April 28th, 2017

City of Ottawa
Planning and Growth Management Branch
110 Laurier Ave. W., 4th Floor
Ottawa, ON K1P 1J1

Attention: Ms. Amira Shehata, M. Eng, P. Eng
Project Manager, Infrastructure Approvals – Transportation

Dear Ms. Shehata:

Reference: 4139 Moodie Drive – ProSlide Research and Development Center
Transportation Overview
Our File No.: 117022

1.0 INTRODUCTION

The following Transportation Overview has been prepared in support of a Zoning By-law Amendment application for 4139 Moodie Drive.

This Transportation Overview provides a description of the proposed development, summarizes the existing conditions in the vicinity of the subject site, calculates projected trip generation volumes for weekday AM and PM peak hours and reviews the impact of the proposed development on the area road network.

2.0 PROPOSED DEVELOPMENT

The subject site is located along Moodie Drive, approximately 1.25 km north of Brophy Drive. The site is currently vacant and previously used as a tree farm.

The subject site is surrounded by vacant land to the north, agricultural land and a residential dwelling to the west, and residential dwellings on very deep lots to the east (dwellings are located more than 900m from the site). The proponent of the subject development, ProSlide Technology Inc., also owns the lands to the south. The lands to the south are currently vacant but are planned as a future waterpark, to be co-located with the subject development. The *Lottawata Waterpark Transportation Impact Study* was prepared in July 2007 in support of a previous development application for the future waterpark. The previous development application has now lapsed however the lands are still being planned as a future waterpark. Based on a revised schedule, the subject development will now lead the planned waterpark development.

The subject development consists of a research and development center for ProSlide. The research and development center will be used for developing and testing waterpark rides. It will employ approximately 20-30 people and will consist of approximately 5,000 square feet of office space and 15,000 square feet of warehouse space. A new access to Moodie Drive is proposed, as well as an access connection to the adjacent lands to the south.

A concept plan for the proposed development and the future waterpark to the south is included in **Appendix A**.

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

3.0 EXISTING CONDITIONS

3.1 Roadways and Intersections

Moodie Drive is an arterial roadway that runs on a north-south alignment between Carling Avenue and Brophy Drive. Moodie Drive has a two-lane undivided rural cross-section with gravel shoulders and a posted speed limit of 80km/hr in the vicinity of the subject site. The City's Official Plan identifies a right-of-way (ROW) protection of 30m for Moodie Drive. A ROW widening has already been taken from the subject site and no further widening is required.

Brophy Drive is an arterial roadway that runs on an east-west alignment between Eagleson Road and Highway 416. Brophy Drive has a two-lane undivided rural cross-section with gravel shoulders and a posted speed limit of 80km/hr in the vicinity of the subject site.

The Moodie Drive/Brophy Drive intersection currently operates under side street stop control, with stop control on Moodie Drive and free flow conditions along Brophy Drive.

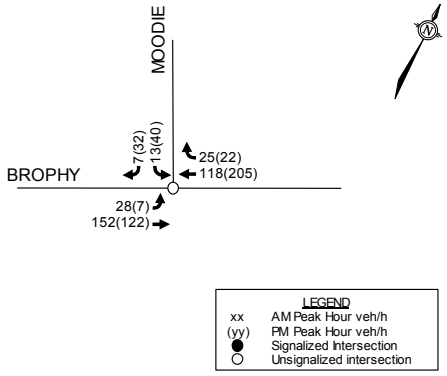
3.2 Transit Facilities

There is currently no transit service in the vicinity of the subject site.

3.3 Existing Traffic Volumes

An eight-hour traffic count was coordinated by Novatech at the Moodie Drive/Brophy Drive intersection on Thursday March 30th, 2017. Peak hour summary sheets for the aforementioned traffic count are included in **Appendix B**. Existing weekday AM and PM peak hour traffic volumes at the Moodie Drive/Brophy Drive intersection are shown in **Figure 1**.

Figure 1: Existing Traffic Volumes



4.0 TRIP GENERATION AND ASSESSMENT

4.1 Trip Generation

The trips generated by the proposed development have been estimated using relevant peak hour trip generation rates identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition*. Trips generated by the proposed development have been estimated using

the General Office Building land use (LU 710) and Warehousing land use (LU 150). Trips generated by the proposed development during the weekday AM and PM peak hours are shown in the following table.

Table 1: ITE Trip Generation

Land Use	GFA (s.f.)	AM Peak			PM Peak		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Office	5,000	7	1	8	1	6	7
Warehouse	15,000	3	2	5	1	4	5
TOTAL		**10**	**3**	**13**	**2**	**10**	**12**

As the subject site is in a rural area where non-auto modes of transportation are not readily available, the ITE trips presented above are considered an accurate representation of vehicle trips generated by the proposed development.

Based on the foregoing, the proposed site is anticipated to generate a total of 13 vehicle trips during the weekday AM peak hour and 12 vehicle trips during the weekday PM peak hour. This equates to one vehicle every five minutes.

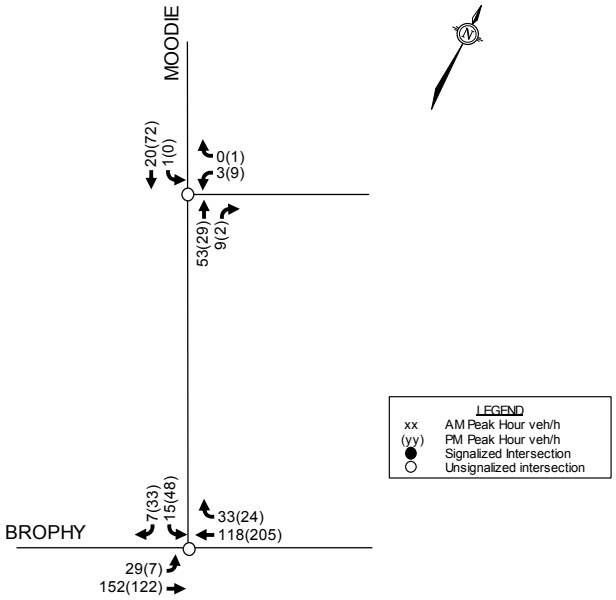
4.2 Trip Distribution

The distribution of trips generated by the proposed development is primarily influenced by the site's proximity to Highway 416, and can be described as follows:

- 80% to/from the east via Brophy Drive;
- 10% to/from the west via Brophy Drive; and
- 10% to/from the north via Moodie Drive.

Total traffic volumes along the study area roadways are shown in **Figure 2**.

Figure 2: Total Traffic Volumes



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4.3 Capacity Assessment

The lane capacity of a rural arterial roadway with few signals and at-grade intersections (Moodie Drive and Brophy Drive) is estimated at 1200 vehicles per hour per lane. The existing traffic volumes along Moodie Drive suggest the road is operating at approximately 10% capacity during the weekday AM and PM peak hours. The existing traffic volumes along Brophy Drive suggest the road is operating at approximately 25% to 30% capacity during the weekday AM and PM peak hours.

Traffic generated by the proposed development will slightly increase traffic volumes along Moodie Drive and Brophy Drive, but is anticipated to have little to no impact on the roadway operations. No roadway modifications are recommended as none are required.

5.0 ON-SITE DESIGN

5.1 Proposed Access and Parking

A new access is proposed on Moodie Drive, as shown on the proposed concept plan in **Appendix A**. An access connection is proposed to the lands to the south for internal traffic circulation between the subject site and the future waterpark. The design and location of the proposed accesses will be reviewed as part of a future Site Plan Control application.

5.2 On-Site Parking

The number of on-site vehicle and bike parking spaces has not been finalized for the purposes of this application. The number of on-site vehicle and bike parking spaces will be reviewed for conformance with the City's Zoning By-law in a future Site Plan Control application.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of this Transportation Overview can be summarized as follows:

- The proposed site is anticipated to generate a total of 13 vehicle trips during the weekday AM peak hour and 12 vehicle trips during the weekday PM peak hour. This equates to one vehicle every five minutes.
- Traffic generated by the proposed development will slightly increase traffic volumes along Moodie Drive and Brophy Drive, but is anticipated to have little to no impact on the roadway operations. No roadway modifications are recommended as none are required.
- The access design and location will be reviewed for conformance with the City's Private Approach By-law and Zoning By-law during a future Site Plan Control application.
- The number of on-site vehicle and bike parking spaces will be reviewed for conformance with the City's Zoning By-law in a future Site Plan Control application.

Based on the foregoing, the proposed Research and Development Center is recommended from a transportation perspective.

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NOVATECH
Engineers, Planners & Landscape Architects

Yours truly,

NOVATECH

Prepared by:

Brad Byvelds, P. Eng.
Project Coordinator | Transportation/Traffic

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APPENDIX A

Proposed Concept Plan

Waterpark
Future Phase Expansions

Natural
Lake

BoH

Wave
Pool

R&D
Facility

ProSlide
Surf

BoH

Main
Entrance

Parking

MOODIE DRIVE

0 10 50 100 m

N

PROSLIDE
TECHNOLOGY INC

ALOTTAWATA WATERPARK

CONCEPT MASTERPLAN - OCT 2016

APPENDIX B

Traffic Count Information

Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200
Ottawa Ontario, K2M 1P6

Weather:
Serial Number: T12-1614
Collected By: Chantelle Slawter
Notes:

File Name : Moodie&Brophy
Site Code : 11702201
Start Date : 30/03/2017
Page No : 1

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

	Moodie Drive From North				Brophy Drive From East				Brophy Drive From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	2	0	4	4	21	0	25	44	3	0	47	76
07:15 AM	0	4	0	4	3	29	0	32	36	13	0	49	85
07:30 AM	3	2	0	5	12	38	0	50	34	7	0	41	96
07:45 AM	2	5	0	7	6	30	0	36	38	5	0	43	86
Total	7	13	0	20	25	118	0	143	152	28	0	180	343
08:00 AM	1	4	0	5	1	29	0	30	34	2	0	36	71
08:15 AM	1	1	0	2	8	28	0	36	30	4	0	34	72
08:30 AM	2	3	0	5	4	24	0	28	29	9	0	38	71
08:45 AM	1	3	0	4	9	15	0	24	27	4	0	31	59
Total	5	11	0	16	22	96	0	118	120	19	0	139	273
09:00 AM	5	6	0	11	1	9	0	10	24	6	0	30	51
09:15 AM	4	4	0	8	7	12	0	19	29	3	0	32	59
09:30 AM	2	3	0	5	4	22	0	26	21	1	0	22	53
09:45 AM	0	1	0	1	5	17	0	22	19	3	0	22	45
Total	11	14	0	25	17	60	0	77	93	13	0	106	208
*** BREAK ***													
11:30 AM	3	1	0	4	4	20	0	24	25	3	0	28	56
11:45 AM	1	2	0	3	6	17	0	23	13	4	0	17	43
Total	4	3	0	7	10	37	0	47	38	7	0	45	99
12:00 PM	4	6	0	10	5	15	0	20	20	1	0	21	51
12:15 PM	3	3	0	6	1	21	0	22	14	0	0	14	42
12:30 PM	0	3	0	3	2	22	0	24	23	1	0	24	51
12:45 PM	4	1	0	5	6	14	0	20	17	3	0	20	45
Total	11	13	0	24	14	72	0	86	74	5	0	79	189
01:00 PM	4	4	0	8	1	23	0	24	9	3	0	12	44
01:15 PM	5	3	0	8	1	28	0	29	14	0	0	14	51
*** BREAK ***													
Total	9	7	0	16	2	51	0	53	23	3	0	26	95
*** BREAK ***													
03:00 PM	7	9	0	16	4	23	0	27	27	1	0	28	71
03:15 PM	3	4	0	7	0	27	0	27	31	6	0	37	71
03:30 PM	9	4	0	13	3	40	0	43	22	2	0	24	80
03:45 PM	9	5	0	14	5	32	0	37	24	2	0	26	77
Total	28	22	0	50	12	122	0	134	104	11	0	115	299
04:00 PM	11	14	0	25	5	42	0	47	30	2	0	32	104
04:15 PM	8	9	0	17	9	60	0	69	32	2	0	34	120
04:30 PM	6	11	0	17	5	45	0	50	28	1	0	29	96
04:45 PM	7	6	0	13	3	58	0	61	32	2	0	34	108
Total	32	40	0	72	22	205	0	227	122	7	0	129	428
05:00 PM	5	7	0	12	4	43	0	47	31	3	1	35	94
05:15 PM	6	7	0	13	4	61	0	65	11	4	0	15	93

Engineers, Planners & Landscape Architects

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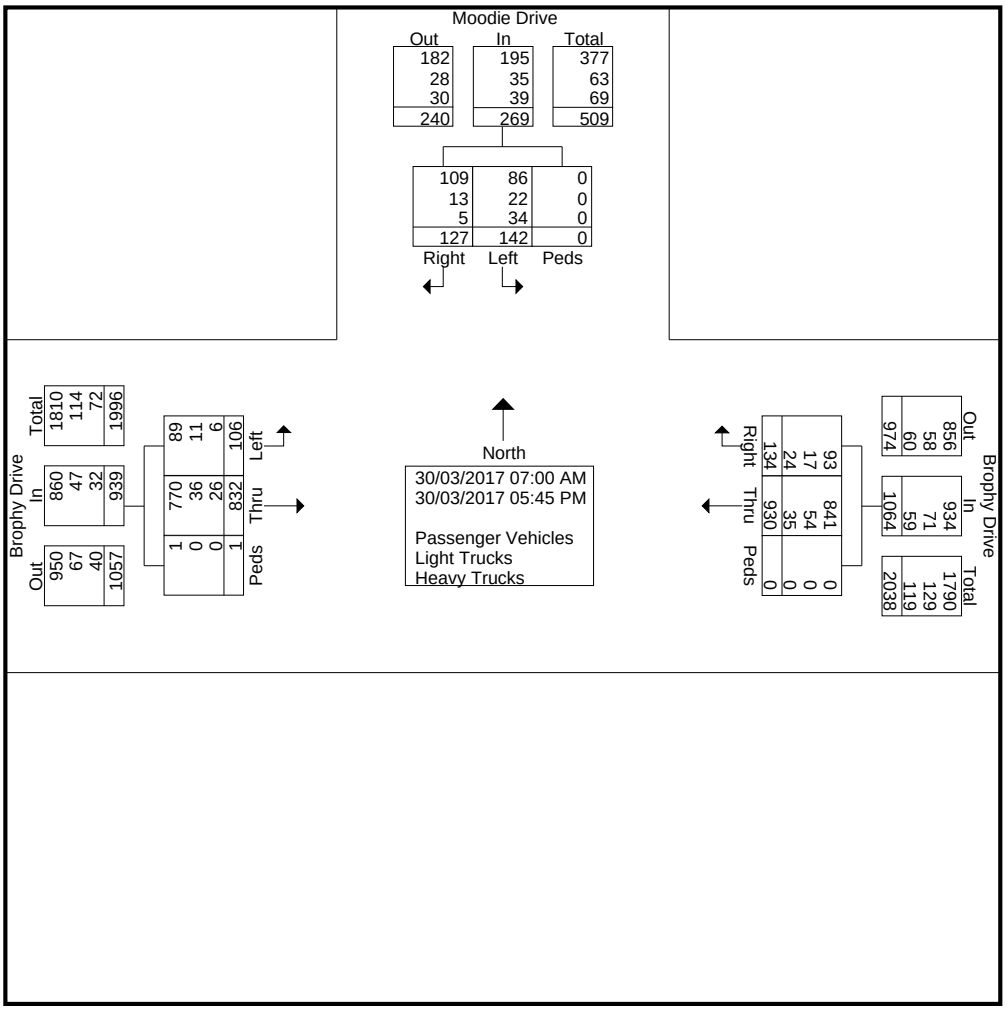
Notes:

File Name : Moodie&Brophy
Site Code : 11702201
Start Date : 30/03/2017

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

	Moodie Drive From North				Brophy Drive From East				Brophy Drive From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
05:30 PM	4	2	0	6	0	37	0	37	33	2	0	35	78
05:45 PM	5	3	0	8	2	28	0	30	31	4	0	35	73
Total	20	19	0	39	10	169	0	179	106	13	1	120	338
Grand Total	127	142	0	269	134	930	0	1064	832	106	1	939	2272
Apprch %	47.2	52.8	0		12.6	87.4	0		88.6	11.3	0.1		
Total %	5.6	6.2	0	11.8	5.9	40.9	0	46.8	36.6	4.7	0	41.3	
Passenger Vehicles	109	86	0	195	93	841	0	934	770	89	1	860	1989
% Passenger Vehicles	85.8	60.6	0	72.5	69.4	90.4	0	87.8	92.5	84	100	91.6	87.5
Light Trucks	13	22	0	35	17	54	0	71	36	11	0	47	153
% Light Trucks	10.2	15.5	0	13	12.7	5.8	0	6.7	4.3	10.4	0	5	6.7
Heavy Trucks	5	34	0	39	24	35	0	59	26	6	0	32	130
% Heavy Trucks	3.9	23.9	0	14.5	17.9	3.8	0	5.5	3.1	5.7	0	3.4	5.7



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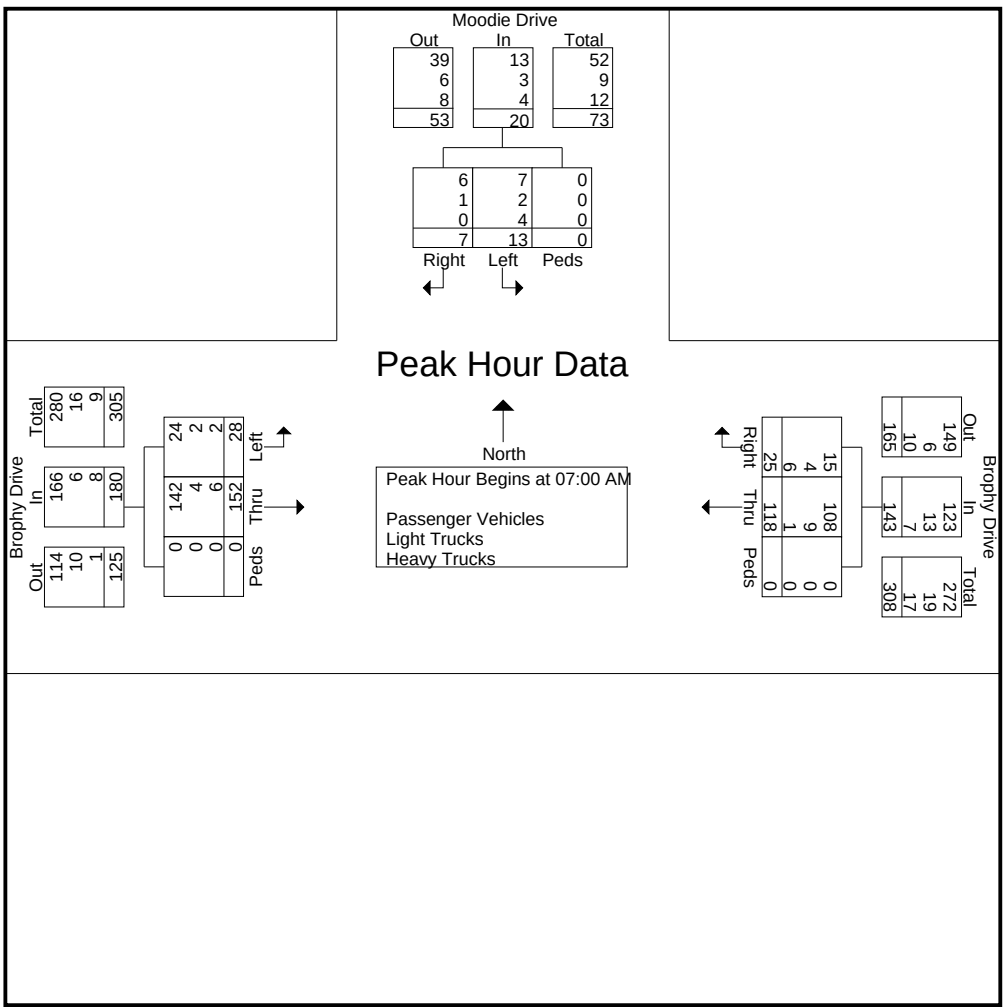
Page No : 3

	Moodie Drive From North				Brophy Drive From East				Brophy Drive From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	2	2	0	4	4	21	0	25	**44**	3	0	47	76
07:15 AM	0	4	0	4	3	29	0	32	36	**13**	0	**49**	85
07:30 AM	**3**	2	0	5	**12**	**38**	0	**50**	34	7	0	41	**96**
07:45 AM	2	**5**	0	**7**	6	30	0	36	38	5	0	43	86
Total Volume	7	13	0	20	25	118	0	143	152	28	0	180	343
% App. Total	35	65	0		17.5	82.5	0		84.4	15.6	0		
PHF	.583	.650	.000	.714	.521	.776	.000	.715	.864	.538	.000	.918	.893
Passenger Vehicles	6	7	0	13	15	108	0	123	142	24	0	166	302
% Passenger Vehicles	85.7	53.8	0	65.0	60.0	91.5	0	86.0	93.4	85.7	0	92.2	88.0
Light Trucks	1	2	0	3	4	9	0	13	4	2	0	6	22
% Light Trucks	14.3	15.4	0	15.0	16.0	7.6	0	9.1	2.6	7.1	0	3.3	6.4
Heavy Trucks	0	4	0	4	6	1	0	7	6	2	0	8	19
% Heavy Trucks	0	30.8	0	20.0	24.0	0.8	0	4.9	3.9	7.1	0	4.4	5.5



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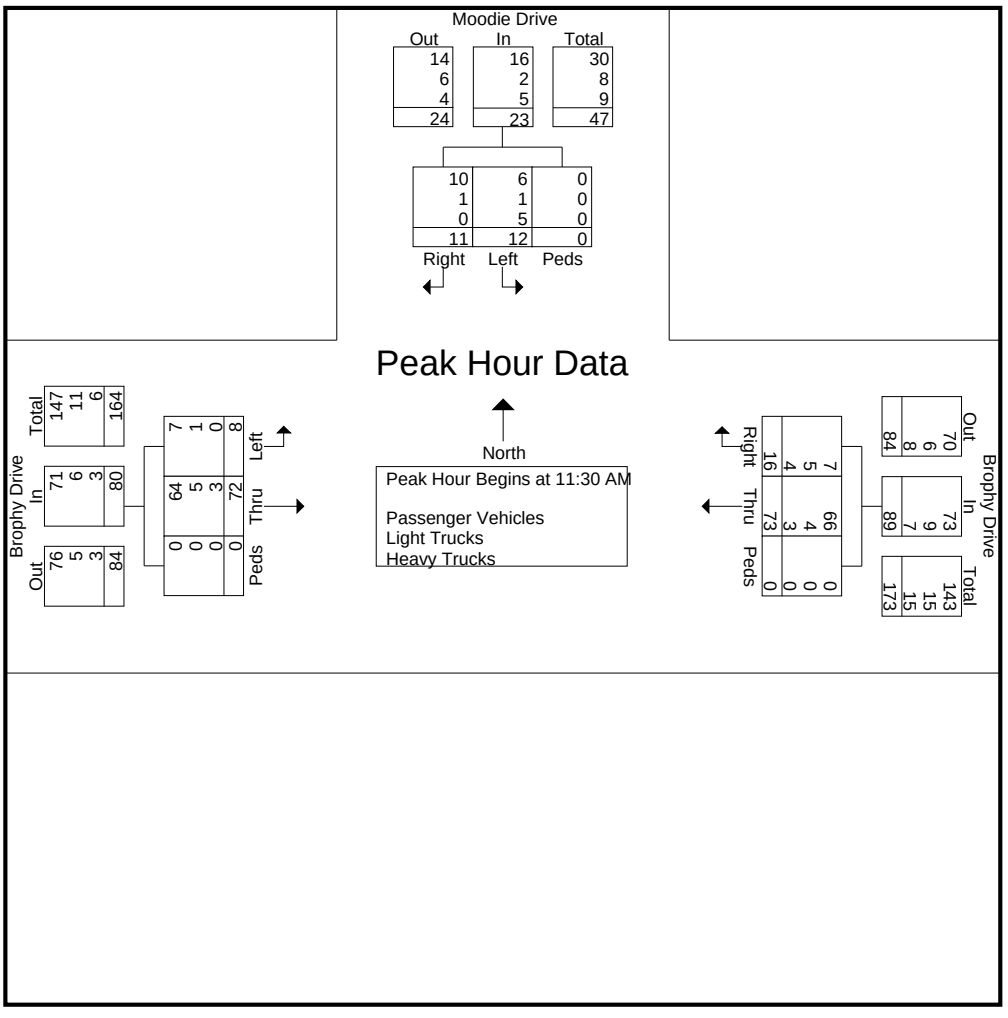
	Moodie Drive From North				Brophy Drive From East				Brophy Drive From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:30 AM													
11:30 AM	3	1	0	4	4	20	0	**24**	**25**	3	0	**28**	**56**
11:45 AM	1	2	0	3	**6**	17	0	23	13	**4**	0	17	43
12:00 PM	**4**	**6**	0	**10**	5	15	0	20	20	1	0	21	51
12:15 PM	3	3	0	6	1	**21**	0	22	14	0	0	14	42
Total Volume	11	12	0	23	16	73	0	89	72	8	0	80	192
% App. Total	47.8	52.2	0		18	82	0		90	10	0		
PHF	.688	.500	.000	.575	.667	.869	.000	.927	.720	.500	.000	.714	.857
Passenger Vehicles	10	6	0	16	7	66	0	73	64	7	0	71	160
% Passenger Vehicles	90.9	50.0	0	69.6	43.8	90.4	0	82.0	88.9	87.5	0	88.8	83.3
Light Trucks	1	1	0	2	5	4	0	9	5	1	0	6	17
% Light Trucks	9.1	8.3	0	8.7	31.3	5.5	0	10.1	6.9	12.5	0	7.5	8.9
Heavy Trucks	0	5	0	5	4	3	0	7	3	0	0	3	15
% Heavy Trucks	0	41.7	0	21.7	25.0	4.1	0	7.9	4.2	0	0	3.8	7.8



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Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	**11**	**14**	0	**25**	5	42	0	47	30	**2**	0	32	104
04:15 PM	8	9	0	17	**9**	**60**	0	**69**	**32**	2	0	**34**	**120**
04:30 PM	6	11	0	17	5	45	0	50	28	1	0	29	96
04:45 PM	7	6	0	13	3	58	0	61	32	2	0	34	108
Total Volume	32	40	0	72	22	205	0	227	122	7	0	129	428
% App. Total	44.4	55.6	0		9.7	90.3	0		94.6	5.4	0		
PHF	.727	.714	.000	.720	.611	.854	.000	.822	.953	.875	.000	.949	.892
Passenger Vehicles	29	28	0	57	13	191	0	204	115	4	0	119	380
% Passenger Vehicles	90.6	70.0	0	79.2	59.1	93.2	0	89.9	94.3	57.1	0	92.2	88.8
Light Trucks	2	3	0	5	4	5	0	9	3	2	0	5	19
% Light Trucks	6.3	7.5	0	6.9	18.2	2.4	0	4.0	2.5	28.6	0	3.9	4.4
Heavy Trucks	1	9	0	10	5	9	0	14	4	1	0	5	29
% Heavy Trucks	3.1	22.5	0	13.9	22.7	4.4	0	6.2	3.3	14.3	0	3.9	6.8