A detailed review of the site accesses is provided in Section 6, Site Plan Review.



SURVEY INFORMATION:

SURVEY INFORMATION IS TAKEN FROM A COMPILED PLAN OF SURVEY ENTITLED: PART OF LOTS 2 AND 3 REGISTERED PLAN 49 TOWN OF NEWMARKET REGIONAL MUNICIPALITY OF YORK

PREPARED BY: YOUNG & YOUNG SURVEYING INC., OLS 2 HOLLAND DRIVE, UNIT 5 BOLTON, ON L7E 1E1 DATED: JUNE 2010

PROPERTY AREA: VALLEY LANDS NET DEVELOPMENT AREA PROPOSED ROAD WIDENING
TOTAL PROPERTY AREA

28 477 SM (306,526 SF) 2 114 SM (22,755 SF) 19 742 SM (212,503 SF) 589 SM (6,340 SF) 50 922 SM (548,124 SF)

PROJECT INFORMATION:

PARCEL A:

PROPOSED UNITS:

8,152.30 SM (87,750 SF; 2.01 AC) NET LOT AREA: PROPOSED DENSITY: 189 UNITS/HECTARE GROSS FLOOR AREA

1,805.34 SM (19,432 SF)

GROUND FLOOR: GROSS FLOOR AREA 1,362.18 SM (14,662 SF) PER LEVEL: PROPOSED FLOORS: 16,789.32 SM (180,719 SF)

TOTAL GEA PROPOSED FLOOR SPACE INDEX: 2.06

CONDO UNIT TYPE SCHEDULE	# OF UNITS
GROUND FLOOR	0
FLOORS 2-12 (TYP. 14 UNITS/FLOOR)	
8 X 1BR UNITS 69.67-77.11 SM (750-830 SF)	88
6 X 2BR UNITS 92.90-120.77 SM (1,000-1,300 SF)	66
TOTAL NUMBER OF UNITS	154

PARKING:

VISITOR PARKING REQUIRED:

RESIDENT PARKING REQUIRED:

ON GRADE: 11 SPACES)

VISITOR PARKING PROVIDED: 39 SPACES

1.5 SPACES/UNIT= 231 SPACES
RESIDENT PARKING PROVIDED: 231 SPACES TOTAL
(2 LEVELS UNDERGROUND GARAGE: 218 SPACES;

NET LOT AREA: PROPOSED DENSITY: 0.25 X NUMBER OF UNITS= 39 SPACES

PROPOSED TOWNHOUSES:

11,591.28 SM (124,767 SF; 2.86 AC) 33 UNITS/HECTARE

UNIT PROPOSED TYPE UNIT SIZE # OF UNITS T1 148.65-157.93 SM (1,600-1,700 SF) 10 T2 111.48 SM (1,200 SF) T3 157.93-167.22 SM (1.700-1.800 SF) 12 T4 139.35-148.65 SM (1,500-1,600 SF) T5 | 120.77-130.06 SM (1,300-1,400 SF) TOTAL NUMBER OF UNITS

PARKING:

PARCEL B:

VISITOR PARKING REQUIRED: 0.25 X NUMBER OF UNITS= 10 SPACES VISITOR PARKING PROVIDED: 14 SPACES
RESIDENT PARKING REQUIRED: 2 SPACES/UNIT= 76 SPACES

RESIDENT PARKING PROVIDED: 2 SPACES/UNIT= 76 SPACES

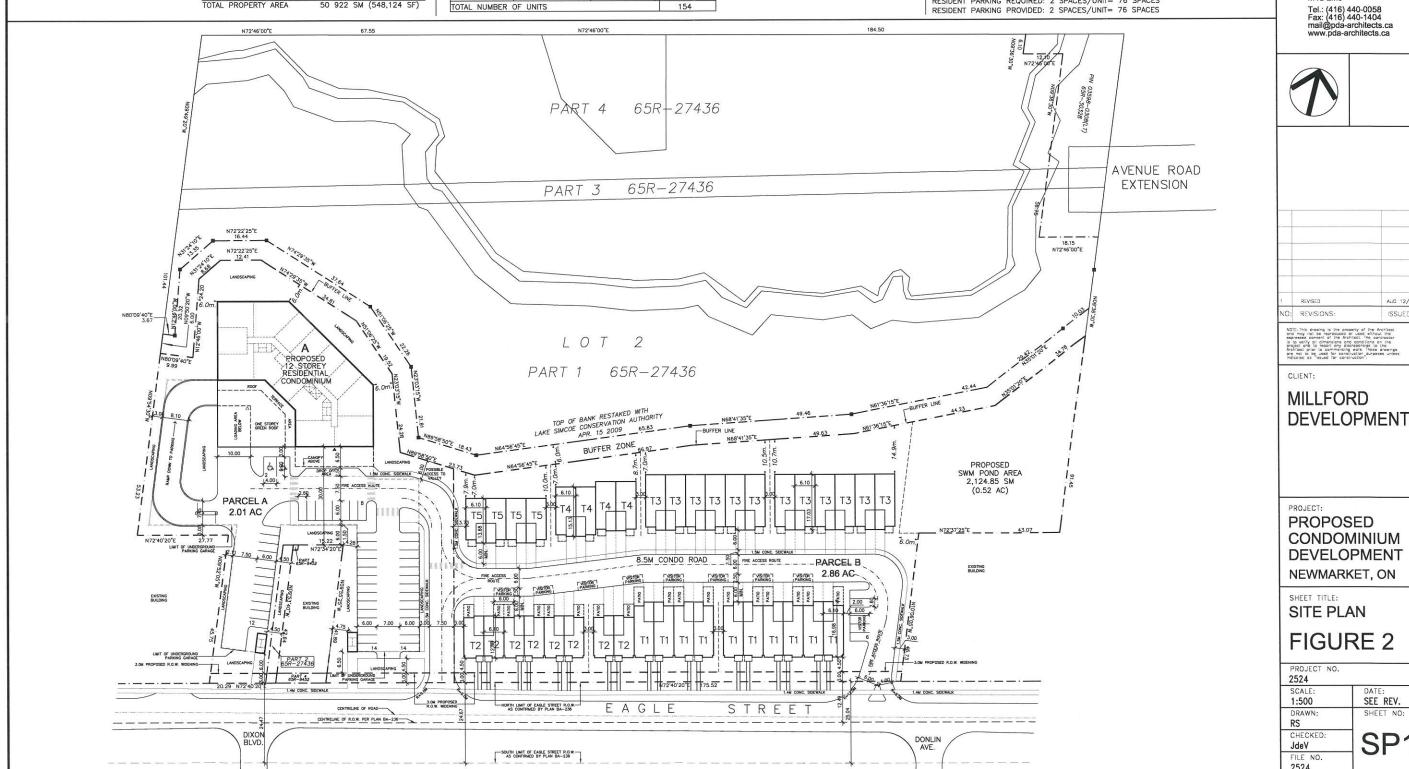


522 Mt. Pleasant Road Suite 200 Toronto, Ontario M4S 2M3

O: REVISIONS: ISSUED:

DEVELOPMENTS

2524 SCALE: 1:500 SEE REV. DRAWN: CHECKED: SP1 JdeV



3. Transportation Network

3.1 Roads

The boundary roads in the vicinity of the site are Yonge Street, Eagle Street, Dixon Boulevard, Donlin Avenue, Sandford Street and Carol Avenue. The roadways are described as follows:

Yonge Street is an arterial roadway operated under the jurisdiction of the Regional Municipality of York. Within the study area, Yonge Street consists of four general purpose lanes with a centre left-turn lane. Yonge Street has a posted speed limit of 60 km/h.

Eagle Street is a primary collector roadway whose ownership was recently transferred from the Regional Municipality of York to the Town of Newmarket. Eagle Street is a two-lane roadway, with an approximately 24-metre right-of-way and has a posted speed limit of 50 km/h.

Dixon Boulevard is a north-south, two-lane local roadway with a posted speed limit of 50 km/h. Dixon Boulevard forms a stop-controlled intersection with Eagle Street.

Donlin Avenue is a north-south, two-lane local roadway with a posted speed limit of 50 km/h. Dixon Boulevard forms a stop-controlled intersection with Eagle Street. No parking signs are posted on Donlin Avenue.

Sandford Street and Carol Avenue are two-lane local roadways with a posted speed limit of 50 km/h. Eagle Street forms a signalized intersection with Sandford Street/Carol Avenue.

Roadway characteristics for the study area are provided in Figure 3.

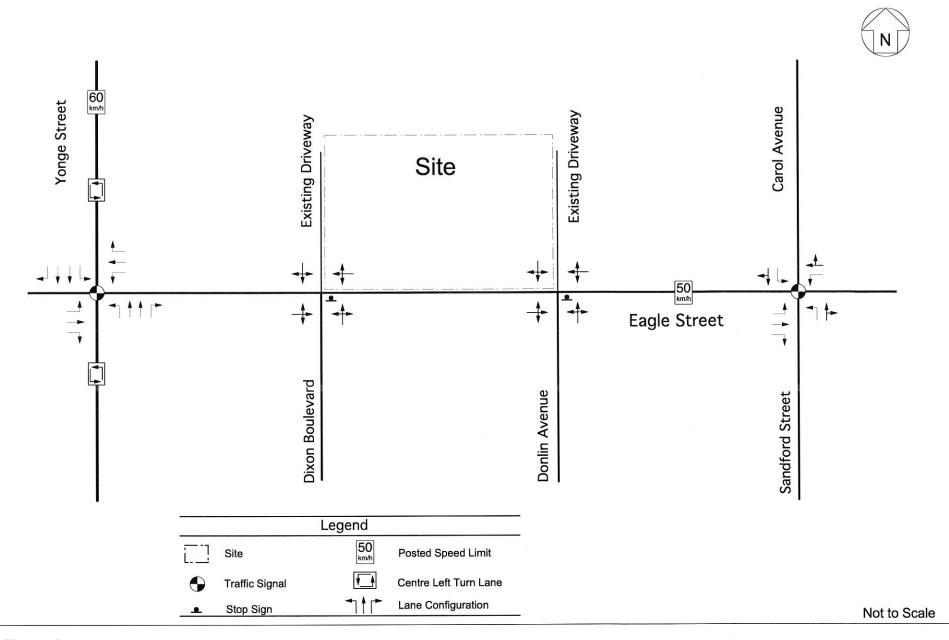


Figure 3
Study Area Roadway Characteristics
Proposed Condominium Development, Eagle Street, Traffic Impact Study



Form revision:

3.2 Transit Service

The study area is served by both York Region Transit and VIVA services.

3.2.1 York Region Transit

York Region Transit service routes in the study area are described as follows:

- → Route 56 runs from the Newmarket GO Bus terminal to the 404 Town Centre, passing the study area at Eagle Street between Yonge Street and Sandford Street/Carol Avenue. The service frequency is generally every half-hour during peak periods.
- → Route 98 operates between the Upper Yonge Place to the intersection of Yonge Street and Green Lane, passing the study area at the intersection of Eagle Street and Yonge Street. The service frequency is generally every half-hour.
- → Route 520/521 is a community bus that operates between Yonge Street and Green Lane and Leslie Street and Gorham Street, passing the study area at Eagle Street between Yonge Street and Sandford Street/Carol Avenue. The service frequency is generally every hour and service ends at 4:00pm.

3.2.2 VIVA

In addition to these York Region Transit services, York Region has been operating VIVA rapid transit services along Yonge Street since 2005. The VIVA Blue route travels along Yonge Street from Finch Station in the city of Toronto northward to the Newmarket terminal at Eagle Street and Davis Drive. The headway of the VIVA Blue route within the study area is 10 minutes during the weekday AM and PM peak periods and 15 minutes in the off-peak periods.

Figure 4 shows current York Region Transit/VIVA service currently operating within the study area.

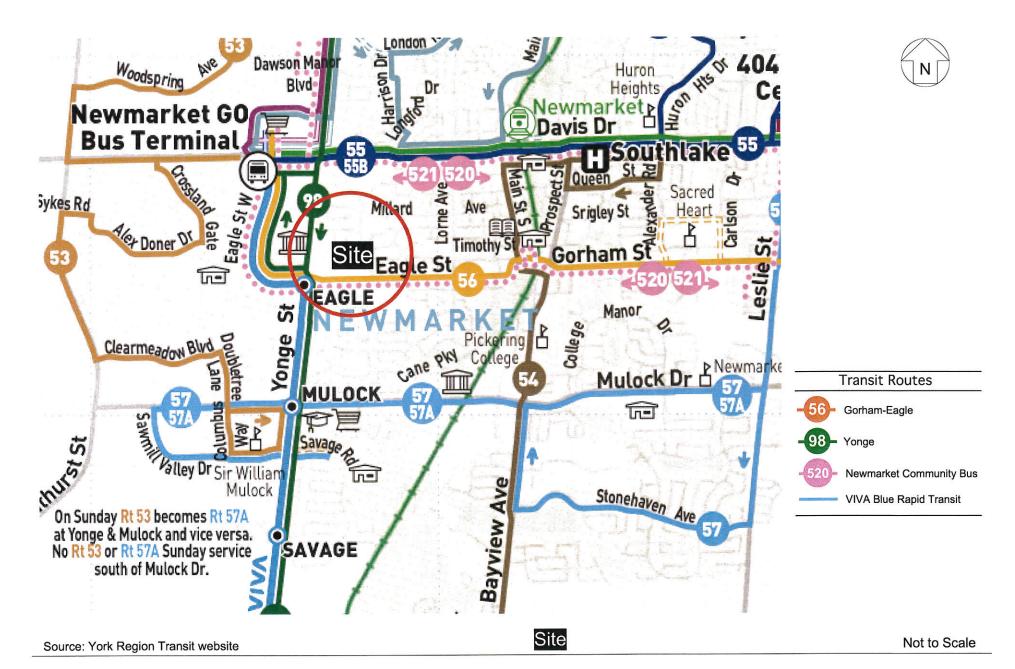


Figure 4
Study Area Transit Service
Proposed Condominium Development, Eagle Street, Traffic Impact Study



10-24Fig.10-06-4Figures

3.3 Traffic Volumes

Intersection turning movement counts for the intersections within the study area were obtained from the sources shown in Table 1.

Table 1 – Source of Intersection Turning Movement Counts

Eagle Street Intersection at:	Count Date and Times	Source	
Vanga Ctraat	Wednesday February 11, 2009	York	
Yonge Street	7:00-9:00 a.m., 11:00 a.m2:00 p.m., 3:00-6:00 p.m.	Region	
Dixon Street	Thursday May 27, 2010	GENIVAR	
Dixon Street	6:30-9:30 a.m., 4:30-6:30 p.m.	GENIVAR	
Danlin Avanua	Thursday May 27, 2010	GENIVAR	
Donlin Avenue	6:30-9:30 a.m., 4:30-6:30 p.m.	GENIVAR	
Sandford Street/Carol	Wednesday October 14, 2009	Town of	
Avenue	7:00-9:00 a.m., 11:00 a.m2:00 p.m., 3:00-6:00 p.m.	Newmarket	

The weekday AM and PM peak hours determined from the intersection turning movement counts and assessed in this study are summarized in Table 2.

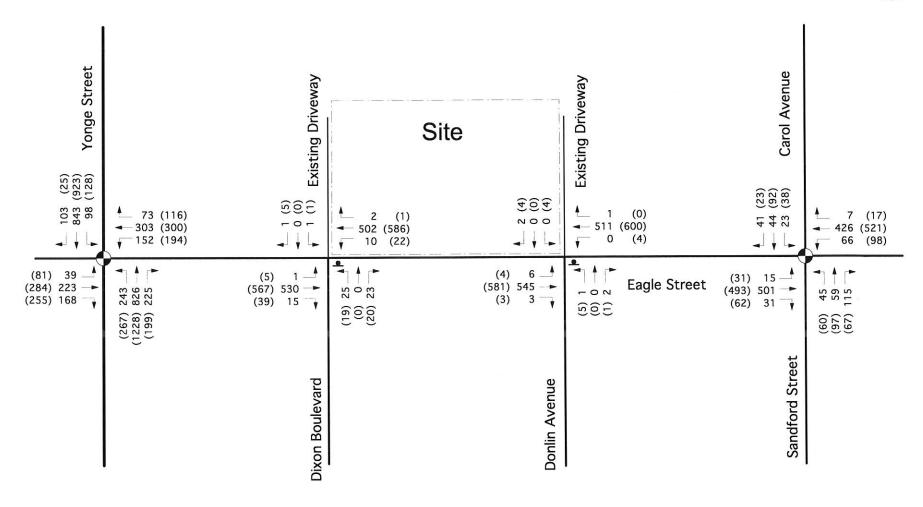
Table 2 – Peak Hours Obtained from Intersection Turning Movement Counts

Eagle Street	Weekday Peak Hour			
Intersection at	AM	PM		
Yonge Street	8:00 to 9:00	4:30 to 5:30		
Dixon Street	7:45 to 8:45	4:30 to 5:30		
Donlin Avenue	8:00 to 9:00	4:30 to 5:30		
Sandford Street/Carol Avenue	8:00 to 9:00	4:30 to 5:30		

As a worst-case scenario, the hours at which each intersection peaked were assessed in this study. For consistency, eastbound and westbound traffic volumes at Eagle Street were balanced between Yonge Street and Sandford Street/Carol Avenue (increased where appropriate).

Existing peak hour traffic volumes at the boundary roads during the roadway weekday AM and PM peak hours are shown in Figure 5. Detailed intersection turning movement count summaries and signal timing plans are provided in Appendix B.





Existing Traffic Signal

Stop Sign

xx (xx) Weekday AM (PM) Peak Hour

Not to Scale

Figure 5
Existing Traffic Volumes, Weekday AM and PM Peak Hours
Proposed Condominium Development, Eagle Street, Traffic Impact Study



10-024Fig.10-06-09Figures

3.4 Intersection Capacity and Queuing Analyses, Existing Conditions

Intersection capacity analyses for existing 2010 traffic conditions were completed for the boundary road intersections to determine the existing level of service (LOS) during the roadway weekday AM and PM peak hours. Intersection capacity and queuing analyses were completed using Synchro 7 and SimTraffic 7 software. The overall degree of saturation. level of service and queuing for the intersections analyzed are presented in Table 3, Table 4 and Table 5. Detailed calculations are included in Appendix C and level of service definitions are provided in Appendix D.

Table 3 – 2010 Existing Traffic Conditions – Signalized Intersections

Intersection		AM Peak	Hour		PM Peal	(Hour
		Delay			Delay	
Movement	V/C	(sec.)	LOS	V/C	(sec.)	LOS
Yonge Street and Eagle Street	0.75	29	С	0.87	41	D
Eastbound Left	0.26	44	D	0.48	50	D
Eastbound Through	0.74	56	E	0.84	67	E
Eastbound Right	0.14	42	D	0.40	48	D
Westbound Left	0.63	39	D	1.12	149	F
Westbound Through	0.62	39	D	0.62	44	D
Westbound Right	0.08	31	С	0.15	36	D
Northbound Left	0.77	26	С	0.85	39	D
Northbound Through	0.53	23	С	0.74	29	С
Northbound Right	0.19	18	В	0.19	19	В
Southbound Left	0.34	17	В	0.67	30	С
Southbound Through	0.61	28	С	0.64	31	С
Southbound Right	0.08	20	В	0.02	21	С
Eagle Street at Carol						
Avenue/Sandford Street	0.46	10	Α	0.51	10	В
Eastbound Left	0.03	4	Α	0.08	5	Α
Eastbound Through	0.49	6	Α	0.48	6	Α
Eastbound Right	0.03	4	Α	0.05	4	Α
Westbound Left	0.17	6	Α	0.22	6	Α
Westbound Through-Right	0.43	7	Α	0.52	8	Α
Northbound Left	0.25	21	С	0.34	22	C
Northbound Through-Right	0.32	21	С	0.46	22	С
Southbound Left	0.14	20	С	0.22	21	С
Southbound Through-Right	0.21	21	С	0.37	21	С

Table 4 – 2010 Existing Traffic Conditions – Unsignalized Intersections

Intersection	AM Peak Hour		PM Peak Hour	
	Delay		Delay	
Movement	(sec.)	LOS	(sec.)	LOS
Eagle Street at Dixon Boulevard	1	Α	2	В
Eastbound Left/Through/Right	0	Α	0	Α
Westbound Left/Through/Right	0	Α	1	Α
Northbound Left/Through/Right	24	С	32	D
Southbound Left/Through/Right	21	С	17	С
Eagle Street at Donlin Avenue	0	Α	0	Α
Eastbound Left/Through/Right	0	Α	0	Α
Westbound Left/Through/Right	0	Α	0	Α
Northbound Left/Through/Right	16	С	21	С
Southbound Left/Through/Right	12	В	18	С

Results of the capacity analyses indicate that the study area intersections are currently operating at a good to acceptable overall level of service and delay during the weekday AM and PM peak hours.

The westbound left-turn movement at the intersection of Yonge Street and Eagle Street operates over capacity during the PM peak hour. This movement cannot be improved (under a volume-to-capacity ratio of under 1.0) by signal timing adjustments at the intersection.

Table 5 – 2010 Existing Traffic Conditions – Queue Lengths

Intersection	Available	95th Percentile Queues		
Movement	Storage (m)	AM Peak Hour	PM Peak Hour	
Yonge Street at Eagle Street				
Eastbound Left	52	23	60	
Eastbound Right	42	45	64	
Westbound Left	40	64	100	
Westbound Right	38	39	64	
Northbound Left	55	53	98	
Northbound Right	55	26	80	
Southbound Left	59	57	67	
Eagle Street at Carol Avenue/Sandford Street				
Eastbound Left	50	5	9	
Eastbound Right	16	9	21	
Westbound Left	20	35	35	
Northbound Left	45	18	19	
Southbound Left	30	10	18	

Note: The value reported in the Synchro analysis as the 95 percentile is an adjusted value that is calculated by taking the average queue and adding a standard deviation of 1.67. This results in a value that is higher than the 95 percentile and a value that is not necessarily ever observed. Therefore, the value reported as the 95 percentile must be used with caution, since it may result in significant over-design, if applied as reported.

Results of the vehicle queuing analyses are as follows:

- At Yonge Street and Eagle Street during the AM peak hour, the westbound left-turn and northbound left-turn queue lengths exceed available storage lengths. However, queue length survey results provided in the next section indicate that westbound left turn vehicle queues do not block the proposed locations of the site driveways and the northbound left turn movement is unrelated to traffic at the site.
- → At Yonge Street and Eagle Street during the PM peak hour, all turning movement queue lengths exceed available storage lengths. However, as indicated in the following section, vehicle queues at the Yonge Street intersection do not have an impact on the proposed locations of the site driveways.
- At Eagle Street and Carol Avenue/Sandford Street during the AM peak hour, the westbound left-turn queue lengths exceed available storage lengths. During the PM peak hour, the eastbound right-turn and westbound left-turn queue lengths exceed available storage lengths provided. However, site traffic generated by the proposed development would not impact these turning movements.

3.4.1 Queue Length Surveys

In addition to analyzing peak hour intersection queue lengths using Synchro and SimTraffic 7.0 software, GENIVAR commissioned intersection queue surveys on Thursday May 27, 2010, at

Yonge Street and Eagle Street to determine whether existing queues could block the proposed site driveway locations.

Vehicle queues during the AM peak hour for westbound left-turn movements at Yonge Street and Eagle Street did not extend beyond Dixon Boulevard. During the AM peak hour, there were no vehicle queues for westbound left-turn traffic at Eagle Street and Dixon Boulevard.

PM peak hour the queue length surveys for westbound left-turn movements at Yonge Street and Eagle Street and for westbound left-turn movements at Eagle Street and Dixon Boulevard indicated that vehicle queues extended east of Dixon Boulevard three times for less then seven seconds per occurrence. The maximum vehicle queue length for the westbound left turns at Yonge Street and Eagle Street was recorded to be one vehicle in length, measured from a point east of the Yonge Street and Dixon Boulevard intersection. The vehicle queue summary is provided in Appendix G.

In summary, the site driveways are not expected to be blocked by westbound left-turn traffic at the intersections of Yonge Street and Eagle Street and at Eagle Street and Dixon Boulevard during the weekday AM and PM peak hours.

4. Development Traffic

4.1 Traffic Generation

Trip generation estimates for the site during the weekday AM and PM peak hours are generally determined by the Institute of Transportation Engineers (ITE) Trip Generation Manuals, 8th Edition. ITE rates for condominiums/townhomes (ITE Land Use Code 230) for the weekday AM peak hour is 0.44 trips per unit and for the weekday PM peak hour is 0.52 trips per unit.

Based on discussions with the Town of Newmarket, the ITE trip generation rates for townhouses are considered to be low, and given the nature of the townhouses and area context, it is expected that the auto ownership would be higher.

A review of the 2006 Transportation Tomorrow Survey data (provided in Appendix E) was used to determine trips made from comparable municipalities to Newmarket (Richmond Hill and Markham) per number of townhouse units within the municipality. Based on the review, a more conservative trip rate for the proposed development was obtained of 0.88 and 0.87 trips per unit during the weekday AM and PM peak hours, respectively. The directional distribution for site trips was obtained from ITE Land Use Code 230, Residential Condominiums/Townhomes. The results are summarized in Table 6.

Table 6 – Estimated Trip Generation, Weekday AM and PM Peak Hours

Land Use	Units		A۱	/I Peak H	our	PI	И Peak H	our
			ln	Out	Total	In	Out	Total
	192		17%	83%	100%	67%	33%	100%
Condominium/	R	ate	0.15	0.73	0.88	0.58	0.29	0.87
Townhouse	т	rips	29	140	169	112	55	167

Source: 2006 Transportation Tomorrow Survey Information.

The proposed development is expected to generate 169 trips (29 inbound trips and 140 outbound trips) during the weekday AM peak hour and 167 trips (112 inbound trips and 55 outbound trips) during the weekday PM peak hour.

4.2 Trip Distribution and Assignment

Site traffic distribution for the proposed development is based on information provided by 2006 TTS data for travel to and from the Town of Newmarket, as summarized in Table 7 and detailed information is provided in Appendix E.

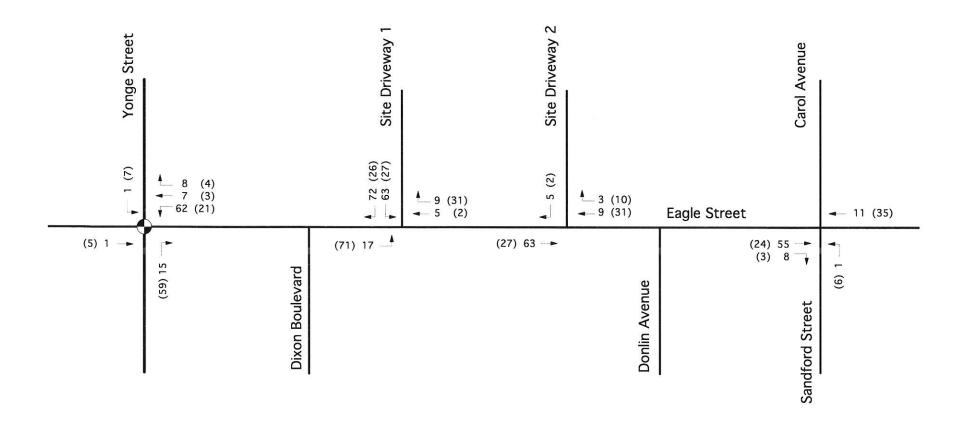
Table 7 – Estimated Site Trip Distribution

Location	Percent Trips	Direction
Hamilton	0	Hwy 404 to Hwy 401
Halton	1	Hwy 404 to Hwy 401
Peel	3	Hwy 404 to Hwy 401
Toronto	26	Hwy 404 to DVP
Durham	1	East on Leslie Street to Vivian Road
Georgina	1	North on Yonge Street
East Gwillimbury	1	North on Leslie Street
Newmarket	34	Local Roads
Aurora	8	South on Yonge Street and Leslie Street
Richmond Hill	5	South on Yonge Street and Leslie Street
Whitchurch-Stouffville	2	South on Leslie Street to Vivian Road
Markham	9	South on Leslie Street to Vivian Road
Vaughan	7	South on Yonge Street
King	2	South on Yonge Street
Total	100	

Source: 2006 Transportation Tomorrow Survey Information.

Based on the site traffic distribution obtained from Table 7, peak hour site traffic volumes were assigned to the boundary roadways, as illustrated in Figure 6.



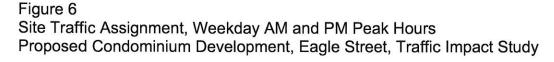


Existing Traffic Signal

Stop Sign

xx (xx) Weekday AM (PM) Peak Hour

Not to Scale





5. Future Traffic Conditions

5.1 Future Background Traffic Conditions

The future background traffic is estimated to be the current traffic volumes added to annual growth in through traffic on the boundary roads and added to planned developments or developments under construction within the immediate study area. Future background traffic growth is assessed for a five-year horizon period from the base year.

5.1.1 Annual Traffic Growth Rate

Eagle Street

Future background traffic volume growth at Yonge Street in the study area was estimated based on a comparison of the 2009 traffic count at Yonge Street and Eagle Street and the 2010 traffic count at Eagle Street and Dixon Boulevard for eastbound and westbound volumes during the PM peak hour, as provided in Table 8.

Table 8 – Annual Traffic Volume Growth Rate

Location	Year Eastbound		Westbound	Both	
				Directions	
Yonge Street and Eagle Street	2009	549	577	1126	
Eagle Street and Dixon Boulevard	2010	558	596	1154	
Exponential Growth Rate from 2009	2.5%				

Based on the review, a 2.5 percent annual growth rate was applied to eastbound and westbound through traffic volumes at Eagle Street in the study area for a five-year horizon period.

Yonge Street

Future background traffic volume growth at Yonge Street in the study area was estimated based on a comparison of Annual Average Daily Traffic (AADT) counts provided by York Region. The traffic volume comparison is shown in Table 9 and source data is provided in Appendix F.

Table 9 - Annual Traffic Volume Growth Rate

Year		Yonge Str	eet			Yonge Str	eet	
	North	South			North	South		
	of	of	Both	Growth	of	of	Both	Growth
	Mulock	Mulock	Directions	Rate	Davis	Davis	Directions	Rate
	Drive	Drive			Drive	Drive		
2004	31,041	0	n/a		0	0	n/a	
2005	0	0	0		0	33,781	n/a	
2006	36,551	31,268	67,819		37,534	32,814	70,348	
2007	37,625	34,035	71,660	5.7%	39,489	34,472	73,961	5.1%
2008	36,625	30,988	67,613	-5.6%	37,724	31,387	69,111	-6.6%
2009	40,922	30,913	71,835	6.2%	41,521	35,370	76,891	11.3%
Expone	ntial Grow	th Rate fro	m 2006 to					
2009				1.9%				25
Average	e of Both D	irections						2.5%

Source: AADT Counts provided by York Region

Additionally, the North Yonge Street Corridor Environmental Assessment, IBI Group, August 2008, was reviewed to determine future traffic growth. Future land use projections were determined by land use (population and employment) forecasts supplied by York Region as part of the Travel Demand Forecasting Model. Based on the York Region Transportation Demand Model, volumes on Yonge Street between Green Lane and Mulock Drive are projected to increase by at least 2 to 3 percent per annum until 2021, assuming current travel behaviour and the current transit infrastructure¹.

Based on the review, a 2.5 percent annual growth rate was applied to northbound and southbound through traffic volumes at Yonge Street in the study area for a five-year horizon period.

5.1.2 Other Area Developments

Based on discussions with Town of Newmarket Planning staff, there is one planned development of significance within the study area, which is a 400-unit residential condominium proposal at the northeast corner of Yonge Street and Millard Avenue. The site trips generated by the development (passing through the study area along the Yonge Street corridor) is accounted for in the future land use projections provided by York Region, resulting in the 2.5 percent per annum growth rate applied to the Yonge Street corridor (baseline conditions).

A map of development applications in the study area and related correspondence with Planning staff are provided in Appendix F.

¹ North Yonge Street Corridor Public Transit and Associated Road Improvements Environmental Assessment, Chapter 4, Section 4.2.2, page 4-1.

5.1.3 Planned Roadway and Transit Improvements

Eagle Street Improvements

Based on correspondence with the Town of Newmarket, there are no roadway improvements scheduled at Eagle Street within the study area.

Yonge Street Corridor Improvements

Roadway and transit improvements in the Yonge Street corridor are based on a review of the North Yonge Street Corridor Environmental Assessment, IBI Group, August 2008.

Based on the review, the preferred alternative within the study area includes improvements to enhance the capacity of Yonge Street, which could include widening from the existing four through lanes and centre left-turn lane to six through lanes and a centre left-turn lane, and/or various intersection improvements to enhance the capacity and movements within the corridor. These improvements would be implemented in conjunction with transit improvements.

The study findings demonstrate that increased through lane capacity by up to 50 percent (i.e. four to six lanes), would significantly improve traffic operations and safety on Yonge Street. Improvements to the Yonge Street capacity is the preferred transportation solution since it addresses both local and through traffic capacity, operations and safety between Mulock Drive and Green Lane. The potential widening in 2011 is to be determined as part of the EA study².

The preferred initial response to immediate and medium-term conditions for transit improvements at Yonge Street between Mulock Drive and Green Lane include rapid transit operating in mixed traffic curb high occupancy vehicle (HOV) lanes in conjunction with the widening of Yonge Street to six lanes.

The technically preferred design for long-term conditions (at such time as ridership in this section warrants dedicated lanes and transit reliability in mixed traffic is degraded) includes the widening of Yonge Street from Mulock Drive and Green Lane to accommodate rapid transit operating in a dedicated median rapidway.

Yonge Street Corridor Auto Trip Reduction

The introduction of rapid transit service along Yonge Street, integrated with other transit systems serving the area, will contribute to a reduction in traffic volumes along Yonge Street and surrounding streets. The North Yonge Street Corridor Environmental Assessment findings indicate that auto volume forecast 2021 volumes north of Eagle Street are expected to decrease from approximately 2,125 to 1,625 (by 24 percent) during the AM and PM peak hours with the implementation of full bus rapid transit.³

As a worst-case scenario, a transit trip reduction factor was not applied to the estimated future background traffic growth and site generated traffic in the study area for auto use. The roadway improvements (planned widening to six travel lanes at Yonge Street) are assumed in this study

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² North Yonge Street Corridor Public Transit and Associated Road Improvements Transit Class Environmental Assessment, IBI Group, August 2008, Section 3.2, page 32

³ North Yonge Street Corridor Public Transit and Associated Road Improvements Transit Class Environmental Assessment, IBI Group, August 2008, Pages 62 and 63, Exhibits 5.2 and 5.3

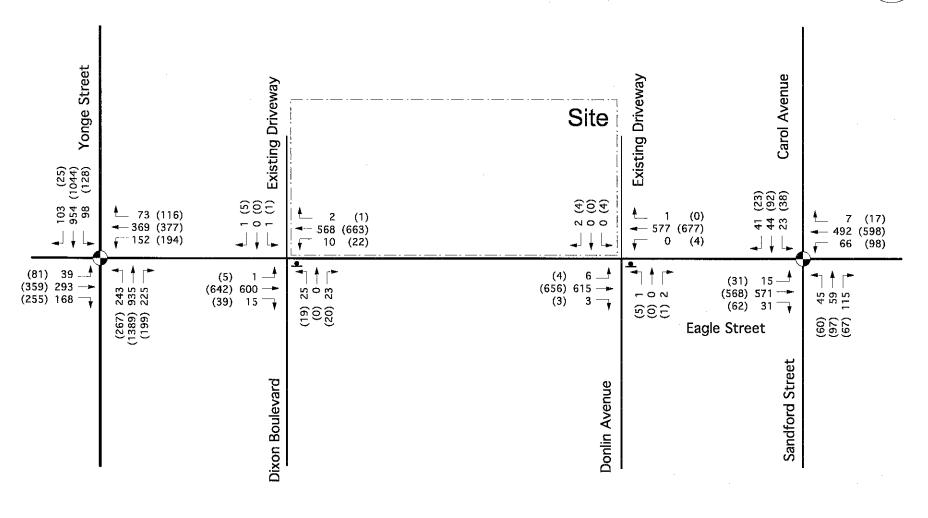
to not be in place for 2015 traffic conditions. 2015 future background traffic volumes for the study area are presented in Figure 7.

5.1.4 Intersection Capacity and Queuing Analysis, Future Background Traffic Conditions

Intersection capacity analyses for 2015 background traffic conditions were completed for the boundary road intersections to determine the future level of service (LOS) during the roadway weekday AM and PM peak hours. Intersection capacity and queuing analyses were completed using Synchro 7 and SimTraffic 7 software.

The overall degree of saturation, level of service and queuing for the intersections analyzed are presented in Table 10, Table 11 and Table 12. Detailed calculations are included in Appendix C and level of service definitions are provided in Appendix D.





lacksquare

Existing Traffic Signal

. Stop Sign

xx (xx) Weekday AM (PM) Peak Hour

Not to Scale

Figure 7 2015 Background Traffic Volumes, Weekday AM and PM Peak Hours Proposed Condominium Development, Eagle Street, Traffic Impact Study



Table 10 – 2015 Future Background Traffic Conditions – Signalized Intersections

Intersection	ction AM Peak Hour		our	PM Peak Hour		
	Delay			Delay		
Movement	V/C	(sec.)	LOS	V/C	(sec.)	LOS
Yonge Street at Eagle Street	0.85	36	D	0.93	50	D
Eastbound Left	0.27	43	D	0.47	39	D
Eastbound Through	0.84	63	E	0.94	70	Ε
Eastbound Right	0.24	42	D	0.37	37	D
Westbound Left	0.68	41	D	1.08	121	F
Westbound Through	0.69	40	D	0.67	34	С
Westbound Right	0.09	30	С	0.13	26	С
Northbound Left	0.88	51	С	0.95	71	E
Northbound Through	0.63	27	D	0.97	48	D
Northbound Right	0.21	21	C	0.21	20	В
Southbound Left	0.42	21	С	0.80	49	D
Southbound Through	0.75	35	D	0.93	47	D
Southbound Right	0.09	23	С	0.02	23	С
Eagle Street at Carol			_			_
Avenue/Sandford Street	0.51	10	В	0.57	11	В
Eastbound Left	0.03	4	Α	0.09	5	Α
Eastbound Through	0.56	7	Α	0.55	7	Α
Eastbound Right	0.03	4	Α	0.06	4	Α
Westbound Left	0.19	6	Α	0.25	7	Α
Westbound Through-Right	0.50	8	Α	0.59	9	Α
Northbound Left	0.25	21	С	0.34	22	С
Northbound Through-Right	0.32	21	С	0.46	21	С
Southbound Left	0.14	20	С	0.22	21	С
Southbound Through-Right	0.21	21	С	0.38	22	С

Table 11 – 2015 Future Background Traffic Conditions – Unsignalized Intersections

Intersection	AM Peak Hour		PM Peak Hour		
	Delay		Delay		
Movement	(sec.)	LOS	(sec.)	LOS	
Eagle Street at Dixon Boulevard/ Existing Driveway	2	A	2	В	
Eastbound Left/Through/Right	0	Α	0	Α	
Westbound Left/Through/Right	0	Α	1	Ą	
Northbound Left/Through/Right	32	D	49	E	
Southbound Left/Through/Right	26	D	22	С	
Eagle Street at Donlin Avenue/ Existing Driveway	0	Α	0	Α	
Eastbound Left/Through/Right	0	Α	0	Α	
Westbound Left/Through/Right	0	Α	0	Α	
Northbound Left/Through/Right	17	С	24	С	
Southbound Left/Through/Right	12	В	19	С	

Recommended improvements under future background traffic conditions at the intersection of Eagle Street and Yonge Street during the weekday AM peak hour include maintaining the 130 second cycle length from existing conditions, but increasing the westbound left and through movements and northbound left movement slightly (by one second) to improve the overall volume-to-capacity ratio. For the weekday PM peak hour, the cycle length was reduced from 130 seconds to 110 seconds, as compared to existing conditions. The proposed cycle length adjustment would not affect intersection operations at upstream and downstream intersections along Yonge Street as they are not coordinated with the intersection of Yonge Street and Eagle Street.

Results of the capacity analyses indicate that the intersections continue to operate at an acceptable level of service and delay similar to existing conditions.

Similar to existing conditions, during the weekday PM peak hour, the westbound left-turn movement is over capacity. However, the recommended signal timing adjustments improved the volume-to-capacity ratio of the turning movement to operate better than in existing conditions.

Table 12 - 2015 Future Background Traffic Conditions - Queue Lengths

Intersection	Available	95th Percentile Queues		
Movement	Storage (m)	AM Peak Hour	PM Peak Hour	
Eagle Street at Yonge Street				
Eastbound Left	52	21	49	
Eastbound Right	42	67	69	
Westbound Left	40	59	81	
Westbound Right	38	56	68	
Northbound Left	55	73	87	
Northbound Right	55	68	76	
Southbound Left	59	48	53	
Eagle Street at Carol Avenue/Sandford Street				
Eastbound Left	50	8	15	
Eastbound Right	16	21	12	
Westbound Left	20	22	40	
Northbound Left	45	13	32	
Southbound Left	30	12	17	

Note: The value reported in the Synchro analysis as the 95 percentile is an adjusted value that is calculated by taking the average queue and adding a standard deviation of 1.67. This results in a value that is higher than the 95 percentile and a value that is not necessarily ever observed. Therefore, the value reported as the 95 percentile must be used with caution, since it may result in significant over-design, if applied as reported.

Results of the vehicle queuing analyses are as follows:

- → At the intersection of Yonge Street and Eagle Street during the peak hours, the eastbound right-turn, westbound left-turn, westbound right-turn, northbound left-turn and northbound right-turn vehicle queue lengths exceed available storage lengths. However, these queue length deficiencies are the result of background traffic volume increases and not related to site traffic.
- → At the intersection of Eagle Street and Carol Avenue/Sandford Street during the weekday AM peak hour, the eastbound right-turn and westbound left-turn queues exceed available storage lengths. During the weekday PM peak hour, the westbound left-turn queues exceed available storage. However, these queue length deficiencies are the result of background traffic volume increases and not related to site traffic.
- → Future baseline conditions were assumed for the intersection of Yonge Street and Eagle Street, meaning increased growth in auto traffic without improvements such as widening Yonge Street in conjunction with improving transit infrastructure. The results of the analysis indicate that the planned improvements recommended in the North Yonge Street Corridor Environmental Assessment study will have a positive effect on maintaining a good level of service and delay at the Yonge Street. The York Region potential improvements include:
 - o rapid transit operating in mixed traffic curb high occupancy vehicle lanes in conjunction with the widening of Yonge Street to six lanes in the short to intermediate term

rapid transit operating in a dedicated median rapidway in the long-term

In summary, increased traffic volumes at the intersection of Yonge Street and Eagle Street, mainly in the northbound and southbound direction in the weekday PM peak hour is a result of background traffic volumes in the Yonge Street corridor. Overall, the intersection operates at an acceptable level of service under future background traffic conditions.

5.2 Future Total Traffic Conditions

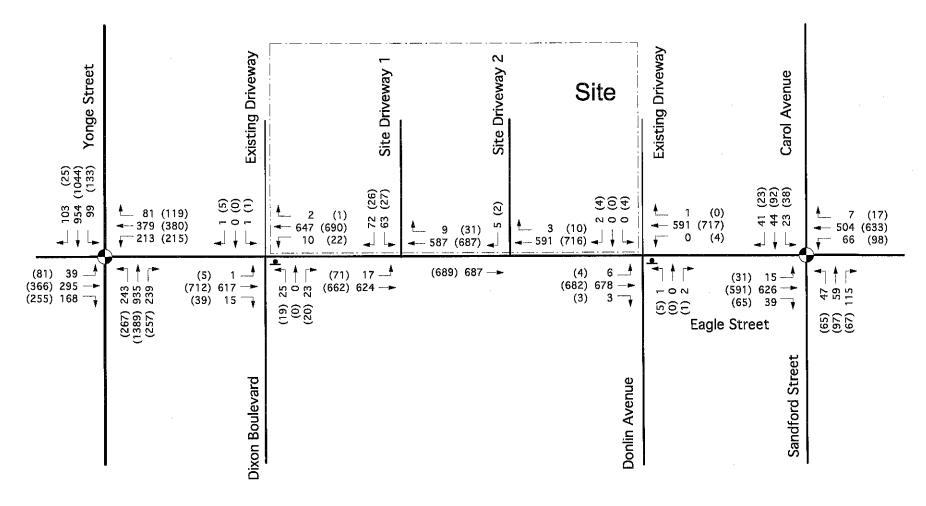
Future total traffic conditions include the addition of 2015 future background traffic volumes to the estimated site traffic volumes in the study area during the peak hours, as presented in Figure 8.

5.2.1 Intersection Capacity and Queuing Analysis, Future Total Traffic Conditions

Intersection capacity analyses for 2015 total traffic conditions were completed for the boundary road intersections to determine the future level of service (LOS) during the roadway weekday AM and PM peak hours. Intersection capacity and queuing analyses were completed using Synchro 7 and SimTraffic 7 software.

The overall degree of saturation, level of service and queuing for the intersections analyzed are presented in Table 13, Table 14 and Table 15. Detailed calculations are included in Appendix C and level of service definitions are provided in Appendix D.





Existing Traffic Signal

Stop Sign

xx (xx) Weekday AM (PM) Peak Hour

Not to Scale

Figure 8 2015 Total Traffic Volumes, Weekday AM and PM Peak Hours Proposed Condominium Development, Eagle Street, Traffic Impact Study



Table 13 – 2015 Future Total Traffic Conditions – Signalized Intersections

Intersection	AM Peak Hour				PM Peak	Hour
	Delay				Delay	
Movement	V/C	(sec.)	LOS	V/C	(sec.)	LOS
Yonge Street and Eagle						
Street	0.84	39	D	0.97	53	D
Eastbound Left	0.27	43	D	0.47	39	D
Eastbound Through	0.84	64	Е	0.95	72	E
Eastbound Right	0.24	42	D _.	0.37	37	D
Westbound Left	0.94	79	E	1.22	168	F
Westbound Through	0.70	40	D	0.67	34	С
Westbound Right	0.10	30	С	0.13	26	С
Northbound Left	0.88	52	D	0.95	72	Е
Northbound Through	0.64	28	С	0.98	48	D
Northbound Right	0.23	21	С	0.27	21	С
Southbound Left	0.43	21	С	0.84	56	Ε
Southbound Through	0.75	36	D	0.93	48	D
Southbound Right	0.09	24	С	0.02	23	С
Eagle Street at Carol					,	
Avenue/Sandford Street	0.55	10	В	0.59	11	В
Eastbound Left	0.03	4	Α	0.10	5	Α
Eastbound Through	0.61	8	Α	0.57	7	Α
Eastbound Right	0.04	4	Α	0.06	5	Α
Westbound Left	0.21	6	Α	0.27	7	Α
Westbound Through-Right	0.50	8	Α	0.63	10	Α
Northbound Left	0.25	21	С	0.37	22	С
Northbound Through-Right	0.32	21	С	0.46	22	С
Southbound Left	0.14	20	С	0.22	21	С
Southbound Through- Right	0.21	21	С	0.38	22	С

Table 14 – 2015 Future Total Traffic Conditions – Unsignalized Intersections

Intersection	AM Pea	ık Hour	PM Pea	ak Hour
	Delay		Delay	
Movement	(sec.)	LOS	(sec.)	LOS
Eagle Street at Dixon Boulevard/ Existing Driveway	2	A	2	В
Eastbound Left/Through/Right	0	Α	0	Α
Westbound Left/Through/Right	0	Α	1	. A
Northbound Left/Through/Right	39	E	66	F
Southbound Left/Through/Right	30	D	25	С
Eagle Street at Donlin Avenue/ Existing Driveway	0	A	0	Α
Eastbound Left/Through/Right	0	Α	0	Α
Westbound Left/Through/Right	0	Α	0	Α
Northbound Left/Through/Right	18	С	28	D
Southbound Left/Through/Right	12	В	22	С
Eagle Street at Site Driveway 1	3	В	2	E
Eastbound Through/Left	1	Α	2	Α
Westbound Through/Right	0	Α	0	Α
Southbound Left/Right	34	D	23	С
Eagle Street at Site Driveway 2	0	Α	0	Α
Westbound Through/Right	0	Α	0	Α
Southbound Right	12	В	14	В

Results of the capacity analyses indicate that the intersections continue to operate at an acceptable level of service and delay, similar to future background conditions.

The site driveways are expected to operate at an acceptable level of service and delay during the weekday AM and PM peak hours.

During the weekday PM peak hour, the westbound left-turn movement is expected to be over capacity. However, with the proposed signal timing improvements introduced under future background traffic conditions, the turning movement operates similar to the existing situation under future total traffic conditions.

Table 15 – 2015 Future Total Traffic Conditions – Queue Lengths

Eagle Street at Yonge Street 52 45 45 Eastbound Left 42 68 68 Westbound Left 40 84 94 Westbound Right 38 41 50 Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street Eastbound Left 50 6 9 Eastbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Eastbound Left/Right 30 20 21	Table 10 Zo 10 Future Total 11		IIIS QUOUC EC	19010
Eagle Street at Yonge Street 52 45 45 Eastbound Left 42 68 68 Westbound Left 40 84 94 Westbound Right 38 41 50 Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street Eastbound Left 50 6 9 Eastbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Eastbound Left/Right 30 20 21	Intersection	Available	95th Percer	ntile Queues
Eastbound Left 52 45 45 Eastbound Right 42 68 68 Westbound Left 40 84 94 Westbound Right 38 41 50 Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street 50 6 9 Eastbound Left 20 24 31 Northbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Movement	Storage (m)	AM Peak Hour	PM Peak Hour
Eastbound Right 42 68 68 Westbound Left 40 84 94 Westbound Right 38 41 50 Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street 50 6 9 Eastbound Left 50 6 9 Eastbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Eastbound Left/Right 30 20 21	Eagle Street at Yonge Street			
Westbound Left 40 84 94 Westbound Right 38 41 50 Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street Avenue/Sandford Street Eastbound Left 50 6 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Eastbound Left/Right 30 20 21	Eastbound Left	52	45	45
Westbound Right 38 41 50 Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street 80 80 80 Eastbound Left 50 6 9 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Eastbound Right	42	68	68
Northbound Left 55 56 99 Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street Avenue/Sandford Street Eastbound Left 50 6 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Westbound Left	40	84	94
Northbound Right 55 67 81 Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street 30 6 9 Eastbound Left 50 6 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Westbound Right	38	41	50
Southbound Left 59 52 78 Eagle Street at Carol Avenue/Sandford Street 50 6 9 Eastbound Left 50 6 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Northbound Left	55	56	99
Eagle Street at Carol Avenue/Sandford Street 50 6 9 Eastbound Left 50 6 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Northbound Right	55	67	81
Avenue/Sandford Street Eastbound Left 50 6 9 Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Southbound Left	59	52	78
Eastbound Right 16 19 33 Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	_			
Westbound Left 20 24 31 Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Eastbound Left	50	6	9
Northbound Left 45 19 20 Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Southbound Left/Right 30 20 21	Eastbound Right	16	19	33
Southbound Left 30 18 24 Eagle Street at Site Driveway 1 50 13 37 Eastbound Left/Through 50 13 37 Southbound Left/Right 30 20 21	Westbound Left	20	24	31
Eagle Street at Site Driveway 1501337Eastbound Left/Through50132021	Northbound Left	45	19	20
Eastbound Left/Through 50 13 37 Southbound Left/Right 30 20 21	Southbound Left	30	18	24
Southbound Left/Right 30 20 21	Eagle Street at Site Driveway 1			
	Eastbound Left/Through	50	13	37
	Southbound Left/Right	30	20	21
Eagle Street at Site Driveway 2	Eagle Street at Site Driveway 2			
Southbound Right 20 0 0	Southbound Right	20	0	0

Note: The value reported in the Synchro analysis as the 95 percentile is an adjusted value that is calculated by taking the average queue and adding a standard deviation of 1.67. This results in a value that is higher than the 95 percentile and a value that is not necessarily ever observed. Therefore, the value reported as the 95 percentile must be used with caution, since it may result in significant over-design, if applied as reported.

Results of the vehicle queuing analyses are as follows:

- → At the intersection of Yonge Street and Eagle Street during the peak hours, the eastbound right-turn, westbound left-turn, westbound right-turn, northbound left-turn and northbound right-turn vehicle queue lengths exceed available storage lengths. During the weekday PM peak hour, the southbound left-turn queues exceed available storage. However, only the westbound turning movement are related to site traffic and the results indicate that the proposed site driveways would not be blocked by vehicle queues at the intersection.
- → At the intersection of Eagle Street and Carol Avenue/Sandford Street during the weekday AM peak hour, the eastbound right-turn and westbound left-turn queues exceed available storage. During the weekday PM peak hour, the westbound left-turn queues exceed available storage. However, only the westbound turning movement are related to site traffic and the results indicate that the proposed site driveways would not be blocked by vehicle queues at the intersection.

As previously noted, future baseline conditions were assumed for the intersection of Yonge Street and Eagle Street, meaning increased growth in auto traffic without improvements such as widening Yonge Street in conjunction with improving transit infrastructure. Planned improvements recommended in the North Yonge Street Corridor Environmental Assessment study could improve the level of service and delay along the Yonge Street corridor under future conditions.

In summary, increased traffic volumes at the intersection of Yonge Street and Eagle Street, mainly in the northbound and southbound direction in the weekday PM peak hour is the result of background traffic volumes in the Yonge Street corridor. Overall, the intersection operates at an acceptable level of service and delay, below an overall volume to capacity ratio of 1.0 during the weekday PM peak hour.

6. Site Plan Review

6.1 Site Access Assessment

6.1.1 Spacing

The proposed driveway spacing (measured from centreline to centreline) is as follows:

- → Driveway 1 at Eagle Street is located approximately 58 metres east of Dixon Boulevard
- → Driveway 2 at Eagle Street is located approximately 19 metres west of Donlin Avenue

According to TAC guidelines for driveway spacing on local and collector roadways (Section 3.2.9.8 and Figure 3.2.9.3), spacing between an intersection and a full-moves driveway should provide for a 2.0-metre tangent length between curb returns. The proposed full moves driveways (Driveway 1) meets this requirement.

According to York Region Access Guidelines, proposed driveways should be outside the influence area of the Regional Road intersections (Yonge Street and Eagle Street), and assuming that Eagle Street is a commercial commuter roadway, a proposed minor access should be located at least 70 metres from the Regional intersection (YR Access Guidelines, page 14). All proposed driveway locations meet this requirement as the nearest access (Driveway 1) is located approximately 150 metres east of Yonge Street.

According to the Town of Newmarket Comprehensive Zoning By-law, Section 5.5, the minimum distance between a driveway and intersection for street lines measured along the street line intersected by such driveway should be 15 metres. As Driveway 2 does not meet this requirement, Driveway 2 is proposed as a right-in/right-out configuration to minimize turning conflicts with Donlin Avenue.

6.1.2 Right-in, Right Out Access Design

The design of Driveway 2, the right-in, right-out driveway, is based on a review of York Region Access guidelines and a review of TAC guidelines, specifically TAC Figure 3.2.9.1. The driveway width of the outbound radii were designed to accommodate a moving truck (an HSU vehicle) and a fire truck. The design was further refined by PDA Architects and consists of an 8m inbound radius and 12m outbound radius. The inbound lane width is 4m and the outbound lane width is 6m for the site driveway.

6.1.3 Sight Distance Review

Horizontal turning sight distances for the proposed driveways on Eagle Street were reviewed based on a design speed of 70 km/h. The desired turning sight distance of 275 metres is used, as identified in Table 1.2.5.6 of the TAC manual.

The sight distance availability for Driveways 1 and 2 were compared to the required value from the TAC manual and the results are summarized in Table 16.

Table 16 -	Approximate	Horizontal	Turning	Sight D	istance
1001010	, 10 b , 0 ,				

Driveway #	Direction	Actual Sight Distance	Required Sight Distance	
	Right turn (looking east)	>275 m	275 m	
1	Left turn (looking west)	7270 III	210111	
0	Right turn (looking east)	>275 m	275 m	
2	Left turn (looking west)	>275 III	2/5111	

Vertical Stopping Sight Distances (SSD) for proposed driveways on Eagle Street were reviewed. Based on a design speed of 70 km/h, the desired stopping sight distance ranges from 99.1 to 110.8 metres on Sag Vertical Curves, as identified in Table 2.1.3.4 of the TAC Manual. For the sight distance investigation, the stopping sight distance is measured based on an eye height of 1.05 metres to the object height of 0.38 metres.

The sight distance availability for Driveways 2 and 3 were compared to the required value from the TAC Manual and the results are summarized in Table 17.

Table 17 – Approximate Vertical Stopping Sight Distance

Driveway#	Direction	Actual Sight Distance	Required Sight Distance	
4	Looking East	>111 m	99.1 - 110.8 m	
ı	Looking West	~ 1111111	33.1 - 110.0 111	
0	Looking East	>111 m	99.1 - 110.8 m	
2	Looking West	>111 m	99.1 - 110.0 III	

In summary, the proposed driveways meet minimum horizontal and vertical sight distance requirements.

- 6.1.4 Driveway Gap Analysis
- 6.1.4.1 Existing Traffic Conditions at Site Driveway

Gap analyses were completed at the site driveways on Eagle Street for vehicles making leftturns to enter the site and for vehicles making left-turns to exit the site to determine if sufficient gaps will be available at the proposed driveway location(s).

Field surveys were completed by GENIVAR on Thursday May 27, 2010, at the proposed location of the site driveway (Eagle Street between Dixon Boulevard and Donlin Avenue) during the weekday peak periods. The results were analyzed using the ITE Traffic Engineering

Handbook, 5th Edition (pg. 124, Table 4-18) methodology for determining critical gaps (the time required for the first vehicle to accept a gap in roadway traffic) and follow-up times (the time required for the second vehicle to accept a gap in roadway traffic). The gap survey data is provided in Appendix G and the results of the analysis are presented in Table 18.

At the proposed location for a site driveway at Eagle Street, a southbound left turn is available when both eastbound and westbound lanes are clear at Eagle Street and an eastbound left turn is available with the westbound lane is clear on Eagle Street.

Table 18 – Critical Gaps and Follow-up Times at Eagle Street and Site Driveway – Existing Traffic Volumes

Time Period		Eastbound Left-turn from Eagle Street	Southbound Left- turn from Site Driveway
	Capacity	634	157
AM Peak Hour	Site Traffic	17	63
	Residual	617	94
	Capacity	501	59
PM Peak Hour	Site Traffic	71	27
	Residual	430	32

Results of the analysis indicate that if the site were developed today, traffic entering and exiting at the site driveway(s) are expected to have sufficient available gaps in roadway traffic during the weekday AM and PM peak hours.

6.1.4.2 Future Traffic Conditions at Site Driveways

A comparison of existing through roadway volumes and future through and future left-turn roadway volumes entering the site at the site driveway indicate approximately a 12.5 percent increase (2.5 percent per annum) in traffic volumes on Eagle Street with the site in operation by 2015. The results of the analysis for future conditions are shown in Table 19.

Table 19 – Critical Gaps and Follow-up Times at Eagle Street and Site Driveway – Future Traffic Volumes

Time Period		Eastbound Left-turn from Eagle Street	Southbound Left-turn from Site Driveway
	Capacity	555	137
AM Peak Hour	Site Traffic	17	63
	Residual	538	74
· · · · · · · · · · · · · · · · · · ·	Capacity	438	52
PM Peak Hour	Site Traffic	71	27
	Residual	367	25

Results of the gap analyses under future traffic conditions indicate that all movements entering and exiting the site driveway(s) are expected to have sufficient available gaps during the weekday AM and PM peak hours with the increase in traffic volumes estimated on Eagle Street.

6.2 On-site Parking

6.2.1 Parking Space Dimensions

On-site visitor parking spaces are provided with a stall length of 6.0 metres and a width of 2.60 metres, as per Section 5.2.2 (page 45) of the Town of Newmarket Zoning By-law, May 2010.

6.2.2 Parking Requirements and Supply

As per Section 5.3.1 (page 46) of the Town of Newmarket Zoning By-law, May 2010, requirements for residential tenant at the condominium building is 1.5 spaces per unit, requirements for residential tenant parking at the townhomes is 2.0 spaces per unit, and requirements for residential visitor parking is 0.25 spaces per unit. The overall parking requirement for the site containing 154 condominium units and 38 townhouse units is 356 parking spaces. The site parking requirements and supply are shown in Table 20.

Table 20 – Parking Requirements and Supply

Type of Parking Uni		Parking Re	Parking	
		Rate (spaces/unit)	Requirement (spaces)	Provided (spaces)
Condominium - Tenant	154	1.5	231	231
Condominium - Visitor		0.25	39	39
Townhouse - Tenant	38	2.0	76	76
Townhouse - Visitor		0.25	10	14
Total	192		356	360

6.2.3 Site Parking Demands Based on Local Data

A review of the 2006 Transportation Tomorrow Survey (TTS) information on auto ownership for the planning district, in which the subject site is located, indicates the following trends:

- → For townhomes, 3 percent do not own a vehicle, 47 percent own one vehicle, 42 percent own two vehicles, and 8 percent own three or more vehicles.
- → For apartments (including condominiums), 13 percent do not own a vehicle, 73 percent own one vehicle, 14 percent own two vehicles, and 0 percent own three or more vehicles.

Applying these statistics to the proposed development results in a parking demand for 214 spaces for residential tenant/owner uses (or a parking rate of 1.12 spaces per unit). The results are summarized in Table 21.

As previously mentioned, applying the Newmarket by-law rate of 0.25 parking spaces per unit results in a visitor parking requirement of 49 spaces. As a result, the overall parking demand at the site is expected to be 263 parking spaces.

In summary, the proposed parking supply of 360 spaces meets Newmarket zoning by-law requirement of 356 spaces, of which 307 spaces are required for residents and 49 spaces are required for visitors. Based on the TTS review for local characteristics within the Town, the site parking demands could be as low as 263 parking spaces, of which 214 spaces would be for residents and 49 spaces would be for visitors.

Table 21 – Review of Anticipated Vehicle Ownership at the Site

	· · <u> </u>			
Dwelling Type and		Newmarket 2006 TTS Data		
Vehicle Ownership		TTS Auto Ownership, Newmark		
	Units	(P	lanning District 27)	
		Townhomes	Condominium	Total
Condominium				
Private Road	154			
Town House				
Private Road	38			
Total units	192			
% units without vehicle =		3%	13%	
units without a vehicle =		1	20	
units with a vehicle =		37	134	
% units with 1 vehicle =		47%	73%	
% units with 2 vehicles =		42%	14%	
% units with 3+ vehicles =		8%	0%	
units with a vehicle:				
1-vehicle units =		18	112	
2-vehicle units =		32	43	
3+-vehicle units =		9	0	
Total parking=		59	155	214
Parking ratio =				1.12

Source: 2006 Transportation Tomorrow Survey data

6.3 Internal Plan Review

The proposed internal roadways and site accesses were reviewed using AutoTURN 6.0 vehicle turning template software, as provided in Figure 9 through Figure 14.

Turning templates reviewed include:

- → fire truck site access and egress and on-site circulation within the designated fire route
- → TAC heavy single unit vehicle (moving truck) accessing and egressing the loading area to and from Eagle Street
- → garbage truck accessing and egressing the loading area to and from Eagle Street

Results of the turning template review indicate that the site provides for the safe and efficient circulation of vehicles expected to use the site.

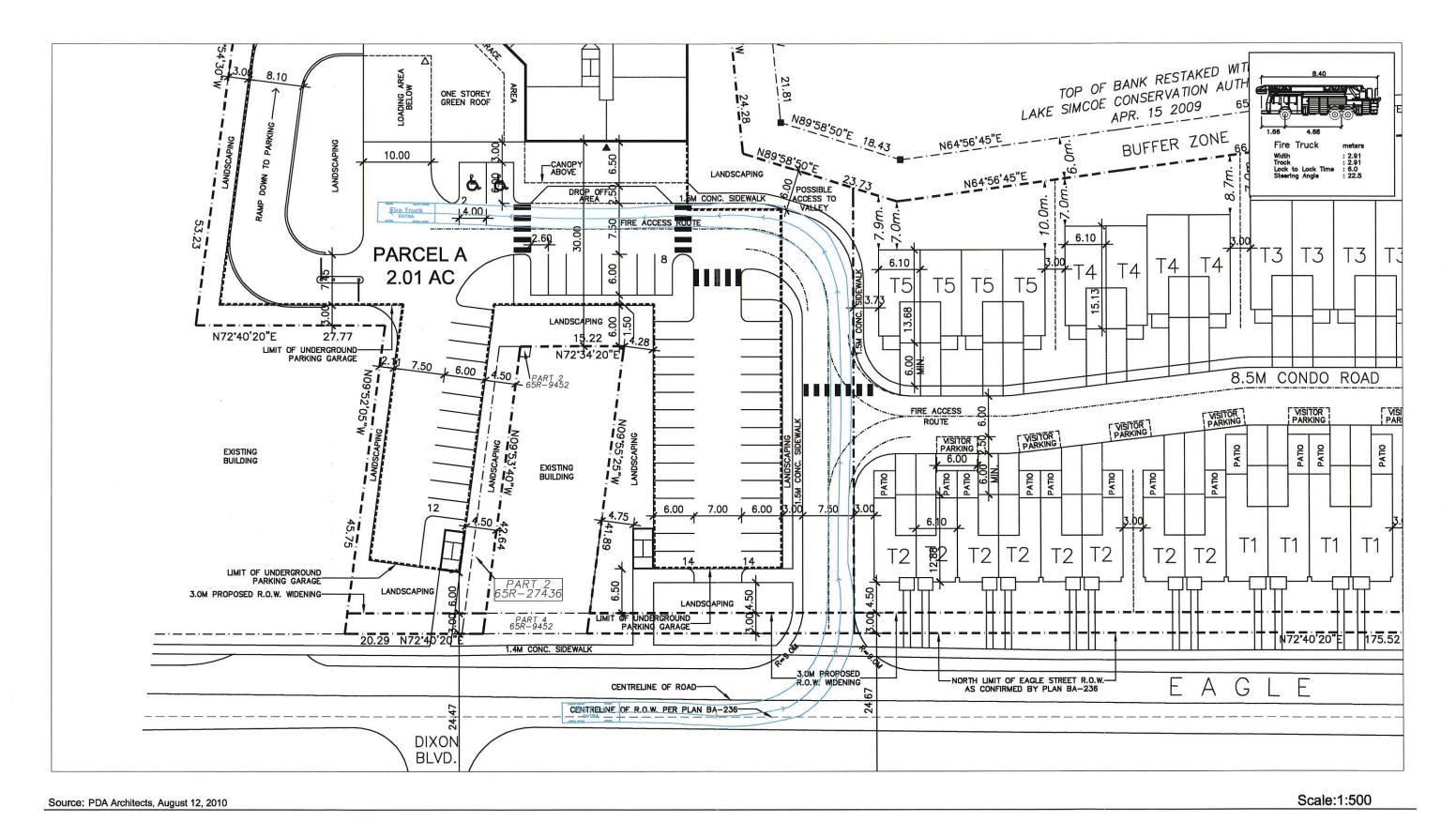
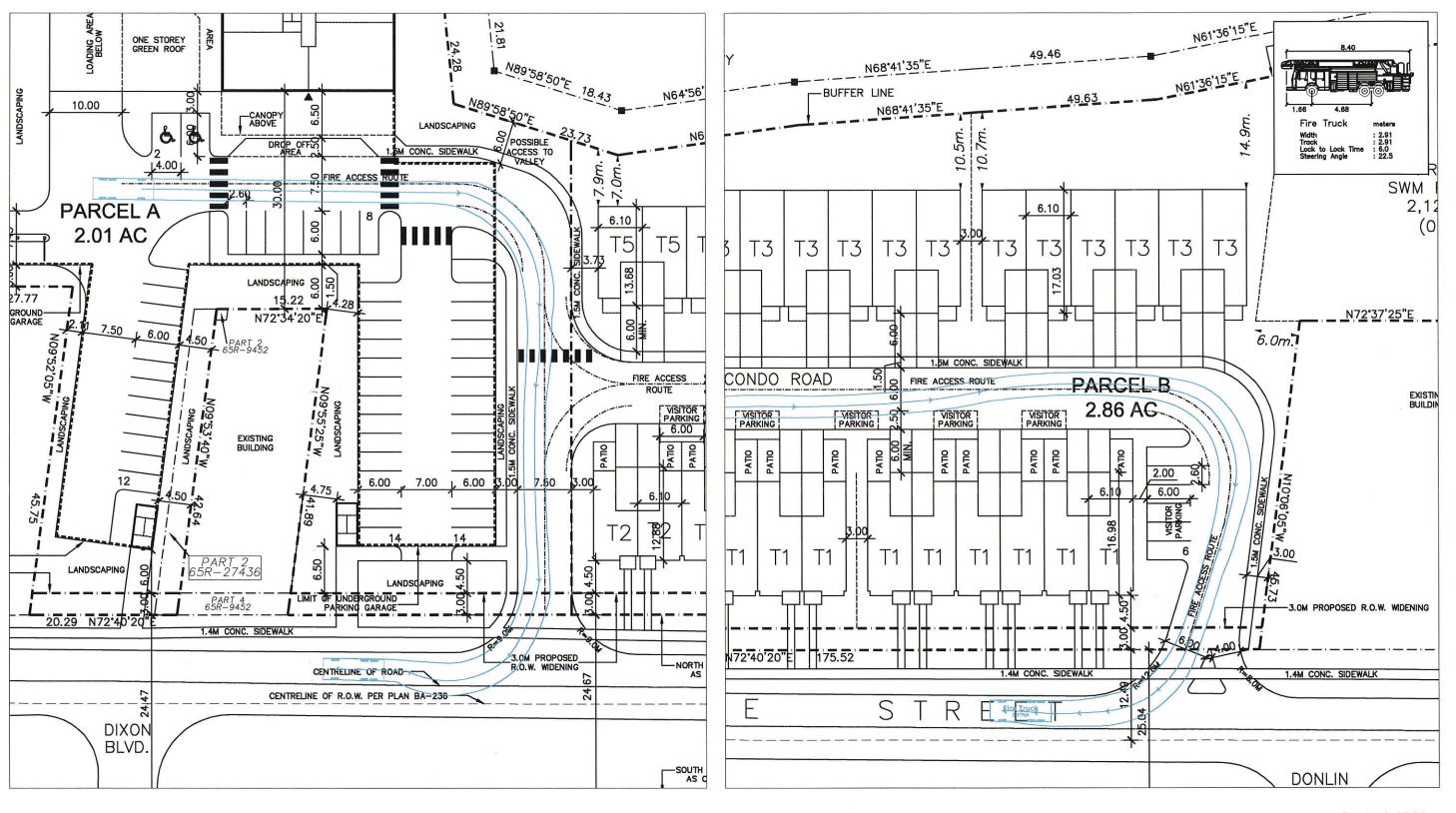


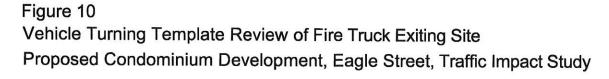
Figure 9
Vehicle Turning Template Review of Fire Truck Entering Site and Circulating On-site
Proposed Condominium Development, Eagle Street, Traffic Impact Study



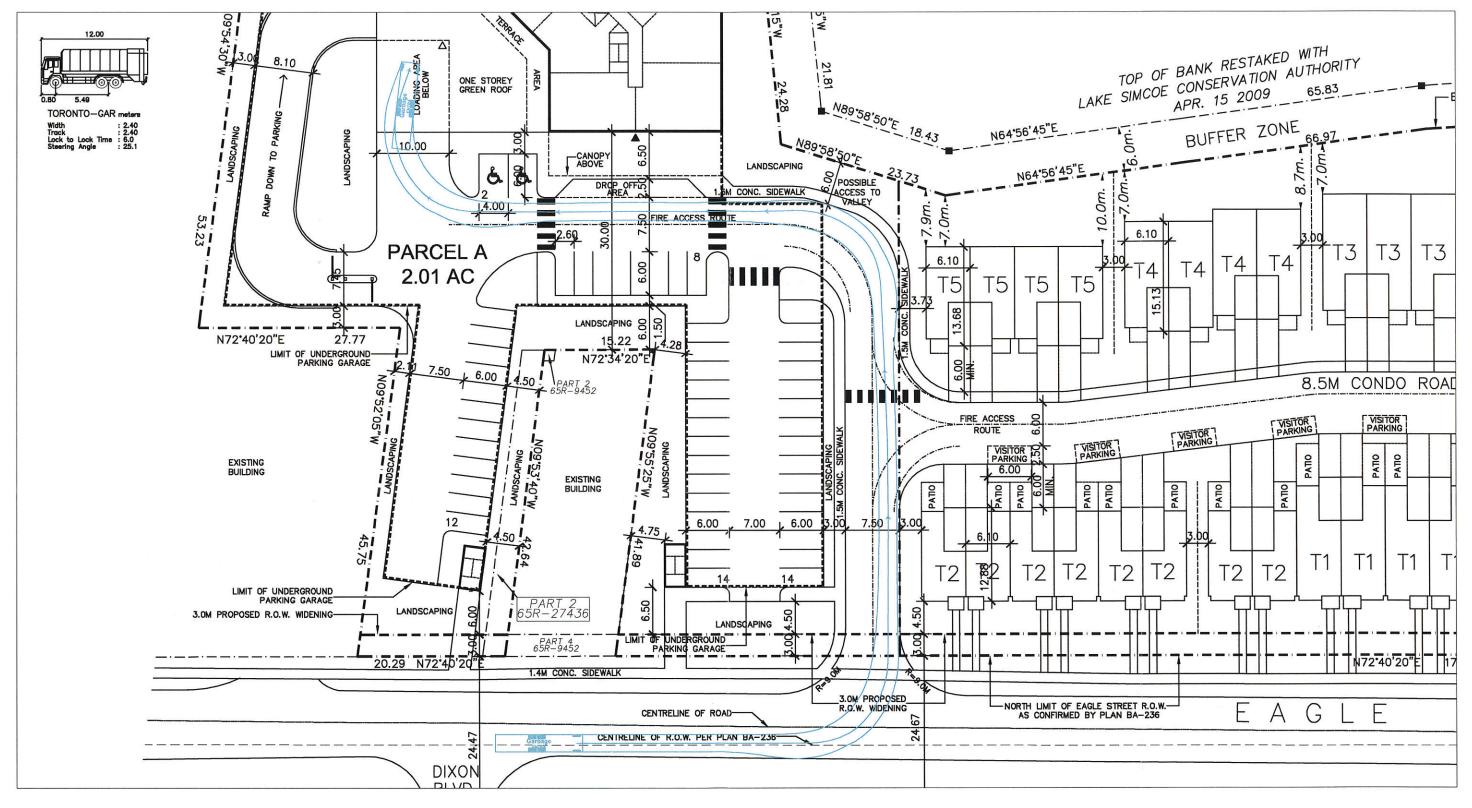


Source: PDA Architects, August 12, 2010

Scale:1:1000







Source: PDA Architects, August 12, 2010

Scale:1:500

Figure 11
Vehicle Turning Template Review of Garbage Truck Entering Site and Accessing Loading Area
Proposed Condominium Development, Eagle Street, Traffic Impact Study



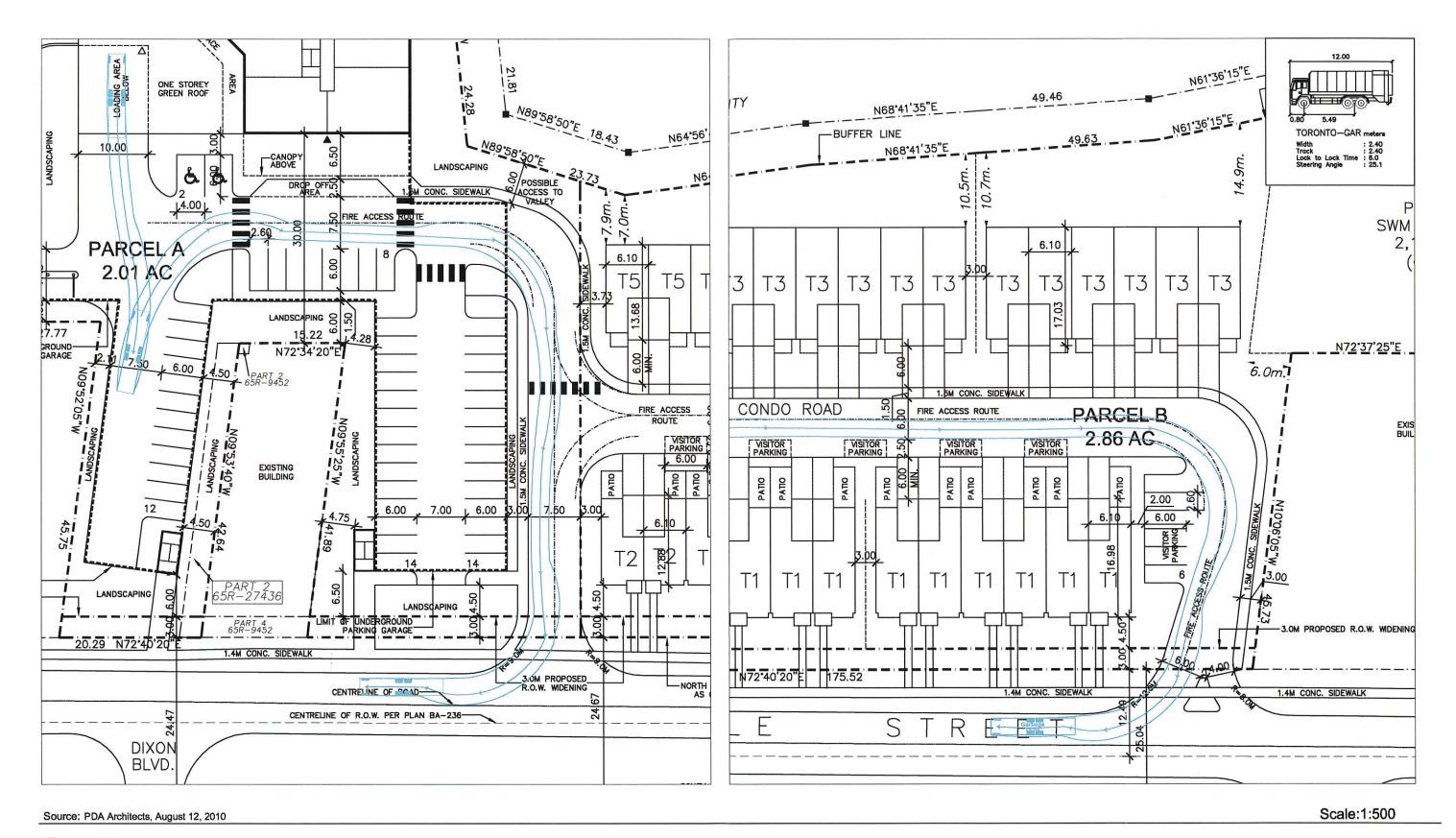
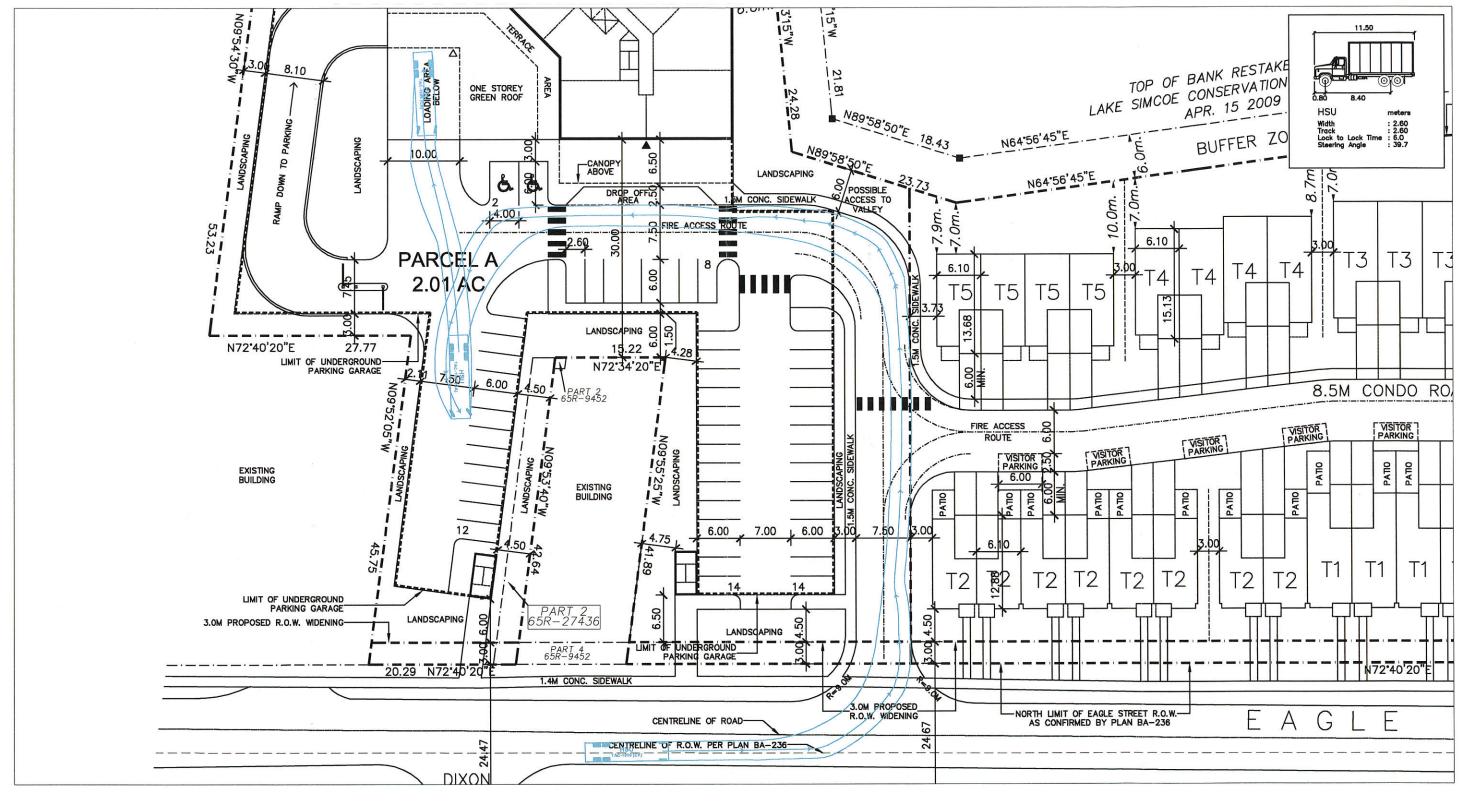


Figure 12
Vehicle Turning Template Review of Garbage Truck Egressing Loading Area and Exiting Site
Proposed Condominium Development, Eagle Street, Traffic Impact Study





Source: PDA Architects, August 12, 2010

Scale:1:500

Figure 13
Vehicle Turning Template Review of Heavy Single Unit Vehicle Entering Site and Accessing Loading Area
Proposed Condominium Development, Eagle Street, Traffic Impact Study



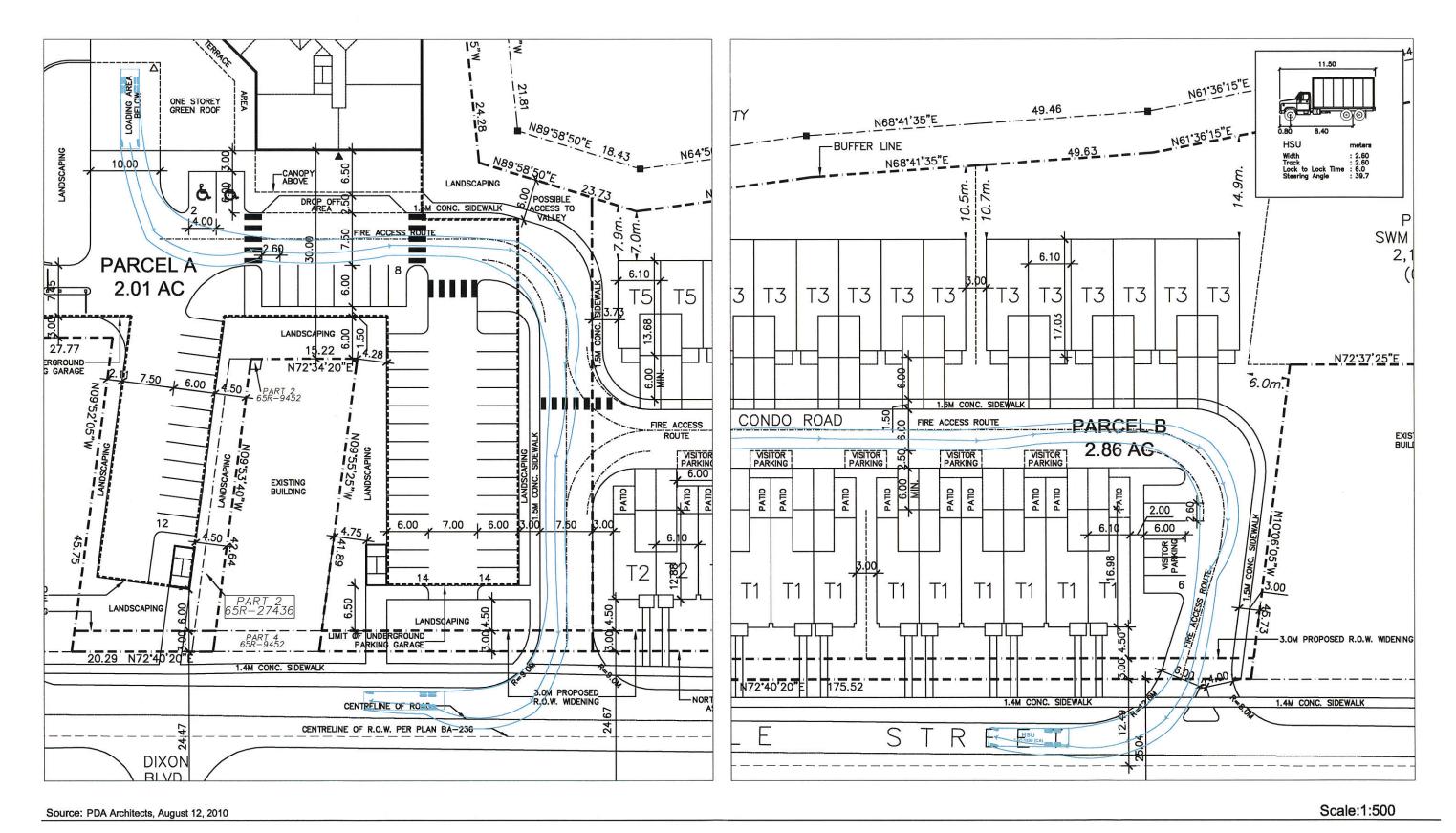


Figure 14
Vehicle Turning Template Review of Heavy Single Unit Vehicle Egressing Loading Area and Exiting Site
Proposed Condominium Development, Eagle Street, Traffic Impact Study



7. Summary and Conclusions

7.1 Summary

The Traffic Impact Study for the proposed condominium development at Eagle Street in the Town of Newmarket is summarized as follows:

- → The proposed development consists of two parcels: Parcel A and Parcel B. Parcel A is a condominium building with 154 units. Parcel B contains 38 townhouse units. Parcel A and Parcel B combined contains 192 units.
- Results of the existing capacity analyses indicate that the study area intersections are currently operating at a good level of service and delay during the weekday AM and PM peak hours.
- → The proposed development is expected to generate 169 trips (29 inbound trips and 140 outbound trips) during the weekday AM peak hour and 167 trips (112 inbound trips and 55 outbound trips) during the weekday PM peak hour. Site trips were distributed and assigned to the boundary roadways based on TTS data and local area travel patterns.
- → A 2.5 percent annual growth rate was applied to through traffic volumes at Yonge Street in the study area for a 5-year horizon period based on a review of the North Yonge Street Corridor EA and a review of historic AADT counts. Similarly, a 2.5 percent annual growth rate is applied to through traffic volumes at Eagle Street for a 5-year horizon period to determine future background traffic growth.
- → There is one planned area development of significance included in the analysis of background traffic volumes, which is a 400-unit residential condominium proposal at the northeast corner of Yonge Street and Millard Avenue.
- → There are no roadway improvements scheduled at Eagle Street within the study area.
- → Transit improvements in the Yonge Street corridor were outlined in the North Yonge Street Corridor Environmental Assessment, IBI Group, August 2008. The preferred initial response to immediate and medium-term conditions for transit improvements at Yonge Street between Mulock Drive and Green Lane include rapid transit operating in mixed traffic curb high occupancy vehicle lanes in conjunction with the widening of Yonge Street to six lanes. The traffic assessment assumes a worst-case scenario with no transit improvements.
- → Results of the future background traffic capacity analyses indicate that the study area intersections continue to operate at an acceptable level of service (Yonge Street and Eagle Street operates below a volume-to-capacity ratio of 1.0). Similar to existing conditions, during the weekday PM peak hour, the westbound left turn movement is over capacity. However, with the proposed signal timing improvements, the intersection movement is expected to continue to operate similar to the existing situation under future background and total traffic conditions.

- → Results of the total traffic capacity analyses indicate that the intersections continue to operate at an acceptable level of service and delay, similar to future background conditions. Site traffic has minimal impact on the overall operations of the study area intersections.
- → The site driveways are expected to operate with good levels of service and delay, meet spacing and sight-distance requirements and are expected to operate with sufficient gaps to allow for site traffic to enter and exit.
- → The site parking supply meets the parking requirements, as provided by the Town of Newmarket draft zoning by-law. A review of Transportation Tomorrow Survey data for the area indicates that site parking demands could be lower than the Newmarket by-law requirement.
- → The site plan provides for the safe and efficient circulation of fire trucks, heavy single-unit trucks, garbage trucks and passenger vehicles.

7.2 Conclusions

The Traffic Impact Study conclusions are as follows:

- → Under future background traffic conditions at the intersection of Eagle Street and Yonge Street, during the weekday AM peak hour, the westbound left and through movements and northbound left movement were increased slightly (by one second) to improve the overall volume-to-capacity ratio of the intersection.
- → Under future background traffic conditions at the intersection of Eagle Street and Yonge Street, during the weekday PM peak hour, the cycle length was decreased from 130 seconds to 110 seconds to improve the overall volume-to-capacity ratio of the intersection. The proposed cycle length adjustment would not affect the operation of upstream and downstream intersections along Yonge Street as they are not coordinated with Eagle Street and Yonge Street.
- → Increased traffic volumes at the intersection of Yonge Street and Eagle Street is mainly the result of increased background traffic, as site traffic volumes have a minimal impact on intersection operations. Overall, the intersections are expected to continue to operate at an acceptable level of service (below capacity) in the short-term (five-year horizon). Planned improvements to transit in the Yonge Street corridor would further improve intersection operations in the long-term.

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Appendices

- A. Terms of Reference
- B. Turning Movement Counts and Signal Timing Plans
- C. Intersection Capacity Analysis
- D. Level of Service Definitions
- E. Transportation Tomorrow Survey Data
- F. Background Traffic Information
- G. Intersection Queue and Gap Survey Data

Appendix A

Terms of Reference



10-024

May 28, 2010

Mr. M. Kryzanowski Town of Newmarket 395 Mulock Drive, P.O. Box 328, STN Main Newmarket, ON L3X 1V8

Re: Traffic Impact Study Assumptions – Residential Development – Eagle Street,
Town of Newmarket

Dear Mr. Kryzanowski:

GENIVAR has been retained to complete a Traffic Impact Study (TIS) and Parking Review for a proposed residential subdivision located on Eagle Street, east of Yonge Street, in the town of Newmarket.

This letter outlines the key assumptions, parameters and methodologies for The Traffic Impact Study of the proposed development. Please review and provide comments and additional information/data where indicated.

Proposed Land Uses

The proposed development will contain two development parcels:

- Parcel A will consist of a 10-storey condominium building with approximately 141 residential dwelling units and 259 parking spaces
- Parcel B will consist of 41 townhouses and 14 visitor parking spaces

Site Access

The proposed development provides three accesses on Eagle Street. The site will be interconnected by an internal street.

The site is currently undeveloped and is surrounded by existing residential developments.

Study Area

Our study area will encompass the proposed site driveways and the intersections of:

- Yonge Street and Eagle Street
- Eagle Street and Dixon Boulevard
- Eagle Street and Donlin Avenue
- Eagle Street and Carol Avenue/Sandford Street

Study Guidelines

GENIVAR will conduct the TIS based on the following guidelines and by-laws:

- Transportation Impact Study Guidelines for Development Applications, York Region, August 2007
- · York Region Official Plan, December 2009
- Town of Newmarket Official Plan, October 2006
- Comprehensive Zoning By-law, 3rd Draft, Town of Newmarket, May 2010

Analysis Period

GENIVAR will analyze weekday AM and PM peak hours.

Study Horizons

Based on the proposed development sizes, it is estimated that the generated peak hour total site trips will be less than 500. Also, it is anticipated that this development will be implemented once approval is granted. Therefore, as recommended in the Region's TIS Guidelines for Development Applications, the five-year horizon for this project will be assessed, which is 2015.

Traffic Counts

GENIVAR will use traffic counts completed within the last two years, as shown in Table 1.

Table 1 – Traffic Counts Sources

Intersection	Date	Source
Yonge Street and Eagle Street	February 2009	York Region
Eagle Street and Carol Avenue/Sandford Street	To be provided	Town of Newmarket
Eagle Street and Dixon Boulevard	May 2010	GENIVAR
Eagle Street and Donlin Avenue	May 2010	GENIVAR

Action: Please provide the turning movement counts at the intersection of Eagle Street and Carol Avenue/Sandford Street, as confirmed via email that the Town has less than two-year old turning movement counts.

GENIVAR has commissioned weekday turning movement counts at the unsignalized intersection of Eagle Street at Dixon Boulevard and Donlin Avenue. The counts were completed on Thursday, May 27, 2010.

Trip Generation

Site generated trips will be determined based on fitted curve equations for Residential Condominium/Townhouse for the retail building provided by the Institute of Transportation Engineers (ITE) Trip Generation, 8th Edition. The following ITE land use codes will be applied:



- Condominium units: ITE Land Use Code 230 Residential Condominium/Townhouse
- Townhouse units: ITE Land Use Code 230 Residential Condominium/Townhouse

Pass-by Trips/Diverted Link Trips

No pass-by trips or diverted link trips will be accounted for in the AM and PM peak hour site trips generated by the proposed residential development.

Trip Distribution and Assignment

GENIVAR will distribute and assign site trips based on 2006 Transportation Tomorrow Survey (TTS) data for home-based trips and based on local travel patterns for the Town of Newmarket.

Background Traffic Growth Rate

GENIVAR will review historical Average Annual Daily Traffic (AADT) volume counts (minimum of the past three years) on Yonge Street and Eagle Street to determine suitable background traffic growth rates related to through trips.

Area Developments

Action: Please indicate whether there are any other approved and planned improvements within the immediate study area within the next five years to be included in our assessment.

Roadway and Transit Improvements

Action: Please indicate whether there are any roadway, intersection and/or transit improvements within the study area scheduled within the next five years

Synchro Settings

GENIVAR will input parameters based on the Region's TIS Guidelines and signal timing data being collected from the Region. In the absence of the available parameters, GENIVAR will use the default Synchro 7.0 settings. The key parameters to be used are as follows:

- 0.92 peak hour factor (PHF)
- 1900 vphpl ideal saturated flow rate
- zero lost time adjustment

Site Access Review

The site access review will be conducted based on the Town's May 2010 Comprehensive Zoning By-law (3rd Draft) and Geometric Design Guide for Canadian Roads, published by the Transportation Association of Canada (TAC). The review will include the following:

- The driver sight distances, site access spacing, configuration and dimensions at the locations where the site accesses intersect the boundary roadways to ensure efficient traffic operations and conformance with Town and Region standards.
- Discussion with Town staff indicated that the Town required a gap and queuing analysis completed for the driveways to assess the operations of the multiple access in a



relatively short distance. A gap survey and a queue survey were conducted on May 27, 2010, for the following locations:

- gap survey for southbound left-turn from the site and eastbound left-turn into the site
- queuing study of westbound left-turn queue on Eagle Street at Yonge Street, Dixon Boulevard and Donlin Avenue, and westbound left-turn queue on Eagle Street between Dixon Boulevard and Donlin Avenue
- based on the gap and queuing survey, the study will determine if the proposed site
 access locations are acceptable and do not result in conflicts with left-turning
 vehicles, and, if turning lanes are required, determine recommended storage and
 taper length required to safely accommodate traffic to be generated from the
 proposed development

Action: Please advise/provide the standards/guidelines to be used to assess the driveway access and intersection spacing.

Site Plan Assessment

GENIVAR will conduct a review of the proposed site plan, including the site driveway, site parking, and on-site circulation based on the Town's by-laws, assess the operation of passenger vehicles and service vehicles (fire and garbage) and the accessibility of parking spaces using AutoTURN 6.0 vehicle turning template software.

We would appreciate if you could provide your comments on the above key assumptions and methodologies and requested data/information detailed in this letter by Wednesday, June 2, 2010. If you have any questions, please feel free to contact me or Sharon Sterling, the Project Manager.

Yours truly,

GENIVAR Consultants LP

Anil Seegobin, P.Eng

Traffic Analyst

Attachment – Exhibit 1 – Proposed Site Plan and Context

cc: Carl Smith, York Region

Peter Allen, Peter E. Allen & Associates

TY/hf

10-024let10-05-26AnalysisAssumption.docx



Exhibit 1 - Proposed Site Plan and Context





Subject: RE: Terms of Reference - Eagle Street - Trip Rates

Date: Tuesday, June 8, 2010 4:06 PM

From: Kryzanowski, Mark <mkryzanowski@newmarket.ca>
To: ENTRA Consultants <anil.seegobin@genivar.com>
Cc: Sharon Sterling <Sharon.Sterling@genivar.com>

Anil,

There seems to be some mis-communication between yourself and Sharon OR maybe I am missing something. I have a voice message from Sharon that is stating the townhouse rate was to be used for the condo towers.

Whoever is the project manager for this project, I would appreciate one (1) email with the proposed rates one more time, for clarity, for my sake.

I must apologize that I am not as responsive on this, but I am in the middle of the second last Council cycle prior to election.

Thank you.

Mark Kryzanowski
Senior Transportation Coordinator
Engineering Services
Town of Newmarket
905-953-5300 extension 2508

From: Anil Seegobin [mailto:Anil.Seegobin@genivar.com]

Sent: Tuesday, June 08, 2010 3:21 PM

To: Kryzanowski, Mark

Subject: Re: Terms of Reference - Eagle Street - Trip Rates

Thanks. If you could respond to my previous email (also below) about the trip rates that would be helpful as well.

The average for Richmond Hill and Markham works out to 0.38 AM and 0.44 PM trips per apartment style unit. Condos are included as apartment style units. Please confirm that this approach is OK for generating trips for the condo building.

Thanks,

Anil

On 08/06/10 2:29 PM, "Kryzanowski, Mark" <mkryzanowski@newmarket.ca> wrote: Anil,

No planned road improvements in the next 5 years on Eagle from Yonge to Carol.

Mark Kryzanowski Senior Transportation Coordinator Engineering Services Town of Newmarket 905-953-5300 extension 2508

From: Anil Seegobin [mailto:Anil.Seegobin@genivar.com]

Sent: Tuesday, June 08, 2010 10:58 AM

To: Kryzanowski, Mark

Cc: Sharon Sterling; Thomas You

Subject: FW: Terms of Reference - Eagle Street

Hi Mark,

Could you please also confirm whether any road improvements are planned at Eagle Street from Yonge Street to Carol Avenue within the timeframe of the study (the next five years)? If drawings are available, please provide.

We will coordinate with York Region for info on transit improvements and for roadway improvements at Yonge Street (and review the North Yonge Street EA as requested).

Thanks, Anil

----- Forwarded Message

From: ENTRA Consultants <anil.seegobin@genivar.com>

Date: Tue, 08 Jun 2010 10:21:47 -0400

To: "Kryzanowski, Mark" < mkryzanowski@newmarket.ca>

Cc: Thomas You <Thomas.You@genivar.com>, Sharon Sterling <Sharon.Sterling@genivar.com>

Conversation: Terms of Reference - Eagle Street **Subject:** Re: Terms of Reference - Eagle Street

Good morning Mark,

Further to Sharon's email, we've completed the trip generation review as requested:

Please see attached. A comparison of Richmond Hill and Markham trips per apartment unit yields an AM trip rate of 0.38 and a PM trip rate of 0.44.

Note that the proposed development is a condominium building and not an apartment building. ITE rates for a condo/townhouse (land use code 230) are slightly higher at AM 0.44 and PM 0.49. Please indicate whether you agree with using the rates generated by the TTS review for the condominium building.

To complete the traffic study, we would also like to request the following:

- 1. A contact person at the Town (name, email, phone) to provide historic traffic counts (ATR or AADT) at Eagle Street, east of Yonge Street for the past five years.
- 2. A contact person at the Town to provide information on area background developments (and the associated traffic impact studies if the development is significant).

Thank you for your continued assistance.

GENIVAR

Anil Seegobin, P.Eng | Traffic Engineer GENIVAR | Constructive People 2800 Fourteenth Avenue, Suite 210 Markham, ON L3R 0E4 (905) 946-8900 | www.GENIVAR.com Anil.Seegobin@genivar.com

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On 04/06/10 2:01 PM, "Kryzanowski, Mark" <mkryzanowski@newmarket.ca> wrote: Sharon.

Thank you for the information. I feel that this method is a good alternative for the ITE rates for townhouses. The rate is more what have seen from some of the larger townhouse blocks. However, this method illustrates the potential flaw for apartment rates. I am not sure what TTS classifies as an 'apartment', but a significant number of apartment buildings in the town are either senior's apartments or retirement complexes. Peak hour and total trips generation for these are typically low, and significant enough to possibly skew the results.

I might suggest a similar exercise be undertaken for Richmond Hill and Markham as comparison. These two municipalities have similar transportation infrastructure and a little better transit service. These two rates may be reflective of the future trip rate for the apartment buildings in Newmarket. If they are reasonably comparable, then we can go with your rates proposed.

Mark Kryzanowski Senior Transportation Coordinator Engineering Services Town of Newmarket 905-953-5300 extension 2508

From: Sharon Sterling [mailto:Sharon.Sterling@genivar.com]

Sent: Friday, June 04, 2010 11:36 AM

To: Kryzanowski, Mark

Cc: Thomas You; Anil Seegobin; Aida Rifdi

Subject: Re: Terms of Reference - Eagle Street

Hi Mark

Thanks for your comments on our proposed TRF. Regarding the trips rate I understand your concerns. We do have in-house rate but I am concerns that they are an over representation of a much more Urban environment and transit plays a much bigger role so I think you might have the same or similar concerns as you do with the ITE rates.

As you know proxy surveys can be very useful, but site and characteristic of the development has comparable and there is the issue of access when the site or property is own by a third party.

Therefore, we decided to develop local trip rates using the 2006 TTS data for Newmarket. I hope we can agree on this approach, the resulting trips rates are significantly higher than ITE rates.

Methodology

- retrieve the total number of dwelling in Newmarket by type (House, Apartment and Townhouse)
- retrieve the total number of trips originating from dwelling units in Newmarket by type (House, Apartment and Townhouse)
- trips were retrieve for the AM and PM peak period,
- · mode of travel auto
- used the number of trips and number of dwellings to generate trips per dwelling type

Results

House: 1.05/unit AM Peak; 1.17/unit PM Peak

• Townhouse: 0.88/unit AM Peak; 0.87/unit PM Peak

Apartment: 0.25/unit AM Peak; 0.38/unit PM Peak

Recommendation:

Use the townhouse trip rate for the site (including high-rise condo and

Townhouses)

- Townhouse: 0.88/unit AM Peak; 0.87/unit PM Peak
- use ITE Townhouse percentage for the directional Distribution
 - AM 17% inbound, 83% outbound
 - PM 67% inbound, 33% outbound

The corresponding rate in ITE (Code 230) is 0.44/unit in the AM peak and 0.52/unit in the PM peak.

The proposed rates are 100% higher in the AM and 65% in the PM.

The summary page is attached.

Mark, please indicate if you can support the proposed rates?

Site Assignment:

assignment based on 2006 TTS and local travel pattern
 I have also attached our propose site trip assignment, if you have any comments.

Thanks Sharon

GENIVAR

Sharon Sterling | Director, Traffic Management GENIVAR | Constructive People 2800 Fourteenth Avenue, Suite 210 Markham, ON L3R 0E4 (905) 946-8900 | www.GENIVAR.com

Sharon.Sterling@genivar.com



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From: Heather Ferren heather.ferren@genivar.com

Date: Mon, 31 May 2010 16:35:17 -0400

To: Sharon Sterling <sharon.sterling@genivar.com>, Anil Seegobin

<anil.Seegobin@genivar.com>

Subject: FW: Terms of Reference - Eagle Street

GENIVAR

Heather Ferren | Administrator GENIVAR | Constructive People 2800 Fourteenth Avenue, Suite 210 Markham, ON L3R 0E4 (905) 946-8900 | www.GENIVAR.com Heather.Ferren@genivar.com

Think about it... do you really need to print?

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From: "Kryzanowski, Mark" <mkryzanowski@newmarket.ca>

Date: Mon, 31 May 2010 16:33:49 -0400

To: Heather Ferren <heather.Ferren@genivar.com>

Cc: "Taylor, Duayne" <dtaylor@newmarket.ca>, "O'Brien, Michelle" <mobrien@newmarket.ca>, "Ruggle, Dave" <druggle@newmarket.ca>

Subject: Terms of Reference - Eagle Street

Heather, can you please forward this to Sharon and/or Anil, I do not have their email address.

I have reviewed the Terms of Reference dated May 28, 2010, and offer the following comments.

- 1. Traffic Counts. Please find attached is the traffic count for Eagle/Caro/Sandford. Please submit \$80.00 (\$76.19 + 3.81 GST) to the Town.
- 2. Trip generation. While ITE generation rates are industry standards, the Town would prefer any proxy or in-house rates. Generally, the trip generation rates for Townhouses appear to be low, and given the nature of the townhouse, it is expected that the auto ownership would be higher.
- 3. Background Traffic Growth Rates. York Region has conducted an EA for the VIVANext project on Yonge Street and Davis Drive. All traffic information should conform to this. For actually developments within the 5 year timeframe, I would defer this question to Planning.
- 4. Roadways and Transit See above comment regarding VIVANext.
- 5. Site Access Review. There are standards within the zoning by-law related to access locations and size. The Town uses TAC and/or York Regions access guidelines to determine safety of access driveways.
- 6. The remaining contents are acceptable.

It should be noted that the traffic counts were undertaken using traffic cameras on sizeable tri-pods within the Town's boulevards. These types of traffic counting equipment would require a Road Occupancy permit. In the future, please ensure that a Road Occupancy permit is applied for, or Town forces will remove the counting equipment.

Let me know if you have any questions.

Mark Kryzanowski
Senior Transportation Coordinator
Engineering Services
Community Services Commission
Town of Newmarket
395 Mulock Drive
Newmarket, ON L3Y 4X7

Tel: 905-953-5300 press 2, extension 2508

Fax: 905-953-5138

Email: mkryzanowski@newmarket.ca

www.newmarket.ca http://www.newmarket.ca

Newmarket's Vision: "A Community Well Beyond the Ordinary"

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----- End of Forwarded Message

----- End of Forwarded Message

GENIVAR

Anil Seegobin, P.Eng | Traffic Engineer GENIVAR | Constructive People 2800 Fourteenth Avenue, Suite 210 Markham, ON L3R 0E4

2006 Derived TTS Trip Rates by Dwelling Type for Town of Newmarket

		AM		PM	1
Dwelling Type	Total Units	Origin Trips	Rate	Origin Trips	Rate
House	19,578	20,497	1.05	22,968	1.17
Townhouse	2,510	2,206	0.88	. 2:185	0.87
Apartment	3,012	747	0.25	1,145	0.38

Source: 1. The origin trips made by auto in the Town of Newmarket were derived from the 2006 TTS.

2. The start time of trips were made during the two-hour periods in the AM (7:00-9:00) and in the PM (16:00-18:00).

3. The total number of households and their distribution by dwelling type were as per the TTS report for the Town of Newmarket.

USER : Sharon Sterling - Entra Consultants

DATE : Jun 3 2010 (11:03:11)
DATA : 2006 TTS Vers 1.0 Trips
FILTER 1 : mode_prime => Auto driver
FILTER 2 : start_time => 700-900

FILTER 3 : dwell_type => House, Apartment, Townhouse

FILTER 4 : pd_hhld => Newmarket

ROW : pd_hhld COLUMN : dwell_type

,House,Apartment,Townhouse Newmarket,20497,747,2206

USER : Sharon Sterling - Entra Consultants

DATE : Jun 3 2010 (11:03:11)
DATA : 2006 TTS Vers 1.0 Trips
FILTER 1 : mode_prime => Auto driver
FILTER 2 : start_time => 1600-1800

FILTER 3 : dwell_type => House, Apartment, Townhouse

FILTER 4 : pd_hhld => Newmarket

ROW : pd_hhld COLUMN : dwell_type

,House,Apartment,Townhouse Newmarket,22968,1145,2185

Derived 2006 TTS Trip Rates for Apartments

·		AM		Р	M
Dwelling Type	Total Units	Origin Trips	Rate	Origin Trips	Rate
Newmarket .	3,012	747	:0:25	1.145.	÷0.38
Markham	6.948	÷ 2,680	0.39	2,941	0.42
Richmond Hill	6,630	2,441		3:025	0.46
Average for Markham and Richmond Hill	13,578	√ § 5.12∄. ° \$	0.38	5 966	20.44

Source: 1. The origin trips made by mode of auto were derived from the 2006 TTS.

^{2.} The start time of trips were made during the two-hour periods in the AM (7:00-9:00) and in the PM (16:00-18:00).

^{3.} The total number of households and their distribution by dwelling type were as per the TTS summary report.

Appendix B

Turning Movement Counts and Signal Timing Plans



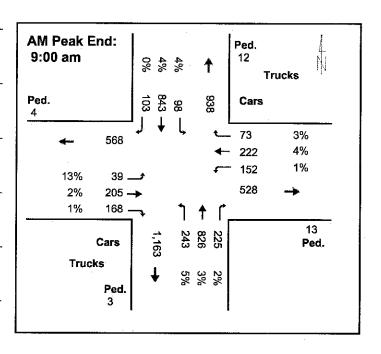
Intersection ID:960

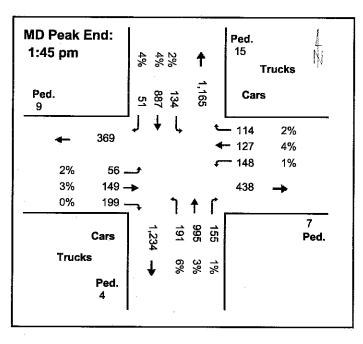
Eagle St @ Yonge St

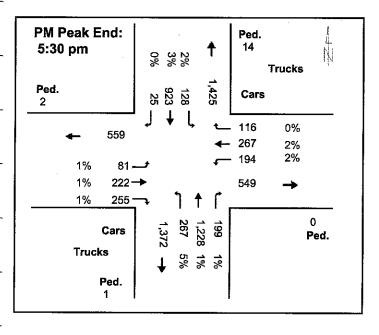
Newmarket

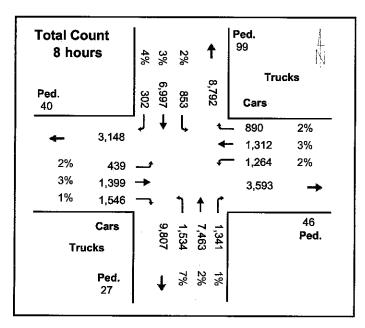
Count Day: Wednesday

Count Date: 11-Feb-2009





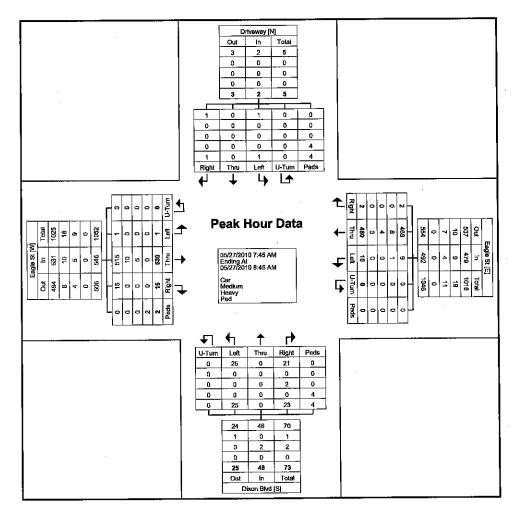






Thomhill, Ontario, Canada L3T4T5 (416) 436-3166 irie.one@rogers.com

Count Name: Dixon Blvd & Eagle St Site Code: Start Date: 05/27/2010 Page No: 5

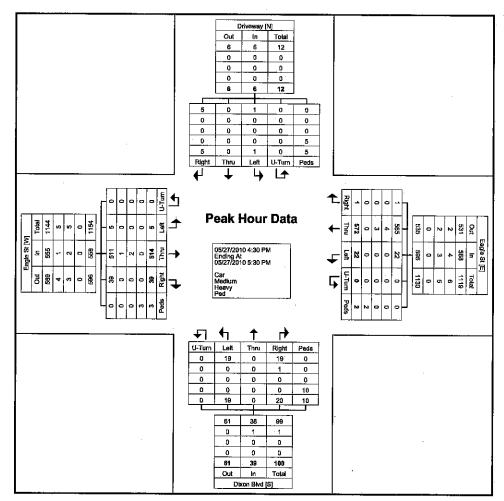


Turning Movement Peak Hour Data Plot (7:45 AM)



Thornhill, Ontario, Canada L3T4T5 (416) 436-3166 irie.one@rogers.com

Count Name: Dixon Blvd & Eagle St Site Code: Start Date: 05/27/2010 Page No: 7

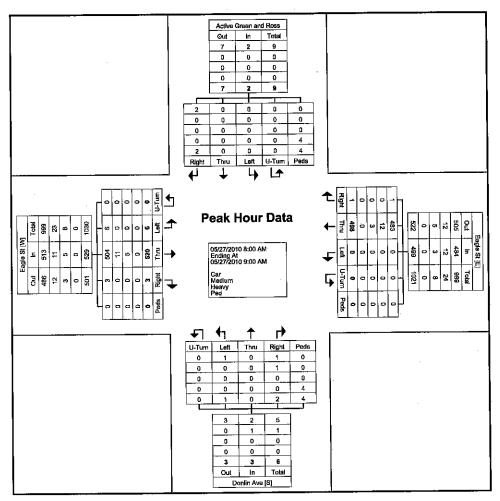


Turning Movement Peak Hour Data Plot (4:30 PM)



Thornhill, Ontario, Canada L3T4T5 (416) 436-3166 irie.one@rogers.com

Count Name: Eagle St & Donlin Ave Site Code: Start Date: 05/27/2010 Page No: 5

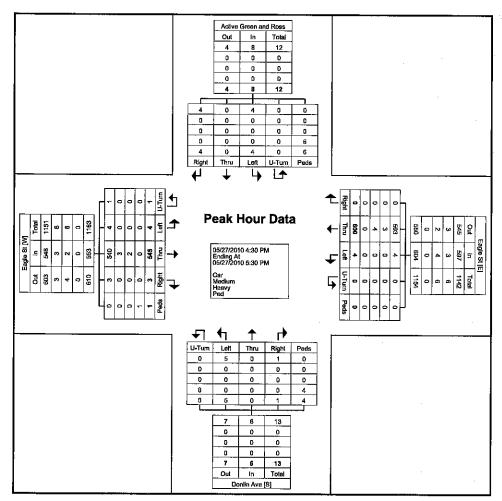


Turning Movement Peak Hour Data Plot (8:00 AM)



Thornhill, Ontario, Canada L3T4T5 (416) 436-3166 irie.one@rogers.com

Count Name: Eagle St & Donlin Ave Site Code: Start Date: 05/27/2010 Page No: 7



Turning Movement Peak Hour Data Plot (4:30 PM)

Ontario Traffic Inc. **One Hour Peak Specified Period Morning Peak Diagram** From: 8:00:00 From: 7:00:00 To: 9:00:00 To: 9:00:00 Weather conditions: Municipality: Newmarket 0900600039 Site #: Person(s) who counted: Intersection: Eagle & Carol TFR File #: Count date: 14-Oct-09 Major Road: Eagle runs W/E ** Signalized Intersection ** East Leg Total: 1115 1 Heavys 0 Heavys 0 North Leg Total: 189 499 East Entering: 0 Trucks 1 0 North Entering: 108 Trucks 0 East Peds: 5 Cars 80 22 107 Cars 41 44 North Peds: 4 X Peds Cross: Totals 81 Totals 41 23 Peds Cross: Carol Trucks Heavys Totals Cars Heavys Trucks Cars Totals 0 8 492 512 426 408 11 CONTRACTOR DESCRIPTION 66 5 58 473 10 16 Eagle Heavys Trucks Cars Totals Eagle 15 15 478 6 6 466 Trucks Heavys Totals Cars 31 29 616 598 510 X 211 Peds Cross: 110 Peds Cross: Cars 131 Cars 43 58 South Peds: Trucks 1 3 5 5 Trucks 4 West Peds: 1 3 South Entering: 219 2 Heavys 6 Heavys 1 West Entering: South Leg Total: 360 Totals 45 115 West Leg Total: 1036 Totals 141

Comments

Ontario Traffic Inc. Afternoon Peak Diagram **Specified Period** One Hour Peak From: 15:00:00 From: 16:30:00 To: 18:00:00 To: 17:30:00 Municipality: Newmarket Weather conditions: Site #: 0900600039 Person(s) who counted: Intersection: Eagle & Carol TFR File #: Count date: 14-Oct-09 ** Signalized Intersection ** Major Road: Eagle runs W/E North Leg Total: 298 Heavys 0 0 0 Heavys 0 East Leg Total: 1230 North Entering: 153 Trucks 0 0 1 1 Trucks 0 East Entering: 632 North Peds: 37 Cars 23 152 Cars 145 East Peds: 7 Peds Cross: Totals 23 38 Totals 145 ¥ Peds Cross: Carol Heavys Trucks Cars Totals Cars Trucks Heavys Totals 600 595 17 512 3 2 517 97 98 Eagle 626 Heavys Trucks Cars Totals Eagle 31 31 0 3 3 487 493 0 62 62 Cars Trucks Heavys Totals 3 580 591 3 598 Carol \mathbb{X} Peds Cross: Cars 251 Cars 60 224 Peds Cross: 67 West Peds: Trucks 0 Trucks 0 0 0 0 South Peds: 7 West Entering: 586 0 Heavys 1 Heavys 0 South Entering: 224 0 West Leg Total: 1186 Totals 252 Totals 60 South Leg Total: 476

Comments

Regional Municipality of York Centralized Traffic Control System Timing Pattern Summary Report - Intersection

10-Nov-2009



Intersection Name :	Yonge St Eagle St.	tagle St.							
Pattern Name	Mode	Cycle Splits (sec)	offset	offset Max Green	Omits	Veh. Recall	Ped.Omits	Ped. Recalls	Spec. O/P
AM Peak	TBC	130 20 59 14 37 14 65 00 51	61	11111111 NNNNNNNN XXXXXXX	NNNNNN	XXXXXXXX	NNNN	NNNN	****
AM Weekend	TBC	130 20 59 14 37 14 65 00 51	90	1111111 NNNNNNN XXXXXXX	NNNNNN	XXXXXXX	NNNN	NNNN	****
Free Plan	F H G	00 00 00 00 00 00 00 00 0	0	11111111 NNNNNNN XXXXXXXX	INNNNNNN	XXXXXXXX	NNNN	NNNN	******
Off Peak	TBC	120 23 46 14 37 14 55 00 51	85	11111111 NNNNNNNN XXXXXXXX	NNNNNNN	XXXXXXXX	NNNN	NNNN	******
PM Peak	TBC	140 25 65 12 38 14 76 00 50	83	11111111 NNNNNNNN XXXXXXX	NNNNNN	XXXXXXXX	NNNN	NNNN	*****
PM Weekend	TBC	140 25 65 12 38 14 76 00 50		118 11111111 NNNNNNNN XXXXXXXX	INNNNNN	XXXXXXXX	NNNN	NNNN	****

Whi Remando To Manne Gonortian

28-Oct-2009

Regional Municipality of York Centralized Traffic Control System Controller Scheduler Summary Report - Intersection



Intersection Name:

Yonge St. - Eagle St.

Weekly Plan:

Yonge at Eagle St

Time of Day	Timing Pattern	MON	TUE	WED	THU	FRI	SAT	SUN
06:00	AM Peak	Х	X	Х	Х	Х	**	a
08:00	AM Weekend	-	-	-	**	.	X	X
09:00	Off Peak	X -	X	х	X	x	-	-
10:00	PM Weekend	· -	-	<u>.</u> .	-	-	X	X
15:30	PM Peak	Х	X	Х	х	X	-	-
19:00	AM Weekend	-	-	-	-	•	X	X
19:30	Off Peak	X	X	X	X	X	*	-
23:59	Free Plan	Х	X	X	X	X	х	X

Annual Calendar:

Yonge at Eagle St

Default Weekly Schedule:

Yonge at Eagle St

Date

Schedule (If blank, use the default weekly schedule)

PEEK

TRAFFEC	CTCS #:	328	
INTERSECTION NAME: Yonge St. (YR 1) & Eagle Street	ADDRESS:	33	
PROGRAMMED BY: T. Hanrahan	SECURITY CODE:	1000	
CONTOLLER SERIAL #:	PROGRAM DATE:	Man.	, 2001
OUIVIOLE I OLI IME W.	INSTALLATION DATE:	Mais	12001

MEMORY/RECALL/CNA (MM-2-2-1)

1	2	3	4	5	6	7	8
OFF	OFF	OFF	OFF	QFF	OFF	OFF	OFF
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
OFF	ON	OFF	OFF	OFF	QN	OFF	OFF
OFF	OFF	OFF	OFF	OFF	OFF	OFF,	OFF
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	OFF OFF OFF OFF OFF OFF	OFF	OFF OFF OFF OFF OFF ON OFF OFF ON OFF OFF OF OFF OFF OFF OFF OFF OFF OFF OFF ON OFF OFF OFF OFF	OFF OFF OFF OFF OFF OFF OFF ON OFF OFF OFF ON OFF OFF OFF ON OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF ON OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF	OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF ON OFF OFF OFF OFF ON OFF OFF OFF OFF OFF OFF OFF OFF	OFF ON OFF OFF OFF ON ON OFF OFF OFF ON OFF OFF OFF ON OFF OFF OFF OPF OPF	OFF OFF

1 -	N/B	Left	Turn
ł	_		_

- S/B Left Turn
- Southbound
- Northbound
- W/B Left Turn
- not used
- Eastbound
- Westbound

PHASE TIMINGS (MM-2-2-2)

HASE HIVING	ac (rener							- 0
	1	2	3	4	5	6	7	8
MIN GREEN	7	30	7	10	7	30	0	10
PASSAGE	3.0	0	3.0	3.0	3.0	0	0	3.0
YELLOW	3.0	5.0	3.0	5.0	3.0	5.0	0	5.0
RED	1.0	2.0	1.0	2.0	1.0	2.0	0	2.0
MAX I	7,20	80/	207	402	2 67	36 <u>/</u>	5 0	40
MAXII	20	30	20	40	20	30	0	40
WALK	0	7	0	7	Đ	7	0	7
PED CLEAR	0	128	0	1)18	0	\125	0	12 15
S/A	0	0	0	O	0	0	٥	0
TBR	0	0	0	0	0	0	0	0
TTR	0	٥	0	0	0	0	0	0
MIN GAP	0	0	0	0	0	0	0	0
MAX VI	0	O	0	٥	0	0	0	0
MAX EXT	0	0	О	0	0	0	0	0
AUTO MAX	0	0	0	0	0	0	0	0
AMR	0	0	0	0	0	0	0	0

PHASES USED (MM-2-2-3-1)

Luware oper		,	****					
PHASE	1	2	- 3	4	5	6	7	8
ON/OFF	ON	ON	QN	ON	ON	ON	Off	ON

SEQUENCE (MM-2-2-3-2)

		_
	A G	
2	1=Sequential, 2= Dual Ring, 3-7= Spec, 8=Lead/Lag	
		~

LEAD/LAG MODES (MM-2-2-3-2-PGDN....only if Seq = Lead/Lag)

PAIRS	1 AND 2	3 AND 4	5 AND 6	7 AND 8
CODE				

Codes: 1 = No Reversal, 2 = Always Reverse, 3 = Rev. by CSO or Clock

LEAD/LAG BARRIERS (MM-2-2-3-2-PGDN-PGDN...only if lead/lag

LEAD/LAG BARRIERS ARE:	I ON/OFF

On = Barriers after easch ring 1 and 2 phase pair in a vertical column

SPECIAL INCOMPATIBILITIES (MM-2-2-3-3)

PHASE	1	2	3	4	5	6	7	8
INCOMPAT PH 1-8								
INCOMPAT PH 1-8								

INITILAIZE / FLASH (MM-2-2-4)

1 =RED, 2 = YEL., 3 = GRN

	INITILIZE	ENTER FL	EXIT FL
RING 1 PHASE	2	2	2
RING 2 PHASE	6	6	6
INTERVAL	2	1	2

NOTE: Enter flash interval is permanently set to 1 (RED)

POWER-UP RESTART TIMINGS (MM-2-2-4-PGDN)

MINIMUM FLASH	(0-9.9 or 127 SECONDS)
1ST ALL RED AFTER FLASH	(0-9.9 or 127 SECONDS)

NOTE:

Blanks = 0, OFF, or controller default values

Range: 0-9.9 or 127 except max times and auto max which are 0 -255 secs.



DITEROGRAPION AND AND AND AND AND AND AND AND AND AN	CTCS #:	52
INTERSECTION NAME: Eagle St. (YR 5) & Carol / Sandford	ADDRESS:	2
PROGRAMMED BY: D. Rumble CONTOLLER SERIAL #:	SECURITY CODE:	1000
CONTOLLER SERIAL #:	PROGRAM DATE:	0 3 29, 2001
	INSTALLATION DATE:	Cit 22 2001

MEMORY/RECALL/CNA (MM-2-2-1)

	1	2	3	4	5	6	7	8
MEMORY	OFF							
EXT RECALL	OFF							
MAX RECALL	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
PED RECALL	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
CNAI	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
CNA II	OFF							
FL WALK	OFF							
SOFT RECALL	OFF							
WALK REST	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
COND PED	OFF							
FWTPCL	OFF							

1 -	Not Used	5 -	Not Used
2 -	Westbound	6 -	Eastbound
3 -	Not Used	7 -	Not Used
4 -	Southbound	8 -	Northbound

PHASE TIMINGS (MM-2-2-2)

	7,,,,,,,							
	1	2	3	4	5	6	7	8
MIN GREEN	0	30	0	10	0	30	0	10
PASSAGE	0	0	0	3.0	0	0	0	3.0
YELLOW	0	5.0	0	4.0	0	5.0	0	4.0
RED	0	2.0	0	2.0	0	2.0	0	2.0
MAXI	0	40	0	19	0	40	Q	19
MAX II	0	50	0	50	0	50	Q	50
) WALK	0	7	0	7	0	7	0	7
PED CLEAR	0	13/6	0	.972	0	13//	. 0	97
S/A	0	0	0	0	0	0	0	O
TBR	0	0	0	0	0	0	O	0
TTR	0	0	0	0	0	0	0	0
MIN GAP	0.	0	0	0	0	0	0	0
MAX VI	O	0	0	0	0	Q	0	0
MAX EXT	0	0	¢	0	0	0	0	0
AUTO MAX	0	0	O	0	Q	0	0	Q
AMR	0	0	0	0	0	0	0	0

Range: 0-9.9 or 127 except max times and auto max which are 0 -255 secs.

PHASES USED (MM-2-2-3-1)

	1.12.22					V-10-44		
PHASE	1	. 2	3	4	5	6	7	8
ON/OFF	OFF	QN	OFF	ON	OFF	ON	OFF	ON

SEQUENCE (MM-2-2-3-2)

- 8	 	
	 1=Sequential, 2= Dual Ring, 3-7= Spec, 8=Lead/Lag	
	 	į.
	 The state of the s	j

LEAD/LAG MODES (MM-2-2-3-2-PGDN....only if Seq = Lead/Lag)

			,	
PAIRS	1 AND 2	3 AND 4	5 AND 6	7 AND 8
CODE				

Codes: 1 = No Reversal, 2 = Always Reverse, 3 = Rev. by CSO or Clock

LEAD/LAG BARRIERS (MM-2-2-3-2-PGDN-PGDN...only if lead/lag

C4224 42 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
LEAD/LAG BARRIERS ARE:	
CERUI ENGLOSINICAS MAC.	I ON/OFF (
	1 010011

On = Barriers after easch ring 1 and 2 phase pair in a vertical column

SPECIAL INCOMPATIBILITIES (MM-2-2-3-3)

	4		_ ~ ~,					
PHASE	1	2	3	4	5	6	7	8
INCOMPAT PH 1-8						***************************************		
INCOMPAT PH 1-8				_				

INITILAIZE / FLASH (MM-2-2-4)

	INITILIZE	ENTER FL	EXIT FL
RING 1 PHASE	2	2	2
RING 2 PHASE	6	6	6
INTERVAL	2	1	. 2

NOTE: Enter flash interval is permanently set to 1 (RED)

POWER-UP RESTART TIMINGS (MM-2-2-4-PGDN)

MINIMUM FLASH	(0-9.9 or 127 SECONDS)
1ST ALL RED AFTER FLASH	 (0-9.9 or 127 SECONDS)

NOTE:

Blanks = 0, OFF, or controller default values

Appendix C

Intersection Capacity Analysis

Existing

	٠	→	*	<	-	1	4	†	*	\	1	4
Movement	EBL	· EBT	EBR	WBL	€. WBT	WBR	ot : NBL	- ANBT	NBR	SBL	SBT	SBR
Lane Configurations	ኻ	*	7	ነኝ	+	7	ħ	**	7	*	^	7
Volume (vph)	39	223	168	152	303	73	243	826	225	98	843	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3,0	3.5	3.5	3.0	3.5	3.3
Total Lost time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	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	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1,00	1.00
Satd. Flow (prot)	1525	1842	1524	1726	1807	1502	1604	3466	1464	1616	3433	1472
Flt Permitted	0.56	1.00	1.00	0.31	1.00	1.00	0.19	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	902	1842	1524	563	1807	1502	326	3466	1464	444	3433	1472
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	242	183	165	329	79	264	898	245	107	916	112
RTOR Reduction (vph)		272	147	0	0	42	207	030	109	0	0	63
Lane Group Flow (vph)	42	242	36	165	329	37	264	898	136	107	916	49
Confl. Peds. (#/hr)	12	Z7Z	3	3	UZU	12	4	030	130	13	310	4
Heavy Vehicles (%)	13%	2%	1%	1%	4%	3%	5%	3%	2%	4%	4%	0%
Bus Blockages (#/hr)	10%	20	5	0	0	0	0	0	- 0	0	0	6
	Perm		Perm			Perm						Perm
Turn Type Protected Phases	Pem		Feim	pm+pt	8	Pelill	pm+pt	6	Perm	pm+pt	2	remi
Permitted Phases	1	4	1		i e ue 💢	8	6	0 .	6	5 2	2	2
	4 21.2	21.2	4 21.2	35.1	35.1	35.1	71.0	58.4	6 58.4	61.4	52.8	52.8
Actuated Green, G (s)	21.2	21.2	21.2	35.1	35.1	35.1	71.0	58.4	58.4	61.4	52.8	52.8
Effective Green, g (s)	0.18	0.18	0.18	0.29	0.29	0.29	0.59	0.49	0.49	0.51	0.44	0.44
Actuated g/C Ratio		7.0	7.0		7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Clearance Time (s)	7.0			4.0	3.0	3.0			3.0		3.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0			3.0	3.0		3.0		3.0
Lane Grp Cap (vph)	159	325	269	260	528	439	344	1685	712	311	1509	647
v/s Ratio Prot	0.05	c0.13	0.00	0.05	c0.18	0.00	c0.09	0.26	0.00	0.02	0.27	0.00
v/s Ratio Perm	0.05		0.02	0.13	0.00	0.02	c0.36		0.09	0.15	0.04	0.03
v/c Ratio	0.26	0.74	0.14	0.63	0.62	80.0	0.77	0.53	0.19	0.34	0.61	0.08
Uniform Delay, d1	42.7	46.9	41.7	34.0	36.8	30.8	15.9	21.4	17.5	15.8	25.7	19.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	8.9	0.2	5.0	2.3	0.1	9.8	1.2	0.6	0.7	1.8	0.2
Delay (s)	43.6	55.8	41.9	39.0	39.1	30.9	25.8	22.6	18.1	16.5	27.5	19.7
Level of Service	, D	E	D	D.	D 07.0	C	C	C	В	В	C	В
Approach Delay (s)	-	49.3	.*	4, 1	37.9		1.	22.4	***		25.7	
Approach LOS		D			D			С			С	
Intersection Summary			1 1 1	4 1		3					i i	
HCM Average Control Del		4.4	29.4	-	ICM Leve	el of Servi	ce		С			
HCM Volume to Capacity			0.75				7			:		
Actuated Cycle Length (s)			120.1	٩	Sum of lo	st time (s)			18.0			
Intersection Capacity Utiliz			84.4%			of Servic	e		E			
Analysis Period (min)			15						_			
c Critical Lane Group	Carlos S	48.4		4								
- i situamina ataub		¥	100									:

	<i>></i>	→	•	•	4 —	•	4	†	*	-	↓	4
Movement w	EBL	¥ ĒBT	# FBR	· WBL∮.⊀	WBT	.WBR	NBL -	÷NBT/	NBR	"SBL-"	SBT	SBR
Lane Configurations	Control of the Contro	4			4			€Î>			4	
Volume (veh/h)	1.	530	15	10	502	2	25	0	23	1.1	0	1
Sign Control		Free			Free			Stop	es a see	a na santa s	Stop	ta grema
Grade		0%			0%		i atiji	0%			0%	Mary
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)	1	576	16	11	546	2	27	<i>i</i> 0	25	1	0	1
Pedestrians		2	and the second		T Batu	en e navajena	Sansan Synsini	4	var Nulton	girkina pyste	4	751 4.35
Lane Width (m)		4.3						3.7	KKK		3.7 1.2	
Walking Speed (m/s)	1,210	1.2	ayım aşır ili	e servene		y Cress	. University and	1.2 0	nijiya kiralêr		0	Yegi yuli
Percent Blockage		0				Tapit kir		V (1		. 71.	v	47 F. 575
Right turn flare (veh)	in the second	Nada.	- 41 - 241 - 41 - 241	a a fraat in	Nono	5,40,4,5-1-	. And . m g				erikatigi ku	. Yf tae ty
Median type		None			None	u fyf failth yn	Stock State 1		eta miljeri, vikili si m	guith Atheus -	America (Carlot	AND THE
Median storage veh) Upstream signal (m)		151	SARRE PER	1040 11074	148 (D)	erome gr	88. WY	şari Nevî	Janes			2530
pX, platoon unblocked	Territoria de Mi	ioi.	4 141 7 315 1	0.87	nu Gibir	3.15 Turk (15A)	0.87	0.87	0.87	0.87	0.87	NOTE WAY
vC, conflicting volume	552	was to the	aa fiji	596	ji Tax	\$40 (1250)	1162	1164	588	1184	1171	553
vC1, stage 1 conf vol	.» 		996 P. S.	o e tita		Service Con-	eran er					
vC2, stage 2 conf vol		an en e e						and the second of the second o				
vCu, unblocked vol	552			462			1112	1114	453	1137	1122	553
tC, single (s)	4.1			4.2	10.45		7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)					5 - 5 - 5 - 5	in energy and	S. Selakara	. saat waat	. A Building	sa mere i	n na each	450. A.a.
tF (s)	2.2		Partifik	2.3			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100		eg e singa	99	ver i jai	s valdysam.	83	100	95	99	100	100 534
cM capacity (veh/h)	1025		ik, ik	918	aner life		160	179	514	147	177	J34
Direction, Lane# 🔩 💸 🕆	}	WB 1	NB 1	SB1						1	11.7	5 17 17 3
Volume Total	593	559	52	2	V. 1. 7. 7							
Volume Left	1	11	27		and a second		**	a el Molinado		errem gagra	syderograde	m walio ka
Volume Right	16	2	25	1								
cSH	1025	918	239	230	1.4 54.	negos egra-	enga seka j	ray og ve	sa gentati	viii (4.7)	4 248 1 1	gri alsa
Volume to Capacity	0.00	0.01	0.22	0.01	Tall the last		TOTAL S		111 THE	1 18	sf 1,772.	
Queue Length 95th (m)	0.0	0.3 0.3	6.2 24.3	0.2 20.8		New Holland	JNR 143	an en lad	100		2 g 35	399
Control Delay (s) Lane LOS	0.0 A	0.3 A	24.3 C	20.6 C	10, 141	List of the						Augusta
Approach Delay (s)	0.0	0.3		20.8		4,508.0	ente i	esti. X	graviti.	A CON	10000000	\$40 Dec
Approach LOS	0.0	0.0	24.0 C	C C						- 2 - 1 - 1		
• •			_	_		A CENTRAL						
Intersection Summary *:		<i>A</i>	2.6				No.				***	
Average Delay	tion		1.3 44.8%	101	Llavel	of Condoo	er grige kil		Δ.		1-2	str _{atu} r.
Intersection Capacity Utiliza Analysis Period (min)	IIIOH		44.6% 15	įω	7 FGA6[ni aci Aice			Д		. 4 "	Through and
Analysis Fellou (IIIIII)			13			86434	4. VI. 1923	D.H., S.V.				
	11.				W. 87 8 L		7 ft 1 1/2	off Set 16	1.14			1

	۶	→	\rightarrow	•	←	*	4	†	*	-	ļ	4
Movement 🖙 🖫 🕾	EBL∷	EBT).jEBR.₄	.√WBL∤:	WBT	WBR	NBL	· NBT	(NBR	· SBL	SBT	SBR
Lane Configurations		. ↔			4			4			4	_
Volume (veh/h)	6	545	3	0	511	1	1	0	2	0	0	2
Sign Control	•	Free			Free		•	Stop			Stop	
Grade		0%			0%			0%			0%	Park State
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)	7	592	3	0	555	1	1.	0	2	0	0	2
Pedestrians								4			. 4	
Lane Width (m)		1 (No. 1)						3.7	Marine 1		3.7	
Walking Speed (m/s)	and the second			era j				1.2			1.2	
Percent Blockage								0			0	
Right turn flare (veh)			, e e e	ing and the second				o ignation and	e ., .			
Median type		None			None					- 12 1		Astron
Median storage veh)			4.2		. 24 1		an anage.					and the
Upstream signal (m)		358	3 1131	a 24.6v	211							
pX, platoon unblocked	0.91	100		0.91		Same and	0.95	0.95	0.91	0.95	0.95	0.91
vC, conflicting volume	561			600			1169	1172	598	1169	1173	560
vC1, stage 1 conf vol	vita di serio.					1900					. r,	21.65%
vC2, stage 2 conf vol	400			507	* * * * * * * * * * * * * * * * * * * *	N 1. 1	000	000	500	000	007	400
vCu, unblocked vol	463			507	rye i		933	936	506	933	937	462
tC, single (s)	4.1			4.1			7.1	6.5	6.7	7.1	6.5	6.2
tC, 2 stage (s)	2.2		sale in the	2.2			3.5	4.0	3.8	3.5	4.0	3.3
tF (s) p0 queue free %	99		``.`` ·	100			100	100	100	100	100	100
cM capacity (veh/h)	1001	er.		965		12.	232	251	436	232	251	545
							ZUZ	ZUI	430	ZJZ	ZJI	U+U
Direction: Lane #	EB 1 :	WB 1	NB 1	SB1				and the second				3,3
Volume Total	602	557	3	2	4 F 14 F							4 8 1
Volume Left	7	. 0	1 2	0						4, 4	2 3	Le e d
Volume Right cSH	3 1001	965	337	545			276 1 777	ti i ta				41 1 1
Volume to Capacity	0.01	0.00	0.01	0.00	-,		A LANGE	100				. je sa je
Queue Length 95th (m)	0.01	0.00	0.01	0.00		i at e					. "	
Control Delay (s)	0.1	0.0	15.8	11.6	41.0				() () () () () () () () () ()		:	1.11
Lane LOS	0.2 A	0.0	15.6 C	11.0 B		*, **	. Mai	N.C				
Approach Delay (s)	0.2	0.0	15.8	11.6			100	112		$\delta(z) = z \cdot \delta z$	111	
Approach LOS	0.2	.0.0	13.0 C	В		196						
• •					(10 A) (10 A)	GOVERNMENT OF			22 /86 / A SA		: 13.078,20 ×000=0	
Intersection Summary						4.0 F764	100	6.0	100			# # F
Average Delay			0.2	100.1	i i a chan							
Intersection Capacity Utiliza	ition		43.7%	ICU	Level o	f Service			Α			
Analysis Period (min)			15	ta ta a caracteria								
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	**				36 1 M 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1	1, 1, 1, 4			

	•	→	•	•	←	•	1	†	1	-	↓	1
Movement	: EBL	EBT	z #EBR	· WBL	4. WBT	WBR:	*NBL	. Net	NBR	√ SBL ≉	SBT	SBR
Lane Configurations	ሻ	1	7	76	4		7	1>		ሻ	4	
Volume (vph)	15	501	31	66	426	7	45	59	115	23	44	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5	3.5	4.0	4.0	3.5	3.5	3.5
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1,00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	12 12 14 14 15 15 1	1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	A	1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00	THAT.	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1779	1824	1365	1588	1802	14 141 14 - 1	1713	1694		1701	1724	
Fit Permitted	0.48	1.00	1.00	0.43	1.00	1439 65	0.70	1.00		0.64	1.00	
Satd. Flow (perm)	907	1824	1365	717	1802		1256	1694	ili gli ili uzi vi ta	1144	1724	
	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak-hour factor, PHF		545	34	72		8	49	64	125	25	48	45
Adj. Flow (vph)	16	and the second second	3 4 11	0	And the second second	0	0	106		0	38	Ō
RTOR Reduction (vph)	0	- 0				0	49	83		25	55	0
Lane Group Flow (vph)	16	545	23	72			49 1	03	5	25 5		
Confl. Peds. (#/hr)	4		5	5	2.0	4	344,191.	20/	4%	4%	0%	0%
Heavy Vehicles (%)	0%	3%	6%	12%	and the second second second	0%	4%	2%	476	476	0%	0/0
Bus Blockages (#/hr)	0	0		0		3	0	0	U		U	
Turn Type	Perm	and the second	Perm	Perm	V 11920	er water a service	Perm	and the same	o trata e lo en o	Perm	s to innove	. KOK 50 K
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		operation of the contract of t	4	and <u>L</u> igh	e en
Actuated Green, G (s)	33.1	33.1	33.1	33.1	33.1		8.4	8.4	Professional Control	8.4	8.4	NH MIZE
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1	maken a ma	8.4	8.4	e do water.	8.4	8.4	4-1-12
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.15	0.15		0.15	0.15	
Clearance Time (s)	7.0	7.0	7.0	7.0	4.0		6.0	6.0		6.0	6.0	na sana an
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	<u> 1919 - 1</u>
Lane Grp Cap (vph)	551	1108	829	435	1094		194	261		176	266	
v/s Ratio Prot		c0.30			0.26			c0.05			0.03	
v/s Ratio Perm	0.02		0.02	0.10			0.04			0.02		
v/c Ratio	0.03	0.49	0.03	0.17	0.43		0.25	0.32		0.14	0.21	
Uniform Delay, d1	4.3	6.0	4.3	4.7			20.3	20.5	** ** **	19.9	20.1	· ·
Progression Factor	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.3		0.8			0.7	0.7		0.4	0.4	
Delay (s)	4.3	6.3			and the second second	A STATE	21.0	21.2	AL 71	20.3	20.5	
Level of Service	Α	Α		12		× * *	С	С		Ċ	C	
Approach Delay (s)		6.2			6.7			21.2			20.5	
Approach LOS	i kuitassis.	A			Α		(3.47) + se (С			С	
Intersection Summary	4.7									*		
HCM Average Control De	lay		9.9		HCM Lev	el of Servi	ice		A			
HCM Volume to Capacity			0.46					usa (j. 1941) Kalendari	1111			
Actuated Cycle Length (s			54.5		Sum of lo	st time (s)	· · · · · · · · · · · · · · · · · · ·		13.0	- P		
Intersection Capacity Utili			84.8%		ICU Leve		and the state of	er en	E	1 . S		
Analysis Period (min)			15			ŞO 10	7- 1- 2-	* 45	··· ·· · · · · · · · · · · · · · · · ·			
c Critical Lane Group		edy to the		100		11.11.	127,813				11.	
o onacci ceno oroup	e Granda e e				11.5			47.46.7	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	41 1 1 I	5 . "	74 74

Intersection: 1: Eagle Street & Yonge Street

Movement &	· · · · · · · · · · · · · · · · · · ·	B grigeBt (WE	B WB / a WB	NB NB	NB 🖖 NB	SB SB
Directions Served	L 1	R L	TR	L T	T R	L T
Maximum Queue (m)	18.1 66.0) 41.4 57.1	85.0 35.5	48.0 287.2	181.6 22.8	53.8 81.0
Average Queue (m)	9.3 44.5	5 20.2 33.1	58.7 11.8	30.8 128.5	88.6 12.8	22.2 62.5
95th Queue (m)	23.0 72.7	44.7 64.0	96.6 38.5	52.5 343.4	240.6 25.9	57.4 91.7
Link Distance (m)	232.6	6	132.4	331.9	331.9	298.3
Upstream Blk Time (%)				1	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (m)	52.0	42.0 40.0	38.0	55.0	55.0	59.0
Storage Blk Time (%)	13	3 1 9	25	0 2	5	8
Queuing Penalty (veh)	26	32	2 56	1 5	11	8

Intersection: 1: Eagle Street & Yonge Street

Movement -	SB 4 SB	100	Line and the	advise.	
Directions Served	T R				
Maximum Queue (m)	87.2 11.5				
Average Queue (m)	69.0 5.7				
95th Queue (m)	93.7 12.5		이 얼마는 명령화		
Link Distance (m)	298.3 298.3				
Upstream Blk Time (%)					
Queuing Penalty (veh)			 		
Storage Bay Dist (m)					
Storage Blk Time (%)	e i use es		 		
Queuing Penalty (veh)					

Intersection: 2: Eagle Street & Dixon/Existing Driveway

Movement	. √ EB	· · WB	NB	
Directions Served	LTR	LTR	LR	
Maximum Queue (m)	3.2	6.2	15.5	5 The High Court Continues for the New York Court States
Average Queue (m)	0.6	2.6	7.9	9
95th Queue (m)	5.8	12.9	17.9	
Link Distance (m)	132.4		178.3	3
Upstream Blk Time (%)				· [1] [1] [1] [1] [2] [2] [2] [2] [2] [2] [2] [2] [2] [2
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Eagle Street & Donlin/Existing Driveway

Movement ***	EB .	NB ·			
Directions Served	LTR	LR		 44	
Maximum Queue (m)	8.6	6.1	相性的特殊的		
Average Queue (m)	1.7	1.2			
95th Queue (m)	8.5	7.1			
Link Distance (m)	195.8	122.2			
Upstream Blk Time (%)				Professional C	
Oueuing Penalty (veh)					4
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Eagle Street & Carol Avenue/Sandford Street

Movement	, EB	EB	- ₄EB _⊕	- ⁵WB	WB	. ⁴NB -	Y NB	y SB	√ √SB Å	<u> </u>	2.30
Directions Served	L	Т	R	L	TR	L	TR	L	TR		
Maximum Queue (m)	3.5	65.0	6.8	24.2	50.1	13.9	31.4	8.0	18.2		The first services
Average Queue (m)	1.4	32.3	3.0	14.7	28.9	8.6	18.4	3.0	11.5	Maria da	
95th Queue (m)	5.4	68.2	9.2	34.5	57.5	17.5	34.0	10.1	22.5		
Link Distance (m)		194.0			178.0		60.6		158.9		
Upstream Blk Time (%)	ž – Š				- H 3 A . 1			1			
Queuing Penalty (veh)											
Storage Bay Dist (m)	50.0		16.0	20.0		45.0		30.0	14 to 33		
Storage Blk Time (%)		12		8	9		0	4.7	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	en e
Queuing Penalty (veh)		5		. 33	6		.0		. 0		

Network Summary

Network wide Queuing Penalty: 186

	*	→	•	*	4—	•	4	†	*	\	↓	1
Movement	, EBL	EBT	. ≱EBR	. ≒WBL	. WBT	::::WBR	(INBL)	, NBT	NBR	∉ (⊬SBL)	* ⊹SBT⊪	SBR
Lane Configurations	ሻ	^	7	75	†	7	ካ	ተተ	7	4	^	7
Volume (vph)	81	284	255	194	300	116	267	1228	199	128	923	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.3
Total Lost time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	0.98	1.00	1.00	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	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1701	1860	1528	1710	1842	1537	1604	3535	1581	1685	3500	1438
FIt Permitted	0.51	1.00	1.00	0.21	1.00	1.00	0.16	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	921	1860	1528	381	1842	1537	273	3535	1581	202	3500	1438
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0,92	0.92	0.92
Adj. Flow (vph)	88	309	277	211	326	126	290	1335	216	139	1003	27
RTOR Reduction (vph)	0	0	155	0	0	61	0	0	63	0	0	14
Lane Group Flow (vph)	88	309	122	211	326	65	290	1335	153	139	1003	13
Confl. Peds. (#/hr)	14		· 1	2		14	2		415			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	0%	5%	1%	1%	0%	2%	3%
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	6
Turn Type	Perm	····	Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4		3	8		1	6		5	2	
Permitted Phases	4		4	8		8	6	* * * *	6	2	=	2
Actuated Green, G (s)	26.9	26.9	26.9	38.9	38.9	38.9	82.5	69.1	69.1	70.0	60.6	60.6
Effective Green, g (s)	26.9	26.9	26.9	38.9	38.9	38.9	82.5	69.1	69.1	70.0	60.6	60.6
Actuated g/C Ratio	0.20	0.20	0.20	0.29	0.29	0.29	0.61	0.51	0.51	0.52	0.45	0.45
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	183	370	304	188	529	442	342	1804	807	207	1566	644
v/s Ratio Prot	100	0.17	331	c0.07	0.18		c0.11	0.38	001	0.05	0.29	9.1
v/s Ratio Perm	0.10		0.08	c0.26	. 0.10	0.04	c0.40	0.00	0.10	0.30		0.01
v/c Ratio	0.48	0.84	0.40	1.12	0.62	0.15	0.85	0.74	0.19	0.67	0.64	0.02
Uniform Delay, d1	48.1	52.1	47.2	46.3	41.8	35.9	21.6	26.1	18.0	21.6	29.0	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	14.9	0.9	102.3	2.1	0.2	17.4	2.8	0.5	8.3	2.0	0.1
Delay (s)	50.1	67.1	48.1	148.6	43.9	36.1	39.0	28.9	18.5	29.8	31.0	20.9
Level of Service	D	Е	D	F	D	D	D	C	В	C	C	C
Approach Delay (s)		57.1)		75.7	· .		29.2	_		30.6	
Approach LOS		Е			E			C	;		C	
Intersection Summary		je je	7	11.				1. 1. 1	1.5			T.
HCM Average Control Delay			41.0	-	ICM Leve	of Servi	ce		D	A STATE OF THE PARTY OF THE PAR	- merchanist Assessor water to	and the second
HCM Volume to Capacity ratio			0.87	• • • • •				and the	- .			
Actuated Cycle Length (s)		•	135.4	5	Sum of los	t time (s)			8.0			
Intersection Capacity Utilization	1		86.9%			of Service)		E		. *.	
Analysis Period (min)		•	15						_			
c Critical Lane Group								1			* -	
. •	•							· ·				

	•	-	•	•	←	•	4	†	<i>></i>	\	Ļ	1
Movemen	e EBL	" EBT	EBR	WBL	WBT	WBR .	→ ÑBL	* INBT	NBR :	SBL	SBT	SBR
Lane Configurations	<u> </u>	4			4			- €		er e e	4	
Volume (veh/h)	5	567	39	22	586	1	19	0	20	1	. 0	5
Sign Control		Free			Free			Stop	4	e e e	Stop	t i est
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	616	42	24	637	1	21	0	22	n:11	0.	5
Pedestrians		3	and the second		. 2		e de la marca	10	a si kina	14 8 4 4.1	5	11344
Lane Width (m)		4.3		1.00	4.3			3.7			3.7	
Walking Speed (m/s)		1.2			1.2		e de la companya de La companya de la co	1.2			1.2	, mark the
Percent Blockage		0	sept for		0				t trailib.	HAVV.	0	6 - M. T.
Right turn flare (veh)							1 N.A. W			er Li		5.25 5.25
Median type	* *	None		, e e	None				The second	Asset Sept.		
Median storage veh)		المواد ال	100		χ :		11 . 1. 114	n grangija.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. a fin	Talket S
Upstream signal (m)		151		0.04	Maria de la		0.04	0.81	0.81	0.81	0.81	
pX, platoon unblocked	0.40			0.81			0.81 1352	1349	650	1362	1370	646
vC, conflicting volume	643			669		1757	1302	1348	000	1302	1310	040
vC1, stage 1 conf vol	· ·	gar i jara					geral in	200 Table 2			1. A	34.5
vC2, stage 2 conf vol	040	- K - 40		472		100000	1317	1314	448	1330	1339	646
vCu, unblocked vol	643	1.4.1		4.1		12 4 2	7.1	6.5	6.2	7.1	6.5	6.2
tC, single (s)	4.1	A	S.	4,1		W 100 0	7.1	0.5	0.2		0.0	0.2
tC, 2 stage (s)	2.2		81 1 7 1	2.2			3.5	4.0	3.3	3.5	4.0	3.3
tF (s) p0 queue free %	99			97			80	100	96	99	100	99
cM capacity (veh/h)	947			882			104	123	484	99	119	472
	· · · · · · · · · · · · · · · · · · ·			SANGER OF STREET	ever many out			*******		A DESCRIPTION		100
Direction Lane # 100 100	HEB 1	WB 1	NB 1	// SB //								
Volume Total	664	662	42	1	5 1			ta, jak	I. The	at Line		
Volume Left	5	24	21 22	5			and is a	eg aleman	u gara	- 41		r grader
Volume Right	42 947	882	174	289				Maria de la Sala				12 m
CSH Volume to Conceity	0.01	0.03	0.24	0.02	14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	replaced in					45.78	
Volume to Capacity	0.01	0.03	7.0	0.02		The state of the		111 1 1 1 1 1 1			1 - 11	to the total
Queue Length 95th (m) Control Delay (s)	0.1	0.7	32.3	17.7		A		100		200		Elike Ar
Lane LOS	Α.2	Α	. 02.0 D	C	**	* * * *	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* *			* * * * *	: -
Approach Delay (s)	0.2	0.7	32.3	17.7		41.43	Kalanda i	$\mathbb{R}^{n+1} \mathbb{E}_{\mathbb{R}^{n+1} \times \mathbb{R}^{n+1}} \mathbb{E}_{\mathbb{R}^{n+1} \times \mathbb{R}^{n+1}}$	en en en en		Spirit State	
Approach LOS	. 0.2	U.1	D	С	-		:		- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-			
	CHEKETANIEN WENTEN	W. W. W.										
Intersection Summary 👍 🖘			4 =					dig is				4
Average Delay			1.5	. 42	0011-44-	of 0		Alexander (D	1 1 1 2		ereg ar
Intersection Capacity Utilization	on		58.0%	, ru r (ou Level	of Service	e .		В			
Analysis Period (min)	are and	yara da sa	15	te at jour		e entre	atti ili tari		and galay	en de la p		ry ray
		4 S. 19 5			t villa i		and the state of		1 mail 6 tu	un annu an		

	۶		7	•	4	*	*	†	<i>></i>	~	↓	1
Movement: ,	EBL	EBT	d EBR	-WBL	· WBT	.⁴WBR	· v NBL	A NBT	> NBR	√ SBL:	SBT	.₄ SBR
Lane Configurations		4		The same are the	4			4	CP 3971 278 774 097 CS 277 0 2510	AND THE PROPERTY OF THE PROPER	4	
Volume (veh/h)	4	581	3	4	600	0.	5	0	1	4	0	4
Sign Control		Free		**	Free		ADDRESS AS T	Stop		* 5.5	Stop	
Grade		0%		(4 d), i	0%	Jan Say	ara kuji k	0%	541.60 L		0%	NA.
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)	4	632	3	4	652	0	5	0	1	4	0	4
Pedestrians		1				in the second		4			6	
Lane Width (m)		4.3		434			nem nem je Vinanska sast	3.7			3.7	
Walking Speed (m/s)		1.2		-2			*	1.2	1	• • •	1.2	
Percent Blockage		0		. this is "				0	patery and		1	ar si
Right turn flare (veh)												
Median type		None	Part Control		None				(A. 4. 4)			
Median storage veh)												
Upstream signal (m)		358			211	4000						
pX, platoon unblocked	0.83			0.86		21	0.90	0.90	0.86	0.90	0.90	0.83
vC, conflicting volume	658			639		gerer in de la companya de la compa La companya de la co	1312	1313	637	1310	1314	659
vC1, stage 1 conf vol			. , , , ,	147					** . *			
vC2, stage 2 conf vol						100			y i ÿ		A. J.	
vCu, unblocked vol	483			501			944	945	499	942	947	484
tC, single (s)	4,1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)			•			•						
tF(s)	2.2		Balkalina.	2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	100	100	98	100	99
cM capacity (veh/h)	898		11 (1)	922	1.0		213	232	494	215	232	483
Direction, Lane # 1 #	-//EB1	WB 1	ANB 1	SB1			11.1					
Volume Total	639	657	7	9	in the state of	THEN SHE		All You				
Volume Left	4	4	5	4	,							
Volume Right	3	0	1 -	4		III be						1. 18.
cSH	898	922	235	298						•		
Volume to Capacity	0.00	0.00	0.03	0.03	e en en en en						5 1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Queue Length 95th (m)	0.1	0.1	0.6	0.7								
Control Delay (s)	0.1	0.1	20.7	17.5					. + 12 .			
Lane LOS	A	Α	С	С								
Approach Delay (s)	0.1	0.1	20.7	17.5					er en a			
Approach LOS			С	С								
Intersection Summary												
Average Delay		A Agent of South Agents	0.3							na para-Alfred Medical Control of the State of	under er familiere de Eduler 1439 (1896).	
Intersection Capacity Utilizat	tion		44.6%	IC	CU Level o	of Service)		A		100	
Analysis Period (min)	. ***		15									

	*	→	•	•	-	•	1	†	~	-	↓	1
Movement Carlos	⊬å EBL	EBT) EBR	*WBL	2-WBT	WBR	ANBL	(LINBT	NBR	‡ SBL	SBT	SBR
Lane Configurations	ሻ	ተ	7	ሻ	^ }		ሻ	4		7	f)	
Volume (vph)	31	493	62	98	521	17	60	97	67	38	92	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5	3.5	4.0	4.0	3.5	3.5	3.5
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	ug in dahar tida. Panggalah terbah	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00		1.00	1.00		0.99	1.00	Real York
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94		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)	1780	1860	1442	1758	1851		1713	1785		1711	1814	
Flt Permitted	0.40	1.00	1.00	0.43	1.00		0.68	1.00		0.64	1.00	
Satd. Flow (perm)	748	1860	1442	803	1851		1220	1785		1162	1814	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	536	67	107	566	18	65	105	73	41	100	25
RTOR Reduction (vph)	0	0	21	0	2	0	0	49	0	0	18	0
Lane Group Flow (vph)	34	536	46	107	582	0	65	129	0	41	107	0
Confl. Peds. (#/hr)	. 4	000	7	7		4	1 1	100 417	7	7	: BR	1
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	4%	2%	4%	3%	0%	0%
Bus Blockages (#/hr)	0,0	Ô	3	0	0	3	0	0	0	0	0	0
Turn Type	Perm		Perm	Perm		·	Perm			Perm		
Protected Phases	I Gilli	6	1 01111	- 1 01111	2		\$ 150 A	8	1000年2月1日		4	144
Permitted Phases	6		. 6	2		4 14 1 1 1 4 4 1 1 1 1 1 1 1 1 1 1 1 1	8		. 12 71.	4	3 . 7 . 44	
Actuated Green, G (s)	33.1	33.1	33.1	33.1	33.1	38.25%	8.6	8.6	$\mathbb{R}^{n+1} = \prod_{i=1}^{n} (1+\frac{1}{n})^i$	8.6	8.6	19. 军 安东
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1		8.6			8.6	8.6	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.16			0.16	0.16	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	No. No. 3	6.0	4 4 5 44	77,74 (484.)	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	t jakula.	3.0			3.0	3.0	
Lane Grp Cap (vph)	453	1126	873	486	1120	<u> </u>	192		<u> </u>	183	285	<u>-</u>
v/s Ratio Prot	700	0.29	0,0	700	c0.31	ing Nightin	7 /	c0.07		ter i jõlje	0.06	18 14 E
v/s Ratio Perm	0.05	0.20	0.03	0.13	00.01		0.05	A Company of the Comp		0.04	·	ett i talan ja
v/c Ratio	0.03	0.48	0.05	0.13	0.52	and the second	0.34		9 3 45 5 5 4 3 4 5 5 5 6	0.22	0.38	
Uniform Delay, d1	4.5	6.0	4.4	4.9	6.2	i Afrika di Mes	20.5			20.1	20.6	
Progression Factor	1.00	1.00	1.00	1.00		100 mg (100 mg) 110 mg (100 mg)	1.00		Juda Heli	1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	1.00			1.1	1.2	1.7 (5.7)	0.6	0.8	A STATE OF STATE
Delay (s)	4.5	6.3	4.4	6.0			21.6	and the second second	40.00	20.8	21.5	
Level of Service	A	Α	A	A			С	C		С	С	
Approach Delay (s)	,	6.0			7.6	and the second		22.0			21.3	
Approach LOS		A			A			С	1.14	Difference	С	e e en a est
Intersection Summary					i le							
HCM Average Control Delay	<i>I</i>		10.4		HCM Lev	el of Servi	ce		В	-		
HCM Volume to Capacity ra			0.51					·				
Actuated Cycle Length (s)	-		54.7		Sum of lo	st time (s)			13.0			•
Intersection Capacity Utiliza	tion		93.1%	and the second second		of Service	3	1 to 1	F			e de la composición dela composición de la composición de la composición de la composición dela composición dela composición dela composición de la composición de la composición dela composición de la composición dela c
Analysis Period (min)	ne"		15		,, ; •	ः त्यार्थेड		•			No.	
c Critical Lane Group				100				17,050				
5 Silloui Edito Olivab		* *	1 1				* * *	7.7				211 / 11

Intersection: 1: Eagle Street & Yonge Street

Movement	EB.	* EB	· · · EB	/ WB	· WB	WB	: NB	· NB	· NB,	FINB!	* SB	. SB
Directions Served	L	Т	R	L	Т	R	L	Т	Т	R	L	T
Maximum Queue (m)	40.0	126.3	60.0	79.0	110.4	63.9	87.2	336.5	335.6	74.9	61.1	138.3
Average Queue (m)	27.6	75.8	30.3	58.6	74.1	25.9	57.2	191.6	163.4	32.9	33.8	77.3
95th Queue (m)	59.8	155.2	63.6	100.4	131.8	63.6	97.9	389.8	330.6	80.1	67.4	164.2
Link Distance (m)		232.6			132.4			331.9	331.9			298.3
Upstream Blk Time (%)					1			1	0			0
Queuing Penalty (veh)					7			0	0			0
Storage Bay Dist (m)	52.0		42.0	40.0		38.0	55.0			55.0	59.0	
Storage Blk Time (%)	9	29	5	35	31	0	11	18	21		4	9
Queuing Penalty (veh)	46	98	17	145	96	0	67	47	43		19	12

Intersection: 1: Eagle Street & Yonge Street

Movement * * * * *	AN SB AM SB East 1997 The Control of
Directions Served	T R
Maximum Queue (m)	- 10. 문헌 <mark>95.0 부터 6.9</mark> - 연락 그림하는 10. 100 인터를 받았습니다. 전 연락 보기 기술을 하고 있는 경우는 하는 하는 하는 다른
Average Queue (m)	73.3 2.2
95th Queue (m)	1. 類類11.0對於8.3分 的異似的目標如何可以用一個的自由與例面對於可以可以的可以的可以可以可以可以可以可以可以可以可以可以可以可以可以可以可以可
Link Distance (m)	298.3 298.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	그래도 하루 목표를 발표를 들었다. 그런 그렇게 되는 사람들은 그렇게 되었다. 음생은 모임으로 다
Storage Blk Time (%)	
Queuing Penalty (veh)	다른 변화가 나온데, 그런 그는 전 학교를 들는 것이 되고 있다. 그는 사람은 중을 별할수 없다.

Intersection: 2: Eagle Street & Dixon/Existing Driveway

Movement	÷i÷i ≥E8⊹	- WB)	NB ⊹ SB		-		1.4.5
Directions Served	LTR	LTR	LR LR				
Maximum Queue (m)	7.1	31.7 1	1.0 3.3			The state of	
Average Queue (m)	2.0	9.6	7.5 0.7				
95th Queue (m)	11.7	39.4 10	3.9 4.3	2			
Link Distance (m)	132.4	195.8 178	3.3 109.1				
Upstream Blk Time (%)							* * * * * * * * * * * * * * * * * * *
Queuing Penalty (veh)							
Storage Bay Dist (m)	$\varphi_{i,j}^{(k)} = \varphi_{i,j}^{(k)} \circ \varphi_{i,j}^{(k)}$					er er de ferrier.	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: Eagle Street & Donlin/Existing Driveway

Movement # * *** £		.≱.÷WB:	₹ NB.	-SB	
Directions Served	LTR	LTR	LR	LR	ing the control of th
Maximum Queue (m)	12.6	4.6	6.6	5.3	
Average Queue (m)	3.7	0.9	1.3	1.3	Distribution (1) de la companya de propriété de la constant de la companya de la companya de la companya de la
95th Queue (m)	19.3	8.3	6.3	6.3	
Link Distance (m)	195.8	194.0	122.2	103.0	
Upstream Blk Time (%)					
Queuing Penalty (veh)					Distriction of the service of the service of the state of the service of the se
Storage Bay Dist (m)		1.2715.3			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Eagle Street & Carol Avenue/Sandford Street

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the specific terms of

Network Summary

Network wide Queuing Penalty: 653

Background

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Movement	EBD	e EBT	EBR	· WBL	WBT	. : WBR	ia NBL	∨NBT	a NBR	SBL	SBI	SBR
Lane Configurations	ሻ		7	ኻ	^	7	ħ	*	7	ħ	† †	7
Volume (vph)	39	293	168	152	369	73	243	935	225	98	954	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3,5	3.3	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.3
Total Lost time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	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	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1527	1842	1523	1727	1807	1501	1604	3466	1461	1618	3433	1471
Flt Permitted	0.47	1.00	1.00	0.22	1.00	1.00	0.13	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	759	1842	1523	395	1807	1501	215	3466	1461	347	3433	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	318	183	165	401	79	264	1016	245	107	1037	112
RTOR Reduction (vph)	0	0	107	0	0	34	0	0	100	0	0	61
Lane Group Flow (vph)	42	318	76	165	401	45	264	1016	145	107	1037	51
Confl. Peds. (#/hr)	12		3	3		12	4		13	13		4
Heavy Vehicles (%)	13%	2%	1%	1%	4%	3%	5%	3%	2%	4%	4%	0%
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0		0	6
Turn Type	Perm		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4		3	8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		2
Actuated Green, G (s)	25.6	25.6	25.6	40.2	40.2	40.2	70.5	57.7	57.7	59.2	50.4	50.4
Effective Green, g (s)	25.6	25.6	25.6	40.2	40.2	40.2	70.5	57.7	57.7	59.2	50.4	50.4
Actuated g/C Ratio	0.21	0.21	0.21	0.32	0.32	0.32	0.57	0.46	0.46	0.47	0.40	0.40
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	156	378	313	241	583	484	301	1604	676	254	1388	595
v/s Ratio Prot		c0.17		0.06	c0.22		c0.11	0.29		0.03	0.30	
v/s Ratio Perm	0.06		0.05	0.16		0.03	c0.38		0.10	0.17		0.03
v/c Ratio	0.27	0.84	0.24	0.68	0.69	0.09	0.88	0.63	0.21	0.42	0.75	0.09
Uniform Delay, d1	41.7	47.6	41.4	33.2	36.8	29.5	26.8	25.5	20.0	19.4	31.7	22.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	15.4	0.4	7.8	3.4	0.1	23.7	1.9	0.7	1.1	3.7	0.3
Delay (s)	42.6	63.0	41.8	41.1	40.2	29.6	50.5	27.4	20.7	20.6	35.4	23.2
Level of Service	. D	E	, D	D	D	, C	D	С	C	С	D	C
Approach Delay (s)		54.3		100	39.1	100	11.5	30.3			33.1	. 14.44
Approach LOS		D			D			С			С	
Intersection Summary	ig Pas								i i i i i i i	178424		
HCM Average Control Delay			35.9	F	ICM Leve	of Service	e		D			_
HCM Volume to Capacity rati	o		0.85			1/2						
Actuated Cycle Length (s)			124.7		um of los				18.0			
Intersection Capacity Utilizati	on		88.4%	10	CU Level	of Service		100	E		1.11	
Analysis Period (min)			15									
c Critical Lane Group			1000									

	. `	←	4	4	†	*	\	ļ	4
Movement EBL ÆB	T EBR	·WBL: WBT	WBR ()	NBL	NBT	NBR	-SBL	«SBT	SBR
Lane Configurations	4	4			4			4	
Volume (veh/h) 1 60		10 568	2	25	0	23	15.7	7:0:	1
Sign Control Fre	1 1 1	Free			Stop			Stop	
Grade 0°		0%		Part of the	0%			0%	
Peak Hour Factor 0.92 0.9		0.92 0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph) 1 65		11 617	2	27	0	25	. 1	0	1
and the first of the control of the	2				4			4	
Lane Width (m) 4.	3				3.7			3.7	
Walking Speed (m/s) 1.	2				1.2			1.2	
	0				0			0	1.55
Right turn flare (veh)									100
Median type Non	е	None	\$ 1.00			e e tot			- 11:1
Median storage veh)			رمرفار الرااط ما			eser e legio .		14.4	
Upstream signal (m) 15	1						0.00	0.00	
pX, platoon unblocked		0.82		0.82	0.82	0.82	0.82	0.82	00.4
vC, conflicting volume 624		672		1310	1312	664	1332	1319	624
vC1, stage 1 conf vol		garanta di Salah					erie erie er	100	
vC2, stage 2 conf vol				4000	4074	400	420E	1279	624
vCu, unblocked vol 624	garan a	491		1268	1271 6.5	482 6.3	1295 7.1	6.5	6.2
tC, single (s)		4.2		7.1	6.0	0.3	f.L.	0,0	0.2
tC, 2 stage (s)		0.0	4	3.5	4.0	3.4	3.5	4.0	3.3
tF (s) 2.2		2.3 99		77	100	95	99	100	100
p0 queue free % 100		99 844		118	136	467	107	135	486
cM capacity (veh/h) 964		044	11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Lio	100	701	101	100	ATTICLE ATTICL
Direction, Lane # EB 1 WB			manuscript manuscript and Marie 1944 Addition	secondary members to consider 1965	NACO MINISTERNA DI PARA DI PAR	A CONTRACTOR CANADA PROPERTY CONTRACTOR	esenomin ekranalanganappen	erroconstantish MERC	
Volume Total 670 63	1 - NB1	SB 1						¥1.	40 A
	30 52	SB 1 2						(g. 4)	
THE PROPERTY OF THE PARTY OF TH	30 52 1 27	ter to the second secon		/: · · · · · · · · · · · · · · · · · · ·					
cSH 964 84	30 52 11 27 2 25	2 1					T. T. T.		
	30 52 11 27 2 25 14 183	2 1 1 176					12 No. 200		
Volume to Capacity 0.00 0.0	50 52 1 27 2 25 14 183 01 0.28	2 1 1 176 0.01							
Queue Length 95th (m) 0.0 0	30 52 11 27 2 25 14 183 01 0.28 .3 8.5	2 1 1 176 0.01 0.3							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0	30 52 1 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3	2 1 1 176 0.01 0.3 25.8							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0 Lane LOS A	30 52 11 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3 A D	2 1 1 176 0.01 0.3 25.8 D							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0 Lane LOS A Approach Delay (s) 0.0 0	30 52 1 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3 A D	2 1 1 176 0.01 0.3 25.8 D							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0 Lane LOS A	30 52 11 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3 A D	2 1 1 176 0.01 0.3 25.8 D							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0 Lane LOS A Approach Delay (s) 0.0 0	30 52 1 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3 A D	2 1 1 176 0.01 0.3 25.8 D							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0 Lane LOS A Approach Delay (s) 0.0 0 Approach LOS	30 52 1 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3 A D	2 1 1 176 0.01 0.3 25.8 D 25.8							
Queue Length 95th (m) 0.0 0 Control Delay (s) 0.0 0 Lane LOS A Approach Delay (s) 0.0 0 Approach LOS Intersection Summary	30 52 1 27 2 25 14 183 01 0.28 .3 8.5 .3 32.3 A D .3 32.3 D	2 1 1 176 0.01 0.3 25.8 D 25.8	el of Service			A			

ane Configurations 4		<i>></i>	-	•	•	←	•	4	†	<i>></i>	/	ļ	4
From the (veh/h) 6 6 615 3 0 577 1 1 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Movement	- EBL	: EBT «	.EBR	- WBL	.WBT:s	WBR :	∂⊹NBL⊊	∦3NBT §	MBR :	: SBL :	SBT/	SBR
Free ready (velyIn)	Lane Configurations		4			4			43-			4	
Frace 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Volume (veh/h)	6	615	3	0	577	1	1	0	2	0	1 4 10	2
Frace 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Sign Control		Free			Free			Stop	, , , ,		Stop	24.24
lourly flow rate (vph) 7 668 3 0 627 1 1 0 2 0 0 redestrians 4 4 ane Width (m) 3.7 3.7 Valking Speed (m/s) 1.2 1.2 rement Blockage 0 0 0 right turn flare (veh) ledian type None None reledian storage veh) pistream signal (m) 358 211 X, platoon unblocked 0.85 0.85 0.93 0.93 0.85 0.93 0.93 0.8 C, conflicting volume 632 676 1317 1319 674 1317 1320 63 C1, stage 1 conf vol C2, stage 2 conf vol C3, stage 2 conf vol C4, unblocked vol 483 533 945 947 531 945 949 48; C, single (s) 4.1 4.1 7.1 6.5 6.7 7.1 6.5 6. C, 2 stage (s) F(s) 2.2 2.2 2.2 3.5 4.0 3.8 3.5 4.0 3. 0 queue free % 99 100 100 100 99 100 100 100 M capacity (veh/h) 927 888 313 500 olume Left 7 0 1 0 olume Right 3 1 2 2 SH 927 888 313 500 olume Left 7 0 1 0 olume Right 3 1 2 2 SH 927 888 313 500 olume Left 7 0 1 0 olume Right 3 1 2 2 SH 927 888 313 500 olume Length 95th (m) 0.2 0.0 0.2 0.1 olume Longto (s) 0.2 0.0 16.6 12.2 ane LOS A C B	Grade		0%			0%	Barren.			AS MODELLE STATE		0%	
Pedestrians 4	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
ane Width (m) 3.7 3.7 3.7 valking Speed (m/s) 1.2 1.2 ercent Blockage 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Hourly flow rate (vph)	- 7 - 1	668	3	0	627	1	1	0	2	0	0	2
Valking Speed (m/s) erecent Blockage None ledian type ledian type ledian storage veh) lpstream signal (m) X, platoon unblocked C, conflicting volume 632 676 1317 1319 674 1317 1320 633 C, conflicting volume C2, stage 1 conf vol C2, stage 2 conf vol C2, stage 2 conf vol C3, stage 1 conf vol C4, stage 1 conf vol C5, stage (s) C5, conflecting volume C7, stage (s) C8, confied (s) C9, conflecting volume C9, stage 2 conf vol C1, stage 1 conf vol C1, stage 2 conf vol C2, stage 2 conf vol C3, stage 2 conf vol C4, unblocked vol C5, stage (s) C6, confied (s) C7, stage (s) C8, confied (s) C9, stage (s) C9,	Pedestrians								4			4	
Percent Blockage 10	Lane Width (m)								3.7			3.7	
State Stat	Walking Speed (m/s)								1.2			1.2	
None	Percent Blockage							se Pri	0			0	
Indian storage veh Indian													
	Median type		None			None					NG II.		
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C1, stage 1 conf vol C2, stage 2 conf vol Cu, unblocked vol 483 533 945 947 531 945 949 48: C, single (s) 4.1 4.1 7.1 6.5 6.7 7.1 6.5 6.5 C, 2 stage (s) F (s) 2.2 2,2 3.5 4.0 3.8 3.5 4.0 3.8 0 queue free % 99 100 100 100 99 100 100 100 M capacity (veh/h) 927 888 222 240 395 221 240 500 Infection: Lane # EB 1 W/B NB 1 SB 1 Olume Total 678 628 3 2 Olume Right 3 1 2 2 SH 927 888 313 500 Olume Right 3 1 2 2 SH 927 888 313 500 Olume to Capacity 0.01 0.00 0.01 0.00 Olume to Capacity 0.01 0.00 0.01 0.00 Olume to Capacity 0.01 0.00 0.02 0.1 Control Delay (s) 0.2 0.0 16.6 12.2 and LOS A C B	The state of the s				and the same of	e de la compansión	and a second	to a second		4 4 4 5			0.85
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Cu, unblocked vol 483 533 945 947 531 945 949 48. C, single (s) 4.1 4.1 7.1 6.5 6.7 7.1 6.5 6.7 C, 2 stage (s) F (s) 2.2 2.2 3.5 4.0 3.8 3.5 4.0 3. 0 queue free % 99 100 100 100 99 100 100 100 M capacity (veh/h) 927 888 222 240 395 221 240 500 Infection: Lane # EB 1 WB 1 NB 1 SB 1 Folume Total 678 628 3 2 F (s) 888 313 500 F (s) 99 100 100 100 99 100 100 100 100 F (s) 99 100 100 100 100 100 100 100 100 100		er jage a			ية ويسووي	ing a section		er og krige				and the second	-
C, single (s) 4.1 4.1 7.1 6.5 6.7 7.1 6.5 6.7 7.1 6.5 6.2 C, 2 stage (s) F (s) 2.2 2.2 3.5 4.0 3.8 3.5 4.0 3.8 0 queue free % 99 100 100 100 99 100 100 100 M capacity (veh/h) 927 888 222 240 395 221 240 500 prection; Lane # EB.1 WB I NB.4 SB I colume Total 678 628 3 2 colume Left 7 0 1 0 colume Right 3 1 2 2 SH 927 888 313 500 colume to Capacity 0.01 0.00 0.01 0.00 preueue Length 95th (m) 0.2 0.0 0.2 0.1 control Delay (s) ane LOS A C B									- x <u>. j (</u>				
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0 queue free % 99 100 100 100 99 100 100 100 M capacity (veh/h) 927 888 222 240 395 221 240 500 colume Total 678 628 3 2 colume Left 7 0 1 0 colume Right 3 1 2 2 colume Right 3 1 2 2 colume to Capacity 0.01 0.00 0.01 0.00 colume to Capacity 0.01 0.00 0.01 0.00 colume Length 95th (m) 0.2 0.0 0.2 0.1 control Delay (s) 0.2 0.0 16.6 12.2 colume LOS A C B			et at as	1 31 4 2	000	1. 1. 11. 21	WT		4.0	. 0.0	0.5		
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Figure Client Lane # FB 1 WB 1 NB 1 SB 1 Figure Cliume Total 678 628 3 2 Figure Cliume Left 7 0 1 0 Figure Right 7 0 1 0 Figure Right 3 1 2 2 Figure Cliume Right 927 888 313 500 Figure to Capacity 0.01 0.00 0.01 0.00 Figure Length 95th (m) 0.2 0.0 0.2 0.1 Figure Client Clien			Sangara ang			ing and a	der e						
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tueue Length 95th (m) 0.2 0.0 0.2 0.1 control Delay (s) 0.2 0.0 16,6 12.2 ane LOS A C B			the same of the same of			a. Serie.	and the	1 -44 - 4	1641		14 4		· .
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pproach Delay (s) 0.2 0.0 16.6 12.2	The state of the s	0.2	0.0			nan sa	Santago est	ty styl	1	gar en	1.0		
	Approach LOS	0.2	0.0			i i k			* **				* .
	Approach LOS	24. Table 1.	AND STREET, MANUAL BANKS	U	D								and the second s
itersection Summary	Intersection Summary	1.0		, V-y	4 97 449			1.00	4 - 11 - 6		46.	4000	1000
	Average Delay												
tersection Capacity Utilization 47.3% ICU Level of Service A		ion		47.3%	IC	U Level o	f Service			Α		$\mathbb{P}_{n} = \mathbb{P}_{n}$	13,
nalysis Period (min) 15	Analysis Period (min)			15									
그는 역사는 경우 어디에 발표하는 이 발표가는 중말한다는 그 생활 통하면 이 분들도 되었다면서 아무를 받는 수시를 하는 때문에					100						2 2 2 3		V 4

	→	-	•	•	←	•	4	†	/	-	↓	4
Movement	EBL	# EBT	* > EBR	: WBL	∦√WB T	≇ WBR	«NBL	NBT	: NBR	SBL	SBT :	#SBR
Lane Configurations	Ť	*	7	7	ĵ»		ሻ	1→		ኻ	₽	
Volume (vph)	15	571	31	66	492	7	45	59	115	23	44	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5	3.5	4.0	4.0	3.5	3.5	3.5
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	The Property	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.99	1.00	Hite of E
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1780	1824	1365	1589	1803		1713	1694		1701	1724	
Flt Permitted	0.43	1.00	1.00	0.37	1.00	tell :	0.70	1.00		0.64	1.00	
Satd. Flow (perm)	806	1824	1365	625	1803		1256	1694		1 144	1724	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	621	34	72	535	8	49	64	125	25	48	45
RTOR Reduction (vph)	0	021	9	0	1	Ŏ	0	106	0	0	38	0
	16	621	25	72	542	n	49	83	0	25	55	0
Lane Group Flow (vph)	4	021	5	5	J-72	4	1		5	5		1
Confl. Peds. (#/hr)	0%	3%	6%	12%	4%	0%	4%	2%	4%	4%	0%	0%
Heavy Vehicles (%)	0%	376 0	3	12/0	0	3	0	0	0	. 0	0,0	0,0
Bus Blockages (#/hr)		U			U	J		1.00	U	Perm		
Turn Type	Perm		Perm	Perm		tion of the second	Perm			reiiii	ું છે. તે જો છે	140
Protected Phases		6			2		0	0		4. 200 s. 200 A	#	
Permitted Phases	6	. 60 3	6	2004	00.4	garage and an	8	o i	e eje – _{Se}	8.4	8.4	
Actuated Green, G (s)	33.1	33.1	33.1	33.1	33.1		8.4	8.4		8.4	8.4	
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1		8.4	8.4	الرجاح الأوال			1.87.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.15	0.15	ar a sin As	0.15	0.15	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	No. 1	6.0	6.0	4	6.0	6.0	+ +, +,
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	<u></u>	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	490	1108	829	380	1095	و دور د	194	261		176	266	- 44
v/s Ratio Prot		c0.34			0.30			c0.05			0.03	
v/s Ratio Perm	0.02		0.02	0.12	1.0		0.04	1 6 2 2		0.02	191 a.a 91 1	3 May 98
v/c Ratio	0.03	0.56	0.03	0.19	0.50		0.25	0.32		0.14	0.21	11.21.2
Uniform Delay, d1	4.3	6.4	4.3	4.7	6.0		20.3	20.5		19.9	20.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.11.17	1.00	1.00		1.00	1.00	A Company
Incremental Delay, d2	0.0	0.7	0.0	1.1	1.6		0.7	0.7		0.4	0.4	
Delay (s)	4.3	7.0	4.3	5.9	7.6	1.0	21.0	21.2	. IPS	20.3	20.5	
Level of Service	Α	Α	Α.	Α	A		C	С		C	C	
Approach Delay (s)		6.8			7.4			21.2		e jarti	20.5	
Approach LOS		Α			Α			С			С	
					77					1		7 8
Intersection Summary			40.4	1	ICM!	1 of C :-		¥ 3/	D			
HCM Average Control Dela	-		10.1		TOM Leve	el of Servic	; U		В		traja i ti	
HCM Volume to Capacity ra	atio		0.51		 Dime = 01	_1 U / \			40.0			
Actuated Cycle Length (s)	_ å:		54.5			st time (s)			13.0		1.	
Intersection Capacity Utiliza	ation		84.8%		CU Level	of Service			5.5 % E	* *:	3.5	
Analysis Period (min)			15								17.3	
c Critical Lane Group												

Intersection: 1: Eagle Street & Yonge Street

vlovement	i. tig.EB.Ç	EB	EB.	· WB	WB	ThuWB	* *NB	· NB	- NB	NB	SB	: ∮\$B
Directions Served	L	Ţ	R	L	T	R	L	Т	T	R	L	T
Maximum Queue (m)	18.8	96.3	64.2	48.6	95.4	46.3	66.0	285.7	237.4	56.5	40.2	111.9
Average Queue (m)	9.6	65.0	28.0	28.3	72.7	21.2	40.9	140.6	115.4	24.5	18.9	77.8
95th Queue (m)	20.7	108.4	67.0	59.4	119.3	56.2	73.3	345.4	278.4	67.6	48.2	123.9
Link Distance (m)		232.6			132.4			331.9	331.9			298.3
Upstream Blk Time (%)					1			1	0			
Queuing Penalty (veh)					7			0	0			
Storage Bay Dist (m)	52.0		42.0	40.0		38.0	55.0		Territoria Territoria	55.0	59.0	
Storage Blk Time (%)		26	0	8	29		4	8	11			15
Queuing Penalty (veh)		54	1	36	65		20	20	24			14

Intersection: 1: Eagle Street & Yonge Street

Movement SB: SB:
Directions Served T R
Maximum Queue (m) 119.3 11.5
Average Queue (m) 84.5 7.8
95th Queue (m) 131.5 15.6
Link Distance (m) 298.3 298.3
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 2: Eagle Street & Dixon/Existing Driveway

Movement	. •⊬WB	NB	i 'SB'			1.1				
Directions Served	LTR	LR	LR							
Maximum Queue (m)	26.0	13.7	1.6				*			
Average Queue (m)	9.2	8.4	0.3							
95th Queue (m)	38.7	17.0	3.0					7.7		
Link Distance (m)	195.8	178.3	109.1							
Upstream Blk Time (%)							 4			
Queuing Penalty (veh)										
Storage Bay Dist (m)							1			
Storage Blk Time (%)										
Queuing Penalty (veh)				. : :	 147			•	•	

Intersection: 3: Eagle Street & Donlin/Existing Driveway

Movement	EB :	NB S	SB
Directions Served	LTR		LR
Maximum Queue (m)	3.5	4.8 5	
Average Queue (m)	0.7	1.8 1	1.1
95th Queue (m)	4.6	7.2 6	
Link Distance (m)		22.2 103	
Upstream Blk Time (%)			
Queuing Penalty (veh)			and the second of the second o
Storage Bay Dist (m)		i Maria di Kabupaten di Kabupate Kabupaten di Kabupaten di Kabupat	
Storage Blk Time (%)			and the second of the second o
Queuing Penalty (veh)			

Intersection: 4: Eagle Street & Carol Avenue/Sandford Street

Movement 🐇 🐪 😽	. EB	EB	, JEB	v⊷WB	. TWB	NB	∫ NB	SB	(SB)	A vice services of the quarter
Directions Served	L	T	R	L	TR	L	TR	L	TR	gang salah sal
Maximum Queue (m)	7.2	69.8	17.0	19.0	62.6	10.2	25.1	10.9	23.4	Transfer of the Arman Service
Average Queue (m)	2.6	38.4	6.2	9.5	33.8	6.9	17.0	4.0	12.5	and the state of the second of the first constitution
95th Queue (m)	8.2	81.7	21.4	21.9	70.7	13.2	32.4	12.1	24.3	
Link Distance (m)		194.0			178.0		60.6		158.9	and the second of the second o
Upstream Blk Time (%)					100	- 1 th - 1 - 1 - 1				
Queuing Penalty (veh)										
Storage Bay Dist (m)	50.0		16.0	20.0		45.0		30.0		
Storage Blk Time (%)		12	0	4	11				0	en protes in the state of the s
Queuing Penalty (veh)		5	2.	19	7				0	

Network Summary

Network wide Queuing Penalty: 274

1.	Fanle	Street	& ነ	Yonge	Street
1.	Eaule	Ollect	α	LOUGE	Outel

	•	→	•	•	-	•	1	†	/	\	ļ	4
Movement :	ALC EBL	EBT	: EBR	* WBL	Wet	, WBR	r v ned	··· NBT	1 NBR	∜⊮ SBĽ:	* SBT 4	: SBR
Lane Configurations	ሻ	†	7	ነ ና	↑	7	35	ተተ	7	75	ተተ	7
Volume (vph)	81	359	255	194	377	116	267	1389	199	128	1044	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.3
Total Lost time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	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	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1708	1860	1529	1710	1842	1545	1604	3535	1581	1685	3500	1440
Fit Permitted	0.47	1.00	1.00	0.15	1.00	1.00	0.09	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	841	1860	1529	268	1842	1545	159	3535	1581	185	3500	1440
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	390	277	211	410	126	290	1510	216	139	1135	27
RTOR Reduction (vph)	ŏ	0	152	0	0	61	0	0	73	0	0	16
Lane Group Flow (vph)	88	390	125	211	410	65	290	1510	143	139	1135	11
Confl. Peds. (#/hr)	14		1	2	110	14	2			3	1100	2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	0%	5%	1%	1%	0%	2%	3%
Bus Blockages (#/hr)	0	· ő	5	0	0	0	0.0	. 0	0	0.0	0	6
Turn Type	Perm		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1 (-1111	4	I CILII	3	8	1 61111	ріп р і. 1	6	I Cilli	5	2	i Cilli
Permitted Phases	4	ordina di T	4	8		8	6	, 0	6	2	_	2
Actuated Green, G (s)	24.5	24.5	24.5	36.5	36.5	36.5	59.0	48.0	48.0	45.4	38.4	38.4
Effective Green, g (s)	24.5	24.5	24.5	36.5	36.5	36.5	59.0	48.0	48.0	45.4	38.4	38.4
Actuated g/C Ratio	0.22	0.22	0.22	0.33	0.33	0.33	0.54	0.44	0.44	0.41	0.35	0.35
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	188	416	342	195	614	515	305	1550	693	173	1227	505
v/s Ratio Prot	100	0.21	JHZ	c0.08	0.22	313	c0.14	c0.43	033	0.05	0.32	303
v/s Ratio Perm	0.10	0.21	0.08	c0.08	.0.22	0.04	0.37	UU.43	0.09	0.03	0.02	0.01
v/c Ratio	0.10	0.94	0.08	1.08	0.67	0.04	0.95	0.97	0.03	0.20	0.93	0.01
Uniform Delay, d1	36.9	41.7	35.9	32.5	31.3	25.4	32.5	30.1	19.0	25.8	34.2	23.3
	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor Incremental Delay, d2	1.8	28.6	0.7	88.0	2.8	0.1	38.4	17.5	0.7	23.0	13.1	0.1
	38.7	70.3	36.6	120.5	34.1	25.5	70.9	47.6	19.7	48.8	47.2	23.3
Delay (s) Level of Service		70.3 E	30.0 D	F. 120.5	· C	23.5 C	10. 5	47.0 D	В	40.0 D	41.2 D	25.5 C
Approach Delay (s)	, 0	54.3	٠, ٠,٠	I.	57.0			48.0	7 . .	4	46.9	
Approach LOS		D-4.0		2	3r.0	-	•	- 4 0.0		* •	40.9 D	
Apploacificos		<u> </u>			L				****		<i>-</i>	
Intersection Summary	4.5		A SEE			1.0		* + w # *	viji i i			4 4 4
HCM Average Control Dela	у		50.1	ŀ	HCM Leve	el of Service	ce		D			
HCM Volume to Capacity ra	atio		0.93						100	•		*.
Actuated Cycle Length (s)			109.5	5	Sum of los	st time (s)			8.0			
Intersection Capacity Utiliza	ation		94.5%	ſ	CU Level	of Service)		F			
Analysis Period (min)			15									
c Critical Lane Group		t			4							

	۶		•	<	+	1	*	†	*	/	ļ	1
Movement	EBL:	EBT:	e «EBR»	÷-WBL ∜	\$ WBT	WBR	*NB(- NBT	NBR	₹ SBL ₹	SBT/	* SBR
Lane Configurations		4			4			4			4	
Volume (veh/h)	5	642	39	22	663	1.5.1	19	0	20		· 1 / 0 · 1	5
Sign Control		Free			Free			Stop	enno en el com	2 3 2 2	Stop	. 4
Grade	1. N. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	0%			0%		AV-100	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	698	42	24	721	1	21	0	22	1	0	5
Pedestrians		3			2	e je min	an an il an il n	10		10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5	
Lane Width (m)		4.3			4.3			3.7			3.7	euro)
Walking Speed (m/s)		1.2			1.2	and the second	grade tak	1.2	tyrk ei ta	eri i era er	1.2	
Percent Blockage		0			0			1			0	1 to the second
Right turn flare (veh)		e Subse			ea egine e	and the second		satura t	1 4	1 395	- 10 mg - 10 m	4.4
Median type		None		42,534	None		Last to B		Section 1	12 21 4	10 1 1 1 1 V	
Median storage veh)			and the second		100	4 213.56		1. No. 1. 1. No.	A company			era era Referensistant
Upstream signal (m)	in the fit	151		0.70	Desir Alla		0.76	0.76	0.76	0.76	0.76	
pX, platoon unblocked				0.76			0.76 1517	0.76 1514	731	1528	1535	729
vC, conflicting volume	121			750			1017	1014		1320	1000	125
vC1, stage 1 conf vol	·	1		\$ 25 s	eredict to		egy or in a second	N. China	enam jar	9111113	and the second	NV SUN
vC2, stage 2 conf vol	707			E4E		1 1 1 1 1 1 1 1 1	1523	1519	490	1536	1546	729
vCu, unblocked vol	727	.1		515			7.1	6.5	6.2	7.1	6.5	6.2
tC, single (s)	4.1	31.		4.1	Salara Salara	1.44.4	7,1	0.0		The Control	0.0	0.2
tC, 2 stage (s)	2.2			2.2	ng sa esta	1.00.2	3.5	4.0	3.3	3.5	4.0	3.3
tF(s)	99	1 × 11 ×		97			70	100	95	98	100	99
p0 queue free %	882			801			70	87	431	66	84	423
cM capacity (veh/h)	er austrement un verein oder		anarono anno de control de	001								
Direction, Lane #	EB 1	WB 1	∴NB4/	∘∦ SB 1. -		16.85 <i>1</i>						
Volume Total	746	746	42	4			The second					
Volume Left	5	24 1	21 22	1 5	Barrier La		3 L.A. H			. Francis		
Volume Right	42 882		123	223	18.17							
cSH	0.01	801 0.03	0.35	0.03	eg er e		4.4	1970 E 73		3.5	e degree	
Volume to Capacity Queue Length 95th (m)	0.01	0.03	10.6	0.03	September 1	on Markin	ungus Pir		7 3 114 7			esta e
Control Delay (s)	0.1	0.8	49.1	21.6	and the	Survey #	in Char			State Sec.	was in	1.3 (
Lane LOS	Α.	Α.	E	C	100		water and		Same Sa			
	0.2	0.8	49.1	21.6	era e	400		1000	e graffine a		. () () () () () () () () () (
Approach LOS	. 0.2	0.0	- 73.1 E	C						13		
			∟				TOTAL TOTAL					
Intersection Summary			\$4 T		***	14. Vis. 11.			The second	J. W. B. W. B	18 Co. 18	48 B
Average Delay	:		1.9		o u		en en de se	i wasan wa		in space in	granda yan	
Intersection Capacity Utilization	on	• • •	62.3%	1, 1, 1, 1	CU Leve	of Service	е		В			
Analysis Period (min)	13 4 4	es e sue a la compa	15	ning salah s				13.41		A But An	1.41	a teat to
	- 14T - 179		455							12 To 18	ta and a second	* 1.12

	*	→	•	•	•	•	4	†	*	\	↓	4
Movement	EBL	· EBT	EBR	WBL .	.WBT	WBR	NBL::		NBR :	· SBL.	SBT	SBR
Lane Configurations		4			4			4			43	
Volume (veh/h)	4	656	3	4	677	0	5	0	1	4	0	4
Sign Control	ar i .	Free			Free			Stop	1 + 1		Stop	7 1
Grade		0%			0%			0%			0%	en de la companya de La companya de la companya de
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)	4	713	3	4	736	0	5	0	1	4		4
Pedestrians		1						4			6	
Lane Width (m)		4.3			i iza i			3.7			3.7	
Walking Speed (m/s)		1.2			-			1.2			1.2	
Percent Blockage		0		:				0			1	1
Right turn flare (veh)		221.11	21 1.01 21 1.01	. ta							4. 4.	
Median type		None		- March 1984	None		200					
Median storage veh)	y	2 8=87	garana ara	e e e e	ا مذہب ا	er versioner	mark to the part		manaatan	Ar a thir hin.		
Upstream signal (m)	0.70	358	r illing.	0.00	211		0.05	0.05	0.00			
pX, platoon unblocked	0.76	er e k	5 5 7 7	0.83		1,2	0.85	0.85	0.83	0.85	0.85	0.76
vC, conflicting volume	742			720			1477	1478	719	1475	1480	743
vC1, stage 1 conf vol vC2, stage 2 conf vol					1 1					erija in j	Ta - 11.	gent of the
vCu, unblocked vol	502			555	-	evilla i	1008	1009	553	1006	1011	503
tC, single (s)	4.1	1000	to service i	4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)	7.1	* * .		7.1			(* -)	0.5	0.2	(* 7 - 1 ,53)	0.0	0.2
tF (s)	2.2		, 1 to 1	2.2		4	3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		99			97	100	100	98	100	99
cM capacity (veh/h)	811		t ja	843			182	201	441	184	201	432
Direction, Lane # 3	EB 1	-WB1	NB 1	SB1							A. F. Carl	u e
Volume Total	721	740	7	9							<u> </u>	
Volume Left	4	4	5	4								
Volume Right	3	0	1	4			. _{1,5} + 41,	8 - 8 - 1 H				
cSH	811	843	201	258								
Volume to Capacity	0.01	0.01	0.03	0.03		Turk da j						
Queue Length 95th (m)	0.1	0.1	8.0	8.0							**	
Control Delay (s)	0.1	0.1	23.5	19.4					far ett		100	
Lane LOS	Α	Α	С	C								
Approach Delay (s)	0.1	0.1	23.5	19.4						Marketining		
Approach LOS			С	С								
Intersection Summary										***		
Average Delay	A STATE OF THE PROPERTY OF THE		0.4			A CONTROL DESIGNATION		THE STATE OF	78023	and the second s	AND THE PROPERTY OF THE PARTY O	200000000000000000000000000000000000000
Intersection Capacity Utiliza	ation		48.7%	ICI	J Level	of Service	fat in		Α			
Analysis Period (min)			15									
		1.1.			: :							. 1 1

	•	-	•	•	-	•	4	†	/	-	Į.	4
Movement	· / ÆBL	EBT	EBR	*WBL	WBT	+WBR +	· NBL	⊫ NBT	NBR	\$BL:	SBT	SBR
Lane Configurations	ኘ	†	7	ሻ	4		J.	4		ሻ	4	
Volume (vph)	31	568	62	98	598	17	60	97	67	38	92	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5	3.5	4.0	4.0	3.5	3.5	3.5
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	Salahari .
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94		1.00	0.97	J. 1
FIt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	in the second
Satd. Flow (prot)	1781	1860	1442	1759	1852		1713	1785		1711	1814	
Flt Permitted	0.34	1.00	1.00	0.38	1.00		0.68	1.00		0.64	1.00	100
Satd. Flow (perm)	637	1860	1442	695	1852		1220	1785		1162	1814	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	617	67	107	650	18	65	105	73	41	100	25
RTOR Reduction (vph)	0	0	19	0	2	0	.0	49	0	0	18	0
Lane Group Flow (vph)	34	617	48	107	666	0	65	129	0	41	107	0
Confl. Peds. (#/hr)	4		7.	7		4	1		7	7		1
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	4%	2%	4%	3%	0%	0%
Bus Blockages (#/hr)	0	0	3	0	0	3	0	0	0	0	0	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		6			2		15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8			4	to the second
Permitted Phases	6	A Development	6	2			8			4		
Actuated Green, G (s)	33.1	33.1	33.1	33.1	33.1		8.6	8.6		8.6	8.6	
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1		8.6	8.6		8.6	8.6	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.16	0.16	Burg	0.16	0.16	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		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		3.0	3.0	
Lane Grp Cap (vph)	385	1126	873	421	1121		192	281		183	285	
v/s Ratio Prot		0.33			c0.36		33414	c0.07			0.06	eria. Pransperietaria
v/s Ratio Perm	0.05		0.03	0.15			0.05			0.04		
v/c Ratio	0.09	0.55	0.06	0.25	0.59		0.34	0.46	ran Kabupatèn	0.22	0.38	
Uniform Delay, d1	4.5	6.4	4.4	5.0	6.7		20.5	20.9		20.1	20.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	er de la companya de La companya de la co
Incremental Delay, d2	0.1	0.5	0.0	1.5			1.1	1.2	7 - "	0.6	8.0	
Delay (s)	4.6		4.4	6.5			21.6	22.1	*	20.8	21.5	
Level of Service	Α	A	Α	Α	Α		C	С		С	C	
Approach Delay (s)		6.6	n ni		8.6		A B Land	22.0			21.3	
Approach LOS	**. * *	Α			Α	. '-	** *	С	. '		С	•
Intersection Summary		ja saja ji										
HCM Average Control Dela	er de state de la composition de la co La composition de la compos		10.7	de Grand Production (St.)	HCM Leve	el of Servic	e		В			
HCM Volume to Capacity ra			0.57					,		5 - 15,		
Actuated Cycle Length (s)	440		54.7		Sum of lo	st time (s)			13.0			
Intersection Capacity Utiliza	ation		97.1%			of Service	.	1 de 1	F			
Analysis Period (min)	40011		15			21 201 110C	5			3.5		
c Critical Lane Group			.0	·	12.1			e jeden			ta j	
o Ondodi Latte Oroup		1.7.7			****	• •		:				

Intersection: 1: Eagle Street & Yonge Street

Movement .		∦ EB⊹	EB`	∔ / WB	. WB	∦. WB	, NB	≯ NB,	a NB	: NB	∦; SB	: : SB
Directions Served	L	Т	R	L	Т	R	L	Т	Т	R	L	T
Maximum Queue (m)	40.1	102.8	61.8	75.0	100.3	55.8	77.6	336.5	312.3	66.0	40.5	224.1
Average Queue (m)	23.3	72.0	35.9	46.5	74.9	30.3	52.2	242.7	166.2	30.0	25.9	108.7
95th Queue (m)	49.3	113.3	69.0	80.5	116.8	68.4	87.5	425.7	316.3	76.4	52.5	232.5
Link Distance (m)		232.6			132.4			331.9	331.9			298.3
Upstream Blk Time (%)				1908. N	. 0			2	. 1			0
Queuing Penalty (veh)					3			0	0			0
Storage Bay Dist (m)	52.0		42.0	40.0		38.0	55.0			55.0	59.0	
Storage Blk Time (%)	1	35	2	22	32	0	6	26	30			20
Queuing Penalty (veh)	3	118	9	110	98	0	45	69	59			25

Intersection: 1: Eagle Street & Yonge Street

Movement ** ** *** Directions Served	SB in SB in R	1 to 100
	123.5 화 (주 .3 기원의) 등 전 등 전 등 전 등 전 등 전 등 전 등 전 등 전 등 전 등	
Average Queue (m)	91.2 2.3	
	132.0 % 8.4 state of the fifth after the first of the fir	
Link Distance (m)	298.3 298.3 - Tallette Calaboration of the March Color of the factor o	
Queuing Penalty (veh)		
Storage Bay Dist (m)	LEARLY OF THE PROPERTY OF THE GREEKS WERE CONTROLLED AND THE PROPERTY OF THE P	j
Storage Blk Time (%)	Pro le la formación desento ligidad dos la comenciar, sensión basa desenta a la experiencia desento en esta com	- 1. g
Queuing Penalty (Ven)		

Intersection: 2: Eagle Street & Dixon/Existing Driveway

Movement	EB	WB	+ NB	· SB:	
Directions Served	LTR	LTR	LR	LR	
Maximum Queue (m)	9.6	28.0	10.4	3.3	그리아 마음을 하고 못하면 된 아니라가 그는 생님이 하다.
Average Queue (m)	1.9	9.9	5.4	0.7	
95th Queue (m)	15.4	33.7	13.2	4.4	
Link Distance (m)	132.4	195.8	178.3	109.1	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)				• • .	
Storage Blk Time (%)					
Queuing Penalty (veh)		<i>a.</i> •	-		来。1. Text 2012年 11 11 11 12 12 13 13 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16

Intersection: 3: Eagle Street & Donlin/Existing Driveway

Vovement	, EB	- WB	, NB	⇒ SB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		- 10 m	
Directions Served	LTR	LTR	LR	LR				en lagger steel as t
Maximum Queue (m)	8.7	13.8	8.4	7.0				
Average Queue (m)	1.7	3.1	2.0	2.7				
95th Queue (m)	11.5	19.0	8.0	9.2				
Link Distance (m)	195.8		122.2	103.0		e de la companya de		14. 14. 1 L.1
Upstream Blk Time (%)								
Queuing Penalty (veh)					in a contract of the second of	and the second second	e de la composition	gan e es a grant
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)			firsk f					

Intersection: 4: Eagle Street & Carol Avenue/Sandford Street

Movement .	¥EB	EΒ	L EB	· WB	₩B	NB :	LINB	SB	. SB∵.	
Directions Served	L	T	R	L	TR	Ļ	TR	L	TR	
Maximum Queue (m)	12.2	78.4	9.9	36.8	86.7	25.3	31.6	14.9	19.7	
Average Queue (m)	5.6	47.3	5.0	19.2	52.2	12.6	19.4	8.6	14.1	and the second of the second o
95th Queue (m)	15.0	94.9	12.3	39.7	92.3	31.6	42.4	17.2	22.3	
Link Distance (m)		194.0			178.0		60.6		158.9	
Upstream Blk Time (%)										
Queuing Penalty (veh)	•							~		
Storage Bay Dist (m)	50.0		16.0	20.0		45.0		30.0		
Storage Blk Time (%)	_	12	. 0	4	18	0	1		0	The second secon
Queuing Penalty (veh)		12	1	23	18	0	0		0	

Network Summary

Network wide Queuing Penalty: 592

	•	

	→	-	•	•	←	4	*	†	/	/	↓	1
Movement	EBL	EBT	EBR	r WBL	- WBT	WBR	∞NBL	NBT.	: NBR	SBL	≸ SBT	SBR
Lane Configurations	ኻ	ተ	7	ኽ	+	7	ካ	† †	7	ች	^	7
Volume (vph)	39	294	168	212	376	80	243	935	239	99	954	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.3
Total Lost time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	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	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1527	1842	1523	1727	1807	1501	1604	3466	1461	1618	3433	1471
Flt Permitted	0.46	1.00	1.00	0.21	1.00	1.00	0.13	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	747	1842	1523	390	1807	1501	212	3466	1461	345	3433	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	320	183	230	409	87	264	1016	260	108	1037	112
RTOR Reduction (vph)	0	0	106	0	0	36	0	0	106	0	0	61
Lane Group Flow (vph)	42	320	77	230	409	51	264	1016	154	108	1037	51
Confl. Peds. (#/hr)	12	garanta j	3	3	200	12	4		13	13		4
Heavy Vehicles (%)	13%	2%	1%	1%	4%	3%	5%	3%	2%	4%	4%	0%
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	6
Turn Type	Perm		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4	$\frac{1}{2} \frac{1}{2} \frac{\lambda_1 + \lambda_2}{\lambda_1} = 0$	3	8		1	6		5	2	11.4
Permitted Phases	4		4	8		8	6		6	2		2
Actuated Green, G (s)	25.8	25.8	25.8	40.8	40.8	40.8	70.5	57.7	57.7	59.1	50.3	50.3
Effective Green, g (s)	25.8	25.8	25.8	40.8	40.8	40.8	70.5	57.7	57.7	59.1	50.3	50.3
Actuated g/C Ratio	0.21	0.21	0.21	0.33	0.33	0.33	0.56	0.46	0.46	0.47	0.40	0.40
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	154	379	314	244	588	489	299	1596	673	252	1378	591
v/s Ratio Prot		0.17	1.3	c0.08	0.23	1	c0.11	0.29		0.03	0.30	
v/s Ratio Perm	0.06		0.05	c0.22		0.03	c0.38		0.11	0.17		0.03
v/c Ratio	0.27	0.84	0.24	0.94	0.70	0.10	0.88	0.64	0.23	0.43	0.75	0.09
Uniform Delay, d1	41.9	47.8	41.6	37.2	36.8	29.5	27.5	25.8	20.4	19.8	32.2	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	15.7	0.4	41.8	3.6	0.1	24.9	2.0	0.8	1.2	3.8	0.3
Delay (s)	42.8	63.5	42.0	79.0	40.4	29.6	52.4	27.8	21.2	20.9	36.0	23.5
Level of Service	D	Е	D	Ε	D	С	D	C	C	С	D	С
Approach Delay (s)		54.7			51.3			30.9	4 4 5		33.6	
Approach LOS		D			D			С			С	
intersection Summary :	T. 1											
HCM Average Control Delay	/	3.00000	38.6	F	ICM Leve	el of Servi	ce		D			
HCM Volume to Capacity ra		100	0.84	- 1.								
Actuated Cycle Length (s)			125.3	5	Sum of los	st time (s)			8.0			
Intersection Capacity Utiliza	tion		88.8%	10	CU Level	of Servic	е	•	·Ε			
Analysis Period (min)			15									
c Critical Lane Group	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									•		

Movement EBL EBT EBR WBL WBT NBL NBT NBR SBL SBT Lane Configurations	SBR 1
Volume (ven/h) 1 616 15 10 641 2 25 0 23 1	1
Volume (veh/h) 1 616 15 10 641 2 25 25 0 23 23 1 23	1
Sign Control	: 11
Grade 19 (10) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.00
Peak Hour Factor 0.32 0.32 0.32 0.32 0.32	0.92
Hourly flow rate (vph) 1 670 16 11 697 2 27 0 25 1	. 4
Pedestrians 2	4.7.1
· Lane violit(III) · · · · · · · · · · · · · · · · · ·	1
Walking Speed (m/s) 1.2 1.2	125
Percent Blockage	7 77-
Right turn flare (veh)	· 1
Median type	
Median storage veh)	5.37
Upstream signal (m) 151 0.82 0.82 0.82 0.82 0.82 0.82	1.55
px, piatoon unblocked	704
AC, community and the second s	1,01
vC1, stage 1 conf vol	400
vC2, stage 2 conf vol 703 510 1386 1388 500 1413 1397	704
VCu, unblocked voi	6.2
to, single (s)	
tC, 2 stage (s) tF (s) 2.3 4.0 3.5 4.0 3.5 4.0	3.3
(9)	100
po queue nee 76	438
CWI Capacity (VCIVII)	
Direction, Lane # , EB 1 WB 1 NB 1 SB .	
Volume Total 687 710 52 2	fig. 14 self
Volume Left 1 11 27 1	
Volume Right 1 1.2	14 7 1
cSH 901 828 156 147	42151
Volume to Capacity 0.00 0.01 0.33 0.01	111
Queue Length 95th (m) 0.0 0.3 10.4 0.3	
Control Delay (s) O.0 0.4 39.3 29.8 Lane LOS A A E D	
,一 一数数据数 据数据数据数据数据数据数据数据数据数据数据数据数据数据数据数据数据数	() i
Approach Delay (s) 0.0 0.4 39.3 29.8 E D	
Approach LOS E D	***
intersection Summary	1
Average Delay 1.6	
Intersection Capacity Utilization 52.1% ICU Level of Service A	
Analysis Period (min) 15	5.3.5

	۶	-	*	€.	← 		†	/	1	Į.	1
Movement ***	÷≱₃EBL∗;	: EBT	∌EBR ≀	. WBL I V	vBŤ / WBI	₹≠∮NBĽ.	*NBT	NBR	- SBL	e SBT	. SBR
Lane Configurations		4			4		4			4	
Volume (veh/h)	6	674	3	0	588	1	0	2	0	0	2
Sign Control		Free		F	гее		Stop			Stop	
Grade		0%			0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92		0.92 0.93	2 0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	/ project 7 :	733	3	0	639	1 1.,	0	2	0	0	2
Pedestrians	4 14.5 11.1		ear was to	N		e granda e e e e e e e e e e e e e e e e e e e	4			4	
Lane Width (m)							3.7	机制制	ar a mari	3.7	Mark St.
Walking Speed (m/s)	metala ara el					Talia Villa	1.2	5,44	5 25	1.2	
Percent Blockage							0			0	
Right turn flare (veh)		Álama	ويعالي ر	NI NI	illan er		og kvaliti.		alender.		
Median type Median storage veh)	ere Metre d	None		IN	one	from the season					1 4 14
Upstream signal (m)	THE REPORT OF	358		4- V 100 914	211	1944 - 1, 1614.	w.		1.5		1 4
pX, platoon unblocked	0.84	JJ0	M 1 9 1	0.86	211	0.92	0.92	0.86	0.92	0.92	0.84
vC, conflicting volume	644	100		740	4 1 2 2 1	1393	1396	738	1393	1397	644
vC1, stage 1 conf vol	9 14 7 0 7 3	tion to be only	Na ye - a		The second	1000	1000	100	1000	100,	011
vC2, stage 2 conf vol	Service Service		4 . 3 3	Hilliam Hart						i yaringi	
vCu, unblocked vol	487	# 1 ** * * * *		611		1029	1031	610	1029	1033	486
tC, single (s)	4.1	er granden. Nachtau		4.1		7.1	6.5	6.7	7.1	6.5	6.2
tC, 2 stage (s)											
tF(s)	2.2			2.2		3.5	4.0	3.8	3.5	4.0	3.3
p0 queue free %	99			100		99	100	99	100	100	100
cM capacity (veh/h)	915			833		193	212	356	192	212	493
Direction, Lane # 1995	: EB 1 :	WB1	NB 1	SB1	5				Tall free		
Volume Total	742	640	3	2			An Turney of Albert				
Volume Left	7	0	. 1	0							
Volume Right	3	1	2	2					100		
cSH	915	833	277	493						ene i le	
Volume to Capacity	0.01	0.00	0.01	0.00							
Queue Length 95th (m)	0.2	0.0	0.3	0.1	674.	1.5.	4 2 2		44.2		
Control Delay (s)	0.2	0.0	18.1	12.3			100				1.17
Lane LOS	A		C	B		Ber jir k	t e e			en en general	
Approach Delay (s)	0.2	0.0	18.1 C	12.3				*	*	1 1	:
Approach LOS				В							
intersection Summary							40	1		1.2	
Average Delay			0.2	1011							
Intersection Capacity Utiliza	ation		50.4%	ICU L	evel of Serv	ce	:	. A	-		
Analysis Period (min)	ing the single		15		r 1 Ballon						
		. 100	4	mar in 17							

	•	-	•	€	←	•	4	†	<i>></i>	1	ļ	1
Movement /**	EBL	# EBT	F)EBR		af WBT∉	. WBR ₃	*NBL	NBT	NBR	SBL	SBT	√ SBR
Lane Configurations	ሻ	↑	7	*	Þ		ሻ	ĵ»		ሻ		
Volume (vph)	15	624	38	66	501	7	45	59	115	23	44	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5	3.5	4.0	4.0	3.5	3.5	3.5
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98	e, a war in the	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	PO GENE	0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.00	0.90	ta a tanàna	1.00	0.93	
Fit Protected	0.95	1,00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	a jih di
Satd. Flow (prot)	1780	1824	1365	1589	1803	rigita di est	1713	1694	enn - Grae n. :	1701	1724	
Fit Permitted	0.42	1.00	1.00	0.33	1.00		0.70	1.00		0.64	1.00	
	792	1824	1365	559	1803	and the second	1256	1694	A1 11142.1	1144	1724	
Satd. Flow (perm)				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak-hour factor, PHF	0.92	0.92	0.92		545	0.92	. 0.92 49	64	125	25	48	45
Adj. Flow (vph)	16	678	41		040 4	ိ	- 49	106	0	20	38	0
RTOR Reduction (vph)	0	0	10	0	EEO	n	- 1 T	83	0	25	55	0
Lane Group Flow (vph)	16	678	31	72	552	U - [177] (177) k	49	03	5	- 25 5		ं के जि
Confl. Peds. (#/hr)	4			5	. el 3 est 9	- 4	40/	00/	and the control of th	4%	0%	0%
Heavy Vehicles (%)	0%	3%	6%	12%	4%	0%	4%	2%	4%	470	076	076
Bus Blockages (#/hr)	. 0	0		0	0	3	0	0	0		<u> </u>	<u> </u>
Turn Type	Perm		Perm	Perm	energe de 🛎	out the second	Perm	are years on the co	ar neg ar e	Perm	or not on a co	project s
Protected Phases		6			2	바다스타		8			9 4 7	
Permitted Phases	6	**= *, .	6	2	and the state of the	ing. Table and a	8	al the same	a subsection	4	era kanalari	egaling solins
Actuated Green, G (s)	33.1	33.1	33.1	33.1	33.1		8.4	8.4		8.4	8.4	
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1	a ne marecia	8.4	8.4	turius (A. 41 - 1	8.4	8.4	and the se
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	v.	0.15	0.15		0.15	0.15	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		6.0	6.0	the second second	6.0	6.0	e granteta
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	<u> Piking</u>	3.0	3.0	
Lane Grp Cap (vph)	404											
	481	1108	829	340	1095		194	261		176	266	
v/s Ratio Prot	461	1108 c0.37	829	340	1095 0.31		194	261 c0.05	ration Rec Skyll Vall	176	266 0.03	
	0.02		0.02	0.13	and the second second		0.04	24 44 A 44 A	aren al Prope Nagel Nagel	176 0.02		
v/s Ratio Prot v/s Ratio Perm v/c Ratio	0.02			0.13	and the second second		Maria.	24 44 A 44 A				
v/s Ratio Perm v/c Ratio	A HAST	c0.37	0.02	0.13	0.31		0.04	c0.05	errigi (6 Siyari yayb Harii (6 Harii (6)	0.02	0.03 0.21 20.1	
v/s Ratio Perm v/c Ratio Uniform Delay, d1	0.02 0.03 4.3	c0.37 0.61 6.7	0.02 0.04 4.3	0.13 0.21 4.8	0.31 0.50 6.1		0.04 0.25 20.3	0.32 20.5		0.02 0.14	0.03 0.21 20.1	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor	0.02 0.03 4.3 1.00	0.61 6.7 1.00	0.02 0.04	0.13 0.21 4.8 1.00	0.31		0.04 0.25	c0.05 0.32		0.02 0.14 19.9	0.03 0.21	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2	0.02 0.03 4.3 1.00 0.0	0.61 6.7 1,00	0.02 0.04 4.3 1.00 0.0	0.13 0.21 4.8 1.00 1.4	0.31 0.50 6.1 1.00 1.7		0.04 0.25 20.3 1.00 0.7	0.32 20.5 1.00 0.7		0.02 0.14 19.9 1.00	0.03 0.21 20.1 1.00	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s)	0.02 0.03 4.3 1.00 0.0 4.3	0.61 6.7 1.00 1.0 7.7	0.02 0.04 4.3 1.00	0.13 0.21 4.8 1.00 1.4 6.2	0.31 0.50 6.1 1.00 1.7 7.7		0.04 0.25 20.3 1.00	0.32 20.5 1.00		0.02 0.14 19.9 1.00 0.4	0.03 0.21 20.1 1.00 0.4	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service	0.02 0.03 4.3 1.00 0.0	0.61 6.7 1.00 1.0 7.7	0.02 0.04 4.3 1.00 0.0 4.3	0.13 0.21 4.8 1.00 1.4	0.31 0.50 6.1 1.00 1.7 7.7		0.04 0.25 20.3 1.00 0.7 21.0	0.32 20.5 1.00 0.7 21.2 C		0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s)	0.02 0.03 4.3 1.00 0.0 4.3	0.61 6.7 1.00 1.0 7.7	0.02 0.04 4.3 1.00 0.0 4.3	0.13 0.21 4.8 1.00 1.4 6.2	0.31 0.50 6.1 1.00 1.7 7.7		0.04 0.25 20.3 1.00 0.7 21.0	0.32 20.5 1.00 0.7 21.2		0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s)	0.02 0.03 4.3 1.00 0.0 4.3	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A		0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C		0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS	0.02 0.03 4.3 1.00 0.0 4.3 A	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3 A	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A	of Service	0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C	B	0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS Intersection Summary	0.02 0.03 4.3 1.00 0.0 4.3 A	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3 A	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A	l of Servic	0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C	B	0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS Intersection Summary HCM Average Control Delay	0.02 0.03 4.3 1.00 0.0 4.3 A	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3 A	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A		0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C	B 13.0	0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS Intersection Summary HCM Average Control Dela HCM Volume to Capacity ra	0.02 0.03 4.3 1.00 0.0 4.3 A	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3 A	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A		0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C	B 13.0	0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS Intersection Summary HCM Average Control Delat HCM Volume to Capacity ra Actuated Cycle Length (s) Intersection Capacity Utilization	0.02 0.03 4.3 1.00 0.0 4.3 A	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3 A	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A	st time (s)	0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C	and the second second	0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	
v/s Ratio Perm v/c Ratio Uniform Delay, d1 Progression Factor Incremental Delay, d2 Delay (s) Level of Service Approach Delay (s) Approach LOS Intersection Summary HCM Average Control Delat HCM Volume to Capacity ra Actuated Cycle Length (s)	0.02 0.03 4.3 1.00 0.0 4.3 A	0.61 6.7 1.00 1.0 7.7 A	0.02 0.04 4.3 1.00 0.0 4.3 A 10.3 0.55 54.5 84.8%	0.13 0.21 4.8 1.00 1.4 6.2 A	0.31 0.50 6.1 1.00 1.7 7.7 A 7.5 A	st time (s)	0.04 0.25 20.3 1.00 0.7 21.0 C	0.32 20.5 1.00 0.7 21.2 C	and the second second	0.02 0.14 19.9 1.00 0.4 20.3	0.03 0.21 20.1 1.00 0.4 20.5 C 20.5	

Movement EBL EBT WBT WBR SBL SBR	
	WATER THE PROPERTY OF THE PARTY
Lane Configurations 🙀 😝 -1-	
Volume (veh/h) 16 624 584 8 60 69	
Sign Control Free Free Stop	1 2 5 2 2
Grade 0%	i gariet
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92	
Hourly flow rate (vph) 17 678 635 9 65 75	
Pedestrians	
Lane Width (m) this will be a second of the control	
Walking Speed (m/s)	
Percent Blockage	
Right turn flare (veh)	
Median type	
Median storage veh)	
Upstream signal (m) 195 374	
pX, platoon unblocked 0.95 0.86 0.95	
vC, conflicting volume 643	
vC1, stage 1 conf vol	
vC2, stage 2 conf vol	t die
vCu, unblocked vol 599 1201 595 tC, single (s) 4.1 6.4 6.2	i di sami
tC, single (s) 6.4 6.2 tC, 2 stage (s)	y Myller
tF.(s) 3.5 (7) 3.3 (7) (7) (7) (8) (8) (8) (8) (8) (8) (8) (8) (8) (8	
p0 queue free % 98 62 84	
cM capacity (veh/h) 930 173 480	
Direction Cane # . EB 1 WB 1 SB 1	
Volume Total 696 643 140	
Volume Left 17 0 65	
Volume Right 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	$i \in \mathcal{S}_{n-1}$
cSH 930 1700 263	
Volume to Capacity 0.02 0.38 0.53 Queue Length 95th (m) 0.4 0.0 22.0	w in the
Control Delay (s) 0.5 0.5 0.0 33.4	2 121
Lane LOS A D	- A - 1
Approach Delay (s) 0.5 0.0 33.4	
Approach LOS D	
	zadoušeseme
Intersection Summary	
Average Delay 3.4	
Intersection Capacity Utilization 59.9% ICU Level of Service B	
Analysis Period (min) 15	

j

	•	→ *	- •	-	⊀
Movement	∗ ÆBLÆ	«EBT ₽¥WE	ST :: WBR:	SBL	SBR
Lane Configurations		†	þ		7
Volume (veh/h)	0	684 5	38 3	0	
Sign Control		Free Fr		Stop	
Grade			%	0%	
Peak Hour Factor	0.92		92 0.92	0.92	0.92
Hourly flow rate (vph)	0	743 6	39 3	0	的复数形式 医多克尔氏氏管 医多克克氏管 电影响 化二二二
Pedestrians		and the second second		10.100	Na kalius salam kulesa ne arabas salam na salam kalimbas kabasa na katalan na salam kalimbas na katalan kalimb
Lane Width (m)				Maria Na	
Walking Speed (m/s)	e e e e	erias e de la caracte	. Buku sipatus	en netek jak	Bendar programme with the contract of the contract of the world of the contract of the contract of the contract
Percent Blockage			d Parkel		
Right turn flare (veh)	13	i i	ing saya sahiring s		
Median type		None No	ne	Profession .	
Median storage veh)	81 J. S.	200 2	49	NE 44 5 1	
Upstream signal (m)	0.86	320 2	49	0.92	- 1. Dominist (1. 1994), 1991 (1. 1994), 1. 1991 (1. 1994), 1. 1991 (1. 1994), 1. 1994 (1. 1994), 1994 (1. 19 - 0.86
pX, platoon unblocked	642	nga kuwasi	141.45 1.45	1384	U. 641 F. Charles L. C. F. 25 F. Charles E. E. Charles L. 27 C. C.
vC, conflicting volume vC1, stage 1 conf vol	, 04 2			1001	propred to the factory to we the propred is the transfer of the Review of Alexander in the first to the contribution of the
vC2, stage 2 conf vol	The same of the same			an Salah	
vCu, unblocked vol	505	e de la la Arfae.	e vien de hori	1037	503
tC, single (s)	4.1			6.4	
tC, 2 stage (s)			1		
tF (s)	2.2			3.5	
p0 queue free %	100			100	
cM capacity (veh/h)	922			236	490
Direction Lane# * * * * * * *	EB1	gWB1+ .SI	31 4 5	4	
Volume Total	743	642	4	Profile.	
Volume Left	0	0	0		ing distribution of the second
Volume Right	0	3	4		的复数美国美国国际 化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基
cSH	1700		90		Na karaja na pangangan karaja na mangangan kangan kangan kangan kangan kangan kangan kangan kangan kangan kang
Volume to Capacity	0.44	and the second second	01		
Queue Length 95th (m)	0.0		0.2	. 4141 2441.	。 第15章 《大路·大克·大克·艾克·大克·大克·艾克·艾克·艾克·艾克·艾克·艾克·艾克·艾克·艾克·艾克·艾克·艾克·艾克
Control Delay (s)	0.0	0.0 1	2.4		
Lane LOS	0.0	0.0 1:	B oran in an an an an	en a	
Approach Delay (s)	0.0	0.0 1	2.4 B		
Approach LOS	TO A STREET, A STATE OF THE STREET, ST			\$\$0007\$\$000\$\$XY\\	
Intersection Summary 🛶 😅	+ 4 + + + + + + + + + + + + + + + + + + +				
Average Delay			0.0	ario e sari	New Johnson State (New York Advisors State (New York State (New York State (New York State (New York State (Ne
Intersection Capacity Utilization	on ·	41.		U Level o	of Service
Analysis Period (min)			15		。 《我们的证据各种的表现的问题是否结婚的证明证明的,更是被证明证明。

Intersection: 1: Eagle Street & Yonge Street

Movement * * * * * * * * * * * * * * * * * * *	in §⊢y, EB k	EB	, EB	ere:WB	₩B.	WB	r e NB 1	NB-	re NB.	. • NB∌	· SB	r. SB
Directions Served	L	Т	R	L	T	R	L	Τ	Т	R	L	T
Maximum Queue (m)	39.8	109.5	56.6	78.7	110.1	37.0	49.5	189.1	146.7	63.6	36.1	232.1
Average Queue (m)	16.5	74.1	30.9	47.7	71.8	14.2	35.9	86.3	81.6	25.2	20.6	107.1
95th Queue (m)	44.8	127.1	67.5	83.9	119.0	40.9	56.4	211.2	172.9	67.3	51.9	232.5
Link Distance (m)		232.6			132.4			331.9	331.9			298.3
Upstream Blk Time (%)					0			0	0		K Walter	0
Queuing Penalty (veh)					1			0	0			0
Storage Bay Dist (m)	52.0		42.0	40.0		38.0	55.0			55.0	59.0	
Storage Blk Time (%)		33	0	15	24		1	10	14			16
Queuing Penalty (veh)		68	2	70	71		3	25	34			16

Intersection: 1: Eagle Street & Yonge Street

violvement is a second of SB and SB and second of the seco
Directions Served T R
Maximum Queue (m) 239.4 70.7
Average Queue (m) 111.2 21.0
95th Queue (m) 235.4 × 116.4
Link Distance (m) 298.3 298.3
Jpstream Blk Time (%)
Queuing Penalty (veh) 0
Storage Bay Dist (m) Here in the highest hand a second of the second of
Storage Blk Time (%)
Queuling Penalty (veh) How the interest of the control of the cont

Intersection: 2: Eagle Street & Dixon/Existing Driveway

Wovement * Lak	F EB ⊬	WB	ANB -	r _{ar} -SB	
Directions Served	LTR	LTR	LR	LR	
Maximum Queue (m)	7.0	6.8	14.3	3.4	기본 본 경험 경찰 등 현장 등 기업을 모임하고 있는 기를 통하는 것 같다.
Average Queue (m)	1.4	1.4	10.2	1.0	
95th Queue (m)	12.7	7.6	17.8	5.3	\$P\$
Link Distance (m)	132.4	35.4	178.3	109.3	
Upstream Blk Time (%)					。然后接到自己的大概,把ONE的证明,但是这些数量对抗。
Queuing Penalty (veh)					
					한 사용이 임소화하는 토로 어디 다음을 입소살으로 모르는데
Storage Blk Time (%)					
Queuing Penalty (veh)	tito i de la				全国共享等的数据数据包含数(1)的对应各级系统系统系统。

Intersection: 3: Eagle Street & Donlin/Existing Driveway

Movement	EB 4. AVB	No.
Directions Served	LTR LR	
Maximum Queue (m)	4. 7.0 19. 3.1 19. 19. 19. 19. 19. 19. 19. 19. 19. 19.	:
Average Queue (m)	1.7 0.8	
95th Queue (m)		
Link Distance (m)	. 150.1 122.3	,
Upstream Blk Time (%)		
Ouguing Donalty (yeh)		
Storage Bay Dist (m)	的复数复数电影等的 医克里特氏性皮肤炎 化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	٠,
Storage Blk Time (%)	ing terminakan perumbahan perumbahan mengangkan mengan berangan perumbahan di terminakan di perumbahan berang Perumbahan perumbahan perumbahan perumbahan perumbahan perumbahan perumbahan perumbahan beranggan di perumbaha	
Queuing Penalty (veh)	经共享的支票 建基础设计的 医电影 大学中国人名英 拉尔 化对抗性 医克尔特氏 医皮肤 医皮肤 医皮肤性神经炎	

Intersection: 4: Eagle Street & Carol Avenue/Sandford Street

Movement -	: E8:	SEB!		¥₩B	WB	*NB⊹⊮	, NB · 4	" SB 1	/SB/		
Directions Served	L	T	R	L	TR	L	TR	L	TR	and the second second	a sala
Maximum Queue (m)	4.8	75.3	15.6	21.3	61.6	16.3	30.5	14.8	19.7		
Average Queue (m)	1.4	42.8	3.5	14.0	34.1	8.7	16.7	6.4	12.1	and the second second	Received and the second
95th Queue (m)	6.4	81.2	19.1	24.4	66.4	19.2	31.8	17.7			
Link Distance (m)		194.0			178.0		60.6		158.9	e galerine et la esc	
Upstream Blk Time (%)				\$4. TH	e de la companya de l						
Queuing Penalty (veh)						en			er e	State of the state of	
Storage Bay Dist (m)	50.0		16.0	20.0		45.0		30.0			
Storage Blk Time (%)		16	0	5	12		0		0	ero okiyemoveke districtor	nang la sa
Queuing Penalty (veh)		- 8		26	8		0	A.A.	0		

Intersection: 5: Eagle Street & Site Driveway

Movement	en e EB	SB2	
Directions Served	LT	LR	
Maximum Queue (m)	18.4	25.8	발생들은 발발된 사진 장면 하나를 만하면 그리고 하는 것은 물론 위에 보냈다.
Average Queue (m)	4.0	14.9	
95th Queue (m)	17.9	29.8	말하지 않아 먹는 아마들의 물병들은 물리 이 학자 인상이 있어 말을 계획하였다.
Link Distance (m)	35.4	92.8	ing and the control of the control o
Upstream Blk Time (%)	0		연필요요요요요 기업을 다 내내는 사람들이 가장 하다면 불위한 모양이
Queuing Penalty (veh)	2		
Storage Bay Dist (m)			
Storage Blk Time (%)			en e
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 336

Intersection: 5: Eagle Street & Site Driveway 1

Movement	EB XSB-rate to the control of the co
Directions Served	LT LR
Maximum Queue (m)	4.9 16.9
Average Queue (m)	3.0 13.6
95th Queue (m)	2.8 19.6
Link Distance (m)	5.4 92.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	是是於自己的學術學的學術學的學術學的學術學的學術學術學的學術學的學術學的學術學

Intersection: 6: Eagle Street & Site Driveway 2

Movement I
Directions Served
Maximum Queue (m) Average Queue (m)
95th Queue (m) 100 100 100 100 100 100 100 100 100 10
Link Distance (m) Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m) Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 0

25 1900
25
25
3.3
7.0
1.00
0.97
1.00
0.85
1.00
1440
1.00
1440
0.92
27
16
11
2
3%
6
Perm
2
38.4
38.4
0.35
7.0
3.0
504
504
0.01
0.01
0.02
23.3
1.00
0.1
127
23.4
23.4 C

	*	-	•	1	4	•	4	†	· /*	\	↓	-√
Movement	EBL	EBT	EBR	w WBL	WBT:	- WBR	, NBL	NBT	NBR.	SBL :	SBT	. SBR
Lane Configurations	9	4			4			4			4	
Volume (veh/h)	5	709	39	22	689	1	19	. 0	20	1.	0	5
Sign Control	eng waran un gasag	Free	Harry Court H	er a subjet	Free	and the second		Stop		man jerna	Stop	
Grade		0%	0.00	0.00	0%	0.00	0.00	0%	0.00	0.00	0%	
Peak Hour Factor	0.92	0.92	0.92 42	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph) Pedestrians	5	771 3	42	<u>2</u> 4	749 2	1.	21	0 10	22	1	0 5	5
Lane Width (m)		. 4.3	janaara Janaara		4.3	45, 499	810 DS	3.7		1412	3.7	
Walking Speed (m/s)	re i e kriver ribere	1.2	Berging van	water garage	1.2			1.2	* *** 1. 55.	1 44 4 1	1.2	
Percent Blockage	wing (Se	้			ō	en i Ameri		1			Ô	
Right turn flare (veh)	nsmirate, sin			71 . 1. 1.	-11 - PT				N			
Median type		None			None						40 m	
Median storage veh)							••					
Upstream signal (m)	SSEE S	151	THE									
pX, platoon unblocked	na a ma	- A - C - C - C - C - C - C - C - C - C		0.75			0.75	0.75	0.75	0.75	0.75	
vC, conflicting volume	755			823			1618	1616	804	1629	1636	757
vC1, stage 1 conf vol	s with same	nakturura. B	\$161.4 1 15.	e ma line	grande a	er gragera.	nne gen ver					
vC2, stage 2 conf vol	7//			000		train by	4057	4050	57 0	4074	4000	757
vCu, unblocked vol	755 4.1			603 4.1	,		1657 7.1	1653 6.5	578 6.2	1671 7.1	1680 6.5	757
tC, single (s) tC, 2 stage (s)	4.1		97 - 2,445,7 -	4.1	dans in	191	.	0.0	0.2	. I.J	0.5	6.2
tF (s)	2.2	SJANIEL N	Astron	2.2		g land	3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99	CAUS SA	uni Muse — 14	97	3. T. T.	27 (1941)	63	100	94	98	100	99
cM capacity (veh/h)	861			737		\$1.547.5	56	71	381	52	69	408
DirectionLäne#5.	ED 1	MR 41	MR 4	V CR I A								
Volume Total	818	774	42	7							**	£ 4 22 2 2
Volume Left	5	24	21	1	٠. "	a fin sett		1 /11 /			2.17.87.44	
Volume Right	42	- 1	22	5	All Property							
cSH	861	737	99	191								
Volume to Capacity	0.01	0.03	0.43	0.03			A - 1	ele juli i.	22.45	$\{\{1,1\},\dots$		
Queue Length 95th (m)	0.1	8.0	13.6	0.8								
Control Delay (s)	0.2	0.9	66.0	24.5						As S		
Lane LOS	Α	A	F	C								
Approach Delay (s)	0.2	0.9				1 1 N			a ji	100		
Approach LOS			F	С								
Intersection Summary 3.1		v Fr		44						e for a line		
Average Delay	The second secon		2.3	American survivors and old state	A PARTY OF THE PROPERTY OF			The second of th	A THE REAL PROPERTY.			
Intersection Capacity Utilization	on		63.9%	IC	U Level	of Service			В	- 47		
Analysis Period (min)			15									
				100							(<u>1</u> - 2	

	۶	→	*	•	-	•	*	†	*	-	ļ	4
Movement	EBL	EBT	*EBR	WBL≰	WBT.	∌WBR.	w NBL a	eNBT.	NBR.	SBL	e SBT.	SER
Lane Configurations		4			- 44>	was a sign	د چردینی <u>چ</u>	⊕,			4	i an
Volume (veh/h)	4	682	3	4	715	0	5	0	14 40 1 7	4	O Stop	4
Sign Control	e estatual e	Free	ang langs	te verve de s	Free	. Alfabrica		Stop 0%	The second second		Stop 0%	
Grade	0.00	0%	0.00	0.02	0% 0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	0.92	0.92	0.92	0.92	777	0.92	0.92 5	0.52	0.52	4	- 3.32 - 3.50	4
Hourly flow rate (vph)	4	741 1	[] :3	4	, III	Ü	45 T 37	Δ. <u>Δ</u>	il Burrel 1	소박 ·	6	
Pedestrians	e tra especial	4.3	grysh, is.	. 4			a diga Nya	3.7		under Errick	3.7	
Lane Width (m) Walking Speed (m/s)	Mark Mark	1.2		3 TO 3	1474.7	, r - 1985.	, in the party	1.2	Principal di	. 11 - 1 - 4-	1.2	* **
Percent Blockage		0						0		general d	12	r. Calab
Right turn flare (veh)					. :					•		
Median type		None	ter kul		None							
Median storage veh)												
Upstream signal (m)		358			211							
pX, platoon unblocked	0.73			0.84			0.81	0.81	0.84	0.81	0.81	0.73
vC, conflicting volume	783			749	17 m.s.		1547	1548	747	1545	1549	784
vC1, stage 1 conf vol					and a contract	900 g v 20	7- Y. S S	e try visi	198		- 4.5 DM 100	r residen
vC2, stage 2 conf vol					1.15 w 1		4440	4440	ene	1115	1121	518
vCu, unblocked vol	516			608	400	navi vo	1118 7,1	1119 6.5	606 6.2	7.1	6.5	6.2
tC, single (s)	4.1	4.	and the second	4.1				- 2 - 0.0 ,	0.2	4.1.	0.5	0.2
tC, 2 stage (s)	2.2	:		2.2		14.13	3.5	4.0	3.3	3.5	4.0	3.3
tF (s) p0 queue free %	99	1.2		99	* ". ' .		96	100	100	97	100	99
cM capacity (veh/h)	768		100	823		11.4	146	165	420	148	165	407
		eralin 4	NID 4								LINE TO BE	603 G B
Direction (Lane#)	EB 1 749	782	7		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)							
Volume Total Volume Left	4	4	5	4	•	1 14 A T		1 A 1 1				n awat ning
Volume Right	3	. 0	1	4	F- 17	and the	ang Kila	100				18 B. S.
cSH	768	823	164	217					**			
Volume to Capacity	0.01	0.01	0.04	0.04		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	af Pe	MATT!	1.42			
Queue Length 95th (m)	0.1	0.1	0.9	0.9								
Control Delay (s)	0.2	0.1	27.9	22.3				en jir et				
Lane LOS	Α	Α	D	С							14	
Approach Delay (s)	0.2	0.1	27.9	22.3	2				47 - A.A			f. Nation
Approach LOS			D	С								
Intersection Summary							111			6.00		11
Average Delay			0.4		in and the second		nga, sa	e ja o er e	s. 1.≛ √		ta in a	ie ia
Intersection Capacity Utilizat	ion		50.7%	i je	CU Leve	of Servic	e in Albert		Α	Helpha.	12.74 - 6	
Analysis Period (min)		rg as	15		5.4.4	general for		. *.	esta e e	ya engalaga		Service of
			9 11			in section			No. 25 No.			ery to Tiv

	•	-	7	€	+	4	1	†	<i>></i>	\	1	4
Movement	EBL	o r∗EBŤ	A ÆBR	∍,WBL	J. WBT	WBR	. N. NBL	- NBT	NBR.	. √.SBL.	* #SBT	SBR
Lane Configurations	ጘ	4	7	ሻ	1→		ኻ	1,		ካ	þ	13 13 13 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15
Volume (vph)	31	591	65	98	631	17	65	97	67	38	92	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5		3.5	3.5	4.0	4.0	3.5	3.5	3.5
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	14 (477	6.0	6.0	and the second second	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	使排放器	1.00	1.00	11457	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99		1.00	1.00	74. 7. + 4.5
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	d ,	0.99	1.00	10 mm
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.94		1.00	0.97	
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	19 5.1 K	0.95	1.00	
Satd. Flow (prot)	1781	1860	1442	1760	1852		1713	1785	N 2	1711	1814	
Fit Permitted	0.31	1.00	1.00	0.36	1.00		0.68	1.00	100	0.64	1.00	
Satd. Flow (perm)	590	1860	1442	663	1852		1220	1785	#41 15	1162	1814	•
	0.92					0.92			0.00			- 0.00
Peak-hour factor, PHF		0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	642	71	107	686	18	71	105	73	41	100	25
RTOR Reduction (vph)	0	0	19	0	2	0	0	49	0	0	18	0
Lane Group Flow (vph)	34	642	52	107	702	0	71	129	0	41	107	0
Confl. Peds. (#/hr)	4	400	7	7		4	1	007	7	7	001	1
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	4%	2%	4%	3%	0%	0%
Bus Blockages (#/hr)	. 0	0	3	0	0	3	0	0	0	0	0	0
Turn Type	Perm	54 MI 52	Perm	Perm			Perm			Perm		
Protected Phases	ar setaji	6			2	- 14 F		8	1.00		4	e e e
Permitted Phases	6		6	. 2			8	2.2		4		
Actuated Green, G (s)	33.1	33.1	33.1	33.1	33.1		8.6	8.6		8.6	8.6	
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1		8.6	8.6		8.6	8.6	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.16	0.16		0.16	0.16	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		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		3.0	3.0	<u> </u>
Lane Grp Cap (vph)	357	1126	873	401	1121		192	281		183	285	
v/s Ratio Prot		0.35			c0.38			c0.07			0.06	
v/s Ratio Perm	0.06		0.04	0.16			0.06			0.04		
v/c Ratio	0.10	0.57	0.06	0.27	0.63	41.00	0.37	0.46		0.22	0.38	
Uniform Delay, d1	4.5	6.5	4.4	5.1	6.9		20.6	20.9		20.1	20.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	+ 1 +11 +42
Incremental Delay, d2	0.1	0.7	0.0	1.6	2.7		1.2	1.2		0.6	0.8	
Delay (s)	4.6	7.2	4.5	6.7	9.5		21.8	22.1	1.5	20.8	21.5	
Level of Service	Α	Α	Α	Α	Α	•	C	C		C	C	
Approach Delay (s)	er en	6.8			9.2			22.0			21.3	
Approach LOS		Α			Α			Ċ			С	
			42.52.62.23	19.7								
Intersection Summary 2									632.4 0 .	Ala Propinsi		
HCM Average Control Delay			10.9	ł	HUM Leve	el of Servi	ce		В			
HCM Volume to Capacity ra	TIO	in the T	0.59						40.5			
Actuated Cycle Length (s)	e iii		54.7		Sum of los				13.0			
Intersection Capacity Utiliza	tion	."	98.9%	`	CU Level	of Service	Э : .	1000	, F			
Analysis Period (min)		* t	15									
c Critical Lane Group							4.454			*	1	

	/ → ¬	•	*	
Movement	EBL KEBT WBT	U. WER SEL	SBP Exp. 22 The Control of the Contr	
Lane Configurations	ન ક		n in regale este a volt in energy in the second of the sec	ere la martina di Espaino de Millione de Millione de Millione.
Volume (veh/h)	68 _663 _687		25	中最级特殊的社会是特殊的
Sign Control	Free Free 0% 0%	and the contract of the contra		
Grade Peak Hour Factor	0% 0% 0.92 0.92 0.92		0.92	
Hourly flow rate (vph)	74 721 747	and the same of th	27 3 4 3 4 3 3 3 3 3	
Pedestrians	o, natut säärestetti ja tii ja tiina. S	an are sal a d ayang bersebas	 On the first of the control of the con	
Lane Width (m)				
Walking Speed (m/s)	entre de la companya della companya de la companya	in via naski trigasi ili ali 18	Protektuur seetiika matawalee ykii selestiista oo	
Percent Blockage			1 经自然的 基金多类糖的 心里的	
Right turn flare (veh) Median type	None None			
Median storage veh)	indue / vindue		사건 2차 물이 함당 이 실하며 2부 경우하고리 사장 즉시 다. -	en general de la companya de la comp
Upstream signal (m)	195 374			
pX, platoon unblocked	0.79	0.89	0.79	· 1、以来的作品,1995年,1987年,1987年,1987年,1987年,1987年,1987年
vC, conflicting volume	778	1631	762	以我们是自己的最高的特殊的
vC1, stage 1 conf vol	and a signer compression of the second	Jink bayana gira		
vC2, stage 2 conf vol	u auf en jura de la la Value - 589	1120	569	, aligny Marie da Nasa Mario da Silanda.
vCu, unblocked vol tC, single (s)	- 309 - 4.1	6.4	6.2	
tC, 2 stage (s)	e di Maria di Santana. Maria di Santana			
tF(s)	2,2	3.5		
p0 queue free %	91	85	93 	
cM capacity (veh/h)	781	184	413	
Direction, Lane # 1000 1000	EB11 WB15 ASB1			
Volume Total	795 778 55			
Volume Left	74 0 28			
Volume Right cSH	0 32 27 781 1700 252	and the second of the second o		위 '용기' 보는 현실 경기도 들어 보고 있다는 사람은 기를 받는다.
Volume to Capacity	0.09 0.46 0.22			
Queue Length 95th (m)	2.4 0.0 6.2			
Control Delay (s)	2.4 0.0 23.2			
Lane LOS	A C		earle e reine no base de la caracteo de 1879.	na 1907 i wakazi sushibi kwa Kabarata 1808 ilikuwa 1808 ilikuwa 1808 ilikuwa 1809 ilikuwa 1800 ilikuwa 1800 ilikuwa 1800 ilikuwa 1800 ilikuwa 1800 i
Approach Delay (s)	2.4 0.0 23.2			[17] [18] [18] [18] [18] [18] [18] [18] [18
Approach LOS	C			
Intersection Summary				
Average Delay	2.0		Lago <u>antare</u> en la periodo porto de	보다를 다리나 있다는 사람이 없다를 취득한다.
Intersection Capacity Utilization Analysis Period (min)	n 89.9% 15		l of Service	·尼馬加斯,因用 《國際學術·安美金》
Analysis Feliou (min)		 In the state of th		

	<i>→</i>	•	* *	,		
Movement 3	EBL EBT	≐WBT F ≥WBR	SBL/ YS	BROOKSTA	Frank Branch	
Lane Configurations	^	f)		7		
Volume (veh/h)	0 689	715 9	0			
Sign Control	Free	Free	Stop			
Grade	0%	0%	0%			
Peak Hour Factor	0.92 0.92	0.92 0.92		.92	and the second s	en tonorenes en el moses ve
Hourly flow rate (vph)	0 749	777 10	0	9 1 257 930.		
Pedestrians	growing begreen the man a man a	(satisated in Sala Diff Circle)	s ist ming paraget.	ini. Na Barra Papa arab natiri katalografia	ANTER CONTRACTOR OF A SERVICE.	(1981-11 - 1982년 - 본 1983) 발표
Lane Width (m)	着电视学生(图4号》(348)					
Walking Speed (m/s) Percent Blockage		TERRETARY STA	se yan ya danazi ye da			
Right turn flare (veh)						
Median type	None	None			- เป็นเรียนใช้เป็นสำนักสารแกลที่สุดที่ 6	Maria Kasala Salah Mari
Median storage veh)	The state of the fact of the state of the		i vieni artivirus tipitante.		(Alaren 1917년 - 기타리 Helling) -	
Upstream signal (m)	323	246				
pX, platoon unblocked	0.74	ene volument de la company	0.82 0	74	The base to see the second of the second	
vC, conflicting volume	787		1531 7	82	경험과 경화를 즐겁다.	
vC1, stage 1 conf vol			and the second second	The second of th		
vC2, stage 2 conf vol						建化的原金建筑。
vCu, unblocked vol	531 : 34: 1: 34: 12: 12: 13: 13: 13: 13: 13: 13: 13: 13: 13: 13	ا المحرورة المحافظية الإسلامات		25	za kata wa 1982 s	ing a series of the second of
tC, single (s)	4.1		6.4	3.2	经经济加加与条约	
tC, 2 stage (s) tF (s)	2.2	yarets eta nais.	3.5	3.3	SUBSTITUTE DESERT	
p0 queue free %	100	n se i Ni Alifakuli i.		,,0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Australia de Pagastras de Sanção.	
cM capacity (veh/h)	763		and the company of th	07		
Direction, Lane #	.:	SB 1				
Volume Total	749 787	1				
Volume Left	0 0	ng aminus (Centre) ng Angalasia O	A SERVICE OF A SERVICE OF A		- Petrological Control (1974)	ese un numbre pare inne unu re
Volume Right	0 10	ar vá száro				
cSH	1700 1700	407				
Volume to Capacity	0.44 0.46	0.00				전기를 가득하는 것
Queue Length 95th (m)	0.0 0.0	0.1	en e		and the second of the	The second control of the second
Control Delay (s)	0.0 0.0	13.9				
Lane LOS	0.0	B	engara sa	niga ing pagamakan Nggarang	ang ke 100 di dengan bilang di 1	ng kulang litan ili dia mereka
Approach Delay (s)	0.0	13.9 B				
Approach LOS			The second se	Na kaliforni je je i kalencije kojekaj gravna zameno nakola za osmena na koje	75\$7, 1720; 1745; E. 152 20; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 1850; 185	STOCKER STATES AND STOCKER STATES HAVE AND STATES
Intersection Summary						
Average Delay	.465 6. 15. 5. 15. 15. 15. 15. 15. 1	0.0	0111	r.	e e e	er en en de de la companya de la co
Intersection Capacity Utiliza	ation		JU Level of Se	rvice	A FRANKA I TE	
Analysis Period (min)		15 sa. n. 1,5 s	tary ta		The second second	

Intersection: 1: Eagle Street & Yonge Street

Movement 🗼 🚁 👫	(1.5.4 <u>E</u> B)	B EB	wiB	4. WB	VVB	NB) NB	∉ NBI	ZNB SE	SB
Directions Served	L	T R	L	T	R	L	T	T	R l	. T
Maximum Queue (m)	39.6 167	.1 58.0	79.1	83.0	47.9	85.8	336.5	273.8	74.9 67.2	di Leberari di Tarasa
Average Queue (m)	18.8 117	.1 33.5	56.2	55.8	20.7	56.3	235.6	156.8	31.9 38.9	and the second second
95th Queue (m)	45.0 225	.8 67.7	94.4	96.0	49.6	98.5	427.3	277.6	80.9 77.7	
Link Distance (m)	232	.6		132.4			331.9	331.9		298.3
Upstream Blk Time (%)		2		la dik			2	0		0
Queuing Penalty (veh)		0				e do apode i pare di	0	0	anako makuladi.	0
Storage Bay Dist (m)	52.0	42.0	40.0		38.0	55.0	to the state of th		55.0 59.0	
Storage Blk Time (%)		2	46	16	0	7	27	33	Z Zentrali neen vat aktore	1 19
Queuing Penalty (veh)	. 14	10	229	53	0	47	73	84		25

Intersection: 1: Eagle Street & Yonge Street

Movement SB VISB
Directions Served T R
Maximum Queue (m) 162.4 7.7
Average Queue (m) 99.8 2.9
95th Queue (m) 183.2 8.7
Link Distance (m) 298.3 298.3 Upstream Blk Time (%) 0
Queuing Penalty (veh) 0 Storage Bay Dist (m)
Storage Blk Time (%) Queuing Penalty (veh)

Intersection: 2: Eagle Street & Dixon/Existing Driveway

Movement	EB	. WB	- NB	; ∔⊒SB+	and the state of t
Directions Served	LTR	LTR	LR	LR	and the control of th
Maximum Queue (m)	26.1	9.6	11.3	6.2	
Average Queue (m)	5.7	2.3	6.0	1.5	Linguista en la capacitación de la
95th Queue (m)	29.2	10.1	14.4	7.7	
Link Distance (m)	132.4	35.2	178.3	109.5	
Upstream Blk Time (%)				w 70 50	
Queuing Penalty (veh)				* . * *	an en la vivol de la lege estada en la companya de
Storage Bay Dist (m)				and Self-	學。例如其中學學。因此是自己的學學的學學
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Eagle Street & Donlin/Existing Driveway

Movement	ja je je B	· * WB.	. > NB 5	√ SB «		3 8 X 7 1 1	ara karil	
Directions Served	LTR	LTR	LR	L.R				
Maximum Queue (m)	3.3	5.8	6.7	8.7	Turk turi A. Okusu turi			
Average Queue (m)	1.0	1.2	1.8	2.1				
95th Queue (m)	6.9	10.6	7.3	8.2				
Link Distance (m)	149.8	194.0	122.2	102.9				
Upstream Blk Time (%)						į gydiji		
Queuing Penalty (veh)						 		
Storage Bay Dist (m)								
Storage Blk Time (%)						 		
Queuing Penalty (veh)								

Intersection: 4: Eagle Street & Carol Avenue/Sandford Street

Movement ()	4 EB .⊷ .	EB 💘 El	}÷≫¥WB	WB.	, NB	triNB:	r4368 8 .∗	r SB ⊁ f		
Directions Served	L	T F	R L	TR	L	TR	L	TR		
Maximum Queue (m)	7.4	62.6 25.	3 29.3	66.7	15.3	30.0	19.0	21.0		
Average Queue (m)		40.9 10.7	15.1	43.1	9.5	18.0	9.9	12.4		
95th Queue (m)	8.7	72.6 32.	31.2	75.1	19.6	35.2	23.5	23.9	됐기다.	
Link Distance (m)	19	94.0		178.0		60.6		158.9		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	50.0	16.0	20.0		45.0		30.0			
Storage Blk Time (%)		15 (9	18		0	0	0		
Queuing Penalty (veh)		15 ·	58	18		0	0	0		

Intersection: 5: Eagle Street & Site Driveway

Movement	. FB	SB		
Directions Served	LT	LR		
Maximum Queue (m)	33.4	11.3		
Average Queue (m)	17.8	8.5		
95th Queue (m)	37.9	13.6		
Link Distance (m)	35.2	86.8		
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	20			
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 791

Intersection: 5: Eagle Street & Site Driveway 1

Movement	te ta EB	WB	SB/	
Directions Served	LT	TR	LR	
Maximum Queue (m)	35.2	9.3	21.3	경기 있는 그 말로 하는 경기 있는 사람이 나왔다고 하는데
Average Queue (m)	20.6	1.9	9.7	ing the first of the control of the
95th Queue (m)	36.3	8.0	20.9	
Link Distance (m)	35.2	115.0	86.8	en e
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	3		50 - 6 - 0 - 615	。 1985年 - 1986年 - 1987年 - 1987年 - 1988年 - 1988年 - 1987年 -
		Sign et		
Storage Blk Time (%)				De la composição de la composição de la composição de la composição do la composição de la composição de la com
Queuing Penalty (veh)				感到此事。这是可能是特别的"国际",这是可能是是特别的是

Intersection: 6: Eagle Street & Site Driveway 2

Movement :
Directions Served
Maximum Queue (m) A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Average Queue (m) 95th Queue (m)
Link Distance (m)
Upstream Blk Time (%) is a first series and high factors of the control of the co
Queuing Penalty (veh) Storage Bay Dist (m) Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 3

Appendix D

Level of Service Definitions

Levels of Service – Highway Capacity Manual

Signalized Intersections

Level of Service	Stopped Delay per Vehicle (sec)	Expected delay to Minor Street traffic from the Major Street
Α	< 10	Most vehicles arrive during the green phase and do not stop; traffic progression is extremely favourable.
В	10.1 - 20.0	More vehicles stop than for LOS A; traffic progression is good.
С	20.1 - 35.0	Individual cycle failures may appear and the number of vehicles stopping is significant; traffic progression is fair.
. D	35.1 - 55.0	Individual cycle failures are noticeable and many vehicles stop; traffic progression is unfavourable.
E	55.1 - 80.0	Individual cycle failures are frequent; traffic progression is poor; acceptable delay is at its limit.
F	> 80	Many individual cycle failures; arrival flow rate exceeds capacity; delay is unacceptable to most drivers.

Source: Highway Capacity Manual, HCM2000

HIGHWAY LOS Signalized 08-04-07.doc

Levels of Service - Highway Capacity Manual

Unsignalized Intersection

Level of Service	Average Control Delays (s/veh)	Expected delay to Minor Street traffic from the Major Street					
Α	0 - 10	Little or no delay.					
В	> 10 – 15	Short traffic delay.					
С	> 15 – 25	Average traffic delay.					
D	> 25 – 35	Long traffic delay.					
E	> 35 – 50	Very long traffic delay.					
F	> 50	Extreme delay encountered with queuing, which may cause severe congestion affecting other traffic movements in the intersection.					

source: Highway Capacity Manual, HCM 2000

UNSIGNALIZED LOS 08-04-07.doc

Appendix E

Transportation Tomorrow Survey Data

USER : GENIVAR Consultants DATE: Jun 9 2010 (17:24:29)
DATA: 2006 TTS Vers 1.0 Trips
FILTER 1: pd_orig => Newmarket
FILTER 2: start_time => 600-900
ROW: pd_dest
COLUMN: pd_orig

Origin/Destination	Newmarket
PD 1 of Toronto	1772
PD 2 of Toronto	19
PD 3 of Toronto	307
PD 4 of Toronto	516
PD 5 of Toronto	526
PD 6 of Toronto	114
PD 7 of Toronto	19
PD 8 of Toronto	176
PD 9 of Toronto	214
PD 10 of Toronto	788
PD 11 of Toronto	885
PD 12 of Toronto	461
PD 13 of Toronto	581
PD 13 of Toronto	38
PD 15 of Toronto	40
PD 16 of Toronto	448
Brock	446 15
	73
Uxbridge	. •
Pickering	19
Ajax	58
Whitby	19
Oshawa	99
Clarington	19
Georgina	439
East Gwillimbury	631
Newmarket	24098
Aurora	2284
Richmond Hill	1570
Whitchurch-Stouffville	491
Markham	2460
King	597
Vaughan	1675
Brampton	135
Mississauga	511
Halton Hills	<u>19</u>
Oakville	57
Burlington	41
Hamilton	19
Grimsby	19
St Catharines	20
Waterloo	19
Guelph	19
Orangeville	38
Barrie	365
Innisfil	36
Bradford-W Gwillimbury	339
New Tecumseth	151
Clearview	19
Muskoka	18
Tiny	19
Mono Township	37
External	96

Appendix F

Background Traffic Information

Newmarket	2004	2005	2006	2007	2008	2009
01261750, YONGE STREET (YR 1) S of MULOCK DRIVE (YR 74)	0	0	31,268	34,035	30,988	30,913
01270350, YONGE STREET (YR 1) N of MULOCK DRIVE (YR 74)	31,041	0	36,551	37,625	36,625	40,922
01280750, YONGE STREET (YR 1) S of DAVIS DRIVE (YR 31)	0	33,781	32,814	34,472	31,387	35,370
01300350, YONGE STREET (YR 1) N of DAVIS DRIVE (YR 31)	0	0	37,534	39,489	37,724	41,521
01301650, YONGE STREET (YR 1) S of GREEN LANE (YR 19)	30,805	0	32,854	31,401	29,922	32,957
05250350, EAGLE STREET (YR 5) E of YONGE STREET (YR 1)	10,165	0	0	0	0	0
05251600, EAGLE STREET (YR 5) E of ELLEN STREET	0	9,896	8,643	0	0	0
05281750, GORHAM STREET (YR 5) W of LESLIE STREET (YR 12)	0	7,563	6,995	0	0	0
12261750, LESLIE STREET (YR 12) S of MULOCK DRIVE (YR 74)	0	10,033	11,254	12,328	0	12,967
12270900, LESLIE STREET (YR 12) S of GORHAM STREET (YR 5)	19,004	0	18,828	18,291	18,684	0
12280900, LESLIE STREET (YR 12) S of DAVIS DRIVE (YR 31)	0	0	22,180	21,693	19,733	0
12300350, LESLIE STREET (YR 12) N of DAVIS DRIVE (YR 31)	22,005	21,734	18,698	24,090	0	16,644
12301800, LESLIE STREET (YR 12) S of GREEN LANE (YR 19)	19,925	19,790	19,401	21,477	0	14,926
31240350, HIGHWAY 9 (YR 31) E of BATHURST STREET(YR 38)	0	0	21,802	23,261	21,796	16,932
31241750, HIGHWAY 9 (YR 31) W of YONGE STREET (YR 1)	0	24,384	20,094	25,160	0	17,555
31250300, DAVIS DRIVE (YR 31) E of YONGE STREET (YR 1)	23,537	0	29,387	29,416	29,350	30,674
31251500, DAVIS DRIVE (YR 31) W of MAIN STREET NORTH	0	0	25,773	26,249	24,375	0
31260350, DAVIS DRIVE (YR 31) E of MAIN STREET NORTH	0	32,046	32,644	29,133	0	32,252
31281600, DAVIS DRIVE (YR 31) W of LESLIE STREET (YR 12)	22,406	0	25,155	26,739	23,858	0
31290500, DAVIS DRIVE (YR 31) W of HIGHWAY 404 (EAST RAMP)	0	0	24,903	24,752	22,751	29,556
34261750, BAYVIEW AVENUE (YR 34) S of MULOCK DRIVE (YR 74)	0	30,690	34,451	24,947	0	21,272
34270300, PROSPECT STREET(YR 34) S of GORHAM STREET (YR 5)	13,364	0	14,975	14,343	14,030	0
34280450, PROSPECT STREET(YR 34) N of GORHAM STREET (YR 5)	0	7,748	9,597	10,601	0	11,062
34281325, PROSPECT STREET (YR 34) S of DAVIS DRIVE (YR 31)	0	0	0	8,044	0	8,154
38260350, BATHURST STREET(YR 38) N of ST. JOHN'S SIDEROAD	0	15,693	13,148	16,180	0	14,568
38281950, BATHURST STREET(YR 38) S of HIGHWAY 9	17,005	0	17,129	20,132	0	0
38300350, BATHURST STREET(YR 38) N of HIGHWAY 9	0	0	14,811	16,890	15,190	18,266

Subject: RE: Milford Developments - Eagle Street Traffic Impact Study

Date: Thursday, June 10, 2010 8:48 AM
From: Ruggle, Dave <druggle@newmarket.ca>
To: ENTRA Consultants <anil.seegobin@genivar.com>

HI Anil,

The secondary plan for Yonge Street and Davis Drive is just underway so there is nothing to provide at this point. In fact, your study will assist in informing the secondary plan study.

The only project of significance in the area is a 400 unit residential condo proposal at the n/e corner of Yonge Street and Millard Avenue.

You should contact Les Chaisson of Central York Fire Service with regard to any questions on fire access. He can be reached at 905-895-9222 or Ext. 3022

Please let me know if you have any questions on the above. Dave

From: Anil Seegobin [mailto:Anil.Seegobin@genivar.com]

Sent: June 8, 2010 5:13 PM

To: Ruggle, Dave

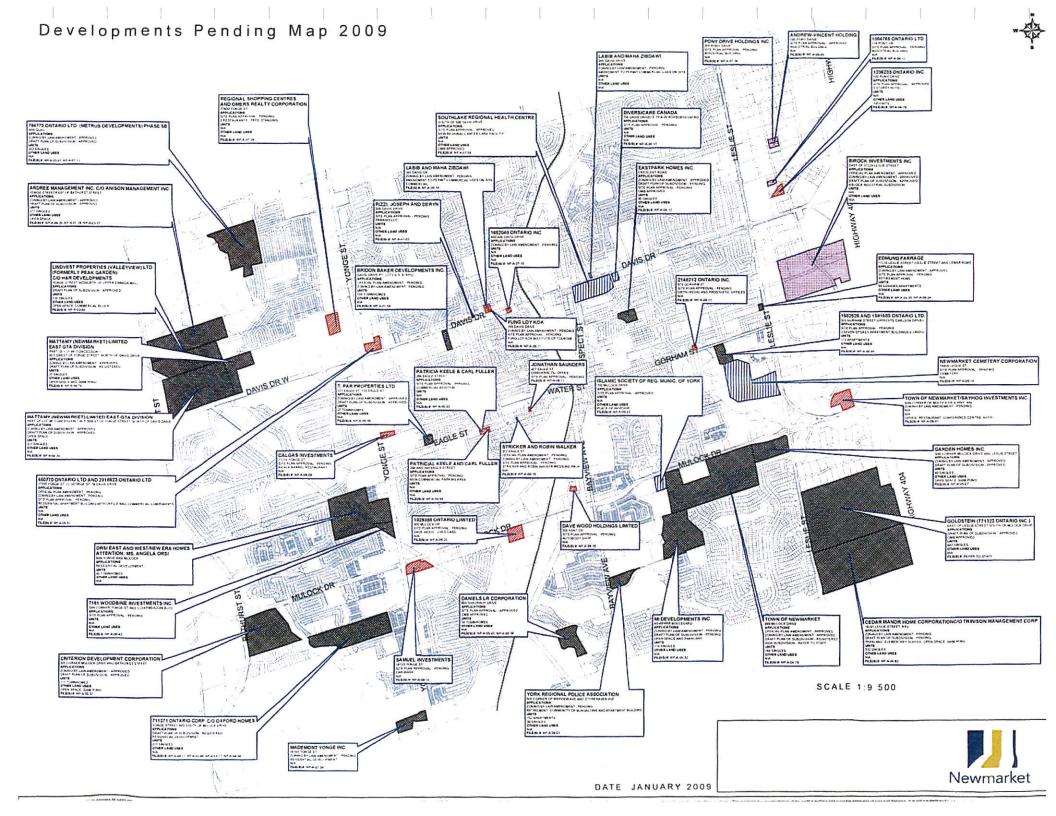
Subject: Milford Developments - Eagle Street Traffic Impact Study

Hi Dave,

GENIVAR has been retained to complete a traffic impact study for a proposed condominium development located at the northeast quadrant of Yonge Street and Eagle Street. We've been corresponding with Mark from Transportation regarding the terms of reference for the study.

Could you please provide the following information/answer the following questions to assist:

- 1. Status of the parking requirements study being undertaken by the Town which reflects future transit use. If a draft form is available, please provide. Are there new parking requirements being proposed for townhomes and condominiums?
- 2. A list of development applications (of significance) on file (planned/approved/under construction) within the block bounded by Yonge Street, Davis Drive, Mulock Drive and Bayview Avenue/Prospect Street. Any info about planned developments whose site traffic would affect the intersections of Yonge Street/Eagle Street and Eagle Street/Carol Avenue would be helpful.
- 3. If only one vehicular access is proposed for the site, would a second fire route access be



Appendix G

Intersection Queue and Gap Survey Data

Survey Type: GAP Survey
Location: Eagle St (Newmarket)
Date: Thursday, May 27th, 2010
Time: AM count

4.9

Tillio.	7 IVI COUNT										
	EBL	EBL	Critical	Follow up			EBL & SBL		Critical	Follow	
Time 7:00:27	Duration 9			4.1 2.2 1 2		Time	Duration		7	7.1	3.5
7:00:43	8			1 1		7:00:28 7:00:13	4				
7:01:04	5			1 '		7:01:19	12			1	1
7:01:19	48			1 19		7.01:41	12			i	1
7:02:14	27			1 10		7:01:59	5				
7:02:49	9			1 2		7:02:18	10			1	
7:03:05	2			%		7:02:32	6				
7:03:11	17			1 5		7:02:49	5				
7:03:34	59			1 24		7:03:11	11			1	1
7:04:40 7:05:19	36 15			1 14		7:03:48 7:04:08	10			1	4
7:05:37	22			1 8		7:04:47	18			1	1 3
7:06:12	11			1 3		7:05:19	11			i	1
7:06:31	32			1 12		7:05:49	5				
7:07:15	23			1 8		7:06:18	3				
7:07:48	19			1 6		7:06:31	17			1	2
7:08:13	12			1 3		7:06:53	7				
7:08:33	17 49			1 5		7:07:15	6				
7:08:55 7:09:49	20			1 20 1 7		7:07:25 7:08:38	9			1	1
7:10:19	25			1 9		7:08:55	3				
7:10:51	6			1		7:09:07	34			1	7
7:10:59	63			1 26		7:10:02	4				
7:12:11	70			1 29		7:10:19	3				
7:13:24	29			1 11		7:10:28	12			1	1
7:14:20	10			1 2		7:10:51	3			4	
7:14:34 7:15:41	52 26			1 21 9		7:10:59 7:11:39	29			1	6
7:16:06	6	<u>u</u>		1		7:12:15	9			1	
7:16:16	3	e:		3(0)		7:12:50	21			1	3
7:16:39	17	8		1 5		7:13:24	3				
7:17:01	47			1 19		7:13:32	7				
7:17:55	26	2 8		1 9		7:13:45	3			2	
7:18:31	11 31			1 3		7:14:34	8 10			1	
7:18:47 7:18:47	31	74		1 12 1 12		7:15:01 7:15:14	9			1	
7:19:22	13			1 4		7:15:44	4				
7:19:41	5			1		7:15:50	6				
7:19:50	41			1 16		7:16:06	2				
7:20:41	43	1		1 17		7:16:39	12			1	1
7:21:33 7:21:41	7 20			1 1		7:17:05 7:17:20	3 10			1	1
7:22:07	14);		1 4		7:17:38	5			1	346
7:22:26	19			1 6		7:17:57	23			1	4
7:22:48	15			1 4		7:18:51	5				
7:23:07	15			1 4		7:19:03	12			1	1
7:23:30	35			1 14		7:19:22	9			1	
7:24:15	5 21			1 7		7:19:41	6				
7:24:23 7:24:47	11			1 7 1 3		7:20:05 7:20:18	8			1	
7:25:02	16			1 5		7:20:55	5				
7:25:39	4					7:21:03	8			1	
7:25:49	21			1 7		7:21:33	3				
7:26:30	7			1 1		7:21:41	17			1	2
7:26:41	10			1 2		7:22:07	10			1	
7:26:54 7:27:01	3 29			1 11		7:22:26 7:22:55	14			1	1
7:27:34	11			1 3		7:23:07	7			1	
7:27:48	8			1 1		7:23:50	5				
7:28:01	10			1 2		7:24:23	16			1	2
7:28:13	17			1 5		7:24:47	2				
7:28:37	13			1 4		7:25:12	3				
7:28:54 7:29:20	11			1 3		7:25:59 7:26:30	3				
7:29:33	37			1 14		7:26:41	7				
7:30:25	27			1 10		7:27:01	12			1	1
7:31:01	5			1		7:27:34	7				
7:31:28	5			1		7:27:48	3				
7:31:48	29			1 11		7:28:01	7			4	4
7:32:21	7 22			1 1 1		7:28:13 7:28:37	13			1	1
7:32:38 7:33:02	26			1 8		7:28:54	3				
7:33:31	7			1 1		7:29:33	5				
7:33:41	6			1		7:30:25	24			1	4
7:33:49	21			1 7		7:31:01	2				
7:34:14	5			1		7:32:02	12			1	1
7:34:31 7:34:44	6 22			1 8		7:32:44 7:33:07	6 7				
7:34:44	10			1 2		7:33:31	4				
7:35:46	19			1 6		7:34:02	5				
7:36:15	8			i i		7:34:14	3				
7:36:26	5			1		7:34:31	3				
7:36:35	8			1 1		7:34:44	7				
7:36:49	13			1 4		7:35:02	2				
7:37:05 7:37:15	5 7			1 1		7:35:50 7:35:15	5				
7:37:27	5			1 '		7:35:27	2				
7:37:38	29			1 11		7:35:38	5				
7:38:39	30			1 11		7:35:50	6				
7:39:19	30			1 11		7:36:15	5				
7:40:18 7:40:45	10 17			1 2 5		7:37:27	6				
7:41:06	11			1 3		7:37:49 7:37:38	5				
7:41:24	8			1 1		7:37:49	6				
NVAR Consultants	;				06/14/10			10-02	24tab10-05	-09GanS	ummar

Survey Type: GAP Survey
Location: Eagle St (Newmarket)
Date: Thursday, May 27th, 2010
AM count

4.9 2

Time:	AM count										
	EBL	EBL	Critical	F	Follow up		EBL & SBI	Critical		Follow up	
Time	Duration			.1	2.2	П	Time Duration		7.1	3.	5
7:41:49	7			1	1		7:38:39 8		1		
7:42:02	9			1	2		7:39:28 17	1	1		2
7:42:21	22			1	8		7:39:53 7				
7:42:48	20			1	7		7:40:18 3 7:40:49 10		1		
7:43:13	8			1	1		7:40:49 10 7:41:24 3	-1			
7:43:36	75			1	32		7:41:49 4	4			
7:45:19	55			1	23 8		7:42:27 4				
7:46:23	22			1	19		7:42:56 5				
7:46:48	47				13		7:43:41 34		1		7
7:47:42	5			1			7:44:22 13		1		1
7:47:58 7:49:10	32			1	12		7:45:23 22	1	1		4
7:50:16	22			1	8		7:45:56 14	1	1		1
7:51:03	28			1	10	17	7:46:27 14		10		1
7:52:01	16			1	5		7:47:25 13		1		1
7:53:24	10			1	2		7:50:20 14		1		1
7:53:50	24			1	9		7:51:12 4				
7:53:55	11.			1	3		7:51:01 3				
7:54:13	4						7:55:01 7				
7:54:33	8			1	1		7:55:15 5	4 ,			
7:55:01	9			1	2		7:57:10 4 7:57:20 5				
7:55:15	8			1	1		7:57:20 5 7:59:06 7	-			
7:55:32	33			1	13		7:59:20 8	┥ -	1		
7:56:12	8			1	3		7:59:43 3	┥			
7:56:35	11			1	2		8:03:15 3	⊣			
7:56:50	9			1	1		8:04:57 3	T			
7:57:10 7:57:20	9			1	2		8:07:41 14	7	1		1
7:57:48	5			1			8:09:31 8	1	. 1		
7:57:59	4			-			8:10:08 3				
7:58:16	15			1	4		8:11:56 4				
7:58:34	12			1	3		8:12:14 16	_	1		2
7:58:55	5			1			8:12:39 4				
7:59:06	26			1	9		8:13:19 7				
7:59:37	11			1	3		8:14:21 3		1		1
7:59:56	22			1	8		8:16:20 11	_			
8:00:23	22			1	8		8:18:35 4				
8:01:22	5			1			8:18:48 4 8:18:59 8		1		
8:01:31	8			1	1		8:18:59 8 8:19:52 6	-			
8:02:18	12			1	3 4		8:20:19 7				
8:02:53	13			1	1		8:22:20 5	=			
8:03:15	6			1	3.8		8:22:31 4				
8:03:43 8:03:50	14			1	4		8:22:48 12	7	1		1
8:04:12	5			1			8:23:37 2	-			
8:04:56	8			1	1		8:24:58 7				
8:05:33	20			1	7		8:26:36 28		1		5
8:06:27	33			1	13		8:27:51 8		1		
8:07:41	19			1	6		8:28:05		1		
8:08:19	39			1	15		8:28:58 6	_	4		
8:09:31	29			1	11		8:30:52 8	_	1		
8:10:08	12			1	3		8:31:05 4 8:31:24 33	4	1		7
8:10:34	6			1				-	1		3
8:10:48	15			1	4		8:32:49 19 8:33:39 5				•
8:11:12	13			1	4 7		8:33:59 4				
8:11:29	9			1	2		8:34:43 4	-			
8:11:56 8:12:14	16			1	5		8:35:49 4				
8:12:39	7			1	1		8:37:50 5	7			
8:13:19	11			1	3		8:38:16 2	7			
	4			- 1	1 1.55		8:38:22 8	<u> </u>	1		
8:14:02 8:15:11	12			1	3		8:38:56 4				
8:14:31	6			1			8:39:09 4				
8:15:11	10			1	2		8:40:20 6				
8:15:27	6			1			8:40:15 13	_	1		1
8:15:37	7			1	. 1		8:41:32 6	-	4		1
8:16:16	35			1	14		8:41:54 11 8:42:49 10	⊣	1		I.
8:17:27	7			1	1			-			
8:17:43	10			1	2 13		8:43:48 4 8:44:23 5	-			
8:18:12	33			1	2		8:44:35 3	-			
8:18:48 8:18:59	9 11			1	3		8:44:46 10	⊣	1		
8:18:59 8:19:52	6			1	3		8:45:04 8	⊣	1		
8:20:19	21	10		1	7		8:46:30 5	7			
8:20:45	20			1	7		8:46:40 4				
8:21:17	35			1	14		8:48:13 7				
8:22:04	23			1	8		8:48:50 4	3			
8:22:31	9			1	2		8:50:40 5				
8:22:42	22			1	8		8:51:15 4	_	82		4
8:23:32	12	ľ.		1	3		8:51:27 11		1		1
8:23:56	4				_		8:52:29 4	-	3		4
8:24:12	10	I		1	2		8:53:49 11	-	1		1
8:24:52	15	l		1	4		8:54:36 6	⊣	4		1
8:25:59	14	l .		1	4		8:54:50 12	-	1		1
8:26:18	51			1	21		8:55:14 8 8:57:05 4	⊣	1		
8:27:15	6	1		1	0			⊢			
8:27:52	26 14	1		4	9 4		8:57:31 2 8:57:43 4	⊣			
8:28:58	9	1		1	2		8:57:58 3	⊣			
8:29:15 8:29:51	26	1		1	9		8:58:33 4	7			
8:30:45	28	t		1	10		8:58:59 2	1			
8:31:24	41	1		1	16		8:59:58 7	y 200 to			
8:32:49	23	1		1	8		Max 34	Column Total	67		90
8:33:31	19	1		1			Min 2	Total Critical &			
ENVAR Consulta		•				06/14/10		 10-024tab10	-05-0	9GapSu	mmary.xl

Survey Type: GAP Survey
Location: Eagle St (Newmarket)
Date: Thursday, May 27th, 2010
Time: AM count

EBL & SBL Duration 8

4.9

2

Critical Follow up
7.1 3.5
157 Follow-up Gaps

	EBL	EBL	Critical	F	llow up
Time	Duration	202	Ontrodi	4.1	2.2
8:33:59	7			1	1
8:34:43	27			1	10
8:35:41	24			i	9
8:36:33	12			1	3
8:36:52	17			i	5
8:37:23	22			1	5 8
8:37:50	9			1	2
8:38:11	24			1	9
8:38:50	39			1	15
8:39:51	8			1	1
8:40:20	41			1	16
8:41:07	10			1	2
8:41:32	41			1	16
8:42:49	21			1	7
8:43:48	15			1	4
8:44:23	51			1	21
	17			1	21
8:45:27	14			1	5 4
8:45:54	18			1	
8:46:30				1	0
8:46:53	10				6 2 3
8:47:15	11 18			1	3
8:47:20					0
8:48:13	10			1	6 2 1
8:48:32	8			2.00	1
8:48:50	8			1	1 2 2 4 2 4 4
8:49:25	9			1	2
8:50:06	14			1	2
8:50:20					4
8:50:40	10			1	2
8:51:10 8:51:21	13			1	4
	14			- 6	4
8:52:17	9			1	2 2 1
8:52:29	10 8			1	2
8:52:48	25			1	9
8:53:39 8:54:13	13			1	4
	9			1	2
8:54:36 8:54:50	6			1	2
				1	4
8:55:11	15			1	
8:56:09	11 19			1	3
8:56:53				1	. 0
8:57:31	6				
8:57:43	8			1	1
8:57:54	11			1	3
8:58:17	50			1	20
8:59:58	27	Calvern Tat-1		1	10
Max	75	Column Total		102	532
Min	2	Total Critical &			604
Avg	18	Follow-up Gaps			634
Count	234				

Survey Type: GAP Survey
Location: Eagle St (Newmarket)
Date: Wednesday, June 2, 2010
Time: PM count

Time	EBL Duration
4:00:20	31
4:00:56	3
4:01:08	10
4:01:18	5
4:01:34	6
4:01:45	5
4:01:55	9
4:02:15	44 37
4:03:20 4:04:02	31
4:04:44	4
4:04:58	10
4:05:34	29
4:06:09	7
4:06:29	16
4:06:54	4
4:07:25	34
4:08:23	17
4:08:47	11 24
4:09:25 4:09:55	4
4:10:03	11
4:10:36	5
4:11:37	4
4:11:49	9
4:13:31	27
4:14:22	12
4:14:49	6
4:15:13	21
4:15:45	10
4:16:02	6
4:16:21	9 28
4:16:46 4:17:51	27
4:18:43	23
4:19:11	15
4:19:53	13
4:23:31	25
4:22:17	8
4:22:36	38
4:24:03	8
4:24:46	3
4:25:01	17
4:25:41	13
4:26:01	7
4:26:15 4:26:37	15
4:27:01	49
4:28:08	29
4:29:20	34
4:30:22	22
4:30:50	4
4:31:11	10
4:31:28	24
4:31:58	8
4:32:12	12
4:32:29 4:32:57	2
4:33:12	35
4:34:15	19
4:34:42	9
4:35:18	5
4:36:14	10
4:37:08	4
4:37:24	5
4:37:36	4
4:38:10	6
4:38:21 4:38:31	4
4:38:31	6 9
4:39:09	10
4:39:56	11
4:40:25	8
4:40:57	37
4:42:06	4
4.40.40	7
4:42:18	7
4:43:06	13
4:43:06 4:43:51	70
4:43:06 4:43:51 4:44:01	4
4:43:06 4:43:51 4:44:01 4:44:15	2
4:43:06 4:43:51 4:44:01 4:44:15 4:45:57	6
4:43:06 4:43:51 4:44:01 4:44:15 4:45:57 4:46:11	6 5
4:43:06 4:43:51 4:44:01 4:44:15 4:45:57 4:46:11 4:46:46	2 6 5 10
4:43:06 4:43:51 4:44:01 4:44:15 4:45:57 4:46:11	6 5
4:43:06 4:43:51 4:44:01 4:44:15 4:45:57 4:46:11 4:46:46 4:47:10 4:47:23 4:47:44	2 6 5 10 4
4:43:06 4:43:51 4:44:01 4:44:15 4:45:57 4:46:11 4:46:46 4:47:10 4:47:23	2 6 5 10 4 10

Critical 4.1 1	Follow up 2.2 12
1 1 1	2
1 1 1 1	2 18 15 12
1 1 1	2 11 1 5
1 1 1 1	13 5 3 9
1 1	3
1 1 1	2 10 3
1	7 2
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 10 10 8 5 4 9 1 15
1 1 1 1 1 1 1	5 4 1 1 5 20 11 13 8
1 1 1	2 9 1
1 1	3
1 1 1 1 1	14 6 2
1	2
1	
1 1 1 1 1	2 2 3 1 15
1 1 1	1 1 4
1 1 1	2
1	2 13
1	12

	EBL & SBL
Time	Duration
4:00:28	2
4:00:43	5
4:01:18	2
4:01:59	3
4:02:15	14
4:04:02	14
4:04:23	7
4:05:45	14
4:06:09	4
4:06:54	2
4:07:25	29
4:08:23	3
4:08:47	7
4:09:25	8
4:10:03	6
4:10:36	4
4:11:49	6
4:13:31	23
4:14:26	4
4:15:13	10
4:15:48	3
4:16:21	5
	3
4:17:04 4:17:51	10
4.17.01	4
4:18:11 4:20:47	7
4.24.04	
4:21:01	3
4:22:36	4
4:22:46	8
4:24:46	2
4:25:01	4
4:26:41	13
4:27:04	3
4:27:15	7
4:29:20	10
4:29:20 4:29:37	13
4:30:26	4
4:31:28	4
4:31:39	7
4:32:12	2
4:33:27	12
4:34:15	4
4:34:25	5
4:34:42	5
4:37:24	2
4:38:10	3
4:39:22	7
4:40:25	2
4:40:57	9
4:41:19	10
4:43:06	3
4:46:11	2
4:46:45	6
4:47:44	5
4:48:34	2
4:49:53	16
4:51:24	2
4:52:18	8
WALL STREET, SAN THE STREET, S	
4:52:32 4:53:40	6
4:53:54	3
4:54:54	4
4:55:35	5
4:56:45	2
4:58:16	3
4:50:26	4
4:59:26 4:59:40	3
5:00:19	
5.00.19	9
5:00:29	3
5:00:47	2
5:01:11 5:02:34	4
5:02:34	15
5:03:41 5:07:02	4
5:07:02	7
5:07:45	7
5:08:02	6
5:08:32	3
5:09:33	7
5:10:10	3 3
5:12:09	3
5:13:30	3
5:15:43	8
5:17:06	
5:18:28	3
5:18:28 5:18:57	3
5:20:40	2
5:20:40 5:21:20	7
5:24:44	3

	EBL & SBL	Critical Follow up
ne	Duration	7.1 3.5
0:28	2	9 9 7
0:43 1:18	5 2	
1:59	3	
2:15	14	1 2
4:02	14	1 2
4:23	7	The same of the sa
5:45	14	1 2
6:09	4	
6:54	2	4 6
7:25	29	1 6
8:23 8:47	7	
9:25	8	1
0:03	6	
0:36	4	* B
1:49	6	
3:31	23	1 4
4:26	4	4
5:13	3	to a little and the second
5:48 6:21	5	
7:04	3	9 2 - 2 A
7:51	10	1
8:11	4	
0:47	7	
1:01	3	
2:36	4	
2:46	8	1
4:46 5:01	4	
6:41	13	1 1
7:04	3	
7:15	7	
9:20	10	1
9:37	13	1 1
0:26	4	
1:28	4	
1:39	7 2	
3:27	12	1 1
4:15	4	
4:25	5	
4:42	5	
7:24	2	
88:10	3	
9:22	7	-
0:25 0:57	9	1
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6:45	6	_
7:44	5	4
8:34	2	1 2
9:53 51:24	16	1 ' '
2:18	8	1
2:32	2	1
3:40	6]
53:54	3	_
54:54	4	4
55:35	5	-
66:45 58:16	3	1
9:26	4	1
9:40	3	1
0:19	9	1
0:29	3]
0:47	2	1
)1:11	4	
02:34	15	1 2
03:41	7	-
07:02 07:45	7	1
08:02	6	1
08:32	3]
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10:10	3]
12:09	3	4
13:30	3	4
15:43	8] 1
17:06	3	-
18:28 18:57	3	1
20:40	2	1
21:20	7	1
24:44	3	1

Survey Type: GAP Survey
Location: Eagle St (Newmarket)
Date: Wednesday, June 2, 2010
Time: PM count

Time	EBL Duration
4:49:53	21
4:50:41	5
4:51:18 4:51:38	11 19
4:52:18	21
4:52:44	6
4:53:40	9
4:53:54	5
4:54:15 4:54:34	21
4:54:50	11
4:55:06	9
4:55:35 4:55:48	11
4:56:08	2
4:56:31	5
4:56:39	12
4:56:55	13
4:57:09 4:57:44	12
4:57:56	8
4:59:25	2
5:00:19	20
5:00:47 5:01:07	5 26
5:01:43	26
5:02:34	15
5:03:16	11
5:03:35 5:03:57	10 29
5:04:32	5
5:04:52	10
5:05:29	10
5:05:43 5:06:50	18 3
5:06:57	14
5:07:45	11
5:08:02	25
5:08:32 5:09:19	3 25
5:10:01	3
5:10:10	26
5:10:55	3
5:11:03 5:11:17	8 11
5:12:01	21
5:12:28	3
5:12:34	2
5:13:04 5:13:20	2 17
5:13:47	36
5:14:53	6
5:15:10	16
5:15:43 5:16:02	7
5:16:15	3
5:16:56	15
5:17:39	35
5:18:28 5:18:46	5 29
5:19:49	7
5:20:02	8
5:20:40	4
5:20:54 5:21:20	10 12
5:21:20 5:22:38	12
5:23:32	9
5:24:10	9
5:24:32 5:25:23	20 27
5:25:58	7
5:26:12 5:27:20	41
5:27:20	15
5:27:39 5:27:52	7 25
5:28:35	3
5:28:44	18
5:29:08 5:30:09	5
5:30:09	9 32
5:31:34	33
5:31:42	12
5:32:01 5:32:42	17 17
5:33:36	22
5:33:36 5:34:32	4
5:34:43 5:34:57	7
0.04.07	13

Critical 4.1 1	Follow up 2.2 7
1 1 1 1	3 6 7
	2
1 1 1 1 1	7 3 2
1	3
1 1 1 1 1	3 4
1 1	3 1
	7
1 1 1 1 1 1 1 1 1	10 10 5 3 2 11
1 1	2 2 6
1 1 1	4 3 9
1	9
1	10
1	3 7
1	5 14
1 1 1 1	5 3 1
1 1	5 14
1 1 1	11 1 1
1 1 1 1 1 1 1 1 1 1	2 3 3 22 2 7 10 1 16 5
1 1	6
1 1 1 1 1 1	2 12 13 3 5 5 8
1	1

	EBL & SBL		Critical	Follow up
Time	Duration		7.1	3.5
5:25:23	2			
5:25:58	4			
5:26:19	6			
5:27:30	2			
5:27:39	3			
5:27:59	4			
5:28:44	7			
5:30:09	7			
5:30:47	10		1	
5:31:48	2			
5:32:01	2			
5:32:42	14		1	2
5:33:36	17		1	2
5:34:57	8		1	
5:36:50	3			
5:37:13	2			
5:39:41	2			
5:40:30				
5:40:39	2			
5:41:53	3			
5:42:02	3			
5:42:43	4			
5:43:29	2			
5:43:47	3			
5:45:53	3			
5:46:42	7			
5:51:13	15		- 1	2
5:51:44	10		1	
5:53:44	7			
5:54:19	12		1	1
5:55:25	10		1	
5:56:21	8		1	
5:57:38	3			
5:59:11	3	Column Total	29	30
Max	29	Total Critical &		59
Min	2	Follow-up Gaps		
Avg	6	1 50 10 10 10 10 10 10 10 10 10 10 10 10 10		
Count	122			

Survey Type: GAP Survey
Location: Eagle St (Newmarket)
Date: Wednesday, June 2, 2010
Time: PM count

Time 5:35:49	EBL Duration		4.1	2.2
				2.2
F-00-00	23		1	8
5:36:22	13		1	4
5:36:44	12		- 1	3
5:37:05	16		1	5
5:37:35	22		1 -	8
5:38:03	7		- 1	1
5:38:32	54		1	22
5:39:34	13		1	4
5:40:21	14		1	4
5:40:39	26		1	10
5:41:53	6		1	
5:42:02	12		- 1	3
5:42:20	8		1	1
5:42:43	9		1	2
5:43:06	4			
5:43:29	7		1	1
5:43:47	19		1	6
5:44:23	15		1	5
5:44:53	6		1	81,1
5:45:10	20		1	7
5:45:53	8		1	1
5:46:29	4			
5:46:38	11		1	3
5:47:04	4			
5:47:31	31		1	12
5:48:17	20		1	7
5:48:44	5		1	-
5:49:30	27		1	10
5:50:23	22		i	8
5:51:13	25		i	9
5:51:44	13		i	4
5:52:12	23		i	8
5:52:39	15		1	5
5:53:24	14		1	4
	10		1	2
5:53:44	17		1	5
5:54:19 5:55:11	28		1	10
				10
5:56:02	21		1	7
5:56:11			i	15
5:56:57	37		i	5
5:57:38	17 5		i	3
5:58:01			i	3
5:58:13	12		9	3
5:58:58			1	1
5:59:11	7		1	6
5:59:26	18	Caluma Tatal	93	408
Max	49	Column Total	93	
Min	2	Total Critical &		501
Avg Count	12 130	Follow-up Gaps		

	EBL & SBL
Time	Duration

Critical Follow up 7.1 3.5

06/14/10

Queue Survey

Eagle St (WB to Yonge)
June 2nd, 2010

Yonge St & Eagle (WBL Queue)

Start	end	Duration	Length beyound Dixon
4:46:50	4:49:16	0:02:26	1
4:51:54	4:51:56	0:00:02	1
4:57:47	4:57:49	0:00:02	1
5:09:29	5:09:32	0:00:03	1
5:20:41	5:21:59	0:01:18	2
5:22:53	5:22:59	0:00:06	1

Dixon & Eagle (WBL Queue) 4B

Start	end	Duration	WBL
4:21:41	4:24:11	0:02:30	1
4:30:07	4:30:08	0:00:01	1
4:37:53	4:37:59	0:00:06	1
4:38:58	4:39:07	0:00:09	1
4:43:51	4:43:58	0:00:07	1
5:16:13	5:16:15	0:00:02	1

