



February 1, 2023

File: 19100

Attention: Maria Rozents

Monolite Holdings Inc.

1410 Major MacKenzie Drive, Unit C8
Vaughan, Ontario
L6A 4H6

**Re: Traffic Brief & Parking Study, Revision 1
181 Burton Avenue, Residential Development
City of Barrie**

1. INTRODUCTION

PEARSON Engineering Ltd. has been retained by Monolite Holdings Inc. (Client) to prepare a Traffic Brief & Parking Study (Brief) in support of the 4-storey residential building located at 181 Burton Avenue in the City of Barrie (City), County of Simcoe (County). The proposed building size is 448 m² and a gross floor area of 1,792 m². The subject property is approximately 0.20 ha in size and fronts onto Burton Avenue to the South, a vacant treed lot to the north and existing commercial sites to the east and west. The driveway for the site has been provided via Burton Avenue. The location of the site can be seen on Figure 1.

The Project site is located approximately 700 m west of Huronia Road between Robinson Street and Melinda Crescent on the north side of Burton Avenue. Burton Avenue consists of a 4-lane road, two lanes in each direction with no dedicated turning lanes. Burton Avenue has a posted speed limit of 50 km/hr and slopes west at approximately 1.10%. As per Accordance D of the City of Barrie's Official Plan, Burton Avenue is identified as an arterial roadway classification.

2. DATA COLLECTION

This analysis has been derived from traffic volumes for the intersection of Melinda Crescent and Burton Road (Avenue) based on traffic counts provided by the City of Barrie in the Fall of 2017 over a one-day period. The peak traffic counts for AM and PM hours can be seen below in Table 1. A detailed traffic count report can be found in Appendix A.

Table 1: Burton Avenue 2017 Traffic Flows

Start Time	WB	EB
	# of Vehicles	# of Vehicles
AM		
7:45-8:45	363	201
PM		
16:45-17:45	455	510

Since the traffic counts were completed in 2017, an increase of 2.0% per year was applied to the counts in order to get the projected 2022 traffic counts. Table 2 includes the projected traffic counts which were used in the traffic calculations.

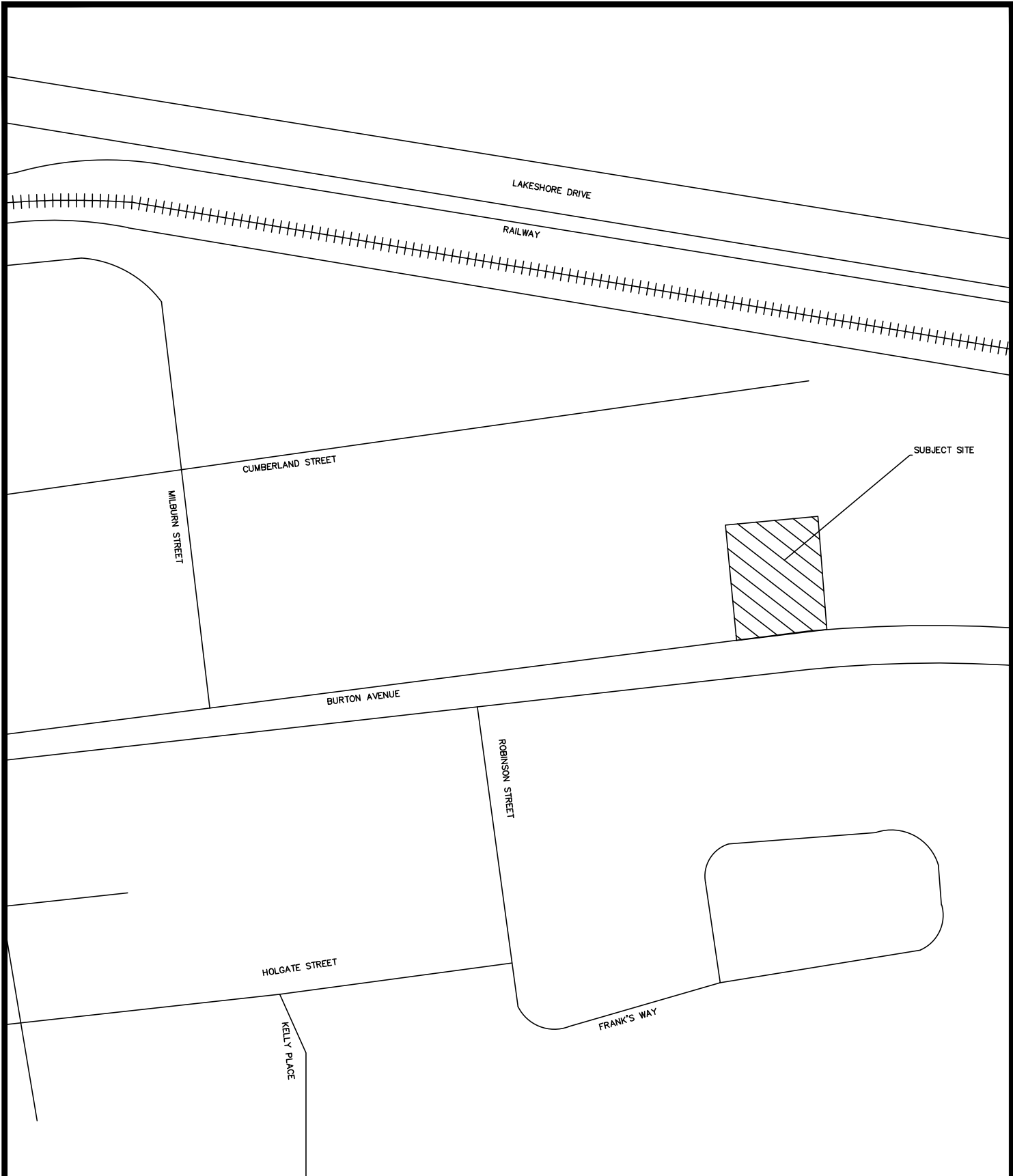
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P: \Autodesk Vault\Working Folders\19100 - ISM, 181 Burton Rd., Barrie\Engineering\19100--BASErev1.dwg Layout:FIG-1 Plotted Feb 03, 2022 @ 1:23pm by mpinkney @ PEARSON ENGINEERING LTD.



APARTMENT DEVELOPMENT
181 BURTON AVENUE
BARRIE, ON

SITE LOCATION PLAN



PEARSON
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DESIGNED BY	PG/MWD	HORIZ SCALE	PROJECT #	19100
DRAWN BY	PG	VERT SCALE	DRAWING #	FIG-1
CHECKED BY	GMP	DATE	REVISION #	0
		JAN 2021		



Table 2: Burton Avenue Projected 2022 Traffic Flows

Start Time	WB	EB
	# of Vehicles	# of Vehicles
AM		
7:45-8:45	401	222
PM		
16:45-17:45	502	563

Trip Generations are based on land use and types of development. Using trip generation charts from the 7th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Volume 2, projected vehicle trips were determined. The Land Use used to determine these volumes are classified as Mid-Rise Apartment Residential Use (ITE land use code 221). These Generation charts can be found in Appendix A.

The proposed estimated AM and PM weekday peak hour trips are shown below in Table 3.

Table 3: Site Generated Traffic Flows

ITE Land Use	Projected Volume	Traffic Distribution		Projected Volume	Traffic Distribution	
	Weekday AM Peak	AM In	AM Out	Weekday PM Peak	PM In	PM Out
Residential - Mid-Rise Apartment	8	27%	73%	10	60%	40%
Total:	8			10		

For the ITE Land Use for Mid-Rise Apartment, the AM Peak hour distribution is estimated at 27% entering and 73% exiting and PM Peak hour is estimated at 60% entering and 40% exiting. As indicated above, the highest traffic volume generated from the development was estimated during the Weekday PM Peak Hour with a peak flow of 10.0 vehicles. The traffic flows can be seen on Figure 2 and Figure 3 in Appendix A.

3. LEVEL-OF-SERVICE (LOS)

Level of Service (LOS) is a standard method of quantifying the efficiency of operating conditions within traffic systems. It is based on the physical characteristics of a highway and the different operating characteristics that may occur through various movements. Delay is a term used that relates to the number of vehicles desiring to make a particular movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to the opposing traffic flows.



Table 4 contains the Level of Service criteria for un-signalized (stop-controlled) and signalized intersections. According to the Highway Capacity Manual (HCM), LOS for an un-signalized intersection is determined by control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole. The Ministry of Transportation (MTO) states that the LOS for a signalized intersection is based on the concept that vehicles arriving at an intersection will be able to clear the intersection during the first green interval encountered upon their arrival. The highest rating of LOS is A, under which the average control delay on a movement, approach, or intersection is less than 10 seconds per vehicle. Remedial measures are considered as soon as the intersection conditions result in a LOS E. However, LOS E for left turning traffic at un-signalized intersections with major roads is commonly accepted. The lowest rating is LOS F, where the average delay exceeds 80 seconds at signalized intersections. Under such a condition, remedial measures are usually implemented.

Table 4: Level of Service Definitions

Level of Service	Stop-Controlled Average Control Delay (s/vehicle)	Signalized Average Control Delay (s/vehicle)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Using the site generated traffic flows and the provided traffic data counts for Burton Avenue, the LOS for the AM and PM Peak hour traffic movements fronting the site, are tabulated below in Table 5.

Table 5: AM/PM Peak Hour Level of Service

Intersection	Critical Movement	AM Peak Hour		PM Peak Hour	
		Delay (s)	LOS	Delay (s)	LOS
Burton Avenue	EB - Left Turn Entry	8.1	A	8.4	A
Site Entrance	SB - Left Turn Exit	12.3	B	16.0	C
Site Entrance	SB - Right Turn Exit	9.4	A	9.8	A



4. PARKING STUDY

The subject site is zoned MU1 Special and the Zoning By-law parking requirement for the subject site is summarized in Table 6.

Table 6: Zoning By-law Parking Requirements (As per Email with City of Barrie)

Category	Unit Type	Zoning By-Law Section	Parking Standard	# of Units	Parking Spaces	
					Required	Provided
Residential Parking	Affordable	As per email correspondence with City of Barrie (See Appendix B)	0.60 spaces/ unit	6 (5 1-bd & 1 2-bd)	4	4
	One Bedroom	As per email correspondence with City of Barrie (See Appendix B)	0.85 spaces/ unit	12	11	10
	Two Bedroom	As per email correspondence with City of Barrie (See Appendix B)	1.00 spaces/ unit	6	6	6
Accessibility Parking	-	City of Barrie By-law (2009-141) Section 4.6.4	1.00 Type A Accessible Parking Space	-	0	1
	-	City of Barrie By-law (2009-141) Section 4.6.4	1.00 Type B Accessible Parking Space	-	1	1
Total:				24	22	22

The parking rates utilized to calculate the required number of spaces/ unit were modified from the zoning bylaw and have been stipulated in an email received from the City of Barrie and are listed above (see Appendix B). The affordable units have been reduced from the stipulated City of Barrie rate of 0.60 spaces/ unit to a rate of 0.00 spaces/ unit as outlined in Table 6. Other municipalities such as Ottawa and Toronto have accepted 0.00 spaces/ unit for affordable units as well. Additionally, the surrounding community supports an environmentally conscious and car-free lifestyle. Therefore, the parking supply for the site proposes 22 spaces out of 22 required spaces for 24 units.

Both sides of Burton Avenue have existing sidewalks and within 500 m of the subject site exist various commercial plazas providing residents with access to a laundromat, pharmacy, post office, bank, restaurants, clinic, salon, dentist, various grocers, and other amenities. There are no existing, dedicated bicycle infrastructure fronting the site. However, according to the City of Barrie Transportation Master Plan (June 2019), buffered bike lanes are proposed for future development. Please see Appendix B for Figure 3-6 - Existing Cycling Network and Figure ES-2 – Cycling and Multi-use Trail Network.

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Access to public transit in this area is well established. The subject site is in close-proximity (less than 100 m) to stops on the City of Barrie transit routes: 4A – East Bayfield, 4B - South Go, 8A - RVH/Yonge (South), and 8B – Crosstown/Essa (North). Each of these transit routes also stop at the Allandale/ Waterfront GO Station and the Downtown Transit Terminal where residents have access to all other City bus routes. See Figure ES-1 in Appendix B for the Proposed 2041 Transit Route Network Concept. The subject site is also approximately 750 m away from the Allandale Waterfront GO station with rail and bus services that will provide residents with access to many routes linked to other cities within the Greater Toronto Area (GTA). See Appendix B - Figure 3-5 for the “Go System Map” outlining a schematic of the GTA GO network.

It should be noted that according to the City of Barrie's Affordable Housing Strategy “it is a goal of the Official Plan Affordable Housing policies to achieve a minimum target of 10% of all new housing units to be affordable housing”. This development proposes that 20% (6 out of 30) of all units be designated affordable which is more than twice the required rate.

As an added incentive for reduced car dependence, the developer has committed to provide the following options to residents:

1. Free monthly transit pass
2. Bike racks and free bike lock with every rental agreement
3. Discounted rental rate
4. Free tutorial session on the use of various transit apps like: Turo, Uber and Zipcar
5. Education on the cost of car ownership versus the use of other means of transportation

5. CONCLUSION

The analysis indicates that based on the generated traffic from the proposed project and traffic counts, the site would have a good Level of Service (LOS A & B) for the left/right turn out movements in the AM Peak hour and a good Level of Service (LOS A & C) for the left/right turn out movements in the PM Peak hour.

Considering that this development is located within 500 m of a variety of essential services, residents will have good access to public transit including City of Barrie bus routes and the GO Station network, and the developer has provided added incentives to persuade residents away from car ownership, it is demonstrated that this site provides suitable options for residents to live a car-free lifestyle. Therefore, our review indicates that the proposed development will feasibly function with the proposed 22 spaces out of the required 22 spaces for the sites intended use.

All of which is respectfully submitted,

PEARSON ENGINEERING LTD.

Mac Pinkney, P.Eng.
Project Engineer

Gary Pearson, P.Eng.
Principal

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APPENDIX A

TRAFFIC ANALYSIS INFORMATION

Barrie
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A

19100 - Traffic Brief - Rev2

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 48

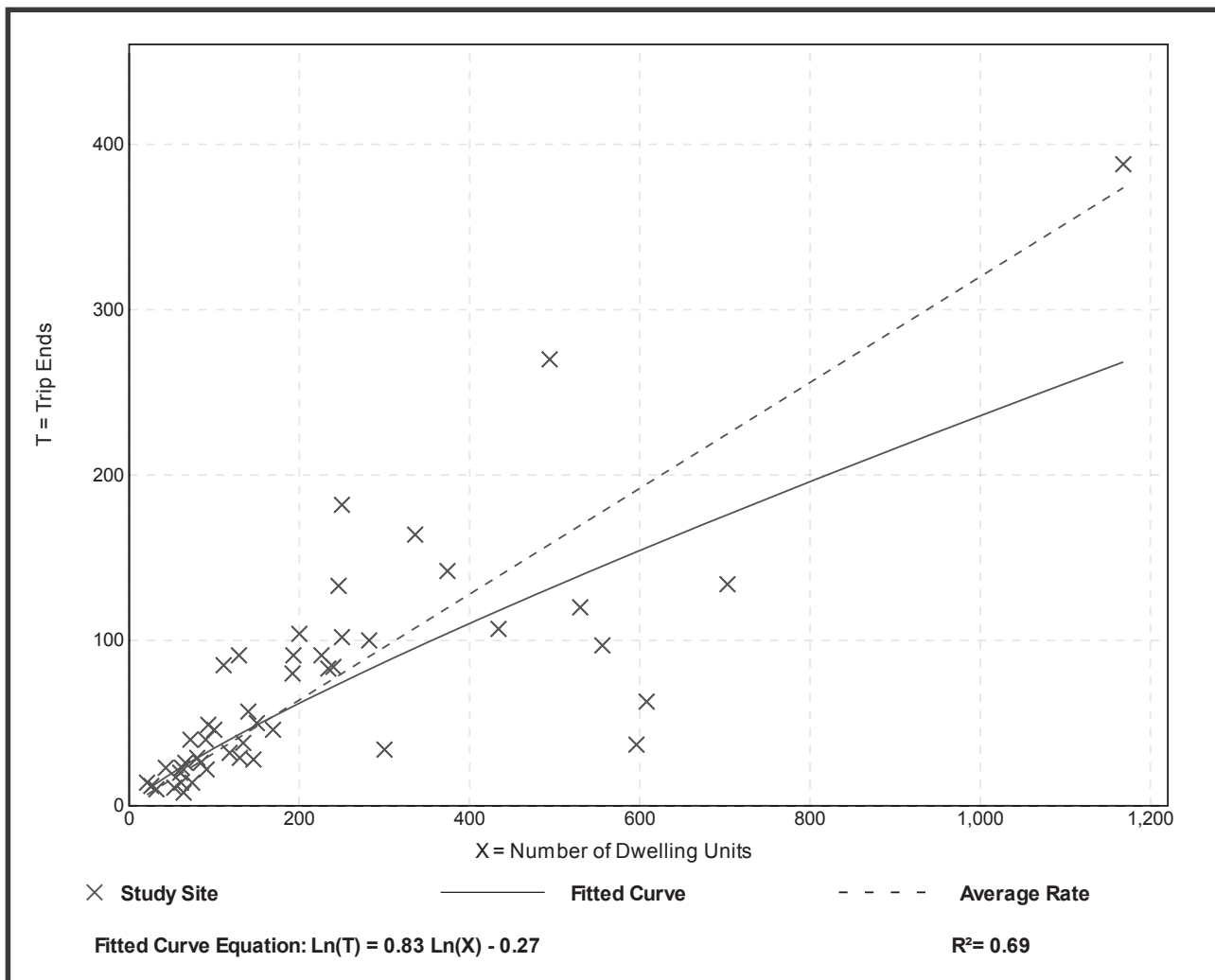
Avg. Num. of Dwelling Units: 225

Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.06 - 0.77	0.17

Data Plot and Equation



Multifamily Housing (Mid-Rise) (221)

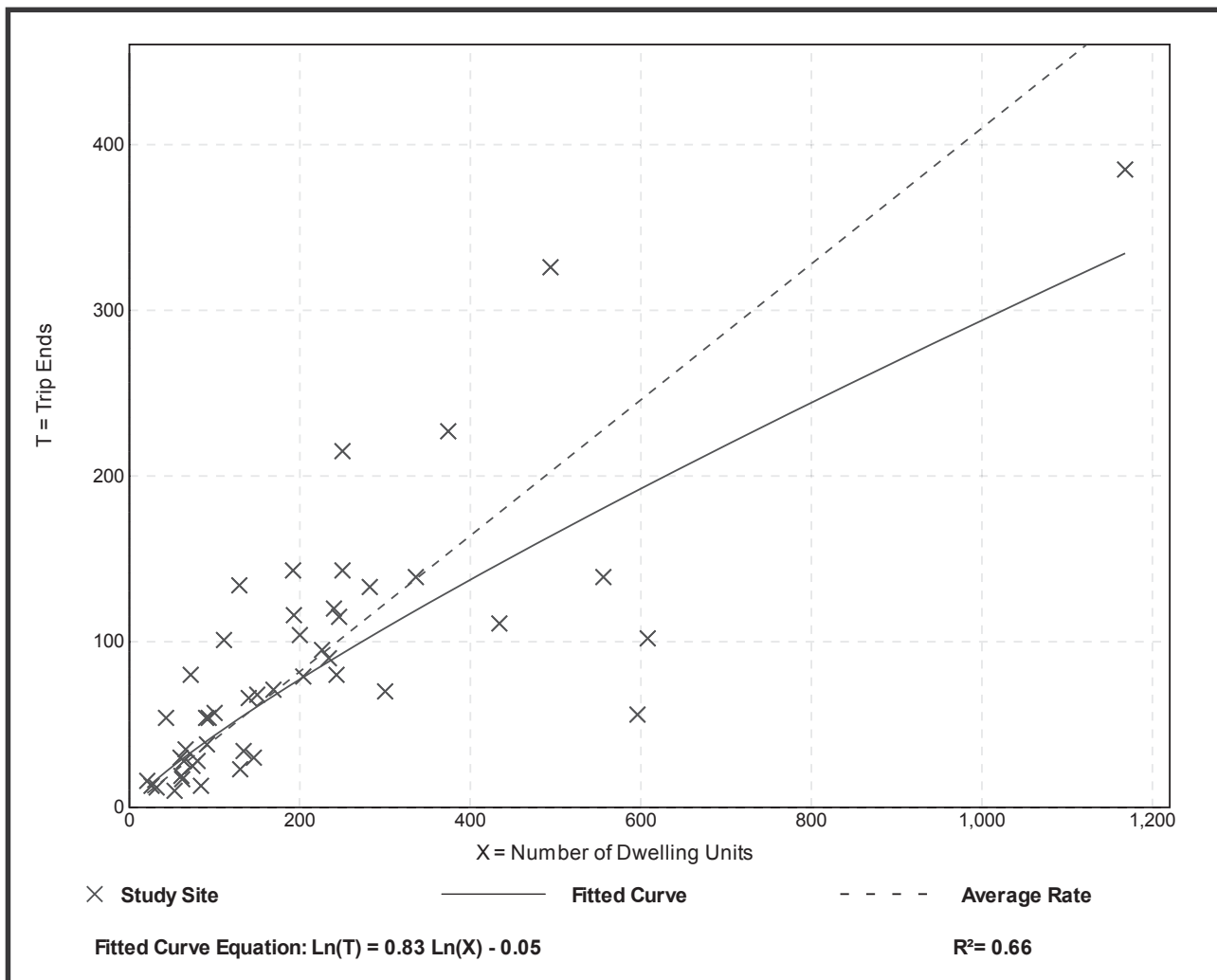
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 47
Avg. Num. of Dwelling Units: 211
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.09 - 1.26	0.22

Data Plot and Equation



181 Burton Avenue, City of Barrie Trip Generation Calculations

AM Peak Weekday:

Mid-Rise Apartment (ITE Code 221)

Average Rate = 0.32 veh. / dwelling unit

Building = 24 units

Trip Count = 0.32 x 24
= 7.7 trips

Total AM Peak Weekday Trips = **8 Trips**

PM Peak Weekday:

Mid-Rise Apartment (ITE Code 221)

Average Rate = 0.41 veh. / dwelling unit

Building = 24 units

Trip Count = 0.41 x 24
= 9.8 trips

Total PM Peak Weekday Trips = **10 Trips**

Trans-Plan Transportation Inc.

Site ID Code:

Intersection Location:

Municipality:

Count Date:

Weather and Temperature:

Surveyor:

Melinda Crescent West and Burton Road

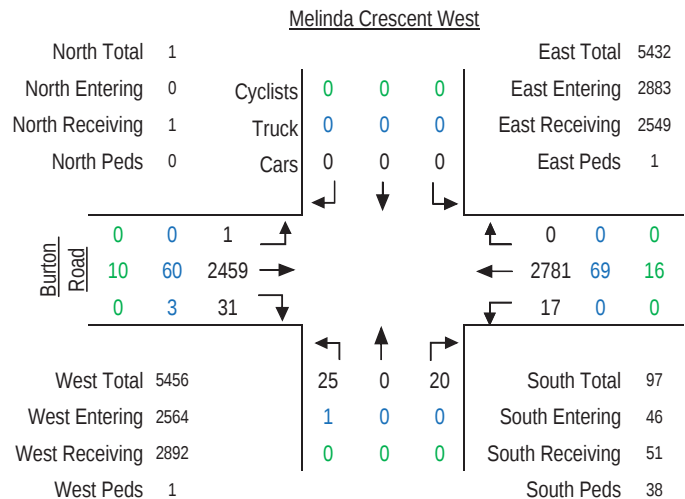
Barrie, Ontario

Tuesday October 3, 2017

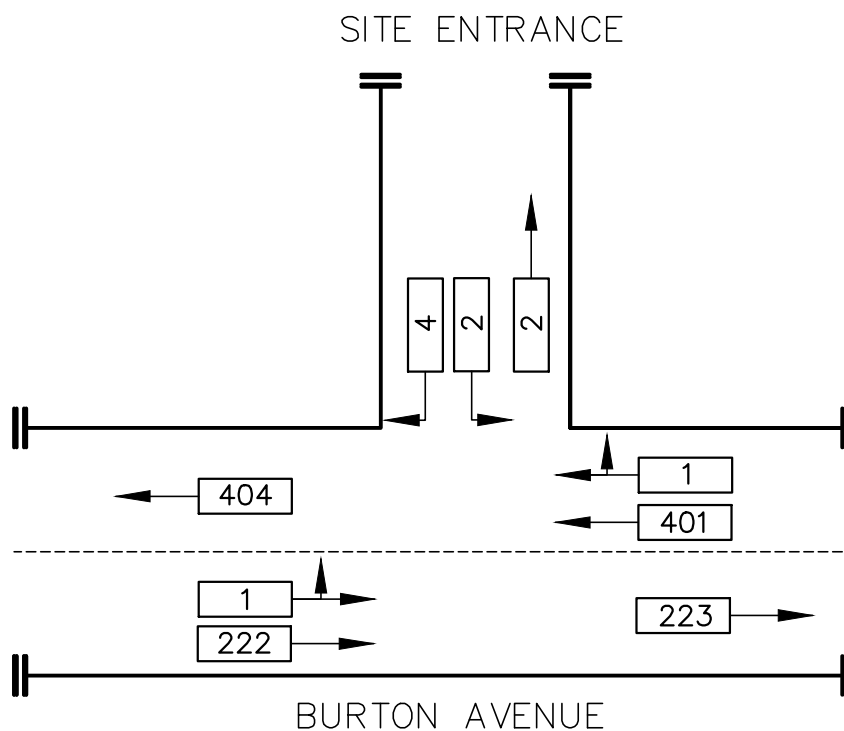
Sunny, 25 Degrees

TP

AM	NORTH APPROACH										Total	EAST APPROACH										Total	SOUTH APPROACH										Total	WEST APPROACH										Total	Grand Total
	CAR			TRUCKS			CYCLISTS			Peds		CAR			TRUCKS			CYCLISTS			Peds		CAR			TRUCKS			CYCLISTS			Peds													
	L	T	R	L	T	R	L	T	R			L	T	R	L	T	R	L	T	R			L	T	R	L	T	R	L	T	R														
7:00	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	1	0	0	1	0	0	36	0	0	0	0	0	0	0	0	0	5	5	0	33	0	0	0	0	0	0	33	74		
7:15	0	0	0	0	0	0	0	0	0	0	0	0	52	0	0	1	0	0	2	0	0	55	1	0	1	0	0	0	0	0	2	4	0	40	1	0	1	0	0	0	0	42	101		
7:30	0	0	0	0	0	0	0	0	0	0	0	0	56	0	0	2	0	0	0	0	0	58	2	0	2	0	0	0	0	0	1	5	0	56	0	0	1	0	0	0	0	57	120		
7:45	0	0	0	0	0	0	0	0	0	0	0	0	125	0	0	6	0	0	0	0	0	131	4	0	0	0	0	0	0	0	0	4	0	52	1	0	2	0	0	0	0	55	190		
8:00	0	0	0	0	0	0	0	0	0	0	0	0	74	0	0	5	0	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	48	1	0	2	0	0	0	0	51	130		
8:15	0	0	0	0	0	0	0	0	0	0	0	0	71	0	0	3	0	0	0	0	0	75	0	0	1	0	0	0	0	0	0	1	0	38	0	0	0	1	0	0	0	39	115		
8:30	0	0	0	0	0	0	0	0	0	0	0	0	71	0	0	1	0	0	0	1	0	73	2	0	1	0	0	0	0	0	1	4	0	54	0	0	3	1	0	0	0	58	135		
8:45	0	0	0	0	0	0	0	0	0	0	0	0	79	0	0	2	0	0	0	0	0	81	0	0	0	0	0	0	0	0	1	1	0	64	0	0	2	0	0	2	0	1	69	151	
MD																																													
11:00	0	0	0	0	0	0	0	0	0	0	0	0	69	0	0	0	0	0	0	0	1	70	0	0	2	0	0	0	0	0	2	4	0	59	0	0	1	0	0	0	0	60	134		
11:15	0	0	0	0	0	0	0	0	0	0	0	0	1	56	0	0	3	0	0	1	0	61	1	0	0	0	0	0	0	0	0	1	0	74	0	0	2	0	0	1	0	0	77	139	
11:30	0	0	0	0	0	0	0	0	0	0	0	0	1	93	0	0	3	0	0	0	0	97	0	0	0	0	0	0	0	0	0	0	0	61	0	0	2	0	0	0	0	63	160		
11:45	0	0	0	0	0	0	0	0	0	0	0	0	96	0	0	4	0	0	0	0	0	100	0	0	0	0	0	0	0	0	2	2	1	63	1	0	1	0	0	2	0	68	170		
12:00	0	0	0	0	0	0	0	0	0	0	0	0	81	0	0	5	0	0	2	0	0	88	0	0	0	0	0	0	0	0	2	2	0	83	1	0	5	0	0	1	0	0	90	180	
12:15	0	0	0	0	0	0	0	0	0	0	0	0	77	0	0	2	0	0	1	0	0	80	0	0	0	0	0	0	0	0	0	0	0	68	0	0	6	0	0	0	0	74	154		
12:30	0	0	0	0	0	0	0	0	0	0	0	0	1	92	0	0	2	0	0	0	0	95	1	0	0	0	0	0	0	0	2	3	0	84	1	0	2	0	0	0	0	87	185		
12:45	0	0	0	0	0	0	0	0	0	0	0	0	84	0	0	1	0	0	1	0	0	86	1	0	0	0	0	0	0	0	3	4	0	84	0	0	1	0	0	0	0	85	175		
13:00	0	0	0	0	0	0	0	0	0	0	0	0	1	75	0	0	1	0	0	1	0	78	1	0	0	0	0	0	0	0	1	0	75	1	0	3	0	0	0	0	79	158			
13:15	0	0	0	0	0	0	0	0	0	0	0	0	123	0	0	2	0	0	1	0	0	126	1	0	0	0	0	0	0	0	1	2	0	68	2	0	3	0	0	0	0	73	201		
13:30	0	0	0	0	0	0	0	0	0	0	0	0	79	0	0	1	0	0	1	0	0	81	0	0	0	0	0	0	0	0	1	1	0	62	1	0	1	0	0	0	0	64	146		
13:45	0	0	0	0	0	0	0	0	0	0	0	0	94	0	0	1	0	0	0	0	0	95	1	0	0	0	0	0	0	0	1	0	73	1	0	2	0	0	0	0	76	172			
PM																																													
15:00	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	2	0	0	2	0	0	74	0	0	3	0	0	0	0	0	2	5	0	80	4	0	0	0	0	1	0	0	85	164	
15:15	0	0	0	0	0	0	0	0	0	0	0	0	1	105	0	0	2	0	0	1	0	109	3	0	1	0	0	0	0	0	2	6	0	83	1	0	1	0	0	1	0	0	86	201	
15:30	0	0	0	0	0	0	0	0	0	0	0	0	1	90	0	0	2	0	0	1	0	94	0	0	0	0	0	0	0	0	4	4	0	121	0	0	4	0	0	0	0	0	125	223	
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0	3	0	0	0	0	117	0	0	1	1	0	0	0	0	1	3	0	107	1	0	2	1	0	0	0	0	111	231	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	2	101	0	0	5	0	0	0	0	108	0	0	0	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	0	86	194		
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	100	1	0	0	0	0	0	0	0	1	2	0	89	1	0	2	0	0	0	0	92	194		
16:30	0	0	0	0	0	0	0	0	0	0	0	0	3	91	0	0	2	0	0	0	0	96	0	0	1	0	0	0	0	0	1	2	0	84	2	0	1	0	0	0	0	87	185		
16:45	0	0	0	0	0	0	0	0	0	0	0	0	1	128	0	0	0	0	0	0	0	129	1	0	2	0	0	0	0	0	1	4	0	130	2	0	4	0	0	1	0	0	137	270	
17:00	0	0	0	0	0	0	0	0	0	0	0	0	2	125	0	0	3	0	0	0	0	130	0	0	1	0	0	0	0	0	2	3	0	110	3	0	1	0	0	0	0	0	114	247	
17:15	0	0	0	0	0	0	0	0	0	0	0	0	1	104	0	0	0	0	0	0	0	105	0	0	0	0	0	0	0	0	1	1	0	145	1	0	2	0	0	0	0	0	148	254	
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	3	0	0	0	0	94	0	0	1	0	0	0	0	0	1	0	111	3	0	1	0	0	1	0	0	116	211		
17:45	0	0	0	0	0	0	0	0	0	0	0	0	1	81	0	0	1	0	0	0	0	83	5	0	3	0	0	0	0	0	0	8	0	74	2	0	2	0	0	0	0	78	169		



2022 TRAFFIC GENERATION AM PEAK HOUR



APARTMENT DEVELOPMENT
181 BURTON AVENUE
BARRIE, ON

GENERATED 2022 TRAFFIC
AM PEAK HOUR

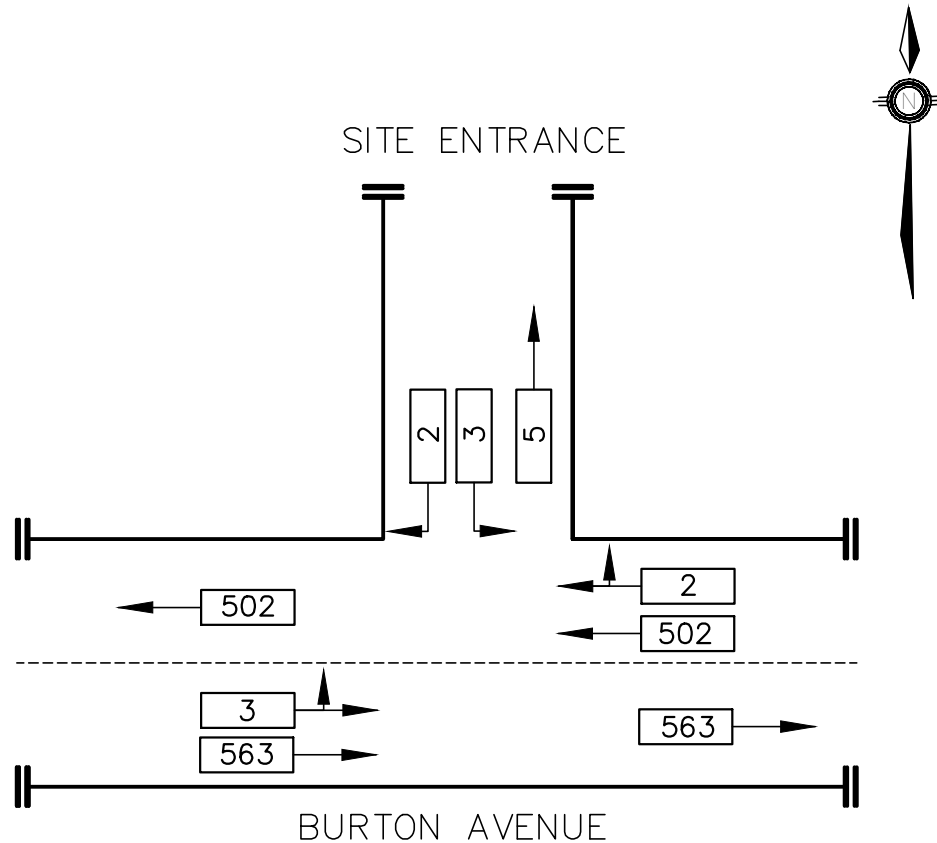


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DESIGNED BY	MWD	HORIZ SCALE	NTS	PROJECT #	19100
DRAWN BY	MJWP	VERT SCALE		DRAWING #	FIG-2
CHECKED BY	MWD	DATE	FEB 2022	REVISION #	0

TWO-WAY STOP CONTROL SUMMARY								
General Information					Site Information			
Analyst	Mac Pinkney				Intersection	Burton Ave		
Agency/Co.	Pearson Engineering				Jurisdiction	City of Barrie		
Date Performed	2022-02-01				Analysis Year	2022		
Analysis Time Period	AM Peak Hour 7:45 - 8:45							
Project Description 19100 - 181 Burton Ave								
East/West Street: Burton Ave					North/South Street: Project Site			
Intersection Orientation: East-West					Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	1	222			401	1		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	1	222	0	0	401	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	2	0	0	2	0		
Configuration	LT	T			T	TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				2		4		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	0	0	0	2	0	4		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	1					2		4
C (m) (veh/h)	1168					494		813
v/c	0.00					0.00		0.00
95% queue length	0.00					0.01		0.01
Control Delay (s/veh)	8.1					12.3		9.4
LOS	A					B		A
Approach Delay (s/veh)	--	--				10.4		
Approach LOS	--	--				B		

2022 TRAFFIC GENERATION PM PEAK HOUR



APARTMENT DEVELOPMENT
181 BURTON AVENUE
BARRIE, ON

GENERATED 2022 TRAFFIC
PM PEAK HOUR



PEARSON
ENGINEERING
PEARSONENG.COM PH. 705.719.4785

DESIGNED BY	MWD	HORIZ SCALE	NTS	PROJECT #	19100
DRAWN BY	MJWP	VERT SCALE		DRAWING #	FIG-3
CHECKED BY	MWD	DATE	FEB 2022	REVISION #	0

TWO-WAY STOP CONTROL SUMMARY								
General Information					Site Information			
Analyst	Mac Pinkney				Intersection	Burton Ave		
Agency/Co.	Pearson Engineering				Jurisdiction	City of Barrie		
Date Performed	2022-02-01				Analysis Year	2022		
Analysis Time Period	PM Peak Hour 16:45 - 17:45							
Project Description 19100 - 181 Burton Ave								
East/West Street: Burton Ave					North/South Street: Project Site			
Intersection Orientation: East-West					Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	3	563			502	2		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	3	563	0	0	502	2		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	2	0	0	2	0		
Configuration	LT	T			T	TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				3		2		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	0	0	0	3	0	2		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
v (veh/h)	3					3		2
C (m) (veh/h)	1071					330		754
v/c	0.00					0.01		0.00
95% queue length	0.01					0.03		0.01
Control Delay (s/veh)	8.4					16.0		9.8
LOS	A					C		A
Approach Delay (s/veh)	--	--				13.5		
Approach LOS	--	--				B		



APPENDIX B

PARKING STUDY INFORMATION

Barrie
705-719-4785

GTA
905-597-5572

Ottawa
613-416-1232

Owen Sound
226-256-7957

pearsoneng.com

B

19100 - Traffic Brief - Rev2

From: [Justin MacDonald](#)
To: [April Cleaves](#)
Cc: [Maria Rozents](#); [Gary Pearson](#); [Celeste Phillips](#); [Michele Freethy](#)
Subject: RE: 181 Burton Avenue
Date: April 25, 2022 9:52:53 AM
Attachments: [image002.png](#)

Good morning April,

As a follow up to our meeting last week; the below parking rates have been utilized within the UGC corridor to establish parking rates based on unit type.

Affordable units – 0.75 stall / unit

1 Bed – 0.85 stall / unit

2 Bed – 1 stall / unit.

Another component of the parking study would be to outline a TDM strategy for the subject site; further details can be found in the City of Barrie Transportation Impact Study Guidelines Section 13 which is located [here](#).

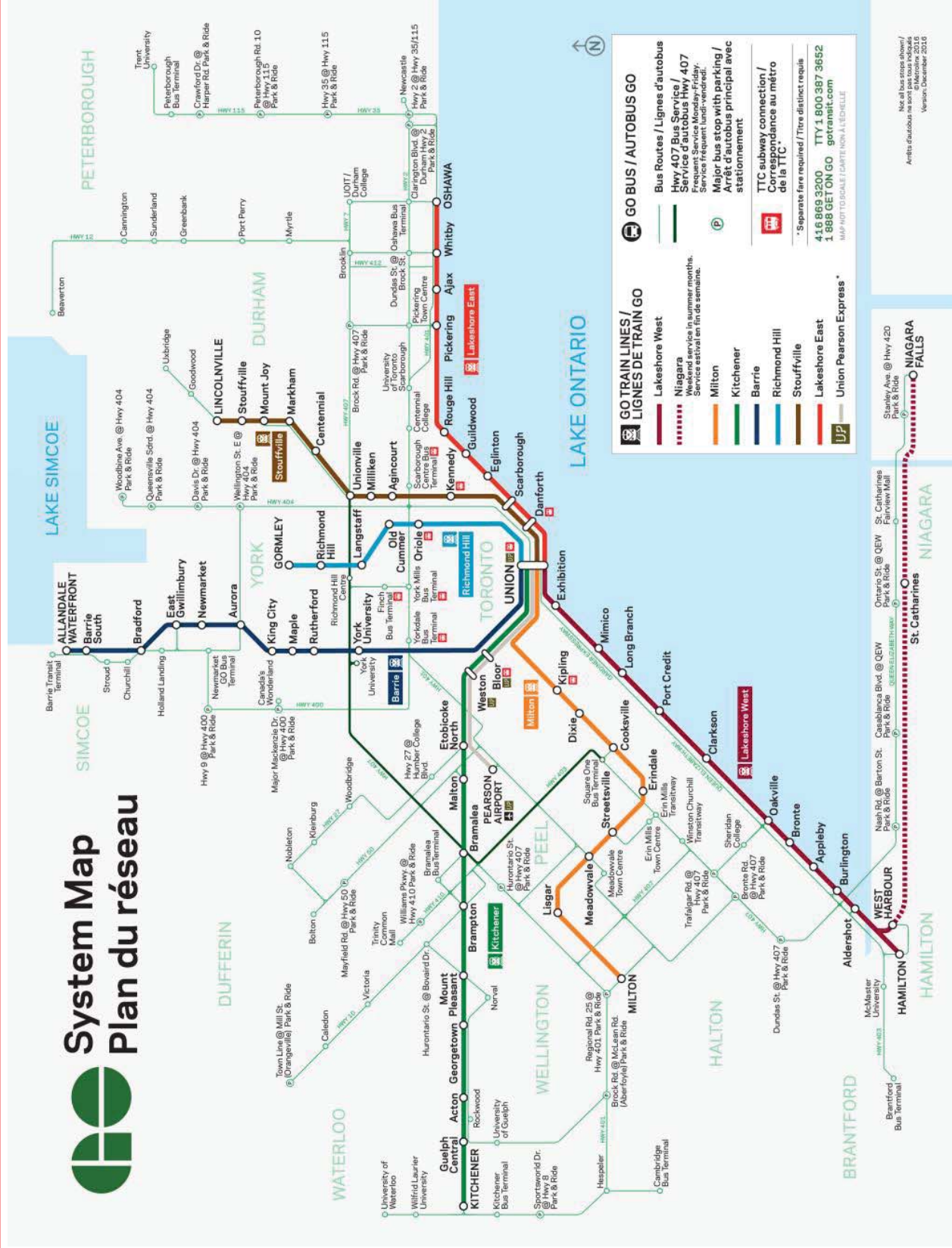
Please reach out should you have any further questions.

Thanks,

Justin MacDonald, C.E.T., PTP
Project Delivery – Transportation Planning, Development Services
The City of Barrie
Mobile 705-734-8020

Please consider the environment before printing this email.

System Map
Plan du réseau





Existing Facilities

- Waterfront Multi-use Trail
- In-Boulevard Pathway
- Buffered Bike Lane
- Bike Lane
- Paved Shoulder
- Signed Bike Route
- Off-road Trail

Previously Proposed Facilities

- In-Boulevard Pathway
- Buffered Bike Lane
- Bike Lane
- Signed Bike Route

Trail Systems

- Province-Wide Cycling Network
- The Great Trail

Other Features

- Secondary Plan Area
- Park / Open Space

Data Sources: City of Barrie
Date Updated: February, 2019
Project: 171-08853-00
Map Created By: WSP Thornhill

0 500 1,000 1,500 2,000 Metres

Figure 3-6
Existing Cycling Network
City of Barrie Transportation Master Plan





Figure ES-1
Proposed 2041 Transit Route Network Concept
City of Barrie Transportation Master Plan

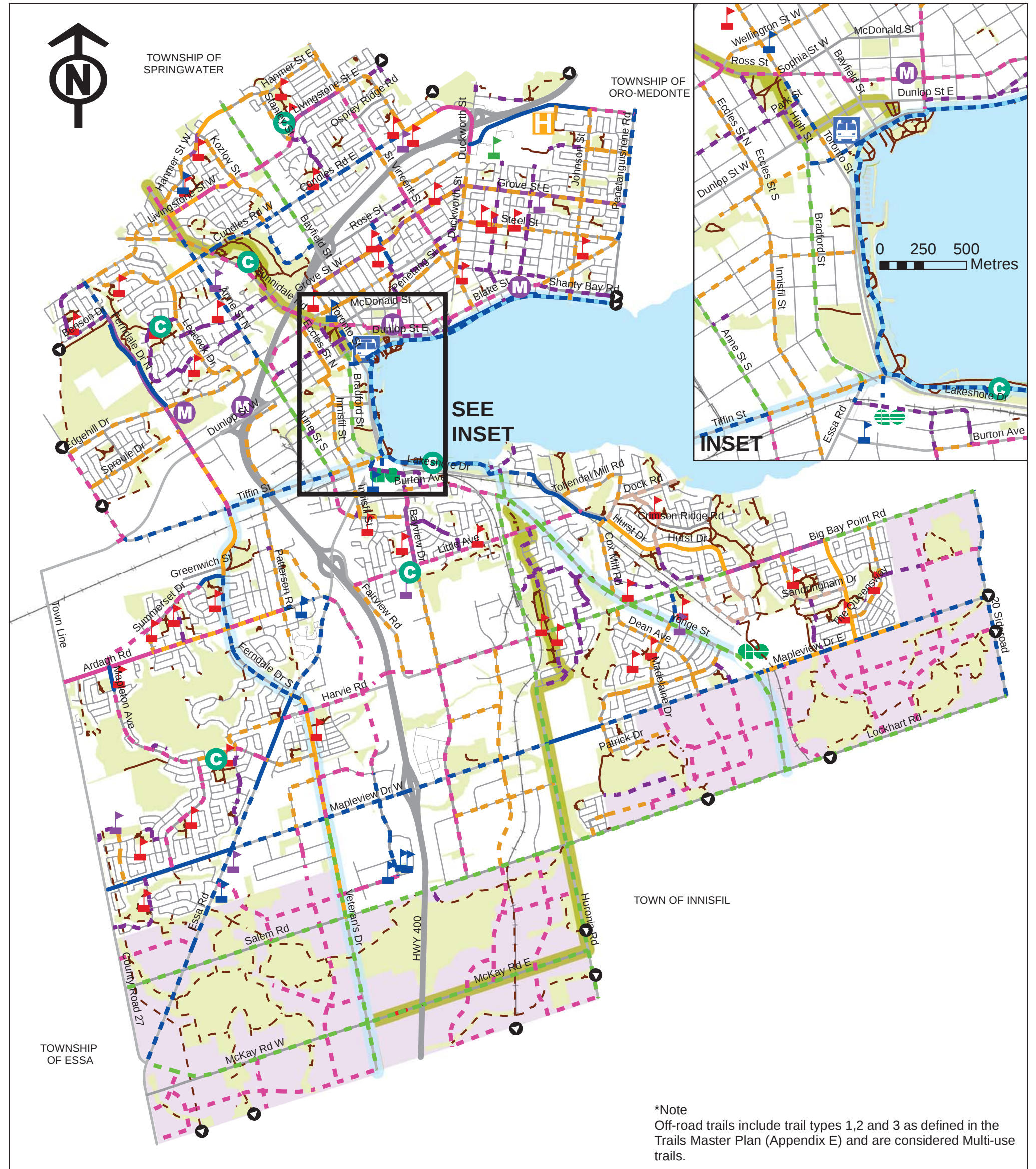


Figure ES-2
Cycling and Multi-Use Trail Network
City of Barrie Transportation Master Plan

