TRAFFIC IMPACT STUDY
SEBRIGHT QUARRY

CITY OF KAWARTHA LAKES

CONSULTING ENGINEERS AND PLANNERS

Skelton Brumwell & Associates Inc.

Revised April 19, 2011

TRAFFIC IMPACT STUDY
SEBRIGHT QUARRY

CITY OF KAWARTHA LAKES

P/N 05-2019

March 20, 2008

Revised April 19, 2011

Prepared by: Skelton, Brumwell & Associates Inc.
93 Bell Farm Road, Suite 107
Barrie, Ontario
L4M 5G1

Telephone: (705) 726-1141
FAX: (705) 726-0331
E-mail: mail@skeltonbrumwell.ca
Website : www.skeltonbrumwell.ca

Prepared for: Giofam Investments Ltd.

TABLE OF CONTENTS

TRAFFIC IMPACT STUDY
SEBRIGHT QUARRY
CITY OF KAWARTHA LAKES

P/N 05-2019 Revised April 19, 2011

1.0 INTRODUCTION

This report was prepared in support of applications for the amendments to both the Official Plan of the City of Kawartha Lakes and Zoning By-law of the former Township of Dalton, and for a licence under the Aggregate Resources Act to permit a new quarry. The applications were submitted in October 2008. Through the circulation and notification of the applications under the ARA and the Planning Act a number of comments and objections were received from the public and agencies which resulted in changes to the Site Plan for the proposed quarry. This Report has been revised to include updated traffic information and additional information to address comments and objections related to traffic and the haul route.

The quarry will be located in the Part of Lots 18 through 21, Concessions 4 and 5, geographic Township of Dalton, City of Kawartha Lakes. The area to be licenced is approximately 84 ha and the area to be extracted is approximately 23.2 ha. The annual maximum production will be 200,000 tonnes primarily of specialty aggregate product for use in asphalt for high speed highways.

This study is intended to address policies of the City of Kawartha Lakes and the County of Simcoe by identifying and assessing the potential impacts of the increase in traffic.

2.0 CONTEXT

As shown on Figure 1 – Location, the licenced boundary of the quarry will be approximately 700 metres north of City of Kawartha Lakes Road 45, known as Monck Road. Traffic to and from the quarry will travel along an access road across the unopened road allowance between Concessions 3 and 4 and through other lands owned by the applicant. The haul road will intersect Monck Road approximately 1.1 kilometres east of Dalrymple Road. Traffic will travel west along Monck Road and Simcoe County Road 45 to Simcoe County Road 169, then south to Highway 12. Traffic will primarily travel south on Highway 12 to markets in the GTA, however the material may be required on highway projects elsewhere in the province.

3.0 COMMENTS, OBJECTIONS AND RESPONSE

3.1 Ministry of Transportation

The Ministry of Transportation (MTO) commented on the planning applications to the City of Kawartha Lakes on December 10, 2008 indicating that "MTO Central Region Corridor Management has no concerns with this proposed quarry, including potential highway impacts".

3.2 City of Kawartha Lakes

The City of Kawartha Lakes Operations Division provided the following comments on the original applications which were included in Report DEV 2009-020 presented at the Public Meeting on March 11, 2009.

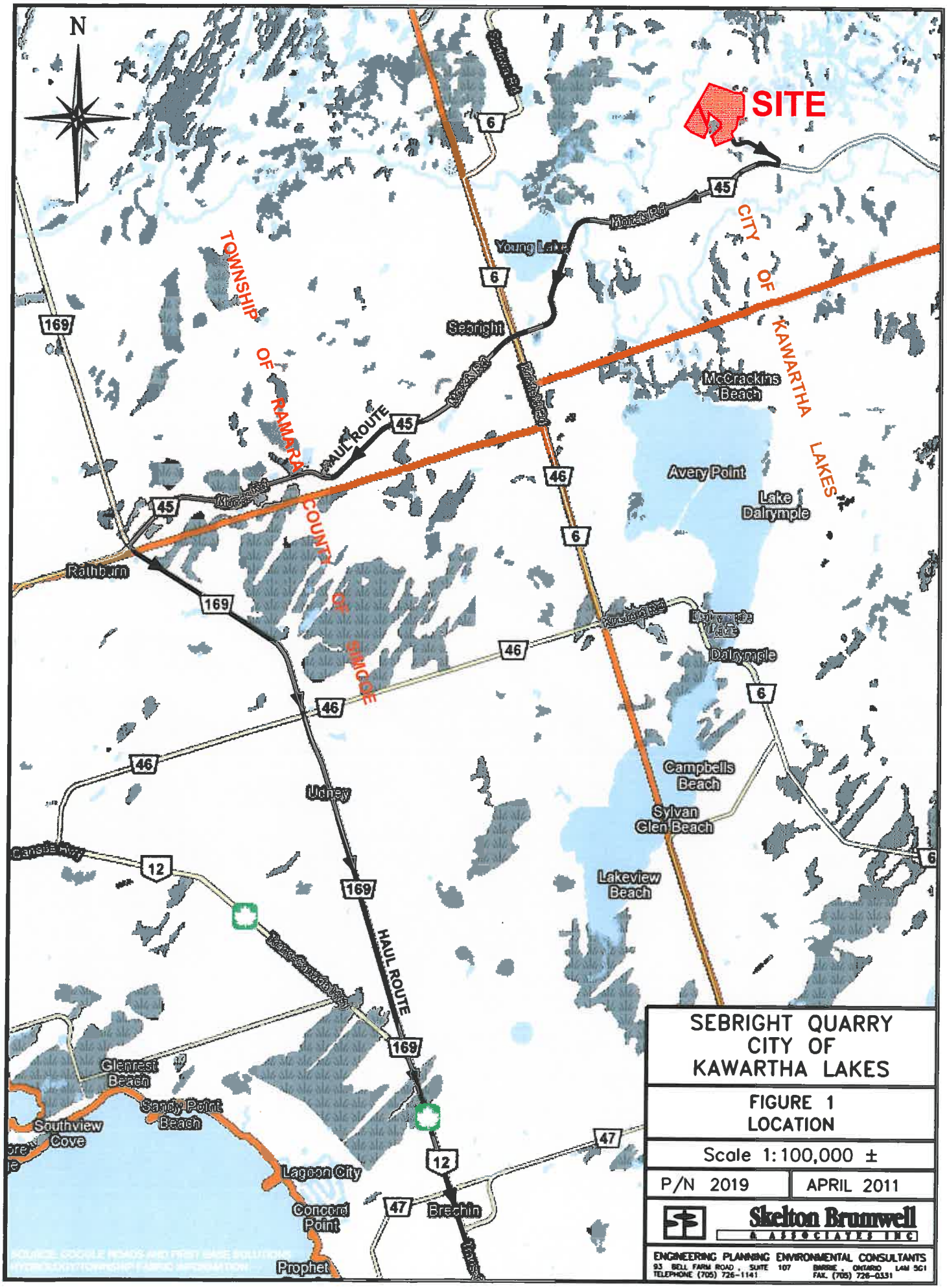
1. "The proposed entrance from the quarry should be moved to east end of the development as shown on Appendix "F". This length of CKL Road 45 is straight and flat, while the proposed entrance is a poor location due the steeper grade and the existing curve to the east and west.

2. The report prepared by Skelton, Brumwell & Associates states that the site will generate 5,703 trips in and 5,703 trip out, with 75% of those between June and November. These numbers translate into a trip every 6 minutes based on operation 20 days/month of operation and with operating hours between 7:00 am. And 3:00 pm.

3. The applicant shall construct an acceleration lane for west-bound traffic leaving the quarry, west of the CKL approved entrance.

4. The applicant shall construct a left turn land for east-bound traffic turning into the quarry, west of the CKL approved entrance.

5. The 2 km section east of Sebright has only 50 mm of asphalt. The applicant shall increase the depth of asphalt for this section to 100 mm before the quarry becomes operational.



SEBRIGHT QUARRY
CITY OF KAWARTHA LAKES

FIGURE 1
LOCATION

Scale 1:100,000 ±

P/N 2019 | APRIL 2011

Skelton Brumwell & Associates Inc.
ENGINEERING PLANNING ENVIRONMENTAL CONSULTANTS
93 BELL FARM ROAD, SUITE 107, BARRIE, ONTARIO L4M 5G1
TELEPHONE (705) 726-1141 FAX. (705) 726-0331

6. The applicant shall enter into a Haul Rout Agreement with the CKL, at no cost to the City.

7. The surface treatment on CKL Road #6 cannot sustain the weight and volume of quarry related traffic. The Haul Route shall consist of CKL Road #45 west of the approved entrance, to Highways #169 and #12.

Giofam met with City of Kawartha Lakes staff July 28, 2009 to discuss the comments, and as a result, agreed to relocate the entrance and provide for the additional lanes at the entrance through an agreement with the Municipality. Staff indicated that the additional pavement depth on the 2.0 kilometre section east of Sebright was to be addressed through stimulus funding from senior levels of government, and therefore would not be required of the applicant.

3.3 County of Simcoe

The Township of Ramara, and the County of Simcoe provided comments on the Planning Act Applications related to the use of County Road 45 as the haul route for the quarry. The County of Simcoe also submitted a letter of objection to the applicant and the MNR.

In correspondence to the City of Kawartha Lakes dated March 10, 2009, the Committee of Council of the Township of Ramara states that "Concession B-C in the designated haul route in the Township Official Plan and not Monck Road". The letter requests "a meeting with the City of Kawartha Lakes and the County of Simcoe to discuss any proposed haul route to the west from this proposed quarry, any possible funding that may be available from the senior levels of government and cost sharing an environmental assessment for a proposed haul route from Monck Road to County Road 169 along Concession B-C".

Transportation and Engineering staff of the County of Simcoe, in correspondence to the City of Kawartha Lakes dated March 9, 2009, requested "that the City require the applicant to enter into a legal agreement with the County for the shared maintenance of the haul route within the County's jurisdiction as a condition of Site Plan Control approval." A further comment from staff was submitted to the City of Kawartha Lakes dated May 12, 2009 which indicated that the County "supports the Township of Ramara in designating Concession Road B-C as a haul route for the ....Sebright Quarry and not Monck Road", and that "a legal agreement between all parties must be entered into for the shared maintenance of the haul route".

A letter of objection under the Aggregate Resources Act was filed by legal Counsel for the County on June 22, 2009 which stated that "The County of Simcoe objects to the granting of the license until it has an opportunity to review and comment on the proposed haul route, consider alternatives and enter into any necessary agreements for the improvement of and continuing maintenance of the agreed haul route".

Concession Road B-C, designated a haul route in the Township of Ramara, is gravel road open only from County Road 169 east for approximately 3.2 kilometres. The road is also travelled for approximately 0.7 kilometres west from County Road 46 at Sebright. Between these existing sections of road is approximately 4.5 kilometres of unopened road allowance that is entirely within lands designated "Greenlands" in the County of Simcoe Official Plan adopted November 25, 2008.

If the road was open from County Road 46 to County Road 169, trucks travelling from the proposed quarry would require west bound trucks to turn off of Monck Road onto County Road 46, go north for about 300 metres through the community of Sebright, then turn again onto Concession Road B-C. In addition, the intersection of Concession Road B-C and County Road 169 where trucks would be turning left is un-signalized. In contrast, trucks travelling Monck Road and continuing on County Road 45 would not be required to make additional turns, and would turn onto County Road 169 at an un-signalized intersection.

It is our opinion that the proposed haul route along existing arterial roads in the City of Kawartha Lakes and the County of Simcoe is the most direct, and the only feasible route for transportation of aggregates from the proposed quarry.

Skelton, Brumwell & Associates Inc. made an initial contact with the County Director of Transportation Engineering on November 3, 2009.

3.4 Public Comments

Many comments and objections from the public expressed concern relative to the use of Monck Road as a Haul Route due to public safety issues; dust, noise and emissions created by the trucks; and conflict with weekend tourist traffic. The location of the entrance was also a concern. In response to these comments, the entrance has been relocated, the hours of operation modified so

that no transportation of aggregate will occur after 3 pm on Fridays, or on Saturdays, Sundays and holidays. Individual responses have been provided to each of the objectors.

4.0 EVALUATION OF AVAILABLE STOPPING SIGHT DISTANCE

The speed limit on Monck Road is 80 km/h. Based on MTO guidelines, an 80 km/h road requires a minimum stopping sight distance (on wet pavement) of 135 metres. In this area, however, it is reasonable to apply a design speed of 100 km/hr, which is 20 km/hr higher than the posted limit. According to MTO Design Guidelines, the minimum sight stopping distance for a speed of 100 km/hr is 185 metres.

The stopping sight distance for traffic approaching the entrance at its new location are approximately 300 metres to the west and 500 metres to the east which exceed the MTO minimum stopping sight distance.

5.0 TRIP GENERATION

The expected traffic generation is based on the tonnage of material produced by the quarry annually, the number and capacity of trucks used to transport the material, the hours of operation for the quarry, and the months when peak production is expected to take place at the quarry. These calculations are shown in Appendix A. It is assumed for the purposes of this study that the quarry will be in full operation by 2012.

It is anticipated that the site will generate approximately 5,703 trips in and out for a total of 11,406 trips annually at the maximum licensed tonnage.

The site is expected to ship 75% of its production in the six months from June to November. At an average of 20 working days a month, there will be 71 trips per day.

The site will be in operation for 12 hours a day from Monday to Friday, and Saturday from 7:00am to 12:00am. However, in response to comments related to impacts on tourist traffic, the loading and transportation will be limited to 7:00 am to 7:00 pm Monday to Thursday and 7:00 am to 3:00 pm Friday, with no shipping Saturday, Sunday or holidays. It is assumed that 66.7% of shipping will occur within the peak hours from 7:00am to 3:00pm. This will mean 9 trips an

hour with approximately 6 minutes between each trip. The calculations can be found in Appendix A.

6.0 EXISTING BACKGROUND TRAFFIC CONDITIONS

6.1 Traffic Data

The City of Kawartha Lakes provided an Average Annual Daily Traffic (AADT) volume for County Road 45 (Monck Road) for 2004 and 2010. The road was formerly Provincial Highway 503, so historical AADT data was also obtained from the Province from Traffic Volume records. The AADT data for Monck Road is summarized in Table 1.

AADT data for Simcoe County Road 45 and County Road 169, formerly Provincial Highway 69, was obtained from Simcoe County and the Province. This is included in Appendix B and summarized in Table 1.

In addition, 24 hours, mid-week traffic counts for spring/summer or summer/fall from 2005 and 2008 for both roads were also obtained and are also included in Appendix B. The 24 hour counts confirm that traffic volumes are greatest in summer. For example, the average daily traffic for County Road 45 in 2008 was 2,511 vehicles in July and 1,912 in September.

The peak hours of travel shift from season to season. For example, peak hours during the spring and fall are generally around 7 am and mid to late afternoon, but in the July the peak hours is late morning and late afternoon/evening and the evening. This means that the peak hours of operation of the quarry from 7 am to 3 pm will generally coincide with the peak hours on the road.

The detailed counts in 2005 for County Road 45 indicate that passenger vehicles make up approximately 69% of the total vehicle count, light trucks and other smaller 2 axle vehicles make up approximately 30%, and other vehicle classes make up the remainder. This means that there are few if any large trucks making use of the County Road 45 to transport materials or other larger items. Most vehicles were observed to be travelling at 90-100km/h.

Detailed traffic counts from 2005 and 2008 for Simcoe County Road 169 were also provided by Simcoe County. This is included in Appendix B. The data is from a segment of the highway between Simcoe County Road 45 and Highway 12. Based on the information, it is apparent that

the peak hours of travel remain roughly the same from season to season at 12pm and late afternoon/early evening. Volume northbound and southbound is 51% and 49% respectively in summer and 49% and 51% respectively in fall. There was no vehicle classification or speed data provided by the County. AADT data obtained from the County and Province is summarized in Table 1.

6.2 Historic Traffic Conditions

6.2.1 Roadway Volumes

Table 1 provides the historical traffic volumes for the proposed route. Over the last decade the recorded AADT for all three roads has declined.

TABLE 1: Historical Traffic Volumes

Year	Monck Road	Simcoe County Road 45	Simcoe County Road 169
	6.3 km east of Sebright	Simcoe CR 46 to CR 169	Simcoe CR 45 to CR 12
1988	300		
1990	500		
1996		1850	2700
1998			3000
1999		2800	3600
2002		3000	3100
2004	1620		
2005		2600	2700
2008		2100	2500
2010	1240		

6.2.2 Directional Distribution

The 2005 detailed traffic counts indicate the average proportional direction of traffic movement along Simcoe County Road 45 is split 49% westbound and 51% eastbound. The 2008 data indicates 53% westbound and 47% eastbound. It is assumed this directional distribution would apply to Monck Road as well. Similarly, the distribution of traffic along Simcoe County Road 169 was 50% northbound and 50% southbound in 2005, and 54% northbound and 46% southbound in 2008. We also have assumed that the peaking factor is 9% based on the peak traffic daily and hourly volumes. These calculations are included in Appendix "B".

While the available data indicates a decline in traffic volume, was have applied a conservative 2% annual growth rate for future traffic volumes based on a 20 year study horizon as shown in Table 2.

TABLE 2: Projected Background Traffic Volumes for Proposed Haul Route

Location	Year	AADT	Peak Hour		Westbound	Eastbound
			Rate	Volume	53%	47%
Monck Road - 6.3 km east of Sebright	2004	1620				
	2010	1240				
	2012	1290	9%	116	62	54
	2032	1920	9%	173	92	81
Simcoe CR 45 – CR 46 to Highway 169	2005	2600	9%	234	124	110
	2008	2100	9%	189	100	89
	2012	2270	9%	204	108	96
	2032	3380	9%	304	161	143
					Northbound	Southbound
					54%	46%
Simcoe CR 169 - CR 45 to Highway 12	2005	2700	9%	243	131	112
	2008	2500	9%	225	121	104
	2012	2700	9%	243	131	112
	2032	4020	9%	362	195	167

7.0 DISCUSSION

The impact on the existing road volumes will be minimal. The expected volume of daily traffic that will make use of the haul route is 71 trips. On an hourly basis, the site will generate approximately 9 trips. An addition of 9 trips to the calculated average peak hour volumes in 2012 represents an increase of approximately 7% on Monck Road, and 3% on County Road 45. When compared to the highest recorded peak hour volumes on County Road 45, the quarry traffic represents less that 3% of the peak hour volume. By the end of the study period the traffic from the quarry will represent only 3% of the anticipated peak hour traffic on Monck Road, and 2% on County Road 45.

Based on the MTO Geometric Design Standards, there is no left turn lane warranted for the quarry driveway. There is not enough traffic generated by the site, or background traffic on the road, even assuming that 9 vehicles all turning left into the quarry, when compared to the

projected 2012 volume during peak hours (116 vehicles or 54 advancing (east bound) and 62 opposing (west bound)) and a design speed of 100 km/hr for a left turn lane to be warranted. Similarly when compared to the projected 2032 volumes (173 or 81 vehicles advancing and 92 opposing), site generated traffic and background traffic do not warrant a left turn lane. Refer to Appendix C for the Left Turn Storage Lanes Warrant Charts.

However, the applicant has agreed to provide the east bound left turn and west bound acceleration lanes. Construction of these lanes will be phased in based on the annual production of the quarry. Details of the construction and phasing will be included in a Haul Route Agreement between the applicant and the City of Kawartha Lakes.

8.0 CONCLUSION

Based on our research and analysis, the following conclusions are made:

- The proposed Sebright Quarry will generate a peak traffic volume of 71 vehicles per day or 9 vehicles per hour at the maximum licensed quarry production of 200,000 tonnes per year.

- The additional traffic represents an increase of about 5% in the 2012 average annual daily traffic volume on Monck Road a 3% increase on County Road 45. The impact will decrease as background traffic increases.

- Vehicles entering and leaving the quarry will primarily be trucks transporting aggregate for highway pavements and other products to the market in the GTA and elsewhere.

- The proposed haul route utilizing existing arterial roads provides the most direct link to the provincial highway system.

- Based on MTO Geometric Design Standards, no left turn lane is warranted at the proposed entrance and exit at Monck Road, however the applicant intends to enter into an agreement with the City of Kawartha Lakes for improvements to the proposed entrance/exit.

- The stopping sight distances measured at the proposed entrance/exit are acceptable for the typical speed of traffic on Monck Road.

- The additional traffic generated by the quarry will have minimal impact on the haul route and will not impede traffic flow.

All of which is respectfully submitted,

SKELTON, BRUMWELL & ASSOCIATES INC.

Per:

Scott W. Brumwell, P.Eng.

Vice President

APPENDIX A

Sebright Quarry Trip Generation

GIOFAM SEBRIGHT QUARRY
CALCULATION OF QUARRY TRAFFIC GENERATION

AGGREGATE PRODUCTION

Annual Tonnage

Licence Limit 200,000 tonnes

Vehicle Usage and Capacity

Type of Vehicle	Tonnes per Load	Number of Trucks	Estimated Truck Usage
Trailers	36	5	75%
Trains	45	5	15%
Tri-Axle Tandems	23	5	10%
			100%

Annual Trip Generation

Total Annual Tonnage	Vehicle	Estimated Truck Usage	Tonnage Per Truck Type	Tonnes Per Load	Trips Per Year
Licence Limit	Trailers	75%	150,000	36	4,167
	Trains	15%	30,000	45	667
	Tri-Axle Tandems	10%	20,000	23	870
				Total Trips Out	5,703
				Total Trips In	5,703
				Total Trips (Out + In)	11,406

DAILY TRIP GENERATION

Percentage (%) of annual tonnage shipped in peak months	75%
Peak Months: June to November	6
Average number of working days per month:	20

Total Annual Tonnage	Total Trips Per Year	Total Trips in Peak Months	Total Working Days in Peak Months	Trips Per Day
Licence Limit	11,406	8,554	120	71

GIOFAM SEBRIGHT QUARRY
CALCULATION OF QUARRY TRAFFIC GENERATION

HOURLY TRIP GENERATION

Hours of Transportation: As stipulated by the Site Plan

	Monday to Thursday	Friday
From:	7:00 AM	7:00 AM
To:	7:00 PM	3:00 PM
Total Hours:	12	8

Peak Hours:	Monday to Friday
From:	7:00 AM
To:	3:00 PM
Total Hours:	8

Total Annual Tonnage	Trips Per Day	Trips Per Hour	Minutes Between
Licence Limit	71	9	7

APPENDIX "B"

Traffic Count Data

And Analysis

P/N: 05–2019 **Sebright Quarry** DATE: April 15, 2011
CALCS: TPP

Traffic Count Data Analysis

On CR 45
CR 46 to CR 169

	Spring 2005		Summer 2005		Fall 2005		Average
Westbound	1155	45%	1297	51%	897	51%	49%
Eastbound	1427	55%	1269	49%	878	49%	51%
Total	2582	100%	2566	100%	1775	100%	100%

	Spring 2008		Summer 2008		Fall 2008		Average
Westbound			1422	57%	950	50%	53%
Eastbound			1089	43%	962	50%	47%
Total			2511	100%	1912	100%	100%

	Sping 2005	Summer 2008	Fall 2008	Average
Highest Daily Total	3014	2765	2074	2618
Peak Hour Volume	317	218	163	233
Peak Rate	11%	8%	8%	9%

Traffic Generated by Site Per Hour = 9 vehicles
% Increase to Highest Peak Hour Volume = 2.8%

On Hwy 169
Hwy 12 to CR45

	Summer 2005		Fall 2005		Average
Northbound	1792	51%	1113	49%	50%
Southbound	1709	49%	1170	51%	50%
Total	3501	100%	2283	100%	100%

	Spring 2008		Summer 2008		Average
Northbound	1249	54%	1569	54%	54%
Southbound	1045	46%	1359	46%	46%
Total	2294	100%	2928	100%	100%

	Spring 2008	Summer 2008	Average
Highest Daily Total	2762	3762	3262
Peak Volume	244	285	265
Peak Rate	9%	8%	8%

Traffic Generated by Site Per Hour = 9 vehicles
% Increase to Highest Peak Volume = 3.2%

Ontario
Ministry of Transportation
Transportation Capital Branch
Highway Planning Office

Provincial Highways

Traffic Volumes 1988

King's Highways • Secondary Highways • Tertiary Roads

ISSN 0822-6873

Highway Information Systems
Traffic Characteristics
November, 1989

LOCATION DESCRIPTION	DIST (KM)	PATT TYPE	1988 AADT	1988 SADT	1988 SAWDT	1988 WADT	1988 AR	NOTES
SECONDARY # 502								
HIGHWAY 11 - MANITOU RD	51.2	UNC	600	1100	900	320	.7	
RAINY RIVER/KENORA DIST BDY SIGN	89.8	UNC	350	650	520	190	.8	
POINT 5.0 KM N OF CONTACT BAY RD	10.3	SC	650	690	750	580	5.3	
SEC HWY 594								
SECONDARY # 503								
HWY 48 - KIRKFIELD	3.1	HR	300	610	440	140	.0	
TRENT CANAL LIFT LOCK TUNNEL	17.0	HR	600	1200	880	290	1.9	
SIMCOE RD 46	5.8	HR	300	610	440	140	3.1	←
SIMCOE RD 45 - SEBRIGHT	15.4	LR	850	1450	1050	530	1.7	
SEC HWY 505-VICTORIA RD(N)-UPHILL	19.3	LR	550	960	680	340	3.4	
HWY 35 - NORLAND	15.4	LR	700	1200	860	440	1.3	
N JCT HWY 121-GREGO ST-KINMOUNT SEE OLAP HWY 121	.2							
S JCT HWY 121-MONK ST-KINMOUNT	28.4	LR	1000	1750	1200	620	1.4	
SEC HWY 507 - GOODERHAM	12.2	LR	700	1200	860	440	2.6	
HWY 121 - TORY HILL								
SECONDARY # 504								
SEC HWY 620 - TO GLEN ALDA	13.2	R	200	380	270	100	3.1	
LASSWADE RD - CHANDOS TWP	12.4	IR	250	320	270	200	6.2	
SEC HWY 620A - APSLEY	.5	CTR	1550	2000	1900	1250	.0	
HWY 28 - S APSLEY CUTOFF								

Ontario
Ministry of Transportation
Transportation Capital Branch
Highway Planning Office

Provincial Highways

Traffic Volumes 1990

King's Highways • Secondary Highways • Tertiary Roads

Highway Information Systems
Traffic Characteristics
February, 1992

LOCATION DESCRIPTION	DIST (KM)	PATT TYPE	1990 AADT	1990 SADT	1990 SAWDT	1990 WADT	1990 AR	NOTES
	SECONDARY # 502							
HIGHWAY 11 - MANITOU RD	51.2	LR	600	1050	830	370	.7	
RAINY RIVER/KENORA DIST BDY SIGN	89.8	T	350	630	600	210	1.1	
POINT 5.0 KM N OF CONTACT BAY RD	10.3	R	700	1300	1000	370	8.4	
SEC HWY 594 - HWY ENDS								
	SECONDARY # 503							
HWY 48 - KIRKFIELD - VICT. RD 29	3.1	LT	700	1000	970	510	1.3	
TRENT CANAL LIFT LOCK TUNNEL	17.0	HR	900	1650	1300	530	.9	
SIMCOE RD 46	5.8	HR	500	920	730	290	3.8	←
SIMCOE RD 45 - SEBRIGHT	15.4	LR	1150	2000	1550	720	1.7	
SEC HWY 505-VICTORIA RD(N)-UPHILL	19.3	LR	850	1450	1150	530	2.7	
HWY 35 - NORLAND	15.4	LR	850	1450	1150	530	2.7	
N JCT HWY 121-CREGO ST								
OVERLAP HWY 121	.2							
S JCT HWY 121-MONCK ST-KINMOUNT	28.4	LR	1000	1750	1350	620	1.4	
SEC HWY 507 - GOODERHAM	12.2	LR	700	1200	970	440	4.8	
HWY 121 - TORY HILL - HWY ENDS								
	SECONDARY # 504							
SEC HWY 620 - TO GLEN ALDA	13.2	R	200	370	290	100	1.0	
LASSWADE RD - CHANDOS TWP	12.4	IR	250	310	270	200	2.7	
SEC HWY 620A - APSLEY	.5	CTR	1550	1900	1800	1300	.0	
HWY 28 - S APSLEY CUTOFF - HWY ENDS								

ARTERIAL ROAD 34			
3401	1.0 KM. EAST OF HWY 35	A08C	1200
3402	0.2 KM. NORTH OF HWY 35	A09C	640
3403	0.8 KM. SOUTH OF ARTERIAL ROAD 8	A09C	250
ARTERIAL ROAD 35			
3501	3.8 KM. NORTH OF ARTERIAL ROAD 8	A09C	1120
3502	4.6 KM. NORTH OF ARTERIAL ROAD 48	A10C	260
3503	4.2 KM. SOUTH OF ARTERIAL ROAD 45	A10C	90
ARTERIAL ROAD 36			
3601	1.9 KM. NORTH OF HWY. 7	A10C	6040
3602	1.9 KM. SOUTHWEST OF ARTERIAL ROAD 11	A10C	5260
3603	2.3 KM. EAST OF ARTERIAL ROAD 24	A10C	3620
3604	0.6 KM. S. OF BOBCAYGEON S. LIMITS	A10C	8100
ARTERIAL ROAD 37			
3701	0.8 KM. EAST OF ARTERIAL ROAD 121	A10C	250
ARTERIAL ROAD 38			
3801	1.3 KM. NORTH OF HWY 7A	A08C	1410
3802	1.0 KM. SOUTH OF HWY 7	A08C	1130
ARTERIAL ROAD 41			
4101	1.8 KM. NORTH OF ARTERIAL ROAD 48	A09C	300
4102	9.6 KM. NORTH OF ARTERIAL ROAD 48	A09C	170
ARTERIAL ROAD 42			
4201	4.2 KM. EAST OF HWY. 35	A09C	220
ARTERIAL ROAD 43			
4301	0.4 KM. EAST OF HWY. 35	A09C	680
4302	3.6 KM. WEST OF ARTERIAL ROAD 44	A09C	420
ARTERIAL ROAD 44			
4401	0.3 KM. NORTH OF ARTERIAL ROAD 43	A09C	570
4402	0.5 KM. WEST OF ARTERIAL ROAD 121	A09C	400
ARTERIAL ROAD 45			
4501	6.3 KM. EAST OF ARTERIAL ROAD 6	A10C	1240
4502	3.7 KM. EAST OF ARTERIAL ROAD 35 (UPHILL)	A10C	1260
4503	4.9 KM. WEST OF HWY 35 (NORLAND)	A10C	1510
4504	4.1 KM. WEST OF ARTERIAL ROAD 121	A10C	1220
ARTERIAL ROAD 46			
4601	5.4 KM. SOUTH OF ARTERIAL ROAD 9	A09C	1000
4602	3.4 KM. NORTH OF ARTERIAL ROAD 9	A09C	1580
4603	3.9 KM. SOUTH OF ARTERIAL ROAD 48	A09C	1440

County of Simcoe

Roads & Engineering

Oct 2005

Annual Average Daily Traffic Summary (A.A.D.T.)

Road - Site #	Distance	Link Description	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
		CR-27										
001-01	6.1		3,900	4,150				5,300			5,000	
		15th SR-New Tecumseth										
001-02	2.0		4,400	4,800				5,800			5,300	
		East Limits / Beeton										
001-03	1.9		4,250	4,450				5,500			5,000	
		CR-10										
001-04	6.6		2,050	2,100	2500 (TMC)		2,650 (TMC)**	2,600			2,300	
		CR-50										
001-05	7.2		1,900	1,900	2100 (TMC)		2,150(TMC)**	2,200			2,000	
		County Boundary										
		CR-39										
003-01	3.1		3,200	3,100				4,700			4,600	
		CR-4										
		Bradford Limits										
004-01	9.8			11,500				12,300			13,400	
		GR-89 / CR-3										
004-02	4.4			7,550	7,700		8,600 (TMC)**	8,600			8,600	
		Line 4 / Churchill										
004-03	5.5			7,100	7,700		8,550 (TMC)**	8,800			8,000	
		CR-21										
004-04	2.8			8,500	9,500	10,600		11,500			10,500	
		Victoria St / Stroud										
004-05	2.9			10,400	13,200		12,150 (TMC)**	11,800			10,800	
		Mapleview Dr / Barrie Limits										
		CR-15										
005-01	4.1		2,300	2,500			2,800 (TMC)**	2,900			3,600	
		CR-13										
005-02	5.6		1,200	1,150				1,250			1,800	
		County Boundary										
		GR-27 N										
006-01	5.5		3,000			4,000	4,200		4,700			4,700
		Conc 4 / Tiny										
006-02	8.2		3,250		3,500	3,600	3,800		4,200			3,900
		CR-25 / Perkinsfield										
006-03	1.4		3,000			3,400	3,900		4,700			4,700
		Conc 11 / Tiny										
006-04	2.8											3,400
		Conc 13 / Tiny										
006-05	4.1		2,300			2,500	2,900		3,200			3,000
		CR-26										

** Turning Movement Count

Road - Site #	Distance	Link Description	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
		Hwy 12										
044-01	2.7		12,000		17,500	17,400			17,500			17,600
		CR 45										
044-02	2.7		12,000		15,800	16,000			16,200			16,000
		Casino Main Entrance										
044-03	0.3				5,800	6,550			6,500			
		Benson Rd										
044-04	2.8				4,400	4,100			4,000			4,400
		Longford Mills Rd.										
044-05	8.7		3,000			3,400			3,500			2,700
		CR 169										
		CR 46 (503)										
045-01	9.1		1,850			2,800			3,000			2,600
		CR 169										
045-02	9.1		1,950			2,300			3,000			2,900
		CR 44										
		CR 169										
046-01	6.0		1,700			1,800			1,900			1,800
		Simcoe / Victoria Boundary										
046-02	5.8					850			700			700
		CR 45 @ Sebright										
		Hwy 12										
047-01	3.6		2,700			2,700			1,900			2,000
		5th Sideroad / Ramara										
047-02	3.0								1,700			1,900
		Conc 4 Simcoe/Victoria Boundary										
047-03	5.1								900			1,100
		Sylvan Glen										
		Orillia Limits										
049_01	0.8				11,000				8,300			9,000
		Hwy 11 Overpass										
049-02	1.4				5,700				5700			
		Hwy 11 on Ramp at Forest hills										
		Hwy 9										
050-01	10.0		5,200		6,600		6,100 (TMC)**	7,300			7,500	
		Rd 1										
050-02	10.0		4,900		6,200		6,700 (TMC)**	6,800			6,900	
		Hwy 89										
		10th S.R. / Ramara										
052-01	6.3		700			800			800			
		Muskoka Rd										
052-02	0.7		1,150			1,300			1,900			
		Hwy 11 Ramp										

** Turning Movement Count

Road - Site #	Distance	Link Description	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
		Elmvale / W Limits										
092-01	4.0				5,200		6,500			5,400		
		Rd 29										
092-02	5.3				5,200		6,800			6,000		
		Wasaga Beach										
		Barrie / N Limits / Grove St										
093-01	1.5				5,900	5,950	5,500			5,500		
		Georgian Dr										
093-02	2.3				5,100	5,700	5,100			5,850		
		Hwy 11										
093-03	6.2				3,400	3,250	3,800			4,000		
		CR 11 / Dalston										
093-04	6.3				3,000	2,700	3,000			4,900		
		CR 22 / Craighurst										
093-05	2.6					2,450	2,400			2,400		
		Hwy 400										
		Hwy 12										
093-06	2.0				12,500		13,700			14,000		
		CR 25 / Yonge St										
093-07	0.5						17,500					
		Hugel Ave										
093-08	1.0						17,900					
		Vinden St										
093-09	1.5				14,500		18,200					
		Penetang / S Limit										
		Simcoe / Dufferin Cty Boundary										
124-01	10.0		2,500		3,900		2,400			3,650		
		Grey Rd 4										
124-02	1.2		2,500		3,900		3,400			4,900		
		Singhampton Corner										
124-03	5.3		3,600		3,700		3,400			3,700		
		8th Conc Nottawasaga										
124-04	3.8		3,600		3,700		3,800			4,500		
		CR 91 / Duntroon										
124-05	5.4		4,700		4,700		5,300			5,800		
		33/34 SR Nottawasaga										
124-06	3.8		8,500		8,500		8,900			9,800		
		Popular St / Collingwood Limit										
		Hwy 12										
169-01	11.7		2,700		3,000	3,600			3,100			2,700
		CR 45										
169-02	12.5					2,850			3,000			3,300
		CR 44										
169-03	0.6				6,300	6,500			6,500			7,000
		Quetton St										
169-04	0.2				6,900	7,200			8,000			8,100
		Hwy 11 Ramp Junction										

045-01, CR 46 to CR 169

Spring 2005, Averaged from 07/06/05 to 09/06/05

Day

Hour End	~~Sun~~	~~Mon~~	~~Tue~~	~~Wed~~ TUE	~~Thu~~ WED	~~Fri~~ THUR	~~Sat~~	Working Week	Total
1:00	N/R	N/R	N/R	9	6	7	N/R	7	7
2:00	N/R	N/R	N/R	1	0	1	N/R	1	1
3:00	N/R	N/R	N/R	9	6	6	N/R	7	7
4:00	N/R	N/R	N/R	15	19	17	N/R	17	17
5:00	N/R	N/R	N/R	78	63	55	N/R	65	65
6:00	N/R	N/R	N/R	285	226	245	N/R	252	252
7:00	N/R	N/R	N/R	261	191	179	N/R	210	210
8:00	N/R	N/R	N/R	115	143	121	N/R	126	126
9:00	N/R	N/R	N/R	317	192	184	N/R	231	231
10:00	N/R	N/R	N/R	238	217	195	N/R	217	217
11:00	N/R	N/R	N/R	214	178	130	N/R	174	174
12:00	N/R	N/R	N/R	244	212	125	N/R	194	194
13:00	N/R	N/R	N/R	250	197	131	N/R	193	193
14:00	N/R	N/R	N/R	231	213	135	N/R	193	193
15:00	N/R	N/R	N/R	172	188	140	N/R	167	167
16:00	N/R	N/R	N/R	162	149	139	N/R	150	150
17:00	N/R	N/R	N/R	134	118	89	N/R	114	114
18:00	N/R	N/R	N/R	87	87	86	N/R	87	87
19:00	N/R	N/R	N/R	59	51	63	N/R	58	58
20:00	N/R	N/R	N/R	40	42	37	N/R	40	40
21:00	N/R	N/R	N/R	36	34	39	N/R	36	36
22:00	N/R	N/R	N/R	27	45	42	N/R	38	38
23:00	N/R	N/R	N/R	23	22	15	N/R	20	20
24:00	N/R	N/R	N/R	7	8	7	N/R	7	7
12 Hour	N/R	N/R	N/R	2223	1945	1538	N/R	1902	1902
16 Hour	N/R	N/R	N/R	2587	2257	1835	N/R	2226	2226
18 Hour	N/R	N/R	N/R	2617	2287	1857	N/R	2254	2254
24 Hour	N/R	N/R	N/R	3014	2607	2188	N/R	2603	2603
AM Peak	N/R	N/R	N/R	9:00	6:00	6:00	N/R		
PM Peak	N/R	N/R	N/R	13:00	14:00	15:00	N/R		

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Spring 2005, Averaged from 07/06/05 to 09/06/05

	Channel		
Hour End	Channel 1 WIB	Channel 2 EIB	Total
1:00	0	6	6
2:00	0	0	0
3:00	0	6	6
4:00	1	15	16
5:00	7	57	64
6:00	125	126	251
7:00	117	92	209
8:00	62	63	125
9:00	108	122	230
10:00	100	116	216
11:00	79	94	173
12:00	88	105	193
13:00	86	106	192
14:00	84	108	192
15:00	74	92	166
16:00	66	84	150
17:00	50	63	113
18:00	34	52	86
19:00	20	37	57
20:00	15	24	39
21:00	13	23	36
22:00	18	19	37
23:00	7	12	19
24:00	1	5	6
12 Hour	851	1042	1893
16 Hour	1014	1200	2214
18 Hour	1022	1217	2239
24 Hour	1155 44.7%	1427	55.3% 2582

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Spring 2005, Averaged from 07/06/05 to 09/06/05

Speed (KPH)

Hour End	0 - 15	15 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90-100	100-110	110-120	120-999	Total	Mean Speed	Std. Dev.
1:00	0	0	0	0	0	0	1	4	1	0	0	0	6	85	6
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	2	0	3	0	0	0	5	87	11
4:00	0	0	0	0	0	0	1	6	7	1	0	0	15	90	7
5:00	0	0	0	0	0	2	12	24	22	3	0	0	63	87	9
6:00	147	0	2	2	1	4	11	35	32	12	1	0	247	39	40
7:00	124	1	1	1	1	3	11	29	27	7	0	1	206	38	40
8:00	29	0	0	0	0	7	13	35	30	9	1	0	124	69	36
9:00	68	1	2	1	3	7	32	54	41	16	2	0	227	62	38
10:00	81	3	1	3	2	4	24	45	38	12	1	0	214	55	40
11:00	54	1	0	0	0	5	22	45	35	6	1	0	169	61	38
12:00	58	2	0	1	3	6	31	43	34	11	0	0	189	60	37
13:00	66	1	0	0	1	9	30	49	27	7	0	0	190	57	38
14:00	70	0	0	0	1	4	27	46	34	6	1	0	189	57	39
15:00	48	0	0	0	1	8	29	40	30	7	1	0	164	62	37
16:00	42	1	0	0	2	7	34	36	19	5	0	0	146	60	36
17:00	18	0	0	0	1	8	29	36	16	2	0	0	110	70	29
18:00	3	0	0	0	0	5	27	35	10	3	0	0	83	80	17
19:00	1	0	0	0	1	3	15	20	11	3	1	0	55	83	15
20:00	1	0	0	0	1	2	8	17	6	1	0	0	36	81	16
21:00	0	0	0	0	0	4	9	12	8	0	0	0	33	82	10
22:00	0	0	0	0	0	5	14	11	6	0	0	0	36	80	9
23:00	1	0	0	0	1	1	6	6	2	1	0	0	18	77	21
24:00	0	0	0	0	0	1	1	3	1	0	0	0	6	82	10
12 Hour	538	9	3	5	15	73	313	484	325	87	8	0	1860	62	37
16 Hour	663	10	4	6	17	87	355	553	372	95	8	1	2171	61	37
18 Hour	664	10	4	6	18	89	362	562	375	96	8	1	2195	61	37
24 Hour	811	10	6	8	19	95	389	631	440	112	9	1	2531	60	38

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Spring 2005, Averaged from 07/06/05 to 09/06/05

Vehicle Class

Hour End	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
1:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	4	0	0	0	0	0	1	0	0	0	0	0	5
4:00	2	5	0	0	0	4	0	1	2	0	0	0	0	14
5:00	15	16	2	0	0	19	0	5	4	0	0	0	0	61
6:00	15	177	9	1	3	19	2	6	5	2	1	4	7	251
7:00	12	150	15	1	6	8	0	4	1	1	0	3	6	207
8:00	2	71	18	2	5	14	2	6	2	0	0	1	1	124
9:00	9	135	34	4	9	19	2	6	3	1	0	2	2	226
10:00	14	133	16	1	7	23	1	8	3	1	0	6	1	214
11:00	9	105	23	1	5	13	2	7	4	0	0	0	2	171
12:00	11	116	22	2	4	17	2	5	5	1	0	3	2	190
13:00	7	121	24	0	7	14	1	7	2	1	0	3	1	188
14:00	9	123	18	1	2	17	2	9	2	0	0	3	2	188
15:00	7	98	25	1	4	14	2	4	4	1	0	2	1	163
16:00	3	90	23	6	6	7	0	4	2	1	0	2	3	147
17:00	2	72	25	0	2	5	0	1	1	0	0	1	1	110
18:00	0	54	28	0	3	0	0	0	0	0	0	0	0	85
19:00	0	37	16	0	2	0	0	0	0	0	0	0	0	55
20:00	0	22	14	0	1	1	0	0	0	0	0	0	0	38
21:00	1	22	9	0	1	2	0	0	0	0	0	0	0	35
22:00	0	23	11	0	2	0	0	0	0	0	0	0	0	36
23:00	0	15	2	0	1	0	0	0	0	0	0	0	0	18
24:00	0	4	3	0	0	0	0	0	0	0	0	0	0	7
12 Hour	73	1155	272	18	56	143	14	57	28	6	0	23	16	1861
16 Hour	86	1372	321	19	66	154	14	61	29	7	0	26	22	2177
18 Hour	86	1391	326	19	67	154	14	61	29	7	0	26	22	2202
24 Hour	118	1599	338	20	70	196	16	74	40	9	1	30	29	2540

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

~~Fall~~ Summer 2005, Averaged from 19/07/05 to 20/07/05

Day

Hour End	~~Sun~~	~~Mon~~	~~Tue~~	~~Wed~~ TUE	~~Thu~~ WED	~~Fri~~	~~Sat~~	Working Week	Total
1:00	N/R	N/R	N/R	23	24	N/R	N/R	24	24
2:00	N/R	N/R	N/R	5	16	N/R	N/R	11	11
3:00	N/R	N/R	N/R	3	7	N/R	N/R	5	5
4:00	N/R	N/R	N/R	11	8	N/R	N/R	10	10
5:00	N/R	N/R	N/R	15	18	N/R	N/R	17	17
6:00	N/R	N/R	N/R	36	33	N/R	N/R	35	35
7:00	N/R	N/R	N/R	78	72	N/R	N/R	75	75
8:00	N/R	N/R	N/R	118	127	N/R	N/R	123	123
9:00	N/R	N/R	N/R	132	117	N/R	N/R	125	125
10:00	N/R	N/R	N/R	133	126	N/R	N/R	130	130
11:00	N/R	N/R	N/R	168	171	N/R	N/R	170	170
12:00	N/R	N/R	N/R	162	184	N/R	N/R	173	173
13:00	N/R	N/R	N/R	184	168	N/R	N/R	176	176
14:00	N/R	N/R	N/R	171	210	N/R	N/R	191	191
15:00	N/R	N/R	N/R	182	178	N/R	N/R	180	180
16:00	N/R	N/R	N/R	174	176	N/R	N/R	175	175
17:00	N/R	N/R	N/R	181	201	N/R	N/R	191	191
18:00	N/R	N/R	N/R	197	192	N/R	N/R	195	195
19:00	N/R	N/R	N/R	162	173	N/R	N/R	168	168
20:00	N/R	N/R	N/R	125	118	N/R	N/R	122	122
21:00	N/R	N/R	N/R	82	85	N/R	N/R	84	84
22:00	N/R	N/R	N/R	104	76	N/R	N/R	90	90
23:00	N/R	N/R	N/R	66	80	N/R	N/R	73	73
24:00	N/R	N/R	N/R	42	44	N/R	N/R	43	43
12 Hour	N/R	N/R	N/R	1964	2023	N/R	N/R	1994	1994
16 Hour	N/R	N/R	N/R	2353	2374	N/R	N/R	2364	2364
18 Hour	N/R	N/R	N/R	2461	2498	N/R	N/R	2480	2480
24 Hour	N/R	N/R	N/R	2554	2604	N/R	N/R	2579	2579
AM Peak	N/R	N/R	N/R	11:00	12:00	N/R	N/R		
PM Peak	N/R	N/R	N/R	18:00	14:00	N/R	N/R		

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

~~Fall~~ Summer 2005, Averaged from 19/07/05 to 20/07/05

	Channel		
Hour End	Channel 1 WIB	Channel 2 EIB	Total
1:00	5	18	23
2:00	3	7	10
3:00	1	4	5
4:00	5	4	9
5:00	12	4	16
6:00	24	10	34
7:00	59	16	75
8:00	87	35	122
9:00	79	45	124
10:00	77	52	129
11:00	93	76	169
12:00	93	79	172
13:00	85	90	175
14:00	91	99	190
15:00	94	86	180
16:00	80	94	174
17:00	80	110	190
18:00	88	106	194
19:00	82	85	167
20:00	62	59	121
21:00	31	52	83
22:00	36	54	90
23:00	20	52	72
24:00	10	32	42
12 Hour	1029	957	1986
16 Hour	1217	1138	2355
18 Hour	1247	1222	2469
24 Hour	1297 50.5%	1269 49.5%	2566

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Summer 2005, Averaged from 19/07/05 to 20/07/05

Speed (KPH)

Hour End	0 - 15	15 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90-100	100-110	110-120	120-999	Total	Mean Speed	Std. Dev.
1:00	0	0	0	0	0	0	2	8	10	2	1	0	23	92	9
2:00	0	0	0	0	0	0	2	2	4	1	0	0	9	89	10
3:00	0	0	0	0	0	0	0	2	1	0	0	0	3	88	6
4:00	0	0	0	0	0	0	2	2	2	1	0	0	7	88	11
5:00	0	0	0	0	0	0	3	4	5	2	1	0	15	91	12
6:00	1	0	0	0	1	0	3	14	10	2	2	0	33	87	18
7:00	1	0	0	0	0	0	6	24	23	14	2	4	74	92	15
8:00	8	0	0	0	1	0	3	28	58	12	7	2	119	88	24
9:00	1	1	0	0	0	0	11	41	38	20	7	2	121	92	15
10:00	4	0	0	0	1	1	13	52	42	9	4	1	127	87	18
11:00	7	0	0	2	0	1	14	58	63	16	4	1	166	87	20
12:00	14	1	0	0	0	1	20	55	56	21	2	0	170	83	25
13:00	9	0	0	0	1	2	16	55	67	20	2	1	173	86	21
14:00	4	0	0	0	1	6	16	70	70	17	3	0	187	88	15
15:00	15	0	0	5	2	0	10	64	58	20	3	1	178	83	26
16:00	4	0	0	0	0	0	18	60	58	26	5	1	172	90	16
17:00	9	0	1	1	1	1	7	52	82	28	5	1	188	88	21
18:00	6	0	0	2	1	0	7	51	85	33	5	2	192	91	18
19:00	9	0	0	1	0	1	11	51	65	20	7	0	165	87	22
20:00	3	0	0	0	0	0	12	36	44	16	5	2	118	90	17
21:00	0	0	0	0	0	0	7	27	31	10	5	1	81	93	10
22:00	0	0	0	0	0	1	12	32	30	9	2	1	87	90	10
23:00	0	0	0	1	0	2	7	27	27	8	0	0	72	89	11
24:00	0	0	0	0	0	0	7	12	17	5	0	0	41	90	9
12 Hour	90	2	1	11	8	13	146	637	742	242	54	12	1958	87	20
16 Hour	94	2	1	11	8	14	183	756	870	291	68	20	2318	88	20
18 Hour	94	2	1	12	8	16	197	795	914	304	68	20	2431	88	19
24 Hour	95	2	1	12	9	16	209	827	946	312	72	20	2521	88	19

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Summer 2005, Averaged from 19/07/05 to 20/07/05

Vehicle Class

Hour End	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
1:00	0	16	7	0	0	0	0	0	0	0	0	0	0	23
2:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
3:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
4:00	0	4	4	0	0	0	0	0	0	0	0	0	0	8
5:00	0	8	5	0	0	1	0	0	0	0	0	0	0	14
6:00	0	15	12	0	3	1	0	0	0	1	0	0	1	33
7:00	0	45	24	0	2	0	0	0	0	0	0	0	1	72
8:00	3	78	31	0	6	2	0	0	0	0	0	0	1	121
9:00	1	72	40	1	5	1	0	0	0	1	0	0	0	121
10:00	1	81	34	0	6	2	0	0	1	2	0	0	1	128
11:00	3	111	42	1	8	3	0	0	0	0	0	0	0	168
12:00	2	112	48	0	5	2	1	0	0	1	0	0	0	171
13:00	5	109	47	1	7	2	1	0	0	1	0	0	0	173
14:00	5	122	51	0	7	1	0	0	0	1	0	0	0	187
15:00	1	120	45	0	8	2	0	0	0	0	0	0	0	176
16:00	2	112	50	0	6	1	0	0	0	1	0	0	0	172
17:00	0	127	55	0	4	2	0	0	0	0	0	0	0	188
18:00	2	128	53	0	8	1	0	0	0	0	0	0	0	192
19:00	3	99	55	0	6	2	0	0	0	0	0	0	0	165
20:00	0	87	30	0	2	0	0	0	0	0	0	0	0	119
21:00	0	56	23	0	1	1	0	0	0	0	0	0	0	81
22:00	2	59	25	0	3	0	0	0	0	0	0	0	0	89
23:00	0	49	21	0	2	0	0	0	0	0	0	0	0	72
24:00	0	34	8	0	0	0	0	0	0	0	0	0	0	42
12 Hour	28	1271	551	3	76	21	2	0	1	7	0	0	2	1962
16 Hour	30	1518	653	3	84	22	2	0	1	7	0	0	3	2323
18 Hour	30	1601	682	3	86	22	2	0	1	7	0	0	3	2437
24 Hour	30	1652	716	3	89	24	2	0	1	8	0	0	4	2529

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Fall 2005, Averaged from 20/09/05 to 22/09/05

Day

Hour End	~~Sun~~	~~Mon~~	~~Tue~~	~~Wed~~ TUE	~~Thu~~ WED	~~Fri~~ THUR	~~Sat~~	Working Week	Total
1:00	N/R	N/R	N/R	15	17	12	N/R	15	15
2:00	N/R	N/R	N/R	21	12	6	N/R	13	13
3:00	N/R	N/R	N/R	4	6	6	N/R	5	5
4:00	N/R	N/R	N/R	4	7	8	N/R	6	6
5:00	N/R	N/R	N/R	9	15	8	N/R	11	11
6:00	N/R	N/R	N/R	30	29	26	N/R	28	28
7:00	N/R	N/R	N/R	64	62	69	N/R	65	65
8:00	N/R	N/R	N/R	91	121	107	N/R	106	106
9:00	N/R	N/R	N/R	93	118	99	N/R	103	103
10:00	N/R	N/R	N/R	97	111	91	N/R	100	100
11:00	N/R	N/R	N/R	100	105	135	N/R	113	113
12:00	N/R	N/R	N/R	109	130	120	N/R	120	120
13:00	N/R	N/R	N/R	94	95	105	N/R	98	98
14:00	N/R	N/R	N/R	105	98	112	N/R	105	105
15:00	N/R	N/R	N/R	112	112	144	N/R	123	123
16:00	N/R	N/R	N/R	122	131	120	N/R	124	124
17:00	N/R	N/R	N/R	143	133	157	N/R	144	144
18:00	N/R	N/R	N/R	148	140	145	N/R	144	144
19:00	N/R	N/R	N/R	113	113	120	N/R	115	115
20:00	N/R	N/R	N/R	68	100	96	N/R	88	88
21:00	N/R	N/R	N/R	69	66	55	N/R	63	63
22:00	N/R	N/R	N/R	41	54	51	N/R	49	49
23:00	N/R	N/R	N/R	20	35	39	N/R	31	31
24:00	N/R	N/R	N/R	20	22	20	N/R	21	21
12 Hour	N/R	N/R	N/R	1327	1407	1455	N/R	1396	1396
16 Hour	N/R	N/R	N/R	1569	1689	1726	N/R	1661	1661
18 Hour	N/R	N/R	N/R	1609	1746	1785	N/R	1713	1713
24 Hour	N/R	N/R	N/R	1692	1832	1851	N/R	1792	1792
AM Peak	N/R	N/R	N/R	12:00	12:00	11:00	N/R		
PM Peak	N/R	N/R	N/R	18:00	18:00	17:00	N/R		

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Fall 2005, Averaged from 20/09/05 to 22/09/05

Hour End	Channel 1 W/B	Channel 2 E/B	Total
1:00	4	10	14
2:00	4	8	12
3:00	0	5	5
4:00	5	1	6
5:00	6	4	10
6:00	22	6	28
7:00	43	21	64
8:00	78	28	106
9:00	67	36	103
10:00	57	42	99
11:00	57	55	112
12:00	63	56	119
13:00	54	43	97
14:00	57	48	105
15:00	66	56	122
16:00	57	66	123
17:00	51	93	144
18:00	57	87	144
19:00	52	62	114
20:00	40	48	88
21:00	26	36	62
22:00	17	31	48
23:00	9	21	30
24:00	5	15	20
12 Hour	716	672	1388
16 Hour	842	808	1650
18 Hour	856	844	1700
24 Hour	897 50.5%	878 49.5%	1775

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169
Fall 2005, Averaged from 20/09/05 to 22/09/05

Speed (KPH)

Hour End	0 - 15	15 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90-100	100-110	110-120	120-999	Total	Mean Speed	Std. Dev.
1:00	0	0	0	0	0	0	2	4	3	3	1	0	13	93	12
2:00	0	0	0	0	0	0	0	3	3	1	3	1	11	100	13
3:00	0	0	0	0	0	0	1	2	1	1	0	0	5	89	11
4:00	0	0	0	0	0	0	0	1	2	1	0	0	4	95	8
5:00	0	0	0	0	0	0	1	2	4	2	0	0	9	93	10
6:00	0	0	0	0	0	0	0	6	12	5	3	0	26	97	9
7:00	0	0	0	0	0	0	4	10	23	16	6	2	61	97	11
8:00	0	0	0	0	0	2	8	18	33	27	13	4	105	97	12
9:00	1	0	0	0	0	1	2	30	34	25	5	3	101	95	13
10:00	1	0	0	0	0	0	6	23	37	19	8	3	97	95	14
11:00	1	0	0	0	0	1	5	32	42	20	7	3	111	94	13
12:00	0	0	0	0	0	0	4	30	50	25	6	1	116	95	9
13:00	1	0	0	0	0	0	6	26	35	21	5	2	96	94	14
14:00	0	0	0	0	0	1	5	28	38	22	6	2	102	95	10
15:00	0	0	0	0	0	0	4	28	53	26	8	1	120	96	9
16:00	1	0	0	0	0	0	6	37	46	22	8	2	122	94	13
17:00	0	0	0	0	0	0	9	40	58	25	7	2	141	94	10
18:00	2	0	0	0	0	1	7	32	58	34	7	1	142	94	14
19:00	2	0	0	0	0	0	6	33	38	22	8	3	112	93	16
20:00	0	0	0	0	0	1	12	28	24	14	6	1	86	92	12
21:00	0	0	0	0	0	1	11	21	18	6	2	1	60	89	11
22:00	0	0	0	0	0	0	5	16	13	9	1	1	45	92	11
23:00	0	0	0	0	0	1	2	13	10	4	0	0	30	90	9
24:00	0	0	0	0	0	0	1	6	8	2	1	0	18	93	9
12 Hour	9	0	0	0	0	6	68	357	522	288	88	27	1365	94	12
16 Hour	9	0	0	0	0	8	100	432	600	333	103	32	1617	94	12
18 Hour	9	0	0	0	0	9	103	451	618	339	104	32	1665	94	12
24 Hour	9	0	0	0	0	9	107	469	643	352	111	33	1733	94	12

not all dates are included - see audit sheet)

045-01, CR 46 to CR 169

Fall 2005, Averaged from 20/09/05 to 22/09/05

Vehicle Class

Hour End	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
1:00	0	10	3	0	1	0	0	0	0	0	0	0	0	14
2:00	0	5	7	0	0	0	0	0	0	0	0	0	0	12
3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
4:00	0	2	4	0	0	0	0	0	0	0	0	0	0	6
5:00	0	5	5	0	0	0	0	0	0	0	0	0	0	10
6:00	0	12	12	0	2	1	0	0	0	0	0	0	0	27
7:00	0	33	28	0	2	0	0	0	0	0	0	0	0	63
8:00	2	58	37	2	5	0	0	0	0	0	0	0	0	104
9:00	1	54	40	2	4	0	0	0	0	0	0	0	0	101
10:00	1	52	38	2	5	1	0	0	0	0	0	0	0	99
11:00	1	62	42	0	5	0	0	1	0	0	0	0	0	111
12:00	1	61	52	1	4	0	0	0	0	0	0	0	0	119
13:00	1	55	37	0	2	1	0	0	0	0	0	0	0	96
14:00	1	54	39	1	6	1	0	0	0	0	0	0	0	102
15:00	1	70	42	2	5	0	0	0	0	0	0	0	0	120
16:00	1	74	42	0	4	0	0	0	0	0	0	0	0	121
17:00	1	84	49	2	5	0	0	0	0	0	0	0	0	141
18:00	1	90	45	0	5	1	0	0	0	0	0	0	0	142
19:00	1	68	39	0	4	1	0	0	0	0	0	0	0	113
20:00	1	51	32	0	2	0	0	0	0	0	0	0	0	86
21:00	0	42	18	0	2	0	0	0	0	0	0	0	0	62
22:00	0	30	17	0	0	0	0	0	0	0	0	0	0	47
23:00	0	19	9	0	1	0	0	0	0	0	0	0	0	29
24:00	0	15	4	0	0	0	0	0	0	0	0	0	0	19
12 Hour	13	782	502	12	54	5	0	1	0	0	0	0	0	1369
16 Hour	14	938	597	12	60	5	0	1	0	0	0	0	0	1627
18 Hour	14	972	610	12	61	5	0	1	0	0	0	0	0	1675
24 Hour	14	1010	641	12	64	6	0	1	0	0	0	0	0	1748

not all dates are included - see audit sheet)

169-01, Hwy 12 to CR 45

Summer 2005, Averaged from 16/08/05 to 18/08/05

Hour End	Day Sun	Mon	Tue	Wed	Thu	Fri	Sat	Working Week	Total
				TUE	WED	THUR			
1:00	N/R	N/R	N/R	22	19	28	N/R	23	23
2:00	N/R	N/R	N/R	19	15	14	N/R	16	16
3:00	N/R	N/R	N/R	22	22	16	N/R	20	20
4:00	N/R	N/R	N/R	16	8	18	N/R	14	14
5:00	N/R	N/R	N/R	16	9	28	N/R	18	18
6:00	N/R	N/R	N/R	49	59	67	N/R	58	58
7:00	N/R	N/R	N/R	108	90	82	N/R	93	93
8:00	N/R	N/R	N/R	129	122	147	N/R	133	133
9:00	N/R	N/R	N/R	186	147	177	N/R	170	170
10:00	N/R	N/R	N/R	206	199	207	N/R	204	204
11:00	N/R	N/R	N/R	232	218	270	N/R	240	240
12:00	N/R	N/R	N/R	241	237	253	N/R	244	244
13:00	N/R	N/R	N/R	209	277	246	N/R	244	244
14:00	N/R	N/R	N/R	232	234	244	N/R	237	237
15:00	N/R	N/R	N/R	217	260	271	N/R	249	249
16:00	N/R	N/R	N/R	225	311	287	N/R	274	274
17:00	N/R	N/R	N/R	248	317	286	N/R	284	284
18:00	N/R	N/R	N/R	221	243	278	N/R	247	247
19:00	N/R	N/R	N/R	160	193	240	N/R	198	198
20:00	N/R	N/R	N/R	155	171	172	N/R	166	166
21:00	N/R	N/R	N/R	133	128	142	N/R	134	134
22:00	N/R	N/R	N/R	104	101	125	N/R	110	110
23:00	N/R	N/R	N/R	41	103	105	N/R	83	83
24:00	N/R	N/R	N/R	45	65	59	N/R	56	56
12 Hour	N/R	N/R	N/R	2506	2758	2906	N/R	2723	2723
16 Hour	N/R	N/R	N/R	3006	3248	3427	N/R	3227	3227
18 Hour	N/R	N/R	N/R	3092	3416	3591	N/R	3366	3366
24 Hour	N/R	N/R	N/R	3236	3548	3762	N/R	3515	3515
AM Peak	N/R	N/R	N/R	12:00	12:00	11:00	N/R		
PM Peak	N/R	N/R	N/R	17:00	17:00	16:00	N/R		

not all dates are included - see audit sheet)

169-01, Hwy 12 to CR 45

Summer 2005, Averaged from 16/08/05 to 18/08/05

	Channel		
Hour End	Channel 1	Channel 2	Total
1:00	13	10	23
2:00	6	9	15
3:00	7	12	19
4:00	8	5	13
5:00	5	12	17
6:00	30	28	58
7:00	52	40	92
8:00	78	54	132
9:00	94	76	170
10:00	124	79	203
11:00	135	104	239
12:00	140	103	243
13:00	130	114	244
14:00	122	114	236
15:00	112	136	248
16:00	117	157	274
17:00	142	141	283
18:00	117	130	247
19:00	103	94	197
20:00	83	83	166
21:00	70	64	134
22:00	51	59	110
23:00	31	51	82
24:00	22	34	56
12 Hour	1414	1302	2716
16 Hour	1670	1548	3218
18 Hour	1723	1633	3356
24 Hour	1792	1709	3501
	51.2%	48.8%	

not all dates are included - see audit sheet)

≃51% ≃49%

169-01, Hwy 12 to CR 45

Fall 2005, Averaged from 18/10/05 to 20/10/05

Hour End	Day Sun	Mon	Tue	Wed	Thu	Fri	Sat	Working Week	Total
1:00	N/R	N/R	N/R	22	8	10	N/R	13	13
2:00	N/R	N/R	N/R	14	10	10	N/R	11	11
3:00	N/R	N/R	N/R	11	11	6	N/R	9	9
4:00	N/R	N/R	N/R	4	2	7	N/R	4	4
5:00	N/R	N/R	N/R	17	17	25	N/R	20	20
6:00	N/R	N/R	N/R	48	33	39	N/R	40	40
7:00	N/R	N/R	N/R	72	77	58	N/R	69	69
8:00	N/R	N/R	N/R	150	100	120	N/R	123	123
9:00	N/R	N/R	N/R	193	130	162	N/R	162	162
10:00	N/R	N/R	N/R	182	165	118	N/R	155	155
11:00	N/R	N/R	N/R	189	162	137	N/R	163	163
12:00	N/R	N/R	N/R	199	153	174	N/R	175	175
13:00	N/R	N/R	N/R	141	142	134	N/R	139	139
14:00	N/R	N/R	N/R	135	139	130	N/R	135	135
15:00	N/R	N/R	N/R	183	145	170	N/R	166	166
16:00	N/R	N/R	N/R	166	141	161	N/R	156	156
17:00	N/R	N/R	N/R	195	202	213	N/R	203	203
18:00	N/R	N/R	N/R	154	144	194	N/R	164	164
19:00	N/R	N/R	N/R	118	125	128	N/R	124	124
20:00	N/R	N/R	N/R	63	71	109	N/R	81	81
21:00	N/R	N/R	N/R	66	57	69	N/R	64	64
22:00	N/R	N/R	N/R	39	50	77	N/R	55	55
23:00	N/R	N/R	N/R	36	36	52	N/R	41	41
24:00	N/R	N/R	N/R	23	23	31	N/R	26	26
12 Hour	N/R	N/R	N/R	2005	1748	1841	N/R	1865	1865
16 Hour	N/R	N/R	N/R	2245	2003	2154	N/R	2134	2134
18 Hour	N/R	N/R	N/R	2304	2062	2237	N/R	2201	2201
24 Hour	N/R	N/R	N/R	2420	2143	2334	N/R	2299	2299
AM Peak	N/R	N/R	N/R	12:00	10:00	12:00	N/R		
PM Peak	N/R	N/R	N/R	17:00	17:00	17:00	N/R		

not all dates are included - see audit sheet)

169-01, Hwy 12 to CR 45

Fall 2005, Averaged from 18/10/05 to 20/10/05

Hour End	Channel 1 NB	Channel 2 SB	Total
1:00	6	7	13
2:00	5	6	11
3:00	4	5	9
4:00	2	2	4
5:00	12	7	19
6:00	23	16	39
7:00	39	29	68
8:00	73	50	123
9:00	80	81	161
10:00	86	68	154
11:00	92	70	162
12:00	86	89	175
13:00	71	67	138
14:00	58	76	134
15:00	66	99	165
16:00	66	89	155
17:00	91	111	202
18:00	76	87	163
19:00	61	62	123
20:00	36	45	81
21:00	24	39	63
22:00	23	32	55
23:00	20	21	41
24:00	13	12	25
12 Hour	906	949	1855
16 Hour	1028	1094	2122
18 Hour	1061	1127	2188
24 Hour	1113	1170	2283
	48.8%	51.2%	

not all dates are included - see audit sheet)

≈ 49% ≈ 51%

U.S. Department of Transportation
Federal Highway Administration

FHWA Home | Feedback

OHPI

Office of Highway Policy Information

FHWA Vehicle Types

The classification scheme is separated into categories depending on whether the vehicle carries passengers or commodities. Non-passenger vehicles are further subdivided by number of axles and number of units, including both power and trailer units. Note that the addition of a light trailer to a vehicle does not change the classification of the vehicle.

Automatic vehicle classifiers need an algorithm to interpret axle spacing information to correctly classify vehicles into these categories. The algorithm most commonly used is based on the "Scheme F" developed by Maine DOT in the mid-1980s. **The FHWA does not endorse "Scheme F" or any other classification algorithm.** Axle spacing characteristics for specific vehicle types are known to change from State to State. As a result, no single algorithm is best for all cases. It is up to each agency to develop, test, and refine an algorithm that meets its own needs.

FHWA Vehicle Classes with Definitions

1 ***Motorcycles*** (Optional) -- All two or three-wheeled motorized vehicles. Typical vehicles in this category have saddle type seats and are steered by handlebars rather than steering wheels. This category includes motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheel motorcycles. This vehicle type may be reported at the option of the State.

2 ***Passenger Cars*** -- All sedans, coupes, and station wagons manufactured primarily for the purpose of carrying passengers and including those passenger cars pulling recreational or other light trailers.

3 ***Other Two-Axle, Four-Tire Single Unit Vehicles*** -- All two-axle, four-tire, vehicles, other than passenger cars. Included in this classification are pickups, panels, vans, and other vehicles such as campers, motor homes, ambulances, hearses, carryalls, and minibuses. Other two-axle, four-tire single-unit vehicles pulling recreational or other light trailers are included in this classification. *Because automatic vehicle classifiers have difficulty distinguishing class 3 from class 2, these two classes may be combined into class 2.*

4 ***Buses*** -- All vehicles manufactured as traditional passenger-carrying buses with two axles and six tires or three or more axles. This category includes only traditional buses (including school buses) functioning as passenger-carrying vehicles. Modified buses should be considered to be a truck and should be appropriately classified.

NOTE: In reporting information on trucks the following criteria should be used:

Truck tractor units traveling without a trailer will be considered single-unit trucks.

A truck tractor unit pulling other such units in a "saddle mount" configuration will be considered one single-unit truck and will be defined only by the axles on the pulling unit.

Vehicles are defined by the number of axles in contact with the road. Therefore, "floating" axles are counted only when in the down position.

The term "trailer" includes both semi- and full trailers.

5 ***Two-Axle, Six-Tire, Single-Unit Trucks*** -- All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., with two axles and dual rear wheels.

6 ***Three-Axle Single-Unit Trucks*** -- All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., with three axles.

7 ***Four or More Axle Single-Unit Trucks*** -- All trucks on a single frame with four or more axles.

8 ***Four or Fewer Axle Single-Trailer Trucks*** -- All vehicles with four or fewer axles consisting of two units, one of which is a tractor or straight truck power unit.

9 ***Five-Axle Single-Trailer Trucks*** -- All five-axle vehicles consisting of two units, one of which is a tractor or straight truck power unit.

10 ***Six or More Axle Single-Trailer Trucks*** -- All vehicles with six or more axles consisting of two units, one of which is a tractor or straight truck power unit.

11 ***Five or fewer Axle Multi-Trailer Trucks*** -- All vehicles with five or fewer axles consisting of three or more units, one of which is a tractor or straight truck power unit.

12. ***Six-Axle Multi-Trailer Trucks*** -- All six-axle vehicles consisting of three or more units, one of which is a tractor or straight truck power unit.

13 ***Seven or More Axle Multi-Trailer Trucks*** -- All vehicles with seven or more axles consisting of three or more units, one of which is a tractor or straight truck power unit.

OHPI Home

This page last modified on October 14, 2003

FHWA Home | Feedback

FHWA

United States Department of Transportation - **Federal Highway Administration**

County of Simcoe

Transportation & Engineering

Annual Average Daily Traffic Summary (A.A.D.T.)

Updated Nov 2010

Road# - Section #	Distance	Link Description	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
		CR 27										
001-01	6.1		5,300			5,000			4,300			4,100
		15th SR New Tecumseth										
001-02	2.0		5,800			5,300			4,900			4,700
		East Limits / Beeton										
001-03	1.9		5,500			5,000			4,900			4,500
		CR 10										
001-04	6.6		2,600			2,300			3,000			3,200
		CR 50										
001-05	7.2		2,200			2,000			1,800			1,900
		Simcoe Boundary										
		CR 38										
003-01	3.1		4,700			4,600			4,400			4,700
		CR 4										
		Bradford Limits										
004-01	9.8		12,300			13,400			12,700			12,500
		CR 88 / CR 3										
004-02	4.4		8,600			8,600			9,600			9,200
		Line 4 / Churchill										
004-03	5.5		8,800			8,000			10,100			9,000
		CR 21										
004-04	2.8		11,500			10,500			11,200			11,200
		Victoria St. / Stroud										
004-05	2.9		11,800			10,800			11,700			13,000
		Lockhart Dr. / Barrie Limit										
		CR 15										
005-01	4.1		2,900			3,600			3,800			4,100
		CR 13										
005-02	5.6		1,250			1,800			1,700			2,400
		County Boundary										
		CR 27 N										
006-01	5.5			4,700			4,700			4,400		
		Conc 4 / Tiny										
006-02	8.2			4,200			3,900			3,700		
		CR 25 / Perkinsfield										
006-03	1.4			4,700			4,700			4,400		
		Conc 11/ Tiny										
006-04	2.8						3,400			3,400		
		Conc 13 / Tiny										
006-05	4.1			3,200			3,000			3,100		
		CR 26										

Road# - Section #	Distance	Link Description	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
		Hwy 12										
044-01	2.7			17,500			17,600			14,500		
		CR 45										
044-02	2.7			16,200			16,000			13,000		
		Casino Main Entrance										
044-04	3.1			4,000			4,400			3,900		
		Longford Mills Rd										
044-05	8.7			3,500			2,700			2,400		
		CR 169										
		CR 46 (503)										
045-01	9.1			3,000			2,600			2,100		
		CR 169										
045-02	9.1			3,000			2,900			2,800		
		CR 44										
		CR 169										
046-01	6.0			1,900			1,800			1,600		
		Simcoe / Victoria Boundary										
046-02	5.8			700			700			600		
		CR 45 @ Sebright										
		Hwy 12										
047-01	3.6			1,900			2,000			1,700		
		5th Sideroad/ Ramara										
047-02	3.0			1,700			1,900			1,600		
		Conc 4, Simcoe/Victoria Boundary										
047-03	5.1			900			1,100			1,000		
		Sylvan Glen										
		Orillia Limits										
049-01	0.8			8,300			9,000			8,800		
		Hwy 11 Overpass										
049-02	1.4			5700						4,400		
		Hwy 11 on Ramp at Forest hills										
		Hwy 9										
050-01	10.0		7,300			7,500			6,900			6,100
		CR 1										
050-02	10.0		6,800			6,900			6,200			4,800
		Hwy 89										
		10th S.R. / Ramara										
052-01	6.3			800			700			700		
		Muskoka Rd										
052-02	0.7			1,900			1,800			1,700		
		Hwy 11 Ramp										

Road# - Section #	Distance	Link Description	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
		Elmvale / W Limits										
092-01	4.0				5,400			5,000			5,200	
		CR 29										
092-02	5.3				6,000			7,000			7,300	
		Wasaga Beach										
		Georgian Drive										
093-02	2.3				5,850			5,700			6,500	
		Hwy 11										
093-03	6.2				4,000			4,000			3,600	
		CR 11 / Forbes Rd / Dalston										
093-04	6.3				4,900			3,700			3,500	
		CR 22 / Craighurst										
093-05	2.6				2,400			2,900			2,550	
		Hwy 400										
		Hwy 12										
093-06	2.0				14,000			15,700			14,500	
		CR 25 / Yonge St										
093-07	0.5							17,500			N/A	
		Hugel Ave										
093-08	1.0							17,900			N/A	
		Vinden St										
093-09	1.5							17,200			N/A	
		Penetang / S Limit										
		Singhampton - CR 124										
095-01								1,200			1,050	
		County Road 91										
		Simcoe / Dufferin Cty Boundary										
124-01	10.0				3,650			3,400			2,800	
		Grey Rd 4										
124-02	1.2				4,900			3,700			4,300	
		Singhampton Corner										
124-03	5.3				3,700			3,400			3,700	
		8th Conc Nottawasaga										
124-04	3.8				4,500			3,400			3,800	
		CR 91 / Duntroon										
124-05	5.4				5,800			5,200			5,800	
		33/34 SR Nottawasaga										
124-06	3.8				9,800			8,100			9,400	
		Popular St / Collingwood Limit										
		Hwy 12										
169-01	11.7			3,100			2,700			2,500		
		CR 46										
169-02	12.5			3,000			3,300			3,000		
		CR 44										
169-03	0.6			6,500			7,000			6,800		
		Question St										
169-04	0.2			8,000			8,100					
		Hwy 11 Ramp Junction										

County of Simcoe

Roads and Engineering Department
Midhurst, Ontario LOL 1XO
(705) 726-9300

County Road 45 - Summer 2008
Cty Rd 46 to
Cty Rd 169

Site Code: 045 01

Date Start: 01-Jul-08
Date End: 03-Jul-08

Start	30-Jun-08		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	21	8	15	7	17	3	*	*	*	*	*	*	18	6
01:00	*	*	9	7	14	2	5	2	*	*	*	*	*	*	9	4
02:00	*	*	11	1	8	4	5	2	*	*	*	*	*	*	8	2
03:00	*	*	6	1	1	3	2	3	*	*	*	*	*	*	3	2
04:00	*	*	4	13	4	13	6	6	*	*	*	*	*	*	5	11
05:00	*	*	5	8	8	37	7	18	*	*	*	*	*	*	7	21
06:00	*	*	11	32	12	66	19	46	*	*	*	*	*	*	14	48
07:00	*	*	20	35	24	90	28	64	*	*	*	*	*	*	24	63
08:00	*	*	60	33	41	84	38	44	*	*	*	*	*	*	46	54
09:00	*	*	62	66	49	83	45	78	*	*	*	*	*	*	52	76
10:00	*	*	59	100	45	111	55	75	*	*	*	*	*	*	53	95
11:00	*	*	81	115	56	93	74	95	*	*	*	*	*	*	70	101
12:00 PM	*	*	78	101	72	87	68	87	*	*	*	*	*	*	73	92
01:00	*	*	92	123	83	88	80	79	*	*	*	*	*	*	85	97
02:00	*	*	65	140	90	95	88	90	*	*	*	*	*	*	81	108
03:00	*	*	71	146	88	112	98	90	*	*	*	*	*	*	86	116
04:00	*	*	84	154	91	92	99	62	*	*	*	*	*	*	91	103
05:00	*	*	55	163	106	88	104	73	*	*	*	*	*	*	88	108
06:00	*	*	46	139	64	66	110	59	*	*	*	*	*	*	73	88
07:00	*	*	38	113	61	56	74	55	*	*	*	*	*	*	58	75
08:00	*	*	36	124	44	38	64	42	*	*	*	*	*	*	48	68
09:00	*	*	27	89	40	30	54	28	*	*	*	*	*	*	40	49
10:00	*	*	29	31	27	15	30	25	*	*	*	*	*	*	29	24
11:00	*	*	37	16	16	10	30	6	*	*	*	*	*	*	28	11
Lane	0	0	1007	1758	1059	1370	1200	1132	0	0	0	0	0	0	1089	1422
Day	0		2765		2429		2332		0		0		0		2511	
AM Peak			11:00	11:00	11:00	10:00	11:00	11:00							11:00	11:00
Vol.			81	115	56	111	74	95							70	101
PM Peak			13:00	17:00	17:00	15:00	18:00	14:00							16:00	15:00
Vol.			92	163	106	112	110	90							91	116

Comb. Total	0	2765	2429	2332	0	0	0	2511

ADT ADT 2,509 AADT 2,509

County of Simcoe

Transportation and Engineering Department

Midhurst, Ontario
705-726-9300

County Road 45 - Fall 2008
County Road 46 to
County Road 169

Site Code: 045 01

Date Start: 15-Sep-08
Date End: 18-Sep-08

Start	15-Sep-08		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	3	9	3	8	0	8	0	8	*	*	*	*	*	*	2	8
01:00	3	15	2	5	1	2	0	4	*	*	*	*	*	*	2	6
02:00	2	2	1	5	0	6	0	3	*	*	*	*	*	*	1	4
03:00	1	6	3	5	1	5	1	1	*	*	*	*	*	*	2	4
04:00	7	7	8	1	9	6	10	3	*	*	*	*	*	*	8	4
05:00	21	12	20	7	23	8	22	6	*	*	*	*	*	*	22	8
06:00	51	12	59	19	58	14	55	16	*	*	*	*	*	*	56	15
07:00	80	30	93	40	85	25	78	31	*	*	*	*	*	*	84	32
08:00	81	43	67	32	72	36	69	38	*	*	*	*	*	*	72	37
09:00	63	52	60	48	59	39	73	57	*	*	*	*	*	*	64	49
10:00	77	54	54	53	49	51	67	54	*	*	*	*	*	*	62	53
11:00	90	48	51	41	58	72	58	54	*	*	*	*	*	*	64	54
12:00 PM	72	67	64	39	52	53	66	58	*	*	*	*	*	*	64	54
01:00	78	52	52	46	69	59	53	68	*	*	*	*	*	*	63	56
02:00	71	68	57	56	66	60	63	71	*	*	*	*	*	*	64	64
03:00	71	66	47	81	66	71	69	95	*	*	*	*	*	*	63	78
04:00	63	77	48	89	45	95	76	82	*	*	*	*	*	*	58	86
05:00	49	93	58	105	49	84	68	107	*	*	*	*	*	*	56	97
06:00	49	68	57	66	66	71	56	96	*	*	*	*	*	*	57	75
07:00	40	47	37	42	33	36	53	74	*	*	*	*	*	*	41	50
08:00	28	36	19	34	23	36	22	57	*	*	*	*	*	*	23	41
09:00	23	27	12	25	17	37	16	53	*	*	*	*	*	*	17	36
10:00	10	14	10	25	13	21	12	29	*	*	*	*	*	*	11	22
11:00	7	15	5	20	5	17	5	17	*	*	*	*	*	*	6	17
Lane	1040	920	887	892	919	912	992	1082	0	0	0	0	0	0	962	950
Day	1960		1779		1831		2074		0		0		0		1912	
AM Peak	11:00	10:00	07:00	10:00	07:00	11:00	07:00	09:00							07:00	11:00
Vol.	90	54	93	53	85	72	78	57							84	54
PM Peak	13:00	17:00	12:00	17:00	13:00	16:00	16:00	17:00							12:00	17:00
Vol.	78	93	64	105	69	95	76	107							64	97

Comb. Total	1960	1779	1831	2074	0	0	0	1912

ADT ADT 1,911 AADT 1,911

County of Simcoe

Formerly Hwy 169
Hwy 12
Cty Rd 45

Site Code: 169 01

Date Start: 13-May-08
Date End: 15-May-08

Start	12-May-08		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	7	3	2	4	5	5	*	*	*	*	*	*	5	4
01:00	*	*	1	4	1	3	2	5	*	*	*	*	*	*	1	4
02:00	*	*	5	2	5	5	2	3	*	*	*	*	*	*	4	3
03:00	*	*	1	3	2	2	4	3	*	*	*	*	*	*	2	3
04:00	*	*	12	5	14	6	14	8	*	*	*	*	*	*	13	6
05:00	*	*	37	17	24	14	34	30	*	*	*	*	*	*	32	20
06:00	*	*	43	44	46	36	44	42	*	*	*	*	*	*	44	41
07:00	*	*	63	54	61	66	60	64	*	*	*	*	*	*	61	61
08:00	*	*	69	71	71	73	68	87	*	*	*	*	*	*	69	77
09:00	*	*	58	71	57	75	55	102	*	*	*	*	*	*	57	83
10:00	*	*	49	82	63	73	65	94	*	*	*	*	*	*	59	83
11:00	*	*	63	81	70	87	60	102	*	*	*	*	*	*	64	90
12:00 PM	*	*	60	75	59	62	54	104	*	*	*	*	*	*	58	80
01:00	*	*	77	64	67	80	78	115	*	*	*	*	*	*	74	86
02:00	*	*	71	61	68	72	77	90	*	*	*	*	*	*	72	74
03:00	*	*	75	70	80	72	91	104	*	*	*	*	*	*	82	82
04:00	*	*	89	90	81	73	81	137	*	*	*	*	*	*	84	100
05:00	*	*	65	67	64	85	102	142	*	*	*	*	*	*	77	98
06:00	*	*	61	59	47	60	75	135	*	*	*	*	*	*	61	85
07:00	*	*	48	39	36	41	46	96	*	*	*	*	*	*	43	59
08:00	*	*	32	26	27	25	32	65	*	*	*	*	*	*	30	39
09:00	*	*	23	23	17	26	43	51	*	*	*	*	*	*	28	33
10:00	*	*	16	14	12	18	17	33	*	*	*	*	*	*	15	22
11:00	*	*	10	13	4	13	15	21	*	*	*	*	*	*	10	16
Lane	0	0	1035	1038	978	1071	1124	1638	0	0	0	0	0	0	1045	1249
Day	0		2073		2049		2762		0		0		0		2294	
AM Peak			08:00	10:00	08:00	11:00	08:00	09:00							08:00	11:00
Vol.			69	82	71	87	68	102							69	90
PM Peak			16:00	16:00	16:00	17:00	17:00	17:00							16:00	16:00
Vol.			89	90	81	85	102	142							84	100

Comb. Total	0	2073	2049	2762	0	0	0	2294

ADT ADT 2,295 AADT 2,295

County of Simcoe

Roads and Engineering Department
Midhurst, Ontario LOL 1XO
(705) 726-9300

County Road 169 - Summer 2008
Hwy 12 to
Cty Rd 45

Site Code: 169 01

Date Start: 22-Jul-08
Date End: 24-Jul-08

Start	21-Jul-08		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	2	5	8	15	5	9	*	*	*	*	*	*	5	10
01:00	*	*	2	6	5	7	3	9	*	*	*	*	*	*	3	7
02:00	*	*	4	4	6	3	6	4	*	*	*	*	*	*	5	4
03:00	*	*	2	5	2	3	2	3	*	*	*	*	*	*	2	4
04:00	*	*	10	9	15	7	15	9	*	*	*	*	*	*	13	8
05:00	*	*	32	18	26	20	19	18	*	*	*	*	*	*	26	19
06:00	*	*	35	31	34	38	22	30	*	*	*	*	*	*	30	33
07:00	*	*	45	65	42	53	64	81	*	*	*	*	*	*	50	66
08:00	*	*	75	68	70	104	74	91	*	*	*	*	*	*	73	88
09:00	*	*	58	94	68	94	71	102	*	*	*	*	*	*	66	97
10:00	*	*	81	130	93	119	93	145	*	*	*	*	*	*	89	131
11:00	*	*	84	114	74	134	91	153	*	*	*	*	*	*	83	134
12:00 PM	*	*	99	101	86	137	97	113	*	*	*	*	*	*	94	117
01:00	*	*	95	91	95	106	99	128	*	*	*	*	*	*	96	108
02:00	*	*	110	84	92	103	130	120	*	*	*	*	*	*	111	102
03:00	*	*	94	105	111	92	118	132	*	*	*	*	*	*	108	110
04:00	*	*	116	96	145	98	117	107	*	*	*	*	*	*	126	100
05:00	*	*	114	101	95	125	90	144	*	*	*	*	*	*	100	123
06:00	*	*	77	75	75	76	75	117	*	*	*	*	*	*	76	89
07:00	*	*	60	61	72	70	79	84	*	*	*	*	*	*	70	72
08:00	*	*	42	41	47	43	75	78	*	*	*	*	*	*	55	54
09:00	*	*	36	37	37	29	43	55	*	*	*	*	*	*	39	40
10:00	*	*	23	29	25	30	28	52	*	*	*	*	*	*	25	37
11:00	*	*	12	14	14	13	16	21	*	*	*	*	*	*	14	16
Lane	0	0	1308	1384	1337	1519	1432	1805	0	0	0	0	0	0	1359	1569
Day	0		2692		2856		3237		0		0		0		2928	
AM Peak			11:00	10:00	10:00	11:00	10:00	11:00							10:00	11:00
Vol.			84	130	93	134	93	153							89	134
PM Peak			16:00	15:00	16:00	12:00	14:00	17:00							16:00	17:00
Vol.			116	105	145	137	130	144							126	123

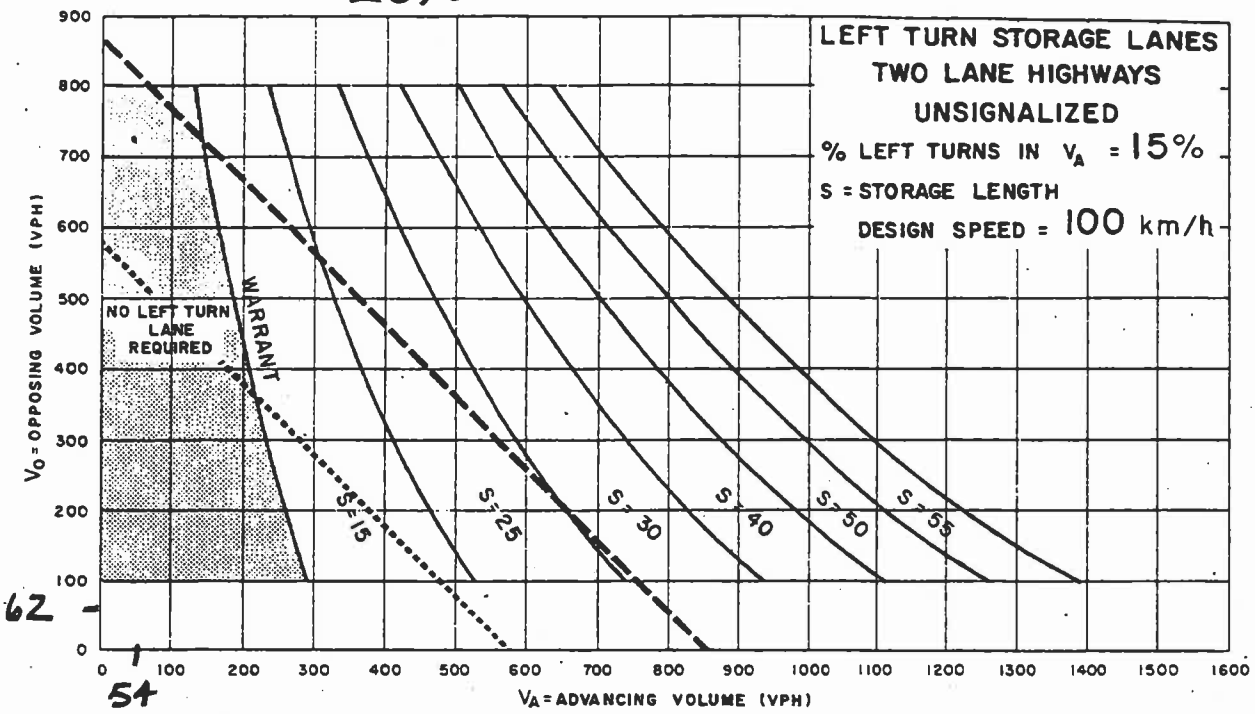
Comb. Total	0	2692	2856	3237	0	0	0	2928

ADT ADT 2,928 AADT 2,928

APPENDIX "C"

Left Turn Lane Warrant

2012



62

54

TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

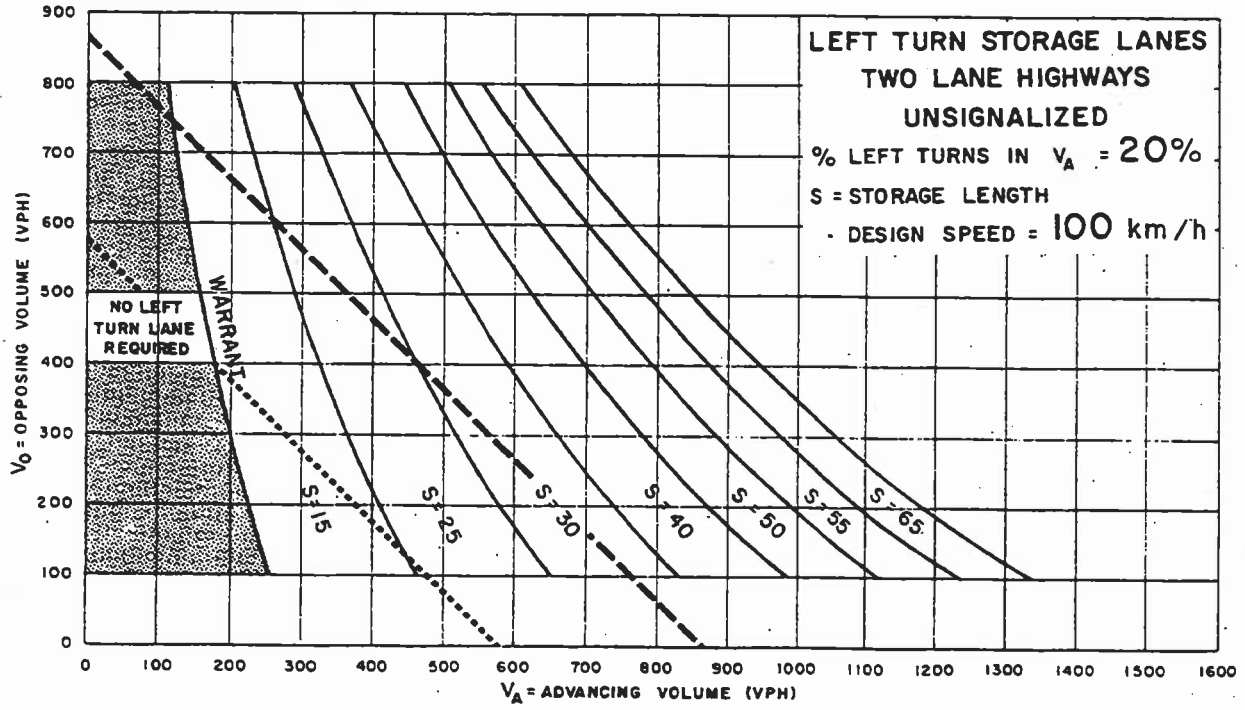
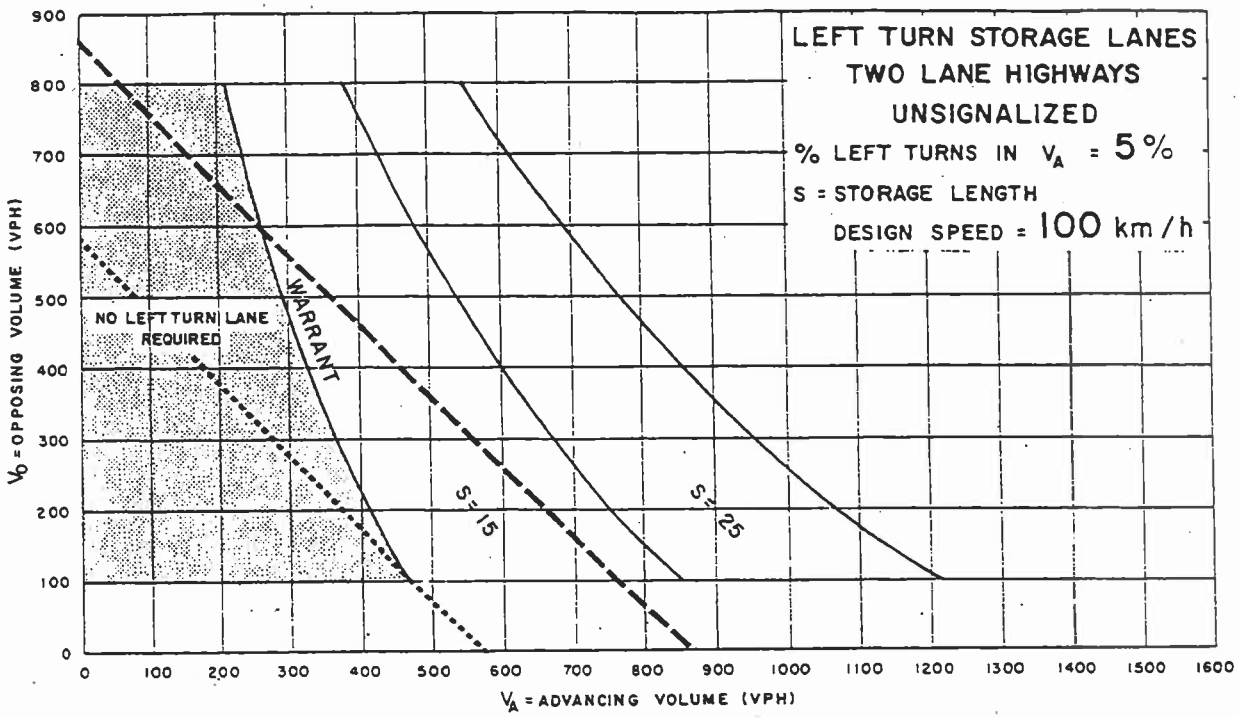


Figure EA-23



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

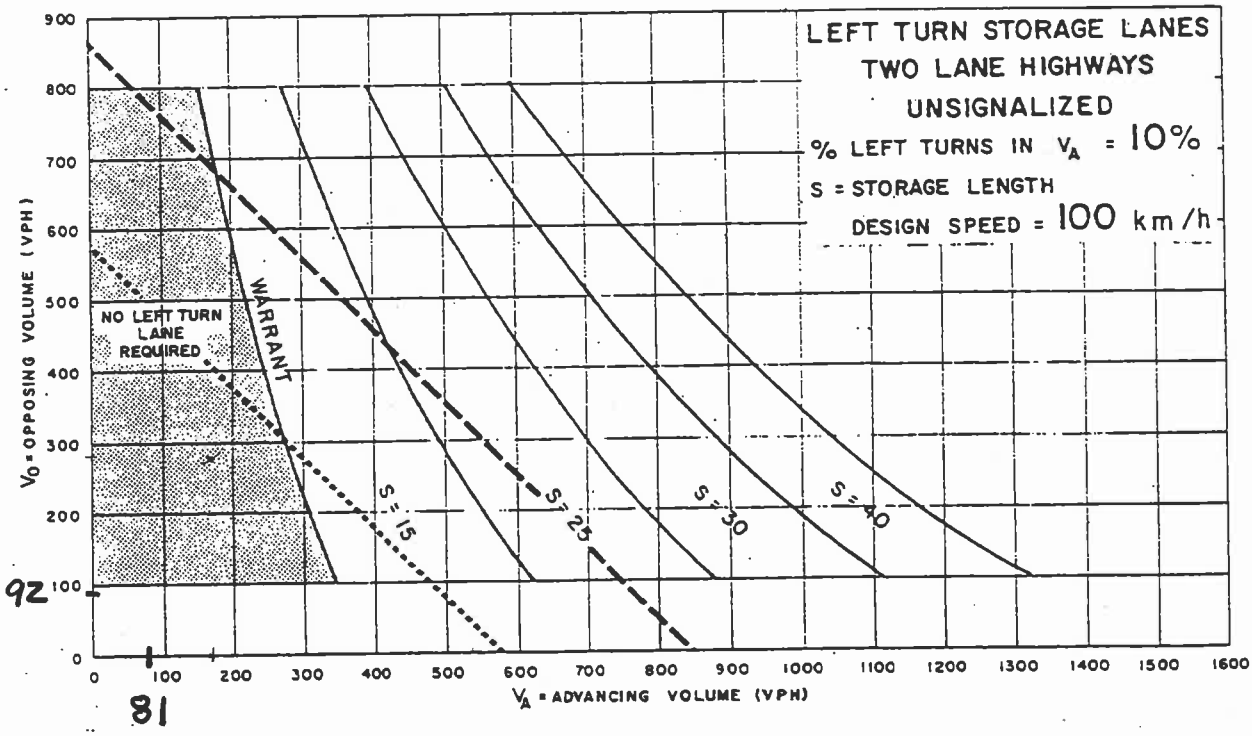


Figure EA-22

APPENDIX "D"

CV - Scott W. Brumwell, P. Eng.

Skelton Brumwell & Associates Inc.

ENGINEERING PLANNING ENVIRONMENTAL CONSULTANTS

Scott W. Brumwell, B.Sc. (Eng.), P. Eng.
Vice President, Principal

EDUCATION

Bachelor of Science in Engineering
University of Guelph, 1983
Majored in Water Resources Engineering

PROFESSIONAL BACKGROUND

Skelton, Brumwell & Associates Inc.
1987 to present

Vice President and Principal Engineer responsible for coordination of various municipal engineering projects undertaken by the firm. Specializing in development servicing design (roads, sewers, watermains), master servicing planning, stormwater management, transportation impact analysis and Phase I Environmental Site Assessments.

R. E. Clipsham Limited
1983 to 1987

Project Engineer responsible for the preparation of designs, reports, cost estimates and tender documents for various municipal engineering projects undertaken by the firm.

MEMBERSHIP & ASSOCIATIONS

Professional Engineers of Ontario (designated as a Consulting Engineer)

Qualified Designer for Sewage Systems and Plumbing (All Buildings) under Section 2.17 of the Ontario Building Code (BCIN 24241)

Institute of Transportation Engineers

Canadian Water Resources Association

Kempenfelt Rotary Club

Chairman of the Simcoe County Chapter Executive of the Professional Engineers of Ontario (1990-1991)

Scott W. Brumwell, B.Sc. (Eng.), P. Eng.
Vice President, Principal

WORK RELATED COURSES

Consulting Engineers of Ontario
and Ontario Ministry of Natural Resources
Urban Drainage Design, 1988

Ministry of the Environment
Implementation of pollution control measures for urban stormwater runoff, 1989

Ministry of Transportation
New MTO Drainage Management Policy and Practice, 1989

The Canadian Institute
Subdividing Land, 1990

The Canadian Institute
Effluent Management for the 1990's, 1990

Technical University of Nova Scotia
Stormwater Management, 1991
Executive Enterprises Inc.

Effective Strategies for Environmental Site Assessments and Cleanup, 1993.

Ministry of the Environment
Stormwater Management Practices and Planning, 1994

University of Toronto
Preparation and Review of Traffic Impact Studies, 1994

University of Toronto
Environmental Legislation and Auditing, 1996

Ministry of the Environment
Stormwater / CSO Technology Transfer Conference, 1998

Ontario Traffic Conference
Rural Roadway Safety Initiatives, 2005