



**D.G. BIDDLE
& ASSOCIATES**

CONSULTING ENGINEERS & PLANNERS

OSHAWA

200-481 Taunton Road West
Oshawa, ON L1J 0G3
905-576-8500

PETERBOROUGH

402-150 King Street
Peterborough, ON K9J 2R9
705-201-0272

dgbiddle.com

NOISE IMPACT STUDY

FOR

TRADEMARK HOMES

1310 KING STREET

TOWNSHIP OF SCUGOG

REGIONAL MUNICIPALITY OF DURHAM

OUR FILE: 125055

DATE: July 2026

CIVIL

STRUCTURAL

MECHANICAL

ELECTRICAL

PLANNING

July 30, 2026

Trademark Homes
1000 Simcoe Street North
Oshawa, ON. L1G 8E6
admin@trademarkbuilt.com

Attention: Ms. Anna Camposeo

**Re: Environmental Noise Impact Study
1310 King Street
Township of Scugog
Our File: 125055**

Dear Anna Camposeo:

In support of the Zoning By-Law Amendment and Lot Creation application for the above-noted development, we herewith submit the following Environmental Noise Impact Study.

This report has been prepared to determine the noise generated by vehicular traffic from King Street and Highway 7A and its impact on the proposed development. Where required, noise abatement measures will be recommended to reduce sound levels to Ministry of the Environment minimum design criteria. It should be noted that noise levels generated from Highway 7/Highway 12, west of the development, is expected to have a negligible impact.

Should you have any questions on the foregoing, please do not hesitate to contact our office.

Yours truly,
D.G. BIDDLE & ASSOCIATES LIMITED



David McNaull, P.Eng.
Senior Project Engineer, Associate
Civil Group

DDM

Encl. X:\Staff\Job Files\125000\125055 1310 King Street, Manchester\125055 Reports\125055 NIS





TABLE OF CONTENTS

1.0	INTRODUCTION
2.0	NOISE LEVEL GUIDELINES AND CRITERIA
2.1	Outdoor Amenity Area
2.2	Ventilation
2.3	Indoor Living and Dining Areas / Bedrooms
3.0	NOISE SOURCE
4.0	NOISE IMPACT ON PROPOSED DEVELOPMENT
4.1	Method of Analysis
4.2	Anticipated Noise Levels
5.0	RECOMMENDATIONS
5.1	Outdoor Amenity Area Measures
5.2	Ventilation Requirements
5.3	Building Components
6.0	CONCLUSIONS

LIST OF SCHEDULES

Schedule 1	-	Forecasted Traffic Volumes
Schedule 2	-	Stamson 5.0 Output

LIST OF TABLES

Table 1A	-	Traffic Road Data for King Street
Table 1B	-	Traffic Road Data for Highway 7A
Table 2	-	Anticipated Noise Levels

LIST OF FIGURES

Figure 1	-	Site Location Plan
Figure 2	-	Noise Impact Study Site Plan



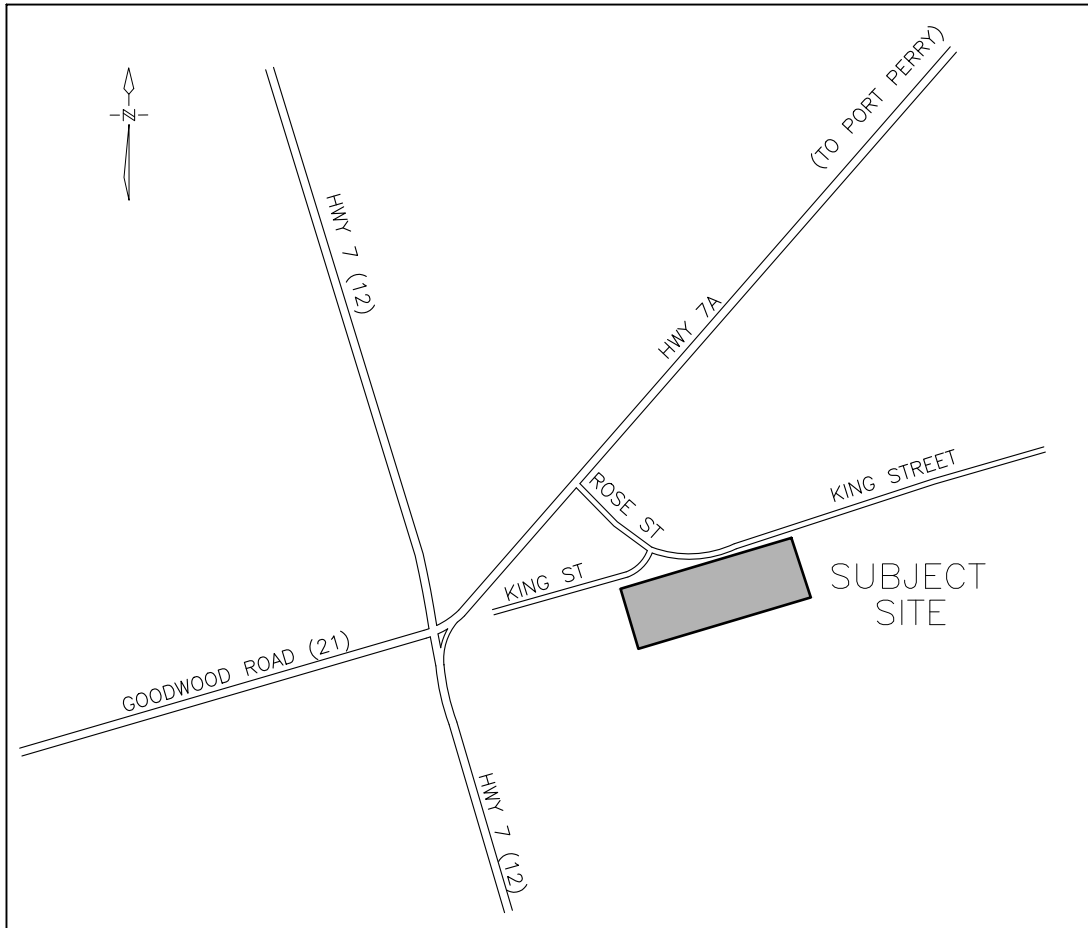


1.0 INTRODUCTION

In support of the Zoning By-Law Amendment and Lot Creation application, this Noise Impact Study has been prepared. The report has assessed the impact of vehicular traffic noise from King Street and Highway 7A on the proposed development. This report ensures appropriate abatement measures will be implemented to reduce noise levels to Ministry of the Environment minimum design criteria.

The subject site fronts onto King Street, located southeast of Highway 7A and Highway 12 intersection in the Township of Scugog. A Site Location Plan illustrating the proposed site is attached as **Figure 1**. The development encompasses an area of approximately 2.97ha and includes 6 detached lots.





1310 KING STREET, TOWNSHIP OF SCUGOG

SITE LOCATION PLAN



**D.G. BIDDLE
& ASSOCIATES**
CONSULTING ENGINEERS & PLANNERS

481 Taunton Rd W, Oshawa ON
150 King St, Peterborough ON

Phone: 905-576-8500

info@dgbiddle.com
dgbiddle.com

SCALE
DRAWN
DESIGN
CHECKED
DATE

N.T.S.
M.R.W.
M.R.W.
D.D.M.
SEPT 2025

PROJECT
125055

DWG

FIG 1



2.0 NOISE LEVEL GUIDELINES AND CRITERIA

The Ministry of the Environment has recommended noise level criteria for various locations and time of day. These criteria for vehicular traffic are summarized below:

Outdoor Amenity Space (Back Yard)
(7a.m. - 11p.m.) - 16 hr. $L_{eq} = 55\text{dBA}$

Indoor Living and Dining Areas
(7a.m. - 11p.m.) - 16 hr. $L_{eq} = 45\text{dBA}$

Indoor Bedroom Areas
(11p.m. - 7a.m.) - 8 hr. $L_{eq} = 40\text{dBA}$

2.1 Outdoor Amenity Space

If noise levels in outdoor amenity spaces exceed 55dBA, purchasers must be informed, by means of warning clauses registered on title, of potentially annoying noise levels. If these noise levels exceed 60dBA, appropriate noise abatement measures such as acoustical fences, berms, increased building setbacks or reorientation of dwelling units and lots must be employed to reduce noise levels.

2.2 Ventilation

If daytime noise levels at the exterior wall face are in the range of 55 to 65dBA, the ventilation system must be designed to accommodate central air conditioning installed at the owner's discretion. If daytime noise levels exceed 65dBA, central air conditioning must be installed with the building's construction.

If nighttime noise levels at the exterior wall face are in the range of 50 to 60dBA, the ventilation system must be designed to accommodate central air conditioning installed at the owner's discretion. If nighttime noise levels exceed 60dBA, central air conditioning must be installed with the building's construction.



2.3 Indoor Living and Dining Areas / Bedrooms

In determining building construction materials (walls, windows, doors) required to reduce indoor noise levels to the above recommended guidelines, daytime and nighttime noise levels at the exterior wall face are determined. If daytime and nighttime noise levels are 65dBA or less and 60dBA or less respectively, standard Ontario Building Code construction practices are adequate. If the external noise levels exceed the above criteria, building components having extra sound deadening properties are required at time of construction.





3.0 NOISE SOURCE

As illustrated on **Figure 1**, the site is located in the vicinity of King Street and Highway 7A. Vehicular noise generated from these roads may affect future residents. Traffic volume information for King Street was obtained from the Regional Municipality of Durham Planning Department online traffic data portal and traffic volume information for Highway 7A was obtained from the Ministry of Ontario's (MTO) website pertaining to Traffic Volume Data. The traffic information, as provided by the Region and MTO, can be found in Schedule 1 but also tabulated below.

Source noise from other Ministry Roads (Highway 7/12) was determined to be greater than 300m from the development and therefore outside the zone of influence for the subject property in accordance with MECP Noise Guidelines.

TABLE 1A: ROAD TRAFFIC DATA FOR KING STREET

NAME OF ROAD SEGMENT	KING STREET
Anticipated Traffic Counts	8,000
No. of Lanes	2
Percentage Trucks	8%
Heavy : Medium Ratio	30:70
Posted Speed (km/h)	50

TABLE 1B: ROAD TRAFFIC DATA FOR HIGHWAY 7A

NAME OF ROAD SEGMENT	HIGHWAY 7A
Anticipated Traffic Counts	14,400
No. of Lanes	2
Percentage Trucks	17%
Heavy : Medium Ratio	10:90
Posted Speed (km/h)	60

4.0 NOISE IMPACT ON PROPOSED DEVELOPMENT

4.1 Method of Analysis

Noise Levels were computed using the computer model STAMSON 5.0 provided by the Ministry of the Environment Conservation and Parks. Information regarding source-receiver distances were obtained from survey information prepared by our office and conceptual building locations based on the proposed Site Plan. As mentioned previously, the proposed development is located in the vicinity of King Street and Highway 7A. Noise levels were analysed for the first and second storey of the proposed buildings in the development.

4.2 Anticipated Noise Levels

Tabulated in **Table 2** are the anticipated noise levels at various locations within the proposed property. The calculated noise levels are based on the conceptual dwelling location illustrated in **Figure 2**.

TABLE 2: ANTICIPATED NOISE LEVELS

LOT NO.	DWELLING FACE	DAYTIME (16 hr.) L_{eq} (dBA)		NIGHTTIME (8 hr.) L_{eq} (dBA)
		OUTDOOR AMENITY AREA	FIRST STOREY	SECOND STOREY
Lot 1	North	-	55.64**	49.58
Lot 2	North	-	55.64**	49.58
Lot 3	North	-	55.80**	49.77
Lot 4	North	-	55.72**	49.70
Lot 5	North	-	54.93	48.94
Lot 6	North	-	53.15	47.28

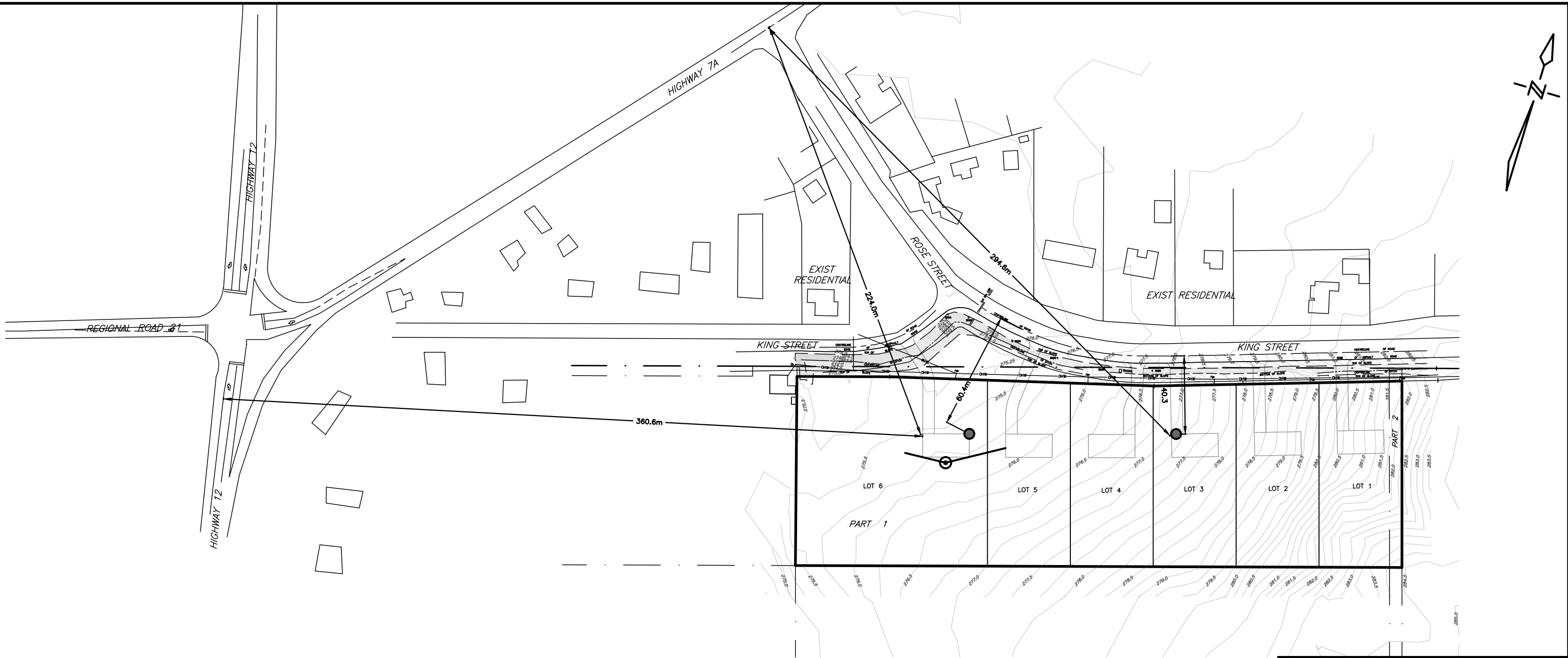
* Outdoor Amenity Area Noise Levels (> 55 dBA)

(1) Noise Abatement Measures Required (OAA > 60 dBA)

** Dwelling unit to be fitted with ducting size to allow installation of air conditioning
(Daytime > 55 dBA / Nighttime > 50 dBA)

(2) Air conditioning must be installed (Daytime > 65 dBA / Nighttime > 60 dBA)

2/6/2028 2:57:08 PM C:\TEMP\JOB FILES\125055\125055_010 KING STREET, MANCHESTER\125055 DRAWINGS\125055 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\125055 FIGURE 2 INS





5.0 RECOMMENDATIONS

5.1 Outdoor Amenity Area Measures

Based on the orientation of the building, the proposed dwelling units can anticipate noise levels in the outdoor amenity area below 55dBA, no warning clauses are required on title.

5.2 Ventilation Requirements

Anticipated noise levels for the proposed dwelling units were calculated at the first and second floor exterior walls to determine the ventilation requirements. Referring to **Table 2** (Anticipated Noise Levels), the following lots must be constructed with forced air heating system and duct sizing to allow for installation of central air conditioning. This will allow the homeowner the option of installing central air conditioning should he/she wish to do so:

- Lots 1-4;

Based on this recommendation, the following clauses must be registered on title for the above lots and be included in offers of purchase and sale. This clause is to state:

Warning Clause #1

“Purchasers are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the Municipality’s and the Ministry of the Environment, Conservation and Parks’ noise criteria”

and



Warning Clause #2

“This dwelling unit has been fitted with a forced air heating system and ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning by the occupant will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality’s and the Ministry of the Environment, Conservation and Parks’ noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to comply with noise criteria of MECP Publication NPC-216, Residential Air Conditioning Devices and thus minimize the noise impacts both on and in the immediate vicinity of the subject property.”

5.3 Building Components

The Ministry of the Environment recommends the use of the AIF (Acoustic Insulation Factor) method for determining building components required. As the daytime and nighttime noise levels are below 65 and 60 dBA, respectively, all lots may be constructed using standard Ontario Building Code materials and techniques.





6.0 CONCLUSIONS

With the implementation of noise abatement measures such as duct sizing to accommodate central air conditioning and using standard building construction materials, outdoor and indoor noise levels are reduced to reach the MECP Guidelines when feasible.

The calculated noise levels and related warning clauses are based on the future dwelling locations and building plans provided by the developer, as illustrated in **Figure 2**. Should the dwelling location move or change orientation, further analysis will be required to determine noise abatement requirements.

We trust you concur with our findings; however, should you have any questions on the foregoing, please contact our office at your convenience.





**D.G. BIDDLE
& ASSOCIATES**

CONSULTING ENGINEERS & PLANNERS

OSHAWA

200-481 Taunton Road West
Oshawa, ON L1J 0G3
905-576-8500

PETERBOROUGH

402-150 King Street
Peterborough, ON K9J 2R9
705-201-0272

dgbiddle.com

SCHEDULE 1

FORECASTED TRAFFIC VOLUMES



CIVIL

STRUCTURAL

MECHANICAL

ELECTRICAL

PLANNING

TRAFFIC VOLUME CALCULATIONS

Project : Manchester Lots

Project No. : 125055

King St./Rose St., east of Hwy 7A

Average Annual Daily Traffic :	8,000		
Number of Lanes:	2		
% Truck	8		
Heavy:Medium Ratio:	30	70	
Speed	50 km/hr		
Day: Night Ratio:	90	10	

Daytime Traffic

Car Traffic	<u>8,000</u>	x 0.90	x 0.92	=	6,624 /16 hr
-------------	--------------	--------	--------	---	--------------

Medium Truck Traffic	<u>8,000</u>	x 0.90	x 0.08	x 0.70 =	403 /16 hr
----------------------	--------------	--------	--------	----------	------------

Heavy Truck Traffic	<u>8,000</u>	x 0.90	x 0.08	x 0.30 =	173 /16 hr
---------------------	--------------	--------	--------	----------	------------

Nighttime Traffic

Car Traffic	<u>8,000</u>	x 0.10	x 0.92	=	736 /8 hr
-------------	--------------	--------	--------	---	-----------

Medium Truck Traffic	<u>8,000</u>	x 0.10	x 0.08	x 0.70 =	45 /8 hr
----------------------	--------------	--------	--------	----------	----------

Heavy Truck Traffic	<u>8,000</u>	x 0.10	x 0.08	x 0.30 =	19 /8 hr
---------------------	--------------	--------	--------	----------	----------

TRAFFIC VOLUME CALCULATIONS

Project : Manchester Lots

Project No. : 125055

Highway 7A

Average Annual Daily Traffic :	14,400		
Number of Lanes:	2		
% Truck	17		
Heavy:Medium Ratio:	10	90 (Assumed)	
Speed	60 km/hr		
Day: Night Ratio:	90	10	

Daytime Traffic

Car Traffic	$\frac{14,400 \times 0.90 \times 0.83}{16}$	=	10,757 /16 hr
-------------	---	---	---------------

Medium Truck Traffic	$\frac{14,400 \times 0.90 \times 0.17 \times 0.90}{16}$	=	1,983 /16 hr
----------------------	---	---	--------------

Heavy Truck Traffic	$\frac{14,400 \times 0.90 \times 0.17 \times 0.10}{16}$	=	220 /16 hr
---------------------	---	---	------------

Nighttime Traffic

Car Traffic	$\frac{14,400 \times 0.10 \times 0.83}{8}$	=	1,195 /8 hr
-------------	--	---	-------------

Medium Truck Traffic	$\frac{14,400 \times 0.10 \times 0.17 \times 0.90}{8}$	=	220 /8 hr
----------------------	--	---	-----------

Heavy Truck Traffic	$\frac{14,400 \times 0.10 \times 0.17 \times 0.10}{8}$	=	24 /8 hr
---------------------	--	---	----------



The Regional Municipality of Durham

Community Growth and Economic
Development Department

Community Growth Division

605 ROSSLAND RD. E.
4TH FLOOR
P.O. BOX 623
WHITBY, ON L1N 6A3
CANADA
905-668-7711
1-800-372-1102
Fax: 905-666-6208
CommunityGrowthDivision@durham.ca

www.durham.ca

Sandra Austin
Commissioner of Community Growth and
Economic Development

ROAD SEGMENT TRAFFIC FORECASTS FOR NOISE ANALYSES

This information is to be used as the basis for assessing the potential impacts of noise, generated by traffic on municipal arterial roads, on proposed land uses that are sensitive (e.g., residential subdivisions). Arterial roads include existing and future Type A, B and C, as designated in the Durham Regional Official Plan.

Noise assessment reports recommend specific measures to be integrated into the design of sensitive developments to reduce road noise impacts to acceptable levels.

Provided For:

Name / Name of Firm: David McNaull, D.G. Biddle Associates
Address: 481 Taunton Rd. W., Suite 200, Oshawa, ON
Telephone: (905) 576-8500 Fax:

Location of Proposal:

Rose St. and King St., Manchester

Municipality: Scugog Lot(s): Concession:

Durham Region File No. (if available):

Name of Property Owner (if available):

Date Request Received: July 7, 2026 Received By: Chris Leitch

Date Forecast Sent: July 13, 2026

Name of Road Segment	Forecasted AADT*	No. of Lanes	% of Trucks	Heavy : Medium Truck Ratio		Speed (km/h)
~~Regional Rd. 21, west of Hwy. 7/12~~	~~15,000~~	~~2~~	~~10~~	~~50~~	~~50~~	~~60~~
King St./Rose St., east of Hwy. 7A	8,000	2	8	30	70	50
	0	0	0	0	0	0
	0	0	0	0	0	0

~360m away,
not assessed

* Average Annual Daily Traffic. Forecast based on ultimate development according to the Durham Regional Official Plan.



Ministry of
Transportation

Highway
Standards
Branch

Traffic
Office

Provincial Highways

Traffic Volumes

1988-2019, 2021

King's Highways / Secondary Highways / Tertiary Roads

Ministry Contact:

Provincial Traffic Office (905)-704-2960

Abstract:

This annual publication contains averaged traffic volume information and collision rate information for each of the sections of highway under MTO jurisdiction.

Key Words:

Annual Average Daily Traffic volume (AADT), Summer Average Daily Traffic volume (SADT), Summer Average Weekday Traffic volume (SAWDT), Winter Average Daily Traffic volume (WADT), Collision Rate (CR)

PREFACE

Traffic volume information is used by many people to assist them in assessing the viability of business proposals, land use options, marketing, advertising, and a host of other activities. This publication, **Provincial Highways Traffic Volumes 1988-2019, 2021**, provides traffic volumes on an annual and seasonal average basis for selected links in the provincial highway network. The traffic pattern type and accident rates on the selected links are also indicated.

The Ministry will not be publishing 2020 traffic volumes. The COVID-19 pandemic significantly altered traffic patterns and behaviours, and as a result 2020 is considered an outlier year.

Although 2020 traffic volumes will not be published, the Ministry did collect traffic data throughout the entirety of 2020. This data remains available for use and, provides valuable insights into traffic trends and patterns during an outlier year.

This information is available upon request, please contact MTO INFO at 1-800-268-4686 for the appropriate regional phone number or Email: mtinfo@ontario.ca.

The Highway 407 ETR is maintained by 407 ETR Concession Company Ltd. and is not included in this publication. For information contact the 407 ETR Traffic Department at (905) 265-4070.

Some highway routes which have not yet been assigned an official highway number, are included under the title Selected 7000 Series Highways.

The statistics contained herein have been prepared based on data (both electronic and otherwise) obtained from sources considered to be reliable. The Ministry makes no representation or warranty, expressed or implied with respect to its accuracy or completeness.

This publication also supersedes any previously published publications.

TABLE OF CONTENTS

PAGE NO.

Introduction	II
Definitions	III
2021 – 2000 Summary of Collision	V
2021 – 2000 Summary of Travel Experience	VII
Highway Distance (km) by Highway Classification	IX

TRAFFIC VOLUME INFORMATION

The King's Highways	- Queen Elizabeth Way (QEW)	1
	- Highway 2 to Highway 148	46
	- The 400 series (Highways 400 to Highway 427)	853
The Secondary Highways	- Highway 502 to Highway 673	1135
The Tertiary Roads	- Highway 802 to Highway 811	1352
Selected 7000 Series Highways	- Highway 7025 to Highway 7910	1357

INTRODUCTION

This publication contains information pertaining to traffic volumes on roads under Provincial jurisdiction as of December 31, 2021. The publication is divided into two parts.

OVERALL SYSTEM SUMMARIES

The information in this section is included for policy analysis and program planning purposes. It includes summaries about the overall Provincial Highways system. The system indicators are developed from travel experience, accident data and highway geometrics.

TRAFFIC VOLUME INFORMATION

A detailed listing outlining the 33 year history (1988-2019, 2021) of traffic volumes on Provincial Highways (King's, Secondary, Tertiary Roads and the 7000 series highways) is provided.

The highway network is divided into approximately 1865 sections for reporting purposes. Seasonal traffic volume variations are estimated for each section reported. Although local conditions cause variations in the volume within the sections, the volumes shown are considered to adequately represent the section.

On highways that overlap another highway, for instance Highway 35 and Highway 115, the volume information is referenced to the lower number highway. When an overlap occurs between a freeway and non-freeway, reference is made to the freeway number. The freeways are Highway 400 to Highway 427 and the QEW.

The following are definitions to reading the listings:

Location Description: A statement identifying the start or ending point of a section. Some frequently used abbreviations include:

BDY	boundary
BR	bridge
C	concession
C/L	connecting link
CTY	county
DIST	district
KM	kilometres
AVE	avenue
REG	regional
HWY	highway
IC	interchange
JCT	junction
L	lot
LN	line
LTS	limits
NA	non assumed*
OH	overhead
OP	overpass
PKWY	parkway
R	river
RD	road
ST	street
TWP	township
UP	underpass

*Non Assumed – indicates that the roadway is not under provincial jurisdiction therefore contact the corresponding regional municipality for traffic volume information.

Distance (KM)

The length of the section in kilometres reported to one decimal place.

Pattern Type

One of 14 pattern types that represent the seasonal variation of the traffic flow on the section indicated. A graphical presentation of these pattern types has been included on the following page.

The 14 pattern types represent the traffic flow variation on the whole network. They include:

Variation Types

LOW	UC	urban commuter
	SC	suburban commuter
	C	commuter
INTER	IC	intermediate commuter
	CR	commuter recreation
	IR	intermediate recreation
	CTR	commuter tourist recreation
	IT	intermediate tourist
HIGH	LT	low tourist
	T	tourist
	HT	high tourist
	LR	low recreation
	R	recreation
	HR	high recreation
	UNKN	unknown
	UNCL	unclassified
	NEW	new volume section

The first three are generally referred to as Low Variation Curves (or commuter travel); the next five as Intermediate Variation Curves

(a blend of all types of traffic); and the last six as High Variation Curves. For the last group, the first three represent tourist travel and the second three, recreational travel; this sub-grouping is distinguished by the relationship of weekend to weekday traffic.

There are two additional codes in the pattern type column. "UNC" indicates that the AADT was calculated using adjustment factors from an unclassified (i.e. new) permanent counting station. "NEW" indicates that this is a new volume section and there is insufficient data to assign a pattern type.

AADT

Annual Average Daily Traffic; defined as the average twenty four hour, two way traffic for the period January 1st to December 31st.

SADT

Summer Average Daily Traffic; defined as the average twenty four hour, two way traffic for the period July 1st to August 31st including weekends.

SAWDT

Summer Average Weekday Traffic; defined as the average twenty four hour, two way traffic for the period July 1st to August 31st, excluding weekends.

WADT

Winter Average Daily Traffic; defined as the average twenty four hour, two way traffic for the period January 1st to March 31st, plus December 1st to December 31st, including weekends.

NOTES:

- (a) The user of this publication should realize that the reported data are 'estimated values'. Since traffic volumes are not static, direct field measurements are accurate only for the time of the count. Also, the size of the Provincial Highway network makes it impractical to measure each section annually. Thus, approximately one third of the reported sections are counted each year. The following three methods of measuring traffic volumes are employed:

1. Permanent Data Counting Stations: At designated locations across the Province counts are taken for each hour of the year.
2. Inventory Counting Stations: Each unique volume section has a set location where traffic volumes are sampled on a cyclical basis by season and year.
3. Request Counting Stations: Traffic volumes are measured at random locations as needed to address operational or planning concerns.

Using the available traffic volume information and historical trends, estimates are made for each highway section.

- (b) The abbreviation "N/A" (Not Available) refers to a new volume section or where no data is available. Data for these sections should be available in future publication once collected.
- (c) There may be some missing or incorrect traffic sections, and distances, due to highway realignment, highway transfers, renumbering, or sections which have been recently built.

CR

Collision Rate is defined as the number of reportable collisions occurring annually on a particular highway section for every million vehicle kilometres (MVKM) travelled on that section during the same period. "Reportable Collisions" are those causing any death, injury or property damage exceeding a certain established amount.

The collision rate is calculated as follows:

CR = the number of collisions for a given year divided by the MVKM, noting the following:

$$\text{The MVKM is calculated as follows:} \\ = \frac{\text{AADT} \times \# \text{ of Days in year} \times \text{Section Length (DIST-km)}}{1,000,000}$$

Notes:

- (a) Multiple vehicle collisions (i.e., chain reactions are generally considered as one collision unless the reporting police officer decides otherwise).
- (b) Collisions on freeway ramps are totally excluded from sectional and total system accident rate calculations. After 1996, highway ramps have also been excluded.
- (c) If no collisions have occurred on a given section, the collision rate is shown as zero.

TRAFFIC VOLUME INFORMATION

The King's Highways	- Queen Elizabeth Way (Q.E.W.)
	- Highway 2 to Highway 148
	- The 400 series
	(Highway 400 to Highway 427)
The Secondary Highways	- Highway 502 to Highway 673
The Tertiary Roads	- Highway 802 to Highway 811
Selected 7000 Series Highways	- Highway 7025 to Highway 7910

NOTE:

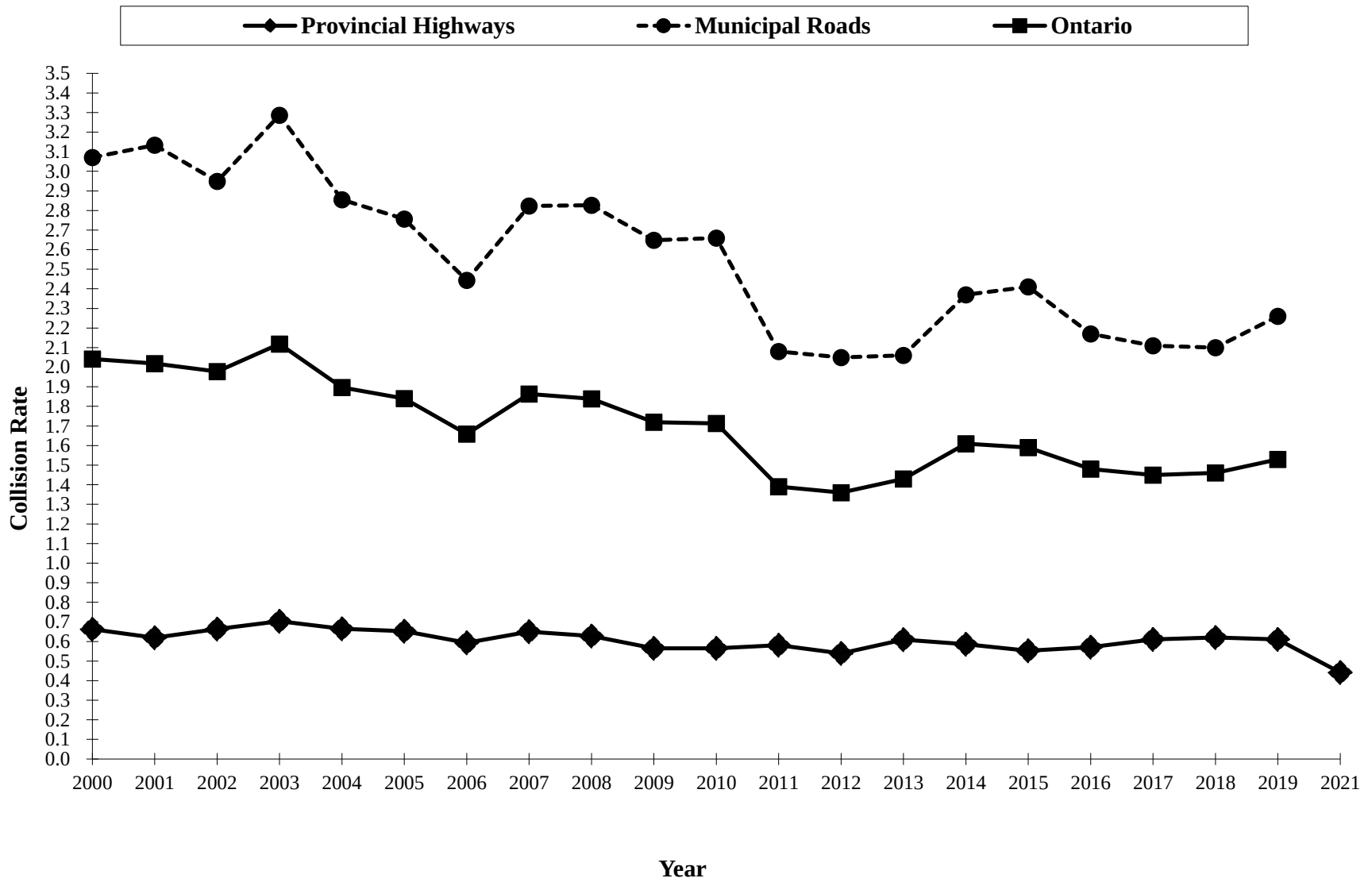
Highway 407 ETR is maintained by 407 ETR Concession Company Ltd. For information contact the 407 ETR Traffic Department at (905) 265-4070.

Summary of Collision Data

Year	Freeways		Kings Highways		Secondary Highways		Provincial Highways		Municipal Roads *		Ontario **	
	Collision	Rate	Collision	Rate	Collision	Rate	Collision	Rate	Collision	Rate	Collision	Rate
2000	20,531	0.6	11,879	0.7	953	1.1	33,370	0.7	207,260	3.1	240,630	2.0
2001	18,947	0.6	11,924	0.7	947	1.1	31,827	0.6	202,177	3.1	234,004	2.0
2002	20,347	0.6	13,441	0.8	1,074	1.2	34,874	0.7	209,768	2.9	244,642	2.0
2003	22,467	0.6	13,405	0.8	1,107	1.3	36,984	0.7	209,479	3.3	246,463	2.1
2004	21,360	0.6	13,104	0.8	1,016	1.2	35,484	0.7	196,064	2.9	231,548	1.9
2005	21,625	0.6	12,937	0.8	973	1.1	35,538	0.7	194,720	2.8	230,258	1.8
2006	19,385	0.5	12,382	0.7	1,015	1.2	32,786	0.6	183,461	2.4	216,247	1.7
2007	22,149	0.6	12,783	0.7	1,022	1.2	35,958	0.7	197,529	2.8	233,487	1.9
2008	21,936	0.6	12,344	0.7	918	1.2	35,204	0.6	193,992	2.8	229,196	1.8
2009	19,755	0.5	11,093	0.7	824	1.0	31,678	0.6	184,637	2.6	216,315	1.7
2010	18,870	0.5	10,394	0.6	828	1.0	30,095	0.6	185,438	2.7	215,533	1.7
2011	20,900	0.5	11,370	0.7	873	1.1	33,147	0.6	143,892	2.1	177,039	1.4
2012	18,982	0.5	11,076	0.6	945	1.3	31,007	0.5	141,861	2.1	172,868	1.4
2013	22,348	0.6	12,015	0.7	896	1.1	35,264	0.6	153,735	2.1	188,999	1.4
2014	23,143	0.6	11,250	0.6	765	1.0	35,160	0.6	182,397	2.4	217,557	1.6
2015	22,711	0.5	10,300	0.6	773	1.0	33,784	0.6	187,627	2.4	221,411	1.6
2016	23,258	0.6	10,900	0.6	815	1.0	34,975	0.6	173,429	2.2	208,404	1.5
2017	24,442	0.6	11,083	0.6	757	1.0	36,288	0.6	172,797	2.1	209,085	1.5
2018	25,826	0.6	11,341	0.6	821	0.9	37,997	0.6	176,855	2.1	214,852	1.5
2019	26,688	0.6	11,747	0.6	755	0.9	39,194	0.6	182,545	2.3	221,739	1.5
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2021	19,442	0.4	8,665	0.5	682	0.8	28,796	0.4	N/A	N/A	N/A	N/A

- Note 1)** Prior to 1997 all reported Freeway ramp collisions have been excluded from the 'Freeways' column.
- 2)** Prior to 2011, King's Highways includes Tertiary roads.
- 3)** Rate is the number of collisions per million vehicle kilometres of travel (MVKM).
- 4)** * Municipal Roads is derived from the difference of Provincial Highways and Ontario. It represents all the non-provincial roads/highways in the Province. SOURCE: Ontario Road Safety Annual Report.
- 5)** ** Ontario collision figures are obtained from MTO Safety Research Office. SOURCE: Ontario Road Safety Annual Report.
- 6)** Highway 407 is included in the "Municipal Roads" category only. For all other information regarding Highway 407, contact the 407 ETR Traffic Department at (905) 265-4070.

Histroical Collision Rate Trends



Summary of Travel Experience

Year	Freeways		Kings Highways		Secondary Highways		Provincial Highways		Municipal Roads*		Ontario	
	MV. km	% Change	MV. km	% Change	MV. km	% Change	MV. km	% Change	MV. km	% Change	MV. Km	% Change
2000	32,990	4.2	16,519	2.6	833	1.7	50,345	3.6	67,489	68.7	117,834	*** 33.0
2001	33,901	2.8	16,680	1.0	835	0.2	51,421	2.1	64,522	-4.4	115,943	*** -1.6
2002	34,834	2.8	16,854	1.0	864	3.5	52,559	2.2	71,124	10.2	123,683	*** 6.7
2003	34,881	0.1	16,834	-0.1	868	0.5	52,590	0.1	63,732	-10.4	116,322	*** -6.0
2004	35,669	2.3	16,865	0.2	881	1.5	53,422	1.6	68,657	7.7	122,079	*** 4.9
2005	36,487	2.3	17,124	1.5	859	-2.5	54,477	2.0	70,625	2.9	125,102	*** 2.5
2006	37,306	2.2	17,136	0.1	848	-1.3	55,298	1.5	75,094	6.3	130,392	*** 4.2
2007	37,397	0.2	17,084	-0.3	825	-2.7	55,314	0.0	69,973	-6.8	125,287	*** -3.9
2008	38,167	2.1	17,108	0.1	773	-6.3	56,056	1.3	68,617	-1.9	124,673	*** -0.5
2009	38,196	2.1	17,064	-0.1	807	-2.2	56,074	1.4	69,728	-0.4	125,802	*** 0.4
2010	38,444	0.7	17,158	0.3	753	-2.6	56,363	0.5	73,274	6.8	129,637	*** 4.0
2011	38,993	1.4	17,257	0.6	801	6.4	57,059	1.2	70,192	-4.2	127,251	*** -1.8
2012	39,574	1.5	17,188	-0.4	755	-5.7	57,524	0.8	69,729	-0.7	127,253	*** 0.0
2013	39,495	-0.2	17,538	2.0	796	5.3	57,837	0.5	74,780	7.2	132,617	*** 4.2
2014	41,247	4.4	17,948	2.3	784	-1.4	59,987	3.7	74,960	0.2	134,947	*** 1.8
2015	42,320	2.6	18,047	0.6	798	1.7	61,173	2.0	77,804	3.8	138,977	*** 3.0
2016	42,287	-0.1	18,167	0.7	799	0.2	61,287	0.2	79,766	2.5	141,053	*** 1.5
2017	40,737	-3.7	17,876	-1.6	750	-6.2	59,422	-3.0	84,556	6.0	143,978	*** 2.1
2018	42,338	3.9	17,720	-0.9	892	19.1	61,182	3.0	86,339	2.1	147,521	*** 2.5
2019	44,480	5.1	18,646	5.2	821	-8.0	64,180	4.9	80,820	-6.4	145,000	*** -1.7
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	*** N/A
2021	45,451	2.2	18,949	1.6	833	1.5	65,242	1.7	88,701	9.8	153,943	*** 6.2

Note 1) Provincial Highways includes Tertiary roads.

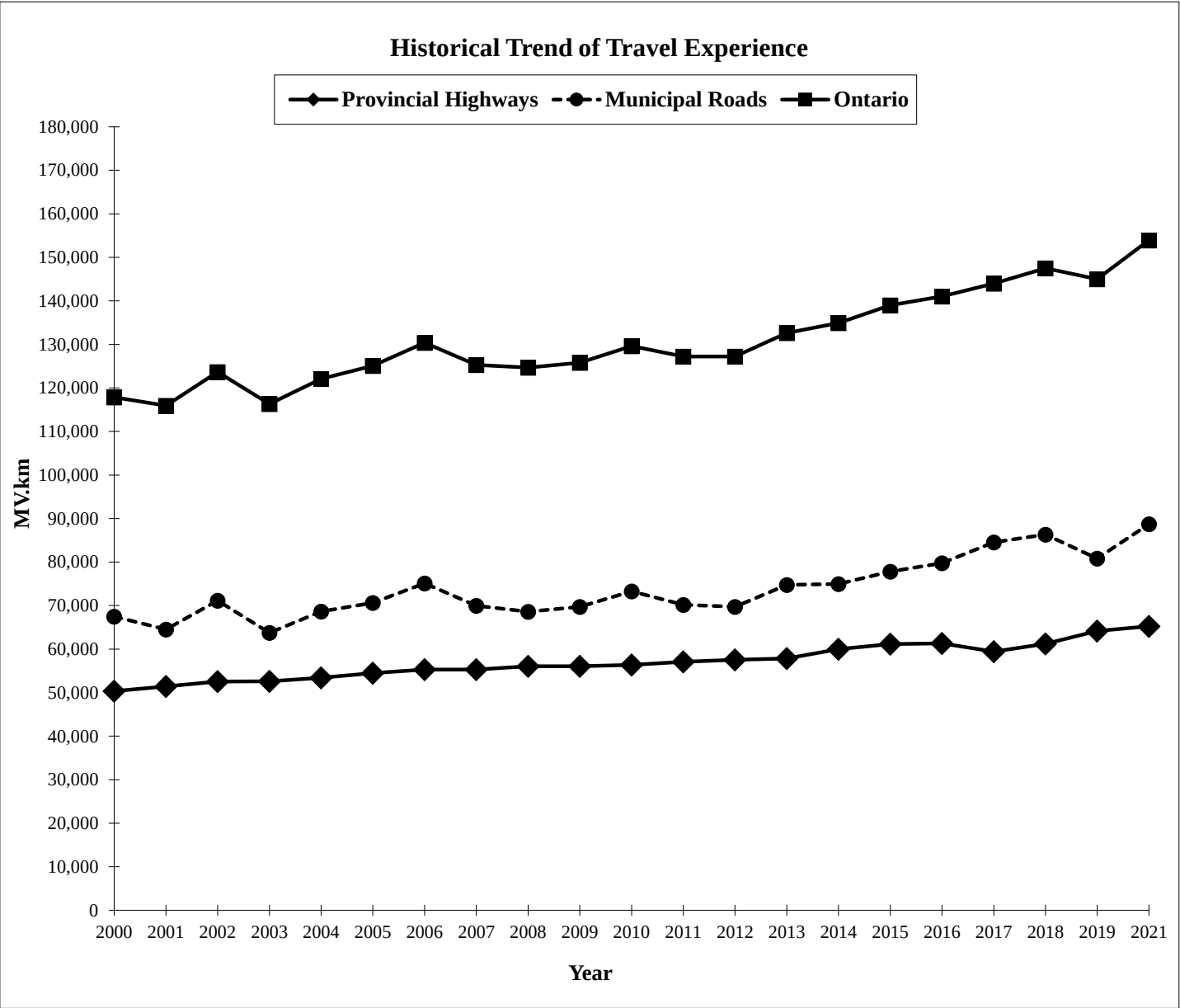
2) MV.km is million vehicle kilometres of travel.

3) MV.km for Provincial Highways (and components) is based on estimated traffic volumes and reported section lengths.

4) *Municipal Roads is derived from the difference of Ontario and Provincial Highways and represents all the non-provincial roads/highways in the Province. SOURCE: Ontario Road Safety Annual Report.

5) *Ontario MV.km figure for 2000 onwards is significantly higher due to the change in methodology developed by Statistics Canada. This is a more accurate methodology as compared to the previous method of using fuel tax. (Vehicles today are more fuel efficient and may lead to a higher mileage. Therefore, Provincial MVKM figures may be significantly higher, which can further lead to higher values for Other Roads. SOURCE: Ontario Road Safety Annual Report (Synopsis).**

6) Highway 407 is included in the "Other Roads" category only. For all other information regarding Highway 407, contact the 407 ETR Traffic Department at (905) 265-4070. higher, which can further lead to higher values for Muunicipal Roads. SOURCE: Ontario Road Safety Annual Report (Synopsis).



Highway Distance (km) by Highway Classification

Year	Freeways		Kings Highways		Secondary Highways		Tertiary Roads		Total
	Length	% of Total	Length	% of Total	Length	% of Total	Length	% of Total	
2000	1,761.5	10.7%	9,846.2	59.6%	4,723.0	28.6%	201.0	1.2%	16,531.7
2001	1,693.2	10.3%	9,825.2	59.8%	4,721.2	28.7%	201.4	1.2%	16,441.0
2002	1,681.1	10.2%	9,794.4	59.4%	4,800.9	29.1%	201.4	1.2%	16,477.8
2003	1,728.1	10.4%	9,822.6	59.3%	4,801.1	29.0%	201.4	1.2%	16,553.2
2004	1,744.1	10.5%	9,833.0	59.3%	4,802.4	29.0%	201.4	1.2%	16,580.9
2005	1,744.1	10.5%	9,854.8	59.4%	4,804.2	28.9%	201.4	1.2%	16,604.5
2006	1,744.1	10.5%	9,852.6	59.4%	4,801.6	28.9%	201.5	1.2%	16,599.8
2007	1,746.4	10.5%	9,817.5	59.2%	4,822.6	29.1%	201.5	1.2%	16,587.9
2008	1,746.4	10.5%	9,822.8	59.2%	4,817.7	29.0%	201.5	1.2%	16,588.3
2009	1,753.1	10.6%	9,855.5	59.3%	4,802.8	28.9%	201.5	1.2%	16,612.8
2010	1,771.0	10.6%	10,002.8	59.7%	4,802.3	28.6%	187.5	1.1%	16,763.6
2011	1,769.7	10.6%	9,971.5	59.6%	4,801.1	28.7%	187.5	1.1%	16,729.8
2012	1,773.6	10.5%	10,136.0	60.0%	4,794.4	28.4%	187.5	1.1%	16,891.4
2013	1,773.6	10.5%	10,108.0	59.9%	4,794.3	28.4%	187.5	1.1%	16,863.2
2014	1,784.2	10.5%	10,174.8	60.1%	4,794.4	28.3%	187.5	1.1%	16,940.8
2015	1,779.4	10.5%	10,230.3	60.2%	4,794.4	28.2%	181.7	1.1%	16,985.7
2016	1,777.1	10.5%	10,153.3	60.1%	4,771.0	28.3%	181.7	1.1%	16,883.0
2017	1,799.3	10.8%	10,058.5	60.2%	4,669.9	27.9%	187.5	1.1%	16,715.2
2018	1,799.3	10.8%	10,058.5	60.2%	4,669.9	27.9%	187.5	1.1%	16,715.2
2019	1,799.3	10.6%	10,058.5	59.0%	4,795.4	28.1%	388.0	2.3%	17,041.2
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2021	1,799.3	10.6%	10,063.3	59.4%	4,704.6	27.7%	388.0	2.3%	16,955.2

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
1997	7A			IR	11,800	14,800	13,200	10,000	830	17	3.3	1	0.2
1998	7A			IR	12,200	15,100	13,700	10,200	850	12	2.3	0	0.0
1999	7A			IR	11,200	13,900	12,400	9,400	450	26	5.3	0	0.0
2000	7A			IR	11,900	14,600	13,200	10,100	710	23	4.4	0	0.0
2001	7A			IR	12,500	15,400	13,900	10,600	1,100	23	4.2	0	0.0
2002	7A			IR	13,200	16,300	14,600	11,200	1,200	16	2.8	0	0.0
2003	7A			IR	13,000	15,800	14,300	11,000	1,150	24	4.2	2	0.4
2004	7A			IR	13,200	16,300	14,600	11,200	660	16	2.8	0	0.0
2005	7A			IR	15,200	18,300	16,700	13,000	760	16	2.4	0	0.0
2006	7A			CTR	13,100	16,200	15,500	11,100	660	23	4.0	1	0.2
2007	7A			CTR	12,500	15,500	15,300	10,600	620	14	2.6	2	0.4
2008	7A			CTR	13,500	16,700	16,400	11,500	680	11	1.9	1	0.2
2009	7A			IC	12,400	13,800	13,900	11,000	620	13	2.4	0	0.0
2010	7A			IC	13,500	14,900	15,100	12,000	680	11	1.9	0	0.0
2011	7A			IC	14,000	15,400	16,000	12,600	700	8	1.3	0	0.0
2012	7A			IC	14,200	15,700	15,300	12,600	710	14	2.3	0	0.0
2013	7A			IC	14,300	15,800	15,700	12,700	720	20	3.2	2	0.3
2014	7A			IC	13,400	14,800	14,800	11,900	790	11	1.9	0	0.0
2015	7A			IC	14,400	15,900	15,900	12,800	850	9	1.4	0	0.0
2016	7A			IC	14,600	16,200	16,100	12,900	860	8	1.3	1	0.2
2017	7A			IC	14,800	16,200	16,300	13,400	870	8	1.2	0	0.0
2018	7A			IC	14,900	16,400	16,500	13,500	880	7	1.1	0	0.0
2019	7A			IC	15,100	16,600	16,700	13,600	890	17	2.6	1	0.2
2021	7A			IC	15,400	16,700	16,800	13,900	920	9	1.3	1	0.1
1988	7A	<u>6TH LINE (W)</u>	2.8	CR	7,150	9,150	8,600	5,950	1,000	1	0.1	0	0.0
1989	7A			CR	7,450	9,550	8,850	6,250	1,050	8	1.1	0	0.0
1990	7A			CR	7,550	9,350	8,700	6,800	380	14	1.8	2	0.3
1991	7A			CR	7,600	9,350	8,750	6,850	380	3	0.4	0	0.0
1992	7A			CR	8,200	10,100	9,350	7,400	410	7	0.8	0	0.0
1993	7A			CR	8,700	10,700	10,000	7,850	440	6	0.7	0	0.0
1994	7A			CR	8,600	10,600	9,800	7,750	520	10	1.2	1	0.1
1995	7A			CR	8,900	11,000	10,500	7,650	530	7	0.8	1	0.1
1996	7A			CR	9,250	11,400	10,900	7,900	740	9	1.0	0	0.0
1997	7A			CR	9,500	11,800	11,200	8,100	660	9	0.9	1	0.1
1998	7A			CR	9,800	12,100	11,500	8,350	690	8	0.8	0	0.0
1999	7A			CR	9,550	11,700	11,200	8,100	290	8	0.8	0	0.0
2000	7A			CR	10,300	12,700	12,100	8,750	620	8	0.8	1	0.1
2001	7A			CR	10,500	12,900	12,300	8,850	630	16	1.5	1	0.1
2002	7A			CR	11,000	13,500	12,900	9,250	660	4	0.4	0	0.0
2003	7A			CR	11,100	13,500	13,000	9,400	670	10	0.9	2	0.2
2004	7A			CR	11,400	14,000	13,400	9,650	910	10	0.9	1	0.1

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
2005	7A			CR	11,200	13,600	13,100	9,450	900	8	0.7	0	0.0
2006	7A			CR	11,300	13,700	13,100	9,550	900	6	0.5	1	0.1
2007	7A			CR	11,600	14,000	14,000	9,750	700	13	1.1	0	0.0
2008	7A			CR	11,200	13,600	13,400	9,450	670	7	0.6	1	0.1
2009	7A			CR	12,000	14,400	13,900	10,200	720	4	0.3	0	0.0
2010	7A			IC	11,900	13,200	13,300	10,600	710	5	0.4	1	0.1
2011	7A			IC	12,400	13,600	14,100	11,100	740	9	0.7	0	0.0
2012	7A			IC	12,600	14,000	13,500	11,200	760	5	0.4	0	0.0
2013	7A			C	12,800	14,100	13,900	11,500	770	14	1.1	0	0.0
2014	7A			C	13,000	14,300	13,900	11,700	780	7	0.5	0	0.0
2015	7A			C	13,200	14,500	14,100	11,900	790	12	0.9	0	0.0
2016	7A			C	13,400	14,700	14,300	12,100	800	14	1.0	1	0.1
2017	7A			C	13,600	14,900	14,800	12,300	820	12	0.9	0	0.0
2018	7A			C	13,800	15,100	15,000	12,500	830	8	0.6	0	0.0
2019	7A			C	14,000	15,300	15,200	12,700	2,400	5	0.4	1	0.1
2021	7A			C	14,400	15,700	15,600	13,100	2,450	11	0.8	1	0.1
2021	7A	HWYS 7 & 12 MANCHESTER END OF HWY											
2021	8	NIAGARA/HAMILTON REG BDY START OF NA	43.0										
2012	8	HWY 5 AND HWY 8 EAST OF ROUNDABOUT END OF NA	0.3	UNCL	N/A	N/A	N/A	N/A	N/A	0	N/A	0	N/A
2013	8			C	10,100	11,100	11,000	9,100	0	0	0.0	0	0.0
2014	8			UC	10,200	10,200	9,800	9,700	0	0	0.0	0	0.0
2015	8			UC	17,000	17,100	16,300	16,100	0	0	0.0	0	0.0
2016	8			UC	22,100	22,200	21,300	21,000	0	0	0.0	0	0.0
2017	8			UC	22,300	22,200	22,400	21,400	0	0	0.0	0	0.0
2018	8			UC	22,400	22,200	22,600	21,500	0	0	0.0	0	0.0
2019	8			UC	22,600	22,300	22,600	21,800	0	0	0.0	0	0.0
1988	8	CENTRE OF ROUNDABOUT (PETERS CORS)	6.3	C	5,750	6,400	6,400	5,200	520	10	0.8	0	0.0
1989	8			C	5,950	6,600	6,650	5,350	540	8	0.6	1	0.1
1990	8			C	6,100	6,750	6,750	5,500	550	14	1.0	0	0.0
1991	8			C	6,750	7,450	7,500	6,150	610	12	0.8	0	0.0
1992	8			C	6,800	7,350	7,550	6,250	610	8	0.5	0	0.0
1993	8			C	6,800	7,400	7,550	6,250	610	11	0.7	1	0.1
1994	8			C	6,800	7,450	7,600	6,150	610	13	0.8	2	0.1
1995	8			C	7,050	7,700	7,900	6,450	630	7	0.4	0	0.0
1996	8			C	7,200	8,150	8,200	6,500	650	10	0.6	1	0.1
1997	8			C	7,050	7,950	8,050	6,350	780	6	0.4	0	0.0
1998	8			C	7,550	8,550	8,550	6,800	830	7	0.4	1	0.1
1999	8			C	7,600	8,500	8,600	6,850	840	6	0.3	0	0.0
2000	8			C	7,750	8,750	8,750	7,000	780	12	0.7	0	0.0
2001	8			C	7,900	8,900	8,900	7,100	790	11	0.6	0	0.0
2002	8			C	8,050	9,000	9,100	7,250	800	9	0.5	0	0.0



**D.G. BIDDLE
& ASSOCIATES**

CONSULTING ENGINEERS & PLANNERS

OSHAWA

200-481 Taunton Road West
Oshawa, ON L1J 0G3
905-576-8500

PETERBOROUGH

402-150 King Street
Peterborough, ON K9J 2R9
705-201-0272

dgbiddle.com

SCHEDULE 2

STAMSON 5.0 OUTPUT



CIVIL

STRUCTURAL

MECHANICAL

ELECTRICAL

PLANNING

STAMSON 5.0 NORMAL REPORT Date: 28-07-2026 13:19:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: lot1.te Time Period: Day/Night 16/8 hours
Description: LOT 1 - DAY/NIGHT

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

Car traffic volume : 6624/736 veh/TimePeriod
Medium truck volume : 403/45 veh/TimePeriod
Heavy truck volume : 173/19 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: KING/ROSE (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 : 40.30 / 40.30 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: KING/ROSE (day)

Source height = 1.25 m

ROAD (0.00 + 55.64 + 0.00) = 55.64 dBA

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

SubLeq

-90 90 0.66 64.22 0.00 -7.12 -1.46 0.00 0.00 0.00
55.64

Segment Leq : 55.64 dBA

Total Leq All Segments: 55.64 dBA

Results segment # 1: KING/ROSE (night)

Source height = 1.24 m

ROAD (0.00 + 49.58 + 0.00) = 49.58 dBA

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

SubLeq

-90	90	0.58	57.67	0.00	-6.77	-1.32	0.00	0.00	0.00
-----	----	------	-------	------	-------	-------	------	------	------

49.58

Segment Leq : 49.58 dBA

Total Leq All Segments: 49.58 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.64
(NIGHT): 49.58

STAMSON 5.0 NORMAL REPORT Date: 28-07-2026 13:19:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: lot2.te Time Period: Day/Night 16/8 hours
Description: LOT 2 - DAY/NIGHT

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

Car traffic volume : 6624/736 veh/TimePeriod
Medium truck volume : 403/45 veh/TimePeriod
Heavy truck volume : 173/19 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: KING/ROSE (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 : 40.30 / 40.30 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: KING/ROSE (day)

Source height = 1.25 m

ROAD (0.00 + 55.64 + 0.00) = 55.64 dBA

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

SubLeq

-90 90 0.66 64.22 0.00 -7.12 -1.46 0.00 0.00 0.00
55.64

Segment Leq : 55.64 dBA

Total Leq All Segments: 55.64 dBA

Results segment # 1: KING/ROSE (night)

Source height = 1.24 m

ROAD (0.00 + 49.58 + 0.00) = 49.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
SubLeq									
-90	90	0.58	57.67	0.00	-6.77	-1.32	0.00	0.00	0.00
49.58									

Segment Leq : 49.58 dBA

Total Leq All Segments: 49.58 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.64
(NIGHT): 49.58

STAMSON 5.0 NORMAL REPORT Date: 27-07-2026 23:08:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: lot3.te Time Period: Day/Night 16/8 hours
Description: LOT 3 - DAY/NIGHT

Road data, segment # 1: HWY7A (day/night)

Car traffic volume : 10757/1195 veh/TimePeriod
Medium truck volume : 1983/220 veh/TimePeriod
Heavy truck volume : 220/24 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: HWY7A (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 288.90 / 288.90 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 6624/736 veh/TimePeriod
Medium truck volume : 403/45 veh/TimePeriod
Heavy truck volume : 173/19 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: KING/ROSE (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 : 40.30 / 40.30 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: HWY7A (day)

Source height = 1.14 m

ROAD (0.00 + 41.39 + 0.00) = 41.39 dBA

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

-90	90	0.66	69.37	0.00	-21.33	-1.46	0.00	-5.20	0.00
41.39									

Segment Leq : 41.39 dBA

Results segment # 2: KING/ROSE (day)

Source height = 1.25 m

ROAD (0.00 + 55.64 + 0.00) = 55.64 dBA

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

-90	90	0.66	64.22	0.00	-7.12	-1.46	0.00	0.00	0.00
55.64									

Segment Leq : 55.64 dBA

Total Leq All Segments: 55.80 dBA

Results segment # 1: HWY7A (night)

Source height = 1.14 m

ROAD (0.00 + 35.99 + 0.00) = 35.99 dBA

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

-90	90	0.58	62.82	0.00	-20.31	-1.32	0.00	-5.20	0.00
35.99									

Segment Leq : 35.99 dBA

Results segment # 2: KING/ROSE (night)

Source height = 1.24 m

ROAD (0.00 + 49.58 + 0.00) = 49.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
SubLeq									
-90	90	0.58	57.67	0.00	-6.77	-1.32	0.00	0.00	0.00
49.58									

Segment Leq : 49.58 dBA

Total Leq All Segments: 49.77 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.80
(NIGHT): 49.77

STAMSON 5.0 NORMAL REPORT Date: 27-07-2026 23:13:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: lot4.te Time Period: Day/Night 16/8 hours
Description: LOT 4 - DAY/NIGHT

Road data, segment # 1: HWY7A (day/night)

Car traffic volume : 10757/1195 veh/TimePeriod
Medium truck volume : 1983/220 veh/TimePeriod
Heavy truck volume : 220/24 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: HWY7A (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 278.80 / 278.80 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 6624/736 veh/TimePeriod
Medium truck volume : 403/45 veh/TimePeriod
Heavy truck volume : 173/19 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: KING/ROSE (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 : 40.80 / 40.80 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: HWY7A (day)

Source height = 1.14 m

ROAD (0.00 + 41.63 + 0.00) = 41.63 dBA

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

-90	90	0.66	69.37	0.00	-21.07	-1.46	0.00	-5.22	0.00
41.63									

Segment Leq : 41.63 dBA

Results segment # 2: KING/ROSE (day)

Source height = 1.25 m

ROAD (0.00 + 55.55 + 0.00) = 55.55 dBA

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

-90	90	0.66	64.22	0.00	-7.21	-1.46	0.00	0.00	0.00
55.55									

Segment Leq : 55.55 dBA

Total Leq All Segments: 55.72 dBA

Results segment # 1: HWY7A (night)

Source height = 1.14 m

ROAD (0.00 + 36.21 + 0.00) = 36.21 dBA

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

-90	90	0.58	62.82	0.00	-20.06	-1.32	0.00	-5.22	0.00
36.21									

Segment Leq : 36.21 dBA

Results segment # 2: KING/ROSE (night)

Source height = 1.24 m

ROAD (0.00 + 49.50 + 0.00) = 49.50 dBA

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

SubLeq									

-90	90	0.58	57.67	0.00	-6.86	-1.32	0.00	0.00	0.00
49.50									

Segment Leq : 49.50 dBA

Total Leq All Segments: 49.70 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.72
(NIGHT): 49.70

STAMSON 5.0 NORMAL REPORT Date: 27-07-2026 23:14:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: lot5.te Time Period: Day/Night 16/8 hours
Description: LOT 5 - DAY/NIGHT

Road data, segment # 1: HWY7A (day/night)

Car traffic volume : 10757/1195 veh/TimePeriod
Medium truck volume : 1983/220 veh/TimePeriod
Heavy truck volume : 220/24 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: HWY7A (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 255.10 / 255.10 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 6624/736 veh/TimePeriod
Medium truck volume : 403/45 veh/TimePeriod
Heavy truck volume : 173/19 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: KING/ROSE (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 : 46.00 / 46.00 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: HWY7A (day)

Source height = 1.14 m

ROAD (0.00 + 42.22 + 0.00) = 42.22 dBA

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

-90	90	0.66	69.37	0.00	-20.43	-1.46	0.00	-5.27	0.00
42.22									

Segment Leq : 42.22 dBA

Results segment # 2: KING/ROSE (day)

Source height = 1.25 m

ROAD (0.00 + 54.69 + 0.00) = 54.69 dBA

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

-90	90	0.66	64.22	0.00	-8.08	-1.46	0.00	0.00	0.00
54.69									

Segment Leq : 54.69 dBA

Total Leq All Segments: 54.93 dBA

Results segment # 1: HWY7A (night)

Source height = 1.14 m

ROAD (0.00 + 36.77 + 0.00) = 36.77 dBA

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

-90	90	0.58	62.82	0.00	-19.45	-1.32	0.00	-5.27	0.00
36.77									

Segment Leq : 36.77 dBA

Results segment # 2: KING/ROSE (night)

Source height = 1.24 m

ROAD (0.00 + 48.67 + 0.00) = 48.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
SubLeq									
-90	90	0.58	57.67	0.00	-7.68	-1.32	0.00	0.00	0.00
48.67									

Segment Leq : 48.67 dBA

Total Leq All Segments: 48.94 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.93
(NIGHT): 48.94

STAMSON 5.0 NORMAL REPORT Date: 27-07-2026 23:16:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: lot6.te Time Period: Day/Night 16/8 hours
Description: LOT 6 - DAY/NIGHT

Road data, segment # 1: HWY7A (day/night)

Car traffic volume : 10757/1195 veh/TimePeriod
Medium truck volume : 1983/220 veh/TimePeriod
Heavy truck volume : 220/24 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: HWY7A (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 1
House density : 80 %
Surface : 1 (Absorptive ground surface)
Receiver source distance : 230.90 / 230.90 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 6624/736 veh/TimePeriod
Medium truck volume : 403/45 veh/TimePeriod
Heavy truck volume : 173/19 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 2 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: KING/ROSE (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 : 60.40 / 60.40 m
Receiver height : 1.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: HWY7A (day)

Source height = 1.14 m

ROAD (0.00 + 42.89 + 0.00) = 42.89 dBA

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

```

-----
---
-90      90      0.66  69.37      0.00 -19.71      -1.46      0.00      -5.32      0.00
42.89
-----
---
```

Segment Leq : 42.89 dBA

Results segment # 2: KING/ROSE (day)

Source height = 1.25 m

ROAD (0.00 + 52.72 + 0.00) = 52.72 dBA

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

```

-----
---
-90      90      0.66  64.22      0.00 -10.04      -1.46      0.00      0.00      0.00
52.72
-----
---
```

Segment Leq : 52.72 dBA

Total Leq All Segments: 53.15 dBA

Results segment # 1: HWY7A (night)

Source height = 1.14 m

ROAD (0.00 + 37.40 + 0.00) = 37.40 dBA

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

```

-----
---
-90      90      0.58  62.82      0.00 -18.77      -1.32      0.00      -5.32      0.00
37.40
-----
---
```

Segment Leq : 37.40 dBA

Results segment # 2: KING/ROSE (night)

Source height = 1.24 m

ROAD (0.00 + 46.81 + 0.00) = 46.81 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj
SubLeq									
-90	90	0.58	57.67	0.00	-9.54	-1.32	0.00	0.00	0.00
46.81									

Segment Leq : 46.81 dBA

Total Leq All Segments: 47.28 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.15
(NIGHT): 47.28