

F.R. Berry & Associates

TRANSPORTATION PLANNING CONSULTANTS

660 Inverness Avenue

London, Ontario N6H 5R4

Tel: (519) 474 2527 Toll Free: 1 888 665 9192 Email: fyberry@rogers.com

May 31, 2018

Our Ref. **1827**

Alium Investments (Kingsville) Limited
c/o Otis Properties Limited
3338 Dufferin Street
Toronto ON
M6A 3A4

Attn. Mr B. Otis

Dear Mr. Otis:

**RE: PROPOSED FAST FOOD RESTAURANT
KINGSVILLE**

At your request, I have assessed the potential impact of traffic generated by a proposed fast food restaurant within your existing shopping centre at 410 Main Street East in Kingsville. I understand that you have requested an amendment to the zoning by-law to permit the construction of this facility in addition to existing development.

Figure 1 shows existing peak hour traffic volumes entering and leaving the shopping centre. The turning movement volumes shown in Figure 1 are based on traffic counts made on June 10 and 11, 2016.

Table 1 shows estimated peak hour vehicle trip generation for the proposed restaurant. The trip generations are based on rates contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual for Land Use 934, Fast Food Restaurant with Drive-through Window. I have reduced the traffic volumes calculated from the appropriate rates by 15 percent to account for the fact that a number of restaurant patrons would also be customers of other stores on the shopping centre.

I divided the net vehicle trip estimates between pass-by trips, those which are already in the traffic flow on Main Street, and destined trips, those with the restaurant as a specific destination. Based on data contained in the ITE Manual, a pass-by trip rate of 50 percent was assumed. Pass-by trips were assigned in proportion to directional traffic volumes on Main Street. 70 percent of the destined trips were assigned to and from the west.



Figure 2 shows the assignment of peak hour trips generated by the proposed restaurant. Figure 3 shows estimated peak hour turning volumes obtained by adding site generated trips from Figure 2 to existing traffic from Figure 1.

The concept plan for the shopping centre includes a Phase 3 addition of 29 900sf of commercial retail space. There are no specific plans at this time for implementation of this phase of development. However, in order to account for this addition, an additional estimate was made for vehicle trip generation at full build-out.

Figure 4 shows peak hour turning movement volumes based on completion of Phase 3 of the shopping centre. These projections were developed in 2016 for a proposed residential/commercial development to the west of the shopping centre and include vehicle trips generated by this development. Figure 5 shows projected total volumes with the trip generations from the restaurant (Figure 2) added to projected peak hour volumes from Figure 4.

Peak hour turning movements from Figures 1, 3 and 5 were analyzed for volume to capacity (v/c) ratios, delays and level of service using the Synchro 6 analysis program. The results of these analyses are summarized in Table 2. The existing configuration and signal control at the intersection of Main Street and the shopping centre access were assumed for the analyses.

In all cases, the intersection will continue to operate at a good level of service. Intersection utilizations will not exceed 80 percent while levels of service for each movement would be no worse than level C. Volume to capacity ratios are generally low, with the exception of the westbound through movement on Main Street. Adjustments to signal phasing as required would ensure efficient operation of this movement.

In summary, the addition of a 4 400sf fast food restaurant can be accommodated on site with no significant increase in impact on the operation of the signalized intersection of Main Street and the site access, either on the basis of existing development or under a projected full build-out scenario.

Very truly yours
F. R. Berry & Associates

Frank R. Berry, P.Eng.
Principal



cc. D. Petretta



ITE Land Use	AM Peak Hour				PM Peak Hour				Sat. Peak Hour			
	Ave. Rate	total	in	out	Ave. Rate	total	in	out	Ave. Rate	total	in	out
934 Fast Food Restaurant with Drive-thru 4 400sf	49.35	217	111	108	33.84	149	77	72	59.39	261	133	128
Adjustment for internal capture 85%		184	94	90	126	86	61			222	113	109
Pass-by trips 50%		92	46	46	63	32	32			111	56	55
Destined trips		92	48	44	63	33	30			111	57	54

Table 1

Vehicle Trip Generation

	AM Peak Hour				PM Peak Hour				Sat. Peak Hour			
	v/c	Del.	LofS	Q	v/c	Del.	LofS	Q	v/c	Del.	LofS	Q
Existing, June 10, 2016												
Eastbound L	0.10	7.9	A	4.8	0.41	9.0	A	12.1	0.40	9.4	A	14.9
Eastbound TR	0.75	12.2	B	59.9	0.64	10.3	B	61.0	0.72	11.9	B	66.5
Westbound L	0.01	10	A	1.1	0.00	8.0	A	0.7	0.00	0.0	-	0.0
Westbound T	0.53	13.1	B	49.1	0.75	16.4	B	90.0	0.66	15.4	B	63.3
Westbound R	0.01	6.7	A	1.8	0.13	3.8	A	6.5	0.13	3.2	A	5.8
Northbound LTR	0.00	0.0	-	0.0	0.02	19.6	B	3.9	0.02	17.2	B	2.4
Southbound L	0.02	14.0	B	3.7	0.10	21.8	C	12.6	0.10	17.3	B	11.4
Southbound TR	0.03	0.1	A	0.0	0.30	1.2	A	0.0	0.28	0.9	A	0.0
Intersection ICU	42.0%				61.6%				60.1%			
LofS	B				B				B			
Total 2018												
Eastbound L	0.23	7.8	A	10.7	0.52	11.2	B	16.1	0.54	12.3	B	22.5
Eastbound TR	0.66	11.2	B	57.6	0.61	9.8	A	61.1	0.63	10.7	B	61.0
Westbound L	0.01	10.0	A	1.2	0.00	8.0	A	0.7	0.00	0.0	-	0.0
Westbound T	0.61	15.0	B	49.8	0.80	17.3	B	98.2	0.70	15.8	B	63.9
Westbound R	0.08	4.1	A	4.5	0.16	2.3	A	6.2	0.20	2.7	A	7.3
Northbound L	0.00	0.0	-	0.0	0.02	23.0	C	3.0	0.02	17.8	B	2.6
Northbound TR	0.00	0.0	-	0.0	0.30	19.0	B	2.7	0.00	0.0	-	0.0
Southbound L	0.11	15.2	B	12.3	0.30	23.5	C	19.6	0.22	18.8	B	22.0
Southbound TR	0.09	0.2	A	0.0	0.30	1.6	A	0.0	0.38	1.4	A	0.0
Intersection ICU	55.3%				70.1%				67.5%			
LofS	B				B				B			
Total 2022												
Eastbound L	0.31	8.2	A	12.8	0.65	16.9	B	18.9	0.67	16.3	B	24.8
Eastbound TR	0.73	12.0	B	71.6	0.64	10.5	B	79.3	0.70	11.6	B	77.8
Westbound L	0.02	0.0	A	1.9	0.00	7.0	A	0.7	0.00	0.0	-	0.0
Westbound T	0.65	9.4	B	58.6	0.87	21.7	C	133.3	0.75	16.5	B	79.5
Westbound R	0.13	15.1	A	5.9	0.16	2.1	A	6.6	0.20	2.4	A	7.1
Northbound L	0.00	3.1	-	0.0	0.03	24.8	C	\$3.5	0.04	21.0	C	3.3
Northbound TR	0.00	0.0	-	0.0	0.03	19.0	B	4.6	0.16	0.5	A	0.0
Southbound L	0.17	17.6	B	17.9	0.21	26.4	C	20.5	0.26	22.3	C	24.8
Southbound TR	0.12	0.3	A	0.0	0.46	4.7	A	12.0	0.46	3.3	A	7.4
Intersection ICU	60.1%				79.5%				76.4%			
LofS	B				B				B			

Note: Del. - ave. delay (secs.)

LofS - level of service

v/c - volume to capacity ratio

ICU - intersection capacity utilization

Q - maximum queue length (metres)

(95th percentile)

Table 2

Level of Service

Main Street and

Shopping Centre Access

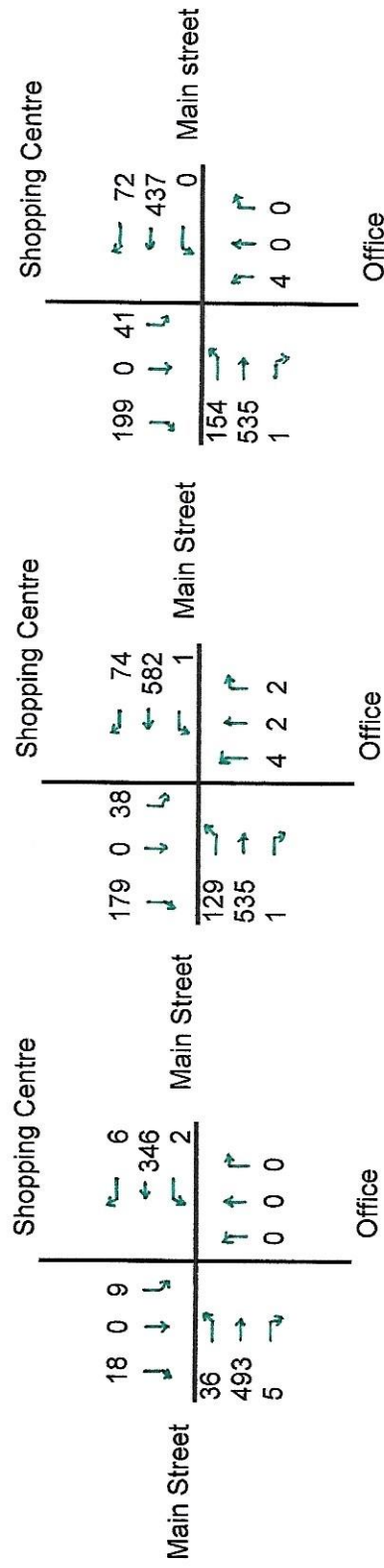
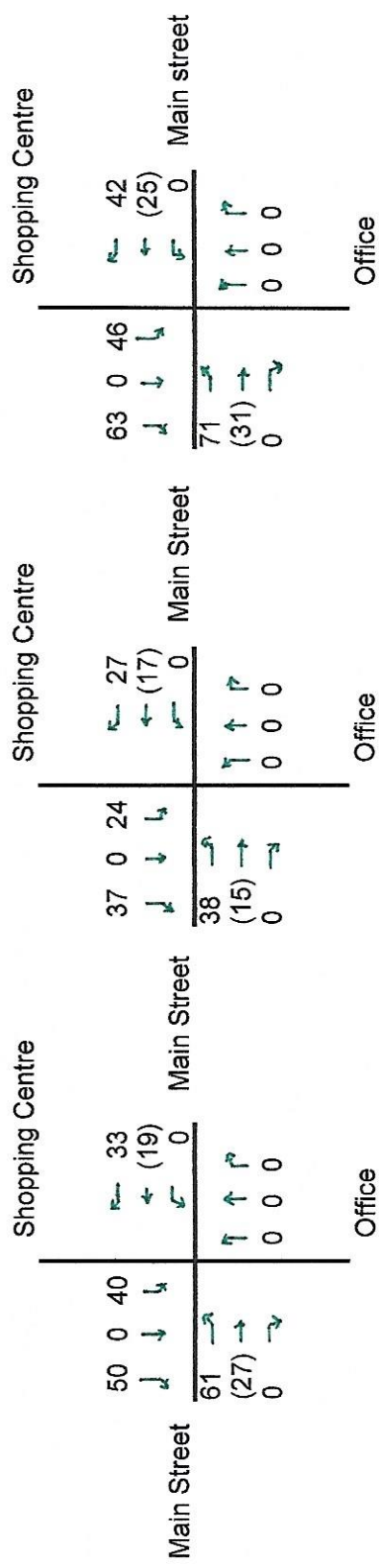
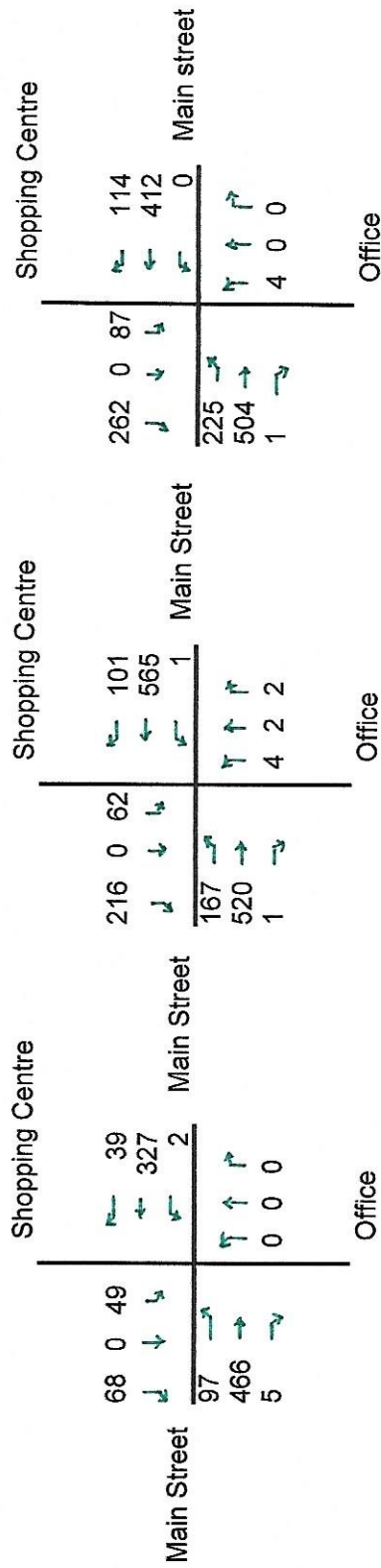


Figure 1
Existing Traffic
 June 10/11, 2016



Note: (27) - adjustment for pass-by traffic

Figure 2
Restaurant Generated Traffic



AM Peak Hour **PM Peak Hour** **Sat. Peak Hour**

Figure 3
Total Traffic 2018

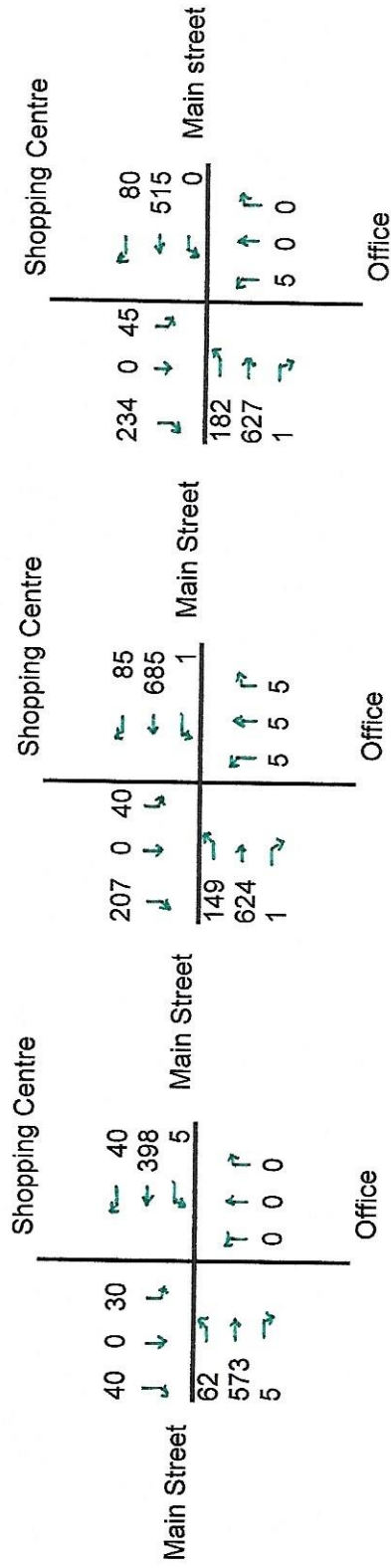
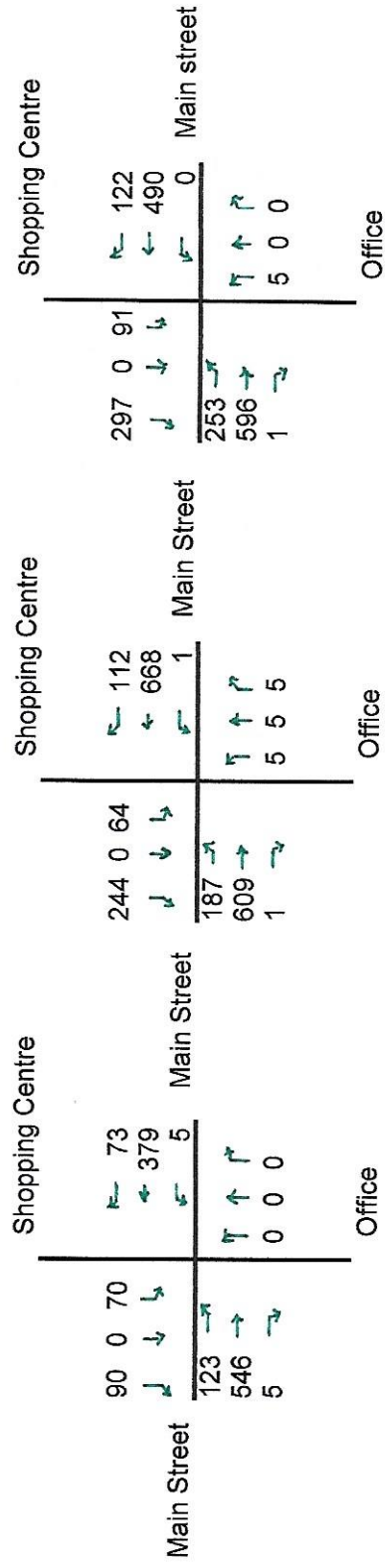


Figure 4

Projected Background Traffic 2022

Source: Proposed Mixed Use Development
 342 Main Street East, Kingsville
 F.R.Berry & Associates, August, 2016



AM Peak Hour PM Peak Hour Sat. Peak Hour

Figure 5
Total Traffic 2022