HGC ENGINEERING

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Noise Feasibility Study
Proposed Residential Development
2087 – 2103 Prospect Street
Burlington, Ontario

Prepared for:

Welwyn Interests
3221 North Service Rd, Suite 400
Burlington, Ontario
L7N 3G2

Prepared by



Victor Garcia, PEng

Reviewed by

Sheeba Paul, MEng, PEng

December 7, 2017

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1 Introduction & Summary

HGC Engineering was retained by Welwyn Interests to conduct a noise feasibility study for a proposed townhouse development to be located at 2087 – 2103 Prospect Street in the City of Burlington, Ontario. The proposed development will consist of two stacked townhouse blocks containing 50 units and one existing 8-storey residential building to remain. The surrounding lands are primarily existing residential. The study is required by the municipality as part of their planning and approvals process.

The primary noise source impacting the site was determined to be road traffic on Prospect Street. Secondary sources of noise include Fairview Street and Brant Street. Road traffic data for the roadways were obtained from the City of Burlington and used to predict future traffic sound levels at the locations of the proposed residential dwelling units and in the rear yard outdoor living areas. The predicted sound levels were compared to the guidelines of the Ministry of Environment and Climate Change (MOECC) and the municipality.

Sound level predictions indicate that future traffic sound levels during the daytime and nighttime at the dwelling units will be within MOECC guidelines. Any exterior wall, and double glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the dwelling units.

An assessment of the impact of the development on the existing residences was also determined. Results indicate that the sound levels from the proposed air conditioning units are well below MOECC minimum exclusionary criteria. When the HVAC roof top units are selected; an acoustical engineer should verify that the source sound levels are within acceptable sound levels at all offsite sensitive receptors.

2 Site Description & Noise Sources

The site is located at 2087 – 2103 Prospect Street, Burlington, Ontario. Figure 1 is a key plan illustrating the location of the proposed site. The latest site plan of the development prepared by Icon Architects, dated July 4, 2017 is shown in Figure 2 also showing the prediction locations. The proposed development will consist of two stacked townhouse blocks containing 50 units and one existing 8-storey residential building to remain.

A site visit was made by HGC Engineering personnel in October 2017 to make observations of the acoustic environment, and to identify the significant noise sources in the vicinity. The acoustical environment surrounding the site is urban in nature, with existing residences surrounding the site. There are existing commercial uses along Brant Street. Sounds were not audible from these sources during the time of the site visit. There are no significant sources of stationary noise within 500 m of the subject site.

3 Noise Level Criteria

3.1 Road Traffic Noise

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MOECC publication NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning”, release date October 21, 2013, and are listed in Table 1 below. The values in Table 1 are energy equivalent (average) sound levels [L_{EQ}] in units of A-weighted decibels [dBA].

Table 1: MOECC Road Traffic Noise Criteria (dBA)

Area	Daytime L_{EQ} (16 hour) Road	Nighttime L_{EQ}(8 hour) Road
Outdoor Living Area	55 dBA	--
Living/Dining Room	45 dBA	45 dBA
Bedroom	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a

backyard, a terrace or other area where passive recreation is expected to occur. Balconies that are less than 4 m in depth are not considered to be outdoor living areas under MOECC guidelines.

The MOECC guidelines allow the daytime sound levels in an OLA to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is recommended to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom or living/dining room windows exceed 60 dBA or daytime sound levels outside bedroom or living/dining room windows exceed 65 dBA. Forced-air ventilation with ducts sized to accommodate the future installation of air conditioning is required when nighttime sound levels at bedroom or living/dining room windows are in the range of 51 to 60 dBA or when daytime sound levels at bedroom or living/dining room windows are in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses to notify future residents of possible excesses are also required when nighttime sound levels exceed 50 dBA at the plane of the bedroom or living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom or living/dining room window due to road traffic.

3.2 Criteria Governing Stationary (Industrial) Noise Sources

MOECC Guideline NPC-300, is the MOECC guideline for use in investigating Land Use Compatibility issues with regard to noise. Noise from the proposed development may potentially impact neighbouring noise sensitive land uses due to the air conditioning units. In terms of background sound, the development is located in an urban (Class 1) acoustical environment which is characterized by an acoustical environment dominated by road traffic and human activity.

The facade of a residence (i.e., in the plane of a window), or any associated usable outdoor area is considered a sensitive point of reception. NPC-300 stipulates that the exclusionary sound level limit for a stationary noise source in an urban Class 1 area is taken to be 50 dBA during daytime hours (07:00 to 23:00), and 45 dBA during nighttime hours (23:00 to 07:00). If the background sound levels due to road traffic exceed the exclusionary limits, then the background sound level becomes the criterion. The background sound level is defined as the sound level that occurs when the source under consideration is not operating, and may include traffic noise and natural sounds.

The developer's responsibilities are identified in NPC-300, which states that it is the developer's responsibility to ensure that the applicable sound level criteria are met. If noise sources are identified which generate excessive sound levels source controls are generally favoured by the MOECC although NPC-300 further states that outdoor noise control measures at the noise sensitive land use are acceptable.

4 Traffic Noise Predictions

4.1 Road Traffic

Traffic data for Prospect Street was obtained from the City of Burlington Transportation Services Department, in the form of annual average daily traffic (AADT) values for the year 2013, provided in Appendix A. A commercial vehicle percentage of 3.6% was used in the analysis and was further split into 1.4% medium trucks and 2.2% heavy trucks. A posted speed limit of 40 km/h was used. Traffic volumes were conservatively assumed to grow at a rate of 2.5% per year to the year 2027.

Traffic data for Fairview Street was obtained from the City of Burlington Transportation Services Department, in the form of turning movement counts for the year 2015, provided in Appendix A. A commercial vehicle percentage of 3.1% was used in the analysis and was further split into 1.2% medium trucks and 1.9% heavy trucks. A posted speed limit of 60 km/h was used. Traffic volumes were conservatively assumed to grow at a rate of 2.5% per year to the year 2027.

Traffic data for Brant Street was obtained from the City of Burlington Transportation Services Department, in the form of turning movement counts for the year 2015, provided in Appendix A. A commercial vehicle percentage of 3.6% was used in the analysis and was further split into 1.3%

medium trucks and 2.0% heavy trucks. A posted speed limit of 60 km/h was used. Traffic volumes were conservatively assumed to grow at a rate of 2.5% per year to the year 2027. The resulting future traffic volumes are listed in Table 2.

Table 2: Projected Road Traffic Data for 2027

Road Name		Cars	Medium Trucks	Heavy Trucks	Total
Prospect Street	Daytime	6 928	101	158	7 187
	Nighttime	770	11	18	799
	Total	**7 698**	**112**	**176**	**7 986**
Fairview Street	Daytime	29 162	362	572	30 096
	Nighttime	3 240	40	64	3 344
	Total	**32 402**	**402**	**636**	**33 440**
Brant Street	Daytime	23 242	312	481	24 035
	Nighttime	2 582	35	53	2 670
	Total	**25 824**	**347**	**534**	**26 705**

4.2 Road Traffic Noise Prediction

To assess the levels of road traffic noise which will impact the site in the future, predictions were made using STAMSON version 5.04, a computer algorithm developed by the MOECC. All STAMSON outputs are included in Appendix B.

Prediction locations were chosen around the site to obtain a good representation of the future sound levels at various dwelling units. The worst case prediction locations were chosen at the top floor (3rd storey) of the townhouses, as indicated in Figure 2. The results of these predictions are summarized in Table 3.

The distance setbacks of the buildings indicated on the site plan were used in the analysis, along with an aerial photo of the area to determine the distance to the surrounding roadways. The acoustic requirements may be subject to modifications if the site plan is changed significantly.

Table 3: Predicted Road Traffic Sound Levels [dBA], Without Mitigation

Prediction Location	Description	Daytime – in OLA $L_{EQ(16)}$	Daytime – at Façade $L_{EQ(16)}$	Nighttime – at Façade $L_{EQ(8)}$
[A]	Proposed townhouse blocks with some exposure to Prospect Street	<55	<55	<50
[B]	Proposed townhouse blocks with some exposure to Fairview Street and Brant Street	<55	<55	<50

Note: Reflective ground surface has been used in the analysis.

5 Traffic Noise Recommendation

The predictions indicate that the future traffic sound levels during the daytime and nighttime at the dwelling units will be within MOECC guidelines.

5.1 Outdoor Living Areas

The predicted daytime sound levels in the OLA's of the dwellings will be 55 dBA or less, thus physical mitigation will not be required.

5.2 Indoor Living Areas and Ventilation Requirements

The predicted sound levels at the dwelling units are below MOECC limits and there are no specific ventilation requirements for the indoor living areas.

5.3 Building Facade Constructions

The dwelling units within the development will have daytime and nighttime sound levels at the top storey façade that are less than 65 and 60 dBA respectively. For these units, any exterior wall, and double glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation.

6 Stationary Source Assessment

An analysis was conducted to consider the potential for noise from the residential buildings, specifically the air conditioning condenser units, at the neighboring noise sensitive receptors. The calculations included sound emissions from the air conditioning condenser equipment assumed to be located along the rear façade of the building (50 air conditioning units). There are no other stationary sources of noise associated with the residential buildings.

Comfort Cure horizontal condensers may be used for the dwelling units. Each condenser will have a sound level of 57 dBA. Data is provided in Appendix C.

Manufacturer's sound level data and the site geometry were used as input to a predictive computer model (Cadna/A), in order to estimate the offsite sound levels at the neighbouring residences. Cadna/A is a computer implementation of ISO Standard 9613-2 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation," which takes into account attenuation due to distance (geometrical spreading), shielding by intervening structures (such as buildings and bush), air attenuation and ground absorption.

The closest noise sensitive receptors (R1 to R5) are one-storey dwellings located to the north of the subject site. Figure 3 shows resulting sound level contours at 2.0 m in height. The results are contained in the following table.

Table 4: Predicted Stationary Sound Levels, [dBA], Without Mitigation

Receptor	Address	Criteria Day/Night	Daytime $L_{EQ-1\ hr}$	Nighttime $L_{EQ-1\ hr}$
R1	2080 Maplewood Dr (1-storey dwelling)	50/45	22	22
R2	2086 Maplewood Dr (1-storey dwelling)	50/45	27	27
R3	2092 Maplewood Dr (1-storey dwelling)	50/45	32	32
R4	2104 Maplewood Dr (1-storey dwellings)	50/45	29	29
R5	2116 Maplewood Dr (1-storey dwelling)	50/45	22	22

Note: AC units were assumed to operate for 60 minutes during a daytime and nighttime hour.

As shown above, the predicted sound levels are well below the minimum MOECC guideline limits during daytime and nighttime hours at all noise sensitive receptor locations. No further mitigation is required.

7 Summary of Recommendations

The predictions indicate that the future traffic sound levels during the daytime and nighttime at the dwelling units will be within MOECC guidelines. There are no specific recommendations in regards to road traffic noise. Sound levels from the assumed condenser units will be below the minimum MOECC guideline limits during daytime and nighttime hours at all noise sensitive receptor locations. When the HVAC roof top units are selected; an acoustical engineer should verify that the source sound levels are within acceptable sound levels will rat all offsite sensitive receptors.

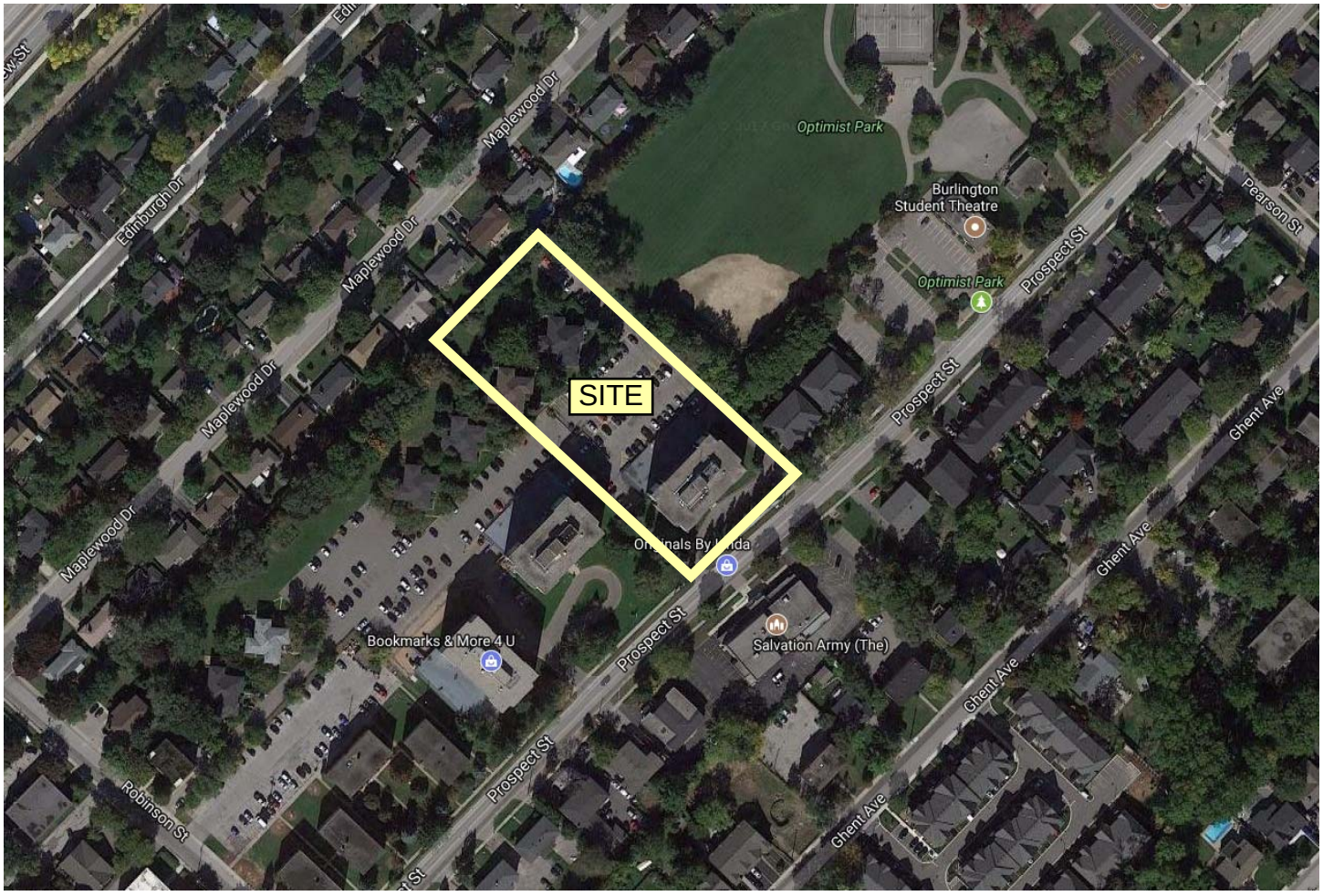


Figure 1 - Key Plan

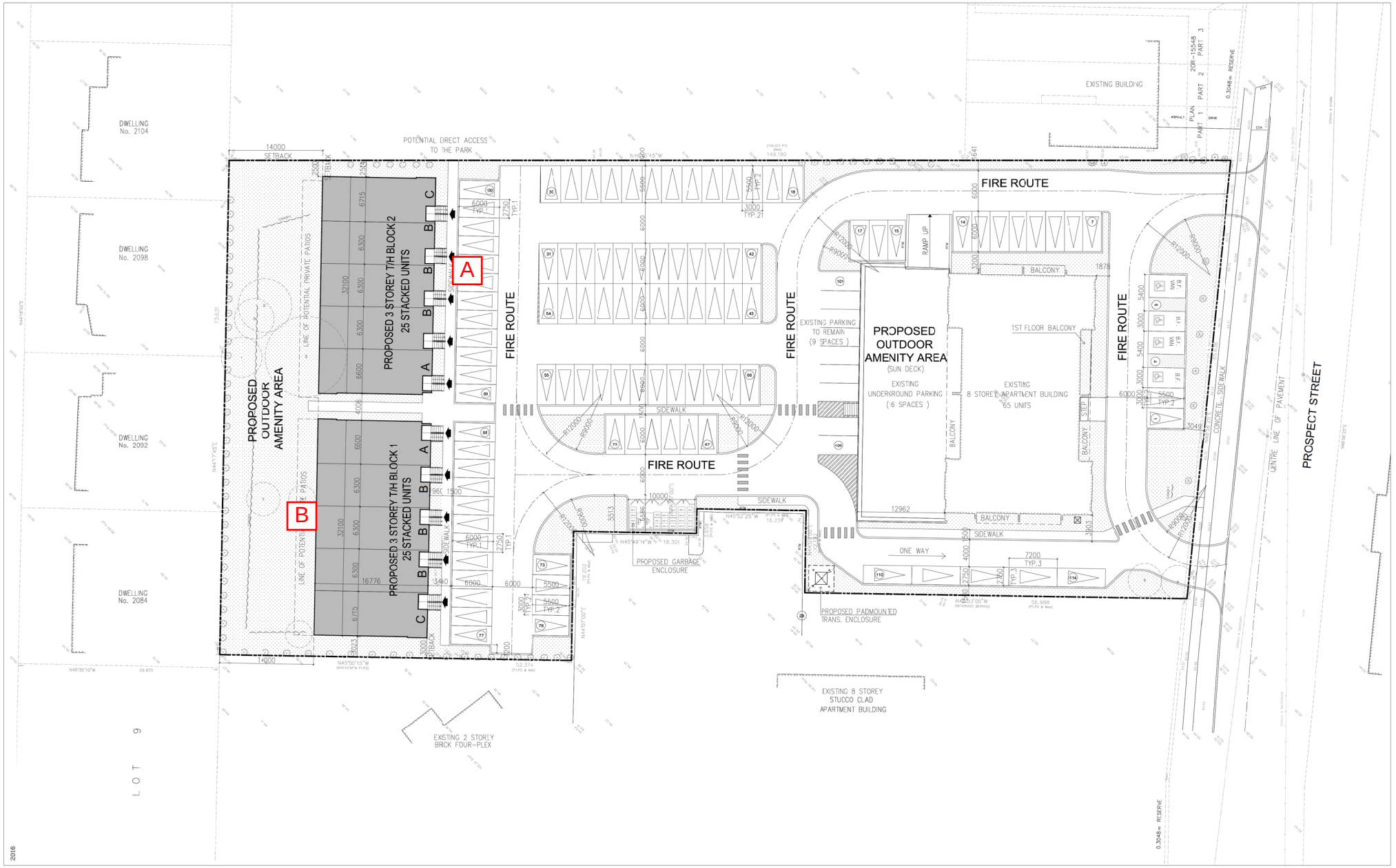


Figure 2 - Proposed Site Plan Showing Prediction Locations

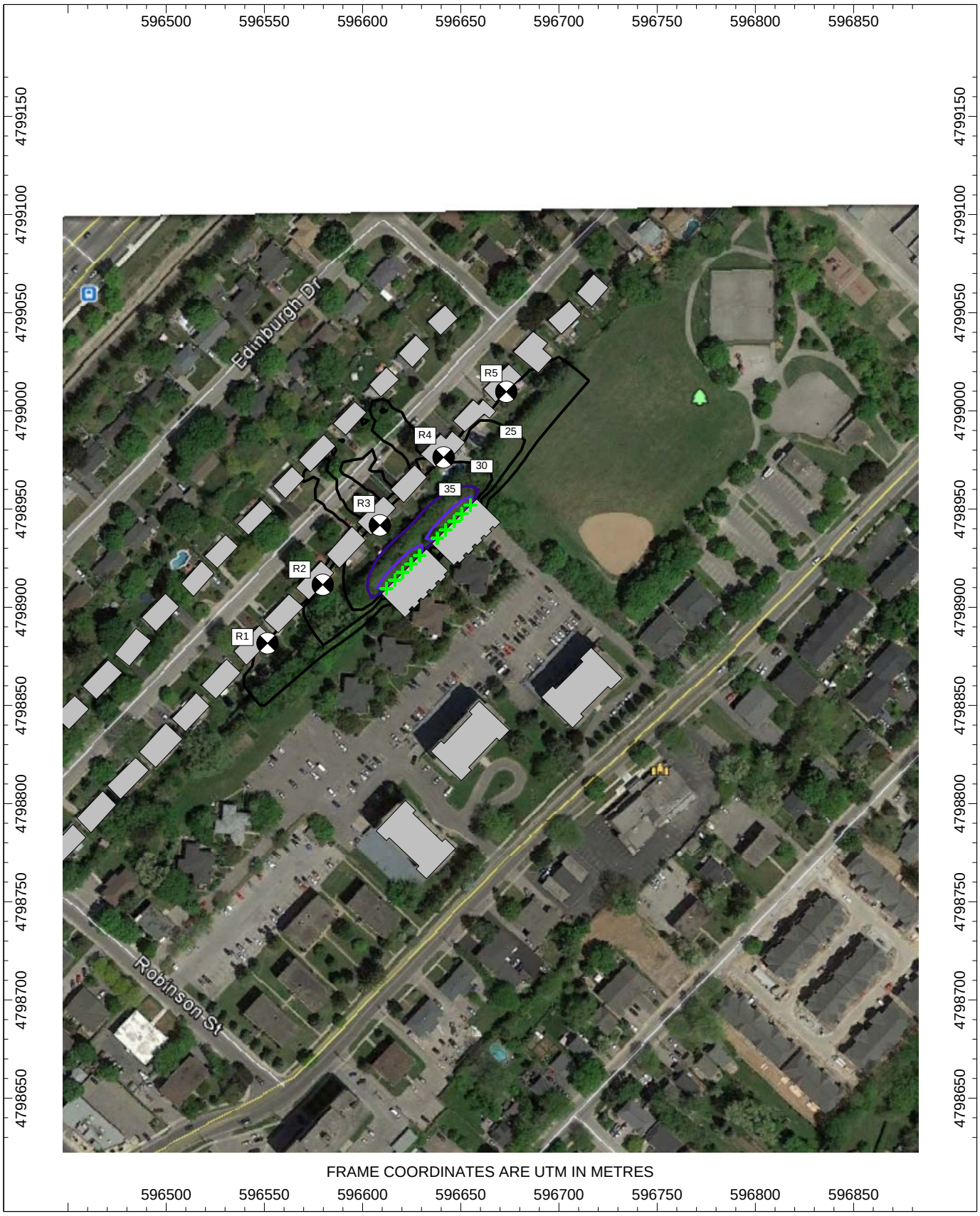


Figure 3: Noise Level Contours at 2.0 m high

APPENDIX A

Road Traffic Information

Victor Garcia

From: Patrau, Florin <Florin.Patrau@burlington.ca>
Sent: October-27-17 9:10 AM
To: Victor Garcia
Subject: RE: Road Traffic Data Request

Hi Victor, the attached files are the latest study available. We are counting this area again this year but as of today I don't have the results back.

My expectation is that the 2017 numbers will be a bit higher so if I can make a suggestion will be to use 2015 data and apply 1.5%/year growth rate.

I hope that helps,

Regards,

Florin Patrau | Traffic Technologist
Transportation Services Department
City of Burlington
Phone: 905-335-7671 x 7838
Florin.Patrau@Burlington.ca

Please consider the environment before printing this email

From: Victor Garcia [mailto:vgarcia@hgcengineering.com]
Sent: Thursday, October 26, 2017 12:26 PM
To: Patrau, Florin
Subject: Road Traffic Data Request

Hi Florin,

We previously received the attached data for a project at 2051-2085 Prospect St in Burlington, Ontario. We are now doing a noise study for the property next door, 2087-2103 Prospect St. Is the data attached still valid for this location?

Thanks,

Victor Garcia, P.Eng
Project Engineer

HGC Engineering **NOISE | VIBRATION | ACOUSTICS**
Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7
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Visit our website – www.hgcengineering.com **Follow Us** – LinkedIn | Twitter | YouTube

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Brant St @ Prospect St

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

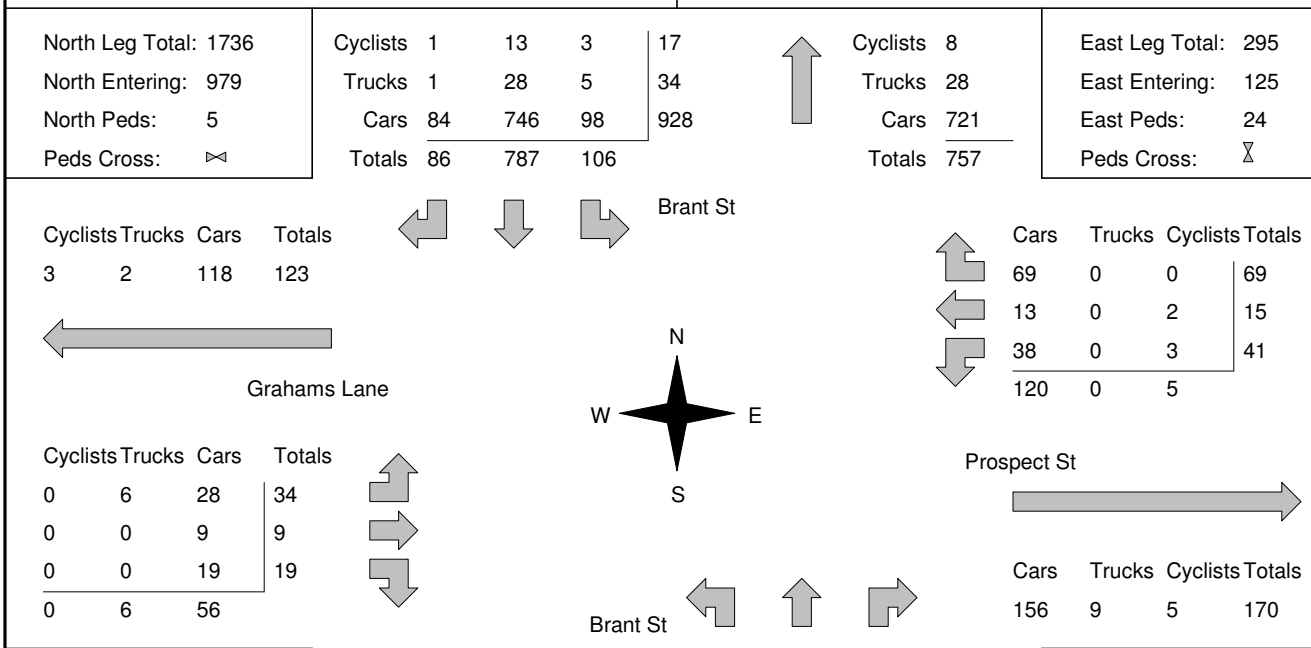
Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 2
Count date: 26-May-2015

Weather conditions:
Clear/Dry

Person(s) who counted:
Rick W

**** Signalized Intersection ****

Major Road: Brant St runs N/S



Comments

Brant St @ Prospect St

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 2
Count date: 26-May-2015

Weather conditions:
Clear/Dry

Person(s) who counted:
Rick W

**** Signalized Intersection ****

Major Road: Brant St runs N/S

North Leg Total:	1940			
North Entering:	931			
North Peds:	10			
Peds Cross:	⋈			
Cyclists	0	6	1	7
Trucks	10	19	4	33
Cars	60	745	86	891
Totals	70	770	91	
Cyclists	10			
Trucks	40			
Cars	959			
Totals	1009			
East Leg Total:	352			
East Entering:	193			
East Peds:	18			
Peds Cross:	⧖			

Brant St

Cyclists	Trucks	Cars	Totals
0	13	112	125

Cars	Trucks	Cyclists	Totals
95	4	0	99
14	1	0	15
73	1	5	79
182	6	5	

Grahams Lane

N
W E
S

Cyclists	Trucks	Cars	Totals
0	10	77	87
0	1	20	21
0	0	30	30
0	11	127	

Prospect St

Cars	Trucks	Cyclists	Totals
151	7	1	159

Brant St

Peds Cross:	⧖			
West Peds:	6			
West Entering:	138			
West Leg Total:	263			
Cars	848			
Trucks	20			
Cyclists	11			
Totals	879			
Cars	38	787	45	870
Trucks	2	26	2	30
Cyclists	0	10	0	10
Totals	40	823	47	
Peds Cross:	⋈			
South Peds:	12			
South Entering:	910			
South Leg Total:	1789			

Comments

Brant St @ Prospect St

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:15:00
To: 17:15:00

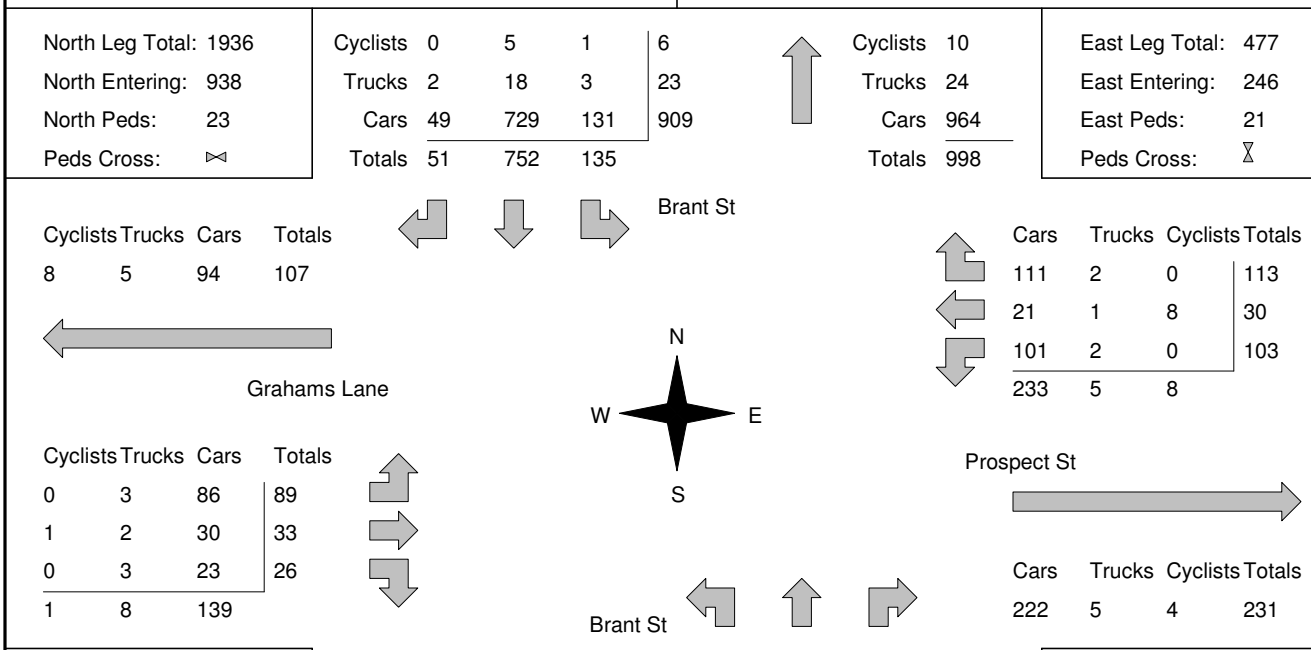
Municipality: Burlington
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Intersection: Brant St & Prospect St
TFR File #: 2
Count date: 26-May-2015

Weather conditions:
Clear/Dry

Person(s) who counted:
Rick W

**** Signalized Intersection ****

Major Road: Brant St runs N/S



Comments

Brant St @ Prospect St

Total Count Diagram

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 2
Count date: 26-May-2015

Weather conditions:
Clear/Dry

Person(s) who counted:
Rick W

**** Signalized Intersection ****

Major Road: Brant St runs N/S

North Leg Total:	13832			
North Entering:	6829			
North Peds:	89			
Peds Cross:	⋈			
Cyclists	1	56	7	64
Trucks	34	166	26	226
Cars	491	5351	697	6539
Totals	526	5573	730	
Cyclists	73			
Trucks	257			
Cars	6673			
Totals	7003			
East Leg Total:	2605			
East Entering:	1373			
East Peds:	151			
Peds Cross:	⧖			

Brant St

Cyclists	Trucks	Cars	Totals
19	52	800	871

Cars	Trucks	Cyclists	Totals
703	13	2	718
119	5	18	142
482	10	21	513
1304	28	41	

Grahams Lane

N
W E
S

Cyclists	Trucks	Cars	Totals
0	44	517	561
6	11	145	162
1	14	203	218
7	69	865	

Prospect St

Cars	Trucks	Cyclists	Totals
1161	46	25	1232

Brant St

Peds Cross:	⧖			
West Peds:	93			
West Entering:	941			
West Leg Total:	1812			
Cars	6036			
Trucks	190			
Cyclists	78			
Totals	6304			
Cars	190	5453	319	5962
Trucks	13	200	9	222
Cyclists	0	71	12	83
Totals	203	5724	340	
Peds Cross:	⋈			
South Peds:	72			
South Entering:	6267			
South Leg Total:	12571			

Comments

Brant St @ Prospect St

Annual Average Daily Traffic Diagram

Total Factor = Monthly Factor(0.93) x Daily Factor(0.93) x 24 Hour Factor(1.85) = 1.600065

Municipality: Burlington
Site #: 0000200275
Intersection: Brant St & Prospect St
TFR File #: 2
Count date: 26-May-2015

Weather conditions:
Clear/Dry

Person(s) who counted:
Rick W

**** Signalized Intersection ****

Major Road: Brant St runs N/S

North Leg Total: 22132
North Entering: 10927
North Peds: 142
Peds Cross: ⋈

Cyclists	2	90	11	102
Trucks	54	266	42	362
Cars	786	8562	1115	10463
Totals	842	8917	1168	

Cyclists	117
Trucks	411
Cars	10677
Totals	11205

East Leg Total: 4168
East Entering: 2197
East Peds: 242
Peds Cross: ⧖

Brant St

Cyclists	Trucks	Cars	Totals
30	83	1280	1394

Cars	Trucks	Cyclists	Totals
1125	21	3	1149
190	8	29	227
771	16	34	821
2086	45	66	

Grahams Lane

N
W E
S

Cyclists	Trucks	Cars	Totals
0	70	827	898
10	18	232	259
2	22	325	349
11	110	1384	

Prospect St

Cars	Trucks	Cyclists	Totals
1858	74	40	1971

Brant St

Peds Cross: ⧖
West Peds: 149
West Entering: 1506
West Leg Total: 2899

Cars	9658
Trucks	304
Cyclists	125
Totals	10087

Cars	304	8725	510	9540
Trucks	21	320	14	355
Cyclists	0	114	19	133
Totals	325	9159	544	

Peds Cross: ⋈
South Peds: 115
South Entering: 10028
South Leg Total: 20114

Comments

Fairview St @ Walmart Plaza

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Burlington
Site #: 0000200771
Intersection: Fairview St & Walmart Plaza
TFR File #: 5
Count date: 29-Oct-2015

Weather conditions:
Cloudy/Dry

Person(s) who counted:
Dominik

**** Signalized Intersection ****

Major Road: Fairview St runs W/E

North Leg Total: 192
North Entering: 89
North Peds: 0
Peds Cross: ⋈

Cyclists	1	0	1
Trucks	12	3	15
Cars	14	59	73
Totals	27	62	

Cyclists	0
Trucks	1
Cars	102
Totals	103

East Leg Total: 1306
East Entering: 463
East Peds: 3
Peds Cross: ⧖

Walmart Plaza

Cyclists	Trucks	Cars	Totals
1	34	395	430

Cars	Trucks	Cyclists	Totals
60	0	0	60
381	22	0	403
441	22	0	

Fairview St

N
W E
S

Cyclists	Trucks	Cars	Totals
0	1	42	43
0	17	764	781
0	18	806	

Fairview St

Cars	Trucks	Cyclists	Totals
823	20	0	843

Peds Cross: ⧖
West Peds: 3
West Entering: 824
West Leg Total: 1254

Comments

Fairview St @ Walmart Plaza

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Burlington
Site #: 0000200771
Intersection: Fairview St & Walmart Plaza
TFR File #: 5
Count date: 29-Oct-2015

Weather conditions:
Cloudy/Dry

Person(s) who counted:
Dominik

**** Signalized Intersection ****

Major Road: Fairview St runs W/E

North Leg Total: 524
North Entering: 220
North Peds: 0
Peds Cross: ⋈

Cyclists	0	1	1
Trucks	2	1	3
Cars	34	182	216
Totals	36	184	

Cyclists	0
Trucks	3
Cars	301
Totals	304

East Leg Total: 2330
East Entering: 1124
East Peds: 3
Peds Cross: ⧖

Walmart Plaza

Cyclists	Trucks	Cars	Totals
3	33	945	981

Cars	Trucks	Cyclists	Totals
176	3	0	179
911	31	3	945
1087	34	3	

Fairview St

N
W E
S

Cyclists	Trucks	Cars	Totals
0	0	125	125
4	35	983	1022
4	35	1108	

Fairview St

Cars	Trucks	Cyclists	Totals
1165	36	5	1206

Peds Cross: ⧖
West Peds: 6
West Entering: 1147
West Leg Total: 2128

Comments

Fairview St @ Walmart Plaza

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

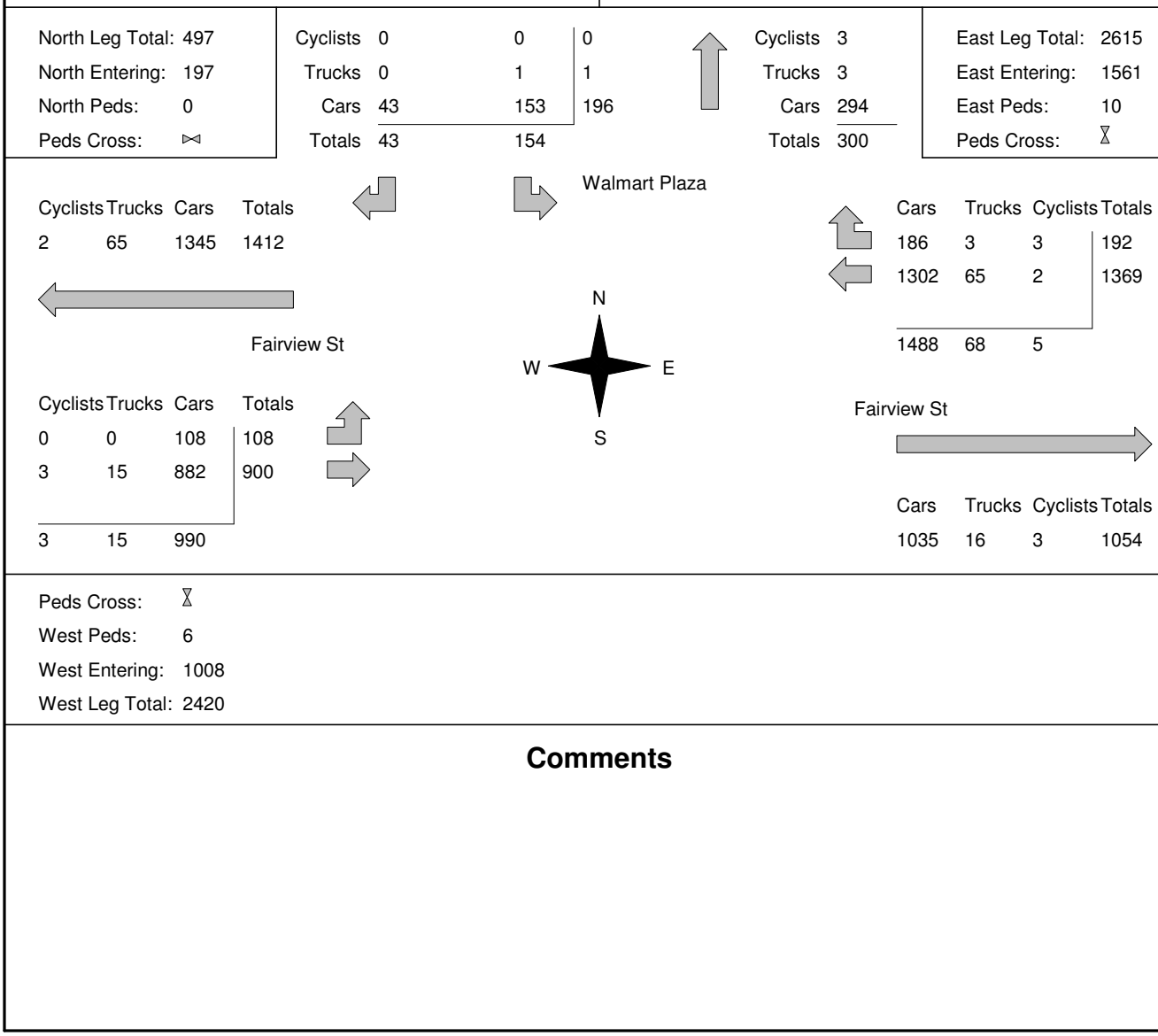
Municipality: Burlington
Site #: 0000200771
Intersection: Fairview St & Walmart Plaza
TFR File #: 5
Count date: 29-Oct-2015

Weather conditions:
Cloudy/Dry

Person(s) who counted:
Dominik

**** Signalized Intersection ****

Major Road: Fairview St runs W/E



Peds Cross:
West Peds: 6
West Entering: 1008
West Leg Total: 2420

Comments

Fairview St @ Walmart Plaza

Total Count Diagram

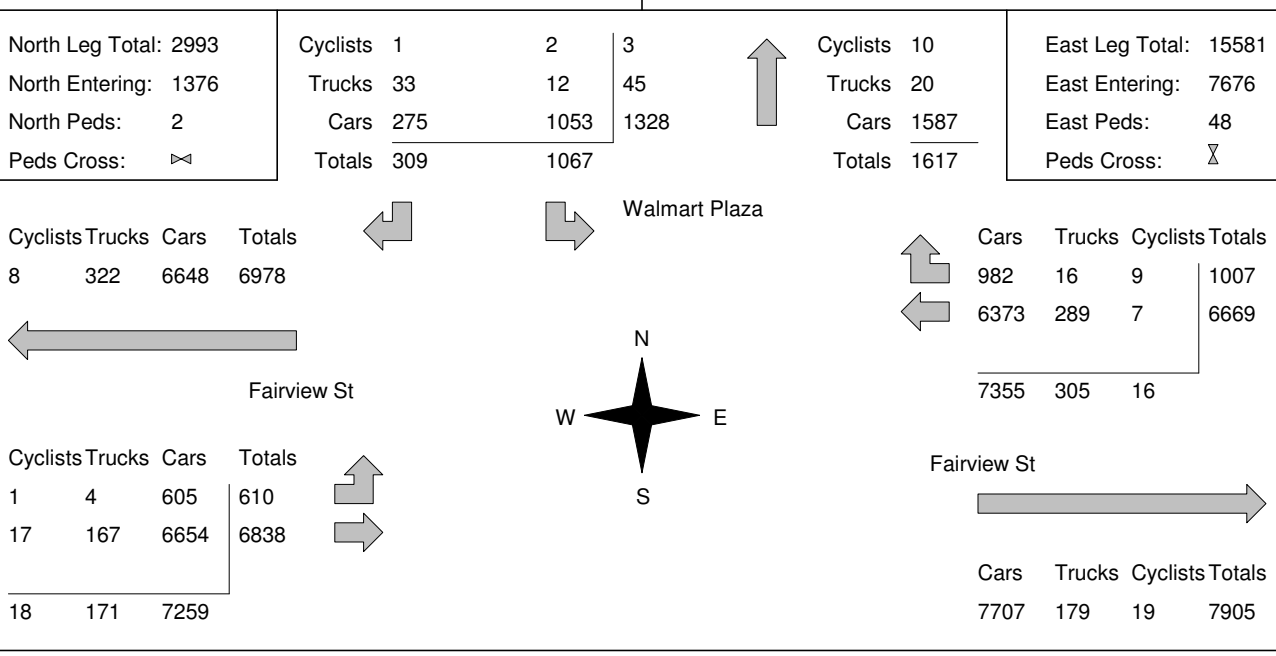
Municipality: Burlington
Site #: 0000200771
Intersection: Fairview St & Walmart Plaza
TFR File #: 5
Count date: 29-Oct-2015

Weather conditions:
Cloudy/Dry

Person(s) who counted:
Dominik

**** Signalized Intersection ****

Major Road: Fairview St runs W/E



Peds Cross:
West Peds: 45
West Entering: 7448
West Leg Total: 14426

Comments

Fairview St @ Walmart Plaza

Annual Average Daily Traffic Diagram

Total Factor = Monthly Factor(0.95) x Daily Factor(0.91) x 24 Hour Factor(1.85) = 1.599325

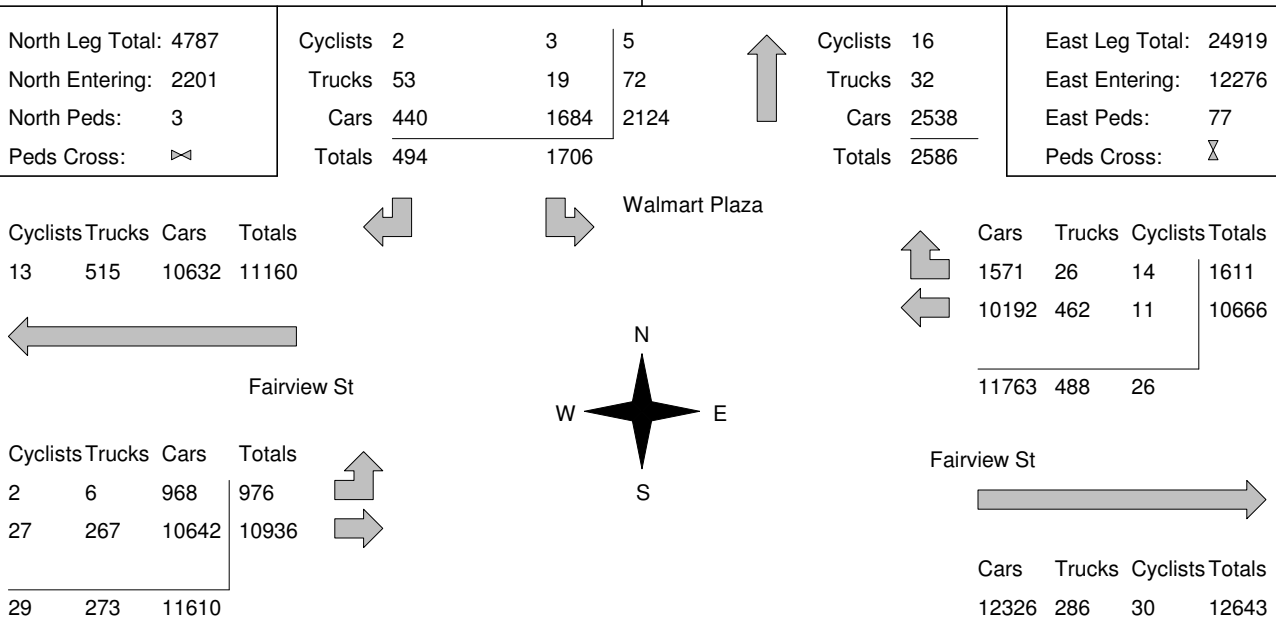
Municipality: Burlington
Site #: 0000200771
Intersection: Fairview St & Walmart Plaza
TFR File #: 5
Count date: 29-Oct-2015

Weather conditions:
Cloudy/Dry

Person(s) who counted:
Dominik

**** Signalized Intersection ****

Major Road: Fairview St runs W/E



Peds Cross:
West Peds: 72
West Entering: 11912
West Leg Total: 23072

Comments

City of Burlington
Transportation Services

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
04/30/13	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
01:00	0	6	0	0	0	0	0	0	0	0	0	0	0	1	7
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	14	1	0	1	0	0	0	0	0	0	0	0	2	18
06:00	0	27	5	0	0	0	0	0	0	0	0	0	0	1	33
07:00	0	69	13	2	2	0	0	0	0	0	0	0	0	4	90
08:00	0	111	26	0	3	0	0	1	0	0	0	0	0	5	146
09:00	0	114	15	1	2	1	0	0	0	0	0	0	0	4	137
10:00	0	123	18	0	2	3	0	0	0	0	0	0	0	5	151
11:00	3	113	19	1	2	0	0	0	0	0	0	0	0	4	142
12 PM	2	125	23	0	2	0	0	1	0	0	0	0	0	5	158
13:00	3	116	21	1	3	0	0	0	0	0	0	0	0	4	148
14:00	2	116	34	1	3	0	0	0	1	0	0	0	0	3	160
15:00	0	147	35	0	3	1	0	0	0	0	0	0	0	5	191
16:00	0	148	22	0	4	0	0	1	0	0	0	0	0	8	183
17:00	1	164	26	0	2	0	0	0	0	0	0	0	0	4	197
18:00	2	114	18	0	1	0	0	0	0	0	0	0	0	6	141
19:00	1	128	22	0	0	0	0	0	0	0	0	0	0	10	161
20:00	1	94	15	0	1	0	0	0	0	0	0	0	0	4	115
21:00	0	56	16	0	0	0	0	0	0	0	0	0	0	3	75
22:00	0	28	4	0	0	0	0	0	0	0	0	0	0	3	35
23:00	0	23	3	0	0	0	0	0	0	0	0	0	0	1	27
Total	15	1855	339	6	31	5	0	3	1	0	0	0	0	82	2337
Percent	0.6%	79.4%	14.5%	0.3%	1.3%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	
AM Peak	11:00	10:00	08:00	07:00	08:00	10:00		08:00						08:00	10:00
Vol.	3	123	26	2	3	3		1						5	151
PM Peak	13:00	17:00	15:00	13:00	16:00	15:00		12:00	14:00					19:00	17:00
Vol.	3	164	35	1	4	1		1	1					10	197

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/01/13	0	12	2	0	0	0	0	0	0	0	0	0	0	0	14
01:00	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	14	1	0	0	0	0	0	0	0	0	0	0	1	16
06:00	0	36	7	0	0	0	0	0	0	0	0	0	0	2	45
07:00	0	50	11	1	1	0	0	2	0	0	0	0	0	2	67
08:00	1	114	19	0	6	0	0	0	0	0	0	0	0	2	142
09:00	1	116	16	0	2	0	0	0	0	0	0	0	0	3	138
10:00	2	118	15	0	3	1	0	1	0	0	0	0	0	3	143
11:00	0	127	21	0	2	0	0	0	0	0	0	0	0	4	154
12 PM	2	133	20	0	1	0	0	1	0	0	0	0	0	2	159
13:00	1	147	13	0	2	0	0	0	0	0	0	0	0	10	173
14:00	3	145	22	0	4	1	0	0	0	0	0	0	0	0	175
15:00	3	141	34	1	2	0	0	0	0	0	0	0	0	8	189
16:00	0	123	24	2	4	0	0	0	0	0	0	0	0	11	164
17:00	2	141	27	0	3	2	0	0	0	0	0	0	0	7	182
18:00	1	119	25	0	2	0	0	0	0	0	0	0	0	12	159
19:00	1	101	12	0	2	0	0	0	0	0	0	0	0	8	124
20:00	2	76	13	0	1	0	0	0	0	0	0	0	0	4	96
21:00	0	75	9	0	1	0	0	0	0	0	0	0	0	3	88
22:00	0	43	9	0	0	0	0	0	0	0	0	0	0	1	53
23:00	0	29	2	0	1	0	0	0	0	0	0	0	0	2	34
Total	19	1879	304	4	37	4	0	4	0	0	0	0	0	85	2336
Percent	0.8%	80.4%	13.0%	0.2%	1.6%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	
AM Peak	10:00	11:00	11:00	07:00	08:00	10:00		07:00						11:00	11:00
Vol.	2	127	21	1	6	1		2						4	154
PM Peak	14:00	13:00	15:00	16:00	14:00	17:00		12:00						18:00	15:00
Vol.	3	147	34	2	4	2		1						12	189

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/02/13	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
01:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	15	1	0	0	0	0	0	0	0	0	0	0	1	17
06:00	0	27	6	0	1	0	0	0	0	0	0	0	0	0	34
07:00	0	64	15	1	3	0	0	2	0	0	0	0	0	3	88
08:00	1	114	19	0	4	0	0	1	0	0	0	0	0	3	142
09:00	1	132	20	0	1	0	0	0	0	0	0	0	0	4	158
10:00	0	106	14	1	2	0	0	0	0	0	0	0	0	4	127
11:00	0	104	14	1	2	0	0	0	0	0	0	0	0	2	123
12 PM	1	139	24	1	0	0	0	0	0	0	0	0	0	8	173
13:00	1	124	17	1	3	0	0	0	0	0	0	0	0	4	150
14:00	0	111	24	1	2	0	0	0	0	0	0	0	0	2	140
15:00	0	137	33	1	3	0	0	0	0	0	0	0	0	8	182
16:00	2	145	27	0	4	0	0	1	0	0	0	0	0	10	189
17:00	4	143	28	1	5	0	0	0	0	0	0	0	0	12	193
18:00	2	150	26	1	2	2	0	0	0	0	0	0	0	17	200
19:00	1	122	21	0	3	0	0	0	0	0	0	0	0	2	149
20:00	1	93	19	0	1	0	0	0	0	0	0	0	0	2	116
21:00	1	101	15	0	0	0	0	0	0	0	0	0	0	2	119
22:00	0	34	3	0	0	0	0	0	0	0	0	0	0	0	37
23:00	0	21	4	0	0	0	0	0	0	0	0	0	0	0	25
Total	15	1912	335	9	36	2	0	4	0	0	0	0	0	84	2397
Percent	0.6%	79.8%	14.0%	0.4%	1.5%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	
AM Peak	08:00	09:00	09:00	07:00	08:00			07:00						09:00	09:00
Vol.	1	132	20	1	4			2						4	158
PM Peak	17:00	18:00	15:00	12:00	17:00	18:00		16:00						18:00	18:00
Vol.	4	150	33	1	5	2		1						17	200

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/03/13	0	17	0	0	0	0	0	0	0	0	0	0	0	0	17
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	1	5
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	13	2	0	0	0	0	0	0	0	0	0	0	1	16
06:00	0	32	11	0	0	0	0	0	0	0	0	0	0	0	43
07:00	0	68	13	1	2	0	0	1	0	0	0	0	0	4	89
08:00	0	104	19	0	2	0	0	0	1	0	0	0	0	2	128
09:00	0	114	17	0	1	0	0	0	0	0	0	0	0	3	135
10:00	0	110	12	1	2	3	0	1	0	0	0	0	0	4	133
11:00	2	114	25	1	6	0	0	0	0	0	0	0	0	2	150
12 PM	0	130	23	0	4	0	0	0	0	0	0	0	0	3	160
13:00	1	131	23	0	5	2	0	0	0	0	0	0	0	7	169
14:00	3	136	24	1	3	0	0	0	0	0	0	0	0	7	174
15:00	2	166	24	1	2	0	0	0	0	0	0	0	0	14	209
16:00	5	148	28	0	5	1	0	0	0	0	0	0	0	10	197
17:00	2	167	25	0	0	0	0	0	0	0	0	0	0	14	208
18:00	2	132	24	0	1	0	0	0	0	0	0	0	0	5	164
19:00	2	105	13	0	3	0	0	0	0	0	0	0	0	3	126
20:00	1	89	21	0	0	1	0	0	0	0	0	0	0	7	119
21:00	1	75	14	0	1	0	0	0	0	0	0	0	0	5	96
22:00	0	63	7	0	0	0	0	0	0	0	0	0	0	3	73
23:00	1	33	4	0	0	0	0	0	0	0	0	0	0	3	41
Total	22	1964	333	5	37	7	0	2	1	0	0	0	0	98	2469
Percent	0.9%	79.5%	13.5%	0.2%	1.5%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	
AM Peak	11:00	09:00	11:00	07:00	11:00	10:00		07:00	08:00					07:00	11:00
Vol.	2	114	25	1	6	3		1	1					4	150
PM Peak	16:00	17:00	16:00	14:00	13:00	13:00								15:00	15:00
Vol.	5	167	28	1	5	2								14	209

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/04/13	0	19	3	0	0	0	0	0	0	0	0	0	0	0	22
01:00	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	7	2	0	1	0	0	0	0	0	0	0	0	1	11
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	20	0	0	0	0	0	0	0	0	0	0	0	0	20
07:00	0	33	2	0	0	0	0	0	0	0	0	0	0	0	35
08:00	2	67	12	1	1	0	0	0	0	0	0	0	0	4	87
09:00	0	107	17	0	0	0	0	0	0	0	0	0	0	5	129
10:00	1	137	23	0	1	0	0	0	0	0	0	0	0	5	167
11:00	1	134	30	0	3	1	0	1	0	0	0	0	0	6	176
12 PM	1	116	23	0	1	1	0	0	0	0	0	0	0	8	150
13:00	3	149	17	0	3	0	0	0	0	0	0	0	0	7	179
14:00	0	128	25	0	2	0	0	0	0	0	0	0	0	3	158
15:00	3	133	15	0	2	0	0	0	0	0	0	0	0	4	157
16:00	0	111	18	0	0	0	0	0	0	0	0	0	0	5	134
17:00	4	112	15	0	2	1	0	0	0	0	0	0	0	10	144
18:00	2	92	14	0	0	1	0	0	0	0	0	0	0	2	111
19:00	2	78	7	0	3	0	0	0	0	0	0	0	0	5	95
20:00	0	52	5	0	0	0	0	0	0	0	0	0	0	1	58
21:00	0	46	7	0	1	0	0	0	0	0	0	0	0	3	57
22:00	0	60	11	0	0	0	0	0	0	0	0	0	0	1	72
23:00	0	38	6	0	0	0	0	0	0	0	0	0	0	0	44
Total	20	1660	256	1	20	4	0	1	0	0	0	0	0	70	2032
Percent	1.0%	81.7%	12.6%	0.0%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	
AM Peak	08:00	10:00	11:00	08:00	11:00	11:00		11:00						11:00	11:00
Vol.	2	137	30	1	3	1		1						6	176
PM Peak	17:00	13:00	14:00		13:00	12:00								17:00	13:00
Vol.	4	149	25		3	1								10	179

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/05/13	2	28	3	0	0	0	0	0	0	0	0	0	0	1	34
01:00	0	36	1	0	0	0	0	0	0	0	0	0	0	2	39
02:00	0	18	1	0	0	0	0	0	0	0	0	0	0	0	19
03:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	1	5
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
07:00	0	15	5	0	0	0	0	0	0	0	0	0	0	0	20
08:00	0	21	7	0	0	0	0	0	0	0	0	0	0	1	29
09:00	1	54	9	0	1	0	0	0	0	0	0	0	0	1	66
10:00	0	100	17	0	1	0	0	0	0	0	0	0	0	4	122
11:00	2	108	14	1	1	0	0	0	0	0	0	0	0	4	130
12 PM	2	127	22	0	1	0	0	0	0	0	0	0	0	13	165
13:00	1	134	22	0	2	0	0	0	0	0	0	0	0	1	160
14:00	3	111	15	0	1	0	0	0	0	0	0	0	0	6	136
15:00	2	113	15	0	2	0	0	0	0	0	0	0	0	2	134
16:00	0	115	11	0	0	0	0	0	0	0	0	0	0	5	131
17:00	1	112	9	0	0	0	0	1	0	0	0	0	0	1	124
18:00	1	72	13	0	1	0	0	0	0	0	0	0	0	3	90
19:00	2	71	5	0	1	0	0	0	0	0	0	0	0	3	82
20:00	3	62	6	0	0	0	0	0	0	0	0	0	0	2	73
21:00	0	43	9	0	0	0	0	0	0	0	0	0	0	3	55
22:00	0	33	3	0	0	0	0	0	0	0	0	0	0	0	36
23:00	0	19	1	0	0	0	0	0	0	0	0	0	0	0	20
Total	20	1410	190	1	11	0	0	1	0	0	0	0	0	53	1686
Percent	1.2%	83.6%	11.3%	0.1%	0.7%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	
AM Peak	00:00	11:00	10:00	11:00	09:00									10:00	11:00
Vol.	2	108	17	1	1									4	130
PM Peak	14:00	13:00	12:00		13:00			17:00						12:00	12:00
Vol.	3	134	22		2			1						13	165

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/06/13	0	11	2	0	0	0	0	0	0	0	0	0	0	1	14
01:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	12	2	0	0	0	0	0	0	0	0	0	0	1	15
06:00	0	28	10	0	0	0	0	0	0	0	0	0	0	1	39
07:00	0	63	14	1	1	0	0	1	0	0	0	0	0	1	81
08:00	1	99	20	0	3	0	0	2	0	0	0	0	0	1	126
09:00	0	89	36	1	2	1	0	0	0	0	0	0	0	5	134
10:00	1	81	21	2	3	0	0	1	0	0	0	0	0	8	117
11:00	0	113	25	0	4	0	0	0	0	0	0	0	0	9	151
12 PM	2	134	28	0	2	0	0	1	0	0	0	0	0	6	173
13:00	0	131	32	0	5	0	0	0	0	0	0	0	0	2	170
14:00	2	104	21	2	2	0	0	0	0	0	0	0	0	5	136
15:00	0	136	24	1	2	0	0	0	0	0	0	0	0	6	169
16:00	4	120	24	0	4	0	0	0	0	0	0	0	0	23	175
17:00	3	140	19	0	3	0	0	1	0	0	0	0	0	12	178
18:00	2	131	18	1	3	1	0	1	0	0	0	0	0	8	165
19:00	2	67	11	0	1	0	0	0	0	0	0	0	0	7	88
20:00	2	57	7	0	1	0	0	0	0	0	0	0	0	2	69
21:00	1	60	6	0	0	0	0	0	0	0	0	0	0	2	69
22:00	0	40	8	0	0	0	0	0	0	0	0	0	0	0	48
23:00	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16
Total	20	1641	332	8	36	2	0	7	0	0	0	0	0	100	2146
Percent	0.9%	76.5%	15.5%	0.4%	1.7%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	4.7%	
AM Peak	08:00	11:00	09:00	10:00	11:00	09:00		08:00						11:00	11:00
Vol.	1	113	36	2	4	1		2						9	151
PM Peak	16:00	17:00	13:00	14:00	13:00	18:00		12:00						16:00	17:00
Vol.	4	140	32	2	5	1		1						23	178
Grand Total	131	12321	2089	34	208	24	0	22	2	0	0	0	0	572	15403
Percent	0.9%	80.0%	13.6%	0.2%	1.4%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
04/30/13	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	14	5	0	0	0	0	0	0	0	0	0	0	0	19
06:00	0	42	6	1	2	0	0	0	0	0	0	0	0	0	51
07:00	0	80	13	1	2	0	0	2	0	0	0	0	0	1	99
08:00	0	119	8	0	2	0	0	0	0	0	0	0	0	2	131
09:00	2	130	22	2	2	0	0	1	0	0	0	0	0	7	166
10:00	1	105	26	0	5	2	0	1	0	0	0	0	0	5	145
11:00	0	165	27	0	5	1	0	0	0	0	0	0	0	3	201
12 PM	1	158	26	0	7	0	0	0	0	0	0	0	0	5	197
13:00	5	144	23	0	1	0	0	3	0	0	1	0	0	6	183
14:00	4	165	35	2	7	0	0	1	0	0	0	0	0	4	218
15:00	1	194	36	3	3	1	0	0	0	0	0	0	0	5	243
16:00	1	244	36	0	3	0	0	0	0	0	0	0	0	10	294
17:00	0	276	37	0	7	0	0	1	0	0	0	0	0	4	325
18:00	3	201	37	0	3	1	0	1	0	0	0	0	0	5	251
19:00	1	116	29	0	1	0	0	1	0	0	0	0	0	9	157
20:00	1	98	15	0	0	1	0	0	0	0	0	0	0	2	117
21:00	0	89	14	0	0	0	0	0	0	0	0	0	0	0	103
22:00	0	40	5	0	1	0	0	0	0	0	0	0	0	1	47
23:00	0	16	2	0	0	0	0	0	0	0	0	0	0	0	18
Total	20	2419	405	9	51	6	0	11	0	0	1	0	0	69	2991
Percent	0.7%	80.9%	13.5%	0.3%	1.7%	0.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	
AM Peak	09:00	11:00	11:00	09:00	10:00	10:00		07:00						09:00	11:00
Vol.	2	165	27	2	5	2		2						7	201
PM Peak	13:00	17:00	17:00	15:00	12:00	15:00		13:00			13:00			16:00	17:00
Vol.	5	276	37	3	7	1		3			1			10	325

Site Code: 220190
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Latitude: 0' 0.000 Undefined

WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/01/13	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	1	6	1	0	0	0	0	0	0	0	0	0	0	0	8
05:00	0	14	4	0	1	0	0	0	0	0	0	0	0	0	19
06:00	2	35	10	0	2	0	0	0	0	0	0	0	0	2	51
07:00	1	80	14	2	3	0	0	0	0	0	0	0	0	2	102
08:00	1	95	19	0	2	0	0	0	0	0	0	0	0	1	118
09:00	1	106	16	1	3	0	0	0	0	0	0	0	0	3	130
10:00	0	122	23	0	3	0	0	0	0	0	0	0	0	2	150
11:00	1	155	24	0	9	1	0	1	0	0	0	0	0	3	194
12 PM	2	151	32	0	2	0	0	0	0	0	0	0	0	2	189
13:00	4	176	21	0	2	1	0	1	0	0	0	0	0	3	208
14:00	1	175	30	1	7	1	0	0	0	0	0	0	0	2	217
15:00	0	158	29	3	5	0	0	1	0	0	0	0	0	8	204
16:00	1	234	40	0	4	0	0	1	0	0	0	0	0	12	292
17:00	6	281	47	0	4	0	0	2	0	0	0	0	0	11	351
18:00	3	198	31	0	2	1	0	0	0	0	0	0	0	5	240
19:00	1	105	17	0	2	0	0	1	0	0	0	0	0	7	133
20:00	1	119	12	0	2	0	0	0	0	0	0	0	0	3	137
21:00	1	75	9	0	0	0	0	0	0	0	0	0	0	2	87
22:00	0	33	5	0	0	1	0	0	0	0	0	0	0	0	39
23:00	0	23	2	0	0	0	0	0	0	0	0	0	0	0	25
Total	27	2361	390	7	53	5	0	7	0	0	0	0	0	68	2918
Percent	0.9%	80.9%	13.4%	0.2%	1.8%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	
AM Peak	06:00	11:00	11:00	07:00	11:00	11:00		11:00						09:00	11:00
Vol.	2	155	24	2	9	1		1						3	194
PM Peak	17:00	17:00	17:00	15:00	14:00	13:00		17:00						16:00	17:00
Vol.	6	281	47	3	7	1		2						12	351

Site Code: 220190
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Latitude: 0' 0.000 Undefined

WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/02/13	0	16	2	0	0	0	0	0	0	0	0	0	0	0	18
01:00	0	3	0	0	1	0	0	0	0	0	0	0	0	0	4
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	1	3	2	0	0	0	0	0	0	0	0	0	0	0	6
05:00	0	18	3	0	1	0	0	0	0	0	0	0	0	0	22
06:00	1	39	10	1	1	0	0	0	0	0	0	0	0	0	52
07:00	2	78	13	1	1	0	0	1	0	0	0	0	0	3	99
08:00	0	95	17	0	4	0	0	0	0	0	0	0	0	1	117
09:00	1	142	29	1	4	0	0	1	0	0	0	0	0	4	182
10:00	3	108	19	0	5	0	0	1	0	0	0	0	0	4	140
11:00	1	150	24	0	4	1	0	0	0	0	0	0	0	5	185
12 PM	0	129	27	2	2	0	0	1	0	0	0	0	0	2	163
13:00	2	161	34	0	1	0	0	1	1	0	0	0	0	2	202
14:00	6	146	31	1	1	1	0	1	0	0	0	0	0	2	189
15:00	0	212	32	3	5	1	0	1	1	0	0	0	0	6	261
16:00	4	259	37	0	3	0	0	4	0	0	0	0	0	6	313
17:00	6	293	40	0	4	0	0	2	0	0	0	0	0	4	349
18:00	1	194	29	0	4	0	0	0	0	0	0	0	0	12	240
19:00	1	130	18	0	1	0	0	0	0	0	0	0	0	2	152
20:00	3	124	19	0	2	0	0	1	0	0	0	0	0	1	150
21:00	0	91	13	0	0	0	0	0	0	0	0	0	0	3	107
22:00	0	46	4	0	0	0	0	0	0	0	0	0	0	1	51
23:00	0	24	3	0	0	0	0	0	0	0	0	0	0	0	27
Total	32	2468	406	9	44	3	0	14	2	0	0	0	0	58	3036
Percent	1.1%	81.3%	13.4%	0.3%	1.4%	0.1%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	1.9%	
AM Peak	10:00	11:00	09:00	06:00	10:00	11:00		07:00						11:00	11:00
Vol.	3	150	29	1	5	1		1						5	185
PM Peak	14:00	17:00	17:00	15:00	15:00	14:00		16:00	13:00					18:00	17:00
Vol.	6	293	40	3	5	1		4	1					12	349

Site Code: 220190
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Latitude: 0' 0.000 Undefined

WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/03/13	0	11	1	0	0	0	0	0	0	0	0	0	0	0	12
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
04:00	1	4	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	11	4	0	1	0	0	0	0	0	0	0	0	0	16
06:00	0	44	11	1	2	0	0	0	0	0	0	0	0	1	59
07:00	0	75	20	0	3	0	0	0	0	0	0	0	0	4	102
08:00	1	99	13	0	1	0	0	1	0	0	0	0	0	1	116
09:00	0	131	24	0	3	0	0	0	0	0	0	0	0	2	160
10:00	2	143	19	0	6	2	0	0	0	0	0	0	0	3	175
11:00	3	166	29	1	4	0	0	0	0	0	0	0	0	5	208
12 PM	1	150	23	0	6	2	0	0	0	0	0	0	0	3	185
13:00	1	150	36	1	7	0	0	0	0	0	0	0	0	7	202
14:00	3	178	27	1	4	0	0	0	0	0	0	0	1	0	214
15:00	2	228	39	2	7	2	0	0	0	0	0	0	0	8	288
16:00	6	284	42	0	6	1	0	2	0	1	0	0	0	5	347
17:00	1	289	44	0	3	0	0	0	0	0	0	0	0	9	346
18:00	3	178	19	0	1	1	0	0	0	0	0	0	0	5	207
19:00	1	140	16	0	2	0	0	0	0	0	0	0	0	6	165
20:00	1	119	23	0	3	0	0	0	0	0	0	0	0	7	153
21:00	2	96	12	0	1	0	0	0	0	0	0	0	0	1	112
22:00	1	52	8	0	0	0	0	0	0	0	0	0	0	0	61
23:00	2	34	3	0	0	0	0	0	0	0	0	0	0	2	41
Total	31	2586	417	6	60	8	0	3	0	1	0	0	1	69	3182
Percent	1.0%	81.3%	13.1%	0.2%	1.9%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	
AM Peak	11:00	11:00	11:00	06:00	10:00	10:00		08:00						11:00	11:00
Vol.	3	166	29	1	6	2		1						5	208
PM Peak	16:00	17:00	17:00	15:00	13:00	12:00		16:00		16:00			14:00	17:00	16:00
Vol.	6	289	44	2	7	2		2		1			1	9	347

Site Code: 220190
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WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/04/13	1	27	4	0	0	0	0	0	0	0	0	0	0	0	32
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	5	3	0	1	0	0	0	0	0	0	0	0	0	9
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	2	4	0	1	0	0	0	0	0	0	0	0	0	7
06:00	0	11	9	0	1	0	0	0	0	0	0	0	0	0	21
07:00	0	42	2	0	1	0	0	0	0	0	0	0	0	0	45
08:00	0	76	16	0	2	0	0	0	0	0	0	0	0	2	96
09:00	0	136	15	0	2	0	0	0	0	1	0	0	0	3	157
10:00	4	184	31	0	4	0	0	0	0	0	0	0	0	2	225
11:00	2	168	35	1	2	0	0	2	0	0	0	0	0	3	213
12 PM	2	190	30	0	4	1	0	1	0	0	0	0	0	4	232
13:00	3	179	26	0	1	1	0	0	0	0	0	0	0	6	216
14:00	2	167	29	0	0	0	0	0	0	0	0	0	0	4	202
15:00	6	159	31	0	0	0	0	0	0	0	0	0	0	5	201
16:00	0	163	27	0	1	0	0	0	0	0	0	0	0	6	197
17:00	2	149	20	0	2	0	0	0	0	0	0	0	0	7	180
18:00	3	126	9	0	0	0	0	0	0	0	0	0	0	2	140
19:00	4	91	8	0	2	0	0	0	0	0	0	0	0	3	108
20:00	1	65	8	0	1	0	0	0	0	0	0	0	0	1	76
21:00	0	62	8	0	0	0	0	0	0	0	0	0	0	2	72
22:00	0	42	6	0	0	0	0	0	0	0	0	0	0	0	48
23:00	0	26	2	0	2	0	0	0	0	0	0	0	0	0	30
Total	30	2088	325	1	27	2	0	3	0	1	0	0	0	50	2527
Percent	1.2%	82.6%	12.9%	0.0%	1.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	
AM Peak	10:00	10:00	11:00	11:00	10:00			11:00		09:00				09:00	10:00
Vol.	4	184	35	1	4			2		1				3	225
PM Peak	15:00	12:00	15:00		12:00	12:00		12:00						17:00	12:00
Vol.	6	190	31		4	1		1						7	232

Site Code: 220190
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WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/05/13	0	25	3	0	0	0	0	0	0	0	0	0	0	0	28
01:00	0	20	2	0	0	0	0	0	0	0	0	0	0	0	22
02:00	0	15	2	0	0	0	0	0	0	0	0	0	0	0	17
03:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
06:00	0	12	4	0	0	0	0	0	0	0	0	0	0	0	16
07:00	0	21	5	0	1	0	0	0	0	0	0	0	0	0	27
08:00	0	39	10	0	1	0	0	0	0	0	0	0	0	0	50
09:00	2	76	16	0	2	0	0	0	0	0	0	0	0	0	96
10:00	0	101	9	0	3	0	0	0	0	0	0	0	0	1	114
11:00	0	121	24	0	1	0	0	0	0	0	0	0	0	4	150
12 PM	4	154	25	0	0	1	0	0	0	0	0	0	0	7	191
13:00	4	174	24	0	2	0	0	2	0	0	0	0	0	2	208
14:00	3	156	25	0	3	0	0	0	0	0	0	0	0	0	187
15:00	3	117	15	0	0	0	0	0	0	0	0	0	0	3	138
16:00	2	110	25	0	2	0	0	0	0	0	0	0	0	2	141
17:00	2	100	17	0	0	0	0	0	0	0	0	0	0	7	126
18:00	3	82	8	0	1	0	0	0	0	0	0	0	0	0	94
19:00	0	76	11	0	0	1	0	0	0	0	0	0	0	2	90
20:00	1	81	9	0	0	0	0	0	0	0	0	0	0	3	94
21:00	0	51	4	0	0	0	0	0	0	0	0	0	0	1	56
22:00	0	27	1	0	0	0	0	0	0	0	0	0	0	0	28
23:00	2	18	2	0	0	0	0	0	0	0	0	0	0	0	22
Total	26	1592	241	0	16	2	0	2	0	0	0	0	0	32	1911
Percent	1.4%	83.3%	12.6%	0.0%	0.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	
AM Peak	09:00	11:00	11:00		10:00									11:00	11:00
Vol.	2	121	24		3									4	150
PM Peak	12:00	13:00	12:00		14:00	12:00		13:00						12:00	13:00
Vol.	4	174	25		3	1		2						7	208

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/06/13	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
05:00	1	8	5	0	0	0	0	0	0	0	0	0	0	0	14
06:00	1	45	9	1	1	0	0	0	0	0	0	0	0	1	58
07:00	0	80	10	1	1	0	0	0	0	0	0	0	0	0	92
08:00	1	98	20	0	4	0	0	0	1	0	0	0	0	3	127
09:00	2	130	33	0	4	0	0	1	0	0	0	0	0	1	171
10:00	0	113	15	0	5	0	0	0	0	0	0	0	0	6	139
11:00	0	142	41	0	7	0	0	2	0	0	0	0	0	0	192
12 PM	1	148	34	0	4	1	0	1	0	0	0	0	0	4	193
13:00	0	148	27	0	2	0	0	0	0	0	0	0	0	4	181
14:00	4	147	22	2	3	0	0	1	0	0	0	0	0	3	182
15:00	2	181	35	3	3	1	0	1	0	0	0	0	0	8	234
16:00	3	248	40	0	3	0	0	3	0	0	0	0	0	13	310
17:00	6	272	38	0	3	0	0	0	0	0	0	0	0	8	327
18:00	1	159	24	0	0	1	0	1	0	0	0	0	0	4	190
19:00	1	121	22	0	1	1	0	0	0	0	0	0	0	4	150
20:00	2	71	5	0	1	0	0	1	0	0	0	0	0	0	80
21:00	0	73	12	0	2	0	0	0	0	0	0	0	0	0	87
22:00	0	26	3	0	0	0	0	0	0	0	0	0	0	0	29
23:00	0	16	4	0	0	0	0	0	0	0	0	0	0	0	20
Total	25	2247	405	7	44	4	0	11	1	0	0	0	0	59	2803
Percent	0.9%	80.2%	14.4%	0.2%	1.6%	0.1%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	
AM Peak	09:00	11:00	11:00	06:00	11:00			11:00	08:00					10:00	11:00
Vol.	2	142	41	1	7			2	1					6	192
PM Peak	17:00	17:00	16:00	15:00	12:00	12:00		16:00						16:00	17:00
Vol.	6	272	40	3	4	1		3						13	327
Grand Total	191	15761	2589	39	295	30	0	51	3	2	1	0	1	405	19368
Percent	1.0%	81.4%	13.4%	0.2%	1.5%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
04/30/13	0	18	3	0	0	0	0	0	0	0	0	0	0	0	21
01:00	0	12	1	0	0	0	0	0	0	0	0	0	0	1	14
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
05:00	0	28	6	0	1	0	0	0	0	0	0	0	0	2	37
06:00	0	69	11	1	2	0	0	0	0	0	0	0	0	1	84
07:00	0	149	26	3	4	0	0	2	0	0	0	0	0	5	189
08:00	0	230	34	0	5	0	0	1	0	0	0	0	0	7	277
09:00	2	244	37	3	4	1	0	1	0	0	0	0	0	11	303
10:00	1	228	44	0	7	5	0	1	0	0	0	0	0	10	296
11:00	3	278	46	1	7	1	0	0	0	0	0	0	0	7	343
12 PM	3	283	49	0	9	0	0	1	0	0	0	0	0	10	355
13:00	8	260	44	1	4	0	0	3	0	0	1	0	0	10	331
14:00	6	281	69	3	10	0	0	1	1	0	0	0	0	7	378
15:00	1	341	71	3	6	2	0	0	0	0	0	0	0	10	434
16:00	1	392	58	0	7	0	0	1	0	0	0	0	0	18	477
17:00	1	440	63	0	9	0	0	1	0	0	0	0	0	8	522
18:00	5	315	55	0	4	1	0	1	0	0	0	0	0	11	392
19:00	2	244	51	0	1	0	0	1	0	0	0	0	0	19	318
20:00	2	192	30	0	1	1	0	0	0	0	0	0	0	6	232
21:00	0	145	30	0	0	0	0	0	0	0	0	0	0	3	178
22:00	0	68	9	0	1	0	0	0	0	0	0	0	0	4	82
23:00	0	39	5	0	0	0	0	0	0	0	0	0	0	1	45
Total	35	4274	744	15	82	11	0	14	1	0	1	0	0	151	5328
Percent	0.7%	80.2%	14.0%	0.3%	1.5%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	
AM Peak	11:00	11:00	11:00	07:00	10:00	10:00		07:00						09:00	11:00
Vol.	3	278	46	3	7	5		2						11	343
PM Peak	13:00	17:00	15:00	14:00	14:00	15:00		13:00	14:00		13:00			19:00	17:00
Vol.	8	440	71	3	10	2		3	1		1			19	522

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/01/13	0	19	3	0	0	0	0	0	0	0	0	0	0	0	22
01:00	0	19	2	0	0	0	0	0	0	0	0	0	0	0	21
02:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
04:00	1	9	2	0	0	0	0	0	0	0	0	0	0	0	12
05:00	0	28	5	0	1	0	0	0	0	0	0	0	0	1	35
06:00	2	71	17	0	2	0	0	0	0	0	0	0	0	4	96
07:00	1	130	25	3	4	0	0	2	0	0	0	0	0	4	169
08:00	2	209	38	0	8	0	0	0	0	0	0	0	0	3	260
09:00	2	222	32	1	5	0	0	0	0	0	0	0	0	6	268
10:00	2	240	38	0	6	1	0	1	0	0	0	0	0	5	293
11:00	1	282	45	0	11	1	0	1	0	0	0	0	0	7	348
12 PM	4	284	52	0	3	0	0	1	0	0	0	0	0	4	348
13:00	5	323	34	0	4	1	0	1	0	0	0	0	0	13	381
14:00	4	320	52	1	11	2	0	0	0	0	0	0	0	2	392
15:00	3	299	63	4	7	0	0	1	0	0	0	0	0	16	393
16:00	1	357	64	2	8	0	0	1	0	0	0	0	0	23	456
17:00	8	422	74	0	7	2	0	2	0	0	0	0	0	18	533
18:00	4	317	56	0	4	1	0	0	0	0	0	0	0	17	399
19:00	2	206	29	0	4	0	0	1	0	0	0	0	0	15	257
20:00	3	195	25	0	3	0	0	0	0	0	0	0	0	7	233
21:00	1	150	18	0	1	0	0	0	0	0	0	0	0	5	175
22:00	0	76	14	0	0	1	0	0	0	0	0	0	0	1	92
23:00	0	52	4	0	1	0	0	0	0	0	0	0	0	2	59
Total	46	4240	694	11	90	9	0	11	0	0	0	0	0	153	5254
Percent	0.9%	80.7%	13.2%	0.2%	1.7%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	
AM Peak	06:00	11:00	11:00	07:00	11:00	10:00		07:00						11:00	11:00
Vol.	2	282	45	3	11	1		2						7	348
PM Peak	17:00	17:00	17:00	15:00	14:00	14:00		17:00						16:00	17:00
Vol.	8	422	74	4	11	2		2						23	533

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/02/13	0	26	3	0	0	0	0	0	0	0	0	0	0	0	29
01:00	0	12	1	0	1	0	0	0	0	0	0	0	0	0	14
02:00	0	11	1	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	1	6	4	0	0	0	0	0	0	0	0	0	0	0	11
05:00	0	33	4	0	1	0	0	0	0	0	0	0	0	1	39
06:00	1	66	16	1	2	0	0	0	0	0	0	0	0	0	86
07:00	2	142	28	2	4	0	0	3	0	0	0	0	0	6	187
08:00	1	209	36	0	8	0	0	1	0	0	0	0	0	4	259
09:00	2	274	49	1	5	0	0	1	0	0	0	0	0	8	340
10:00	3	214	33	1	7	0	0	1	0	0	0	0	0	8	267
11:00	1	254	38	1	6	1	0	0	0	0	0	0	0	7	308
12 PM	1	268	51	3	2	0	0	1	0	0	0	0	0	10	336
13:00	3	285	51	1	4	0	0	1	1	0	0	0	0	6	352
14:00	6	257	55	2	3	1	0	1	0	0	0	0	0	4	329
15:00	0	349	65	4	8	1	0	1	1	0	0	0	0	14	443
16:00	6	404	64	0	7	0	0	5	0	0	0	0	0	16	502
17:00	10	436	68	1	9	0	0	2	0	0	0	0	0	16	542
18:00	3	344	55	1	6	2	0	0	0	0	0	0	0	29	440
19:00	2	252	39	0	4	0	0	0	0	0	0	0	0	4	301
20:00	4	217	38	0	3	0	0	1	0	0	0	0	0	3	266
21:00	1	192	28	0	0	0	0	0	0	0	0	0	0	5	226
22:00	0	80	7	0	0	0	0	0	0	0	0	0	0	1	88
23:00	0	45	7	0	0	0	0	0	0	0	0	0	0	0	52
Total	47	4380	741	18	80	5	0	18	2	0	0	0	0	142	5433
Percent	0.9%	80.6%	13.6%	0.3%	1.5%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	
AM Peak	10:00	09:00	09:00	07:00	08:00	11:00		07:00						09:00	09:00
Vol.	3	274	49	2	8	1		3						8	340
PM Peak	17:00	17:00	17:00	15:00	17:00	18:00		16:00	13:00					18:00	17:00
Vol.	10	436	68	4	9	2		5	1					29	542

Site Code: 220190
Station ID:
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btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/03/13	0	28	1	0	0	0	0	0	0	0	0	0	0	0	29
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	1	8
02:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
04:00	1	9	2	0	0	0	0	0	0	0	0	0	0	0	12
05:00	0	24	6	0	1	0	0	0	0	0	0	0	0	1	32
06:00	0	76	22	1	2	0	0	0	0	0	0	0	0	1	102
07:00	0	143	33	1	5	0	0	1	0	0	0	0	0	8	191
08:00	1	203	32	0	3	0	0	1	1	0	0	0	0	3	244
09:00	0	245	41	0	4	0	0	0	0	0	0	0	0	5	295
10:00	2	253	31	1	8	5	0	1	0	0	0	0	0	7	308
11:00	5	280	54	2	10	0	0	0	0	0	0	0	0	7	358
12 PM	1	280	46	0	10	2	0	0	0	0	0	0	0	6	345
13:00	2	281	59	1	12	2	0	0	0	0	0	0	0	14	371
14:00	6	314	51	2	7	0	0	0	0	0	0	0	1	7	388
15:00	4	394	63	3	9	2	0	0	0	0	0	0	0	22	497
16:00	11	432	70	0	11	2	0	2	0	1	0	0	0	15	544
17:00	3	456	69	0	3	0	0	0	0	0	0	0	0	23	554
18:00	5	310	43	0	2	1	0	0	0	0	0	0	0	10	371
19:00	3	245	29	0	5	0	0	0	0	0	0	0	0	9	291
20:00	2	208	44	0	3	1	0	0	0	0	0	0	0	14	272
21:00	3	171	26	0	2	0	0	0	0	0	0	0	0	6	208
22:00	1	115	15	0	0	0	0	0	0	0	0	0	0	3	134
23:00	3	67	7	0	0	0	0	0	0	0	0	0	0	5	82
Total	53	4550	750	11	97	15	0	5	1	1	0	0	1	167	5651
Percent	0.9%	80.5%	13.3%	0.2%	1.7%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	
AM Peak	11:00	11:00	11:00	11:00	11:00	10:00		07:00	08:00					07:00	11:00
Vol.	5	280	54	2	10	5		1	1					8	358
PM Peak	16:00	17:00	16:00	15:00	13:00	12:00		16:00		16:00			14:00	17:00	17:00
Vol.	11	456	70	3	12	2		2		1			1	23	554

Site Code: 220190
Station ID:
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btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/04/13	1	46	7	0	0	0	0	0	0	0	0	0	0	0	54
01:00	0	18	2	0	0	0	0	0	0	0	0	0	0	0	20
02:00	0	17	3	0	0	0	0	0	0	0	0	0	0	0	20
03:00	0	12	5	0	2	0	0	0	0	0	0	0	0	1	20
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
05:00	1	4	4	0	1	0	0	0	0	0	0	0	0	0	10
06:00	0	31	9	0	1	0	0	0	0	0	0	0	0	0	41
07:00	0	75	4	0	1	0	0	0	0	0	0	0	0	0	80
08:00	2	143	28	1	3	0	0	0	0	0	0	0	0	6	183
09:00	0	243	32	0	2	0	0	0	0	1	0	0	0	8	286
10:00	5	321	54	0	5	0	0	0	0	0	0	0	0	7	392
11:00	3	302	65	1	5	1	0	3	0	0	0	0	0	9	389
12 PM	3	306	53	0	5	2	0	1	0	0	0	0	0	12	382
13:00	6	328	43	0	4	1	0	0	0	0	0	0	0	13	395
14:00	2	295	54	0	2	0	0	0	0	0	0	0	0	7	360
15:00	9	292	46	0	2	0	0	0	0	0	0	0	0	9	358
16:00	0	274	45	0	1	0	0	0	0	0	0	0	0	11	331
17:00	6	261	35	0	4	1	0	0	0	0	0	0	0	17	324
18:00	5	218	23	0	0	1	0	0	0	0	0	0	0	4	251
19:00	6	169	15	0	5	0	0	0	0	0	0	0	0	8	203
20:00	1	117	13	0	1	0	0	0	0	0	0	0	0	2	134
21:00	0	108	15	0	1	0	0	0	0	0	0	0	0	5	129
22:00	0	102	17	0	0	0	0	0	0	0	0	0	0	1	120
23:00	0	64	8	0	2	0	0	0	0	0	0	0	0	0	74
Total	50	3748	581	2	47	6	0	4	0	1	0	0	0	120	4559
Percent	1.1%	82.2%	12.7%	0.0%	1.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	
AM Peak	10:00	10:00	11:00	08:00	10:00	11:00		11:00		09:00				11:00	10:00
Vol.	5	321	65	1	5	1		3		1				9	392
PM Peak	15:00	13:00	14:00		12:00	12:00		12:00						17:00	13:00
Vol.	9	328	54		5	2		1						17	395

Site Code: 220190
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Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/05/13	2	53	6	0	0	0	0	0	0	0	0	0	0	1	62
01:00	0	56	3	0	0	0	0	0	0	0	0	0	0	2	61
02:00	0	33	3	0	0	0	0	0	0	0	0	0	0	0	36
03:00	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
04:00	0	8	0	0	0	0	0	0	0	0	0	0	0	1	9
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
06:00	0	18	6	0	0	0	0	0	0	0	0	0	0	0	24
07:00	0	36	10	0	1	0	0	0	0	0	0	0	0	0	47
08:00	0	60	17	0	1	0	0	0	0	0	0	0	0	1	79
09:00	3	130	25	0	3	0	0	0	0	0	0	0	0	1	162
10:00	0	201	26	0	4	0	0	0	0	0	0	0	0	5	236
11:00	2	229	38	1	2	0	0	0	0	0	0	0	0	8	280
12 PM	6	281	47	0	1	1	0	0	0	0	0	0	0	20	356
13:00	5	308	46	0	4	0	0	2	0	0	0	0	0	3	368
14:00	6	267	40	0	4	0	0	0	0	0	0	0	0	6	323
15:00	5	230	30	0	2	0	0	0	0	0	0	0	0	5	272
16:00	2	225	36	0	2	0	0	0	0	0	0	0	0	7	272
17:00	3	212	26	0	0	0	0	1	0	0	0	0	0	8	250
18:00	4	154	21	0	2	0	0	0	0	0	0	0	0	3	184
19:00	2	147	16	0	1	1	0	0	0	0	0	0	0	5	172
20:00	4	143	15	0	0	0	0	0	0	0	0	0	0	5	167
21:00	0	94	13	0	0	0	0	0	0	0	0	0	0	4	111
22:00	0	60	4	0	0	0	0	0	0	0	0	0	0	0	64
23:00	2	37	3	0	0	0	0	0	0	0	0	0	0	0	42
Total	46	3002	431	1	27	2	0	3	0	0	0	0	0	85	3597
Percent	1.3%	83.5%	12.0%	0.0%	0.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	
AM Peak	09:00	11:00	11:00	11:00	10:00									11:00	11:00
Vol.	3	229	38	1	4									8	280
PM Peak	12:00	13:00	12:00		13:00	12:00		13:00						12:00	13:00
Vol.	6	308	47		4	1		2						20	368

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

EB, WB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
05/06/13	0	17	3	0	0	0	0	0	0	0	0	0	0	1	21
01:00	0	6	4	0	0	0	0	0	0	0	0	0	0	0	10
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
05:00	1	20	7	0	0	0	0	0	0	0	0	0	0	1	29
06:00	1	73	19	1	1	0	0	0	0	0	0	0	0	2	97
07:00	0	143	24	2	2	0	0	1	0	0	0	0	0	1	173
08:00	2	197	40	0	7	0	0	2	1	0	0	0	0	4	253
09:00	2	219	69	1	6	1	0	1	0	0	0	0	0	6	305
10:00	1	194	36	2	8	0	0	1	0	0	0	0	0	14	256
11:00	0	255	66	0	11	0	0	2	0	0	0	0	0	9	343
12 PM	3	282	62	0	6	1	0	2	0	0	0	0	0	10	366
13:00	0	279	59	0	7	0	0	0	0	0	0	0	0	6	351
14:00	6	251	43	4	5	0	0	1	0	0	0	0	0	8	318
15:00	2	317	59	4	5	1	0	1	0	0	0	0	0	14	403
16:00	7	368	64	0	7	0	0	3	0	0	0	0	0	36	485
17:00	9	412	57	0	6	0	0	1	0	0	0	0	0	20	505
18:00	3	290	42	1	3	2	0	2	0	0	0	0	0	12	355
19:00	3	188	33	0	2	1	0	0	0	0	0	0	0	11	238
20:00	4	128	12	0	2	0	0	1	0	0	0	0	0	2	149
21:00	1	133	18	0	2	0	0	0	0	0	0	0	0	2	156
22:00	0	66	11	0	0	0	0	0	0	0	0	0	0	0	77
23:00	0	32	4	0	0	0	0	0	0	0	0	0	0	0	36
Total	45	3888	737	15	80	6	0	18	1	0	0	0	0	159	4949
Percent	0.9%	78.6%	14.9%	0.3%	1.6%	0.1%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	
AM Peak	08:00	11:00	09:00	07:00	11:00	09:00		08:00	08:00					10:00	11:00
Vol.	2	255	69	2	11	1		2	1					14	343
PM Peak	17:00	17:00	16:00	14:00	13:00	18:00		16:00						16:00	17:00
Vol.	9	412	64	4	7	2		3						36	505
Grand Total	322	28082	4678	73	503	54	0	73	5	2	1	0	1	977	34771
Percent	0.9%	80.8%	13.5%	0.2%	1.4%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	

City of Burlington
Transportation Services

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

Start	29-Apr-13		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	*	*	13	8	14	8	11	18	17	12	22	32	34	28	18	18
01:00	*	*	7	7	10	11	10	4	5	3	13	7	39	22	14	9
02:00	*	*	4	1	6	2	6	6	6	2	9	11	19	17	8	6
03:00	*	*	1	3	1	3	3	1	4	3	11	9	8	6	5	4
04:00	*	*	4	7	4	8	5	6	7	5	1	2	5	4	4	5
05:00	*	*	18	19	16	19	17	22	16	16	3	7	0	6	12	15
06:00	*	*	33	51	45	51	34	52	43	59	20	21	8	16	30	42
07:00	*	*	90	99	67	102	88	99	89	102	35	45	20	27	65	79
08:00	*	*	146	131	142	118	142	117	128	116	87	96	29	50	112	105
09:00	*	*	137	166	138	130	**158**	182	135	160	129	157	66	96	127	148
10:00	*	*	**151**	145	143	150	127	140	133	175	167	**225**	122	114	140	158
11:00	*	*	142	**201**	**154**	**194**	123	**185**	**150**	**208**	**176**	213	**130**	**150**	**146**	**192**
12:00 PM	*	*	158	197	159	189	173	163	160	185	150	**232**	**165**	191	161	193
01:00	*	*	148	183	173	208	150	202	169	202	**179**	216	160	**208**	163	203
02:00	*	*	160	218	175	217	140	189	174	214	158	202	136	187	157	204
03:00	*	*	191	243	**189**	204	182	261	**209**	288	157	201	134	138	**177**	222
04:00	*	*	183	294	164	292	189	313	197	**347**	134	197	131	141	166	264
05:00	*	*	**197**	**325**	182	**351**	193	**349**	208	346	144	180	124	126	175	**280**
06:00	*	*	141	251	159	240	**200**	240	164	207	111	140	90	94	144	195
07:00	*	*	161	157	124	133	149	152	126	165	95	108	82	90	123	134
08:00	*	*	115	117	96	137	116	150	119	153	58	76	73	94	96	121
09:00	*	*	75	103	88	87	119	107	96	112	57	72	55	56	82	90
10:00	*	*	35	47	53	39	37	51	73	61	72	48	36	28	51	46
11:00	*	*	27	18	34	25	25	27	41	41	44	30	20	22	32	27
Lane	0	0	2337	2991	2336	2918	2397	3036	2469	3182	2032	2527	1686	1911	2208	2760
Day	0		5328		5254		5433		5651		4559		3597		4968	
AM Peak			10:00	11:00	11:00	11:00	09:00	11:00	11:00	11:00	11:00	10:00	11:00	11:00	11:00	11:00
Vol.			151	201	154	194	158	185	150	208	176	225	130	150	146	192
PM Peak			17:00	17:00	15:00	17:00	18:00	17:00	15:00	16:00	13:00	12:00	12:00	13:00	15:00	17:00
Vol.			197	325	189	351	200	349	209	347	179	232	165	208	177	280

Site Code: 220190
Station ID:
Prospect St
btwn. Robinson St and Pearson St
Latitude: 0' 0.000 Undefined

Start	06-May-13		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	14	7	0	0	*	*	*	*	*	*	*	*	*	*	7	4
01:00	3	7	*	*	*	*	*	*	*	*	*	*	*	*	3	7
02:00	5	3	*	*	*	*	*	*	*	*	*	*	*	*	5	3
03:00	3	1	*	*	*	*	*	*	*	*	*	*	*	*	3	1
04:00	2	9	*	*	*	*	*	*	*	*	*	*	*	*	2	9
05:00	15	14	*	*	*	*	*	*	*	*	*	*	*	*	15	14
06:00	39	58	*	*	*	*	*	*	*	*	*	*	*	*	39	58
07:00	81	92	*	*	*	*	*	*	*	*	*	*	*	*	81	92
08:00	126	127	*	*	*	*	*	*	*	*	*	*	*	*	126	127
09:00	134	171	*	*	*	*	*	*	*	*	*	*	*	*	134	171
10:00	117	139	*	*	*	*	*	*	*	*	*	*	*	*	117	139
11:00	**151**	**192**	*	*	*	*	*	*	*	*	*	*	*	*	**151**	**192**
12:00 PM	173	193	*	*	*	*	*	*	*	*	*	*	*	*	173	193
01:00	170	181	*	*	*	*	*	*	*	*	*	*	*	*	170	181
02:00	136	182	*	*	*	*	*	*	*	*	*	*	*	*	136	182
03:00	169	234	*	*	*	*	*	*	*	*	*	*	*	*	169	234
04:00	175	310	*	*	*	*	*	*	*	*	*	*	*	*	175	310
05:00	**178**	**327**	*	*	*	*	*	*	*	*	*	*	*	*	**178**	**327**
06:00	165	190	*	*	*	*	*	*	*	*	*	*	*	*	165	190
07:00	88	150	*	*	*	*	*	*	*	*	*	*	*	*	88	150
08:00	69	80	*	*	*	*	*	*	*	*	*	*	*	*	69	80
09:00	69	87	*	*	*	*	*	*	*	*	*	*	*	*	69	87
10:00	48	29	*	*	*	*	*	*	*	*	*	*	*	*	48	29
11:00	16	20	*	*	*	*	*	*	*	*	*	*	*	*	16	20
Lane	2146	2803	0	0	0	0	0	0	0	0	0	0	0	0	2139	2800
Day	4949		0		0		0		0		0		0		4939	
AM Peak	11:00	11:00													11:00	11:00
Vol.	151	192													151	192
PM Peak	17:00	17:00													17:00	17:00
Vol.	178	327													178	327

Comb. Total	4949	5328	5254	5433	5651	4559	3597	9907

ADT ADT 4,978 AADT 4,693

APPENDIX B

STAMSON 5.04 Output

STAMSON 5.0 NORMAL REPORT Date: 06-12-2017 11:02:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

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

Description: Proposed townhouse blocks with some exposure to Prospect St

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

Car traffic volume : 6928/770 veh/TimePeriod *
Medium truck volume : 101/11 veh/TimePeriod *
Heavy truck volume : 158/18 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): 5651
Percentage of Annual Growth : 2.50
Number of Years of Growth : 14.00
Medium Truck % of Total Volume : 1.40
Heavy Truck % of Total Volume : 2.20
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 125.00 / 125.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Prospect (day)

Source height = 1.22 m

ROAD (0.00 + 51.54 + 0.00) = 51.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	60.75	0.00	-9.21	0.00	0.00	0.00	0.00	51.54

Segment Leq : 51.54 dBA

Total Leq All Segments: 51.54 dBA

Results segment # 1: Prospect (night)

Source height = 1.23 m

ROAD (0.00 + 45.07 + 0.00) = 45.07 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	54.27	0.00	-9.21	0.00	0.00	0.00	0.00	45.07

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Segment Leq : 45.07 dBA

Total Leq All Segments: 45.07 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 51.54 dBA
(NIGHT): 45.07 dBA

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STAMSON 5.0 NORMAL REPORT Date: 06-12-2017 11:03:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: b.te Time Period: Day/Night 16/8 hours

Description: Proposed townhouse blocks with some exposure to Fairview St and Brant St

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

Car traffic volume : 14581/1620 veh/TimePeriod *
Medium truck volume : 181/20 veh/TimePeriod *
Heavy truck volume : 286/32 veh/TimePeriod *
Posted speed limit : 60 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): 12432
Percentage of Annual Growth : 2.50
Number of Years of Growth : 12.00
Medium Truck % of Total Volume : 1.20
Heavy Truck % of Total Volume : 1.90
Day (16 hrs) % of Total Volume : 90.00

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

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 4 / 4
House density : 90 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 211.00 / 211.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 14581/1620 veh/TimePeriod *
Medium truck volume : 181/20 veh/TimePeriod *
Heavy truck volume : 286/32 veh/TimePeriod *
Posted speed limit : 60 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): 12432
Percentage of Annual Growth : 2.50
Number of Years of Growth : 12.00
Medium Truck % of Total Volume : 1.20
Heavy Truck % of Total Volume : 1.90
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Fairview (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 4 / 4
House density : 90 %
Surface : 1 (Absorptive ground surface)

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```
Receiver source distance  : 198.00 / 198.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 3: Brant (day/night)
-----------------------------------------
Car traffic volume  : 23242/2582  veh/TimePeriod  *
Medium truck volume :   312/35    veh/TimePeriod  *
Heavy truck volume  :   481/53    veh/TimePeriod  *
Posted speed limit  :    50 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):  19857
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   1.30
    Heavy Truck  % of Total Volume     :   2.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 3: Brant (day/night)
---------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      2 / 2
House density             :     80 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 160.00 / 160.00 m
Receiver height           :  10.50 / 10.50  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Fairview (day)
-----------------------------------

Source height = 1.17 m

ROAD (0.00 + 38.71 + 0.00) = 38.71 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.40  67.20   0.00 -16.07  -0.98   0.00 -11.44   0.00  38.71
-------------------------------------------------------------------------------

Segment Leq : 38.71 dBA

Results segment # 2: Fairview (day)
-----------------------------------

Source height = 1.17 m

ROAD (0.00 + 39.03 + 0.00) = 39.03 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.40  67.20   0.00 -15.69  -0.98   0.00 -11.51   0.00  39.03
-------------------------------------------------------------------------------

Segment Leq : 39.03 dBA

Results segment # 3: Brant (day)
--------------------------------
```

Source height = 1.19 m

ROAD (0.00 + 42.31 + 0.00) = 42.31 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.40	67.69	0.00	-14.39	-3.99	0.00	-7.00	0.00	42.31

Segment Leq : 42.31 dBA

Total Leq All Segments: 45.11 dBA

Results segment # 1: Fairview (night)

Source height = 1.18 m

ROAD (0.00 + 32.19 + 0.00) = 32.19 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.40	60.68	0.00	-16.07	-0.98	0.00	-11.44	0.00	32.19

Segment Leq : 32.19 dBA

Results segment # 2: Fairview (night)

Source height = 1.18 m

ROAD (0.00 + 32.51 + 0.00) = 32.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.40	60.68	0.00	-15.68	-0.98	0.00	-11.51	0.00	32.51

Segment Leq : 32.51 dBA

Results segment # 3: Brant (night)

Source height = 1.19 m

ROAD (0.00 + 35.76 + 0.00) = 35.76 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.40	61.14	0.00	-14.39	-3.99	0.00	-7.00	0.00	35.76

Segment Leq : 35.76 dBA

Total Leq All Segments: 38.58 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 45.11 dBA
(NIGHT): 38.58 dBA

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APPENDIX C

Supporting Information

Comfort-Aire®

CMA SERIES

HORIZONTAL CONDENSER

Horizontal condenser is compact in size to fit in tight spaces without detracting from landscaping and outdoor living areas, which also makes it great for apartment complexes and condominiums

Condenser is AHRI matched to Heat Controller coils and can be used with our modular blower (with matching coil) ; also AHRI matched to our hydronic air handlers

Ultra quiet operation is rated as low as 56 decibels

Attractive cabinet is galvanized steel with painted finish for durability, in attractive neutral color

Low voltage 24V control system for universal use

Ambient Operating Range:
65° F to 110° F (18° C to 43° C)



1 to 3 Tons
Five models to choose from, 12,000 to 36,000 BTUH

Use with R-410A coils (using furnace blower for air delivery)



AHRI matched with our CCG uncased, MCG multi-position cased, & VCG vertical cased coils



Use with our HWCG hydronic air handlers



See details of these products:
www.comfort-aire.com

CMA SERIES HORIZONTAL CONDENSER

0=115-1-60, 1=208/230V-1-60

SPECIFICATIONS	CMA12SB-0	CMA18SB-1	CMA24SB-1	CMA30SB-1	CMA36SB-1
Nom. Cooling Capacity (BTUH)	12,000	18,000	24,000	30,000	33,400
SEER[1]	13.0	14.0	14.0	13.0	13.0
EER	12.0	12.5	12.5	11.65	12.0
Ambient Operation Temp.	64° F to 109° F (18° C to 43° C)				
Operation Sound Level dB(A)	56	56	57	61	56
Outdoor Airflow CFM	1200	1390	2130	3800	2130
ELECTRICAL					
Cooling Amps	9.5	7.1	9.1	12	11.9
Min. Circuit Ampacity	15A	15A	15A	16A	20A
Max. Fuse/HACR Circuit Breaker	20A	15A	20A	25A	30A
Recommended Connection	18-2 (24V)[2]				
SYSTEM COMPONENTS					
Compressor Type	Rotary	Rotary	Rotary	Rotary	Rotary
Condenser	Aluminum fin/copper tube				
LINE SET SPECIFICATIONS					
Liquid Line (inch) (flare)	1/4	1/4	3/8	3/8	3/8
Gas Line (inch) (flare)	1/2	1/2	3/4	3/4	3/4
Max. Ref. Pipe Length	49 ft	82 ft	82 ft	90 ft	98 ft
Max. Difference in Elevation[3]	26	49	49	58	66
PHYSICAL CHARACTERISTICS					
Dimensions (in.) W x H x D	$30^{5}/_{16}$ x $21^{7}/_{8}$ x $11^{13}/_{16}$	$33^{5}/_{16}$ x $27^{5}/_{8}$ x $14^{5}/_{16}$	$40^{9}/_{16}$ x $31^{7}/_{8}$ x $16^{1}/_{8}$	40 x 38 x $13^{5}/_{8}$	$40^{9}/_{16}$ x $31^{7}/_{8}$ x $16^{1}/_{8}$
Net Wt/Shipping Wt (lbs)	73/78	105/112	134/147	157/181	148/161

AHRI CERTIFIED MATCHES[4]

CASED & UNCASED COILS

CONDENSER	COIL # PREFIX	MODEL CCG-, MCG-, VCG-	SEER	EER	CAPACITY (BTUH)	CFM
CMA12SB-0	**CCG**=Uncased **MCG**=Multi-Position Cased **VCG**=Vertical Cased	-24TA2E, -24TB2E	13.0	12.0	12,000	400
CMA18SB-1		-24TA2E, -24TB2E	13.0	10.9	18,000	600
CMA24SB-1		-24TA2E, -24TB2E	13.0	10.8	24,000	800
CMA30SB-1		-36TB2E, -36TC2E	13.0	10.8	30,000	1000
CMA36SB-1		-36TB2E, -36TC2E	13.0	10.9	35,800	1100

Use any of these coils with the HMB modular blower to create a two-piece air handler for tight spaces.

HYDRONIC AIR HANDLERS

CONDENSER	HYDRONIC AIR HANDLER	SEER	EER	CAPACITY (BTUH)	SENSIBLE (BTUH)	CFM
CMA12SB-0	—	—	—	—	—	—
CMA18SB-1	HWCG24X0A	13.0	11.5	18,000	14,812	600
CMA24SB-1	HWCG24X0A	13.0	11.3	23,000	19,041	800
	HWCG30X0A	13.5	11.6	24,000	19,413	800
CMA30SB-1	HWCG30X0A	13.5	12.0	30,000	23,989	1000
CMA36SB-1	HWCG42X0A	13.5	11.0	36,000	28,180	1200

NOTES:

1. Nominal SEER rating; refer to AHRI Directory of certified products.
2. Always follow local and national electrical codes.
3. Oil traps must be installed every 10 feet when outdoor unit is installed above indoor unit.
4. Refer to AHRI Directory of certified products for the most up-to-date information.

Due to ongoing product improvements, specifications and dimensions are subject to change and correction without notice or incurring obligations. Determining the application and suitability for use of any product is the responsibility of the installer. Additionally, the installer is responsible for verifying dimensional data on the actual product prior to beginning any installation preparations.
Incentive and rebate programs have precise requirements as to product performance and certification. All products meet applicable regulations in effect on date of manufacture; however, certifications are not necessarily granted for the life a product. Therefore, it is the responsibility of the applicant to determine whether a specific model qualifies for these incentive/rebate programs.

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