

ENVIRONMENTAL NOISE IMPACT STUDY - **Project: 21370.00**

Proposed Residential Development Queenswood Church Ottawa, Ontario

Prepared for:

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1 Introduction

KPMB Architects has retained the services of Aercoustics Engineering Limited (Aercoustics) to prepare an Environmental Noise Impact Study E(NIS) in support Site Plan Approval for Queenswood United Church Residential development at 360 Kennedy Ln E in Ottawa ON.

It is Aercoustics understanding that the City of Ottawa has required the following: *A road noise study is required since the site is within 100m of a collector (Prestone Drive).*

The purpose of this study was to examine the existing and future noise environment in the development area and evaluate its impact potential on future noise sensitive receptors. This study also investigates the noise controls required for the development to meet the noise guidelines of the Ontario Ministry of the Environment Conservation, and Parks (MECP) and to satisfy the requirements of the Municipality. This report considered the MECP guideline NPC-300 “*Stationary and Transportation Sources – Approval and Planning*” (August 2013).

Figure 1 provides a key plan showing the proposed development location.



Figure 1: Key Plan

Figure 2 (in Section 3.1) shows the Site Plan of the proposed development with road traffic noise calculation locations indicated. The Draft Plan of Subdivision for the project was prepared by KPMB Architects.

The proposed site is located at the SE side of Kennedy Ln E and to the south of the existing church. There is a local park to the south of the proposed development and residential area to the west, east and south (beyond Queenswood Ridge Park).

The major existing noise source in the area of study is road traffic Promenade Prestone Drive and Tompkins Avenue. No other significant noise sources have been noted in the area.

This report is based on the following information:

- Draft Plan Site Plan prepared by KPMB in October 2021
- Road traffic information provided by the City of Ottawa, and
- Google images and maps

2 Guidelines and Criteria

2.1 Transportation Noise – Outdoor Living Area (OLA)

MECP Guidelines recommend that equivalent noise levels (Leq-16hr) in outdoor living areas should not exceed 55 dBA. Predicted noise levels between 55 dBA and 60 dBA may be acceptable provided that the future occupants of the building are made aware of the potential noise problems through appropriate warning clauses. Noise levels above 60 dBA are generally not acceptable.

2.2 Transportation Noise – Indoor Living Spaces

Indoor noise levels due to road traffic were examined with respect to the MECP Guidelines. Bedrooms are required to meet an indoor Leq-8hr of 40 dBA from road traffic. The indoor equivalent noise level (Leq-16hr) due to road traffic should not exceed 45 dBA for living or dining rooms. Lounges, lobbies, retail or general office spaces should meet the indoor noise level of 50 dBA from road traffic. In order to achieve these levels, the MECP Guidelines provide a basis for the types of windows, exterior walls, and doors that will be required based on projected outdoor noise levels.

The MECP also requires that a central air conditioning system be installed for dwellings when the daytime or nighttime outdoor transportation noise levels at the façade of the dwelling are above 65 dBA or 60 dBA, respectively. The provision for the future installation of central air conditioning must be made if:

- the nighttime sound level is greater than 50 dBA and less than or equal to 60 dBA on the outside face of a bedroom window;
- the daytime sound level is greater than 55 dBA and less than or equal to 65 dBA on the outside face of a bedroom window; or
- the daytime sound level is greater than 55 dBA and less than or equal to 65 dBA on the outside face of a living/dining room window.

This provision involves a ducted heating system sized to accommodate the addition of central air conditioning by the occupant.

The required limits as per the NPC-300 noise guidelines are summarized in Table 1 below.

Table 1: Indoor Noise Limits Due to Road Traffic

Type of Space	Time Period	Minimum LEQ (dBA) Road Traffic
Living/dining, den areas of residences, hospitals, nursing homes, schools, day-care centres (Indoor)	07:00 – 23:00	45 dBA
Living/dining, den areas of residences, hospitals, nursing homes (Indoor)	23:00 – 07:00	45 dBA
Sleeping quarters (Indoor)	07:00 – 23:00	45 dBA
	23:00 – 07:00	40 dBA
Outdoor Living Areas (OLA)	07:00 – 23:00	55 dBA

3 Noise Level Predictions Procedures and Data

3.1 Road Traffic Noise Calculations Procedure

The dominant road traffic source in the proposed development is Promenade Prestone Drive and Tompkins Avenue.

Noise level calculations were performed in accordance with the MECP Guidelines and by the Guidelines of the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT). Sample copies of the traffic noise predictions from MECP's Road and Rail Traffic Noise Prediction Model STAMSON (Version 5.04) are included in Appendix B.

The equivalent sound levels (Leq) due to road traffic were calculated at worst case noise sensitive receptors in the proposed development. Calculations were performed for both daytime and nighttime conditions at receiver heights representing 1st and 3rd storey receptors respectively. Also, critical locations of the outdoor living areas (OLAs) have been investigated.

Calculation locations A and B, shown in Figure 2 below represent the ‘worst case noise sensitive receptors’ within the proposed development.

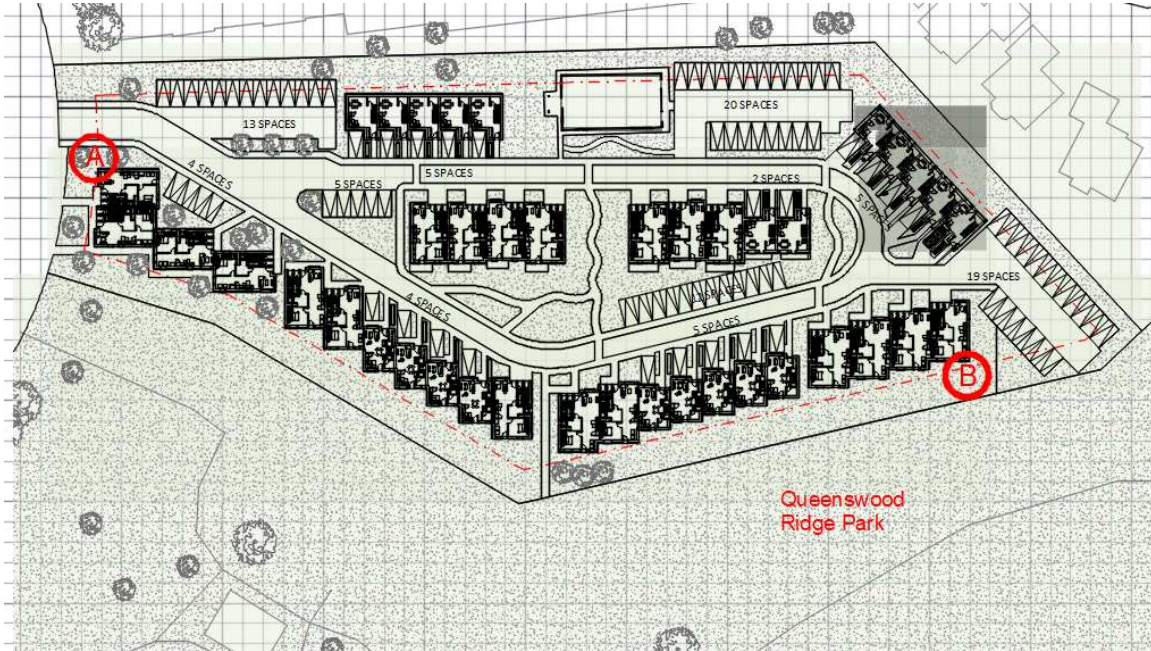


Figure 2: Site Plan showing Critical Calculation Locations

3.2 Road Traffic Data

Road traffic noise predictions were based on the road traffic data outlined in Table 3 below. The road traffic volumes for Promenade Prestone Drive and Thompkins Avenue were obtained from the City of Ottawa. Copies of the correspondence and received data are included in Appendix A.

Note that a 2% annual growth factor has been applied to calculate future, 10 years from now, AADTs for both roads.

Table 2: Road Traffic Volumes

	Promenade Prestone Drive	Tompkins Avenue
AADT	3570 (year 2015)	3240 (year 2018)
Day/Night Split (%)	90/10	90/10
Percentage of Trucks (%)	4.5%	2%
Medium/Heavy Ratio (%)	50/50	50/50
Posted Speed (km/hr)	40	40

4 Transportation Noise Predictions

Table 3 below, list the daytime and nighttime unmitigated sound levels due to the road traffic in the area. The results are predicted at a critical noise sensitive locations, Locations A and B are shown in Figure 2 of this report. Sample calculations are provided in Appendix A.

Table 3: Calculated Unmitigated Noise Levels Due to Road Traffic

Calculation Location (Figure 2)	Lot Number/ Description	Leq (dBA)		
		Day	Night	Unmitigated OLA
A	NW end of proposed development	36	38	n/a
B	SE corner of proposed development	45	46	45

The noise levels listed in the table above were used to determine the window glazing as well as exterior wall requirements for each designated point of reception. These requirements were based on assumed 32% ratios of window surface area to the floor area.

5 Transportation Noise Control Recommendations

5.1 Transportation Noise – Outdoor Living Spaces

Outdoor sound levels were examined with respect to MECF Guidelines as summarized in Section 2 of this report.

The critical Outdoor Living Areas (OLA), namely backyards adjacent to Queenswood Ridge Park and possibly having line of sight with traffic on Promenade Preston Drive and/or Tompkins Avenue are considered in this report. They are represented by calculation location B.

Based on the sound level predictions none of OLAs are predicted to have a sound level from road traffic noise of more than 55 dBA, therefore no noise controls are not required for this proposed development.

5.2 Transportation Noise – Indoor Living Spaces

Indoor sound levels were examined with respect to MECF Guidelines as summarized in Section 2 of this report.

Based on the sound level predictions, the project does not require any upgrades to the building envelopes of the proposed dwellings nor central air conditioning is required for any of the dwellings. The construction of the dwellings meeting general requirements of the Ontario Building Code (OBC) will also suffice for the noise control reasons.

Table 5: Summary of Traffic Noise Control Recommendations

Location	Daytime STC(*)	Nighttime STC(*)	Central Air Conditioning	Acoustic Barriers	Warning Clauses
All dwelling units	OBC	OBC	OBC	Not required	Not required

(*) Window Glazing STC is based on an assumed window-to-floor ration of 32%, this needs to be verified once the final architectural design of the project becomes available

OBC indicates window/door glazing that meets minimum Ontario Building Code requirements, no upgrades are needed for noise control reasons

The results of this study indicate the proposed dwellings are predicted to be in compliance with the MECP and the municipality criteria for indoor sound levels given that the recommendations listed in Table 5 above are implemented.

6 References

1. ORNAMENT – “Ontario Road Noise Analysis Method for Environmental and Transportation”, Ontario Ministry of the Environment, October 1989.
2. “Stationery and Transportation Sources – Approval and Planning”, Ontario Ministry of the Environment, Publication NPC-300, August 2013.

Appendix A
Road Traffic Data and Sample Calculations

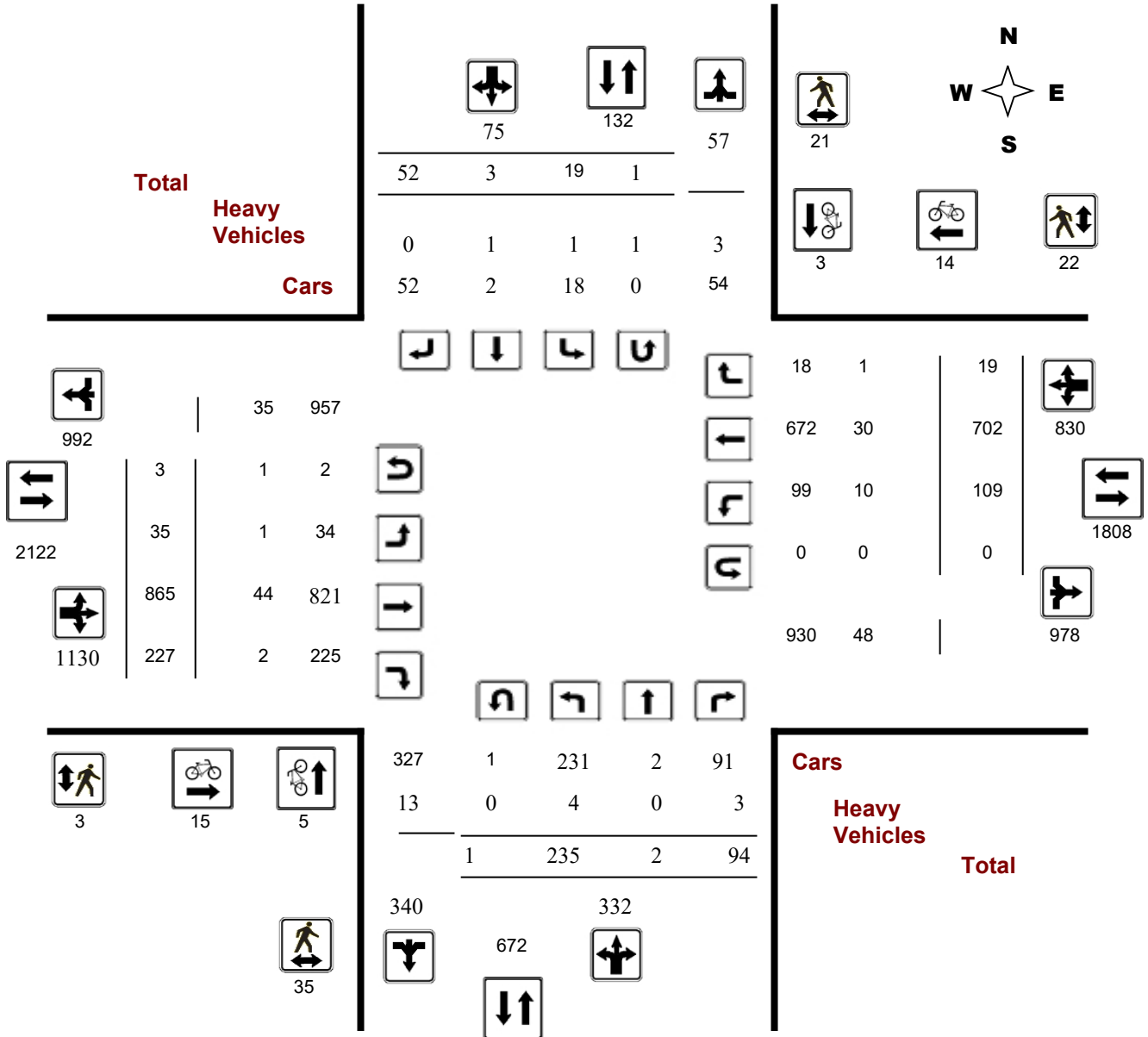
Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

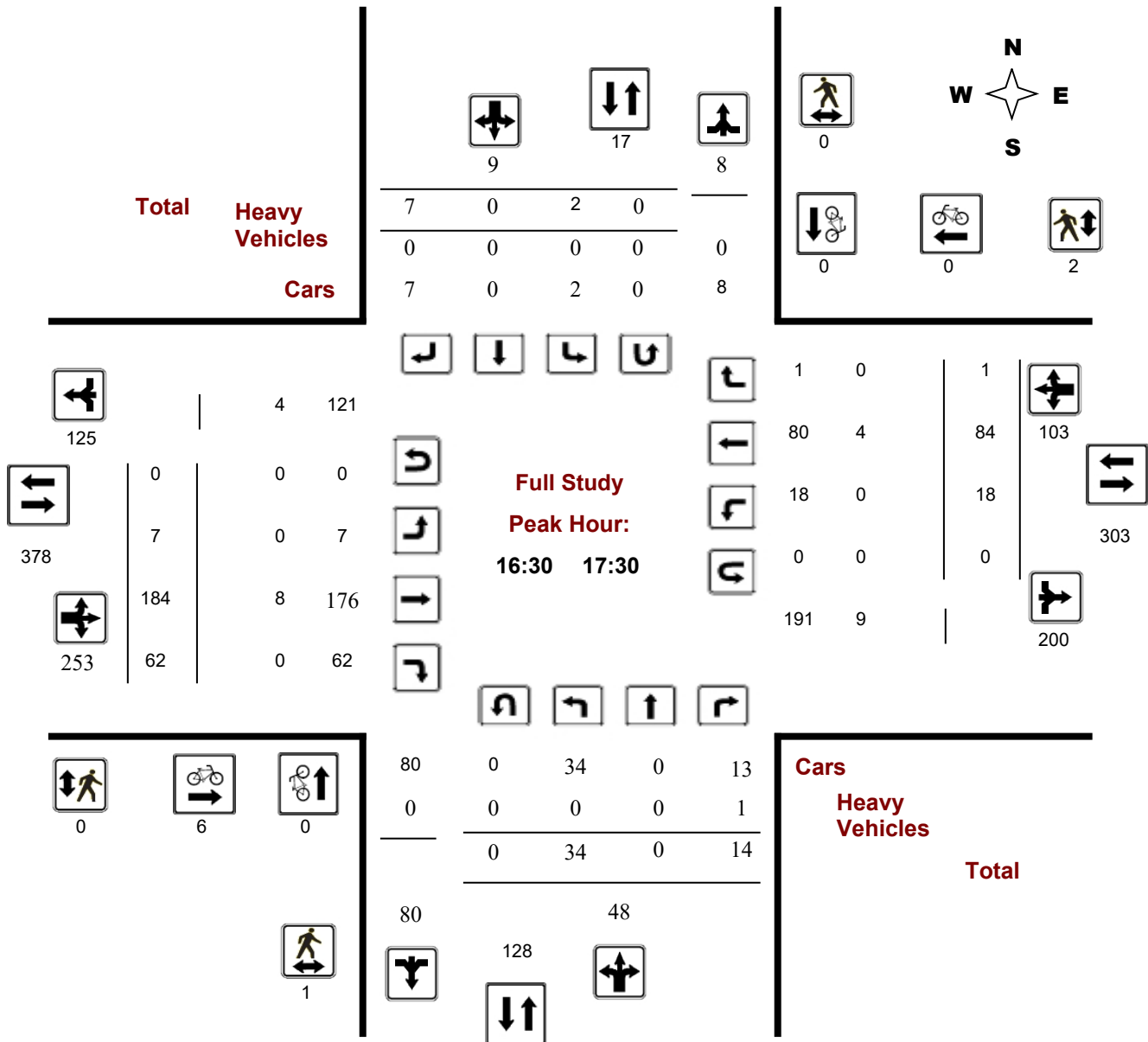
Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

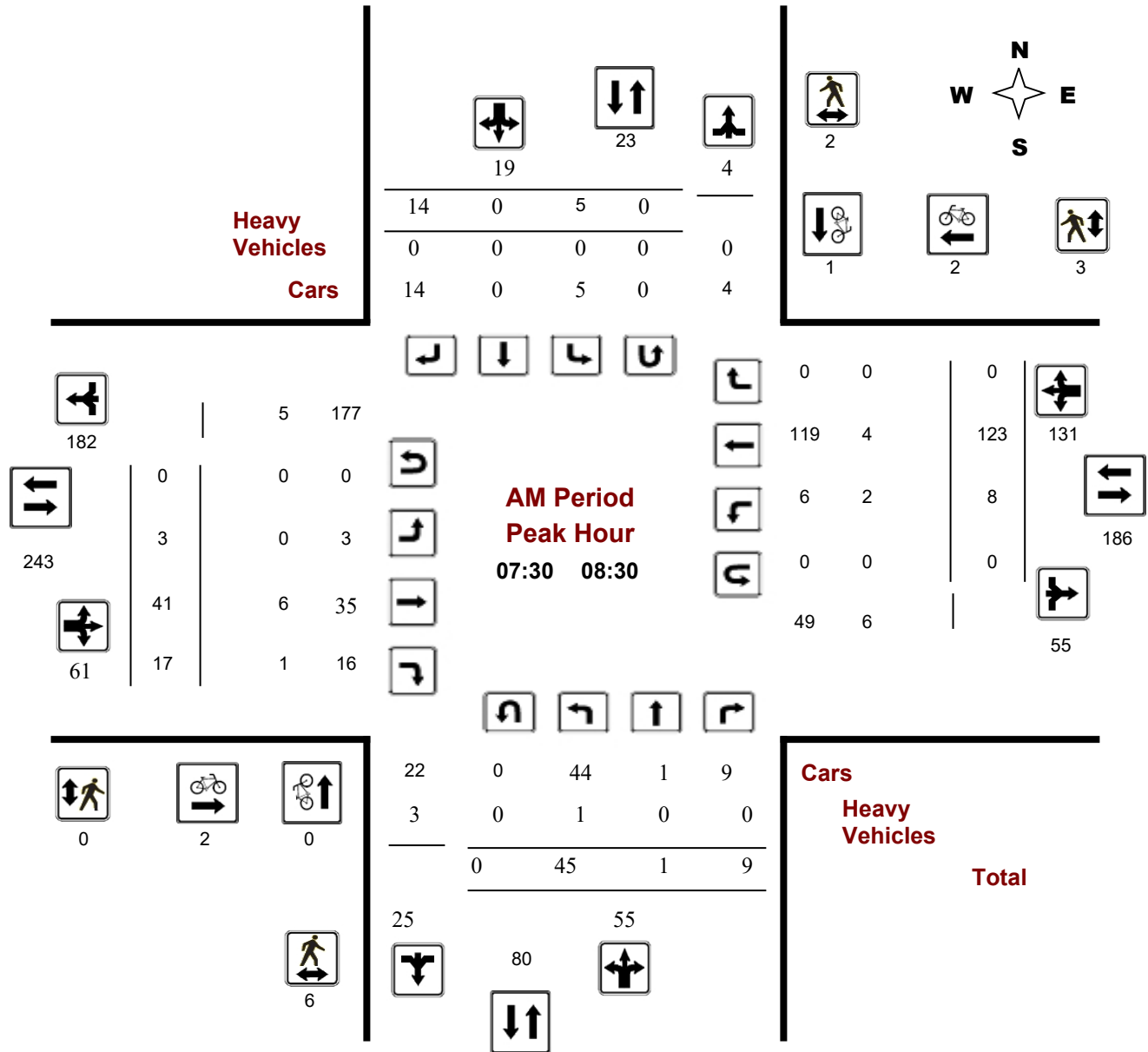
PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

Start Time: 07:00

WO No: 35355

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

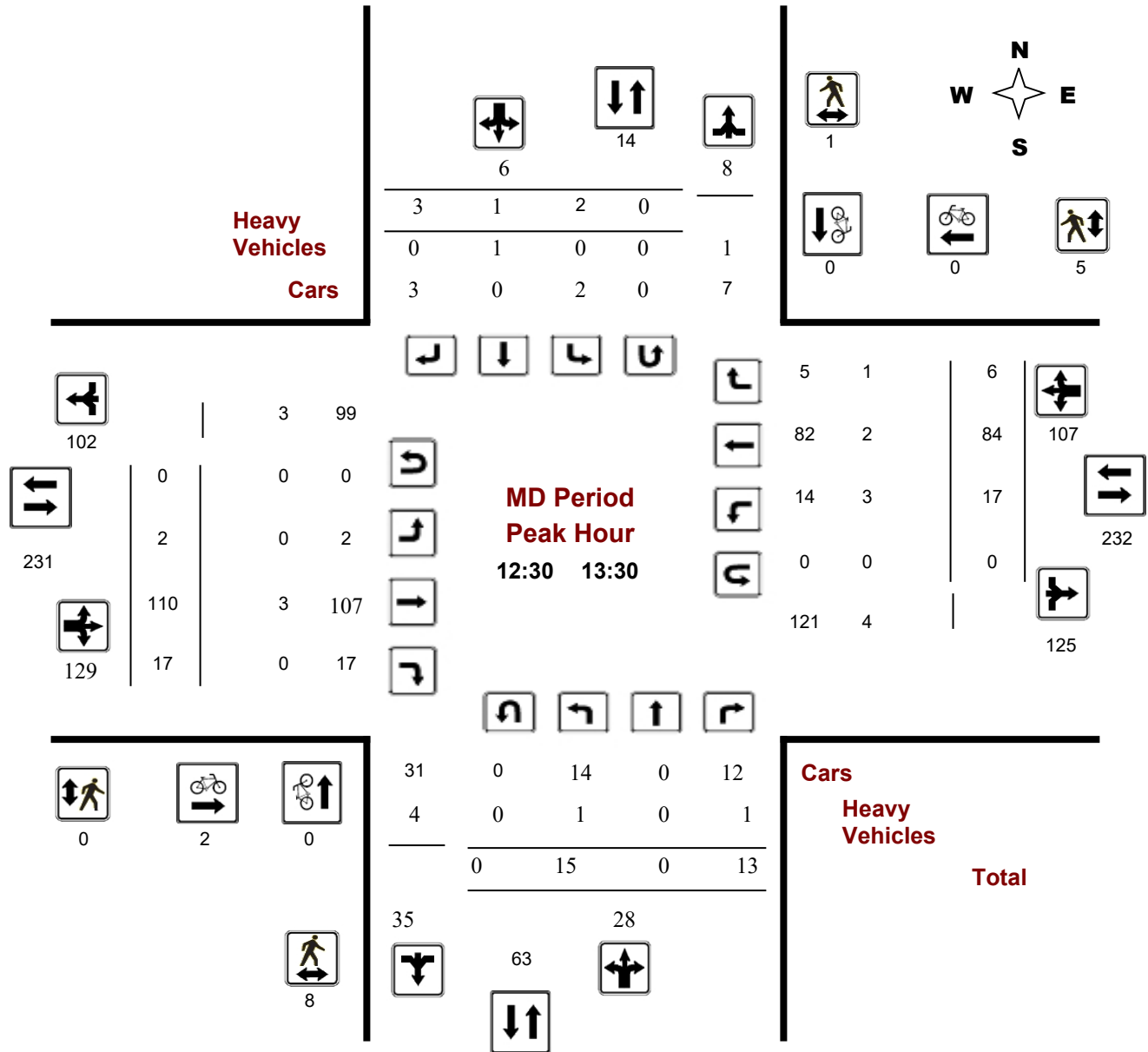
PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

Start Time: 07:00

WO No: 35355

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

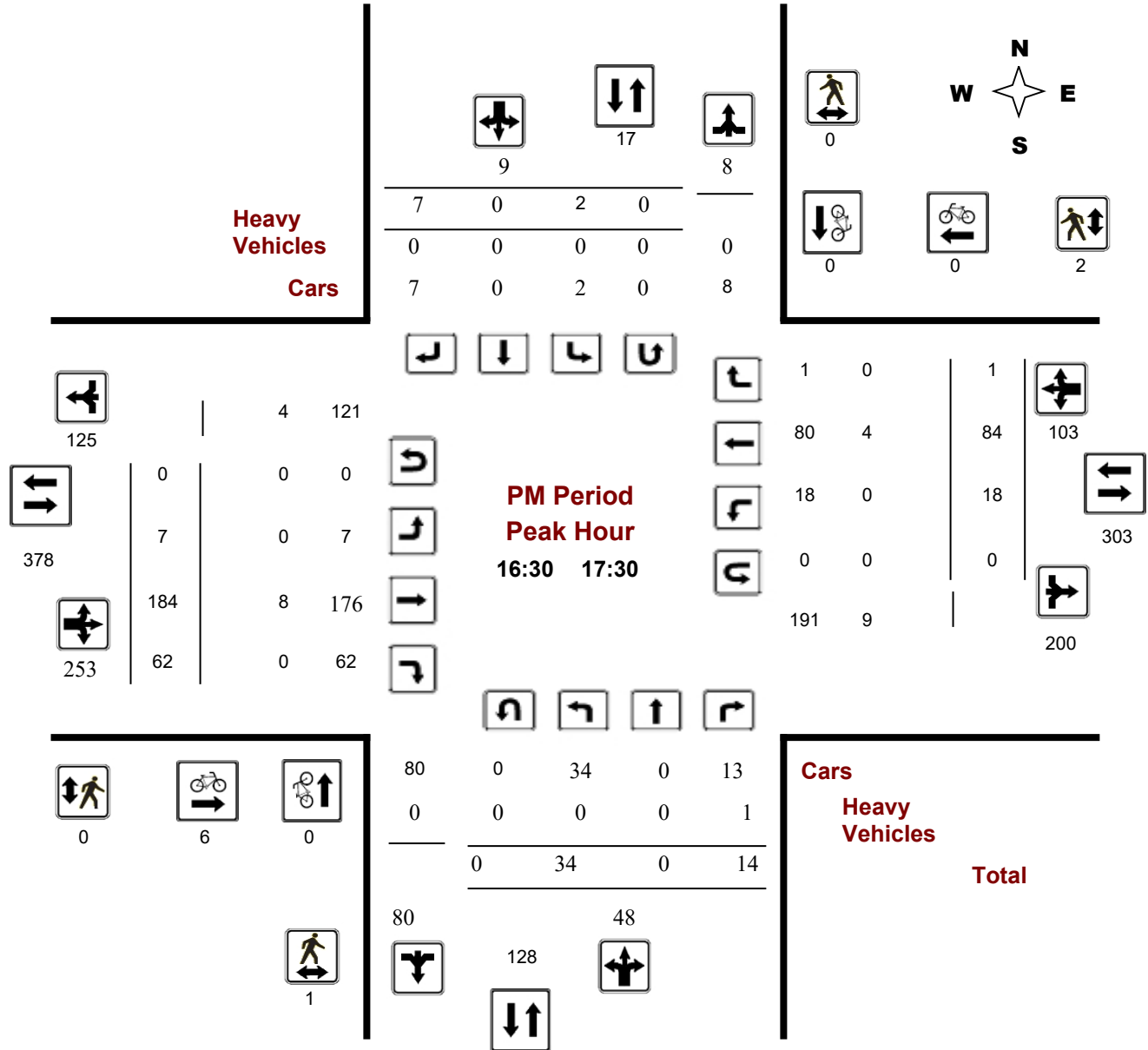
PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

Start Time: 07:00

WO No: 35355

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, September 02, 2015

Total Observed U-Turns
 Northbound: 1 Southbound: 1
 Eastbound: 3 Westbound: 0

AADT Factor
 1.00

Period	Northbound					Southbound					Eastbound					Westbound					Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	52	0	12	64	73	1	0	8	9	73	3	39	9	51	171	4	115	1	120	171	244
08:00 09:00	29	1	4	34	52	5	0	13	18	52	0	49	17	66	185	9	109	1	119	185	237
09:00 10:00	33	0	9	42	47	0	0	5	5	47	5	75	13	93	185	9	82	1	92	185	232
11:30 12:30	16	0	15	31	35	2	1	1	4	35	6	95	25	126	208	13	67	2	82	208	243
12:30 13:30	15	0	13	28	34	2	1	3	6	34	2	110	17	129	236	17	84	6	107	236	270
15:00 16:00	23	0	17	40	54	6	1	7	14	54	9	144	37	190	286	15	79	2	96	286	340
16:00 17:00	38	0	14	52	63	1	0	10	11	63	5	171	49	225	333	22	83	3	108	333	396
17:00 18:00	29	1	10	40	47	2	0	5	7	47	5	182	60	247	353	20	83	3	106	353	400
Sub Total	235	2	94	331	405	19	3	52	74	405	35	865	227	1127	1957	109	702	19	830	1957	2362
U Turns	1			1	2	1			1	2	3			3	3	0			0	3	5
Total	236	2	94	332	407	20	3	52	75	407	38	865	227	1130	1960	109	702	19	830	1960	2367
EQ 12Hr	328	3	131	462	566	28	4	72	104	566	53	1202	316	1571	2725	152	976	26	1154	2725	3291
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																			1.39		
AVG 12Hr	328	3	131	462	566	28	4	72	104	566	53	1202	316	1571	2725	152	976	26	1154	2725	3291
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																			1.00		
AVG 24Hr	430	4	172	606	742	37	5	94	136	742	69	1575	414	2058	3570	199	1279	34	1512	3570	4312
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																			1.31		

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



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

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	9	0	3	12	0	0	3	3	15	0	10	0	10	1	23	1	25	35	50
07:15	07:30	12	0	2	14	0	0	0	0	14	0	10	1	11	0	27	0	27	38	52
07:30	07:45	23	0	1	24	1	0	3	4	28	2	11	5	18	1	36	0	37	55	83
07:45	08:00	8	0	6	14	0	0	2	2	16	1	8	3	12	2	29	0	31	43	59
08:00	08:15	6	1	1	8	2	0	6	8	16	0	10	6	16	2	30	0	32	48	64
08:15	08:30	8	0	1	9	2	0	3	5	14	0	12	3	15	3	28	0	31	46	60
08:30	08:45	7	0	2	9	1	0	2	3	12	0	9	4	13	3	27	0	30	43	55
08:45	09:00	8	0	0	8	0	0	2	2	10	0	18	4	22	1	24	1	26	48	58
09:00	09:15	7	0	1	8	0	0	2	2	10	1	17	4	22	3	15	1	19	41	51
09:15	09:30	10	0	4	14	0	0	0	0	14	4	20	3	27	1	25	0	26	53	67
09:30	09:45	7	0	2	9	0	0	1	1	10	0	22	3	25	2	18	0	20	45	55
09:45	10:00	9	0	2	11	0	0	2	2	13	0	16	3	19	3	24	0	27	46	59
11:30	11:45	2	0	4	6	0	1	1	2	8	0	27	12	39	1	16	1	18	57	65
11:45	12:00	6	0	5	11	0	0	0	0	11	1	19	5	25	5	24	0	29	54	65
12:00	12:15	3	0	3	6	3	0	0	3	9	1	28	2	31	5	10	1	16	47	56
12:15	12:30	5	0	3	8	0	0	0	0	8	5	21	6	32	2	17	0	19	51	59
12:30	12:45	5	0	2	7	0	0	1	1	8	2	29	5	36	4	9	0	13	49	57
12:45	13:00	7	0	5	12	0	0	0	0	12	0	25	2	27	3	24	3	30	57	69
13:00	13:15	2	0	4	6	2	0	1	3	9	0	32	6	38	5	20	2	27	65	74
13:15	13:30	1	0	2	3	0	1	1	2	5	0	24	4	28	5	31	1	37	65	70
15:00	15:15	7	0	4	11	2	1	1	4	15	1	31	7	39	3	21	0	24	63	78
15:15	15:30	4	0	7	11	0	0	2	2	13	2	32	11	45	4	19	0	23	68	81
15:30	15:45	5	0	1	6	3	0	1	4	10	4	40	11	55	3	19	0	22	77	87
15:45	16:00	7	0	5	12	1	0	3	4	16	3	41	8	52	5	20	2	27	79	95
16:00	16:15	8	0	2	10	0	0	2	2	12	1	46	6	53	9	15	1	25	78	90
16:15	16:30	12	0	3	15	0	0	3	3	18	1	40	15	56	8	20	1	29	85	103
16:30	16:45	8	0	5	13	1	0	5	6	19	1	43	12	56	3	24	0	27	83	102
16:45	17:00	10	0	4	14	0	0	0	0	14	2	42	16	60	2	24	1	27	87	101
17:00	17:15	7	0	3	10	1	0	2	3	13	3	50	16	69	6	16	0	22	91	104
17:15	17:30	9	0	2	11	0	0	0	0	11	1	49	18	68	7	20	0	27	95	106
17:30	17:45	9	0	4	13	0	0	2	2	15	1	44	8	53	4	21	3	28	81	96
17:45	18:00	5	1	1	7	1	0	1	2	9	1	39	18	58	3	26	0	29	87	96
Total:		236	2	94	332	20	3	52	75	407	38	865	227	1130	109	702	19	830	407	2,367

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	0	0	0	0	3	3	3
07:15 07:30	1	0	1	0	0	0	1
07:30 07:45	0	1	1	1	0	1	2
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	0	0	0	0	1	1	1
08:15 08:30	0	0	0	1	1	2	2
08:30 08:45	0	0	0	0	1	1	1
08:45 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	2	2	2
09:45 10:00	0	0	0	0	0	0	0
11:30 11:45	0	1	1	0	0	0	1
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	1	0	1	1
12:15 12:30	0	0	0	0	1	1	1
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	1	0	1	1
13:15 13:30	0	0	0	1	0	1	1
15:00 15:15	0	0	0	0	1	1	1
15:15 15:30	0	0	0	0	0	0	0
15:30 15:45	1	0	1	0	0	0	1
15:45 16:00	2	1	3	1	0	1	4
16:00 16:15	0	0	0	1	1	2	2
16:15 16:30	1	0	1	0	1	1	2
16:30 16:45	0	0	0	2	0	2	2
16:45 17:00	0	0	0	2	0	2	2
17:00 17:15	0	0	0	0	0	0	0
17:15 17:30	0	0	0	2	0	2	2
17:30 17:45	0	0	0	2	1	3	3
17:45 18:00	0	0	0	0	1	1	1
Total	5	3	8	15	14	29	37



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

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	1	1	0	0	0	1
07:15 07:30	2	1	3	0	1	1	4
07:30 07:45	2	0	2	0	1	1	3
07:45 08:00	2	0	2	0	1	1	3
08:00 08:15	2	1	3	0	0	0	3
08:15 08:30	0	1	1	0	1	1	2
08:30 08:45	0	1	1	0	1	1	2
08:45 09:00	0	2	2	0	0	0	2
09:00 09:15	0	1	1	0	0	0	1
09:15 09:30	1	0	1	0	0	0	1
09:30 09:45	2	0	2	0	2	2	4
09:45 10:00	1	2	3	1	1	2	5
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	1	1	0	1	1	2
12:00 12:15	1	3	4	0	3	3	7
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	1	0	1	0	0	0	1
12:45 13:00	3	0	3	0	2	2	5
13:00 13:15	3	1	4	0	2	2	6
13:15 13:30	1	0	1	0	1	1	2
15:00 15:15	2	3	5	0	0	0	5
15:15 15:30	3	2	5	0	1	1	6
15:30 15:45	1	1	2	1	0	1	3
15:45 16:00	1	0	1	0	1	1	2
16:00 16:15	2	0	2	0	0	0	2
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
17:00 17:15	1	0	1	0	2	2	3
17:15 17:30	0	0	0	0	0	0	0
17:30 17:45	2	0	2	0	0	0	2
17:45 18:00	2	0	2	1	1	2	4
Total	35	21	56	3	22	25	81



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

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	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3
07:15 07:30	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4	4
07:30 07:45	1	0	0	1	0	0	0	0	1	0	2	1	3	0	0	0	0	3	4
07:45 08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3	3
08:00 08:15	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	3
08:15 08:30	0	0	0	0	0	0	0	0	0	0	2	0	2	1	1	0	2	4	4
08:30 08:45	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4	4
08:45 09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
09:00 09:15	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2
09:15 09:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
09:30 09:45	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1
09:45 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
11:30 11:45	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1
11:45 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2
12:00 12:15	0	0	0	0	1	0	0	1	1	0	1	0	1	1	0	0	1	2	4
12:15 12:30	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2	3
12:30 12:45	1	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	1	2
12:45 13:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
13:00 13:15	0	0	1	1	0	0	0	0	1	0	1	0	1	2	0	0	2	3	4
13:15 13:30	0	0	0	0	0	1	0	1	1	0	0	0	0	1	1	1	3	3	4
15:00 15:15	1	0	0	1	0	0	0	0	1	0	2	0	2	0	1	0	1	3	4
15:15 15:30	0	0	1	1	0	0	0	0	1	0	1	0	1	0	2	0	2	3	4
15:30 15:45	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	1	4	4
15:45 16:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
16:00 16:15	0	0	0	0	0	0	0	0	0	0	3	0	3	1	3	0	4	7	7
16:15 16:30	1	0	0	1	0	0	0	0	1	0	1	0	1	2	1	0	3	4	5
16:30 16:45	0	0	1	1	0	0	0	0	1	0	2	0	2	0	1	0	1	3	4
16:45 17:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
17:00 17:15	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4	4
17:15 17:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3	3
17:30 17:45	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2
17:45 18:00	0	0	0	0	0	0	0	0	0	0	2	1	3	0	1	0	1	4	4
Total: None	4	0	3	7	1	1	0	2	9	1	44	2	47	10	30	1	41	88	99



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PRESTONE DR @ RIVER RIDGE CRES W/KENNEDY LANE

Survey Date: Wednesday, September 02, 2015

WO No: 35355

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

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	1	0	0	1
12:15	12:30	0	0	1	0	1
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	1	0	1
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	1	0	1	0	2
Total		1	1	3	0	5

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

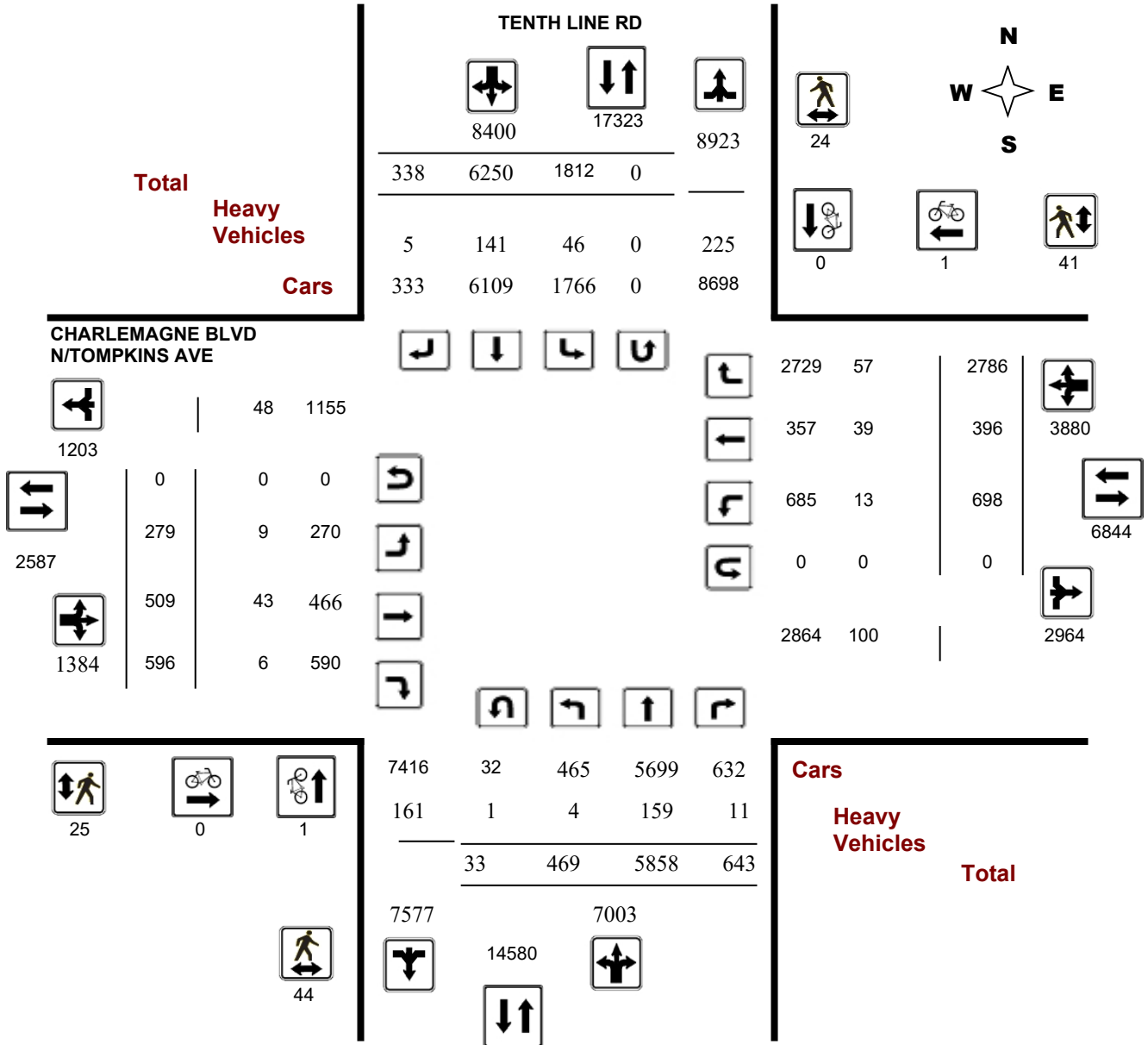
Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

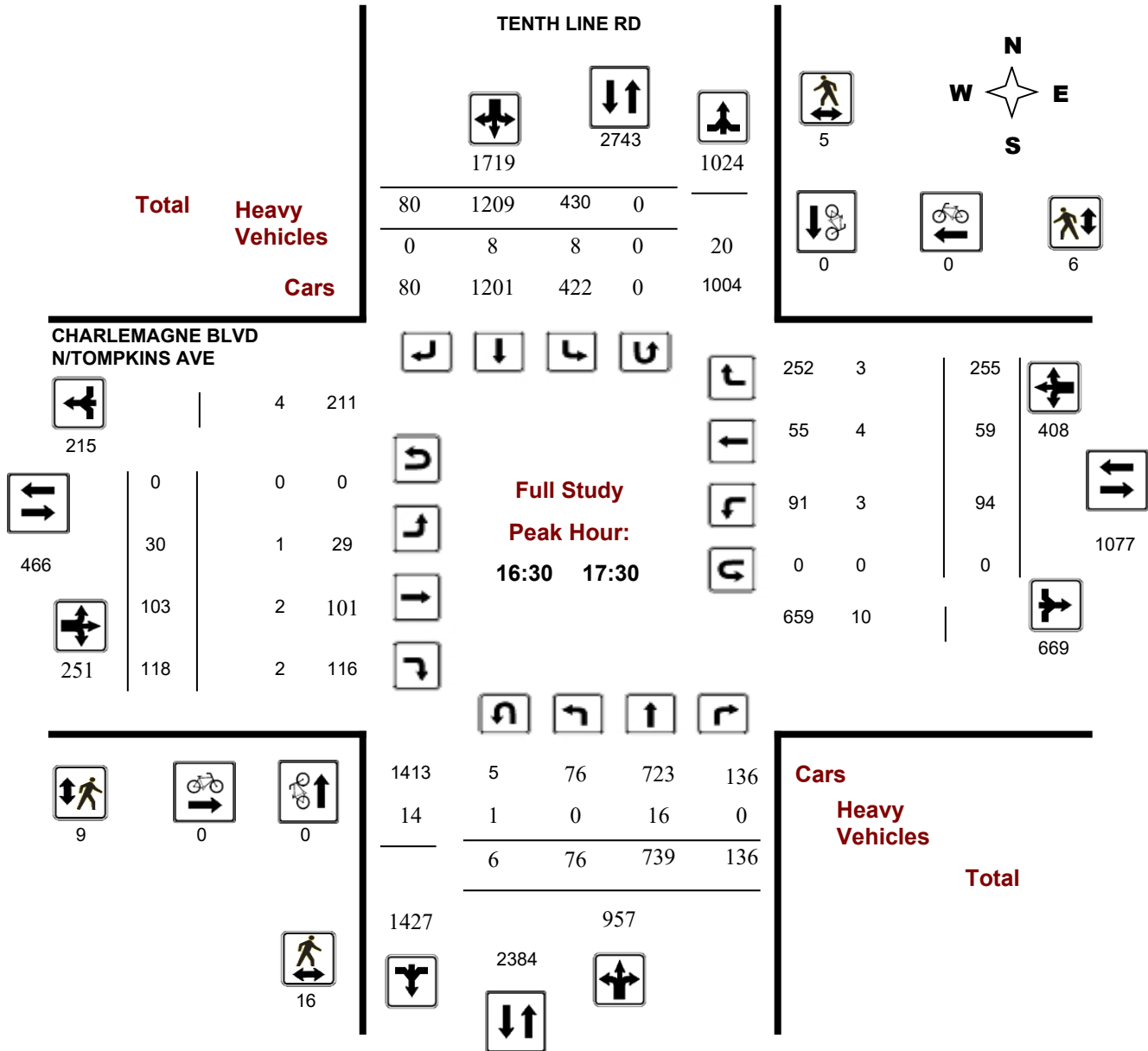
Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

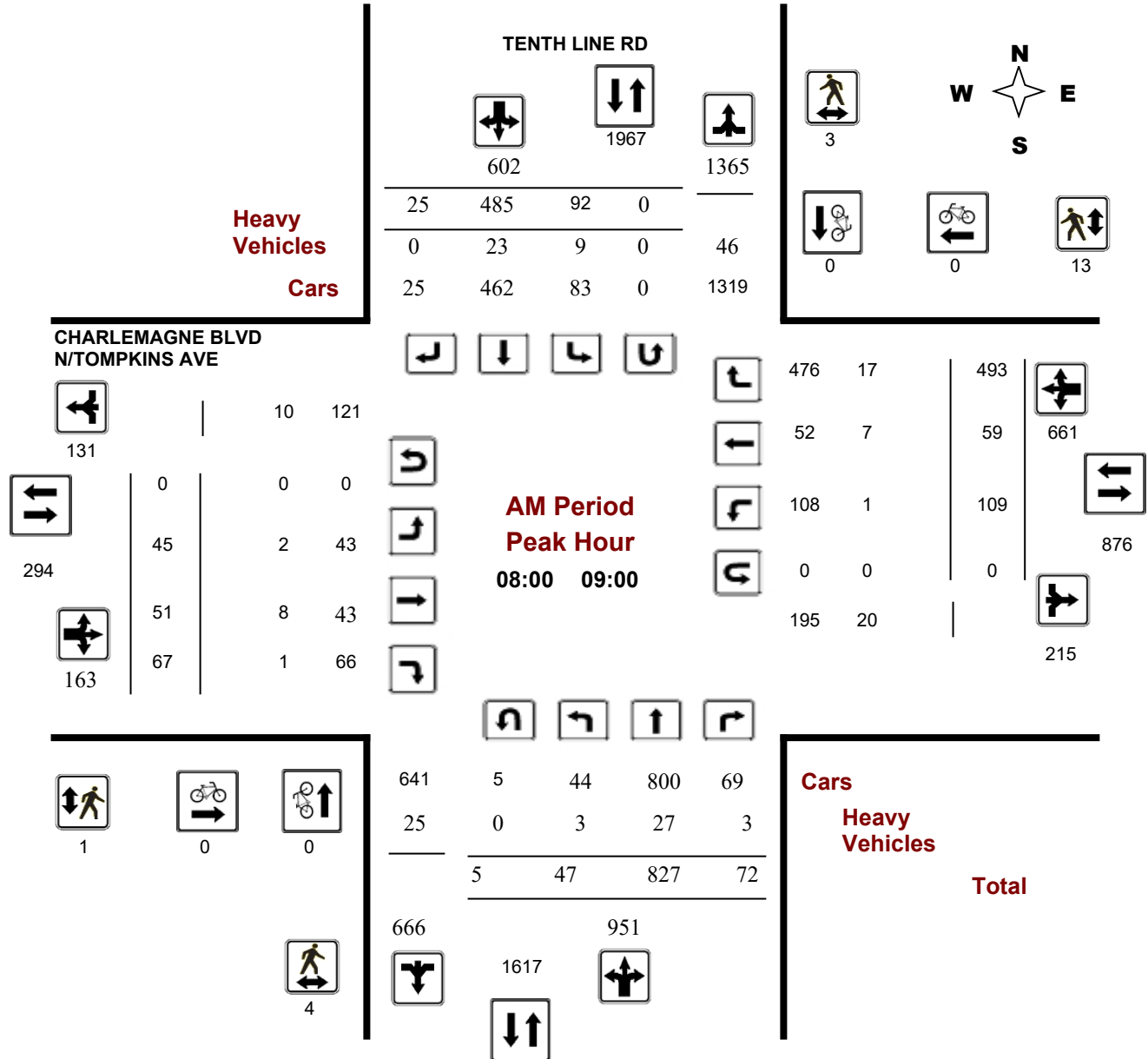
TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

Start Time: 07:00

WO No: 37454

Device: Miovision



Comments

Turning Movement Count - Peak Hour Diagram

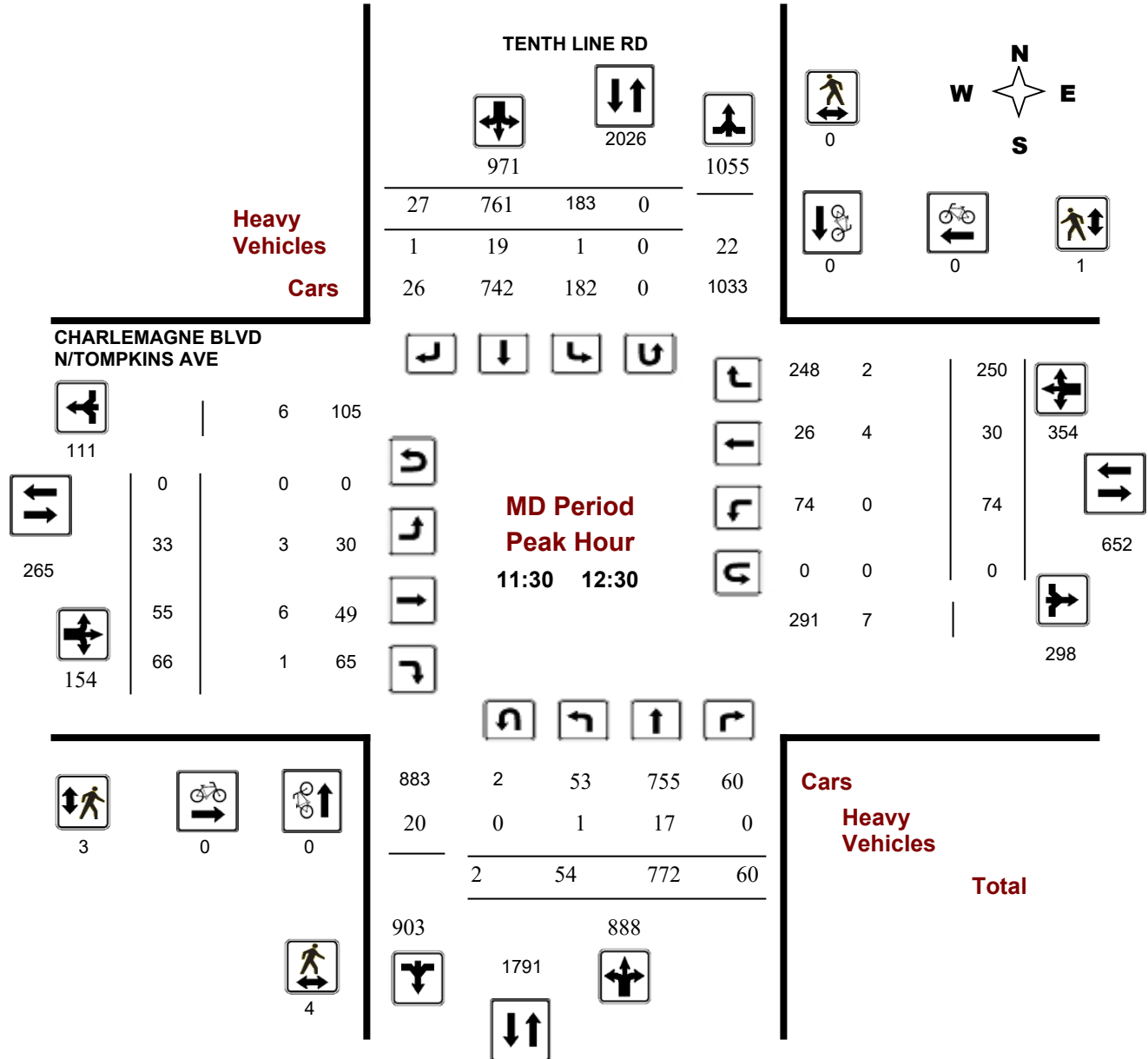
TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

Start Time: 07:00

WO No: 37454

Device: Miovision



Comments

Turning Movement Count - Peak Hour Diagram

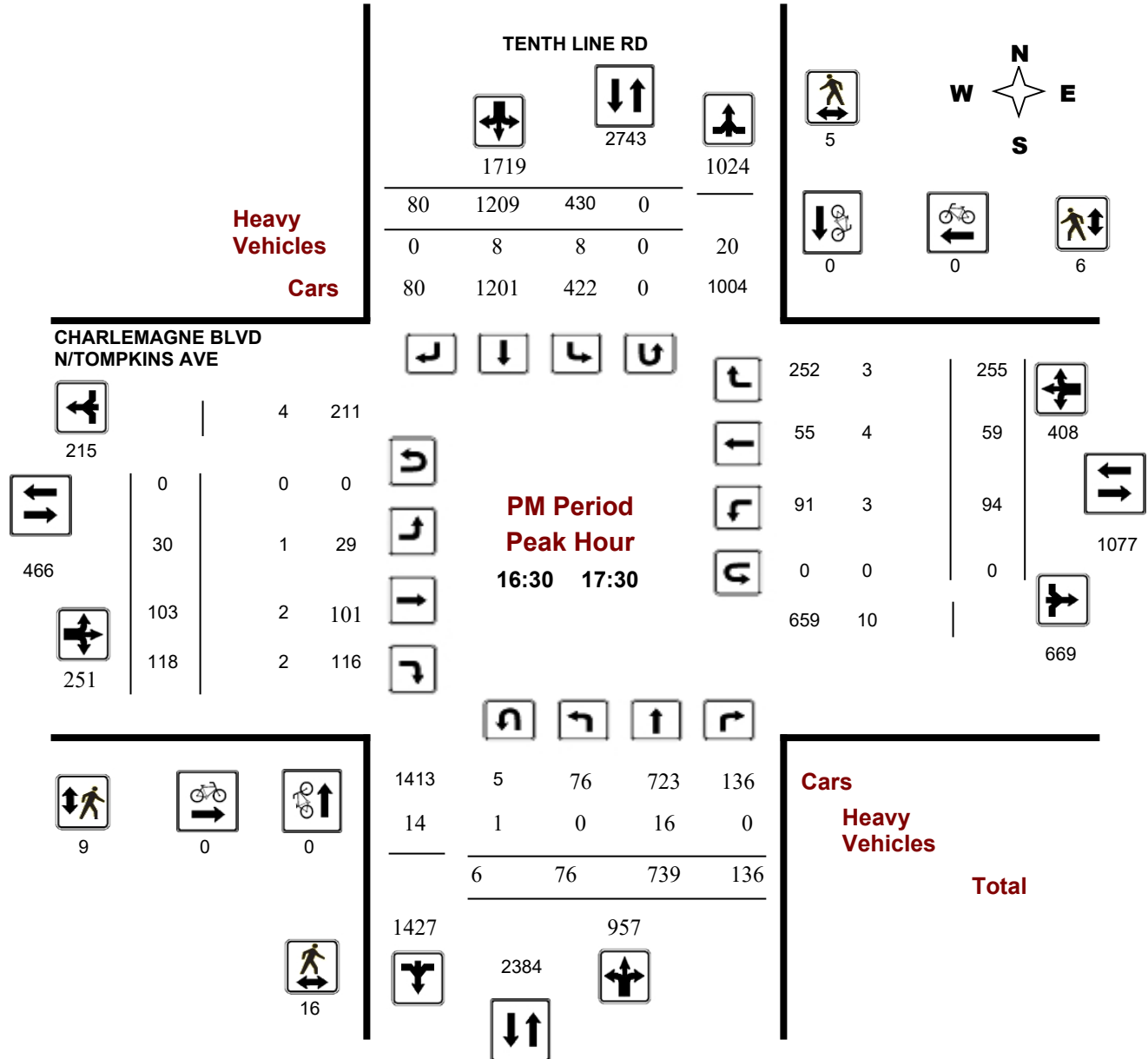
TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

Start Time: 07:00

WO No: 37454

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, January 25, 2018

Total Observed U-Turns
 Northbound: 33 Southbound: 0
 Eastbound: 0 Westbound: 0

AADT Factor
 1.00

TENTH LINE RD

CHARLEMAGNE BLVD N/TOMPKINS AVE

Period	TENTH LINE RD					CHARLEMAGNE BLVD N/TOMPKINS AVE					STR TOT	Grand Total							
	Northbound			Southbound		Eastbound			Westbound										
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	30	689	31	750	96	399	15	510	1260	32	40	55	127	106	47	659	812	939	2199
08:00 09:00	47	827	72	946	92	485	25	602	1548	45	51	67	163	109	59	493	661	824	2372
09:00 10:00	50	709	34	793	115	458	22	595	1388	42	37	61	140	75	53	374	502	642	2030
11:30 12:30	54	772	60	886	183	761	27	971	1857	33	55	66	154	74	30	250	354	508	2365
12:30 13:30	53	737	75	865	151	700	37	888	1753	32	52	67	151	72	35	236	343	494	2247
15:00 16:00	69	692	111	872	327	1082	63	1472	2344	38	76	71	185	61	55	250	366	551	2895
16:00 17:00	85	708	102	895	412	1237	84	1733	2628	31	95	105	231	103	58	225	386	617	3245
17:00 18:00	81	724	158	963	436	1128	65	1629	2592	26	103	104	233	98	59	299	456	689	3281
Sub Total	469	5858	643	6970	1812	6250	338	8400	15370	279	509	596	1384	698	396	2786	3880	5264	20634
U Turns	33			33	0			0	33	0			0	0			0	0	33
Total	502	5858	643	7003	1812	6250	338	8400	15403	279	509	596	1384	698	396	2786	3880	5264	20667
EQ 12Hr	698	8143	894	9735	2519	8688	470	11677	21412	388	708	828	1924	970	550	3873	5393	7317	28729
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																	1.39		
AVG 12Hr	698	8143	894	9735	2519	8688	470	11677	21412	388	708	828	1924	970	550	3873	5393	7317	28729
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																	1.00		
AVG 24Hr	914	10667	1171	12752	3300	11381	616	15297	28049	508	927	1085	2520	1271	720	5074	7065	9585	37634
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																	1.31		

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



Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

TENTH LINE RD

CHARLEMAGNE BLVD N/TOMPKINS
AVE

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	8	178	5	191	22	82	4	108	299	13	6	8	27	20	5	184	209	236	535
07:15 07:30	9	181	8	198	25	92	2	119	317	8	15	20	43	24	17	152	193	236	553
07:30 07:45	7	157	4	168	24	126	4	154	322	5	11	15	31	32	11	162	205	236	558
07:45 08:00	11	173	14	198	25	99	5	129	327	6	8	12	26	30	14	161	205	231	558
08:00 08:15	15	192	13	220	23	128	4	155	375	12	13	8	33	33	19	142	194	227	602
08:15 08:30	16	212	22	250	18	108	12	138	388	5	19	24	48	30	10	137	177	225	613
08:30 08:45	13	234	17	264	22	119	5	146	410	16	9	17	42	25	14	102	141	183	593
08:45 09:00	8	189	20	217	29	130	4	163	380	12	10	18	40	21	16	112	149	189	569
09:00 09:15	18	161	11	190	30	116	5	151	341	12	9	13	34	27	25	120	172	206	547
09:15 09:30	10	185	10	205	34	125	4	163	368	8	12	11	31	13	10	102	125	156	524
09:30 09:45	11	193	8	212	17	105	8	130	342	9	9	21	39	18	11	83	112	151	493
09:45 10:00	15	170	5	190	34	112	5	151	341	13	7	16	36	17	7	69	93	129	470
11:30 11:45	17	205	16	238	48	191	4	243	481	8	14	13	35	20	8	71	99	134	615
11:45 12:00	12	206	22	240	48	185	3	236	476	10	15	18	43	17	7	69	93	136	612
12:00 12:15	16	165	12	193	42	174	12	228	421	8	13	24	45	20	5	54	79	124	545
12:15 12:30	11	196	10	217	45	211	8	264	481	7	13	11	31	17	10	56	83	114	595
12:30 12:45	16	209	21	246	42	189	9	240	486	9	9	14	32	10	10	54	74	106	592
12:45 13:00	10	153	17	180	27	153	12	192	372	5	15	21	41	22	8	72	102	143	515
13:00 13:15	11	182	16	209	35	163	9	207	416	9	12	15	36	18	6	49	73	109	525
13:15 13:30	18	193	21	232	47	195	7	249	481	9	16	17	42	22	11	61	94	136	617
15:00 15:15	17	182	21	220	54	251	20	325	545	5	14	13	32	8	16	59	83	115	660
15:15 15:30	25	161	19	205	69	271	16	356	561	9	16	15	40	20	15	60	95	135	696
15:30 15:45	16	170	36	222	106	303	15	424	646	14	19	19	52	8	12	59	79	131	777
15:45 16:00	17	179	35	231	98	257	12	367	598	10	27	24	61	25	12	72	109	170	768
16:00 16:15	29	192	31	252	100	287	21	408	660	6	28	24	58	28	17	51	96	154	814
16:15 16:30	16	153	15	184	95	316	18	429	613	11	17	27	55	29	16	63	108	163	776
16:30 16:45	27	193	26	246	101	299	17	417	663	4	18	30	52	24	12	62	98	150	813
16:45 17:00	19	170	30	219	116	335	28	479	698	10	32	24	66	22	13	49	84	150	848
17:00 17:15	21	188	39	248	88	282	16	386	634	12	26	30	68	30	20	61	111	179	813
17:15 17:30	15	188	41	244	125	293	19	437	681	4	27	34	65	18	14	83	115	180	861
17:30 17:45	30	163	32	225	111	258	15	384	609	5	28	19	52	29	14	69	112	164	773
17:45 18:00	18	185	46	249	112	295	15	422	671	5	22	21	48	21	11	86	118	166	837
Total:	502	5858	643	7003	1812	6250	338	8400	15403	279	509	596	1384	698	396	2786	3880	15403	20,667

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

TENTH LINE RD

CHARLEMAGNE BLVD N/TOMPKINS AVE

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	0	0	0	0	1	1	1
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
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
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	1	0	1	0	0	0	1
09:45 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
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
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
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
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
Total	1	0	1	0	1	1	2



Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

TENTH LINE RD

CHARLEMAGNE BLVD N/TOMPKINS
AVE

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	1	1	0	1	1	2
07:30 07:45	1	0	1	0	1	1	2
07:45 08:00	1	1	2	0	0	0	2
08:00 08:15	1	3	4	1	5	6	10
08:15 08:30	2	0	2	0	2	2	4
08:30 08:45	1	0	1	0	6	6	7
08:45 09:00	0	0	0	0	0	0	0
09:00 09:15	0	2	2	0	1	1	3
09:15 09:30	0	2	2	1	0	1	3
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	1	1	1
11:30 11:45	1	0	1	0	0	0	1
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	1	1	2	2
12:15 12:30	3	0	3	2	0	2	5
12:30 12:45	1	0	1	0	1	1	2
12:45 13:00	0	0	0	1	0	1	1
13:00 13:15	0	0	0	0	0	0	0
13:15 13:30	1	0	1	1	1	2	3
15:00 15:15	0	1	1	0	1	1	2
15:15 15:30	0	0	0	0	3	3	3
15:30 15:45	2	0	2	0	2	2	4
15:45 16:00	2	1	3	0	1	1	4
16:00 16:15	3	1	4	3	1	4	8
16:15 16:30	4	3	7	2	1	3	10
16:30 16:45	4	2	6	1	0	1	7
16:45 17:00	5	1	6	2	0	2	8
17:00 17:15	2	1	3	1	2	3	6
17:15 17:30	5	1	6	5	4	9	15
17:30 17:45	2	1	3	1	2	3	6
17:45 18:00	3	3	6	3	4	7	13
Total	44	24	68	25	41	66	134



Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

TENTH LINE RD

CHARLEMAGNE BLVD N/TOMPKINS
AVE

Northbound

Southbound

Eastbound

Westbound

Time Period	Northbound			N TOT	Southbound			S TOT	STR TOT	Eastbound			E TOT	Westbound			W TOT	STR TOT	Grand Total
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT			
07:00 07:15	0	3	0	3	1	5	1	7	10	0	2	0	2	0	0	5	5	7	17
07:15 07:30	0	4	1	5	4	2	0	6	11	0	4	0	4	0	0	3	3	7	18
07:30 07:45	0	4	0	4	1	9	0	10	14	0	1	1	2	1	1	4	6	8	22
07:45 08:00	0	5	0	5	1	4	1	6	11	0	1	0	1	1	1	4	6	7	18
08:00 08:15	2	8	0	10	2	5	0	7	17	0	2	0	2	0	2	4	6	8	25
08:15 08:30	1	6	0	7	2	6	0	8	15	1	3	0	4	0	2	7	9	13	28
08:30 08:45	0	7	0	7	2	2	0	4	11	0	2	1	3	1	0	3	4	7	18
08:45 09:00	0	6	3	9	3	10	0	13	22	1	1	0	2	0	3	3	6	8	30
09:00 09:15	0	6	0	6	1	2	1	4	10	0	2	0	2	0	2	2	4	6	16
09:15 09:30	0	7	1	8	0	9	0	9	17	0	1	0	1	1	1	1	3	4	21
09:30 09:45	0	9	1	10	0	2	0	2	12	0	1	0	1	0	1	1	2	3	15
09:45 10:00	0	6	0	6	1	4	0	5	11	0	1	0	1	0	1	0	1	2	13
11:30 11:45	0	4	0	4	0	3	0	3	7	0	1	0	1	0	2	0	2	3	10
11:45 12:00	0	3	0	3	1	6	0	7	10	2	3	1	6	0	0	0	0	6	16
12:00 12:15	1	4	0	5	0	4	1	5	10	0	1	0	1	0	1	2	3	4	14
12:15 12:30	0	6	0	6	0	6	0	6	12	1	1	0	2	0	1	0	1	3	15
12:30 12:45	0	9	0	9	0	6	0	6	15	0	1	0	1	0	1	0	1	2	17
12:45 13:00	0	2	1	3	1	7	0	8	11	0	1	1	2	0	1	3	4	6	17
13:00 13:15	0	7	0	7	0	5	0	5	12	0	1	0	1	0	1	0	1	2	14
13:15 13:30	0	6	0	6	0	9	0	9	15	0	1	0	1	0	1	3	4	5	20
15:00 15:15	0	3	0	3	1	1	0	2	5	0	2	0	2	1	1	1	3	5	10
15:15 15:30	0	9	0	9	1	5	1	7	16	1	0	0	1	2	2	2	6	7	23
15:30 15:45	0	3	0	3	3	4	0	7	10	1	2	0	3	0	2	1	3	6	16
15:45 16:00	0	1	1	2	2	5	0	7	9	1	4	0	5	2	4	3	9	14	23
16:00 16:15	0	6	3	9	4	4	0	8	17	0	0	0	0	0	1	1	2	2	19
16:15 16:30	0	8	0	8	2	4	0	6	14	0	0	0	0	1	2	1	4	4	18
16:30 16:45	0	6	0	6	1	4	0	5	11	0	1	0	1	1	0	1	2	3	14
16:45 17:00	0	4	0	4	3	3	0	6	10	1	0	1	2	0	2	1	3	5	15
17:00 17:15	0	2	0	2	0	0	0	0	2	0	1	1	2	2	1	0	3	5	7
17:15 17:30	0	4	0	4	4	1	0	5	9	0	0	0	0	0	1	1	2	2	12
17:30 17:45	0	0	0	0	2	1	0	3	3	0	1	0	1	0	1	0	1	2	5
17:45 18:00	0	1	0	1	3	3	0	6	7	0	1	0	1	0	0	0	0	1	8
Total: None	4	159	11	174	46	141	5	192	366	9	43	6	58	13	39	57	109	167	534



Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ CHARLEMAGNE BLVD N/TOMPKINS AV

Survey Date: Thursday, January 25, 2018

WO No: 37454

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

Time Period	TENTH LINE RD		CHARLEMAGNE BLVD N/TOMPKINS AVE		Total	
	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total		
07:00	07:15	1	0	0	0	1
07:15	07:30	1	0	0	0	1
07:30	07:45	0	0	0	0	0
07:45	08:00	3	0	0	0	3
08:00	08:15	1	0	0	0	1
08:15	08:30	3	0	0	0	3
08:30	08:45	0	0	0	0	0
08:45	09:00	1	0	0	0	1
09:00	09:15	1	0	0	0	1
09:15	09:30	0	0	0	0	0
09:30	09:45	1	0	0	0	1
09:45	10:00	2	0	0	0	2
11:30	11:45	0	0	0	0	0
11:45	12:00	1	0	0	0	1
12:00	12:15	0	0	0	0	0
12:15	12:30	1	0	0	0	1
12:30	12:45	0	0	0	0	0
12:45	13:00	1	0	0	0	1
13:00	13:15	0	0	0	0	0
13:15	13:30	1	0	0	0	1
15:00	15:15	1	0	0	0	1
15:15	15:30	1	0	0	0	1
15:30	15:45	3	0	0	0	3
15:45	16:00	1	0	0	0	1
16:00	16:15	0	0	0	0	0
16:15	16:30	1	0	0	0	1
16:30	16:45	5	0	0	0	5
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	1	0	0	0	1
17:30	17:45	1	0	0	0	1
17:45	18:00	1	0	0	0	1
Total		33	0	0	0	33

STAMSON 5.04 NORMAL REPORT Date: 24-10-2021
 14:58:47
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 21370a.te Time Period: Day/Night 16/8 hours
 Description:

Road data, segment # 1: Presone2rows (day/night)

```
-----
Car traffic volume : 3120/1560 veh/TimePeriod
Medium truck volume : 82/41 veh/TimePeriod
Heavy truck volume : 65/33 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
```

Data for Segment # 1: Presone2rows (day/night)

```
-----
Angle1 Angle2 : -60.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 2 / 2
House density : 65 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00
```

Results segment # 1: Presone2rows (day)

Source height = 1.19 m

ROAD (0.00 + 36.33 + 0.00) = 36.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

```
-----
-60 90 0.66 57.31 0.00 -13.68 -1.87 0.00 -5.43
0.00 36.33
-----
```


Segment Leq : 36.33 dBA

Total Leq All Segments: 36.33 dBA

Results segment # 1: Presone2rows (night)

Source height = 1.19 m

ROAD (0.00 + 38.01 + 0.00) = 38.01 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

-60	90	0.49	57.35	0.00	-12.27	-1.64	0.00	-5.43
0.00	38.01							

Segment Leq : 38.01 dBA

Total Leq All Segments: 38.01 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 36.33
 (NIGHT): 38.01

STAMSON 5.04 NORMAL REPORT Date: 24-10-2021
 14:58:05
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 21370B.te Time Period: Day/Night 16/8 hours
 Description:

Road data, segment # 1: Prestone opn (day/night)

```
-----
Car traffic volume : 3120/1560 veh/TimePeriod
Medium truck volume : 82/41 veh/TimePeriod
Heavy truck volume : 65/33 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
```

Data for Segment # 1: Prestone opn (day/night)

```
-----
Angle1 Angle2 : -90.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00
```

Road data, segment # 2: Prestone 2r (day/night)

```
-----
Car traffic volume : 3120/1560 veh/TimePeriod
Medium truck volume : 82/41 veh/TimePeriod
Heavy truck volume : 65/33 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
```

Data for Segment # 2: Prestone 2r (day/night)

```
-----
Angle1 Angle2 : 45.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 2 / 2
House density : 65 %
```

Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 3: Tompkins3rws (day/night)

Car traffic volume : 3697/411 veh/TimePeriod *
Medium truck volume : 38/4 veh/TimePeriod *
Heavy truck volume : 38/4 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 3240
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.00
Heavy Truck % of Total Volume : 1.00
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 3: Tompkins3rws (day/night)

Angle1 Angle2 : -90.00 deg -45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 3
House density : 65 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 130.00 / 130.00 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 4: Tompkins opn (day/night)

```
-----
Car traffic volume : 3697/411 veh/TimePeriod *
Medium truck volume : 38/4 veh/TimePeriod *
Heavy truck volume : 38/4 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
```

* Refers to calculated road volumes based on the following input:

```
24 hr Traffic Volume (AADT or SADT): 3240
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.00
Heavy Truck % of Total Volume : 1.00
Day (16 hrs) % of Total Volume : 90.00
```

Data for Segment # 4: Tompkins opn (day/night)

```
-----
Angle1 Angle2 : -45.00 deg 15.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground
surface)
Receiver source distance : 130.00 / 130.00 m
Receiver height : 1.50 / 7.50 m
Topography : 1 (Flat/gentle slope; no
barrier)
Reference angle : 0.00
```

Road data, segment # 5: Tompkins2rws (day/night)

```
-----
Car traffic volume : 3697/411 veh/TimePeriod *
Medium truck volume : 38/4 veh/TimePeriod *
Heavy truck volume : 38/4 veh/TimePeriod *
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
```

* Refers to calculated road volumes based on the following input:

```
24 hr Traffic Volume (AADT or SADT): 3240
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.00
```

Heavy Truck % of Total Volume : 1.00
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 5: Tompkins2rws (day/night)

```

-----
Angle1  Angle2      : 15.00 deg   90.00 deg
Wood depth      :          0   (No woods.)
No of house rows :          2 / 2
House density    :          65 %
Surface         :          1   (Absorptive ground
surface)
Receiver source distance : 130.00 / 130.00 m
Receiver height  :          1.50 / 7.50 m
Topography      :          1   (Flat/gentle slope; no
barrier)
Reference angle  :          0.00
    
```

Results segment # 1: Prestone opn (day)

Source height = 1.19 m

ROAD (0.00 + 43.92 + 0.00) = 43.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

```

-----
-90    45    0.66  57.31    0.00 -11.11   -2.29    0.00    0.00
0.00  43.92
    
```

Segment Leq : 43.92 dBA

Results segment # 2: Prestone 2r (day)

Source height = 1.19 m

ROAD (0.00 + 31.67 + 0.00) = 31.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

```

-----
45    90    0.66  57.31    0.00 -11.11   -9.05    0.00   -5.48
0.00  31.67
    
```


 Segment Leq : 31.67 dBA

Results segment # 3: Tompkins3rws (day)

Source height = 1.00 m

ROAD (0.00 + 24.60 + 0.00) = 24.60 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

-90	-45	0.66	56.10	0.00	-15.57	-9.05	0.00	-6.88
0.00	24.60							

 Segment Leq : 24.60 dBA

Results segment # 4: Tompkins opn (day)

Source height = 1.00 m

ROAD (0.00 + 35.53 + 0.00) = 35.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

-45	15	0.66	56.10	0.00	-15.57	-5.01	0.00	0.00
0.00	35.53							

 Segment Leq : 35.53 dBA

Results segment # 5: Tompkins2rws (day)

Source height = 1.00 m

ROAD (0.00 + 29.54 + 0.00) = 29.54 dBA

Angle1 B.Adj	Angle2 SubLeq	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
-----------------	------------------	-------	--------	-------	-------	-------	-------	-------

15	90	0.66	56.10	0.00	-15.57	-5.61	0.00	-5.38
0.00	29.54							

Segment Leq : 29.54 dBA

Total Leq All Segments: 44.90 dBA

Results segment # 1: Prestone opn (night)

Source height = 1.19 m

ROAD (0.00 + 45.31 + 0.00) = 45.31 dBA

Angle1 B.Adj	Angle2 SubLeq	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
-----------------	------------------	-------	--------	-------	-------	-------	-------	-------

-90	45	0.49	57.35	0.00	-9.96	-2.07	0.00	0.00
0.00	45.31							

Segment Leq : 45.31 dBA

Results segment # 2: Prestone 2r (night)

Source height = 1.19 m

ROAD (0.00 + 33.54 + 0.00) = 33.54 dBA

Angle1 B.Adj	Angle2 SubLeq	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
-----------------	------------------	-------	--------	-------	-------	-------	-------	-------

45	90	0.49	57.35	0.00	-9.96	-8.36	0.00	-5.48
0.00	33.54							

Segment Leq : 33.54 dBA

Results segment # 3: Tompkins3rws (night)

 Source height = 0.99 m

ROAD (0.00 + 20.16 + 0.00) = 20.16 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

-90	-45	0.50	49.45	0.00	-14.02	-8.38	0.00	-6.88
0.00	20.16							

Segment Leq : 20.16 dBA

Results segment # 4: Tompkins opn (night)

 Source height = 0.99 m

ROAD (0.00 + 30.48 + 0.00) = 30.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

-45	15	0.50	49.45	0.00	-14.02	-4.95	0.00	0.00
0.00	30.48							

Segment Leq : 30.48 dBA

Results segment # 5: Tompkins2rws (night)

 Source height = 0.99 m

ROAD (0.00 + 24.81 + 0.00) = 24.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj
B.Adj	SubLeq							

15	90	0.50	49.45	0.00	-14.02	-5.24	0.00	-5.38
0.00	24.81							

Segment Leq : 24.81 dBA

Total Leq All Segments: 45.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 44.90
(NIGHT): 45.77

End of Report
