

APPENDIX F

Proxy Site Data for Trip Generation

Saturday May 28, 2016

Le Jardin	SBR	NBL	EBL	EBR	SUM
16:00:00	0	0	0	0	0
16:15:00	2	3	1	2	8
16:30:00	4	8	2	6	20
16:45:00	7	20	2	3	32
17:00:00	9	35	3	3	50
17:15:00	9	24	4	2	39
17:30:00	3	9	2	4	18
17:45:00	5	9	1	5	20
18:00:00	2	23	1	3	29
18:15:00	6	17	0	1	24
18:30:00	9	28	1	6	44
18:45:00	9	18	1	2	30
19:00:00	7	12	2	3	24
19:00:24	0	0	0	0	0
	0	0	0	0	0
19:30:00	0	2	0	0	2
19:45:00	5	6	2	2	15
20:00:00	2	4	1	1	8
20:15:00	0	7	0	3	10
20:30:00	1	3	1	2	7
20:45:00	1	2	1	3	7
21:00:00	1	4	3	2	10
21:15:00	2	0	2	3	7
21:30:00	4	3	0	6	13
21:45:00	1	0	2	5	8
22:00:00	2	1	4	9	16
22:15:00	0	0	0	0	0
22:15:13	0	0	0	0	0

Thursday March 1, 2018

Le Jardin	IN	OUT	Total
8:15-9:15	40	6	46
15:30-16:30	32	51	83

Friday Aug 22, 2014

Mississauga Convention Centre	SBL	NBR	WBL	WBR	SUM
6:45:00	0	0	0	0	0
7:00:00	0	1	0	0	1
7:15:00	0	0	0	0	0
7:30:00	0	0	0	0	0
7:45:00	0	0	0	0	0
8:00:00	0	0	0	0	0
8:15:00	1	0	0	0	1
8:30:00	0	1	0	1	2
8:45:00	0	1	0	1	2
9:00:00	1	5	2	0	8
9:15:00	0	13	0	0	13
9:30:00	0	4	2	0	6
9:45:00	0	0	0	0	0
10:00:00	0	3	2	0	5
					0
16:00:00	0	1	0	0	1
16:15:00	0	0	0	0	0
16:30:00	0	2	1	0	3
16:45:00	0	1	7	0	8
17:00:00	0	3	4	0	7
17:15:00	0	0	3	1	4
17:30:00	0	1	1	0	2
17:45:00	0	3	1	0	4
18:00:00	0	2	1	0	3
18:15:00	0	1	1	0	2
18:30:00	0	1	1	0	2
18:45:00	0	2	3	0	5
19:00:00	0	6	5	1	12
19:15:00	0	0	0	0	0

TECHNICAL MEMO

DATE June 22, 2016
RE Surrogate Site Study- Banquet Halls

FILE NO. 1020-3989

TO Mr. Niaz Muhammad
COMPANY FROM City of Vaughan
Alexander Fleming, CF Crozier & Associates

CC Kevin Bechard, Weston
Consulting
Selma Hubjer, City of Vaughan

The following technical memo has been undertaken to summarize the results of four surrogate site studies of Banquet Halls located within the City of Vaughan and surrounding area. The analysis was undertaken to confirm an appropriate trip generation rate for Banquet Halls in the Vaughan area and determine if there is a requirement for a left-turn lane at the proposed Banquet Hall on Huntington Road.

The 8934 Huntington Road Traffic Impact Study (TIS) (Crozier, July 2015) was previously undertaken using a very conservative approach to outline the negligible impacts on the overall boundary road network surrounding the subject site. This analysis confirmed that the proposed development would not impact the existing intersections even under very conservative trip generation assumptions. However, the trip generation volumes used in the TIS are not realistic for use in determining the requirement for a left-turn lane. This memo has been undertaken to provide a compilation of results of other surrogate site studies in combination with engineering judgement to confirm a recommendation on a trip generation rate for a new Banquet Hall, for use in determining the entrance configuration at the site.

This analysis was undertaken pursuant to the following documentation and supersedes the previous surrogate site memos.

- 8934 Huntington Road Traffic Impact Study (Crozier, July 2015);
- TIS Comment Response Letter (Crozier, December 7, 2015), and;
- 8934 Huntington Road Parking Utilization Study (Crozier, January 2016).

In consultation with the City of Vaughan, the analysis undertaken herein was completed using the existing two lane and future four lane configurations of Huntington Road at the site access. This analysis represents both the existing conditions and ultimate design conditions as the building of the Banquet Hall will be complete prior to the proposed upgrades to Huntington Road resulting from the ongoing EA.

Per direction from the City of Vaughan, surrogate site data from two similar Banquet Hall sites located within the City of Vaughan, as well as an additional location in the GTA have been utilized to determine a rate of trips generated by Banquet Hall developments.

Surrogate Site Data – City of Vaughan Banquet Halls

Three surrogate sites were used for comparative analysis as detailed below. Surrogate site trip generation rates are provided in Table 2 on Page 4.

Montecassino Woodbridge Event and Banquet Centre

The Montecassino Banquet Centre offers a total assembly area of 20,505 square feet. Montecassino staff was contacted to determine when the facility would be in use, and staff did advise that a maximum capacity event in the form of a 500-person wedding was planned at the facility on Saturday July 11, 2015.

Parking data was taken from 1:00 p.m. to 11:00 p.m. at the 140 Jevlan Drive Montecassino location as well as the neighboring parking areas at 8099 Weston Road to capture overflow parking undertaken as part of a separate study. The data was originally undertaken as a surrogate site in support of the 8934 Huntington Road Parking Utilization Study (Crozier, January 2016).

From this parking data the peak increase or decrease of total parked cars at the 140 Jevlan Drive and 8099 Weston Road parking areas can be calculated and therefore the number of generated trips can be estimated. It is acknowledged that parking data can only indicate a net-change in vehicles present and as a result the directional distribution of trips is not known. Although the available data has not captured outbound trips from the Montecassino site during the peak hour, it can be reasonably assumed that the directional distribution will follow that of the Chateau Le Jardin surrogate site data and as such an outbound trip volume will be added to the total based on this distribution. Further to this, it is noted that the data also accounts for the various retail and restaurant uses external to the Banquet Hall located at 8099 Weston Road.

The peak hour for Montecassino Woodbridge Event and Banquet Centre trip generation was found to be 5:30 p.m. to 6:30 p.m. Parking counts have been included as an attachment to this memo.

It is noted that these results are conservative as they include all trips into the site which also includes the adjacent commercial plaza. To be conservative all trips were assumed to go to the Banquet Hall.

Chateau Le Jardin Event Venue

Traffic counts were undertaken at the Chateau Le Jardin Event Venue located at 8440 Highway 27 in the City of Vaughan. The Event Venue offers a total assembly area of 36,800 square feet. The Chateau Le Jardin was contacted to determine when the facility would be in use, and staff did advise that an event of undisclosed nature was planned for the evening of Saturday, May 28 2016. Forecasted attendance was estimated to be greater than 1000 persons. Accordingly, turning movement counts were undertaken at the single site entrance from 4:00 p.m. to 10:00 p.m. at the venue.

The peak hour for Chateau Le Jardin Event Venue trip generation was found to be 4:15 p.m. to 5:15 p.m. Traffic movement counts have been included as an attachment to this memo.

Mississauga Convention Centre

Traffic data was available from the Mississauga Convention Centre that was collected in August 2014. The convention centre offers a total assembly area of 25,500 square feet. The Mississauga Convention Centre was contacted to determine when the facility would be in use. Though the exact nature of a booking could not be divulged for privacy reasons, staff did advise that events were planned at the facility August 22 and August 23, 2014. Accordingly, turning movement counts at the single facility driveway were undertaken during the peak commuter periods. As the GFA of the Mississauga Convention Centre is slightly greater than that proposed at the subject site, the trips generation recorded was applied to the subject site without any adjustment.

Turning movement counts at the only access to the Mississauga Convention Centre located at 75 Derry Road West in the City of Mississauga were undertaken by Ontario Traffic Inc. staff from 7:00 a.m. to 10:00 a.m. and 4:00 p.m. to 7:00 p.m. on Friday August 22, 2014 and from 11:00a.m. to 3:00 p.m. on Saturday August 23, 2014.

The peak hour Banquet Hall trip generation was found to be 8:15 a.m. to 9:15 a.m. on Friday and 2:00 p.m. to 3:00 p.m. on Saturday. Traffic counts have been included as an attachment to this memo.

Using the surrogate site data, the peak hour trip generation volumes were calculated. The total volume of trips entering and exiting the site were quantified and are summarized in Table 1.

Table 1: Surrogate Site Trip Generation: Peak Hour of the Generator

	Inbound	Outbound	Total
Friday	25	4	29
Saturday	28	16	44

The trips summarized in Table 1 outline the peak hour of trip generation for the surrogate site.

Site Generated Traffic- Proposed Huntington Road Banquet Hall

The trip generation rates for a Saturday event at each of the surrogate sites were determined on a GFA basis. Using the surrogate site rates, the peak hour trip generation volumes for the proposed development were calculated. The total volume of trips forecast to enter and exit the site were quantified and are summarized in Table 2.

Table 2: Surrogate Site Trip Generation Summary- Saturday: Peak Hour of Generator

	Inbound	Outbound	Total	Rate (Trips/1000ft ²)
Montecassino (140 Jevlan Drive and 8099 Weston Road)	103	26*	129	6.3
Chateau Le Jardin (8440 Highway 27)	110	25	135	3.5
Mississauga Convention Centre (75 Derry Road West)	28	16	44	2.1
Original TIS	350	0	350	16.5

*Outbound trips for Montecassino added based on 20% outbound directional distribution captured in the Chateau Le Jardin surrogate turning movement counts.

The trips summarized in Table 2 indicate the peak hour of trip generation recorded in the surrogate site studies.

A peak trip generation rate of 6.3 trips per 1000 square feet was calculated based on the interpolated parking data at the Montecassino site. A peak trip generation rate of 3.5 trips per 1000 square feet was calculated from the traffic movement counts data at the Chateau Le Jardin site. A peak trip generation rate of 2.1 trips per 1000 square feet was calculated from the turning movement counts data at the Mississauga Convention Centre site. To be conservative, the following analysis was completed using the highest observed rate. These trip generation rates are all below the conservative results of the TIS as anticipated.

The original TIS assumed trip generation based on capacity. The 350 expected trips (0.5 trips per person capacity) equates to a rate of 16.5 trips per 1000 square feet, which is significantly higher than the observed trip generation rates at the surrogate sites. As noted in the TIS, the analysis was undertaken in a very conservative fashion to illustrate the negligible impacts of the development on the overall road network.

All surrogate site studies were undertaken during Saturday events as each venue confirmed that the largest scale events were held on Saturdays. Per information provided by the client, Friday events are expected to generate 50 to 75 percent of the trips generated on a Saturday. This is further supported by the Friday volumes observed at the Mississauga Convention Centre which are noted to be 66 percent of the Saturday volumes observed at the same location.

TRAFFIC IMPACT STUDY

**CHATEAU LE JARDIN EXPANSION
8440 YORK REGIONAL ROAD 27
CITY OF VAUGHAN**

**PREPARED FOR:
LONG VALLEY HOSPITALITY INC.**

**PREPARED BY:
C.F. CROZIER & ASSOCIATES INC.
2800 HIGH POINT DRIVE, SUITE 100
MILTON, ON L9T 6P4**

**ORIGINAL: APRIL 2018
UPDATED: SEPTEMBER 2020**

CFCA FILE NO. 680-4711

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The intersection of Highway 27 and Site Access is projected to operate at a LOS "C" or better for all movements during all peak hours (except eastbound left). The eastbound left turn movement is the only movement that is projected to operate at a worst-case scenario LOS "F" during the a.m. peak hour. This is an existing situation and is as a result of the same reason explained under the 2018 existing operations. The issue is expected to be eliminated upon implementation of the development expansion at the site, as the outbound trips at the existing access will ultimately be restricted to a right-out only.

It should be noted that the analysis of the 2024 future background conditions did not account for the future extension of Highway 427. The future extension is expected to result in traffic reductions on the Highway 27 corridor, thus improving traffic operations at the study intersections. As such, the results outlined in **Table 7** can be considered conservative.

5.0 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that previously did not exist. The proposed development will also result in additional turning movements at the boundary road intersections as discussed in the rest of this section.

5.1 Multimodal Trip Generation

Consideration was given to the transit, pedestrian and bicycle trip generation for the proposed site expansion. 2016 Transportation Tomorrow Survey (TTS) data was used to determine the existing modal split. The results were filtered to trips entering the 2006 GTA Zones in the study area (2005, 2008, 2023 and 2028). Results were filtered to trips entering the aforementioned zones during the weekday a.m. peak hour (between 6:00a.m.–9:00a.m.) The results indicate a modal split of 94 percent auto trips, and 6 percent non-auto trips (includes all transit types, walking, biking and school buses) going to their place of work in the weekday a.m. peak hour.

Active transportation and transit are expected to consist a portion of the trips generated by this site, however, all the trips from this site were attributed to auto vehicle trips due to the low modal split for non-auto trips within the zone in which the subject property is located.

5.2 Trip Generation

The proposed development will result in additional vehicles on the boundary road network that previously did not exist. The proposed development will also result in additional turning movements at the boundary road intersections.

A combination of the existing site data (for the banquet hall) and the Institute of Transportation Engineers (ITE) Trip Generation Manual 9th Edition data was used to establish the trips generated by the proposed site expansion upon full buildout.

5.2.1 Existing Site Trip Rates

Turning movement counts at the only existing site access to the subject property were undertaken by Spectrum Traffic Data Inc. from 7:00 a.m. to 10:00 a.m. (Weekday a.m. peak period), and from 3:00 p.m. to 7:00 p.m. (Weekday p.m. peak period) on Thursday, March 1, 2018; and between 11:00 a.m. to 1:45 p.m. on Saturday, March 3, 2018.

The trip generation rates for the weekday a.m., weekday p.m. and Saturday peak hours at the surrogate site and existing conference centre were determined based on the ratio of the maximum trips per peak period to the Gross Floor Area (GFA).

Table 8: Site Trips Summary

Site	GFA (ft²)	Peak Hour	Inbound	Outbound	Total Trips
Existing Conference Centre (8440 Highway 27)	52,259 ft² (4,855 m²)	AM	16 (88%)	2 (12%)	18
		PM	28 (62%)	17 (38%)	45
		SAT	12 (46%)	14 (54%)	26

The inbound and outbound trip distribution for the banquet hall was based on the existing distribution of inbound and outbound trips per the traffic counts undertaken at the existing conference centre as presented in the **Table 8**.

5.2.2 ITE Trip Rates

Site generated traffic for the proposed development was calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. Land Use Category (LUC) 310 "Hotel", LUC - 931 "Quality Restaurant", LUC - 710 "General Office" and LUC - 918 "Hair Salon" assumed for the Spa were used to generate trips for the proposed mixed-use development expansion.

The ITE Trip Generation Manual defines LUC - 310 "Hotel" as, "...places of lodging that provide sleeping accommodations and supporting facilities such as restaurants; cocktail lounges; meeting and banquet rooms or convention facilities...". As such, it is expected that internal trip synergy would occur on the site between the proposed hotel and the supplementary land uses. However, for the purposes of conservative analysis, no internal synergy reductions were applied.

The trips for the existing convention centre was based on the trip rates established by the existing convention centre. The site generated trips are illustrated in **Table 9**.

5.2.3 Summary

Table 9 provides a summary of the trips generated by the proposed development expansion based on the existing site data and ITE data for the proposed hotel addition to the site at 8440 Highway 27.

It is noted that there are slight changes between current site plan proposal and the previous site plan used for the original TIS. The changes in the new site plan are listed below.

- The restaurant of 421.0 square metres GFA has been removed.
- The office space has increased from 1,391.5 to 2,329 square metres GFA.
- The spa is now 613 square metres GFA.

The first submission trip generation and operational analyses based on the previous site plan has however been maintained in this updated report as the site plan changes are not significant. Moreover, the changes will result in a reduction of the trips generated by the site, consequently, traffic operations may be slightly better than presented in this report.

TRANSPORTATION IMPACT STUDY

**1235 3RD AVENUE EAST
CITY OF OWEN SOUND**

**PREPARED FOR:
F.C. ENTERTAINMENT & HOSPITALITY INC.**

**PREPARED BY:
C.F. CROZIER & ASSOCIATES INC.
1 FIRST STREET, SUITE 200
COLLINGWOOD, ONTARIO
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1ST SUBMISSION: MAY 2023

CFCA FILE NO. 1733-6596

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5.0 Site Generated Traffic

5.1 Trip Generation

The re-use of the site will result in additional vehicles on the boundary road network that previously did not exist. The trip generation was forecasted using the fitted curve equations provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, where applicable. Per the Site Plan, the re-use is proposed to consist of event venues, a speakeasy, a restaurant, and office space. As previously stated, the Friday p.m. and Saturday peak hours were assessed given the nature of the proposed land uses.

The event venue land use does not conform to a specific Land Use Category (LUC) described in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Traffic data collected at event venues in the GTA with larger gross floor areas (GFA) than the proposed event venues were reviewed to assess anticipated weekday p.m. and Saturday peak hour trips. A first principles approach was also employed based on the planned venue capacity. An average vehicle occupancy rate of two-persons per vehicle was applied to the maximum venue occupancies of 242 in the exterior pavilion and 116 in the courtroom.

The first principles approach resulted in a higher trip generation. It is expected that event guests will arrive to and depart from the site outside of the typical roadway peak hours. Nevertheless, the first principles resulting peak trip generation of the event venue component was applied to the peak hours of the roadway to provide a conservative assessment. It was assumed that 25% of the inbound trips would also be outbound to account for drop-offs at the site. During the event it is assumed that departures would occur sporadically throughout the evening. **Table 6** summarizes the two different trip generation methodologies. **Appendix G** contains the proxy sites traffic data and peak hour calculation, and **Appendix H** contains the maximum capacity seating plans for the event venues.

Table 6: Proxy Sites vs First Principles Approach

Proxy Sites	Weekday P.M. Peak	Saturday Peak	First Principles Approach based on capacity (Max. occupancy/2)	179
Chateau Le Jardin Convention Centre	17 trips (March 2018)	13 trips (May 2016)		
Mississauga Convention Centre	12 trips (August 2014)	-		

In addition, LUC 975 "Drinking Place", LUC 931 "Fine Dining Restaurant", and LUC 712 "Small Office Building" were used to forecast trips generated by the associated uses. It was assumed that the office space would not generate any trips in the Saturday peak hour and that the speakeasy would have the same trips in the Saturday peak as the weekday p.m. peak hour.

The forecasted trip generation of the site is summarized in **Table 7** and ITE excerpts have been included as **Appendix I**.

Table 7: Site Trip Generation

Land Use	Peak Hour	Number of Trips		
		Inbound	Outbound	Total
Event Venues (358 maximum capacity)	Friday P.M.	179	45	224
	Saturday	179	45	224
LUC 975 "Drinking Place" (5,823 ft ²)	Friday P.M.	44	22	66
	Saturday	44	22	66
LUC 931 "Fine Dining Restaurant" (6,178 ft ²)	Friday P.M.	32	16	48
	Saturday	39	27	66
LUC 712 "Small Office Building" (3,423 ft ²)	Friday P.M.	3	4	7
	Saturday	0	0	0
Total	Friday P.M.	258	87	345
	Saturday	262	94	356

5.2 Trip Distribution and Assignment

The trips generated by the site were distributed to the boundary road network based on the anticipated origin of visitors. The office space is expected to generate trips from local residential areas. Trips to the commercial destination uses would also originate from residential areas, but it is anticipated that more visitors external from Owen Sound would be expected, compared to the office use. However, similar distributions are expected on the boundary road network within the Study Area.

Limited parking is available at the rear of the building via 4th Avenue East while drop-off and pick-up at the front doors of the building are accessible via 3rd Avenue East. It was forecasted that 30% of visitors will access the parking on 4th Avenue, though it is acknowledged that some may exist and need to park elsewhere during the peak hour. The remaining 70% of visitors were assigned to 3rd Avenue East and are expected to disburse to other parking locations during the peak hour.

The following distribution was applied for both the Friday p.m. and the Saturday peak hours:

- 10% to/from the north
 - 7% via 3rd Avenue East
 - 3% via 4th Avenue East
- 20% to/from the south
 - 14% via 3rd Avenue East
 - 6% via 4th Avenue East
- 35% to/from the west on Highway 6
 - 25% via 3rd Avenue East
 - 10% via 4th Avenue East
- 35% to/from the east on Highway 6
 - 24% via 3rd Avenue East
 - 11% via 4th Avenue East

The combined trip distribution is illustrated in **Figure 6**. The event venue trip assignment is illustrated **Figure 7**. The restaurant and speakeasy trip assignments are illustrated in **Figure 8** and **Figure 9**, respectively. The office trip assign is illustrated in **Figure 10**.