

TOWN OF CALEDON  
PLANNING  
RECEIVED

May 2, 2022

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# Noise Feasibility Study

## Proposed Residential Development

### 13290 Nunnville Road

### Caledon, Ontario

Prepared for:

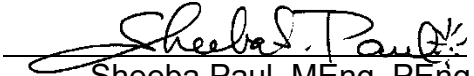
Bolton Summit Developments Inc.  
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Prepared by



  
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April 6, 2022

HGC Project Number: 02200068



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**Figure 1 – Key Plan**

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**Appendix A – Road Traffic Data**

**Appendix B – Sample STAMSON 5.04 Output**

# 1 Introduction and Summary

HGC Engineering was retained by Bolton Summit Developments Inc. to conduct a noise feasibility study for a proposed residential development located along 13290 Nunnville Road in Caledon, Ontario. The surrounding area is primarily existing residential. A noise study is required by the municipality as part of the planning and approvals process.

There are no specific requirements for transportation noise or stationary noise. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in this development.



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## 2 Site Description and Noise Sources

Figure 1 is a key plan of the site. Figure 2 is a proposed concept plan prepared by WSP, dated April 4, 2022. The proposed residential development will consist of 3 townhouse blocks.

There are existing residences surrounding the site. The primary source of noise is Albion-Vaughan Road, approximately 200 m to the east of the site. Old King Road to the north is a low volume roadway and is not expected to be a significant source of noise. There are no significant sources of stationary noise within 500 m of the subject site.

## 3 Criteria for Acceptable Sound Levels

### 3.1 Road Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, “Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning”, Part C 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: Road Traffic Noise Criteria**

	<b>Daytime <math>L_{EQ}(16 \text{ hour})</math> Road</b>	<b>Nighttime <math>L_{EQ}(8 \text{ hour})</math> Road</b>
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	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 MECP guidelines.

The guidelines in the MECP publication allow the sound level in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and

rental agreements and offers of purchase and sale for the property. When OLA sound levels exceed 60 dBA, physical mitigation is required 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/living/dining room windows exceed 60 dBA or daytime sound levels exceed 65 dBA outside living/dining room windows. A forced air ventilation system with ducts sized for the future provision of air conditioning by the occupant, or some other alternative form of mechanical ventilation, is required where nighttime sound levels at bedroom/living/dining room windows are in the range of 51 – 60 dBA or daytime sound levels are in the range of 56 – 65 dBA.

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

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

## **3.2 Traffic Sound Level Assessment**

### **3.2.1 Road Traffic Data**

Road traffic data for Albion-Vaughan Road between Old King Road and Nunnville Road was obtained from the Town of Caledon in the form of 24-Hr Traffic Counts for 2016 and is provided in Appendix A. This data was converted to the form of Average Annual Daily Traffic (AADT) in order to be used in the analysis. A commercial vehicle percentage of 7.3% for Albion-Vaughan Road was calculated and split into 5.6% medium trucks and 1.7% heavy trucks. A day/night split of 87/13% was used in the analysis. Albion-Vaughan Road has a posted speed limit of 60 km/h; therefore 70 km/h was used in the analysis in accordance with the Town of Caledon requirements. A road gradient of 7% was also considered for Albion-Vaughan. The data was projected to the year 2032 using a 2.5%/year growth rate. Table 2 summarizes the traffic data.



**Table 2: Future Road Traffic Data to Year 2032**

Road Name		Cars	Medium Trucks	Heavy Trucks	Total
Albion-Vaughan Road	Daytime	20 851	1 260	382	22 493
	Nighttime	3 116	188	57	3 361
	<b>Total</b>	<b>23 967</b>	<b>1 448</b>	<b>439</b>	<b>25 854</b>

### 3.2.2 Road Traffic Noise Predictions

To assess the levels of road traffic noise which would impact the site in the future, road traffic predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. Sample STAMSON output is included in Appendix B.

Prediction locations were chosen around the site to obtain a good representation of the future sound levels at the proposed development with exposure to the surrounding roadways. The worst-case prediction locations were chosen at the top storey of the proposed dwellings, as indicated in Figure 2. The results of these predictions are summarized in Table 3.

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

Prediction Location	Description	Daytime in OLA L <sub>EQ-16 hr</sub>	Daytime at Façade L <sub>EQ-16 hr</sub>	Nighttime at Façade L <sub>EQ-8 hr</sub>
[A]	Townhouse block with some exposure to Albion-Vaughan Road	<55	<55	<50

### 3.3 Traffic Noise Recommendations

The predictions indicate that the future traffic sound levels will be within MECP guidelines at the proposed dwellings.

#### 3.3.1 Outdoor Living Areas

The predicted sound level in the rear yards of the proposed townhouses (prediction location [A]) will be less than 55 dBA. No further mitigation is required.

### **3.3.2 Indoor Living Areas**

The predicted future sound levels outside the top storey windows of the proposed residential dwellings (prediction location [A]) will be less than 55 dBA during the day and less than 50 dBA during the night. There are no specific ventilation requirements for the proposed dwellings.

### **3.3.3 Building Façade Constructions**

Since the daytime and nighttime sound levels at the facades of the residential units will be less than 65 dBA during the day and less than 60 dBA during the night, any exterior wall, and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in this development.

## **4 Summary of Noise Control Recommendations**

Analysis indicates that the predicted sound level will be within MECP guidelines limits at the proposed building. The following recommendations are provided.

1. There are no specific ventilation requirements or noise warning clauses for the proposed dwellings.
2. Any exterior wall, and double-glazed window construction meeting the minimum requirements of the OBC will provide adequate sound insulation for the proposed dwellings.

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail.



## Limitations

This document was prepared solely for the addressed party and titled project or named part thereof, and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Engineering. HGC Engineering accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm their agreement to indemnify HGC Engineering for all loss or damage resulting therefrom. HGC Engineering accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

Any conclusions and/or recommendations herein reflect the judgment of HGC Engineering based on information available at the time of preparation, and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.



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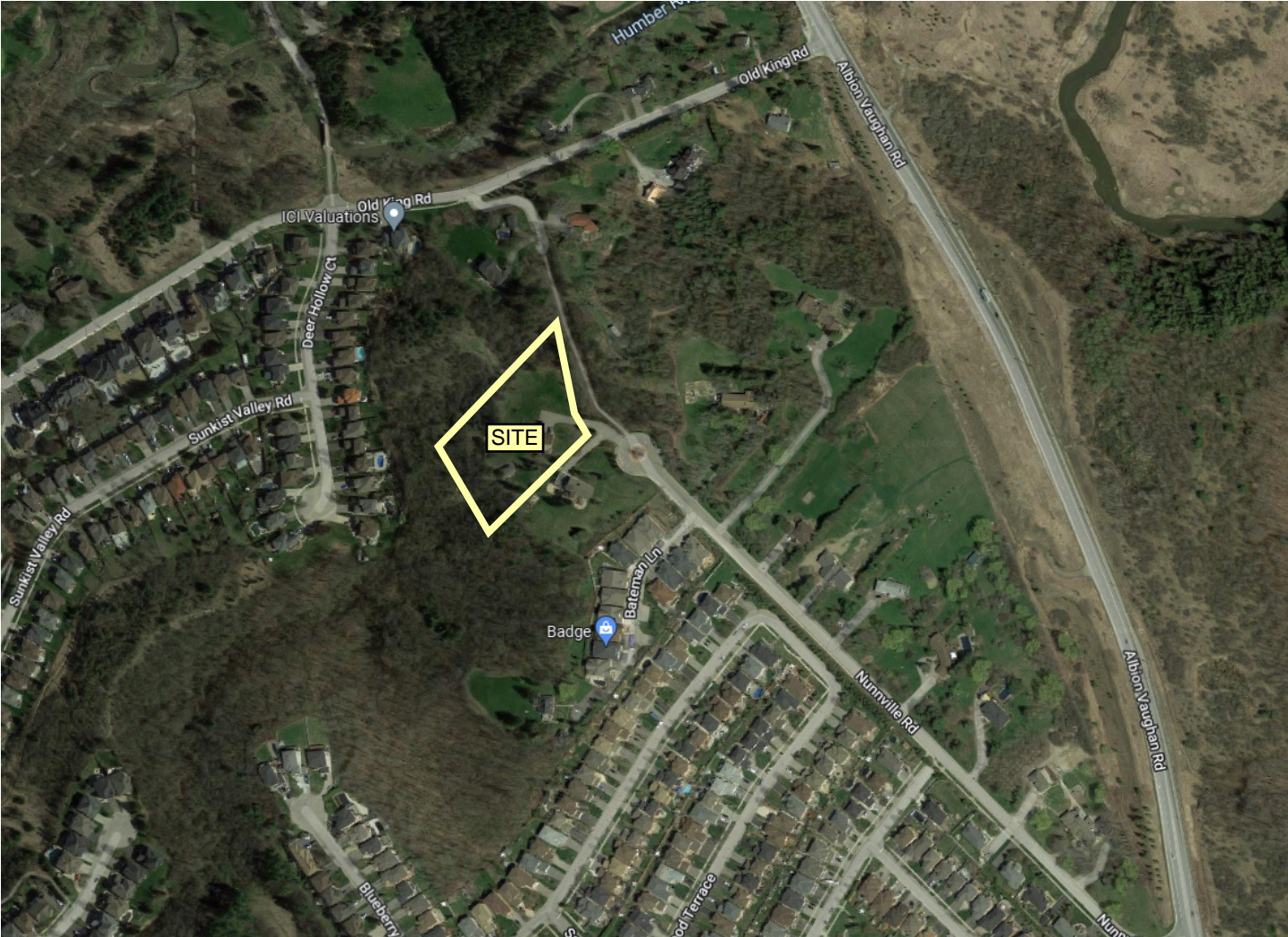
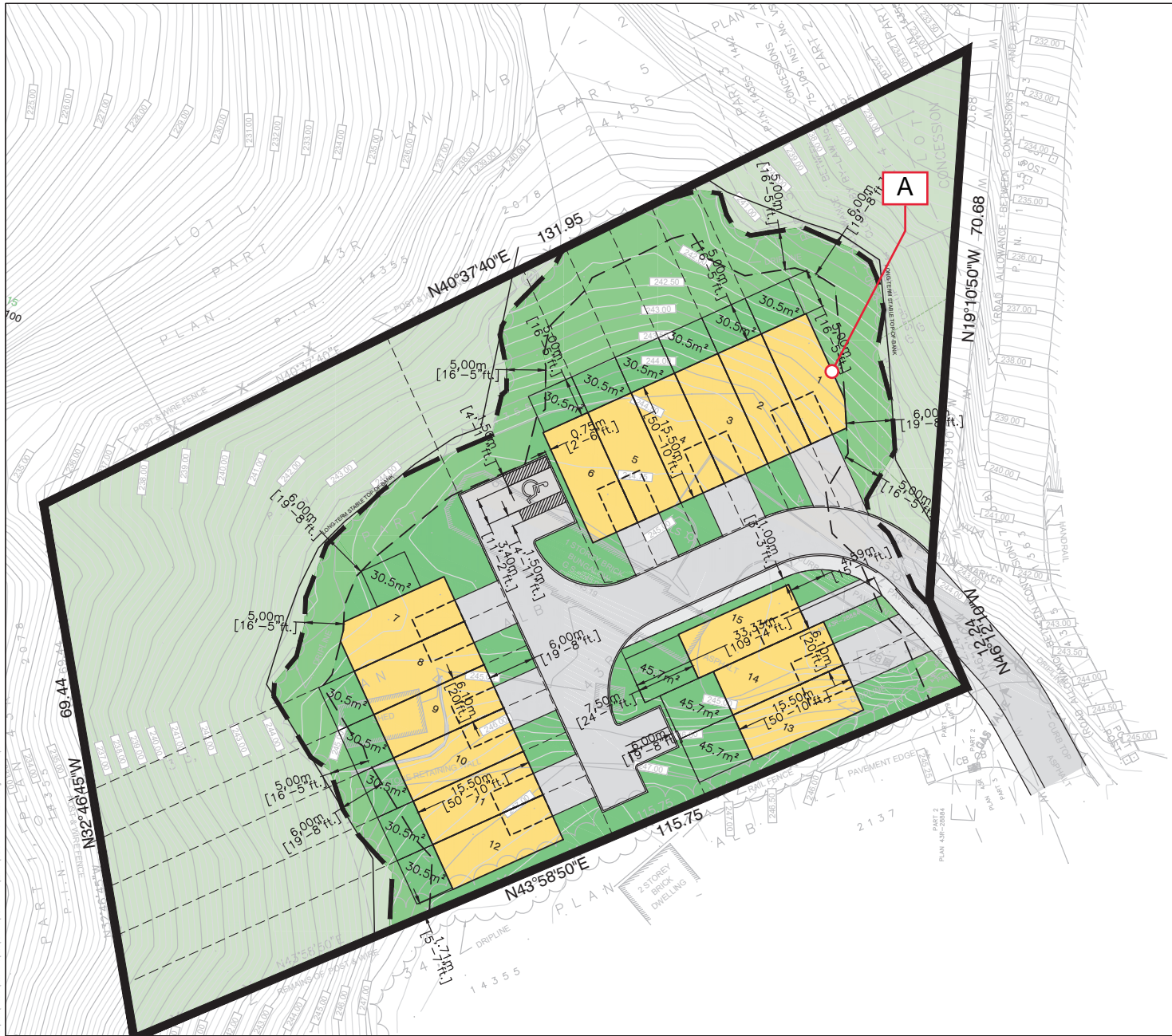


Figure 1 - Key Plan





## 13290 Nunnville Road Bolton (Caledon)

### Concept

#### 15 Townhouse Units 28.0m+ x 6.1m Lots

- Lot Area = 0.86ha (8,553m<sup>2</sup>)
- Lot Area per unit = 94.2m<sup>2</sup>
- Lot Frontage = 82.5m
- Min. Unit Width = 6.1m
- Building Area = 1,431m<sup>2</sup> (16.8%)
- Min. Backyard Amenity Space = 30.5m<sup>2</sup>
- Min. Front Yard (to garage) = 6.0m
- Min. Front Yard (to main wall) = 4.5m
- Min. Rear Yard = 7.5m
- Min. Interior Side Yard = 1.71m
- Min. Exterior Side Yard = 0.75m
- Max. Height = 12.0m
- Landscaped Area = 1,302m<sup>2</sup> (15.2%)  
(includes Amenity Area, Sidewalks and Front Yards)
- Natural Area = 4,753m<sup>2</sup> (55.6%)  
(includes Buffer and Woodlot)
- Hard Paved Area = 1,035m<sup>2</sup> (12.1%)  
(includes Roads and Driveways)

Note: the Development Limit is based on Dripline and Long-term Stable Top-of-Slope (LTSTOS) lines. The Buffer Line is based on 5.0m to the Dripline or 6.0m to the LTSTOS lines.


Prepared by:			
Checked		Drawn	
Date	April 4, 2022	Proj. No.	211-09988-01
Scale	1 : 500 (11x17)	Aerial Image	

Figure 2 - Proposed Concept Plan Showing Prediction Locations

# APPENDIX A

## Road Traffic Information



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Report-1.1	Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
	Direction : North Road :														
Dates : 04/10/2016															
Classes ----->	Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 1:00		46	6		4									56	0.7%
1:00 2:00		25	4			1			1					31	0.4%
2:00 3:00		12	4			1			1					18	0.2%
3:00 4:00		14	2						1				1	18	0.2%
4:00 5:00		23	3	1		2			5	3			2	39	0.5%
5:00 6:00	2	80	32	2	8	4		2	7	8			6	151	1.9%
6:00 7:00	3	196	52	2	15	13		4	6	4			3	298	3.8%
7:00 8:00	3	272	55	12	12	5		3	3	3			3	371	4.7%
8:00 9:00	2	267	40	11	18	6		1	2	4				351	4.4%
9:00 10:00		200	50	4	19	15		1	3	1				293	3.7%
10:00 11:00		166	40	6	13	8	1	1	4	1			1	241	3.0%
11:00 12:00	3	203	51	4	13	5		4	2	3			1	289	3.6%
12:00 13:00	3	207	52	6	15	7		2	4	5				301	3.8%
13:00 14:00	3	230	79	1	12	6	2		9	4			3	349	4.4%
14:00 15:00	4	311	60	9	19	9		2	1	2			1	418	5.3%
15:00 16:00	1	601	145	9	25	6		3	4	5			3	802	10.1%
16:00 17:00	5	749	154	5	31	5	2	6	4	2			3	966	12.2%
17:00 18:00	5	827	151	2	23	3		1	2	2				1016	12.8%
18:00 19:00	1	611	123	1	27	2		2	2	2				771	9.7%
19:00 20:00		352	65		10			1	1					429	5.4%
20:00 21:00		231	33		8			1	1					274	3.5%
21:00 22:00		161	24		6	1			1					193	2.4%
22:00 23:00	1	108	18		3					1				131	1.7%
23:00 00:00		101	17		2									120	1.5%
<b>Total</b>	<b>36</b>	<b>5993</b>	<b>1260</b>	<b>75</b>	<b>283</b>	<b>99</b>	<b>5</b>	<b>34</b>	<b>64</b>	<b>50</b>			<b>27</b>	<b>7926</b>	
	0.5%	75.6%	15.9%	0.9%	3.6%	1.2%	0.1%	0.4%	0.8%	0.6%			0.3%		
<b>AM PEAK</b>	<b>3</b>	<b>272</b>	<b>55</b>	<b>12</b>	<b>19</b>	<b>15</b>	<b>1</b>	<b>4</b>	<b>7</b>	<b>8</b>			<b>6</b>	<b>371</b>	
period	6:00	7:00	7:00	7:00	9:00	9:00	10:00	6:00	5:00	5:00			5:00	7:00	
% of class	8.3%	4.5%	4.4%	16.0%	6.7%	15.2%	20.0%	11.8%	10.9%	16.0%			22.2%	4.7%	
<b>PM PEAK</b>	<b>5</b>	<b>827</b>	<b>154</b>	<b>9</b>	<b>31</b>	<b>9</b>	<b>2</b>	<b>6</b>	<b>9</b>	<b>5</b>			<b>3</b>	<b>1016</b>	
period	16:00	17:00	16:00	14:00	16:00	14:00	13:00	16:00	13:00	12:00			13:00	17:00	
% of class	13.9%	13.8%	12.2%	12.0%	11.0%	9.1%	40.0%	17.6%	14.1%	10.0%			11.1%	12.8%	

<b>Report-1.2</b>		Location : <b>C16F025-21121NS</b> <b>Albion Vaughan Road - Old King Road &amp; Nunville Road</b>													
		Direction : <b>North</b>			Road :										
		Dates : <b>05/10/2016</b>													
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total
<b>00:00</b>	<b>1:00</b>		54	13		1				1					<b>69</b> 0.8%
<b>1:00</b>	<b>2:00</b>		43	8		3				1					<b>55</b> 0.7%
<b>2:00</b>	<b>3:00</b>		20	7			1		1	1				1	<b>31</b> 0.4%
<b>3:00</b>	<b>4:00</b>	1	13	4		1	1	1	1	2					<b>24</b> 0.3%
<b>4:00</b>	<b>5:00</b>	1	26	5		1	3			3	7				<b>46</b> 0.6%
<b>5:00</b>	<b>6:00</b>	1	85	36	2	5	8			3	6			4	<b>150</b> 1.8%
<b>6:00</b>	<b>7:00</b>	1	188	43	1	16	6		2	4	3			3	<b>267</b> 3.3%
<b>7:00</b>	<b>8:00</b>	2	279	57	11	17	5	1	4	7	3				<b>386</b> 4.7%
<b>8:00</b>	<b>9:00</b>	2	258	45	8	16	4		3	4	2				<b>342</b> 4.2%
<b>9:00</b>	<b>10:00</b>		205	50	10	10	10		1	3	3			1	<b>293</b> 3.6%
<b>10:00</b>	<b>11:00</b>	2	187	53	6	8	7			5	3				<b>271</b> 3.3%
<b>11:00</b>	<b>12:00</b>	1	205	59	10	8	6	1		5	3			2	<b>300</b> 3.7%
<b>12:00</b>	<b>13:00</b>	2	210	49	4	15	8		4	8	3				<b>303</b> 3.7%
<b>13:00</b>	<b>14:00</b>	3	237	66	6	11	8		4	2	2				<b>339</b> 4.2%
<b>14:00</b>	<b>15:00</b>	1	319	84	8	16	7		1	3				2	<b>441</b> 5.4%
<b>15:00</b>	<b>16:00</b>	4	561	128	7	25	7		1	3	1			1	<b>738</b> 9.1%
<b>16:00</b>	<b>17:00</b>	2	801	145	6	44	12	2	6	1	3				<b>1022</b> 12.5%
<b>17:00</b>	<b>18:00</b>	7	836	143	2	19	12	2	3	2	1			1	<b>1028</b> 12.6%
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<b>19:00</b>	<b>20:00</b>	3	366	81	1	13	1		1	2					<b>468</b> 5.7%
<b>20:00</b>	<b>21:00</b>		268	51	1	7									<b>327</b> 4.0%
<b>21:00</b>	<b>22:00</b>	1	197	27		3	1		1	1					<b>231</b> 2.8%
<b>22:00</b>	<b>23:00</b>	1	122	25		4				1					<b>153</b> 1.9%
<b>23:00</b>	<b>00:00</b>	2	98	19		3									<b>122</b> 1.5%
<b>Total</b>		<b>45</b> 0.6%	<b>6162</b> 75.7%	<b>1303</b> 16.0%	<b>85</b> 1.0%	<b>280</b> 3.4%	<b>108</b> 1.3%	<b>7</b> 0.1%	<b>36</b> 0.4%	<b>62</b> 0.8%	<b>40</b> 0.5%			<b>16</b> 0.2%	<b>8144</b>
<b>AM PEAK</b>		<b>2</b>	<b>279</b>	<b>59</b>	<b>11</b>	<b>17</b>	<b>10</b>	<b>1</b>	<b>4</b>	<b>7</b>	<b>7</b>			<b>4</b>	<b>386</b>
period		7:00	7:00	11:00	7:00	7:00	9:00	3:00	7:00	7:00	4:00			5:00	7:00
% of class		4.4%	4.5%	4.5%	12.9%	6.1%	9.3%	14.3%	11.1%	11.3%	17.5%			25.0%	4.7%
<b>PM PEAK</b>		<b>8</b>	<b>836</b>	<b>145</b>	<b>8</b>	<b>44</b>	<b>12</b>	<b>2</b>	<b>6</b>	<b>8</b>	<b>3</b>			<b>2</b>	<b>1028</b>
period		18:00	17:00	16:00	14:00	16:00	16:00	16:00	16:00	12:00	12:00			14:00	17:00
% of class		17.8%	13.6%	11.1%	9.4%	15.7%	11.1%	28.6%	16.7%	12.9%	7.5%			12.5%	12.6%

<b>Report-1.3</b>		Location : <b>C16F025-21121NS</b> <b>Albion Vaughan Road - Old King Road &amp; Nunville Road</b>													
		Direction : <b>North</b>					Road :								
		Dates : <b>06/10/2016</b>													
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total
<b>00:00</b>	<b>1:00</b>	1	44	8		3	1								<b>57</b> 0.7%
<b>1:00</b>	<b>2:00</b>		31	2						1					<b>34</b> 0.4%
<b>2:00</b>	<b>3:00</b>		19	4						1	1			1	<b>26</b> 0.3%
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<b>4:00</b>	<b>5:00</b>		28	2		3	3			6	7			1	<b>50</b> 0.6%
<b>5:00</b>	<b>6:00</b>	4	98	32	3	3	4		1	2	4			4	<b>155</b> 1.8%
<b>6:00</b>	<b>7:00</b>		178	51	4	15	9	1	4	1	4			1	<b>268</b> 3.2%
<b>7:00</b>	<b>8:00</b>	1	293	54	9	9	2	2	2	2	5			1	<b>380</b> 4.5%
<b>8:00</b>	<b>9:00</b>	2	295	54	13	14	1		3	4				3	<b>389</b> 4.6%
<b>9:00</b>	<b>10:00</b>		205	53	9	15	11	2	2	2	3			1	<b>303</b> 3.6%
<b>10:00</b>	<b>11:00</b>	3	172	50	6	12	5		2	5	4			2	<b>261</b> 3.1%
<b>11:00</b>	<b>12:00</b>	6	217	65	4	9	12		3	3	2				<b>321</b> 3.8%
<b>12:00</b>	<b>13:00</b>	2	254	59	8	21	8	1	2	2	3				<b>360</b> 4.3%
<b>13:00</b>	<b>14:00</b>	3	257	63	8	13	5		2	3	1			1	<b>356</b> 4.2%
<b>14:00</b>	<b>15:00</b>	1	345	75	6	23	6	2		3				1	<b>462</b> 5.5%
<b>15:00</b>	<b>16:00</b>	2	586	135	9	27	7	2		1	3			3	<b>775</b> 9.2%
<b>16:00</b>	<b>17:00</b>	3	840	158	8	34	9		5	2	2				<b>1061</b> 12.6%
<b>17:00</b>	<b>18:00</b>	6	801	149	1	29	9	1	2	2	2			2	<b>1004</b> 12.0%
<b>18:00</b>	<b>19:00</b>	3	619	92	2	18	5		2		1			2	<b>744</b> 8.9%
<b>19:00</b>	<b>20:00</b>	1	373	68		15	1			2					<b>460</b> 5.5%
<b>20:00</b>	<b>21:00</b>	2	271	57		13				1	1				<b>345</b> 4.1%
<b>21:00</b>	<b>22:00</b>		249	40	1	4									<b>294</b> 3.5%
<b>22:00</b>	<b>23:00</b>	1	121	16		4	1			1					<b>144</b> 1.7%
<b>23:00</b>	<b>00:00</b>		100	15	4	3									<b>122</b> 1.5%
<b>Total</b>		<b>42</b> 0.5%	<b>6413</b> 76.3%	<b>1306</b> 15.5%	<b>96</b> 1.1%	<b>288</b> 3.4%	<b>99</b> 1.2%	<b>11</b> 0.1%	<b>30</b> 0.4%	<b>48</b> 0.6%	<b>44</b> 0.5%			<b>23</b> 0.3%	<b>8400</b>
<b>AM PEAK</b>		<b>6</b>	<b>295</b>	<b>65</b>	<b>13</b>	<b>15</b>	<b>12</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>7</b>			<b>4</b>	<b>389</b>
period		11:00	8:00	11:00	8:00	6:00	11:00	7:00	6:00	4:00	4:00			5:00	8:00
% of class		14.3%	4.6%	5.0%	13.5%	5.2%	12.1%	18.2%	13.3%	12.5%	15.9%			17.4%	4.6%
<b>PM PEAK</b>		<b>6</b>	<b>840</b>	<b>158</b>	<b>9</b>	<b>34</b>	<b>9</b>	<b>2</b>	<b>5</b>	<b>3</b>	<b>3</b>			<b>3</b>	<b>1061</b>
period		17:00	16:00	16:00	15:00	16:00	16:00	14:00	16:00	13:00	12:00			15:00	16:00
% of class		14.3%	13.1%	12.1%	9.4%	11.8%	9.1%	18.2%	16.7%	6.3%	6.8%			13.0%	12.6%

<b>Report-1.4</b>		Location : <b>C16F025-21121NS Albion Vaughan Road - Old King Road &amp; Nunville Road</b>													
		Direction : <b>South</b>		Road :											
		Dates : <b>04/10/2016</b>													
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total
<b>00:00</b>	<b>1:00</b>		28	3						1					<b>32</b> 0.4%
<b>1:00</b>	<b>2:00</b>		16												<b>16</b> 0.2%
<b>2:00</b>	<b>3:00</b>		15	3			1			1					<b>20</b> 0.2%
<b>3:00</b>	<b>4:00</b>		19	6					1						<b>26</b> 0.3%
<b>4:00</b>	<b>5:00</b>	1	63	17		5									<b>86</b> 1.0%
<b>5:00</b>	<b>6:00</b>	1	266	101		17	1		2					2	<b>390</b> 4.5%
<b>6:00</b>	<b>7:00</b>	2	580	174	1	37	2	1	6	2				1	<b>806</b> 9.2%
<b>7:00</b>	<b>8:00</b>	1	830	178	5	37	2	3	2	3	1			6	<b>1068</b> 12.2%
<b>8:00</b>	<b>9:00</b>	4	788	130	17	23	2	3	4	4	2			2	<b>979</b> 11.2%
<b>9:00</b>	<b>10:00</b>		460	82	9	18	5		1	7				1	<b>583</b> 6.7%
<b>10:00</b>	<b>11:00</b>	1	261	82	1	13	7	1	2	2	3			1	<b>374</b> 4.3%
<b>11:00</b>	<b>12:00</b>	3	256	56	6	22	5	2	5	4	3			1	<b>363</b> 4.1%
<b>12:00</b>	<b>13:00</b>	2	263	43	2	18	5	2	1	4	1			1	<b>342</b> 3.9%
<b>13:00</b>	<b>14:00</b>	6	268	62	7	16	9	1	4	3	1			1	<b>378</b> 4.3%
<b>14:00</b>	<b>15:00</b>	8	304	52	8	17	5	1	2	4	4				<b>405</b> 4.6%
<b>15:00</b>	<b>16:00</b>	4	391	65	7	16	9	1	2	5				2	<b>502</b> 5.7%
<b>16:00</b>	<b>17:00</b>	7	386	62	4	8	9	1	1	3	3			3	<b>487</b> 5.6%
<b>17:00</b>	<b>18:00</b>	4	456	74	5	19	11		1	7				3	<b>580</b> 6.6%
<b>18:00</b>	<b>19:00</b>	7	358	69	4	19	9	1	2	3	1			2	<b>475</b> 5.4%
<b>19:00</b>	<b>20:00</b>	1	269	61	2	6	1		1	2	1			1	<b>345</b> 3.9%
<b>20:00</b>	<b>21:00</b>	1	163	26	2	3	1			1					<b>197</b> 2.3%
<b>21:00</b>	<b>22:00</b>	1	114	32	1	2									<b>150</b> 1.7%
<b>22:00</b>	<b>23:00</b>		83	14	1					1					<b>99</b> 1.1%
<b>23:00</b>	<b>00:00</b>	1	39	6			2			1					<b>49</b> 0.6%
<b>Total</b>		<b>55</b> 0.6%	<b>6676</b> 76.3%	<b>1398</b> 16.0%	<b>82</b> 0.9%	<b>296</b> 3.4%	<b>86</b> 1.0%	<b>17</b> 0.2%	<b>37</b> 0.4%	<b>58</b> 0.7%	<b>20</b> 0.2%			<b>27</b> 0.3%	<b>8752</b>
<b>AM PEAK</b>		<b>4</b>	<b>830</b>	<b>178</b>	<b>17</b>	<b>37</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>7</b>	<b>3</b>			<b>6</b>	<b>1068</b>
period		8:00	7:00	7:00	8:00	6:00	10:00	7:00	6:00	9:00	10:00			7:00	7:00
% of class		7.3%	12.4%	12.7%	20.7%	12.5%	8.1%	17.6%	16.2%	12.1%	15.0%			22.2%	12.2%
<b>PM PEAK</b>		<b>8</b>	<b>456</b>	<b>74</b>	<b>8</b>	<b>19</b>	<b>11</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>4</b>			<b>3</b>	<b>580</b>
period		14:00	17:00	17:00	14:00	17:00	17:00	12:00	13:00	17:00	14:00			16:00	17:00
% of class		14.5%	6.8%	5.3%	9.8%	6.4%	12.8%	11.8%	10.8%	12.1%	20.0%			11.1%	6.6%

Report-1.5		Location : C16F025-21121NS Albion Vaughan Road - Old King Road & Nunville Road														
		Direction : South Road :														
		Dates : 05/10/2016														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	1:00		20	3		2	1	1							27	0.3%
1:00	2:00		13	3		1									17	0.2%
2:00	3:00		14	2											16	0.2%
3:00	4:00		20	6		1				1					28	0.3%
4:00	5:00		62	10		3									75	0.9%
5:00	6:00	1	270	101		13	4		1						390	4.5%
6:00	7:00	1	564	140	1	37	4	2	2	1	1			3	756	8.6%
7:00	8:00	2	805	164	3	23	2		3		2				1004	11.5%
8:00	9:00	4	838	129	14	22	6	2	4	1	2			2	1024	11.7%
9:00	10:00	1	447	78	4	14	9	3	1	5	2			4	568	6.5%
10:00	11:00	2	270	61	8	11	8	3	1	2	2			2	370	4.2%
11:00	12:00	1	224	65	6	12	8	2	2	6	1			2	329	3.8%
12:00	13:00	3	265	65	4	15	7	1	2	4	3			3	372	4.2%
13:00	14:00	4	284	66	7	12	10	2	2	3				3	393	4.5%
14:00	15:00	6	322	57	9	18	7	1	4	2	2				428	4.9%
15:00	16:00	1	388	68	12	16	8	2	3	2	3			1	504	5.8%
16:00	17:00	3	387	76	12	12	8		1	2	3			6	510	5.8%
17:00	18:00	8	420	52		12	8		3		3			4	510	5.8%
18:00	19:00		408	79	4	11	3		4	5	1			2	517	5.9%
19:00	20:00	2	282	57	3	10			1	3	1				359	4.1%
20:00	21:00		194	45		1		1		1					242	2.8%
21:00	22:00	6	125	23		5									159	1.8%
22:00	23:00		93	14		3				1					111	1.3%
23:00	00:00		47	6			1							1	55	0.6%
<b>Total</b>		<b>45</b>	<b>6762</b>	<b>1370</b>	<b>87</b>	<b>254</b>	<b>94</b>	<b>20</b>	<b>34</b>	<b>39</b>	<b>26</b>			<b>33</b>	<b>8764</b>	
		0.5%	77.2%	15.6%	1.0%	2.9%	1.1%	0.2%	0.4%	0.4%	0.3%			0.4%		
<b>AM PEAK</b>		<b>4</b>	<b>838</b>	<b>164</b>	<b>14</b>	<b>37</b>	<b>9</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>2</b>			<b>4</b>	<b>1024</b>	
period		8:00	8:00	7:00	8:00	6:00	9:00	9:00	8:00	11:00	7:00			9:00	8:00	
% of class		8.9%	12.4%	12.0%	16.1%	14.6%	9.6%	15.0%	11.8%	15.4%	7.7%			12.1%		11.7%
<b>PM PEAK</b>		<b>8</b>	<b>420</b>	<b>79</b>	<b>12</b>	<b>18</b>	<b>10</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>3</b>			<b>6</b>	<b>517</b>	
period		17:00	17:00	18:00	15:00	14:00	13:00	13:00	14:00	18:00	12:00			16:00	18:00	
% of class		17.8%	6.2%	5.8%	13.8%	7.1%	10.6%	10.0%	11.8%	12.8%	11.5%			18.2%		5.9%



<b>Report-1.6</b>		Location : <b>C16F025-21121NS</b> <b>Albion Vaughan Road - Old King Road &amp; Nunville Road</b>													
		Direction : <b>South</b>		Road :											
		Dates : <b>06/10/2016</b>													
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total
<b>00:00</b>	<b>1:00</b>		18	4						2					<b>24</b> 0.3%
<b>1:00</b>	<b>2:00</b>		12	2						1					<b>15</b> 0.2%
<b>2:00</b>	<b>3:00</b>		19	3					1						<b>23</b> 0.3%
<b>3:00</b>	<b>4:00</b>		17	5			1								<b>23</b> 0.3%
<b>4:00</b>	<b>5:00</b>		62	19		3				2					<b>86</b> 1.0%
<b>5:00</b>	<b>6:00</b>	2	274	87		21	3			2	1				<b>390</b> 4.3%
<b>6:00</b>	<b>7:00</b>	5	556	173		32	2		2	2	3				<b>775</b> 8.6%
<b>7:00</b>	<b>8:00</b>	2	838	154	3	37	3	1	3		1			2	<b>1044</b> 11.6%
<b>8:00</b>	<b>9:00</b>	7	797	118	15	21	6		5	2	1			3	<b>975</b> 10.8%
<b>9:00</b>	<b>10:00</b>	2	459	71	5	23	3	2	5	4	3				<b>577</b> 6.4%
<b>10:00</b>	<b>11:00</b>	1	300	55	10	15	7	1	2	5	5			2	<b>403</b> 4.5%
<b>11:00</b>	<b>12:00</b>	1	299	65	5	16	6	1	1	2	3			2	<b>401</b> 4.4%
<b>12:00</b>	<b>13:00</b>	3	299	65	5	15	7	3	1	7	2				<b>407</b> 4.5%
<b>13:00</b>	<b>14:00</b>	4	289	57	11	19	5	3	4	2	2			2	<b>398</b> 4.4%
<b>14:00</b>	<b>15:00</b>	1	348	63	9	15	16	3		2	1	1			<b>459</b> 5.1%
<b>15:00</b>	<b>16:00</b>	3	375	81	15	14	8	2	3	3				4	<b>508</b> 5.6%
<b>16:00</b>	<b>17:00</b>	4	464	65	4	21	10	1	2	3	3			2	<b>579</b> 6.4%
<b>17:00</b>	<b>18:00</b>	2	441	76		12	12	1	2	1	4			3	<b>554</b> 6.1%
<b>18:00</b>	<b>19:00</b>	4	386	73	2	11	4	1	2	1	1			3	<b>488</b> 5.4%
<b>19:00</b>	<b>20:00</b>	4	255	43		9			1	3				4	<b>319</b> 3.5%
<b>20:00</b>	<b>21:00</b>	1	190	43	1	8			1						<b>244</b> 2.7%
<b>21:00</b>	<b>22:00</b>	2	136	24		5								1	<b>168</b> 1.9%
<b>22:00</b>	<b>23:00</b>		88	14	2	5									<b>109</b> 1.2%
<b>23:00</b>	<b>00:00</b>		35	5		6				1					<b>47</b> 0.5%
<b>Total</b>		<b>48</b> 0.5%	<b>6957</b> 77.2%	<b>1365</b> 15.1%	<b>87</b> 1.0%	<b>308</b> 3.4%	<b>93</b> 1.0%	<b>19</b> 0.2%	<b>35</b> 0.4%	<b>45</b> 0.5%	<b>30</b> 0.3%	<b>1</b> 0.0%	<b>28</b> 0.3%		<b>9016</b>
<b>AM PEAK</b>		<b>7</b>	<b>838</b>	<b>173</b>	<b>15</b>	<b>37</b>	<b>7</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>5</b>			<b>3</b>	<b>1044</b>
period		8:00	7:00	6:00	8:00	7:00	10:00	9:00	8:00	10:00	10:00			8:00	7:00
% of class		14.6%	12.0%	12.7%	17.2%	12.0%	7.5%	10.5%	14.3%	11.1%	16.7%			10.7%	11.6%
<b>PM PEAK</b>		<b>4</b>	<b>464</b>	<b>81</b>	<b>15</b>	<b>21</b>	<b>16</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>1</b>		<b>4</b>	<b>579</b>
period		13:00	16:00	15:00	15:00	16:00	14:00	12:00	13:00	12:00	17:00	14:00		15:00	16:00
% of class		8.3%	6.7%	5.9%	17.2%	6.8%	17.2%	15.8%	11.4%	15.6%	13.3%	100.0%		14.3%	6.4%

<b>Report-1.7</b>		Location : <b>C16F025-21121NS Albion Vaughan Road - Old King Road &amp; Nunville Road</b>														
		Direction : <b>North + South</b> Road :														
		Dates : <b>04/10/2016</b>														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
<b>00:00</b>	<b>1:00</b>		74	9		4				1					<b>88</b>	0.5%
<b>1:00</b>	<b>2:00</b>		41	4			1			1					<b>47</b>	0.3%
<b>2:00</b>	<b>3:00</b>		27	7			2			2					<b>38</b>	0.2%
<b>3:00</b>	<b>4:00</b>		33	8					1	1				1	<b>44</b>	0.3%
<b>4:00</b>	<b>5:00</b>	1	86	20	1	5	2			5	3			2	<b>125</b>	0.7%
<b>5:00</b>	<b>6:00</b>	3	346	133	2	25	5		4	7	8			8	<b>541</b>	3.2%
<b>6:00</b>	<b>7:00</b>	5	776	226	3	52	15	1	10	8	4			4	<b>1104</b>	6.6%
<b>7:00</b>	<b>8:00</b>	4	1102	233	17	49	7	3	5	6	4			9	<b>1439</b>	8.6%
<b>8:00</b>	<b>9:00</b>	6	1055	170	28	41	8	3	5	6	6			2	<b>1330</b>	8.0%
<b>9:00</b>	<b>10:00</b>		660	132	13	37	20		2	10	1			1	<b>876</b>	5.3%
<b>10:00</b>	<b>11:00</b>	1	427	122	7	26	15	2	3	6	4			2	<b>615</b>	3.7%
<b>11:00</b>	<b>12:00</b>	6	459	107	10	35	10	2	9	6	6			2	<b>652</b>	3.9%
<b>12:00</b>	<b>13:00</b>	5	470	95	8	33	12	2	3	8	6			1	<b>643</b>	3.9%
<b>13:00</b>	<b>14:00</b>	9	498	141	8	28	15	3	4	12	5			4	<b>727</b>	4.4%
<b>14:00</b>	<b>15:00</b>	12	615	112	17	36	14	1	4	5	6			1	<b>823</b>	4.9%
<b>15:00</b>	<b>16:00</b>	5	992	210	16	41	15	1	5	9	5			5	<b>1304</b>	7.8%
<b>16:00</b>	<b>17:00</b>	12	1135	216	9	39	14	3	7	7	5			6	<b>1453</b>	8.7%
<b>17:00</b>	<b>18:00</b>	9	1283	225	7	42	14		2	9	2			3	<b>1596</b>	9.6%
<b>18:00</b>	<b>19:00</b>	8	969	192	5	46	11	1	4	5	3			2	<b>1246</b>	7.5%
<b>19:00</b>	<b>20:00</b>	1	621	126	2	16	1		2	3	1			1	<b>774</b>	4.6%
<b>20:00</b>	<b>21:00</b>	1	394	59	2	11	1		1	2					<b>471</b>	2.8%
<b>21:00</b>	<b>22:00</b>	1	275	56	1	8	1			1					<b>343</b>	2.1%
<b>22:00</b>	<b>23:00</b>	1	191	32	1	3				1	1				<b>230</b>	1.4%
<b>23:00</b>	<b>00:00</b>	1	140	23		2	2			1					<b>169</b>	1.0%
<b>Total</b>		<b>91</b>	<b>12669</b>	<b>2658</b>	<b>157</b>	<b>579</b>	<b>185</b>	<b>22</b>	<b>71</b>	<b>122</b>	<b>70</b>			<b>54</b>	<b>16678</b>	
		0.5%	76.0%	15.9%	0.9%	3.5%	1.1%	0.1%	0.4%	0.7%	0.4%			0.3%		
<b>AM PEAK</b>		<b>6</b>	<b>1102</b>	<b>233</b>	<b>28</b>	<b>52</b>	<b>20</b>	<b>3</b>	<b>10</b>	<b>10</b>	<b>8</b>			<b>9</b>	<b>1439</b>	
period		8:00	7:00	7:00	8:00	6:00	9:00	7:00	6:00	9:00	5:00			7:00	7:00	
% of class		6.6%	8.7%	8.8%	17.8%	9.0%	10.8%	13.6%	14.1%	8.2%	11.4%			16.7%	8.6%	
<b>PM PEAK</b>		<b>12</b>	<b>1283</b>	<b>225</b>	<b>17</b>	<b>46</b>	<b>15</b>	<b>3</b>	<b>7</b>	<b>12</b>	<b>6</b>			<b>6</b>	<b>1596</b>	
period		14:00	17:00	17:00	14:00	18:00	13:00	13:00	16:00	13:00	12:00			16:00	17:00	
% of class		13.2%	10.1%	8.5%	10.8%	7.9%	8.1%	13.6%	9.9%	9.8%	8.6%			11.1%	9.6%	

<b>Report-1.8</b>		Location : <b>C16F025-21121NS    Albion Vaughan Road - Old King Road &amp; Nunville Road</b>													
		Direction : <b>North + South</b>											Road :		
		Dates : <b>05/10/2016</b>													
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total
<b>00:00</b>	<b>1:00</b>		74	16		3	1	1		1					<b>96</b> 0.6%
<b>1:00</b>	<b>2:00</b>		56	11		4				1					<b>72</b> 0.4%
<b>2:00</b>	<b>3:00</b>		34	9			1		1	1				1	<b>47</b> 0.3%
<b>3:00</b>	<b>4:00</b>	1	33	10		2	1	1	1	3					<b>52</b> 0.3%
<b>4:00</b>	<b>5:00</b>	1	88	15		4	3			3	7				<b>121</b> 0.7%
<b>5:00</b>	<b>6:00</b>	2	355	137	2	18	12		1	3	6			4	<b>540</b> 3.2%
<b>6:00</b>	<b>7:00</b>	2	752	183	2	53	10	2	4	5	4			6	<b>1023</b> 6.1%
<b>7:00</b>	<b>8:00</b>	4	1084	221	14	40	7	1	7	7	5				<b>1390</b> 8.2%
<b>8:00</b>	<b>9:00</b>	6	1096	174	22	38	10	2	7	5	4			2	<b>1366</b> 8.1%
<b>9:00</b>	<b>10:00</b>	1	652	128	14	24	19	3	2	8	5			5	<b>861</b> 5.1%
<b>10:00</b>	<b>11:00</b>	4	457	114	14	19	15	3	1	7	5			2	<b>641</b> 3.8%
<b>11:00</b>	<b>12:00</b>	2	429	124	16	20	14	3	2	11	4			4	<b>629</b> 3.7%
<b>12:00</b>	<b>13:00</b>	5	475	114	8	30	15	1	6	12	6			3	<b>675</b> 4.0%
<b>13:00</b>	<b>14:00</b>	7	521	132	13	23	18	2	6	5	2			3	<b>732</b> 4.3%
<b>14:00</b>	<b>15:00</b>	7	641	141	17	34	14	1	5	5	2			2	<b>869</b> 5.1%
<b>15:00</b>	<b>16:00</b>	5	949	196	19	41	15	2	4	5	4			2	<b>1242</b> 7.3%
<b>16:00</b>	<b>17:00</b>	5	1188	221	18	56	20	2	7	3	6			6	<b>1532</b> 9.1%
<b>17:00</b>	<b>18:00</b>	15	1256	195	2	31	20	2	6	2	4			5	<b>1538</b> 9.1%
<b>18:00</b>	<b>19:00</b>	8	992	184	6	45	4		7	5	1			3	<b>1255</b> 7.4%
<b>19:00</b>	<b>20:00</b>	5	648	138	4	23	1		2	5	1				<b>827</b> 4.9%
<b>20:00</b>	<b>21:00</b>		462	96	1	8									<b>569</b> 3.4%
<b>21:00</b>	<b>22:00</b>	7	322	50		8	1								<b>390</b> 2.3%
<b>22:00</b>	<b>23:00</b>	1	215	39		7			1	1					<b>264</b> 1.6%
<b>23:00</b>	<b>00:00</b>	2	145	25		3	1							1	<b>177</b> 1.0%
<b>Total</b>		<b>90</b> 0.5%	<b>12924</b> 76.4%	<b>2673</b> 15.8%	<b>172</b> 1.0%	<b>534</b> 3.2%	<b>202</b> 1.2%	<b>27</b> 0.2%	<b>70</b> 0.4%	<b>101</b> 0.6%	<b>66</b> 0.4%			<b>49</b> 0.3%	<b>16908</b>
<b>AM PEAK</b>		<b>6</b>	<b>1096</b>	<b>221</b>	<b>22</b>	<b>53</b>	<b>19</b>	<b>3</b>	<b>7</b>	<b>11</b>	<b>7</b>			<b>6</b>	<b>1390</b>
period		8:00	8:00	7:00	8:00	6:00	9:00	9:00	7:00	11:00	4:00			6:00	7:00
% of class		6.7%	8.5%	8.3%	12.8%	9.9%	9.4%	11.1%	10.0%	10.9%	10.6%			12.2%	8.2%
<b>PM PEAK</b>		<b>15</b>	<b>1256</b>	<b>221</b>	<b>19</b>	<b>56</b>	<b>20</b>	<b>2</b>	<b>7</b>	<b>12</b>	<b>6</b>			<b>6</b>	<b>1538</b>
period		17:00	17:00	16:00	15:00	16:00	16:00	13:00	16:00	12:00	12:00			16:00	17:00
% of class		16.7%	9.7%	8.3%	11.0%	10.5%	9.9%	7.4%	10.0%	11.9%	9.1%			12.2%	9.1%

<b>Report-1.9</b>		Location : <b>C16F025-21121NS Albion Vaughan Road - Old King Road &amp; Nunville Road</b>														
		Direction : <b>North + South</b>												Road :		
		Dates : <b>06/10/2016</b>														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
<b>00:00</b>	<b>1:00</b>	1	62	12		3	1			2					<b>81</b>	0.5%
<b>1:00</b>	<b>2:00</b>		43	4						2					<b>49</b>	0.3%
<b>2:00</b>	<b>3:00</b>		38	7					1	1	1			1	<b>49</b>	0.3%
<b>3:00</b>	<b>4:00</b>	1	34	9	1	1	1			4	1				<b>52</b>	0.3%
<b>4:00</b>	<b>5:00</b>		90	21		6	3			8	7			1	<b>136</b>	0.8%
<b>5:00</b>	<b>6:00</b>	6	372	119	3	24	7		1	4	5			4	<b>545</b>	3.1%
<b>6:00</b>	<b>7:00</b>	5	734	224	4	47	11	1	6	3	7			1	<b>1043</b>	6.0%
<b>7:00</b>	<b>8:00</b>	3	1131	208	12	46	5	3	5	2	6			3	<b>1424</b>	8.2%
<b>8:00</b>	<b>9:00</b>	9	1092	172	28	35	7		8	6	1			6	<b>1364</b>	7.8%
<b>9:00</b>	<b>10:00</b>	2	664	124	14	38	14	4	7	6	6			1	<b>880</b>	5.1%
<b>10:00</b>	<b>11:00</b>	4	472	105	16	27	12	1	4	10	9			4	<b>664</b>	3.8%
<b>11:00</b>	<b>12:00</b>	7	516	130	9	25	18	1	4	5	5			2	<b>722</b>	4.1%
<b>12:00</b>	<b>13:00</b>	5	553	124	13	36	15	4	3	9	5				<b>767</b>	4.4%
<b>13:00</b>	<b>14:00</b>	7	546	120	19	32	10	3	6	5	3			3	<b>754</b>	4.3%
<b>14:00</b>	<b>15:00</b>	2	693	138	15	38	22	5		5	1	1		1	<b>921</b>	5.3%
<b>15:00</b>	<b>16:00</b>	5	961	216	24	41	15	4	3	4	3			7	<b>1283</b>	7.4%
<b>16:00</b>	<b>17:00</b>	7	1304	223	12	55	19	1	7	5	5			2	<b>1640</b>	9.4%
<b>17:00</b>	<b>18:00</b>	8	1242	225	1	41	21	2	4	3	6			5	<b>1558</b>	8.9%
<b>18:00</b>	<b>19:00</b>	7	1005	165	4	29	9	1	4	1	2			5	<b>1232</b>	7.1%
<b>19:00</b>	<b>20:00</b>	5	628	111		24	1		1	5				4	<b>779</b>	4.5%
<b>20:00</b>	<b>21:00</b>	3	461	100	1	21			1	1	1				<b>589</b>	3.4%
<b>21:00</b>	<b>22:00</b>	2	385	64	1	9								1	<b>462</b>	2.7%
<b>22:00</b>	<b>23:00</b>	1	209	30	2	9	1			1					<b>253</b>	1.5%
<b>23:00</b>	<b>00:00</b>		135	20	4	9				1					<b>169</b>	1.0%
<b>Total</b>		<b>90</b>	<b>13370</b>	<b>2671</b>	<b>183</b>	<b>596</b>	<b>192</b>	<b>30</b>	<b>65</b>	<b>93</b>	<b>74</b>	<b>1</b>		<b>51</b>	<b>17416</b>	
		0.5%	76.8%	15.3%	1.1%	3.4%	1.1%	0.2%	0.4%	0.5%	0.4%	0.0%		0.3%		
<b>AM PEAK</b>		<b>9</b>	<b>1131</b>	<b>224</b>	<b>28</b>	<b>47</b>	<b>18</b>	<b>4</b>	<b>8</b>	<b>10</b>	<b>9</b>			<b>6</b>	<b>1424</b>	
period		8:00	7:00	6:00	8:00	6:00	11:00	9:00	8:00	10:00	10:00			8:00	7:00	
% of class		10.0%	8.5%	8.4%	15.3%	7.9%	9.4%	13.3%	12.3%	10.8%	12.2%			11.8%	8.2%	
<b>PM PEAK</b>		<b>8</b>	<b>1304</b>	<b>225</b>	<b>24</b>	<b>55</b>	<b>22</b>	<b>5</b>	<b>7</b>	<b>9</b>	<b>6</b>	<b>1</b>		<b>7</b>	<b>1640</b>	
period		17:00	16:00	17:00	15:00	16:00	14:00	14:00	16:00	12:00	17:00	14:00		15:00	16:00	
% of class		8.9%	9.8%	8.4%	13.1%	9.2%	11.5%	16.7%	10.8%	9.7%	8.1%	100.0%		13.7%	9.4%	

# APPENDIX B

## Sample STAMSON 5.04 Output



ACOUSTICS



NOISE



VIBRATION

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

Description: Townhouse block with some exposure to Albion-Vaughan Road

Road data, segment # 1: Albion-Vau (day/night)

```
-----
Car traffic volume   : 20851/3116  veh/TimePeriod  *
Medium truck volume : 1260/188   veh/TimePeriod  *
Heavy truck volume  : 382/57    veh/TimePeriod  *
Posted speed limit  : 70 km/h
Road gradient       : 7 %
Road pavement      : 1 (Typical asphalt or concrete)
```

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

```
24 hr Traffic Volume (AADT or SADT): 17416
Percentage of Annual Growth       : 2.50
Number of Years of Growth         : 16.00
Medium Truck % of Total Volume    : 5.60
Heavy Truck % of Total Volume     : 1.70
Day (16 hrs) % of Total Volume    : 87.00
```

Data for Segment # 1: Albion-Vau (day/night)

```
-----
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface    : 1 (Absorptive ground surface)
Receiver source distance : 200.00 / 200.00 m
Receiver height : 4.50 / 4.50 m
Topography  : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00
```

Results segment # 1: Albion-Vau (day)

Source height = 1.14 m

ROAD (0.00 + 53.34 + 0.00) = 53.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.58	72.44	0.00	-17.78	-1.32	0.00	0.00	0.00	53.34

A

Segment Leq : 53.34 dBA

Total Leq All Segments: 53.34 dBA

Results segment # 1: Albion-Vau (night)

-----  
Source height = 1.14 m

ROAD (0.00 + 48.09 + 0.00) = 48.09 dBA

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

-----  
-90 90 0.58 67.19 0.00 -17.78 -1.32 0.00 0.00 0.00 48.09  
-----

Segment Leq : 48.09 dBA

Total Leq All Segments: 48.09 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.34 dBA  
(NIGHT): 48.09 dBA