

December 11, 2019

Aercoustics Project #: 10351.03

ZanderPlan Inc.

P.O. Box 20148
Perth, ON
K7H 2Y4

ATTN: Tracy Zander, ZanderPlan Inc.

CC: Wib Crain, Crains' Construction Ltd.

Subject: Crains' Leslie Pit
Haul Route Truck Traffic Noise Assessment

1 Introduction

Aercoustics Engineering Limited (Aercoustics) has been retained by ZanderPlan Inc. (ZanderPlan) to complete a noise assessment of the truck traffic along an external haul route in support of the proposed Leslie Pit, located at 7731 Fernbank Road in the Township of Goulbourn in the City of Ottawa.

It is understood that the City of Ottawa does not require a noise impact study to address site noise from the proposed pit operations. However, the city has requested a noise assessment to address the truck traffic noise along the haul route.

The purpose of this letter is to evaluate the increase in the noise impact of the truck traffic along the haul route and provide a general assessment of the perceived impact on nearby noise-sensitive points of reception (POR).

The impact to existing traffic volumes was assessed during hours in which the Leslie Pit is to operate. The hours of operation for Leslie Pit is proposed to be from 06:00 to 18:00 Monday to Saturday. No shipping operations are to occur outside of this time, nor on Sundays or Holidays.

2 Noise Criteria

The noise impact of truck traffic on public roadways is not addressed by the Ministry of the Environment, Conservation and Parks (MECP) in their land-use planning noise guidelines. However, the MECP requires that consideration of noise impact be given to choose the off-property haul route. Further, the MECP document titled, "Noise Guidelines for Landfill

Sites", dated October 1998, provides general guidelines for evaluating the noise impact of truck traffic associated with external haul routes.

The guideline outlines a qualitative assessment of the perceived increase in the noise environmental of nearby POR from truck traffic along external haul routes. A summary of the qualitative assessments of the perceived noise impact from increased noise levels along these external haul routes is provided in Table 1.

Table 1 - Perceived Impact in Noise Environment from Increased Truck Traffic Along External Haul Routes

Increase in Sound Level	Perceived Increase in Noise Environment
1 dB to 3 dB	Insignificant
3 dB to 5 dB	Noticeable
5 dB to 10 dB	Significant
10 dB +	Very Significant

The below considers these guidelines in assessing the potential increase in the noise environment on each POR along the proposed haul routes for Leslie Pit.

3 Existing Noise Environment

The noise environment of the area surrounding the Leslie Pit external haul routes is expected to be primarily influenced by road traffic.

A traffic study was completed by McIntosh Perry Consulting Engineering Ltd. on December 21, 2015. The study outlines both the existing traffic conditions and added trucking operations as a result of the proposed pit. An addendum letter was issued on January 18, 2019 by Castleglenn Consultants to address a revised site plan of the Leslie Pit which includes reduced operations and a relocated site access location. Excerpts from both the original traffic study and the addendum letter are provided in Appendix A.

More recently, it has been determined that Munster Road will not be part of the regular haul route. As such, the added truck traffic along this roadway as a result of the proposed pit, as described in the aforementioned studies, will be rerouted west along Fernbank Road. Details of the distribution of haul route traffic is provided below.

As Munster Road will not be used as a regular haul route, there are two primary roadways which are expected to be influenced by the external haul route for Leslie Pit. These roadways are Fernbank Road and Jinkinson Road

Updated traffic data from April 2019 (provided in Appendix B) was used to determine the existing traffic levels on Fernbank Road and Jinkinson Road.

A summary of the existing traffic operations for the horizon year of 2020 is provided in Table 2.

Table 2 - Summary of Existing Daytime Traffic Volumes for Horizon Year 2020

	Minimum One-Hour Volume		Average One-Hour Volume	
	Cars	Trucks	Cars	Trucks
Fernbank Road	109	18	146	25
Jinkinson Road	61	18	80	24

4 Noise Impact of Truck Traffic

As outlined in the addendum letter attached in Appendix A, the maximum one-hour truck traffic from Leslie Pit has been determined to be 68 trucks (34 in / 34 out). The proposed entrance/exit to the pit is located on the west side of the property, directly across from Munster Road.

As discussed above, Aeroustics understand that Munster Road is to no longer to be part of the regular haul route for Leslie Pit. As such, the portion of traffic to be routed along Muster Road in the Castleglenn addendum letter will be rerouted west, along Fernbank Road. The distribution of the truck traffic on the neighbouring roads is summarized in Table 3. Sample calculations of the noise impact from increased truck traffic is provided in Appendix B.

Table 3 - Summary of Leslie Pit Truck Traffic Breakdown onto Neighbouring Roadways

Roadway	Percentage of Total Truck Traffic
Fernbank Road	40%
Jinkinson Road	60%

The potential noise impact to the noise-sensitive POR along each roadway is evaluated conservatively by introducing the assumed maximum truck volumes to the existing minimum and average one-hour traffic counts and subsequently determining the perceived impact on the noise environment. The anticipated increase in the noise levels along each roadway and the perceived impact is summarized in Table 4. Note that the increase in sound level with the maximum number of trucks compared to the minimum existing traffic volumes represents the potential worst-case one-hour noise impact on nearby POR's.

Table 4 – Relative Increase in Noise Level from Addition of Leslie Pit Haul Route and Perceived Impact

Roadway	Increase in Noise Level (dB)		Perceived Impact
	Worst-Case Increase	Average Increase	
Fernbank Road	3.6	2.8	Insignificant (Potentially Noticeable for Worst-Case)
Jinkinson Road	4.9	4.1	Noticeable

Fernbank Road is expected to have the lowest increase in the potential noise impact from road traffic as a result of the new truck traffic along the external haul route of the proposed Leslie Pit. The increase to the potential average traffic volumes is expected to have an insignificant increase in the overall noise level at each POR along this road. However, there is the potential of a noticeable increase in the noise impact during the times of the days when the existing traffic volumes are low.

The existing truck traffic along Jinkinson Road is similar to that of Fernbank Road, however the expected increase in the traffic from Leslie Pit is slightly higher. The increased truck traffic is expected to produce a noticeable increase in the overall noise impact on the nearby POR along Jinkinson Road.

5 Conclusion

Aeroustics Engineering Limited (Aeroustics) has been retained by ZanderPlan Inc. (ZanderPlan) to complete a noise assessment of the truck traffic in support of the proposed Leslie Pit. The increased traffic volumes have been assessed for both nearby roadways in which trucking is expected to be routed to and from the site.

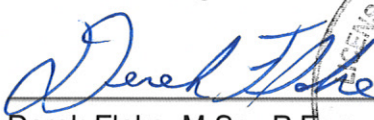
The increase in the noise impact on each POR along Fernbank Road is expected to be insignificant with the potential of a noticeable increase during times of the day when the existing traffic volumes are at a minimum. Furthermore, the increase in the impact on each POR along Jinkinson Road is expected to be noticeable.

Sincerely,

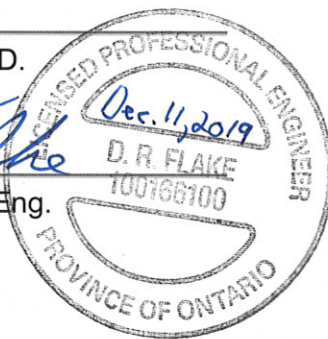
AERCOUSTICS ENGINEERING LIMITED

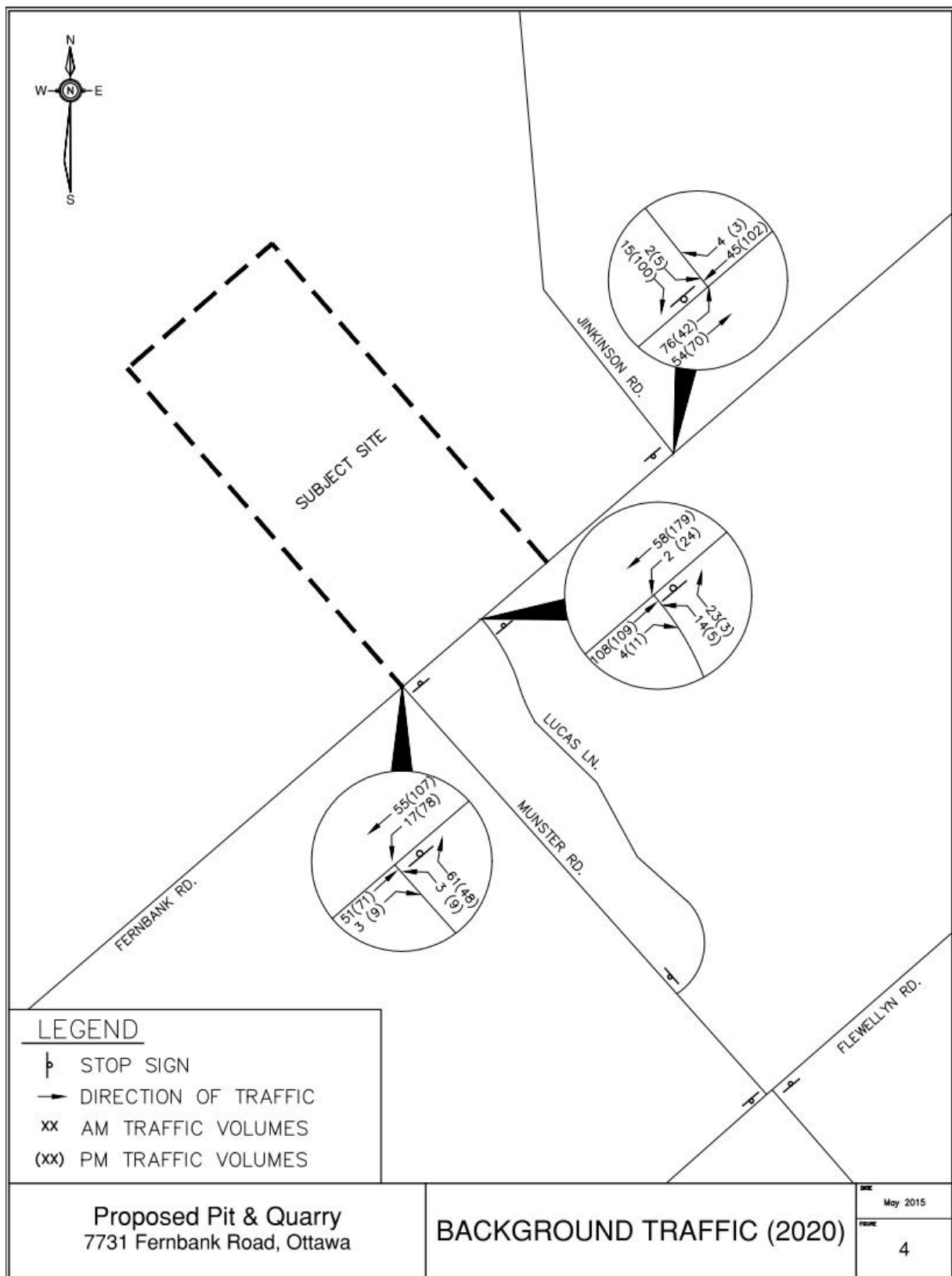


Eric Salt, B.EngM., Ph.D.



Derek Flake, M.Sc., P.Eng.





January 18th, 2019



**Castleglenn
Consultants**

Engineers, Project Managers & Planners

Ms. Amira Shehata, M. Eng., P. Eng.

City of Ottawa

Project Manager, Infrastructure Approvals - Transportation

110 Laurier Ave West, Ottawa, ON K1P 1J1

[Tel: 613.580.2424 ext. 27737]

**Re: 7731 Fernbank Road – Proposed Leslie Pit
Addendum Traffic Letter Report
City of Ottawa, Ontario**

The purpose of this addendum traffic letter report is to provide an update to the original “Transportation Brief¹” (December 21st, 2015) prepared by McIntosh Perry. The original study evaluated the traffic-related impacts to the proposed pit and quarry located at 7731 Fernbank Road in the township of Goulbourn, within the City of Ottawa. The revised site plan is illustrated in Exhibit 1.

The following changes have occurred since the last submission:

- The proposed site access has been relocated across Munster Road. The original site plan had assumed the access would be located east of Munster Road; and
- The proposed pit is expected to produce a maximum annual tonnage of 500,000. The original study assumed 1,000,000 tonnage per year.

The City of Ottawa has indicated that since the original Transportation Brief was undertaken before the new TIA guideline, the updated traffic study would not be required to comply with new TIA guidelines.

1.0 REVISED SITE TRAFFIC VOLUMES

To remain consistent with the original Transportation Brief, the same method of traffic generation was used to determine the site traffic volumes.

- The proposed site is anticipated to produce approximately 500,000 tonnage per year;
- It is assumed that each truck exiting the site would carry approximately 20 tonnes of materials;
- The estimated number of working days for the Ottawa area, based on the MTO working day chart is 110;
- This would translate to approximately 227 outbound trips (500,000/20/110) and a total of 454 daily trips;

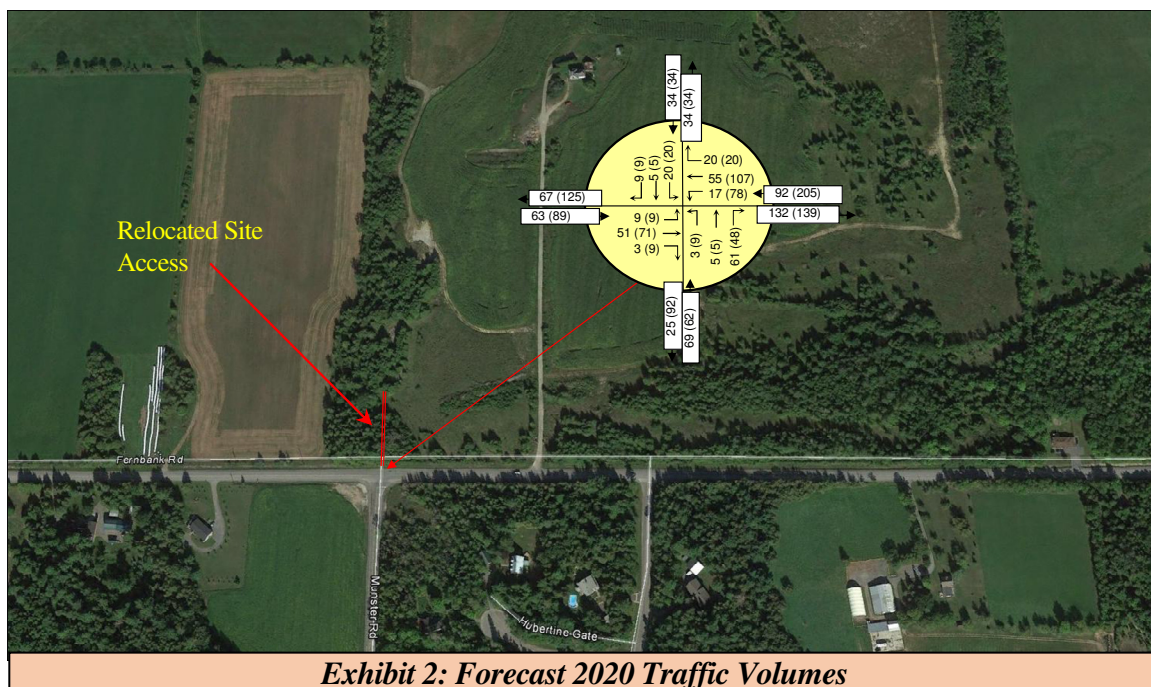
¹ “Transportation Brief - Proposed Pit & Quarry: Township of Goulbourn – City of Ottawa” (December 21st, 2015)

2460 Lancaster Road, Suite 200, Ottawa, Ontario, K1B 4S5

- To remain conservative and account for employee trips, the trips were increased by 20%. This results in 272 outbound trips (545 total daily trips); and
- Assuming a regular 8-hour work day, the peak hour traffic volume has been estimated to be 68 total trips (34 in / 34 out).

The trips generated by the new proposed site are half of the trips generated by the previous site plan.

Exhibit 2 below illustrates the forecast traffic volumes with the revised site traffic volumes entering/exiting the proposed relocated site access opposite Munster Road. The same forecast background traffic volumes were used from the previous 2015 Transportation Brief². The same distribution patterns were also used for the revised site traffic volumes as the original study (60% north via Jinkinson Rd; 25% west via Fernbank Rd and 15% south via Munster Rd).



2.0 REVISED SITE ACCESS ANALYSIS

The previous Transportation Brief analyzed four intersections that included:

- Fernbank Rd / Munster Rd;
- Fernbank Rd / Site Access (east of Munster Rd);
- Fernbank Rd / Lucas Ln; and
- Fernbank Rd / Jinkinson Rd.

Since the last site plan, the proposed site access has been relocated opposite of Munster Road. This would convert the intersection of Munster Road / Fernbank Road to a 4-leg intersection with stop signs facing the north and south leg. Given the remaining study area intersections are not anticipated to change in terms of traffic impact, a revised analysis was only undertaken at

² "Transportation Brief - Proposed Pit & Quarry: Township of Goulbourn – City of Ottawa" (December 21st, 2015) – Figure 4 Background Traffic (2020)



Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

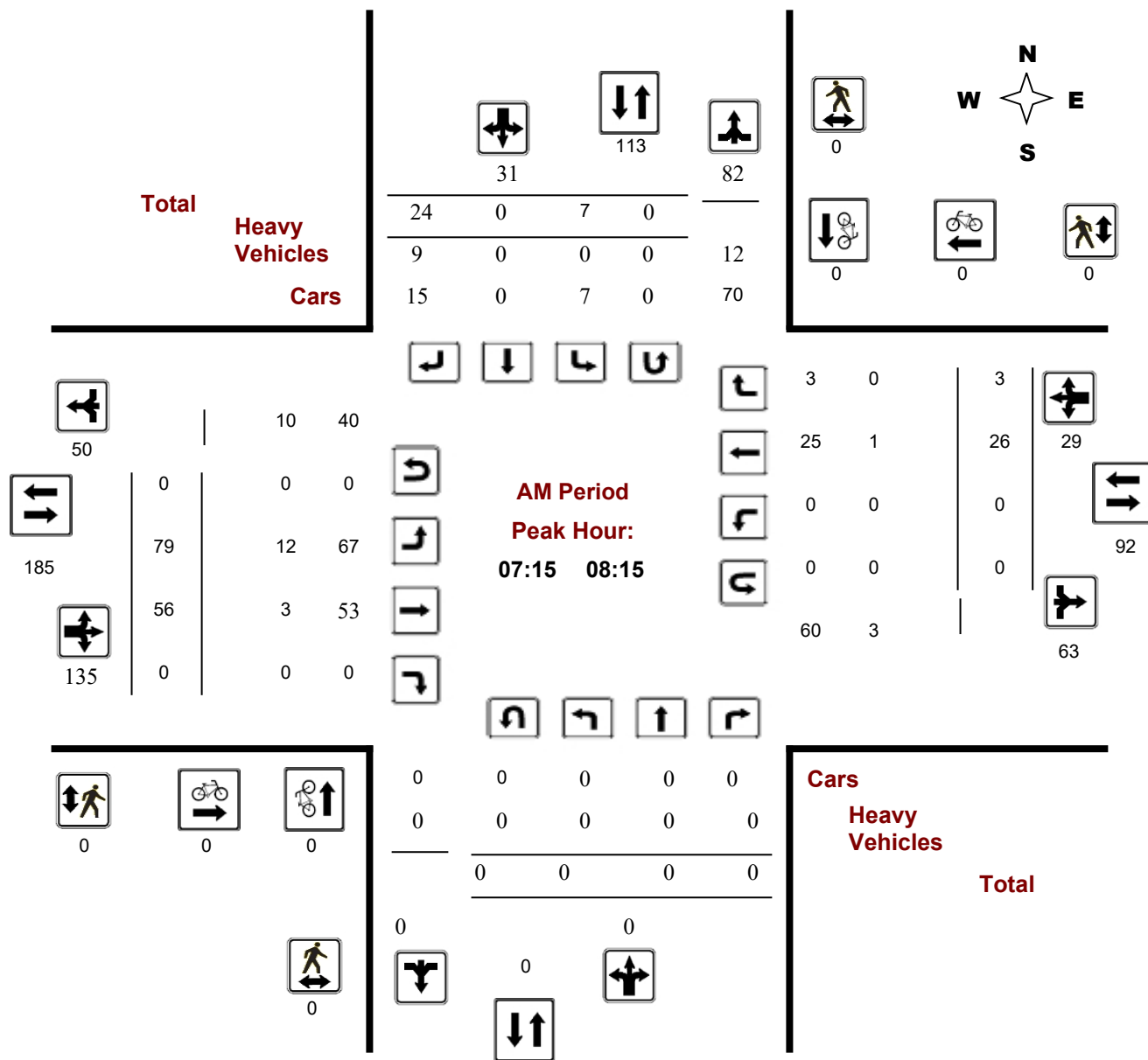
FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

Start Time: 07:00

WO No: 38586

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

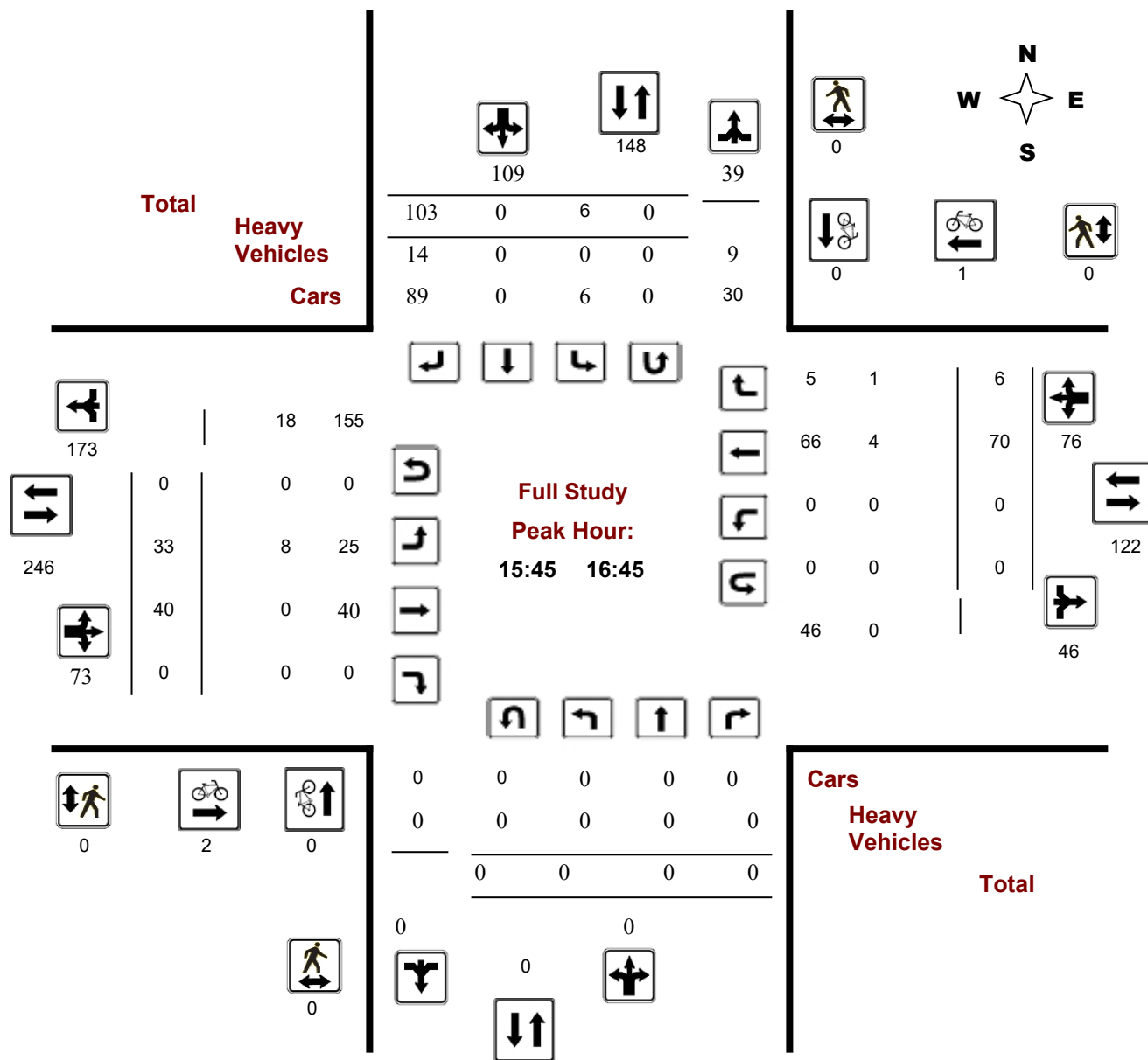
FERNBANK RD @ JINKINSON RD

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Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

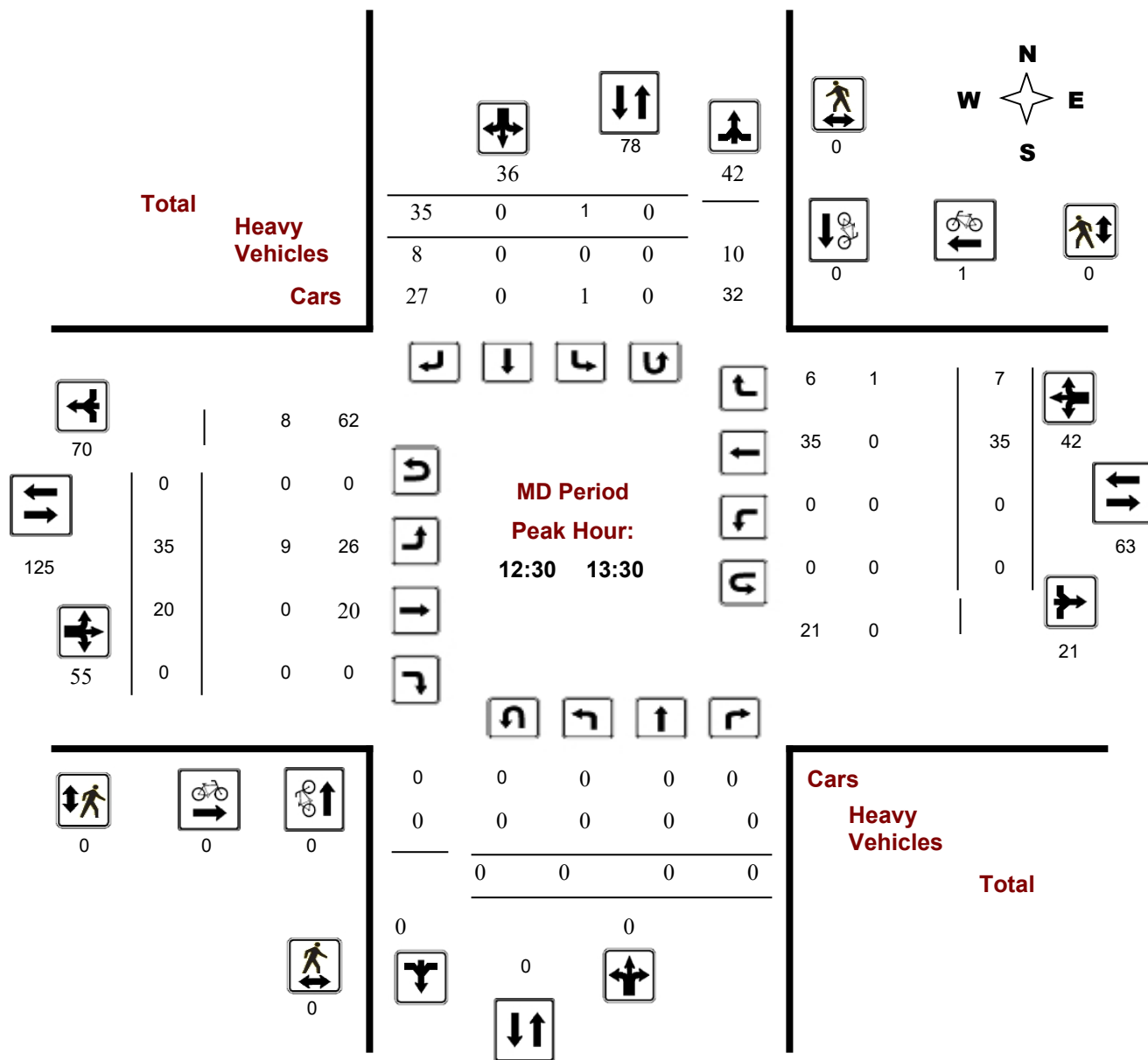
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Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

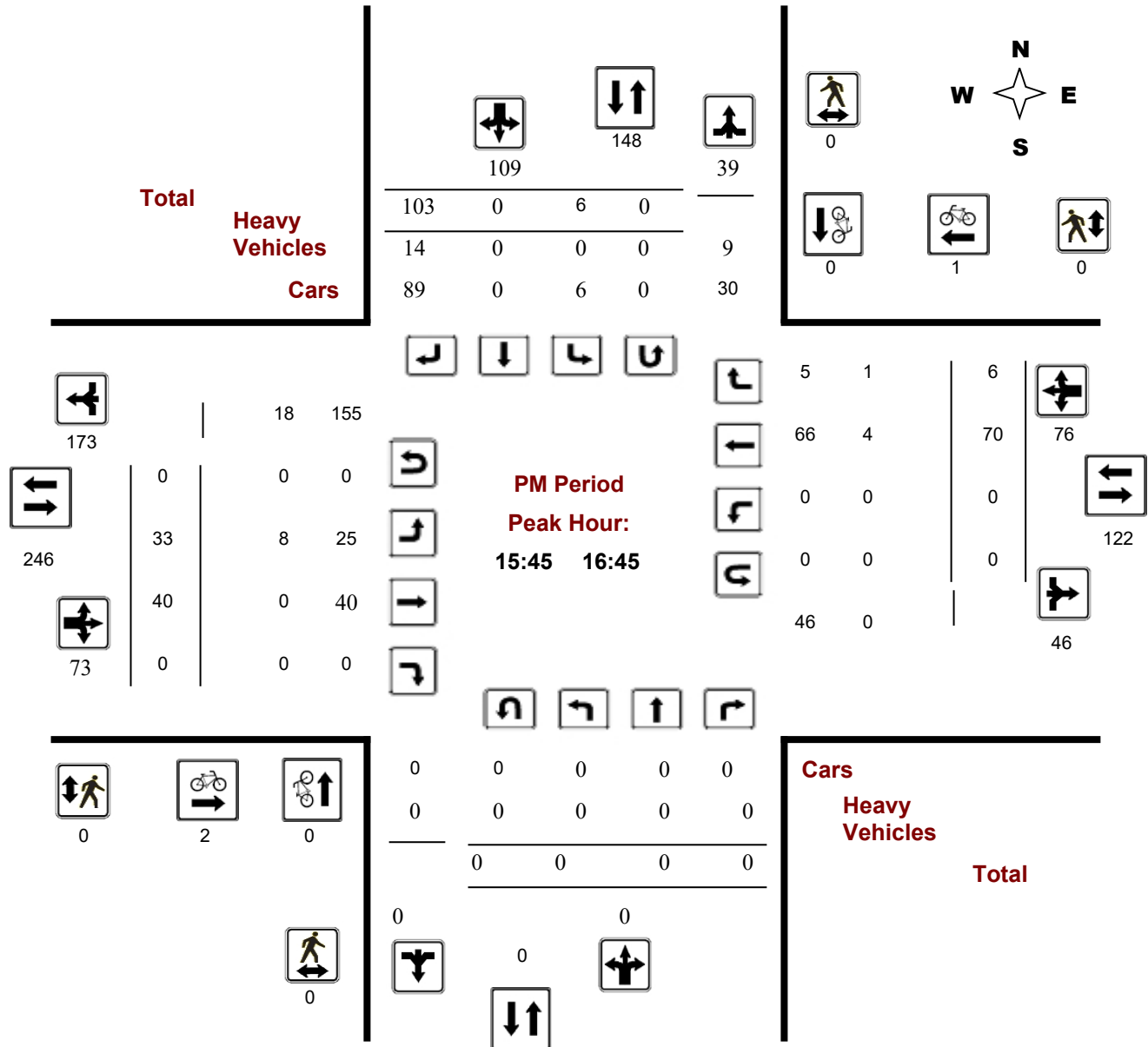
FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

Start Time: 07:00

WO No: 38586

Device: Miovision



Transportation Services - Traffic Services

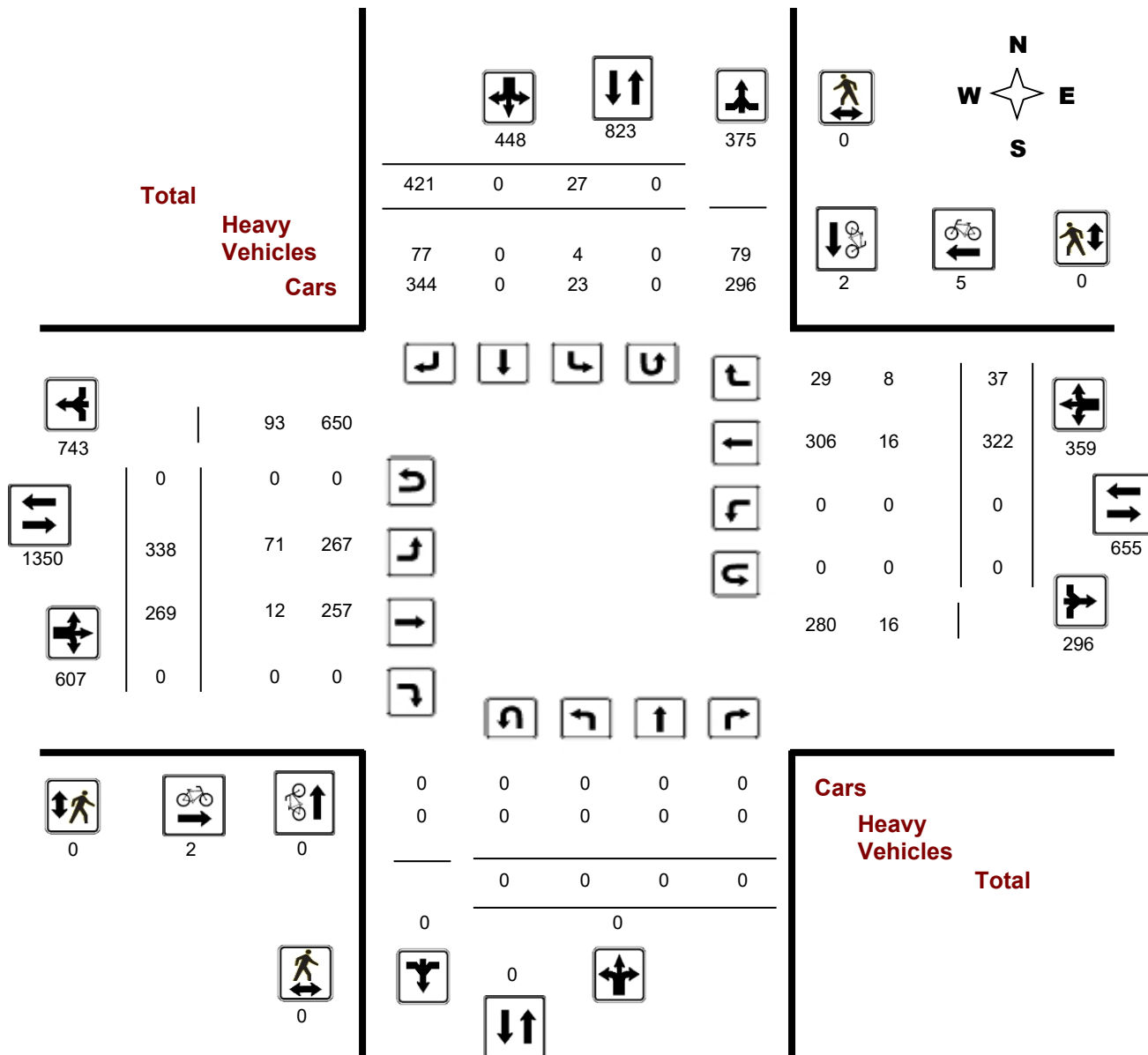
Turning Movement Count - Full Study Diagram

FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

WO#: 38586

Device: Miovision



Comments

Turning Movement Count - Full Study Summary Report

FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor

.90

Full Study

Period	Northbound				Southbound				STR TOT	Eastbound				Westbound				STR TOT	Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT		LT	ST	RT	EB TOT	LT	ST	RT	WB TOT		
07:00 08:00	0	0	0	0	7	0	29	36	36	75	52	0	127	0	21	3	24	151	187
08:00 09:00	0	0	0	0	1	0	29	30	30	63	46	0	109	0	22	8	30	139	169
09:00 10:00	0	0	0	0	3	0	31	34	34	39	19	0	58	0	40	3	43	101	135
11:30 12:30	0	0	0	0	5	0	32	37	37	31	25	0	56	0	23	5	28	84	121
12:30 13:30	0	0	0	0	1	0	35	36	36	35	20	0	55	0	35	7	42	97	133
15:00 16:00	0	0	0	0	2	0	61	63	63	32	36	0	68	0	59	4	63	131	194
16:00 17:00	0	0	0	0	5	0	104	109	109	34	41	0	75	0	66	6	72	147	256
17:00 18:00	0	0	0	0	3	0	100	103	103	29	30	0	59	0	56	1	57	116	219
Sub Total	0	0	0	0	27	0	421	448	448	338	269	0	607	0	322	37	359	966	1414
U Turns				0				0	0				0				0	0	0
Total	0	0	0	0	27	0	421	448	448	338	269	0	607	0	322	37	359	966	1414
EQ 12Hr	0	0	0	0	38	0	585	623	623	470	374	0	844	0	448	51	499	1343	1966
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																			1.39
AVG 12Hr	0	0	0	0	34	0	527	560	560	423	337	0	759	0	403	46	449	1208	1768
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																			.90
AVG 24Hr	0	0	0	0	44	0	690	734	734	554	441	0	995	0	528	61	588	1583	2317
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																			1.31

Comments:

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Turning Movement Count - 15 Minute Summary Report

FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

Time Period	Northbound				Southbound				Eastbound				Westbound						Grand Total
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	
07:00 07:15	0	0	0	0	1	0	11	12	12	10	8	0	18	0	3	1	4	22	34
07:15 07:30	0	0	0	0	3	0	3	6	6	22	16	0	38	0	4	1	5	43	49
07:30 07:45	0	0	0	0	2	0	6	8	8	24	20	0	44	0	4	0	4	48	56
07:45 08:00	0	0	0	0	1	0	9	10	10	19	8	0	27	0	10	1	11	38	48
08:00 08:15	0	0	0	0	1	0	6	7	7	14	12	0	26	0	8	1	9	35	42
08:15 08:30	0	0	0	0	0	0	6	6	6	14	10	0	24	0	2	3	5	29	35
08:30 08:45	0	0	0	0	0	0	7	7	7	14	11	0	25	0	5	1	6	31	38
08:45 09:00	0	0	0	0	0	0	10	10	10	21	13	0	34	0	7	3	10	44	54
09:00 09:15	0	0	0	0	0	0	11	11	11	8	5	0	13	0	12	0	12	25	36
09:15 09:30	0	0	0	0	1	0	6	7	7	13	2	0	15	0	10	1	11	26	33
09:30 09:45	0	0	0	0	0	0	7	7	7	11	7	0	18	0	10	1	11	29	36
09:45 10:00	0	0	0	0	2	0	7	9	9	7	5	0	12	0	8	1	9	21	30
11:30 11:45	0	0	0	0	1	0	9	10	10	15	8	0	23	0	3	3	6	29	39
11:45 12:00	0	0	0	0	2	0	2	4	4	6	3	0	9	0	8	2	10	19	23
12:00 12:15	0	0	0	0	1	0	13	14	14	5	6	0	11	0	5	0	5	16	30
12:15 12:30	0	0	0	0	1	0	8	9	9	5	8	0	13	0	7	0	7	20	29
12:30 12:45	0	0	0	0	0	0	7	7	7	8	4	0	12	0	9	0	9	21	28
12:45 13:00	0	0	0	0	0	0	11	11	11	8	7	0	15	0	12	0	12	27	38
13:00 13:15	0	0	0	0	1	0	7	8	8	9	3	0	12	0	9	3	12	24	32
13:15 13:30	0	0	0	0	0	0	10	10	10	10	6	0	16	0	5	4	9	25	35
15:00 15:15	0	0	0	0	0	0	12	12	12	7	10	0	17	0	15	1	16	33	45
15:15 15:30	0	0	0	0	0	0	12	12	12	5	4	0	9	0	17	1	18	27	39
15:30 15:45	0	0	0	0	0	0	14	14	14	12	12	0	24	0	8	1	9	33	47
15:45 16:00	0	0	0	0	2	0	23	25	25	8	10	0	18	0	19	1	20	38	63
16:00 16:15	0	0	0	0	3	0	33	36	36	9	14	0	23	0	17	0	17	40	76
16:15 16:30	0	0	0	0	0	0	25	25	25	7	12	0	19	0	22	4	26	45	70
16:30 16:45	0	0	0	0	1	0	22	23	23	9	4	0	13	0	12	1	13	26	49
16:45 17:00	0	0	0	0	1	0	24	25	25	9	11	0	20	0	15	1	16	36	61
17:00 17:15	0	0	0	0	1	0	31	32	32	9	8	0	17	0	17	0	17	34	66
17:15 17:30	0	0	0	0	1	0	25	26	26	8	12	0	20	0	9	0	9	29	55
17:30 17:45	0	0	0	0	1	0	29	30	30	6	6	0	12	0	18	0	18	30	60
17:45 18:00	0	0	0	0	0	0	15	15	15	6	4	0	10	0	12	1	13	23	38
TOTAL:	0	0	0	0	27	0	421	448	448	338	269	0	607	0	322	37	359	966	1414

Note: U-Turns are included in Totals.

Comment:



Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
38586

FERNBANK RD @ JINKINSON RD

Count Date: Tuesday, April 30, 2019

Start Time: 07:00

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 08:00	0	0	0	0	0	0	0
08:00 09:00	0	0	0	0	0	0	0
09:00 10:00	0	0	0	0	0	0	0
11:30 12:30	0	0	0	0	0	0	0
12:30 13:30	0	0	0	0	1	1	1
15:00 16:00	0	1	1	0	1	1	2
16:00 17:00	0	0	0	2	1	3	3
17:00 18:00	0	1	1	0	2	2	3
Total	0	2	2	2	5	7	9

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

W.O.
38586

Turning Movement Count - Heavy Vehicle Report

FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

Time Period	Northbound				Southbound				Eastbound				Westbound				W TOT	STR TOT	Grand Total	
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT				
07:00	08:00	0	0	0	0	1	0	9	10	10	10	5	0	15	0	2	0	2	17	27
08:00	09:00	0	0	0	0	0	0	12	12	12	12	5	0	17	0	0	1	1	18	30
09:00	10:00	0	0	0	0	1	0	12	13	13	9	0	0	9	0	4	1	5	14	27
11:30	12:30	0	0	0	0	2	0	11	13	13	12	0	0	12	0	1	3	4	16	29
12:30	13:30	0	0	0	0	0	0	8	8	8	9	0	0	9	0	0	1	1	10	18
15:00	16:00	0	0	0	0	0	0	10	10	10	8	1	0	9	0	3	1	4	13	23
16:00	17:00	0	0	0	0	0	0	10	10	10	6	0	0	6	0	4	1	5	11	21
17:00	18:00	0	0	0	0	0	0	5	5	5	5	1	0	6	0	2	0	2	8	13
Sub Total		0	0	0	0	4	0	77	81	81	71	12	0	83	0	16	8	24	107	188
U-Turns (Heavy Vehicles)					0				0	0				0				0	0	0
Total		0	0	0	0	4	0	77	81	81	71	12	0	83	0	16	8	24	107	188

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

Work Order

38586

Turning Movement Count - Pedestrian Volume Report

FERNBANK RD @ JINKINSON RD

Count Date: Tuesday, April 30, 2019

Start Time: 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	0	0	0	0	0	0	0
07:00 08:00	0	0	0	0	0	0	0
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	0	0	0	0	0	0	0
08:00 09:00	0	0	0	0	0	0	0
09:00 09:15	0	0	0	0	0	0	0
09:15 09:30	0	0	0	0	0	0	0
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	0	0	0
09:00 10:00	0	0	0	0	0	0	0
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	0	0	0
11:30 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	0	0	0	0
12:45 13:00	0	0	0	0	0	0	0
13:00 13:15	0	0	0	0	0	0	0
13:15 13:30	0	0	0	0	0	0	0
12:30 13:30	0	0	0	0	0	0	0
15:00 15:15	0	0	0	0	0	0	0
15:15 15:30	0	0	0	0	0	0	0
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	0	0	0	0	0	0	0
15:00 16:00	0	0	0	0	0	0	0
16:00 16:15	0	0	0	0	0	0	0
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	0	0	0	0	0	0	0
16:45 17:00	0	0	0	0	0	0	0
16:00 17:00	0	0	0	0	0	0	0
17:00 17:15	0	0	0	0	0	0	0
17:15 17:30	0	0	0	0	0	0	0
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
17:00 18:00	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

Comment:

Turning Movement Count - 15 Min U-Turn Total Report

FERNBANK RD @ JINKINSON RD

Survey Date: Tuesday, April 30, 2019

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	0	0


```

1  STAMSON 5.0          NORMAL REPORT          Date: 07-08-2019 16:23:25
2  MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT
3
4  Filename: fernexi.te          Time Period: 1 hours
5  Description:
6
7
8  Road data, segment # 1: Fernbank
9  -----
10 Car traffic volume   :    146 veh/TimePeriod
11 Medium truck volume  :      0 veh/TimePeriod
12 Heavy truck volume   :     25 veh/TimePeriod
13 Posted speed limit   :     80 km/h
14 Road gradient        :      0 %
15 Road pavement        :      1 (Typical asphalt or concrete)
16
17 Data for Segment # 1: Fernbank
18 -----
19 Angle1  Angle2        : -90.00 deg    90.00 deg
20 Wood depth            :      0          (No woods.)
21 No of house rows      :      0
22 Surface               :      1          (Absorptive ground surface)
23 Receiver source distance : 30.00 m
24 Receiver height       :    4.50 m
25 Topography            :      1          (Flat/gentle slope; no barrier)
26 Reference angle       :      0.00
27
28 FF
29 Results segment # 1: Fernbank
30 -----
31
32 Source height = 1.96 m
33
34 ROAD (0.00 + 61.77 + 0.00) = 61.77 dBA
35 Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
36 -----
37    -90     90    0.56  67.73    0.00  -4.69  -1.28    0.00    0.00    0.00  61.77
38 -----
39
40 Segment Leq : 61.77 dBA
41
42 Total Leq All Segments: 61.77 dBA
43
44 FF
45
46
47
48 TOTAL Leq FROM ALL SOURCES:      61.77
49 FF
50 FF
51

```

```

1  STAMSON 5.0          NORMAL REPORT          Date: 05-12-2019 17:13:42
2  MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT
3
4  Filename: fernpred.te          Time Period: 1 hours
5  Description:
6
7
8  Road data, segment # 1: Fernbank
9  -----
10 Car traffic volume   :    146 veh/TimePeriod
11 Medium truck volume  :      0 veh/TimePeriod
12 Heavy truck volume   :     52 veh/TimePeriod
13 Posted speed limit   :     80 km/h
14 Road gradient        :      0 %
15 Road pavement        :      1 (Typical asphalt or concrete)
16
17 Data for Segment # 1: Fernbank
18 -----
19 Angle1  Angle2       : -90.00 deg    90.00 deg
20 Wood depth          :      0          (No woods.)
21 No of house rows    :      0
22 Surface             :      1          (Absorptive ground surface)
23 Receiver source distance : 30.00 m
24 Receiver height     :     4.50 m
25 Topography          :      1          (Flat/gentle slope; no barrier)
26 Reference angle     :      0.00
27
28 FF
29 Results segment # 1: Fernbank
30 -----
31
32 Source height = 2.26 m
33
34 ROAD (0.00 + 64.64 + 0.00) = 64.64 dBA
35 Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
36 -----
37    -90     90    0.55  70.56    0.00  -4.66  -1.26    0.00    0.00    0.00  64.64
38 -----
39
40 Segment Leq : 64.64 dBA
41
42 Total Leq All Segments: 64.64 dBA
43
44 FF
45
46
47
48 TOTAL Leq FROM ALL SOURCES:          64.64
49 FF
50 FF
51

```