APPENDIX G

Draft Noise and Vibration Impact Assessment

FIRST CAPITAL | METROLINX

First Capital - Park Lawn GO Station
Noise & Vibration Impact Assessment

2021-08-27	D	Renna Traboulsi	Mervyn Choy	Mark Armstrong	95% Draft Report
2021-06-04	C	Renna Traboulsi	Felipe Vernaza	Mark Armstrong	90% Draft Report
2020-09-24	B	Renna Traboulsi	Felipe Vernaza	Mark Armstrong	75% Impact Assessment Report
2020-05-11	A	Mufaddal Motiwala	Felipe Vernaza	Mark Armstrong	Draft Existing Conditions Report
Date	**Rev.**	**Prepared By**	**Checked By**	**Approved By**	**Status**
			HATCH		**Client**

Executive Summary

First Capital (Park Lawn) Corporation (FCR) has proposed the new Park Lawn GO Station to be developed in partnership with Metrolinx, located at the north end of 2150 Lake Shore Boulevard West in the City of Toronto ("the Project"). Hatch was retained by FCR to undertake an Environmental Assessment (EA) for the proposed Park Lawn GO Station on the Lakeshore West rail corridor. The evaluation of environmental impacts of the proposed Park Lawn GO Station has been carried out in accordance with the Transit Project Assessment Process (TPAP). The TPAP is regulated by the *Environmental Assessment Act* (EAA) under Ontario Regulation 231/08 – Transit Projects and Metrolinx Undertakings (O. Reg. 231/08). The purpose of the TPAP is to ensure effects associated with the Project are clearly identified and mitigated to the greatest extent feasible.

The Park Lawn GO Station will provide a stop between Mimico GO Station and Exhibition GO Station. The Park Lawn GO Station will be located 100 metres south of the Gardiner Expressway, 300 metres northwest of Lake Shore Boulevard West, on both sides of Park Lawn Road, and both sides of the Lakeshore West rail corridor within the City of Toronto.

As a component of the EA, this Noise and Vibration Impact Assessment (NVIA) has been prepared to document the existing conditions and assess the potential effects of the new GO Station on the noise and vibration in the surrounding community.

The following scenarios formed part of the assessment:

- Existing Conditions – undertaken to validate the noise and vibration models based on measurements;
- Future Year 2028 "Future No-Build", which consists of future train volumes and future vehicular volumes, including the proposed Relief Road but without the Park Lawn GO Station; and
- Future Year 2028 "Future Build", which consists of future train volumes and future vehicular volumes, including the proposed Relief Road, and the Park Lawn GO Station,

Construction Phase Noise Findings

Construction activities were reviewed and sound level calculations were completed to assess noise produced from anticipated construction activities.

- On this basis it was determined that sensitive receptors near these construction sites will not exceed the applicable criteria during weekday daytime construction conditions; and
- However, construction sound levels are expected to exceed sound level criteria during nighttime and weekend daytime construction conditions. This exceedance is limited to the upper level north-facing units in the two condominium buildings located at 88-90 Park Lawn Road.

To mitigate and control construction noise, the following is recommended:

- Implement the Construction Noise Best Management Practices (BMPs) listed in Section 6.2.1.1
- To the extent possible, locate all noisy construction equipment on the north side of the platforms, when working west of Park Lawn Road;

- Keep construction to the weekday daytime only to the extent possible;
- Type 1' (i.e., continuous) noise monitoring is required throughout construction on the north side of 88-90 Park Lawn Road as this property will be the most impacted by construction noise. Further details are provided in 6.3.1; and
- A Construction Noise and Vibration Monitoring Plan should be prepared prior to the start of construction activities. Further details are provided in 6.3.1.

Operations/Maintenance Phase Noise Findings

Noise levels at all sensitive receptors will be within the applicable sound level criteria. Therefore, control measures are not required during the operations/maintenance phase of Park Lawn GO Station.

Construction Phase Vibration Findings

Construction activities were reviewed and vibration level calculations were completed to assess vibration levels produced from anticipated construction activities. It was determined that:

- The building damage construction vibration zone of influence will extend 8 metres from the construction zone limit; and
- The zone of influence falls within the property at 88-90 Park Lawn Road and within the building located at 96 Park Lawn Road.

To mitigate and control construction vibration, the following is recommended:

- Implement the Construction Vibration BMPs listed in Section 8.2.1.1;
- West of Park Lawn Road, it is recommended that construction equipment operate at a minimum of 8 metres away from the construction site perimeter to the extent possible;
- Vibration monitoring will be required during construction at 96 Park Lawn Road as this building falls within the construction vibration Zone of Influence (ZOI). This is illustrated in Figure F-1. Further details are provided in Section 8.3.1; and
- Pre-condition surveys are recommended at 88-90 Park Lawn Road as the construction vibration ZOI falls within this property. Further details are provided in Section 8.3.1.

Operations/Maintenance Phase Vibration Findings

Vibration control measures are not required during the operations/maintenance phase of the Park Lawn GO Station, as train speeds are expected to decrease due to the introduction of the GO Station.

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Glossary of Terms and Acronyms

Adjusted Noise Impact Level:	Noise impact is the incremental increase in the pre-project equivalent sound level resulting from the introduction of a GO Transit project. The Adjusted Noise Impact is calculated by adjusting the value of the noise impact to indicate greater impact at higher pre-project sound levels. [1]
Ambient Sound Level:	The sound level that is present in the environment, produced by noise sources other than the source under the impact assessment. [2]
BMP:	Best Management Practice
Cadna/A:	Software package used for predicting sound levels due rail, road, and other sources.
dB:	The standard unit of measure for unweighted sound pressure level (reference $2x10^{-5}$ Pa) or sound power level (10^{-12} W). A decibel is the unit of level which denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm of this ratio. [3]. This unit is used herein to quantify changes in overall levels.
dBA:	The A-weighted sound pressure level. [2]. This unit is used herein to quantify overall noise level.
EAA:	*Environmental Assessment Act,* 1990
Equivalent Continuous Sound Level:	The A-weighted sound level of a steady sound carrying the same total energy in the time-period T as the observed fluctuating sound. The time period T is given in hours. [2]
Frequency of Vibration:	The number of times that a periodically occurring quantity repeats itself in a specified period. With reference to noise and vibration signals, the number of cycles per second. [3]
FTA:	Federal Transit Administration
GO:	GO Transit
Hertz (Hz):	The unit of acoustic or vibration frequency representing cycles per second.
HVAC:	Heating, ventilation and air-conditioning
L_{eq}:	Equivalent Continuous Sound Level. The A-weighted sound level of a steady sound carrying the same total energy in the time period T as the observed fluctuating sound. The time-period T is given in hours. [2]
MOE, MOEE, MOECC, MECP:	Ministry of the Environment/Ministry of the Environment and Energy/Ministry of the Environment and Climate Change/Ministry of Environment, Conservation and Parks. The Ministry of the Environment was created in 1972 and merged with the Ministry of Energy to form the Ministry of Environment and Energy (MOEE) from 1993 to 1997 and again in 2002. The Ministry of the Environment

	changed its name to the Ministry of the Environment and Climate Change (MOECC) on June 24, 2014, and then changed it to the Ministry of Environment, Conservation and Parks in August 2018. Thus, MOE, MOEE, MOECC and MECP are synonymous for the purposes of this Report.
Noise:	Unwanted sound. [2]
NSA:	Noise Sensitive Area. Land over which users are sensitive to noise. Also referred to as Noise Sensitive Land use [2] that accommodates a residential dwelling, a building for commercial use, or a building for institutional use where occupants can be considered to be noise sensitive. Noise sensitive also considers vibration sensitive herein.
NPC:	Noise Pollution Control
NVIA:	Noise and Vibration Impact Assessment
O. Reg.:	Ontario Regulation
PPV:	Peak Particle Velocity. The peak signal value of an oscillating vibration velocity waveform, usually expressed in millimetres/second in Canada. [4]
Point of Vibration Assessment:	The location 5 metres to 10 metres away from the building foundation in a direction parallel to the tracks or adjusted as required to accommodate site conditions. [1]
POR:	Point of Reception is defined as any location on a noise sensitive land use where noise from a noise source is received. Noise sensitive land uses may have one or more points of reception. [2]
Prohibited Construction Vibrations:	Maximum vibration peak particle velocity for construction activity.
Receptors:	Refer to “Point of Reception”
RMS:	Root-Mean-Square Velocity. The square root of the mean-square value of an oscillating waveform, where the mean-square value is obtained by squaring the value of amplitudes at each instant of time and then averaging these values over the sample time. [4]
Sensitive Area:	Refer to “Noise Sensitive Area”
Sensitive Land Uses:	Refer to “Noise Sensitive Area”
Sensitive Receptor:	Refer to “Point of Reception”
Sound Pressure Level:	The A-weighted sound level of a steady sound carrying the same total energy in the time period T as the observed fluctuating sound. The time period T is given in hours. [2]

TPAP:	Transit Project Assessment Process
Vibration:	An oscillation wherein the quantity is a parameter that defines the motion of a mechanical system. [3]
Vibration Sensitive Area:	A residential dwelling or place where people ordinarily sleep or a commercial/industrial operation that is exceptionally sensitive to noise and vibration. [1]
VdB:	Vibration level in decibels (reference 10^{-6} in/sec or 2.54×10^{-5} mm/sec). This unit is used herein to quantify overall vibration levels using the FTA general calculation method.
ZOI:	Zone of Influence is defined as the area of land within or adjacent to a construction site, including any buildings or structures, that potentially may be impacted by vibrations emanating from a construction activity where the peak particle velocity measured at the point of reception is equal to or greater than 5 mm/sec. [5]

1. Introduction

1.1 Project Description

First Capital (Park Lawn) Corporation (FCR) has proposed the new Park Lawn GO Station to be developed in partnership with Metrolinx, located at the north end of 2150 Lake Shore Boulevard West in the City of Toronto ("the Project"). Hatch was retained by FCR to undertake an Environmental Assessment (EA) for the proposed Park Lawn GO Station on the Lakeshore West rail corridor. The evaluation of environmental impacts of the proposed Park Lawn GO Station has been carried out in accordance with the Transit Project Assessment Process (TPAP). The TPAP is regulated by the *Environmental Assessment Act* (EAA) under Ontario Regulation 231/08 – Transit Projects and Metrolinx Undertakings (O. Reg. 231/08). The purpose of the TPAP is to ensure effects associated with the Project are clearly identified and mitigated to the greatest extent feasible. For TPAP purposes, Metrolinx is the proponent. FCR will be constructing the Project and will be responsible for incorporating mitigation measures to address both construction and operation-related effects. Metrolinx will be responsible for operations and maintenance at the GO Station.

The proposed Project will include:

- Two side platforms (north and south);
- Pick-up and drop off (PUDO);
- Secure bike parking and covered bicycle parking;
- Two-storey main station building (south of tracks);
- Two-storey secondary station building (north of tracks);
- Landscaping and paving around the north Station building;
- Pedestrian tunnel (under tracks) between the two Station buildings;
- Widening of the existing Park Lawn rail bridge;
- Maintenance and Metrolinx staff parking spaces;
- Sloped walkways north and south of the rail corridor, and west of Park Lawn Road;
- Protection for the future island platform;
- Electrification enabling work; and
- Signal work.

The Initial Business Case (IBC) (2016) recognized Park Lawn as a strategic location of dense development and growth, as well as opportunity to integrate with local transit in the area. The commitment of GO Regional Express Rail (now referred to as GO Expansion) including more frequent and faster service creates significant opportunity to realize a transit hub bringing together and integrating higher order transit, local transit and other modes. An updated IBC (2018) considered an updated service plan, realigned station to minimize impacts on existing infrastructure, and a redefined station design. An updated IBC (2020) was published June 11, 2020.

This Project was coordinated with the City of Toronto as appropriate to provide improved local transit access and connectivity to the GO Station, as well as additional and more frequent transit service.

The Park Lawn GO Station will provide a stop between Mimico GO Station and Exhibition GO Station. The Park Lawn GO Station will be located 100 metres south of the Gardiner Expressway, 300 metres northwest of Lake Shore Boulevard West, on both sides of Park Lawn Road, and both sides of the Lakeshore West rail corridor within the City of Toronto.

The Park Lawn GO Station will include a fully accessible station building with platform access points, tunnel infrastructure, multimodal access, bicycle parking and connections with local transit.

As a component of the EA, this Noise and Vibration Impact Assessment (NVIA) has been prepared to document the existing conditions and assess the potential effects of the new GO Station on the noise and vibration in the surrounding community. This Report includes a summary of the existing conditions, potential effects and appropriate mitigation measures with respect to noise and vibration.

1.2 Purpose of Study

The objective of this NVIA is to assess the potential increase in noise levels at nearby noise sensitive land uses as a result of the proposed Park Lawn GO Station and related accelerating and decelerating rail traffic. In addition, construction noise and vibration impacts on nearby sensitive land uses are assessed.

2. Study Area

2.1 Description of Study Area

The Park Lawn GO Station will be located in the City of Toronto in the northwest quadrant of the former Mr. Christie land, surrounded by Park Lawn Road to the west; Lakeshore Boulevard to the east; and the Gardiner Expressway to the north. The GO Station will be on both sides of the Lakeshore West corridor. The Park Lawn GO Station will provide a stop between Mimico GO Station and Exhibition GO Station.

The station footprint was defined on the basis of the Preliminary Station Design. The Study Area for the NVIA Scope of Work is shown in Figure 2-1 and consists of a 500-metre radius around the boundary of the Station footprint. The Study Area encompasses the future Park Lawn GO Station, as well as the nearby Noise and Vibration Sensitive Areas (NSA & VSA).

Within the Study Area, a dense population of sensitive areas has been identified. Worst-case representative noise and vibration sensitive receptors were selected. These are listed and located in Section 2.2 of this report. Hatch notes that this impact assessment will be based on the Preliminary Station Design that is currently being advanced.

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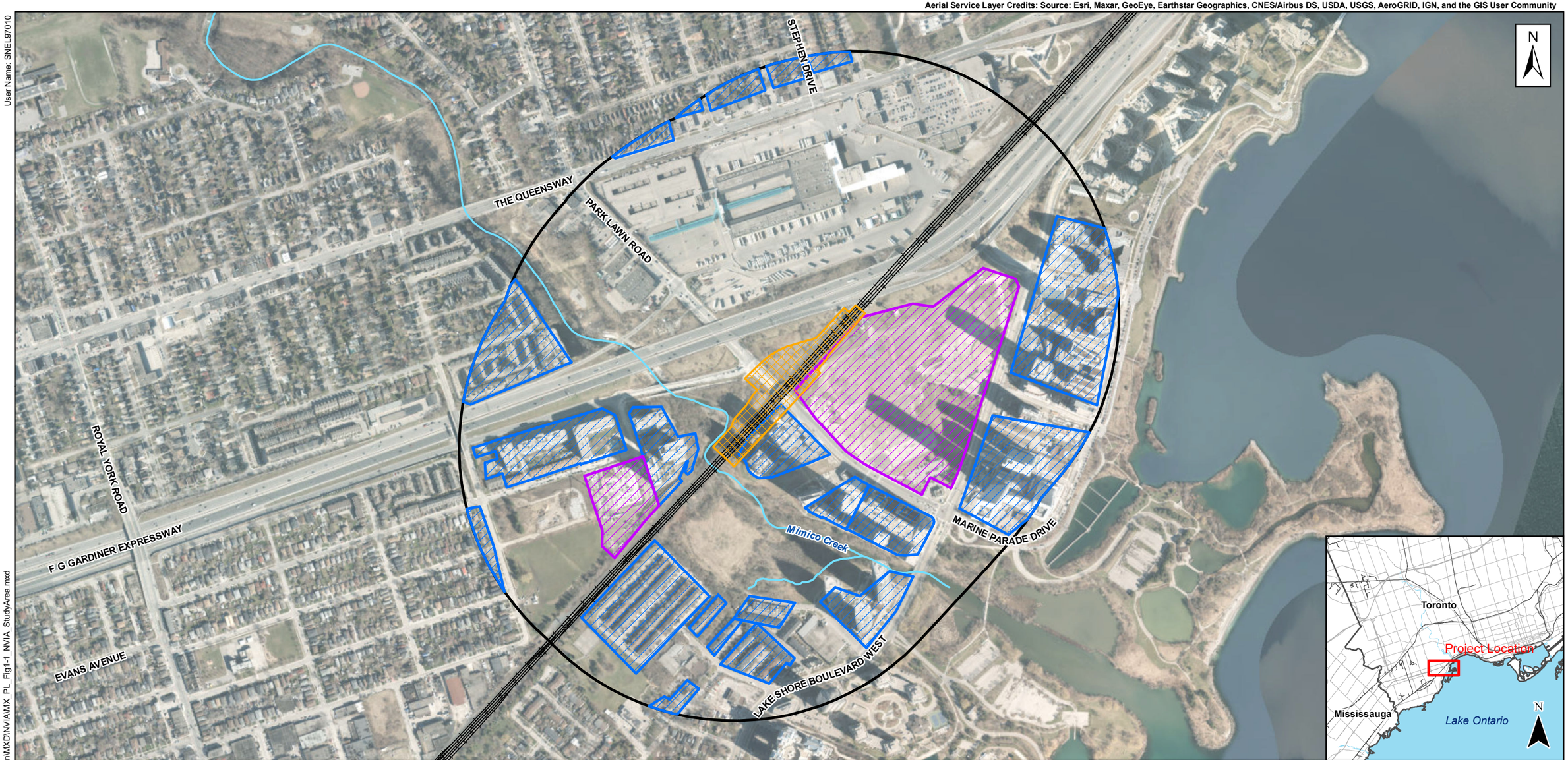

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LEGEND

- Proposed Project Footprint (approximate)
- Study Area - 500 meters
- Railway
- Permanent Watercourse
- Existing Noise Sensitive Areas
- Future Noise Sensitive Areas

NOTES

1. Coordinate system - UTM NAD 1983 Zone 17N
2. Sources: Roads, Railways, Watercourses - Land Information Ontario; RNFP, City of Toronto 2019.
3. Station Footprint Based on Preliminary Station Design.

0 100 200 400 Meters

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Project:	**Park Lawn GO Station**		
Figure Title:	**Noise and Vibration Impact Assessment - Study Area**		
Prepared By: HATCH		**Date:** August 18, 2021	
Version: PL.NV.90-1	**Review:**	**Figure:** 2-1	**Page:** 1 of 1

2.2 Sensitive Receptors

Sensitive Receptors were selected to determine noise and vibration level compliance based on the geographical and land use context in the vicinity of the proposed Park Lawn GO Station as described below.

Based on the Ministry of the Environment and Energy (MOEE)/GO Transit Draft Protocol for Noise and Vibration Assessment [1] (hereafter referred to as the MOEE/GO Transit Draft Protocol), Sensitive Receptor refers to a residential dwelling or place where people ordinarily sleep, learn or pray, or a commercial/industrial operation that is exceptionally sensitive to noise and vibration, such as a hospital. A copy of the Protocol is provided in Appendix A of this Report for reference. Table 2-1 presents a brief description of points of reception (POR) and summarizes receptor location setbacks, elevations, and receptor heights used in the analysis.

Table 2-1: Points of Reception Description

Noise Receptor	Daytime	Nighttime
Period	07:00 to 23:00 hours	23:00 to 07:00 hours
Living Space	Any outdoor location on the property of a sensitive land use where sound originating from the Project is received and which is no less than 15 m from the nearest track's centre line	
Receptor Location	3 m from the unit in the front or backyard whichever is most exposed to the noise source (Low density residential). Plane of the apartment bedroom/living room (High density residential).	Plane of a bedroom window
Height	1.5 m (Low density residential) Worst- case plane of the apartment bedroom/living room elevation (High density residential).	Worst-case plane of a bedroom window elevation.

Representative noise and vibration receptors were identified based on the existing NSAs in proximity to the proposed GO Station location, as well as future development. The selected noise and vibration receptors represent a variety of conditions, including near-proximity to the proposed GO Station and tracks, full and partial exposure to the station and the tracks, low-density and high-density sensitive uses, and locations that would exhibit different background noise conditions. The selected worst-case representative receptors were used when modelling noise and vibration levels for the scenarios presented in Section 4.1. The identified receptors for this study are illustrated in Figure 2-2, and are listed in Table 2-2. These include both existing and proposed sensitive uses. Figure 2-2 also includes baseline noise and vibration monitoring locations, as listed in Table 3-1.

Table 2-2: Identified Points of Reception

Receptor	Address	Land Use
R-01	2121 Lake Shore Boulevard West, Etobicoke, ON M8V 4E9	Residential
R-02	245 Dalesford Road, Etobicoke, ON M8Y 4H7	Residential
R-03	2150 & 2194 Lake Shore Boulevard West, 23 Park Lawn Road	Future Residential
R-04	2150 & 2194 Lake Shore Boulevard West, 23 Park Lawn Road	Future Residential
R-05	2157 Lake Shore Boulevard West, Etobicoke, ON M8V 0A8	Residential
R-06	90 Park Lawn Road, Etobicoke, ON M8Y 0B6	Residential
R-07	36 Park Lawn Road #1, Etobicoke, ON M8V 0E5	Residential
R-08	185 Legion Road North, Etobicoke, ON M8Y 0A7	Residential
R-09	161 Legion Road North, Etobicoke, ON M8Y 0B3	Residential
R-10	251 Manitoba Street, Etobicoke, ON M8Y 1E3	Future Residential
R-11	157 Harbourview Crescent, Etobicoke, ON M8V 3V6	Residential
R-12	60 Annie Craig Drive, Etobicoke, ON M8V 0C5	Residential
R-13	32 Legion Road, Etobicoke, ON M8V 4C5	Residential
R-14	2230 Lake Shore Boulevard West, Etobicoke, ON M8V 0B2	Residential

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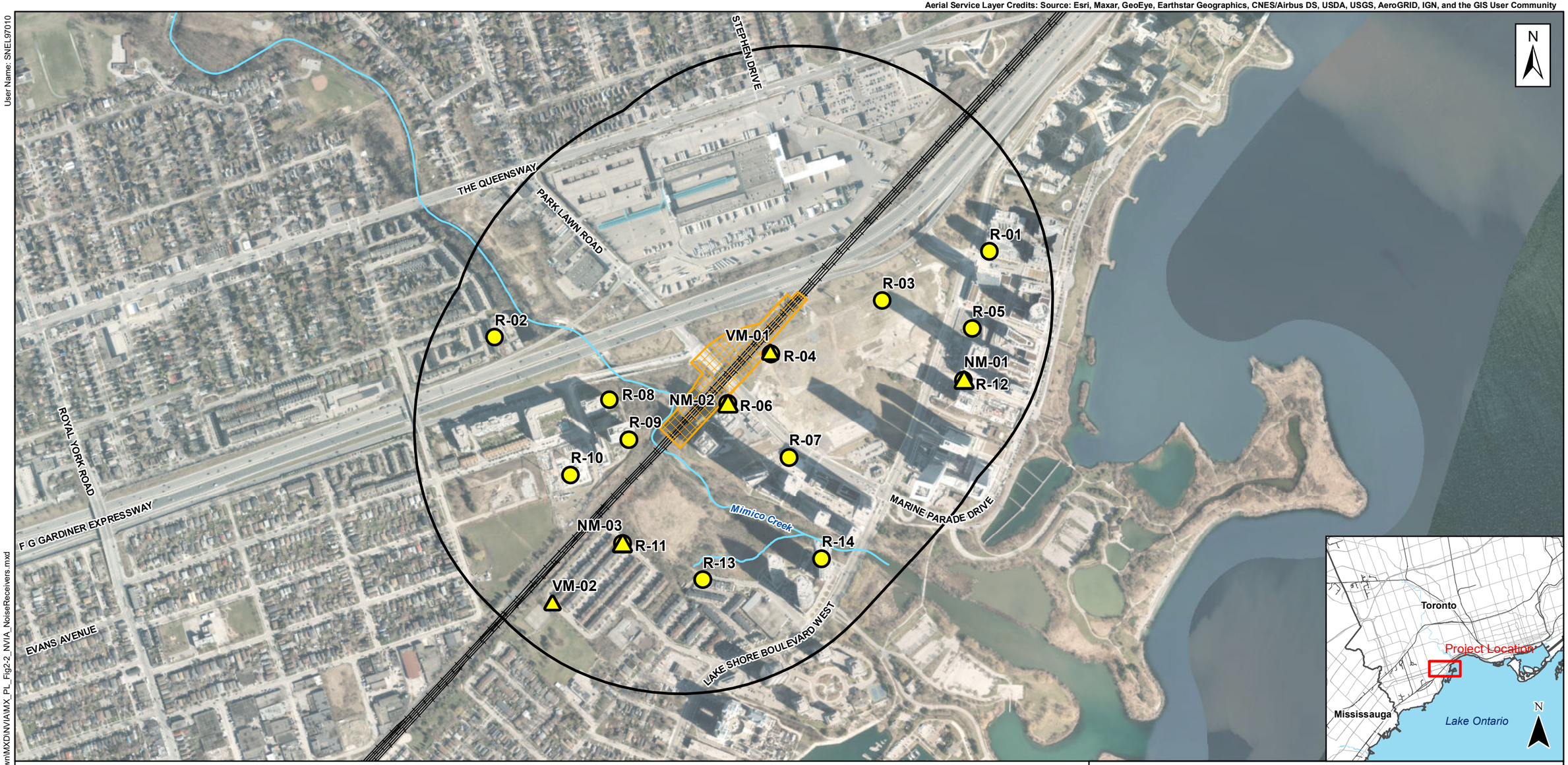


LEGEND

- Proposed Project Footprint (approximate)
- Study Area - 500 Metres
- Railway
- Permanent Watercourse
- Receptor
- Monitor

NOTES

1. Coordinate system - UTM NAD 1983 Zone 17N.
2. Sources: Roads, Railways, Watercourses - Land Information Ontario;
3. Station Footprint Based on Preliminary Station Design.

0 100 200 400 Meters

1:8,000

Project: Park Lawn GO Station			
Figure Title: Noise and Vibration Receptor and Monitoring Locations			
Prepared By: HATCH		**Date:** August 18, 2021	
Version: PL.NV.90-1	**Review:**	**Figure:** 2-2	**Page:** 1 of 1

3. Existing Conditions

3.1 Noise and Vibration Monitoring Locations

Locations for noise and vibration monitoring were chosen to determine the existing ambient noise and vibration levels in proximity to the proposed Park Lawn GO Station.

These locations are listed in Table 3-1 below and are shown in Figure 2-2.

Table 3-1: Noise and Vibration Monitoring Locations

Monitoring Location	Address
NM-01	60 Annie Craig Drive, Etobicoke, ON M8V 0C5
NM-02	90 Park Lawn Road, Etobicoke, ON M8Y 0B6
NM-03	157 Harbourview Crescent , Etobicoke, ON M8V 3V6
VM-01	2150 & 2194 Lake Shore Boulevard West, 23 Park Lawn Road
VM-02	Manchester Park by 91 Harbourview Crescent, Etobicoke, ON M8V 4A9

3.2 Baseline Noise Monitoring

3.2.1 Instrumentation and Procedures

Convergence Instruments “Noise Sentry RT” integrating sound level meters were utilized for the noise monitoring. Calibration was completed before and after each measurement. Instrumentation specification can be found in Appendix B

3.2.2 Baseline Noise Monitoring Results

Table 3-2 lists the measured minimum one-hour sound level ($L_{eq\ 1hr}$) identified at each monitoring location as per the measured baseline noise monitoring data, acquired in February 2020. Noise monitoring data can be found in Appendix C. The modelled noise levels (further details regarding methodology in Section 5.2) correspond to existing train traffic volumes extracted from existing GO train schedules, information provided by VIA/CN, and vehicular traffic volumes in the vicinity of the Park Lawn GO Station from data from the transportation team. Existing train and traffic volume data is included in Appendix D. Table 3-2 presents the measured and modelled noise levels.

Table 3-2: Modelled and Measured Existing Noise Levels

Noise Monitor ID	Corresponding Receptor ID	Baseline Measurements		Modelled Results		Difference	
		Day [dBA]	Night [dBA]	Day [dBA]	Night [dBA]	Day [dB]	Night [dB]
NM-01	R-12	60	56	54	50	-6	-6
NM-02	R-06	61	54	62	56	1	2
NM-03	R-11	55	47	54	49	-1	2

Considering the CadnaA model is accurate to approximately +/- 3 dB, the following differences between measured and modeled results identifies the level measurement to model correlation:

- 3 dB or less = Good
- 3-5 dB = Fair
- >5 dB = Poor

During the daytime, modelled sound levels at NM-02 and NM-03 show “good” correlation with a difference of 3 dB or less from measured sound levels. Similarly during the nighttime, modelled sound levels at NM-02 and NM-03 show “good” correlation with a difference of 3 dB or less from measured sound levels.

CadnaA tended to under-predict sound levels at NM-01 during the daytime and during the nighttime (-6 dB). These differences could be attributed to:

- The lack of traffic data for the local roadways in the vicinity of the receiver (Silver Moon Drive and laneway north of 60 Annie Craig Drive). As this monitor is located more than 350 metres from the major noise sources in the area (e.g., Gardiner Expressway, Lakeshore West train traffic), sound levels due to local traffic become more significant; and
- Construction activities were observed north of 60 Annie Craig Drive and west of Silver Moon Drive. Noise due to construction activities is likely a contributor to monitored sound levels. Thus quieter modelled sound levels are expected at this monitoring location as they do not include construction noise sources.

Overall, this comparison shows good correlation between measured and modelled baseline levels, which in turn supports the modeling approach and the use of the modeling software.

3.3 Baseline Vibration Monitoring

3.3.1 Instrumentation and Procedures

The LDS Dactron Focus II Dynamic Signal Analyzer with high sensitivity seismic transducers model 3191A with sensitivities of 4,804 mV/g and 4,700 mV/g were utilized for the vibration measurements. Two transducers were ground mounted to bare earth per monitoring location equidistant to the track. This is to account for potential variations in ground composition, allow a comparison of measurements at the same distances, and provide redundancy in case of equipment failure. This setup is shown in Figure 3-1. Vibration levels were measured in the vertical axis at the monitoring locations shown in Figure 2-2. The vibration instrumentation specification can be found in Appendix B.

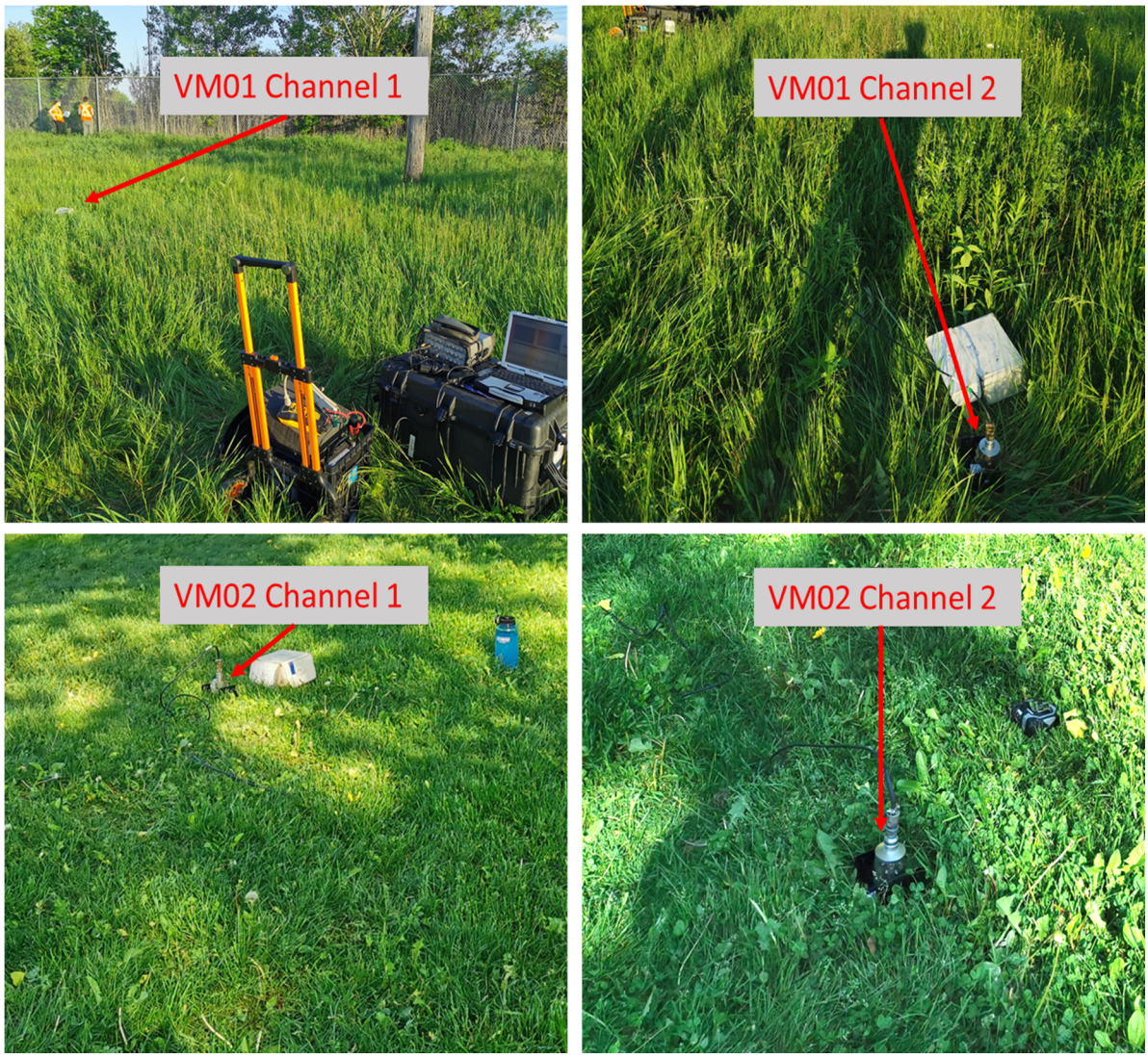


Figure 3-1: Vibration Instrumentation Setup

3.3.2 Baseline Vibration Monitoring Results

A total number of four train passes were measured at VM-01 and five train passes at VM-02. The measured existing vibration levels were compared to the vibration model (further details regarding methodology in Section 7.2) by comparing the monitoring data to the modelled baseline conditions results.Table 3-3 summarizes this comparison. Vibration monitoring data is presented in Appendix C.

Table 3-3: Comparison Between Modelled and Measured Vibration Levels

Monitor Location	Channel	Distance from Tracks (m)	Ave. Measured Vibration Level of all train passes (mm/sec, RMS) +	Max. Measured Vibration Level of all train passes (mm/sec, RMS)+	Predicted Vibration Level (mm/sec, RMS)*
VM-01	1	24.5	0.07	0.12	0.30
	2	24.5	0.09	0.13	
VM-02	1	44.5	0.02	0.03	0.15
	2	44.5	0.01	0.02	

* Based on a train speed of 95 km/h

+Based on the peak running RMS over a 1-sec time window across the passing period of the documented trains.

The measured vibration levels are significantly lower than those predicted at the same location. This is expected as the United States Federal Transit Administration (FTA) General Method (more below in Section 7.2) is conservative – it is based on the upper range of measured data for various systems across North America. Further, predicted vibration levels were based on GO train speeds of 95 km/h whereas trains travelled noticeably slower during vibration monitoring.

4. Basis of Assessment

4.1 Assessment Assumptions

The following scenarios formed part of the assessment:

- Existing Conditions;
- Future Year 2028 “Future No-Build”, which consists of future train volumes and future vehicular volumes, including the proposed Relief Road but without the Park Lawn GO Station; and
- Future Year 2028 “Future Build”, which consists of future train volumes and future vehicular volumes, including the proposed Relief Road, and the Park Lawn GO Station,

It is noted that although eventual electrification of the Lakeshore West rail corridor is anticipated, this assessment is conservatively based on diesel locomotives.

4.2 Applicable Criteria

The criteria used to assess the Project construction and operations phases are each detailed below.

4.2.1 Construction Noise Criteria

Construction noise and vibration is based on the MOE Noise Pollution Control (NPC) Publications NPC-115 - Construction Equipment (1978) [6] and NPC-118 (part of the MOE Model Municipal Noise Control By-law) [7], the United States FTA Transit Noise and Vibration Impact Assessment (2018) [3], the United Stated Federal Highway Administration Highway Construction Noise Handbook (2006) [4] and the City of Toronto *Municipal Code Chapter 591 – Noise.*

4.2.1.1 Ministry of the Environment, Conservation, and Parks (MECP) Provincial Construction Noise Requirements

Noise Pollution Control Publication 115 (NPC-115) of the Ontario Model Municipal Noise Control By-law stipulates specific sound emission standards for various pieces of construction equipment. This publication does not set receptor-based sound level limits due to construction activities, but rather sets limits for noise generated by each individual piece of construction equipment. Table 4-1 lists Residential Area sound emission standards and Quiet Zone sound emission standards for specific items of construction equipment based on their date of manufacturing and power rating. As noted therein, quiet zone and residential area sound emission standards for excavation equipment, including bulldozers, front end loaders, backhoes or other related equipment are provided.

Table 4-1: NP-115 Maximum Noise Emission Levels for Typical Construction Equipment

Type of Equipment Maximum Sound Level (dBA)	Quiet Zone Maximum Sound Level (dBA)	Residential Area Sound Emission Standard (dBA)	Distance (m)	Power Rating (kW)
Excavation Equipment(1) (January 1, 1981 and later)	83	-	15	Less than 75 kW
	85	-	15	75 kW or Greater
Pneumatic Equipment(2)	85	85	7	-
Portable Compressors (January 1, 1981 and later)	70	76	7	-

(1) Excavation equipment includes bulldozers, backhoes, front end loaders, graders, excavators, steam rollers and other equipment capable of being used for similar applications.
(2) Includes pavement breakers.
(3) Distances based on NPC-103 Procedures (Section 6, 7 and 9).

Noise Pollution Control Publication 118 (NPC-118) of the Ontario Model Municipal Noise Control By-law sets sound emission standards for motorized conveyances of various types. This publication does not set receptor-based sound level limits due to heavy vehicle operations, but sets limits for noise generated by each individual piece of equipment.

Table 4-2 lists for various years of manufacture, the sound emission standard for a heavy vehicle powered by a diesel engine. Heavy vehicle refers to a motorized conveyance having a registered gross weight of more than 4,500 kg.

Table 4-2: NPC-118 Maximum Noise Emission Levels for Standard Diesel Heavy Vehicles

Date of Manufacture	Maximum Sound Level (dBA)	Distance (m)
Prior to January 1, 1979	100	15
January 1, 1979 and after	95	15

In addition, NPC-119 of the Ontario Model Municipal Noise Control By-law sets noise and vibration limits due to blasting. Blasting will not take place as a result of the construction of the proposed GO Station therefore, the requirements from NPC-119 are not applicable.

4.2.1.2 Municipal Noise Requirements

Key elements of the City of Toronto Noise By-law (Municipal Code – Chapter 591: Noise) related to construction activities include By-law No. 1400-2007 (Construction Noise) as follows:

1. No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction, if it is clearly audible at a POR:

a) In a quiet zone or residential area within the prohibited period of 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, and all-day Sunday and statutory holidays; or

b) In any other area within the prohibited period of all day Sunday and statutory holidays.

2. Subsection (1) does not apply to the continuous pouring of concrete, large crane work, necessary municipal work and emergency work that cannot be performed during regular business hours.

The above restrictions are put in place for the time of day that construction activity is allowed to occur without permitting. However under Article 3 (591-3.1.D), exemptions are made for 'Government work'. Though this project is in co-ordination with Metrolinx, a provincial agency, and requires rail corridor overbuild construction, it is being undertaken by FCR and therefore is not considered 'Government work'. Therefore, the project is considered not exempt from restrictions under City of Toronto Municipal Code Chapter 591.

When applying for exemptions to City of Toronto Municipal Code Chapter 591 under article 591-3.2, Subsection D(4) notes that the exemption is still subject to an equipment $L_{eq10min}$ noise limit of 85 dBA, 20 m from the source.

4.2.1.3 Metrolinx Guideline

Metrolinx' Environmental Guide for Noise and Vibration Impact Assessment – Rev. 7 (final) [8] acknowledges that there are a number of existing guidelines and best practices that outline community annoyance limits arising from construction noise. However, there currently does not exist any federal, provincial or municipal guidelines that encompass construction noise annoyance at the receptor level. Based on significant construction project experience in dense urban areas across southern Ontario, Metrolinx has adopted an industrial standard that incorporates construction noise guidelines that are equivalent to, or in some cases, more stringent than MECP construction noise protocols and the municipal noise and vibration bylaw, presented in Sections 4.2.1.1 and 4.2.1.2. Deferring to the Metrolinx guideline ensures that all MECP and municipal guidelines are followed. As such, Metrolinx has recommended the following construction best practices as summarized in Table 4-3. These are adapted from the FTA Transit Noise and Vibration Impact Assessment (2018) and the Highway Construction Noise Handbook from the United States Federal Highway Administration (2006).

Table 4-3: Construction Noise Criteria

Land Use	L_{eq} (15h, 9h) [dBA]	
	Day (07:00 – 22:00)	**Night (22:00 – 07:00)**
Residential – Weekday	Louder of: 75 or Baseline+5	Louder of: 65 or Baseline+5
Residential – Weekend & Holiday	Louder of: 70 or Baseline+5	Louder of: 60 or Baseline+5
Institutional	Louder of: 70 or Baseline+5	Louder of: 60 or Baseline+5
Commercial	Louder of: 80 or Baseline+5	None

There are also 15-minute exposure and maximum level criteria in the Metrolinx Guide. However, a more conservative approach of evaluating the worse case construction phase with noisy equipment operating at a minimum of 1-hour continuously plus impulse events will be completed (as typically occurs at construction sites). This will encompass the 15-min exposure maximum level outlined by the Metrolinx Guide.

4.2.2 Construction Vibration Criteria

There are no federal or provincial construction vibration limits. Vibration levels due to construction shall employ the Toronto Municipal Code Chapter 363, Building Construction and Demolition, Article 5 requirements [5]. This By-law stipulates that no person shall carry on a construction activity resulting in construction vibrations that exceed the levels set out in Table 4-4.

As per the City of Toronto Municipal Code Chapter 363, Building Construction and Demolition, Article 5 requirements [5], if any structures fall within the zone of influence (ZOI), FCR will undertake construction vibration monitoring to ensure that the vibration levels noted in Table 4-4 are never exceeded. The ZOI is defined as the area of land adjacent to or within the construction site, where the Peak Particle Velocity (PPV) is determined to be greater or equal to 5 mm/s.

Table 4-4: City of Toronto Prohibited Vibration Limits

Frequency of Vibration (Hz)	Vibration Peak Particle Velocity (mm/s)
Less than 4	8
4 to 10	15
More than 10	25

If the ZOI crosses the property boundary upon which a structure exists, the following will be required for each structure:

- Pre-construction consultations with the owners/occupants of the properties that fall within the ZOI;
- Pre-construction measurements of background vibration levels within the ZOI; and
- Pre-condition survey by means of a photographic record of affected structure façades and all surfaces that fall within the ZOI, including visible sections of building foundations, building cladding, doors, windows, interior wall finishes, surface pavement, sidewalks, trees, signs and trees. Each of the elements should be rated on their general condition (new, good, fair, poor, severe), and visible defects should be photographed.

If a structure falls within the ZOI, the following will be required in addition to the above:

- A vibration monitoring program to confirm that the Prohibited Construction Vibrations are not exceeded at or near the structure.

In addition, NPC-119 of the Ontario Model Municipal Noise Control By-law sets noise and vibration limits due to blasting. Blasting will not take place as a result of the construction of Park Lawn GO Station, therefore, the requirements from NPC-119 are not applicable.

4.2.3 Operational Noise Criteria

The operations noise assessment is based on the MOEE/GO Transit Draft Protocol, dated January 1995. As per the MOEE/GO Transit Draft Protocol, rail service is considered to include the operation of trains on the Lakeshore West rail corridor and the operation of trains inside the proposed GO Station. Idling of GO Trains inside the GO Station is considered part of the operations phase. Moreover, in accordance with the MOEE/GO Transit Draft Protocol, the future noise effect of the GO Station should be assessed using the future GO Transit train volume projections, from the commencement of operations to a maximum of twenty years in the future.

An objective of the MOEE/GO Transit Draft Protocol is that the daytime (i.e., 07:00 to 23:00 hours) Equivalent Continuous Sound Level, L_{eq} (16 hours), produced by future rail service operation of the GO Transit project under assessment, does not exceed the higher of:

a. The ambient sound level (combined with the sound level from existing rail service); or

b. 55 dB.

The MOEE/GO Transit Draft Protocol also has an objective that the night-time (i.e., 23:00 to 07:00 hours) L_{eq} (8 hours) produced by the future rail service operation of the GO Transit project does not exceed the higher of:

a. The ambient sound level (combined with the sound level from existing rail service); or

b. 50 dB.

To assess the impact at a Point of Reception (POR), the Adjusted Noise Impact level is used. The Adjusted Noise Impact level is the difference in sound level between pre-project and post-project noise. In accordance with the MOEE/GO Transit Draft Protocol, if the difference in sound level is five dB or higher, the potential to mitigate will be evaluated based on administrative, operational, economic, and technical feasibility. Table 4-5 summarizes the Adjusted Noise Impact rating and the corresponding mitigation requirements.

Table 4-5: Summary of Impact Rating and Corresponding Mitigation Requirement

Change in Noise Level	Impact Rating	Mitigation Effort Required
0 to 2.99 dB	Insignificant	None
3 to 4.99 dB	Noticeable	None
5 to 9.99 dB	Significant	• Investigate the potential of noise control measures to mitigate based on administrative, operational, economic and technical feasibility • If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Station is as close to, or lower than, the rail service objective.
10+ dB	Very Significant	

The noise impacts of stationary noise sources, Heating, Ventilation and Air Conditioning (HVAC) equipment, other mechanical equipment and Public Announcement (PA) speakers will be assessed according to MECP's Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300" dated August 2013 (hereafter referred to as NPC-300).

The area surrounding Park Lawn GO Station corresponds to a Class 1 Area, as it exhibits the acoustic characteristics of a major population centre, given the proximity to the Gardiner Expressway and to major transportation corridors and industries (e.g., Ontario Food Terminal). Table 4-6 presents the applicable stationary sound level criteria for a Class 1 Area as per NPC-300.

Table 4-6: NPC-300 Class 1 Area Stationary Sound Level Criteria

Source Type	Location	Time	Class 1 - Urban Limits (L_{eq}1-hour)
Stationary Source	Outdoor	0700 - 1900h	Higher of 50 dBA or ambient
		1900 - 2300h	Higher of 45 dBA or ambient
	Façade	0700 - 1900h	Higher of 50 dBA or ambient
		1900 - 2300h	Higher of 50 dBA or ambient
		2300 - 0700h	Higher of 45 dBA or ambient

4.2.4 Operational Vibration Criteria

Similar to the noise assessment, the vibration assessment is also based on the MOEE/GO Transit Draft Protocol dated January 1995. The objective is that the vibration average Root-Mean-Square Velocity (RMSV) does not exceed 0.14 mm/s or existing vibration levels at a Point of Vibration Assessment. The impact at a Point of Vibration Assessment will fall into one of the following categories, as shown in Table 4-7.

Table 4-7: Vibration Assessment Criteria

Category	Existing Vibration Velocity	Future Vibration Velocity
A	< 0.14 mm/s	< 0.14 mm/s
B	< 0.14 mm/s	> 0.14 mm/s
C	> 0.14 mm/s	Same as existing vibration velocity
D	> 0.14 mm/s	Exceeds the existing vibration velocity

When the vibration velocity at the POR exceeds the objective by 25 percent, vibration control measures should be investigated within the constraints of administrative, aesthetic, economic and technical feasibility.

In addition, Draft technical publication NPC-207, "Impulse Vibration in Residential Buildings", November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, August 1978, as amended (hereafter referred to as NPC-207) addresses vibration impacts due

to impulse vibration from stationary sources, such as for example stamping presses or forging hammers. The proposed GO Station will not introduce vibration stationary sources of this nature, therefore, the requirements of NPC-207 are not applicable.

5. Noise Assessment Methodology

5.1 Construction Noise Assessment Methodology

A noise model was developed to predict construction sound levels within the Study Area. The methodology consists of a propagation model to determine Sound Pressure Levels generated at each receptor. The total sound power of the construction equipment was averaged over an area source corresponding to the station footprint, and positioned 1.5m above the terrain elevation. All construction equipment was assumed to be operating simultaneously. Section 6.1.1 lists the assumed construction equipment and reference sound powers. This propagation model, based on the ISO 9613-2 algorithm, accounts for topographic and ground effects, the distance of the construction equipment to the noise receptor, and the duty cycles for construction equipment.

5.2 Operational Noise Assessment Methodology

5.2.1 Estimation Procedures

Train operational noise modelling was undertaken based on the US FTA General Noise Assessment. This algorithm is incorporated in the Cadna/A software package. Road traffic emissions were predicted using the United States Federal Highway Administration Traffic Noise Model (TNM 2.5), also incorporated in the Cadna/A software package. Additionally, stationary noise sources related to the GO station were predicted based on the ISO 9613-2 algorithm, also incorporated in the Cadna/A software package. The models included the effects of nearby geometry including source to receiver distances, ground conditions and topography, and existing and future buildings.

Transportation sound levels were predicted based on future train/vehicular volumes (see Table 6-3 and Table 6-4), train speed profiles (see Appendix D), roadway posted speed limits, and track characteristics such as crossovers and switches. Worst-case train composition for all trains was assumed, which are diesel trains consisting of two locomotives and 12 cars (D2L12), with a locomotive at each end of the consist. This configuration allows D2L12 trains to be easily converted to D1L6 trains. Throttle notch setting #8 (worst-case) was assumed for all trains accelerating from the station, and throttle notch setting #5 was assumed for all trains decelerating prior to arrival to the station, and for all trains passing through the station. For all trains stopping at Park Lawn GO Station, an idling time of 1.5 minutes was included. Train whistle noise was excluded from the model as there are no at-grade crossings within the Study Area. Further, as per the Metrolinx Guide S. 7.2.1.3, train bells were excluded from this assessment.

Stationary sound levels included public announcement (PA) speaker emissions, with its spacing and quantity based on a desktop review from Mimico Station. It is understood that all air handling equipment will be located inside the station, in order to minimize station building

heights and avoid unsightly views to the stations roofs from adjacent high-rise buildings. As this equipment is expected to be located inside, any noise impacts would be negligible and thus noise from air handling equipment is not included in this assessment.

However, this assumption should be verified during detailed design of the station. Furthermore, once the PA speaker specifications and locations are finalized, the stationary noise assessment should be verified to include the most up to date sound power levels of the speakers.

6. Noise Impact Assessment

The noise impact assessment considered how the Park Lawn GO Station could potentially affect surrounding sensitive receivers. The noise contours showing the impact of the station are presented in Appendix E. This section summarizes the potential effects, the prescribed mitigation measures and monitoring activities designed to minimize the anticipated noise impacts resulting from construction and operations/maintenance of the Park Lawn GO Station.

6.1 Potential Effects

6.1.1 Construction Noise

Construction activities associated with the Park Lawn GO Station that are likely to cause potential noise effects generally include:

- Soil excavation, grading and compaction;
- Vehicle movements, heavy lifting; and
- Existing track modifications and demolition.

The above potential effects are generally limited to the lands adjacent to the Park Lawn GO Station and may be perceived as a short-term nuisance to affected building occupants, including nearby residents. All anticipated construction equipment to be operated during the worst-case construction phase is listed in Table 6-1

Sound power level data and reference vibration data were obtained from the British Standards Code of Practice for Noise and Vibration for Construction and Open Sites [9] and the US Federal Transit Administration Transit Noise and Vibration Impact Assessment [3]. The usage factor was based on the FWHA Highway Construction Noise Handbook [4].

Table 6-1: Construction Noise and Vibration Sources

Source Description	QTY	Sound Power (dBA)	NPC 115 Limit (dBA)[1]	NPC 118 Limit (dBA)[1]	Usage Factor	Vibration PPV (mm/s)
Chainsaw	1	112	-	-	0.2	-
Compressor	1	90	101	-	0.4	-
Concrete truck	2	104	-	120	0.4	30.0 @ 1m
Diesel generator	1	86	-	120	1.0	-
Dump truck	2	112	-	120	0.6	30.0 @ 1m
Excavator	1	115	110	-	0.4	21.0 @ 1m
Flatbed Truck	1	111	-	120	0.4	1.9 @ 7.6m
Grader	1	111	-	-	0.4	2.0 @ 1m
Loader	1	100	110	-	0.4	0.1 @ 7.6 m

[1] Sound Power calculated using hemispherical geometric dispersion at distances noted in guideline for equivalent comparison

Source Description	QTY	Sound Power (dBA)	NPC 115 Limit (dBA)[1]	NPC 118 Limit (dBA)[1]	Usage Factor	Vibration PPV (mm/s)
Tracked Mobile Crane	1	87	-	-	0.2	0.7 @ 7.6m
Vibratory roller	1	101	-	-	1.0	5.3 @ 7.6 m

Table 6-2 presents the resulting sound levels during construction, assuming all construction equipment is operating simultaneously while taking their duty cycle into account. Note that receptor sound levels in Table 6-2 are based on worst-case receptor elevations; for condominium towers this is typically at an elevation overlooking the future Park Lawn GO station. This worst-case elevation was determined using CadnaA's 'vertical grid function'. It was assumed that construction will occur during the daytime on week days and weekends, in addition to nighttime construction during the week. The applicable sound level criteria from Table 4-3 were used to compare against modelled results.

Table 6-2: Construction Noise Impact Assessment

Receptor	Daytime Weekday Criterion, L_{eq} 15hr (dBA)	Daytime Weekend Criterion, L_{eq} 15hr (dBA)	Nighttime Weekday Criterion, L_{eq} 9hr (dBA)	Daytime/Nighttime Predicted Sound Level, L_{eq} 15/9hr (dBA)*	Exceeds Criterion?
R1	75	70	65	54	**No**
R2	75	70	65	35	**No**
R5	75	70	65	55	**No**
R6 (upper levels)	75	70	65	74	**Yes – daytime weekend and nighttime weekday**
R6 (OLA)	75	70	65	65	**No**
R7	75	70	65	62	**No**
R8	75	70	65	63	**No**
R9	75	70	65	63	**No**
R10	75	70	65	39	**No**
R11	75	70	65	53	**No**
R12	75	70	65	55	**No**
R13	75	70	65	45	**No**
R14	75	70	60	42	**No**

Note that R3 and R4 were omitted from the construction analysis because they are located on the FCR lands where future residential buildings will be built. The construction of Park Lawn GO Station and Phase 1 of the FCR development will be occurring simultaneously; therefore, at the time of construction, there will not be any sensitive receivers on FCR lands.

6.1.2 *Operation and Maintenance Noise*

Operations and maintenance activities associated with the Park Lawn GO Station that are likely to cause potential noise effects are categorized into stationary noise sources and transportation noise sources. As mentioned, the noise impacts of stationary sources will be assessed according to MECP's Publication NPC-300, and the noise impacts of transportation noise sources will be assessed according to the MOEE/GO Transit Draft Protocol.

As noted previously, all air handling equipment is intended to be located inside the station. Thus, noise related to air handling equipment is deemed insignificant and is not included in this assessment. However, once a more detailed station layout becomes available, this assumption should be verified.

Table 6-3 summarizes future train data for year 2037 as obtained from Metrolinx, and Table 6-4 summarizes future vehicular volumes as obtained from the transportation team. For the purposes of this assessment, year 2037 train volumes were assumed for year 2028. It is unknown if the electric/diesel train consists from 2037 data can be applied to year 2028. Thus, the train consists were conservatively assumed to be D2L12 for all trains, which reflects worst-case train type/composition. Further details are provided in Appendix D.

Table 6-3:Year 2037 Future Train Information

Train Type	Number of Trains		Maximum number of Cars per Train		Maximum number of Locomotives per Train	
	Day	Night	Day	Night	Day	Night
GO Transit Passenger – (Revenue)	219	42	12	12	2	2
GO Transit Passenger – (Non-Revenue)	37	5	12	12	2	2
VIA Passenger (Revenue)	15	1	5	5	1	1
VIA Passenger (Non-Revenue)	19	9	30	30	1	1
Freight – CN Rail	1	0	N/A	25	4	N/A

Table 6-4: Year 2028 Future Vehicular Traffic Volumes

Road	Section	Day (7AM to 11PM)			Night (11PM to 7AM)		
		Total Volume	Medium Vehicle %	Heavy Vehicle %	Total Volume	Medium Vehicle %	Heavy Vehicle %
Park Lawn Rd.	Immediately North of Gardiner Expy WB On Ramp	28,040	1%	2%	3,115	3%	2%
Park Lawn Rd.	Immediately South of Gardiner Expy EB Off Ramp	23,850	0%	1%	2,650	0%	1%
Park Lawn Rd.	Immediately North of Lake Shore Blvd W	17,100	0%	1%	1,900	0%	1%

Road	Section	Day (7AM to 11PM)			Night (11PM to 7AM)		
		Total Volume	Medium Vehicle %	Heavy Vehicle %	Total Volume	Medium Vehicle %	Heavy Vehicle %
Lake Shore Blvd W.	Immediately West of Park Lawn Rd	22,530	1%	1%	2,505	1%	1%
Lake Shore Blvd. W.	Immediately East of Park Lawn Rd	24,170	1%	1%	2,685	0%	1%
Lake Shore Blvd. W.	Immediately East of Brookers Ln	12,025	0%	2%	1,335	0%	1%
The Queensway	Immediately East of Park Lawn Rd	38,090	1%	1%	4,230	3%	1%
Gardiner Expy WB On Ramp	From Park Lawn Rd	14,370	3%	2%	1,595	8%	3%
Gardiner Expy EB Off Ramp	To Park Lawn Rd	16,125	1%	1%	1,790	2%	2%
Gardiner Expy Ramps	To/From Relief Rd (Lake Shore)	13,660	0%	1%	1,515	0%	0%
Gardiner Expy	Between Park Lawn Rd and Humber River	141,770	2%	2%	25,020	5%	2%

The Adjusted Noise Impact between the future scenarios for transportation noise is summarized in Table 6-5. Note that receptor sound levels in Table 6-5 are based on worst-case receptor elevations; for condominium towers this is typically at an elevation overlooking the future Park Lawn GO station. This worst-case elevation was determined using CadnaA's 'vertical grid function'. The adjusted noise impacts between the Future Build, and Future No-Build case, at all sensitive receptors, are all equal to or less than 3dB, which is classified as insignificant in Table 4-5. Therefore no mitigation strategies are required.

Table 6-5: Summary of Sound Levels at the Sensitive Receivers – Transportation Noise

Point of Reception	Distance to Center of Tracks (m)	Time Period	Future No-Build (dBA)			Future Build (dBA)			Adjusted Noise Impact (dB)
			Road	Rail	Overall	Road	Rail	Overall	
R1	218	Day	63	53	64	63	54	64	0
		Night	57	52	58	57	52	58	0
R2	400	Day	58	47	58	58	49	58	0
		Night	53	43	54	53	45	54	0
R3	47	Day	71	65	72	71	70	74	0
		Night	67	62	68	67	66	70	0
R4	28	Day	66	70	71	66	73	74	0
		Night	62	66	67	62	69	70	0
R5	307	Day	56	52	57	56	53	58	0
		Night	50	50	53	50	51	54	0
R6	37	Day	65	68	70	65	69	70	-1
		Night	61	65	66	60	65	66	-1
R7	193	Day	57	52	58	57	54	59	0
		Night	51	48	53	51	50	53	0
R8	128	Day	69	61	69	69	62	70	0
		Night	65	57	65	65	58	65	0
R9	50	Day	57	66	66	59	66	67	3
		Night	53	62	63	55	63	63	3
R10	94	Day	57	66	66	59	66	67	3
		Night	53	54	56	53	54	56	0
R11	87	Day	55	58	60	55	58	60	0
		Night	51	54	56	51	54	56	0
R12	370	Day	53	50	55	53	52	55	0
		Night	46	49	51	46	50	51	0
R13	245	Day	51	53	55	52	54	56	1

Point of Reception	Distance to Center of Tracks (m)	Time Period	Future No-Build (dBA)			Future Build (dBA)			Adjusted Noise Impact (dB)
			Road	Rail	Overall	Road	Rail	Overall	
		Night	47	49	51	48	50	52	1
R14	398	Day	50	50	53	50	51	53	0
		Night	44	47	49	44	48	50	0

The open air station platform layout illustrated in Figure 6-1 consists of 17 speakers on each of the east and west bound platforms, for a total of 34 speakers. The platform speakers are the sole significant stationary noise sources for the station. Table 6-6 summarizes the sound powers of the speakers applied in the acoustic model.

Table 6-6: Stationary Noise Source Summary

Stationary Noise Source	Quantity	Sound Power Level [dB]							
		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Projection Speakers 2.9W - Station Public Announcement (PA) System*	34	86	86	94	94	97	101	104	94
Idling trains**	4 (two locomotives for each platform – one at each end)	96 dBA (overall)							

*Note that the speakers were assumed to be operating at this sound level for a total of 7.5 minutes over an 8-hour period, not operating continuously.
**Idling trains were evaluated as part of the rail vehicle movement scenario instead of the station source scenario to align with MOEE-GO Protocol guidance

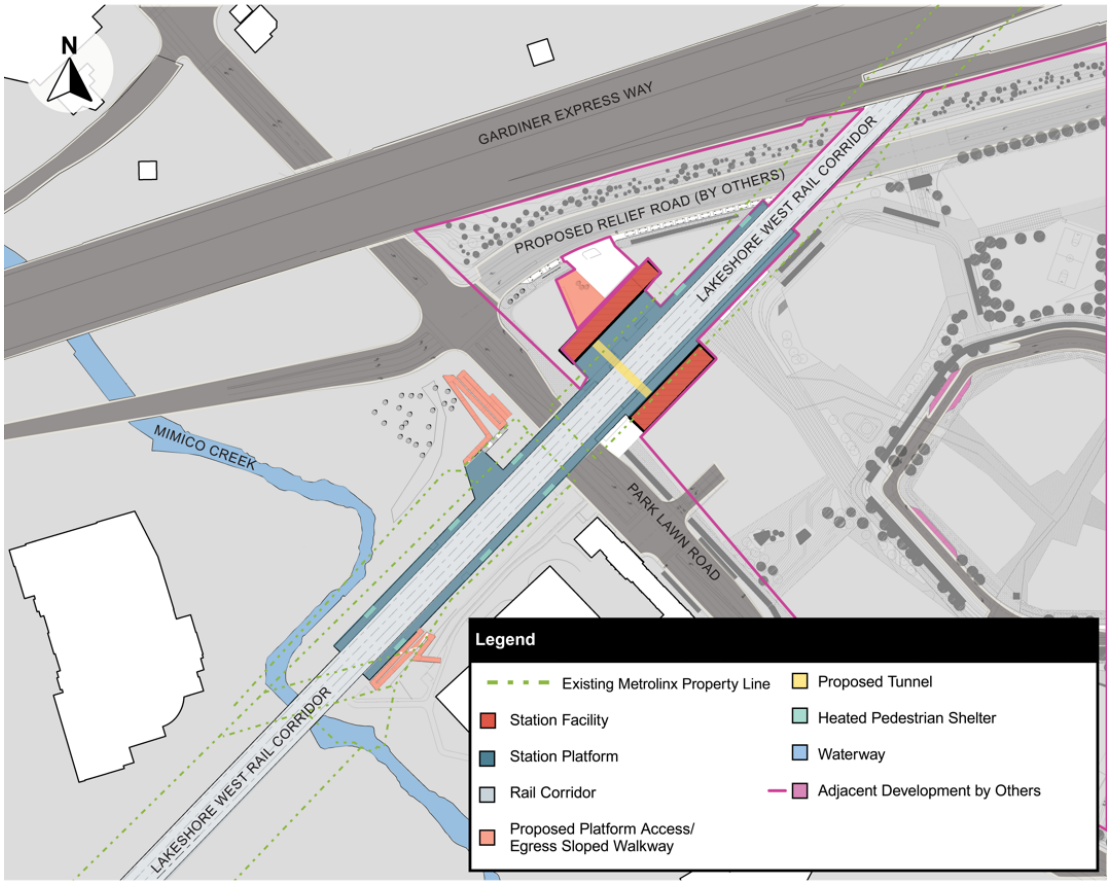


Figure 6-1: Proposed Station Layout

Table 6-7 presents the stationary noise assessment findings. As per NPC-300, these levels represent 'project only' sound levels. Note that receptor sound levels in Table 6-7 are based on worst-case receptor elevations; for condominium towers this is typically at an elevation overlooking the future Park Lawn GO station. This worst-case elevation was determined using CadnaA's 'vertical grid function'. As the ambient noise levels in the Future No-Build exceed MECP's NPC-300 exclusion limits, the ambient sound levels become the applicable criteria. The Future Build Stationary Source noise levels do not exceed applicable daytime and nighttime limits, therefore no mitigation strategies are required. Note the low sound levels presented below. This is expected at some receivers due to the large distances separating the proposed Park Lawn GO Station and these receivers, and due to noise shielding provided by structures and terrain in-between.

Table 6-7: Summary of Park Lawn Station Stationary Sound Levels at the Sensitive Receivers

Point of Reception	Distance to Center of Tracks (m)	Time Period	Sound Level Criteria (dBA)	Future Build (dBA)	Exceeds Sound Level Limit?
R1	218	Day	61	17	No
		Night	55	13	No
R2	400	Day	57	15	No
		Night	53	12	No
R3	47	Day	65	51	No
		Night	61	47	No
R4	28	Day	67	64	No
		Night	62	61	No
R5	307	Day	55	16	No
		Night	50	13	No
R6	37	Day	63	61	No
		Night	59	58	No
R7	193	Day	56	40	No
		Night	50	37	No
R8	128	Day	61	49	No
		Night	57	46	No
R9	50	Day	60	51	No
		Night	57	48	No
R10	94	Day	60	20	No
		Night	53	17	No
R11	87	Day	55	41	No
		Night	51	38	No
R12	370	Day	52	17	No
		Night	47	14	No
R13	245	Day	52	36	No
		Night	48	33	No
R14	398	Day	51	27	No
		Night	46	24	No

6.2 Noise Mitigation Measures

6.2.1 Construction Noise

6.2.1.1 Construction Noise Best Management Practices

Construction BMPs will be utilized to minimize any adverse effects from construction noise at nearby sensitive receptors.

- Whenever possible, construction activities will occur during the day instead of at night;
- If construction needs to be undertaken outside of the normal daytime hours, local residents and the City of Toronto will be informed beforehand of the type of construction planned and the expected duration;
- Keep equipment well-maintained and fitted with efficient muffling devices;
- Restrict idling of equipment to the minimum necessary to perform the specified work;
- Avoid unnecessary revving of engines and switch off equipment when not required;
- Coordinate “noisy” operations such that they will not occur simultaneously, where possible;
- Use rubber linings in chutes and dumpers to reduce impact noise, where possible;
- For reversing equipment, use automatic audible reversal broadband alarms instead of tonal alarms;
- Adjust site layout to minimize reversing. Apply drive forward in and out conditions where possible;
- Provide silencers on supply air ventilation fans for underground work;
- Minimize drop heights of materials; and
- Route haulage/dump trucks on main roads where possible, rather than on quieter residential roads.

6.2.1.2 Construction Noise Mitigation at R06

Construction noise was assessed at two locations at 88-90 Park Lawn Road, represented by R06. These two locations correspond to the upper level residential units overlooking the future station, and to the Outdoor Living Area located on the northwest side of 88-90 Park Lawn Road.

At the upper dwelling units levels, sound levels at R06 are predicted to exceed the nighttime weekday and daytime weekend construction noise criteria. However, sound levels at R6 are predicted to remain below the daytime weekday criteria. As these dwelling units will be overlooking the construction site, temporary noise barriers cannot practically mitigate construction sound levels. Therefore, it is recommended that:

- The Construction Noise BMPs listed in Section 6.2.1.1be implemented;
- To the extent possible, all noisy construction equipment be located on the north side of the platforms, when working west of Park Lawn Road;
- As part of the monitoring/verification plan recommended in Section 6.2.1.1and Section 6.2.1.1 include noise monitoring at receptor R06;
- Construction be kept to the weekday daytime to extent possible;
- Schedule noisy construction operations such that they will not occur simultaneously to extent possible.

At the Outdoor Living Area, sound levels at R6 are predicted to be within criteria despite the potential demolition of the existing noise barrier north of 86-90 Park Lawn Road. This is due to the existing retaining wall providing noise shielding.

6.2.2 Operation and Maintenance Noise

Based on the results presented in Table 6-5, there are no cases where the Adjusted Noise Impact is considered "Significant" (between a 5 and 9.99 dB increase) or "Very significant" (greater than 10 dB increase) for the Future Build scenario. Furthermore, as per Table 6-7, all stationary sound levels related to the station will remain within MECP's NPC-300 sound level limits. Therefore, noise control measures are not required during the operations/maintenance phases of Park Lawn GO Station.

6.3 Monitoring Activities for Noise

6.3.1 Construction Noise

As per the Metrolinx Guidelines, 'Type 1' monitoring is required as construction will take place in an urban area, has the potential to last for more than 12 months, and nighttime construction activity may be required. 'Type 1' monitoring means continuous monitoring is required throughout construction. On this basis:

- Continuous noise monitoring is required on the north side of 88-90 Park Lawn Road as this property will be the most impacted by construction noise.

Furthermore, a Construction Noise and Vibration Monitoring Plan shall be prepared prior to the start of construction activities. From a construction noise perspective, this document should:

- Propose verification procedures related to the effectiveness of the above-noted mitigation measures and the execution of construction BMPs;
- Identify the proposed instrumentation and duration for noise monitoring at 88-90 Park Lawn Road;
- Propose procedures to follow when exceedances are identified; and
- Propose a complaint protocol, based on empirical data for the assessment of complaints.

Construction activities will be monitored by a qualified Environmental Inspector. Should the Environmental Inspector confirm the prescribed mitigation measures and/or best practices are not functioning as planned, revised mitigation measures and/or best practices designed to improve effectiveness will be implemented. The revised measures shall be reinstated as required in a timely manner.

6.3.2 Operation and Maintenance Noise

Metrolinx and GO Transit have ongoing inspection programs to monitor and upkeep their equipment and infrastructure. Maintaining good working order of their property is anticipated to reduce incidents of community exposure to excessive noise emissions. A complaints procedure is in place to address any concerns raised by neighbouring land owners, the City or the public.

7. Vibration Assessment Methodology

7.1 Construction Vibration Assessment Methodology

Vibration levels are predicted using the methodology contained in the FTA *Transit Noise and Vibration Impact Assessment* publication [3]. The methodology consists of applying propagation adjustments to construction equipment reference vibration levels, which were available for a reference distance. The propagation model accounts for distance and ground conditions. The estimated vibration levels were compared with the Toronto Municipal Code Chapter 363, Building Construction and Demolition, Article 5 zone of influence, defined as the area within or outside the construction site where PPV are 5 mm/sec or greater. Any structures falling within the ZOI are identified for construction vibration monitoring.

7.2 Operational Vibration Methodology

Vibration levels are modelled using the General Assessment method presented in the FTA's Transit Noise and Vibration Impact Assessment Manual.

Using the generalized ground surface vibration curve for *Locomotive Powered Passenger or Freight*, as illustrated in Figure 7-1 a vibration emission baseline curve can be established. This curve is based on both heavy and light rail vehicles on at-grade and subway tracks across North America. This is a conservative approach as the curve is based on the upper range of measured data from well-maintained systems.

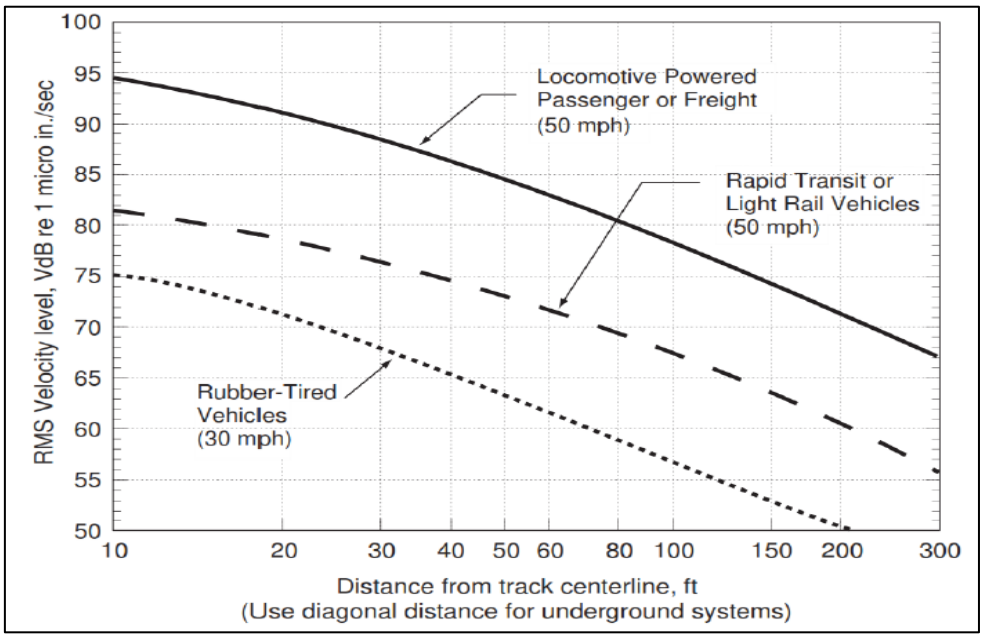


Figure 7-1: Generalized Ground Surface Vibration Curves

The vibration-to-distance decay baseline curve is then adjusted based on several parameters specific to the operating transit system and its surroundings Table 7-1 summarizes the assumptions used in the vibration analysis.

Table 7-1: Summary of Assumptions Used in the Operational Vibration Assessment

Modelling Parameter	Scenario		Basis of Assumption
	Future (No Build)	Future (Build)	
Speed (km/h)	95	Varies depending on location as train accelerate/decelerate near station.	Based on the speed profiles used for the GO Expansion projects.
Vehicle	New or wheel maintained. No wheel flats, no stiff primary suspension.		It is assumed that GO Transit vehicles will be well maintained, without worn wheels or wheel flats.
Track conditions	Well maintained, continuously welded track, no special track work.		Based on existing trackwork and proposed station layout.
Ground Propagation	Typical		Based on measured vibration levels typical ground propagation correlates better than efficient propagation. As shown in Table 3-3, even with typical ground propagation the FTA General Assessment method yields vibration levels that are significantly higher than measured vibration levels.
Coupling loss	Varies depending on the type of receptor: either large masonry structure or wood framed house.		Based on existing structures and review or architectural plans for proposed structures.
Floor-to-floor attenuation	No floor-to-floor attenuation.		Typically there is dispersion and attenuation of vibration energy as it propagates through the structure. However conservatively no attenuation is assumed.

8. Vibration Impact Assessment

8.1 Potential Effect

8.1.1 Construction Vibration

8.1.1.1 Construction Vibration Structure Damage Assessment

The vibration levels from various construction equipment were analyzed. The equipment that will emit the highest vibration levels during construction was identified to be the vibratory roller and auger piler. As a result, the worst-case construction vibration ZOI will be eight metres from the construction site perimeter, as shown in Table 8-1.

Figure F-1 in Appendix F of this report illustrates the extent of the vibration ZOI. For a complete list of anticipated construction equipment and activities, refer to Table 6-1.

Table 8-1: Construction Vibration Zone of Influence (Structure Damage)

Equipment	Reference Peak Particle Velocity at 7.6 m (mm/s)	Zone of Influence (m)
Vibratory Roller/ Auger-Piling	5.33	8.0

Table 8-2: Structures within the Building Damage Vibration Zone of Influence

Municipal Address
96 Park Lawn Road

A precondition survey and vibration monitoring will be required during construction at 96 Park Lawn Road. Further details are provided in Section 8.3.1

8.1.1.2 Construction Vibration Annoyance Assessment

Based on discussions with Metrolinx, the limits from Table 4-7, have been applied to the construction vibration annoyance assessment. As per the MOEE/GO Transit Draft Protocol, a 25 percent increase in vibration levels is allowed from existing conditions or the 0.14 mm/s RMS limit before vibration mitigation becomes necessary. This results in a limit of 0.175 mm/s for construction vibration annoyance.

Note that the 0.175 mm/s limit, adapted from the MOEE/GO Transit Draft Protocol, is intended to evaluate the vibration impacts from operating trains, which is a permanent condition as opposed to construction. Further, the trains emit significantly less vibration than some pieces of equipment (e.g. vibratory roller, auger piling). As such, the 0.175 mm/s RMS limit, used herein to evaluate construction vibration annoyance, is expected to yield construction vibration annoyance zones of influence that are not practical or are not feasible to mitigate.

As noted in Section 8.1.1.1, the equipment that will emit the highest vibration levels during construction was identified as the vibratory roller and auger piler. Table 8-3 presents the resulting construction vibration annoyance ZOI.

Table 8-3: Construction Vibration Zone of Influence (Annoyance)

Equipment	Reference Peak Particle Velocity at 7.6 m (mm/s)	Zone of Influence (m)
Vibratory Roller/ Auger-Piling	5.33	30.0

The construction vibration annoyance zone of influence will extend into the residential buildings at 88-90 Park Lawn Road and 165 Legion Road. As such, there is the potential for construction vibration annoyance at these properties.

Although there is no practical way to mitigation vibration due to construction, the construction vibration Best Management Practices from Section 8.2.1.1 are to be implemented to minimize disturbance to nearby residents.

8.1.2 Operation and Maintenance Vibration

The FTA general vibration assessment method was used to determine vibration level at each Sensitive Receptor within the study area.

Table 8-4 summarizes the predicted vibration impact at the sensitive receptors most exposed to vibration, represented by R03, R04, R06, R09, and R11. These receivers are within 61 m from the nearest railway, which is the FTA screening distance for Category II Buildings (Residential) near conventional commuter rail. As expected, vibration levels have decreased in all cases given that the introduction of the Park Lawn Station GO will result in lower train velocities.

Table 8-4: Vibration Level Summary at Most Exposed Sensitive Receptors

POR	Future No-Build Velocity RMS (mm/s)	Future Station Build Velocity RMS (mm/s)	Difference Velocity RMS (mm/s)
R03	0.10	0.07	-0.03
R04	0.10	0.08	-0.02
R06	0.08	0.05	-0.03
R09	0.06	0.05	-0.01
R11*	0.09	0.08	-0.01

*Assessed at first-row dwellings corresponding to 44.5m from nearest railway

8.2 Vibration Mitigation Measures

8.2.1 Construction Vibration

8.2.1.1 Construction Vibration Best Management Practices

Construction BMPs will be utilized to minimize any adverse effects from construction vibration at nearby sensitive receptors. Prior to construction, a Noise and Vibration Control Plan shall be

developed and implemented to reduce the vibration impacts at sensitive receptors. The following BMPs are recommended to minimize construction vibration impacts.

- Substitute equipment generating high levels of vibration whenever possible. For example, smaller compactors could be used instead of a vibratory roller;
- Schedule construction activities that have the potential to generate high vibration levels to daytime hours;
- Whenever possible, plan haul routes to avoid residential areas;
- When deep foundation excavation, employ augured secant pile or similar techniques. Avoid shoring panel installation using vibratory or post impact methods; and
- Maintain access routes to avoid the formation of potholes.

8.2.1.2 Construction Vibration Mitigation at 88-90 and 96 Park Lawn Road

To control and minimize construction vibration impacts at 88-90 and 96 Park Lawn Road, the following is recommended.

- West of Park Lawn Road, it is recommended that construction equipment operate at minimum of eight metres away from the construction site perimeter to the extent possible;
- Vibration monitoring will be required during construction at 96 Park Lawn Road as this building falls within the construction vibration ZOI. This is illustrated in Figure F-1. Further details are provided in Section 8.3.1; and
- Pre-condition surveys are recommended at 88 and 90 Park Lawn Road as the construction vibration ZOI falls within this property. Further details are provided in Section 8.3.1.

8.2.2 Operation and Maintenance Vibration

The results of the operational vibration assessment show all vibration levels will decrease after the introduction of the Park Lawn GO Station. As such, no vibration control measures are required.

8.3 Monitoring Activities for Vibrations

8.3.1 Construction Vibration

'Type 1' monitoring is required as construction will take place in an urban area, has the potential to last for more than 12 months, and nighttime construction activity may be required. 'Type 1' monitoring means continuous monitoring is required throughout construction. Further, the construction vibration ZOI falls within the property at 88-90 Park Lawn Road, and within the building located at 96 Park Lawn Road. This is illustrated in Figure F-1. On this basis:

- A pre-condition survey by means of a photographic record should be undertaken on structures on the north side of 88-90 Park Lawn Road; and
- Continuous vibration monitoring is required on the north side of the building located at 96 Park Lawn Road.

Furthermore, a Construction Noise and Vibration Monitoring Plan shall be prepared prior to the start of construction activities. From a construction vibration perspective, this document should:

- Propose pre-construction consultations with the owners/occupants of the properties that fall within the ZOI, namely, 88-90 and 96 Park Lawn Road;
- Propose pre-construction measurements of background vibration levels within the ZOI;
- Propose a pre-condition survey by means of a photographic record of affected structure façades and all surfaces that fall within the ZOI, including visible sections of building foundations, building cladding, doors, windows, interior wall finishes, surface pavement, sidewalks, trees, signs and trees. Each of the elements should be rated on their general condition (new, good, fair, poor, severe), and visible defects will be photographed;
- Propose construction vibration monitoring procedures to confirm that the Prohibited Construction Vibrations limits from Table 4-4 are not exceeded;
- Identify the proposed instrumentation and duration for vibration monitoring;
- Propose procedures to follow when exceedances are identified; and
- Propose a complaint protocol, based on empirical data for the assessment of complaints.

Construction activities will be monitored by a qualified Environmental Inspector. Should the Environmental Inspector confirm the prescribed mitigation measures and/or best practices are not functioning as planned, revised mitigation measures and/or best practices designed to improve effectiveness will be implemented. The revised measures shall be reinstated as required in a timely manner.

8.3.2 Operation and Maintenance

Metrolinx and GO Transit have ongoing inspection programs to monitor and upkeep its equipment and infrastructure. Maintaining good working order of its property is anticipated to reduce incidents of community exposure to excessive vibration emissions. A complaints procedure is in place to address any concerns raised by neighbouring land owners, the City of Toronto, or the public.

9. Summary of Noise and Vibration Impact Assessment

Table 9-1 summarizes the NVIA for Park Lawn GO Station.

Table 9-1: Summary of Noise and Vibration Impact Assessment

Feature	Potential Effects	Mitigation Measures	Monitoring Activities
Construction			
Lands Adjacent to the Park Lawn GO Station (Noise)	• Construction sound levels are expected to be within the daytime criteria at nearby sensitive receptors. • Construction sound levels are expected to exceed sound level criteria during the nighttime and weekend. This exceedance is limited to the upper level north-facing units in the two condominium buildings located at 88-90 Park Lawn Road. This is due to: o Soil excavation, grading, compaction; o Vehicle movement, heavy lifting; and o Existing track modifications and demolition.	• The following construction BMPs will be utilized to minimize any adverse effects from construction noise at nearby sensitive receptors. o If construction needs to be undertaken outside of the normal daytime hours, local residents and municipalities will be informed beforehand of the type of construction planned and the expected duration; o Keep equipment well-maintained and fitted with efficient muffling devices; o Restrict idling of equipment to the minimum necessary to perform the specified work; o Avoid unnecessary revving of engines and switch off equipment when not required; o Coordinate “noisy” operations such that they will not occur simultaneously, where possible; o Use rubber linings in chutes and dumpers to reduce impact noise, where possible; o For reversing equipment, use automatic audible reversal broadband alarms	• ‘Type 1’ (i.e. continuous) monitoring is required throughout construction on the north side of 88-90 Park Lawn Road as this property will be the most impacted by construction noise. • A Construction Noise and Vibration Monitoring Plan should be prepared prior to the start of construction activities. This document should: o Propose verification procedures related to the effectiveness of the above-noted mitigation measures and the execution of construction best practices; o Identify the proposed instrumentation and duration for noise monitoring at 88-90 Park Lawn Road; o Propose procedures to follow when exceedances are identified; and o Propose a complaint protocol, based on empirical data for the assessment of complaints. • Construction activities will be monitored by a qualified Environmental Inspector. Should the Environmental Inspector confirm the prescribed mitigation measures and/or best practices are not functioning as planned, revised mitigation measures and/or best practices designed to improve

Feature	Potential Effects	Mitigation Measures	Monitoring Activities
		instead of tonal alarms; o Adjust site layout to minimize reversing. Apply drive forward in and out conditions where possible; o Provide silencers on supply air ventilation fans for underground work; o Minimize drop heights of materials; and o Route haulage/dump trucks on main roads where possible, rather than on quieter residential roads; and o Prior to construction, a Noise and Vibration Control Plan shall be developed and implemented to reduce the noise impacts at sensitive receptors. The plan will include the following details for noise: verification procedures, monitoring instrumentation and monitoring duration, procedures to follow when exceedances are identified, and a complaint protocol. Please refer to Section 6.3.1 for further details.	effectiveness will be implemented. The revised measures shall be reinstated as required in a timely manner.
Lands Adjacent to the GO Station (Vibration)	• Nuisance to adjacent building occupants resulting from construction activities causing vibrations, typically involving: o Soil excavation, grading,	• Construction BMPs will be utilized to minimize any adverse effects from construction vibration at nearby sensitive receptors. Prior to construction, a Noise and Vibration Control Plan shall be developed and implemented to reduce the vibration impacts at sensitive receptors. The following BMPs are	• 'Type 1' (i.e. continuous) monitoring is required throughout construction at 96 Park Lawn Road as this building falls within the vibration ZOI. • A pre condition survey by means of a photographic record should be undertaken on structures on the north side of 88-90 Park Lawn Road.

Feature	Potential Effects	Mitigation Measures	Monitoring Activities
	compaction; o Vehicle movements, heavy lifting; and o Existing track modifications and demolition. • Potential damage to properties at 88-90 and 96 Park Lawn Road.	recommended to minimize construction vibration impacts: o Substitute equipment generating high levels of vibration whenever possible. For example, smaller compactors could be used instead of a vibratory roller; o Schedule construction activities that have the potential to generate high vibration levels to daytime hours; o Whenever possible, plan haul routes to avoid residential areas; o When deep foundation excavation, employ augured secant pile or similar techniques. Avoid shoring panel installation using vibratory or post impact methods; and o Maintain access routes to avoid the formation of potholes. • West of Park Lawn Road, it is recommended that construction equipment operate at minimum of eight metres away from the construction site perimeter to extent possible.	• A Construction Noise and Vibration Monitoring Plan shall be prepared prior to the start of construction activities. This document should: o Propose pre-construction consultations with the owners/occupants of the properties that fall within the zone of influence, namely, 88-90 and 96 Park Lawn Road; o Propose pre-construction measurements of background vibration levels within the ZOI; o Propose a pre-condition survey by means of a photographic record of affected structure façades and all surfaces that fall within the zone of influence, including visible sections of building foundations, building cladding, doors, windows, interior wall finishes, surface pavement, sidewalks, trees, signs and trees. Each of the elements should be rated on their general condition (new, good, fair, poor, severe), and visible defects will be photographed; o Propose construction vibration monitoring procedures to confirm that the Prohibited Construction Vibrations limits from Table 4-4 are not exceeded; o Identify the proposed instrumentation and time-periods for vibration monitoring; o Propose procedures to follow when exceedances are identified; and

Feature	Potential Effects	Mitigation Measures	Monitoring Activities
			o Propose a complaint protocol, based on empirical data for the assessment of complaints. • Construction activities will be monitored by a qualified Environmental Inspector. Should the Environmental Inspector confirm the prescribed mitigation measures and/or best practices are not functioning as planned, revised mitigation measures and/or best practices designed to improve effectiveness will be implemented. The revised measures shall be reinstated as required in a timely manner.
Operations and Maintenance			
Lands Adjacent to the GO Station (Noise)	• Causes of potential noise effects can include: o Increased vehicle movements in and out of the station, o PA system; o Speed and throttle setting variation of rolling stock.	• There are no cases where the Adjusted Noise Impact is considered “Significant” (between a 5 and 9.99 dB increase) or “Very significant” (greater than 10 dB increase) for the Future Build Transportation scenario. • All stationary sound levels related to the station will remain within MECP’s NPC-300 sound level limits. • Therefore, noise control measures are not required.	• Metrolinx and GO Transit have ongoing inspection schedules to monitor the effectiveness of their operations. • A complaints procedure is in place to address any concerns raised by neighbouring land owners, the City of Toronto, or the public.
Lands Adjacent to the GO Station (Vibration)	• Causes of potential vibration effects can include: o Train pass-bys.	• Vibration mitigation measures are not deemed to be necessary during the operations and maintenance phase.	• Metrolinx and GO Transit have ongoing inspection schedules to monitor the effectiveness of their operations. • A complaints procedure is in place to address any concerns raised by neighbouring land owners, the

Feature	Potential Effects	Mitigation Measures	Monitoring Activities
	Although, as illustrated in Section 8.1.2 – vibration levels are expected to decrease		City of Toronto, or the public.

10. Conclusion and Recommendations

10.1 Noise Assessment

10.1.1 Noise Assessment Conclusions

Construction activities were reviewed and sound level calculations were completed to assess noise produced from anticipated construction activities. On this basis it was determined that sensitive receptors near the construction site will not exceed the applicable criteria during weekday daytime construction conditions.

However, construction sound levels are expected to exceed sound level criteria during nighttime and weekend daytime construction conditions. This exceedance is limited to the upper level north-facing units in the two condominium buildings located at 88-90 Park Lawn Road. Construction noise was assessed at to the Outdoor Living Area located on the northwest side of 88-90 Park Lawn Road. Construction sound levels will not exceed the applicable criteria at this location.

During the operations/maintenance phase, there are no cases where the Adjusted Noise Impact was “Significant” or “Very Significant”; therefore, no mitigation measures are required.

The Future Build Stationary source noise levels do not exceed the ambient, therefore no mitigation strategies are required. However, once the PA speaker specifications are finalized, the stationary noise assessment should be verified to include the most up to date sound power levels of the speakers.

10.1.2 Noise Assessment Recommendations

The following is recommended during the construction phase of Park Lawn GO Station:

- Implement the Construction Noise BMPs listed in Section 6.2.1.1;
- To the extent possible, all noisy construction equipment be located on the north side of the platforms, when working west of Park Lawn Road;
- Keep construction to the weekday daytime only to extent possible;
- Type 1’ (i.e., continuous) monitoring is required throughout construction on the north side of 88-90 Park Lawn Road as this property will be the most impacted by construction noise. Further details are provided in 6.3.1; and
- A Construction Noise and Vibration Monitoring Plan should be prepared prior to the start of construction activities. Further details are provided in 6.3.1.

Noise control measures are not required during the operations/maintenance phase of Park Lawn GO Station.

10.2 Vibration Assessment

10.2.1 Vibration Assessment Conclusions

The building damage construction vibration ZOI was determined to be eight metres – encompassing all structures listed in Table 8-2 The ZOI falls within the property at 88-90 Park Lawn Road and within the building located at 96 Park Lawn Road.

The construction vibration annoyance zone of influence will extend into the residential buildings at 88-90 Park Lawn Road and 165 Legion Road. As such, there is the potential for construction vibration annoyance at these properties. Best Management Practices listed in Section 8.2.1.1 are to be implemented to possible extent to minimize disturbances to nearby residents.

Vibration levels were modelled using the General Vibration Assessment method. The vibration assessment shows that the Future Build scenario has slightly lower vibration levels, which is attributed to lower train speeds. Therefore, vibration control measures are not required during the operations/maintenance phase of Park Lawn GO Station

10.2.2 Vibration Assessment Recommendations

The following is recommended during the construction phase of Park Lawn GO Station:

- Implement the Construction Vibration BMPs listed in Section 8.2.1.1;
- West of Park Lawn Road, it is recommended that construction equipment operate at minimum of eight metres away from the construction site perimeter to extent possible;
- Vibration monitoring will be required during construction at 96 Park Lawn Road as this building falls within the construction vibration ZOI. This is illustrated in Figure F-1. Further details are provided in Section 8.3.1; and
- Pre-condition surveys are recommended at 88 and 90 Park Lawn Road as the construction vibration ZOI falls within this property. Further details are provided in Section 8.3.1 Vibration control measures are not required during the operations/maintenance phase of Park Lawn GO Station.

11. References

[1] Ministry of Environment and Energy, "MOEE / GO Transit Noise and Vibration Protocol," 1994.

[2] Ontario Ministry of the Environment, "NPC-300 - Environmental Noise Guideline," 2013.

[3] Federal Transit Administration, "Transit Noise and Vibration Impact Assessment," 2018.

[4] Federal Highway Administration, "FHWA Highway Construction Noise Handbook," 2006.

[5] City of Toronto, "Toronto Municipal Code Chapter 363, Building Construction and Demolition, Article 5.," Toronto, Nov. 27, 2019.

[6] Ontario Ministry of the Envinronment, "NPC-115 Construction Equipment," 1978.

[7] Ontario Ministry of the Environment, "NPC 118 - Motorized Conveyances".

[8] Metrolinx, "Environmental Guide for Noise and Vibration Impact Assessment," 2019.

[9] "British Standards, BS 5228 - Code of Practice for Noise and Vibration on Construction and Open Sites - Noise," 2016.

[10] Government of Ontario, "O. Reg 213/91 Construction Projects," 2018.

[11] I. O. f. Standardization, ISO 9613-2: Acoustics - Attenuation of Sound during the Propagation Outdoors Part 2: General Method of Calculation, Geneva, Switzerland, 19686.

Appendix A

Draft Protocol

MOEE / GO TRANSIT
DRAFT PROTOCOL FOR NOISE AND VIBRATION ASSESSMENT

1.0 PURPOSE

GO Transit and the Ministry of Environment and Energy (MOEE) recognize that commuter rail transit facilities produce noise and vibration which may affect neighbouring properties. This document identifies the framework within which criteria will be used to assess noise and vibration from proposed GO Transit rail projects. The framework in this document is to be applied for planning purposes in order to address the requirements of the Environmental Assessment Act and is to be utilized during implementation of the project.

The purpose of this document can be summarized by the following:

- assist GO Transit in the preparation of Environmental Assessments;
- streamline the MOEE's noise impact review of Environmental Assessments; and
- make available to the public a consistent approach for Environmental Assessments.

This Protocol does not apply to existing GO Transit operations, nor does it apply to projects undertaken by other non-GO Transit rail operators.

2.0 SCOPE

- Establish noise and vibration objectives for GO Transit rail projects.
- Establish methods of assessment - measurement and prediction.
- Enable the comparison of alternatives.
- Establish the framework for the assessment of mitigation where impacts are identified.

3.0 DEFINITIONS

Adjusted Noise Impact:

Noise impact is the incremental increase in the pre-project equivalent sound level resulting from the introduction of a GO Transit project. The Adjusted

Noise Impact is calculated by adjusting the value of the noise impact to indicate greater impact at higher pre-project sound levels.

Ambient Noise (Ambient Sound Level):

The ambient noise (ambient sound level) is the sound existing at a point of reception in the absence of all noise from the GO Transit rail project. In this Protocol, the ambient is taken to be the noise from road traffic and existing industry. The ambient specifically excludes transient noise from aircraft and railways.

Day-time Equivalent Sound Level:

$L_{eq,16}$ is the day-time equivalent sound level. The definition of equivalent sound level is given in Reference 2. The applicable time period is from 07:00 to 23:00 hours.

GO Transit Rail Project:

GO Transit rail project means a project to add or expand rail service and/or a layover site that requires approval under the Environmental Assessment Act be obtained by carrying out an environmental assessment.

Layover Site:

Layover site means a GO Transit facility dedicated to overnight storage of GO trains.

Night-time Equivalent Sound Level:

$L_{eq,8}$ is the night-time equivalent sound level. The definition of equivalent sound level is given in Reference 2. The applicable time period is from 23:00 to 07:00 hours.

Point of Reception:

Day-time: 07:00 to 23:00 hours

Day-time point of reception is any outdoor location on the property of a sensitive land use where sound originating from the Project is received and which is no less than 15m from the nearest track's centre line. For at-grade sensitive land uses, e.g., low density residential development, this point is normally 3m from the unit in the front or back yard whichever is most exposed to the noise source at a height of 1.5m. For

residential uses such as apartment units, this is normally the plane of the apartment bedroom or living room window.

Nighttime: 23:00 to 07:00 hours

Night-time point of reception is the plane of a bedroom window where sound originating from the Project is received and which is no less than 15m from the nearest track's centre line. At the planning stage, this is usually assessed at the nearest facade.

Point of Vibration Assessment:

Point of Vibration Assessment is the location 5m to 10m away from the building foundation in a direction parallel to the tracks or adjusted as required to accommodate site conditions.

Rail Service:

Rail Service means the operation of GO trains along transit corridors (including GO Transit commuter stations) and access routes between GO facilities and these corridors. Layover sites are not part of the Rail Service and are therefore assessed separately.

Sensitive Land Use:

Sensitive land use means a residential dwelling or place where people ordinarily sleep or a commercial/industrial operation that is exceptionally sensitive to noise or vibration. Noise and vibration impacts will be assessed for lands which have been committed for sensitive land uses. Committed uses include uses such as: existing development, approved site plans, approved condominium plans or draft approved plans of subdivision.

Vibration Velocity:

Vibration shall be assessed using the running average RMS (Root-Mean-Square) vibration velocity (mm/sec).

4.0 NOISE

4.1 Rail Service

For the purposes of assessment, rail service is considered to include the operation of trains on the rail line and the operation of trains inside

commuter stations. Idling of trains inside commuter stations is considered part of the operation. Noise produced by layover sites is not considered part of the rail service and is assessed separately, see Section 4.2.

4.1.1 Objective

The desirable objective is that the day-time (16 hour) L_{eq} produced by the rail service operation of the GO Transit project does not exceed the higher of the ambient sound level, combined with the sound level from existing rail activity, or 55 dB L_{eq}. Furthermore, that the night-time (8 hour) L_{eq} produced by the rail service operation of the GO Transit project does not exceed the higher of the ambient sound level, combined with the sound level from existing rail service, or 50 dB L_{eq}.

4.1.2 Impact Assessment Method

The noise impact of GO Transit rail projects shall be assessed using prediction methods acceptable to the MOEE (see Reference 1). The noise impact from rail service shall be assessed on a 16 hour (day-time) basis using $L_{eq,}16$, and 8 hour (night-time) basis using $L_{eq,}8$. The impact assessment method should base its assessment on future GO Transit train volume projections, from the commencement of operations to a maximum of twenty years (typical GO Transit planning horizon).

4.1.3 Impact Assessment Criteria

The impact at a point of reception shall be expressed in terms of the Adjusted Noise Impact. The Adjusted Noise Impact shall be based on the difference between:

- pre-project noise, which is the combination of the ambient noise and the rail noise; and
- post-project noise, which is the combination of the ambient noise and the post-project rail noise.

Where the pre-project noise is less than 55 dB L_{eq} during the daytime or 50 dB L_{eq} during the nighttime, the pre-project noise shall be taken as 55 dB L_{eq} daytime or 50 dB L_{eq} nighttime.

The impact shall be rated with respect to the objectives as follows:

Adjusted Impact Level	Impact Rating
0-2.99 dB	Insignificant
3-4.99 dB	Noticeable
5-9.99 dB	Significant
10 +dB	Very Significant

Where a GO Transit rail project may produce road traffic noise impact, these noise impacts shall be assessed in accordance with the methods approved for the Environmental Assessment of roadway projects, e.g., Class EA.

4.1.4 Mitigation

When a 'significant or greater' impact is predicted, the potential to mitigate will be evaluated based on administrative, operational, economic and technical feasibility. If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Transit rail project is as close to, or lower than, the rail service objective.

4.2 Layover Sites

For the purposes of assessment, a layover is considered to include the idling of trains in an area off the mainline track that is designated for such use. Due to operational constraints, GO Transit will usually generate layover alternatives that closely parallel mainline tracks.

4.2.1 Objective

The desirable objective is that the L_{eq} in any hour produced by the operation of the layover site does not exceed the higher of the ambient sound level, including the sound level from existing industry, or 55 dB L_{eq}.

4.2.2 Impact Assessment Method

The noise impact of GO Transit layover sites should be evaluated on a case-by-case basis , by predicting the one hour L_{eq} at a point of reception, using prediction methods acceptable to the MOEE. The noise impact assessment should incorporate all noise sources associated with the layover operation.

4.2.3 Impact Assessment Criteria

For the purposes of site selection, the noise impact shall be assessed utilizing the rating method of Section 4.1.3, with the exception that the minimum pre-project L_{eq} shall be 45 dB L_{eq}.

4.2.4 Mitigation

When a 'noticeable or greater' impact is predicted, the potential to mitigate will initially be evaluated based on administrative, operational, economic and technical feasibility. In addition, the feasibility shall consider the effectiveness of mitigation with respect to site specific conditions and other sources of noise not included in the original impact assessment. If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Transit rail project is as close to, or lower than, the layover objective.

4.3 Construction

Noise and vibration impacts from the construction of a project shall be examined. For the purposes of impact assessment and identifying the need for mitigation, the guidelines in Reference 5 apply.

5.0 VIBRATION

The assessment of ground-borne vibration shall be confined to that produced by the operation on the line and shall exclude vibration due to maintenance and/or construction activities.

5.1 Objective

The desirable objective is that the vibration velocity produced by the GO Transit project does not exceed 0.14 mm/s at a point of vibration assessment. Where the vibration from existing operation exceeds 0.14 mm/s, the desirable objective is to not exceed the existing vibration level.

5.2 Assessment Method

The vibration impact of a GO Transit rail project shall be assessed using field measurements of vibration velocities. Where applicable, the assessment shall include vibration generated by non-GO Transit rail traffic.

5.3 Impact Assessment Criteria

The impact at a point of vibration assessment will fall into one of the following categories:

- existing and future vibration velocity remains less than 0.14 mm/s ;
- existing vibration velocity is less than 0.14 mm/s, future vibration is expected to exceed 0.14 mm/s;
- existing vibration velocity is greater than 0.14 mm/s, future vibration is not expected to exceed this value; and
- existing vibration is greater than 0.14 mm/sec, future vibration is expected to exceed this figure.

GO Transit will not increase vibration velocity to a level that will cause structural damage.

5.4 Mitigation

When the vibration velocity at a point of vibration assessment exceeds the objective by 25%, the requirement to mitigate will be evaluated based on administrative, operational, economic and technical feasibility.

6.0 REFERENCES

[1] STEAM, Sound from Trains Environmental Analysis Method, Ontario Ministry of the Environment, ISBN 0-7729-6376-2 (1990).

[2] NPC-101 - Technical Definitions, part of Reference 5.

[3] NPC-102 - Instrumentation, part of Reference 5.

[4] NPC-103 - Procedures, part of Reference 5.

[5] Model Municipal Noise Control By-law, Final Report, August 1978, Ontario Ministry of the Environment.

[6] Noise Control Guideline for Class Environmental Undertakings, February 1980, Ontario Ministry of the Environment.

Appendix B

Noise and Vibration Instrumentation Specifications

Instrument Specifications

Category	Specification
Bandwidth	• 25 Hz to 8 kHz
Microphone Sensor	• Digital MEMS
Precision Class	• Type II
Saturation Level (typical @ 1 kHz)	• 117 dB-A • 114 dB-C
Temperature Error	• Better than 0.1 dB (0 degC < T < 60 degC) • Better than 0.5 dB (-20 degC < T < 60 degC
Sensitivity to Vibrations	• 60 dB_{SPL}/g (20 dB lower than typical measurement microphone)
Weighting Curve	• dB-A • dB-C
Noise-Floor (Typical)	• 31 dB-A • 37 dB-C
Recording Resolution	• 0.1 dB
Duty Rate of Signal Capture	• 100% - No Missed Samples
Real-Time Spectral Display	• 512-point Power Spectrum – dB or Lin Scale.
Calibration	• Field-calibrated using a 1/2" calibrator
Connectivity	• USB
Battery Type	• Integral Li-Poly - USB-Rechargeable
Recharge Time	• 2 H 30 (Typical)
Battery Autonomy	• 7 days while recording
Battery Life	• > 300 Charge/Discharge Cycles
Temperature Range	• -20 degC to 60 degC (-4 degF to 140 degF)
Recording Memory	• Non-Volatile Flash Memory
Recording Memory Capacity (NSRT128 Model)	• 128 Mb • Ex: can continuously record Lmax, Lmin and Leq levels at 1s intervals for 32 days, or 10s intervals for 320 days.
Recording/Erasure Cycles	• Greater than 100 000
Data Retention	• Greater than 20 Years
Dimensions	• 76.2 mm x 39.4 mm x 59 mm • (3" x 1.55" x 0.81")
Weight	• 100 g
Construction	• Integrally Potted Weather-Proof ABS Enclosure

Appendix C

Baseline Noise and Vibration Measurements

Table 11-1: Summary of Vibration Measurements

Value	S1T12Ch1	S1T12Ch2	S1T3Ch1	S1T3Ch2	S1T4Ch1	S1T4Ch2	S1T5CH1	S1T5CH2
RMS (mm/s)	0.12	0.13	0.06	0.06	0.08	0.07	0.03	n/a
Peak (mm/s)	0.66	0.66	0.30	0.43	0.42	0.31	0.16	n/a
Notes	GO Passenger. EB + WB simultaneous pass-	GO Passenger. EB + WB simultaneous pass-	GO Passenger. WB	GO Passenger. WB	GO Passenger. EB	GO Passenger. EB	GO Passenger. WB	Discarded due to cable malfunction
RMS Avg Ch1 (mm/s)	0.07							
RMS Avg Ch2 (mms/)	0.09							

Note that Figure 11-1 to Figure 11-7 present the velocities in the form of PPV in mm/s.

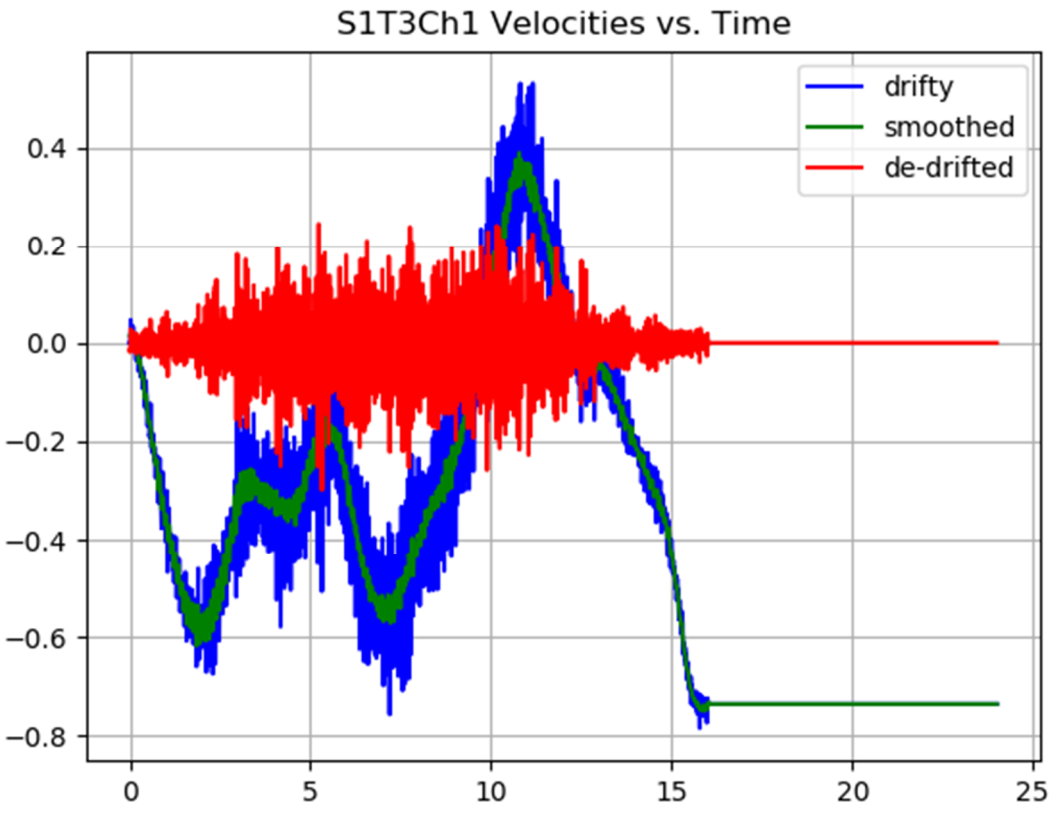


Figure 11-1: Site 1, Train 3, Channel 1 Measured Velocity, in mm/s, as a Function of Time

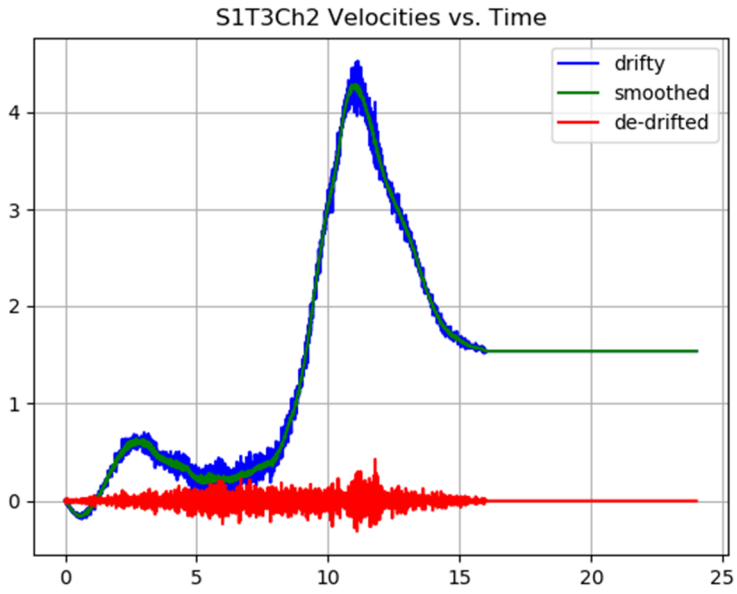


Figure 11-2: Site 1, Train 3, Channel 2 Measured Velocity, in mm/s, as a Function of Time

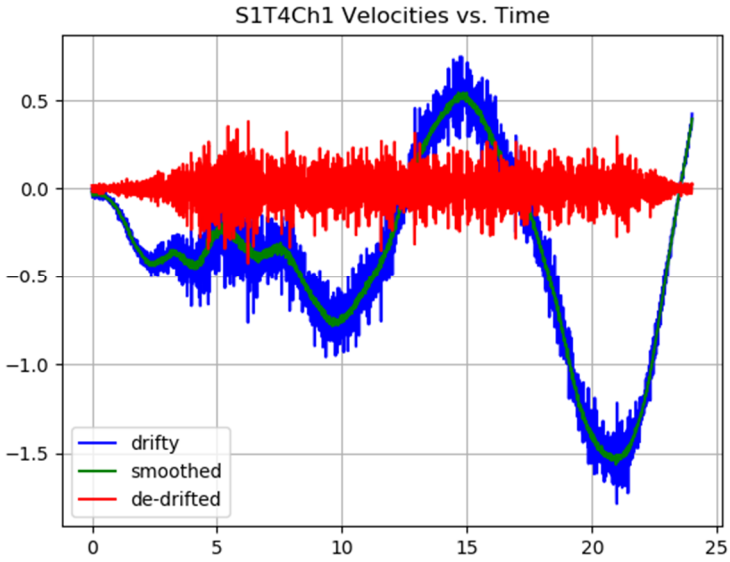


Figure 11-3: Site 1, Train 4, Channel 1 Measured Velocity, in mm/s, as a Function of Time

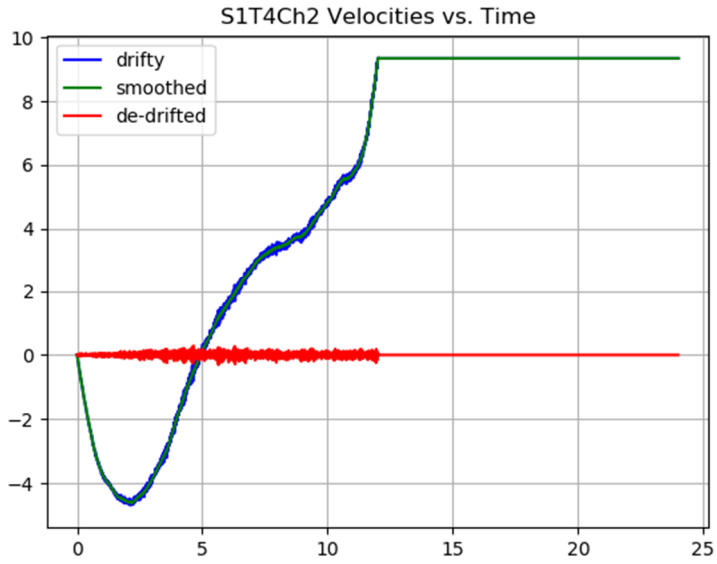


Figure 11-4: Site 1, Train 4, Channel 2 Measured Velocity, in mm/s, as a Function of Time

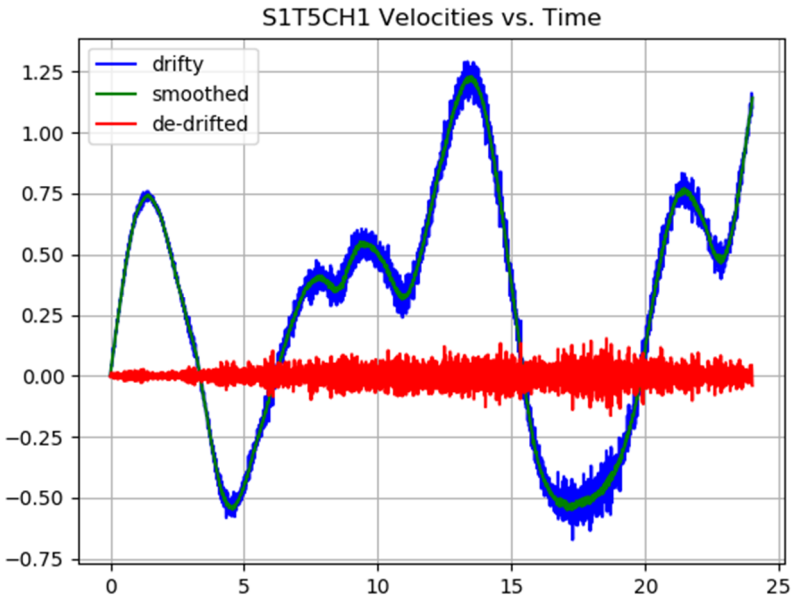


Figure 11-5: Site 1, Train 5, Channel 1 Measured Velocity, in mm/s, as a Function of Time

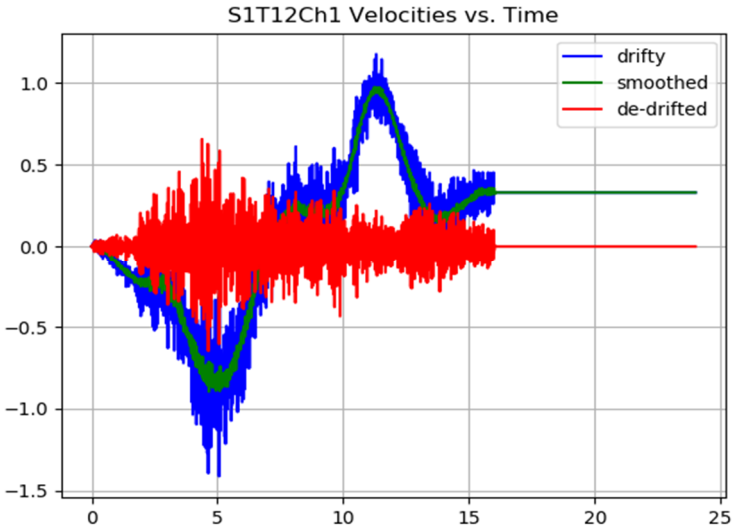


Figure 11-6: Site 1, Train 12, Channel 1 Measured Velocity, in mm/s, as a Function of Time

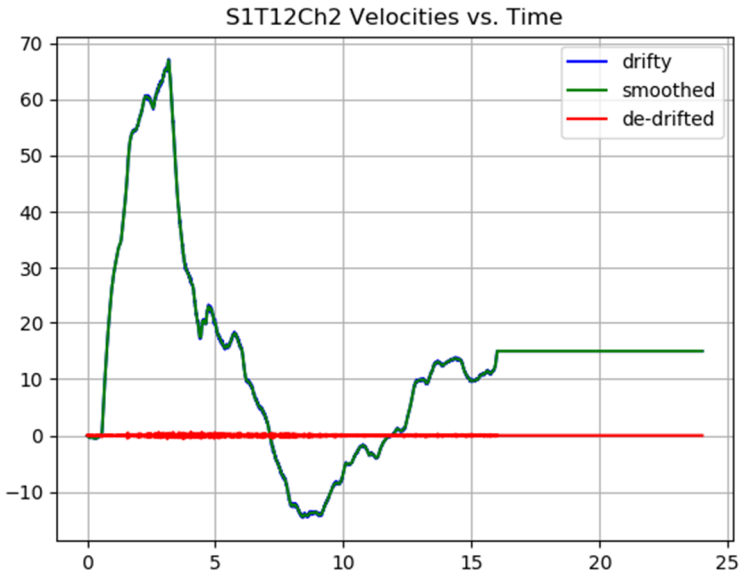


Figure 11-7: Site 1, Train 12, Channel 2 Measured Velocity, in mm/s, as a Function of Time

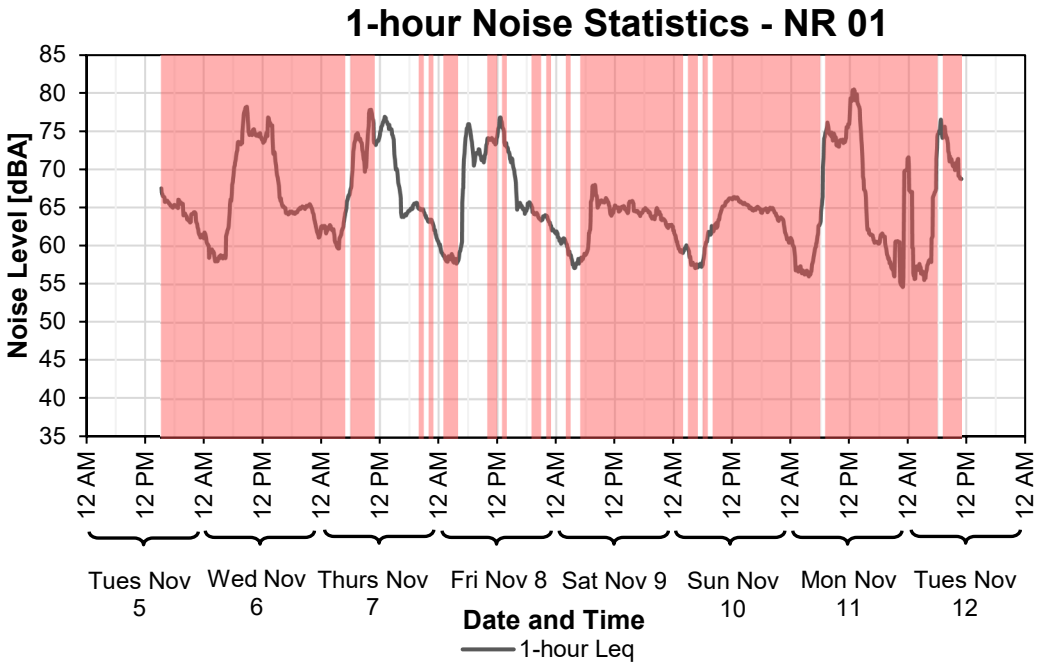


Figure 11-8: Noise Measurements at Location NR01

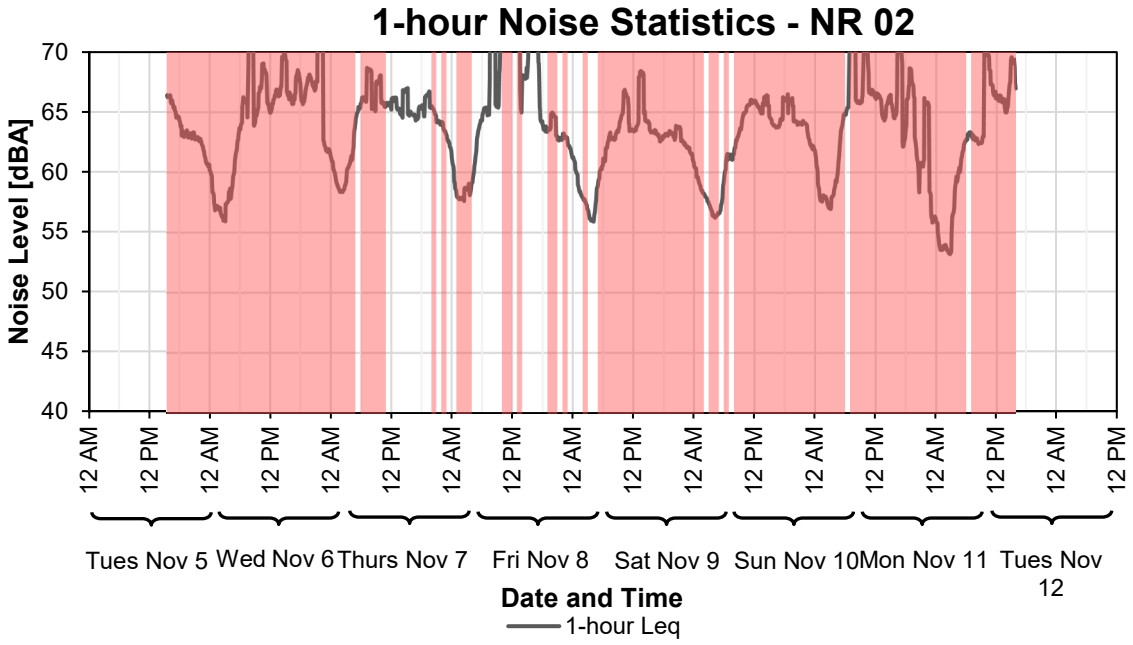


Figure 11-9: Noise Measurements at Location NR02

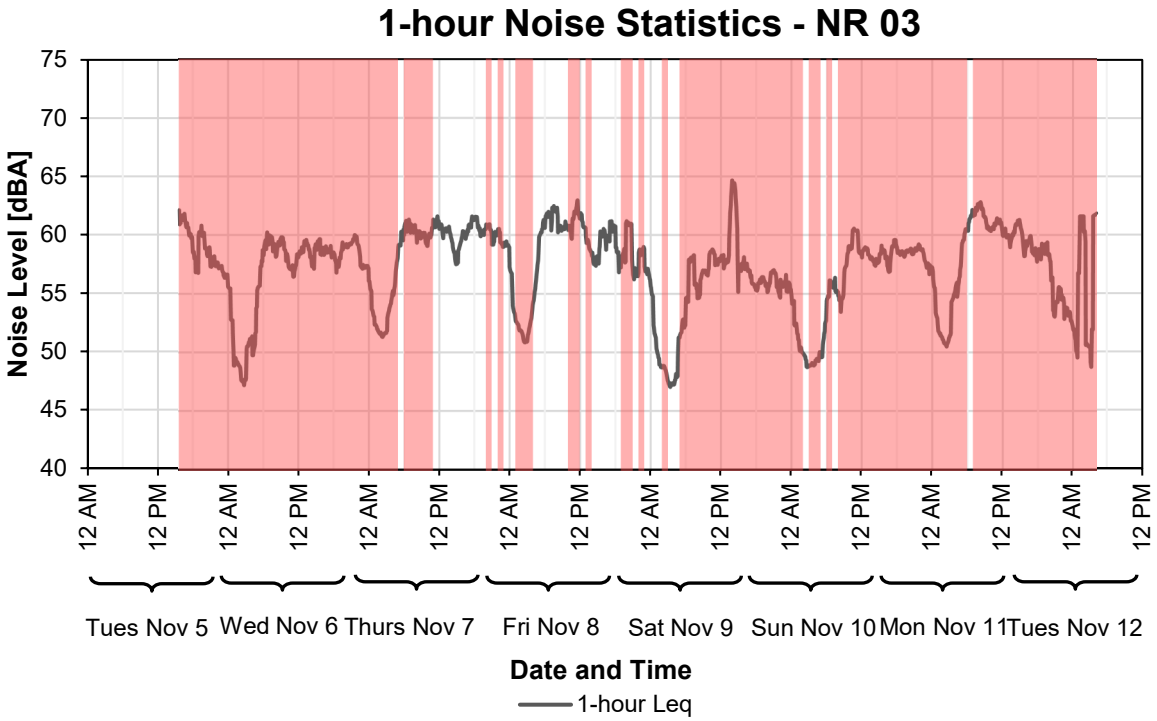


Figure 11-10: Noise Measurements at Location NR03

Appendix D

Train and Road Traffic

EXISTING ADJUSTED DAILY

Road	Section	Daily						Day (7am-11pm)						Night (11pm-7am)					
		Total Vehicles		Medium Vehicles		Heavy Vehicles		Total Vehicles		Medium Vehicles		Heavy Vehicles		Total Vehicles		Medium Vehicles		Heavy Vehicles	
		AM/PM % of Daily	Vol	% of AM/PM	%	% of AM/PM	%	% of Daily	Vol	% of AM/PM	%	% of AM/PM	%	% of Daily	Vol	% of AM/PM	%	% of AM/PM	%
Park Lawn Rd	Immediately North of Gardiner Expy WB On Ramp	13%	**27845**	95%	**1.2%**	70%	**1.6%**	90%	**25060**	80%	**1.0%**	70%	**1.6%**	10%	**2785**	230%	**2.9%**	90%	**2.1%**
Park Lawn Rd	Immediately South of Gardiner Expy EB Off Ramp	13%	**30770**	80%	**0.4%**	55%	**1.0%**	90%	**27695**	80%	**0.4%**	60%	**1.1%**	10%	**3075**	60%	**0.3%**	30%	**0.5%**
Park Lawn Rd	Immediately North of Lake Shore Blvd W	14%	**23465**	80%	**0.5%**	55%	**1.0%**	90%	**21120**	80%	**0.5%**	60%	**1.1%**	10%	**2345**	60%	**0.4%**	30%	**0.5%**
Lake Shore Blvd W	Immediately West of Park Lawn Rd	14%	**25070**	80%	**0.8%**	55%	**1.2%**	90%	**22565**	80%	**0.8%**	60%	**1.3%**	10%	**2505**	60%	**0.6%**	30%	**0.6%**
Lake Shore Blvd W	Immediately East of Park Lawn Rd	14%	**30785**	80%	**0.6%**	55%	**1.0%**	90%	**27705**	80%	**0.6%**	60%	**1.1%**	10%	**3080**	60%	**0.5%**	30%	**0.6%**
Lake Shore Blvd W	Immediately East of Brookers Ln	18%	**13165**	80%	**0.3%**	55%	**1.5%**	90%	**11850**	80%	**0.3%**	60%	**1.6%**	10%	**1315**	60%	**0.3%**	30%	**0.8%**
The Queensway	Immediately East of Park Lawn Rd	14%	**41035**	95%	**1.5%**	70%	**1.0%**	90%	**36930**	80%	**1.3%**	70%	**1.0%**	10%	**4105**	230%	**3.6%**	90%	**1.3%**
Gardiner Expy WB On Ramp	From Park Lawn Rd	15%	**13735**	95%	**3.0%**	70%	**2.2%**	90%	**12360**	80%	**2.5%**	70%	**2.2%**	10%	**1375**	230%	**7.3%**	90%	**2.8%**
Gardiner Expy EB Off Ramp	To Park Lawn Rd	18%	**16250**	95%	**0.8%**	70%	**1.4%**	90%	**14625**	80%	**0.7%**	70%	**1.4%**	10%	**1625**	230%	**2.0%**	90%	**1.8%**
Gardiner Expy Ramps	To/From Relief Rd (Lake Shore)	17%	**11620**	80%	**0.4%**	55%	**0.6%**	90%	**10460**	80%	**0.4%**	60%	**0.6%**	10%	**1160**	60%	**0.3%**	30%	**0.3%**
Gardiner Expy	Between Park Lawn Rd and Humber River		**166790**		**1.9%**		**1.8%**	85%	**141770**		**1.6%**		**1.8%**	15%	**25020**		**4.6%**		**2.3%**

Notes:

1. Adjustment percentages for Park Lawn north of Gardiner and north of Lake Shore are based on the 24 hour counts in the data collection folder - Data from Tuesday 8th November, 2016 was used
2. Adjustment percentages for medium and heavy vehicles for Park Lawn north of Gardiner used for Park Lawn Gardiner ramps and Queensway (i.e. everything north of and including Park Lawn Gardiner ramps)
3. Adjustment percentages for medium and heavy vehicles for Park Lawn north of Lake Shore used for Park Lawn south of Gardiner, Lake Shore, Lake Shore ramps (i.e. everything south of Park Lawn Gardiner ramps)
4. Adjustment percentages for total vehicles based on City of Toronto Open Data in the data collection folder (except for Park Lawn north of Gardiner and north of Lake Shore as outlined above)
5. Adjustment percentages for Lake shore at Park Lawn are as per Park Lawn north of Lake Shore, as there is no data available for Lake Shore itself
6. As we have no counts for Gardiner itself, the actual volumes are based on the City of Toronto Open Data in the data collection folder. Zero growth assumed, based on growth analysis. Heavy vehicle percentages are unknown, but assumed to be average of Park Lawn on/off ramps

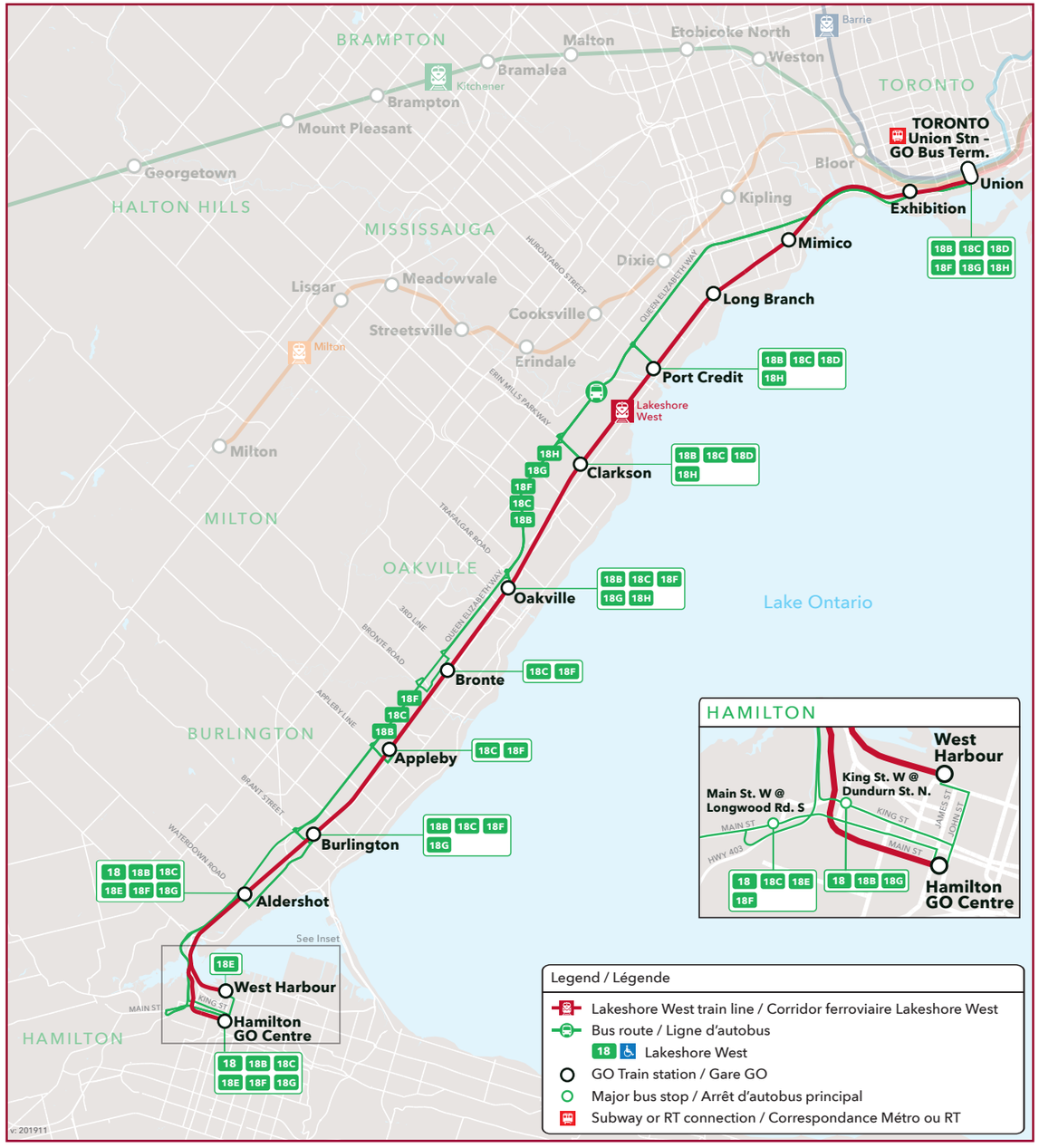
PROJECTED NEAR TERM (2028) VOLUME DAILY PROFILE

Road	Section	Daily			Day (7am-11pm)			Night (11pm-7am)		
		Total Volume	Medium Vehicle %	Heavy Vehicle %	Total Volume	Medium Vehicle %	Heavy Vehicle %	Total Volume	Medium Vehicle %	Heavy Vehicle %
Park Lawn Rd	Immediately North of Gardiner Expy WB On Ramp	31155	1%	2%	28040	1%	2%	3115	3%	2%
Park Lawn Rd	Immediately South of Gardiner Expy EB Off Ramp	26500	0%	1%	23850	0%	1%	2650	0%	1%
Park Lawn Rd	Immediately North of Lake Shore Blvd W	19000	0%	1%	17100	0%	1%	1900	0%	1%
Lake Shore Blvd W	Immediately West of Park Lawn Rd	25035	1%	1%	22530	1%	1%	2505	1%	1%
Lake Shore Blvd W	Immediately East of Park Lawn Rd	26855	1%	1%	24170	1%	1%	2685	0%	1%
Lake Shore Blvd W	Immediately East of Brookers Ln	13360	0%	2%	12025	0%	2%	1335	0%	1%
The Queensway	Immediately East of Park Lawn Rd	42320	1%	1%	38090	1%	1%	4230	3%	1%
Gardiner Expy WB On Ramp	From Park Lawn Rd	15965	3%	2%	14370	3%	2%	1595	8%	3%
Gardiner Expy EB Off Ramp	To Park Lawn Rd	17915	1%	1%	16125	1%	1%	1790	2%	2%
Gardiner Expy Ramps	To/From Relief Rd (Lake Shore)	15175	0%	1%	13660	0%	1%	1515	0%	0%
Gardiner Expy	Between Park Lawn Rd and Humber River	166790	2%	2%	141770	2%	2%	25020	5%	2%

01 - 18

Route numbers
Numéros des trajets

Lakeshore West



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Lakeshore West

GO Train and Bus Schedule/
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METROLINX

LW **18**

- West Harbour GO
- Hamilton GO Centre
- Hamilton (King & Dundurn)
- Aldershot GO
- Burlington GO
- Appleby GO
- Bronte GO
- Oakville GO
- Clarkson GO
- Port Credit GO
- Long Branch GO
- Mimico GO
- Exhibition GO
- Union Station

Daily / Quotidiennement

Includes GO Bus route 18 /
Inclut le trajet 18 d'autobus GO

Effective / À partir de:
2 NOVEMBER NOVEMBRE 2019

How to read our schedules

Step 1
Find the station or terminal you are departing from. Stops are listed across the top in the order they are served.

Step 2
The upper left corner tells you what day the schedule is for and the direction of travel.

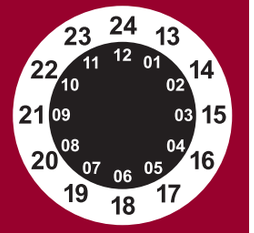
Step 3
Look across the rows for available departure times.

Step 4
Not all trains or buses stop at every station. If you see → the train or bus will not stop at that station.

Schedule times shown in 24-hour clock

Midnight to noon
00 01 - 12 00

Noon to midnight
12 01 - 24 00



Legend

- Train trips
- Bus trips
- → Trip does not serve this location.
- ↓ Check below for connecting trips.
- GO Train service is accessible to passengers using mobility devices at this location.
- GO Bus service is accessible to passengers using mobility devices at this location.
- GO Train & GO Bus service is accessible to passengers using mobility devices at this location.
- P Parking available.

Notes

M-Th Trip operates Monday to Thursday ONLY.

Fri Trip operates on Fridays ONLY. If Friday is a holiday, the trip operates on the Thursday before the holiday.

Sat Trip Operates on Saturdays ONLY.

Sun Trip Operates on Sundays ONLY.

D Stops to let off passengers on request only.

h Trip holds for connection from bus.

Bicycles

1. Bicycles are not allowed in Union Station or on-board trains during morning rush hour (6:30-9:30) and evening rush hour (15:30-18:30), Monday to Friday.

2. Foldable bicycles are allowed on-board trains at all times.

For the latest schedule information and updates, please visit gotransit.com/schedules.

Comment lire nos horaires

Étape 1
Trouvez votre gare ou terminus de départ. La liste des arrêts est donnée en haut dans l'ordre dans lequel ils sont desservis.

Étape 2
Le coin supérieur gauche vous indique le jour pour lequel l'horaire est donné et la direction de circulation.

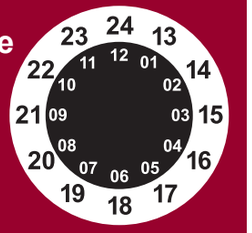
Étape 3
Regardez dans les rangées pour obtenir les heures de départ offertes.

Étape 4
Les trains ou les autobus ne s'arrêtent pas tous à chaque gare. Si vous voyez le symbole → le train ou l'autobus ne s'arrêtera pas à cette gare.

Indications selon un système horaire de 24 heures

De minuit à midi:
00 01 - 12 00

De midi à minuit:
12 01 - 24 00



Légende

- Horaire des trains
- Horaire des autobus
- → Trajet ne sert pas cette station.
- ↓ Vérifiez les trajets de correspondance cidessous.
- Service de trains GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Service d'autobus GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Les services de trains et d'autobus GO sont accessibles aux utilisateurs d'un appareil d'aide à la mobilité à cet endroit.
- P Stationnement disponible.

Notes

M-Th Service offert du lundi au jeudi.

Fri Service offert les vendredis SEULEMENT ou les jeudis précédant un vendredi férié.

Sat Service offert les samedis SEULEMENT.

Sun Service offert les dimanche SEULEMENT.

D Arrêt sur demande seulement.

h Attentes des trajets pour les connexions d'autobus.

Vélos

1. Les vélos ne sont pas autorisés dans la gare Union ou à bord des trains du lundi au vendredi, pendant l'heure de pointe (6:30-9:30) et pendant l'heure de pointe du soir (15:30-18:30).

2. Les vélos pliables sont permis à bord des trains en tout temps.

Pour consulter les horaires les plus récents et les mises à jour, veuillez visiter gotransit.com/schedules.

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→	Exception 1	Exception 2	Hamilton 18 Dp — West Harbour GO	Hamilton 18 Dp — Hamilton GO Centre	Hamilton 18 — King St. W. & Dundurn St. N.	Burlington 17 Ar — Aldershot GO	Transfer -Correspondances / Trip Number/Numéro du parcours	Burlington 17 Dp — Aldershot GO	Burlington 16 — Burlington GO	Burlington 15 — Appleby GO	Oakville 14 — Bronte GO	Oakville 13 — Oakville GO	Mississauga 12 — Clarkson GO	Mississauga 10 — Port Credit GO	Etobicoke 59 — Long Branch GO	Etobicoke 79 — Mimico GO	Toronto 2 — Exhibition GO	Toronto 2 Ar — Union Station
18G	18020					04 15	04 19	04 30	→	04 30	04 40	→	→	04 55↓	→	→	→	→	→	05 25
18H	18022													04 55**h**	05 05	05 15	→	→	→	05 40
18	18040					04 33	04 37	04 48	1002	05 03	05 09	05 16	05 21	05 27	05 35	05 42	05 47	05 53	05 59	06 10
18	18060					05 03	05 07	05 18	1202	05 33	05 39	05 46	05 51	05 57	06 05	06 12	06 17	06 23	06 29	06 40
18	18090					05 33	05 37	05 48↓												
	1852					05 48	→	06 03	→	06 03	06 09	06 16	06 21	06 27↓	06 35	→	→	→	→	07 00
									1504		06 17	06 24	06 29	06 35	06 43	06 50	06 55	07 01	07 08	07 15
	1754				06 09	→	→	06 23	→	06 23	06 29	06 36	06 41	06 47	06 55	→	→	→	→	07 20
18	18160					06 03	06 07	06 18↓												
	1854					06 18	→	06 33	→	06 33	06 39	06 46	06 51	06 57↓	07 05	→	→	→	→	07 30
									1604		06 47	06 54	06 59	07 05	07 13	07 20	07 25	07 31	07 38	07 45
	1954				06 39	→	→	06 53	→	06 53	06 59	07 06	07 11	07 17	07 25	→	→	→	→	07 50
18	18170					06 33	06 37	06 48↓												
	1856					06 48	→	07 03	→	07 03	07 09	07 16	07 21	07 27↓	07 35	→	→	→	→	08 00
									1306					07 35	07 43	07 50	07 55	08 01	08 08	08 15
	1756				07 09	→	→	07 23	→	07 23	07 29	07 36	07 41	07 47	07 55	→	→	→	→	08 20
18	18220					07 01	07 08	07 18↓												
	1858					07 18	→	07 33	→	07 33	07 39	07 46	07 51	07 57↓	08 05	→	→	→	→	08 30
									1108					08 05	08 13	08 20	08 26	08 32	08 40	08 48
									1256	07 53	07 59	08 06	08 11	08 18	08 27	→	→	→	→	08 52
18	18250					07 31	07 38	07 48↓												
	1758				07 49	→	→	08 03	→	08 03	08 09	08 16	08 21	08 27	08 35	→	→	→	→	09 00
									1308					08 32	08 40	08 47	08 52	08 58	09 04	09 15
									1608			08 31	08 37	08 43	08 51	08 58	09 03	09 11	09 17	09 28
18	18290					08 04	08 11	08 21	1208	08 36	08 42	08 49	08 55	09 01	09 09	09 16	09 21	09 29	09 35	09 46
18	18340					08 34	08 41	08 51	1010	09 06	09 12	09 19	09 25	09 31	09 39	09 46	09 51	09 59	10 05	10 16
18	18370					09 01	09 08	09 16	1210	09 31	09 37	09 44	09 50	09 56	10 04	10 11	10 16	10 24	10 30	10 41
									1310					10 13	10 21	10 28	10 33	10 41	10 47	10 58
18	18400					09 36	09 43	09 51↓	1012	10 06	10 12	10 19	10 25	10 31	10 39	10 46	10 51	10 59	11 05	11 16
18	18420					10 06	10 13	10 21	1212	10 36	10 42	10 49	10 55	11 01	11 09	11 16	11 21	11 29	11 35	11 46
									1312					11 14	11 22	11 29	11 34	11 42	11 48	11 59
18	18440					10 31	10 38	10 46	1014	11 01	11 07	11 14	11 20	11 26	11 34	11 41	11 46	11 54	12 00	12 11
18	18460					11 01	11 08	11 16	1214	11 31	11 37	11 44	11 50	11 56	12 04	12 11	12 16	12 24	12 30	12 41
									1314					12 11	12 19	12 26	12 31	12 39	12 45	12 56
18	18490					11 31	11 38	11 46	1016	12 01	12 07	12 14	12 20	12 26	12 34	12 41	12 46	12 54	13 00	13 11

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→	Exception 1	Exception 2	Hamilton 18 Dp — West Harbour GO	Hamilton 18 Dp — Hamilton GO Centre	Hamilton 18 — King St. W. & Dundurn St. N.	Burlington 17 Ar — Aldershot GO	Transfer -Correspondances / Trip Number/Numéro du parcours	Burlington 17 Dp — Aldershot GO	Burlington 16 — Burlington GO	Burlington 15 — Appleby GO	Oakville 14 — Bronte GO	Oakville 13 — Oakville GO	Mississauga 12 — Clarkson GO	Mississauga 10 — Port Credit GO	Etobicoke 59 — Long Branch GO	Etobicoke 79 — Mimico GO	Toronto 2 — Exhibition GO	Toronto 2 Ar — Union Station
18	18510					12 01	12 08	12 16	1216	12 31	12 37	12 44	12 50	12 56	13 04	13 11	13 16	13 24	13 30	13 41
									1316					13 11	13 19	13 26	13 31	13 39	13 45	13 56
18	18530					12 31	12 38	12 46	1018	13 01	13 07	13 14	13 20	13 26	13 34	13 41	13 46	13 54	14 00	14 11
18	18550					13 01	13 08	13 16	1218	13 31	13 37	13 44	13 50	13 56	14 04	14 11	14 16	14 24	14 30	14 41
									1318					14 11	14 19	14 26	14 31	14 39	14 45	14 56
18	18570					13 31	13 38	13 46	1020	14 01	14 07	14 14	14 20	14 26	14 34	14 41	14 46	14 54	15 00	15 11
18	18590					14 01	14 08	14 16	1220	14 31	14 37	14 44	14 50	14 56	15 04	15 11	15 16	15 24	15 30	15 41
									1320					15 10	15 18	15 25	15 30	15 38	15 44	15 55
18	18610					14 28	14 35	14 43	1022	14 58	15 04	15 11	15 17	15 23	15 31	15 38	15 43	15 51	15 57	16 08
									1122					15 40	15 48	15 55	16 00	16 08	16 14	16 25
18	18630					14 56	15 06	15 13	1222	15 28	15 34	15 41	15 47	15 53	16 01	16 08	16 13	16 21	16 27	16 38
									1322					16 10	16 18	16 25	16 30	16 38	16 44	16 55
18	18650					15 29	15 39	15 46	1024	16 01	16 07	16 14	16 20	16 26	16 34	16 41	16 46	16 54	17 00	17 11
18	18670					15 57	16 07	16 14	1224	16 29	16 35	16 42	16 48	16 54	17 02	17 09	17 14	17 22	17 27	17 35
									1426									17 30	17 37	18 00
18	18690					16 29	16 39	16 46	1026	17 01	17 07	17 14	17 20	17 26	17 34	17 41	17 46	17 54	18 00	18 11
18	18720					16 59	17 09	17 16	1226	17 31	17 37	17 44	17 50	17 56	18 04	18 11	18 16	18 24	18 30	18 41
18	18730					17 29	17 39	17 46	1028	18 01	18 07	18 14	18 20	18 26	18 34	18 41	18 46	18 54	19 00	19 11
18	18750					18 04	18 11	18 21	1228	18 36	18 42	18 49	18 55	19 01	19 09	19 16	19 21	19 29	19 35	19 46
18	18770					18 31	18 38	18 46	1030	19 01	19 07	19 14	19 20	19 26	19 34	19 41	19 46	19 54	20 00	20 11
18	18790					19 01	19 08	19 16	1230	19 31	19 37	19 44	19 50	19 56	20 04	20 11	20 16	20 24	20 30	20 41
18	18810					19 31	19 38	19 46	1032	20 01	20 07	20 14	20 20	20 26	20 34	20 41	20 46	20 54	21 00	21 11
18	18830					20 01	20 08	20 16	1232	20 31	20 37	20 44	20 50	20 56	21 04	21 11	21 16	21 24	21 30	21 41
18	18840					20 31	20 38	20 46	1034	21 01	21 07	21 14	21 20	21 26	21 34	21 41	21 46	21 54	22 00	22 11
18	18860					21 01	21 08	21 16	1234	21 31	21 37	21 44	21 50	21 56	22 04	22 11	22 16	22 24	22 30	22 41
18	18870					21 31	21 38	21 46	1036	22 01	22 07	22 14	22 20	22 26	22 34	22 41	22 46	22 54	23 00	23 11
18	18880					22 01	22 08	22 16	1236	22 31	22 37	22 44	22 50	22 56	23 04	23 11	23 16	23 24	23 30	23 41
18	18900					22 31	22 38	22 46	1038	23 01	23 07	23 14	23 20	23 26	23 34	23 41	23 46	23 54	00 00	00 11
18	18920					23 01	23 08	23 16	1238	23 31	23 37	23 44	23 50	23 56	00 04	00 11	00 16	00 24	00 30	
18	18930					23 31	23 38	23 46	1490	00 01	→	→	→	→	→	→	00 30			
									1492	00 31	→	→	→	→	→	→	01 00			
									1494	01 01	→	→	→	→	→	→	01 30			
									1496	01 31	→	→	→	→	→	→	02 00			
									1498	02 01	→	→	→	→	→	→	02 30			

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Exception 1	Toronto 2 Dp — Union Station	Toronto 2 — Exhibition GO	Etobicoke 79 — Mimico GO	Etobicoke 59 — Long Branch GO	Mississauga 10 — Port Credit GO	Mississauga 12 — Clarkson GO	Oakville 13 — Oakville GO	Oakville 14 — Bronte GO	Burlington 15 — Appleby GO	Burlington 16 — Burlington GO	Burlington 17 Ar — Aldershot GO	Transfer - Correspondances / Trip Number/Numéro du parcours	Burlington 17 Dp — Aldershot GO	Hamilton 18 — Main St. W. @ Longwood Rd. S	Hamilton 18 Ar — Hamilton GO Centre	Hamilton 18 Ar — West Harbour GO
Zone→																		
18C	18051		05 30	→	→	→	05 48	06 00	06 12	06 23	06 33	06 45	06 55	→	06 55	07 02	07 15	
18	1003		06 13	06 19	06 27	06 32	06 38	06 44	06 51	06 57	07 03	07 10	07 16	18071	07 24	07 34	07 44	
18	1203		06 43	06 50	06 58	07 04	07 10	07 16	07 24	07 30	07 37	07 44	07 51	18091	07 59	08 09	08 19	
	1155		07 00	→	→	→	→	→	07 26									
18	1005		07 18	07 25	07 33	07 39	07 45	07 51	07 59	08 05	08 12	08 19	08 26	18121	08 34	08 44	08 54	
	1355		07 30	→	→	→	→	→	07 56									
	1655		07 34	→	→	→	→	→	→	→	08 17							
18	1205		07 48	07 55	08 03	08 09	08 15	08 21	08 29	08 35	08 42	08 49	08 56	18141	09 04	09 11	09 21	
	1407		08 08	08 15	08 23													
18	1007		08 13	08 20	08 28	08 34	08 40	08 46	08 54	09 00	09 07	09 14	09 21	18161	09 29	09 36	09 46	
	1409		08 28	08 35	08 43													
18	1207		08 48	08 55	09 03	09 09	09 15	09 21	09 29	09 35	09 42	09 49	09 56	18171	10 04	10 11	10 21	
	1307		09 03	09 10	09 18	09 24	09 30	09 36	09 44									
18	1009		09 18	09 25	09 33	09 39	09 45	09 51	09 59	10 05	10 12	10 19	10 26	18191	10 34	10 41	10 51	
18	1209		09 43	09 50	09 58	10 04	10 10	10 16	10 24	10 30	10 37	10 44	10 51	18201	10 59	11 06	11 16	
	1309		09 58	10 05	10 13	10 19	10 25	10 31	10 39									
18	1011		10 13	10 20	10 28	10 34	10 40	10 46	10 54	11 00	11 07	11 14	11 21	18221	11 29	11 36	11 46	
18	1211		10 43	10 50	10 58	11 04	11 10	11 16	11 24	11 30	11 37	11 44	11 51	18241	11 59	12 06	12 16	
	1311		10 58	11 05	11 13	11 19	11 25	11 31	11 39									
18	1013		11 13	11 20	11 28	11 34	11 40	11 46	11 54	12 00	12 07	12 14	12 21	18261	12 29	12 36	12 46	
18E	1213		11 43	11 50	11 58	12 04	12 10	12 16	12 24	12 30	12 37	12 44	12 51	18281	12 59	13 06	13 16	D13 26
	1313		11 58	12 05	12 13	12 19	12 25	12 31	12 39									
18	1015		12 13	12 20	12 28	12 34	12 40	12 46	12 54	13 00	13 07	13 14	13 21	18301	13 29	13 36	13 46	
18E	1215		12 43	12 50	12 58	13 04	13 10	13 16	13 24	13 30	13 37	13 44	13 51	18331	13 59	14 06	14 16	D14 26
	1315		12 58	13 05	13 13	13 19	13 25	13 31	13 39									
18	1017		13 13	13 20	13 28	13 34	13 40	13 46	13 54	14 00	14 07	14 14	14 21	18371	14 29	14 36	14 46	
18E	1217		13 43	13 50	13 58	14 04	14 10	14 16	14 24	14 30	14 37	14 44	14 51	18411	14 59	15 06	15 19	D15 29
18	1019		14 13	14 20	14 28	14 34	14 40	14 46	14 54	15 00	15 07	15 14	15 21	18451	15 29	15 36	15 49	
18E	1219		14 43	14 50	14 58	15 04	15 10	15 16	15 24	15 30	15 37	15 44	15 51	18491	15 59	16 06	16 19	D16 29
	1021		15 13	15 20	15 28	15 34	15 40	15 46	15 54	16 00	16 07	16 14	16 21					
18	1071		15 30	→	→	→	→	15 53	16 01	16 07	16 14	16 21	16 28	18541	16 36	16 48	17 00	
18	1221		15 40	15 47	15 55	16 01	16 07	16 13	16 21	16 27	16 34	16 41	16 48	18571	16 56	17 08	17 20	
	1775		16 00	→	→	→	→	16 23	16 31	16 37	16 44	16 51	16 58	→	16 58	→	→	17 12

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Exception 1	Toronto 2 Dp — Union Station	Toronto 2 — Exhibition GO	Etobicoke 79 — Mimico GO	Etobicoke 59 — Long Branch GO	Mississauga 10 — Port Credit GO	Mississauga 12 — Clarkson GO	Oakville 13 — Oakville GO	Oakville 14 — Bronte GO	Burlington 15 — Appleby GO	Burlington 16 — Burlington GO	Burlington 17 Ar — Aldershot GO	Transfer - Correspondances / Trip Number/Numéro du parcours	Burlington 17 Dp — Aldershot GO	Hamilton 18 — Main St. W. @ Longwood Rd. S	Hamilton 18 Ar — Hamilton GO Centre	Hamilton 18 Ar — West Harbour GO
Zone→																		
18	1023		16 10	16 17	16 25	16 31	16 37	16 43	16 51	16 57	17 04	17 11	17 18	18581	17 26	17 38	17 50	
	1873		16 30	→	→	→	→	16 53	17 01	17 07	17 14	17 21	17 28	→	17 28	→	17 45	
18	1223		16 40	16 47	16 55	17 01	17 07	17 13	17 21	17 27	17 34	17 41	17 48	18641	17 56	18 08	18 20	
	1777		16 45	→	→	→	→	17 08	17 16	17 22	17 29	17 36	17 43	→	17 43	→	→	17 57
	1875		17 00	→	→	→	→	17 23	17 31	17 37	17 44	17 51	17 58	→	17 58	→	18 15	
18	1025		17 10	17 17	17 25	17 31	17 37	17 45	17 53	17 59	18 06	18 13	18 21	18671	18 29	18 39	18 49	
	1975		17 15	→	→	→	→	17 38	17 46	17 52	17 59	18 06	18 13	→	18 13	→	→	18 27
	1877		17 30	→	→	→	→	17 53	18 01	18 07	18 14	18 21	18 28	→	18 28	→	18 45	
18E	1225		17 40	17 47	17 55	18 01	18 07	18 13	18 21	18 27	18 34	18 41	18 48	18721	18 56	19 03	19 13	D19 18
	1879		18 00	→	→	→	→	18 23	18 31	18 37	18 44	18 51	18 58	→	18 58	→	19 15	
	1027		18 15	18 22	18 30	18 36	18 42	18 48	18 56	19 02	19 09	19 16	19 23					
	1779		18 30	→	→	→	→	18 53	19 01	19 07	19 14	19 21	19 28	→	19 28↓	→	→	19 42
18														18741	19 36	19 43	19 53	
18E	1227		18 46	18 52	18 59	19 05	19 11	19 18	19 26	19 32	19 38	19 44	19 51	18781	19 59	20 06	20 16	D20 21
18	1029		19 13	19 20	19 28	19 34	19 40	19 46	19 54	20 00	20 07	20 14	20 21	18801	20 29	20 36	20 44	
18E	1229		19 43	19 50	19 58	20 04	20 10	20 16	20 24	20 30	20 37	20 44	20 51	18841	20 59	21 06	21 14	D21 19
18	1031		20 13	20 20	20 28	20 34	20 40	20 46	20 54	21 00	21 07	21 14	21 21	18861	21 29	21 36	21 44	
18E	1231		20 43	20 50	20 58	21 04	21 10	21 16	21 24	21 30	21 37	21 44	21 51	18871	21 59	22 06	22 14	D22 19
18	1033		21 13	21 20	21 28	21 34	21 40	21 46	21 54	22 00	22 07	22 14	22 21	18881	22 29	22 36	22 44	
18	1233		21 43	21 50	21 58	22 04	22 10	22 16	22 24	22 30	22 37	22 44	22 51	18901	22 59	23 06	23 14	
18	1035		22 13	22 20	22 28	22 34	22 40	22 46	22 54	23 00	23 07	23 14	23 21	18911	23 29	23 36	23 44	
18	1235		22 43	22 50	22 58	23 04	23 10	23 16	23 24	23 30	23 37	23 44	23 51	18921	23 59	00 06	00 14	
18	1037		23 13	23 20	23 28	23 34	23 40	23 46	23 54	00 00	00 07	00 14	00 21	18931	00 29	00 36	00 44	
18	1237		23 43	23 50	23 58	00 04	00 10	00 16	00 24	00 30	00 37	00 44	00 51	18941	00 59	01 06	01 14	
18	1039		00 13	00 20	00 28	00 34	00 40	00 46	00 54	01 00	01 07	01 14	01 21	18951	01 29	01 36	01 44	
18	1239		00 43	00 50	00 58	01 04	01 10	01 16	01 24	01 30	01 37	01 44	01 51	18961	01 59	02 06	02 14	
18D	18975	Fri	01 30	→	→	→	01 48	02 00										
18F	18973	Fri	01 30	→	→	→	→	→	01 57	02 05	02 15	02 23	02 33	→	02 33	D02 40	D02 50	
18C	18971	M-Th	01 30	→	→	→	01 48	01 58	02 07	02 15	02 25	02 33	02 43	→	02 43	D02 50	D03 00	
18C	18981	Fri	02 00	→	→	→	02 18	02 28	02 37	02 45	02 55	03 03	03 13	→	03 13	D03 20	D03 30	
18D	18995	Fri	02 30	→	→	→	02 48	03 00										
18F	18993	Fri	02 30	→	→	→	→	→	02 57	03 05	03 15	03 23	03 33	→	03 33	D03 40	D03 50	
18C	18991	M-Th	02 30	→	→	→	02 48	02 58	03 07	03 15	03 25	03 33	03 43	→	03 43	D03 50	D04 00	

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→	Exception 1	Hamilton 18 Dp Hamilton GO Centre	Hamilton 18 King St. W. & Dundurn St. N.	Burlington 17 Ar Aldershot GO	Transfer -Correspondances Trip Number/Numéro du parcours	Burlington 17 Dp Aldershot GO	Burlington 16 Burlington GO	Burlington 15 Appleby GO	Oakville 14 Bronte GO	Oakville 13 Oakville GO	Mississauga 12 Clarkson GO	Mississauga 10 Port Credit GO	Etobicoke 59 Long Branch GO	Etobicoke 79 Mimico GO	Toronto 2 Exhibition GO	Toronto 2 Ar Union Station
18B	18050			04 30	04 37	04 45	→	04 45	04 55	→	→	05 10	05 20	05 30	→	→	→	05 55
18G	18090		Sat	05 30	05 37	05 45	→	05 45	05 55	→	→	06 10	→	→	→	→	→	06 40
18B	18090		Sun	05 30	05 37	05 45	→	05 45	05 55	→	→	06 10	06 20	06 30	→	→	→	06 55
18H	18092		Sat									06 10	06 20	06 30	→	→	→	06 55
18	18100			06 01	06 08	06 16	1204	06 31	06 37	06 44	06 50	06 56	07 04	07 11	07 16	07 24	07 30	07 40
18	18170			06 31	06 38	06 46	1006	07 01	07 07	07 14	07 20	07 26	07 34	07 41	07 46	07 54	08 00	08 10
18	18200			07 01	07 08	07 16	1206	07 31	07 37	07 44	07 50	07 56	08 04	08 11	08 16	08 24	08 30	08 40
18	18250			07 31	07 38	07 46	1008	08 01	08 07	08 14	08 20	08 26	08 34	08 41	08 46	08 54	09 00	09 10
18	18300			08 01	08 08	08 16	1208	08 31	08 37	08 44	08 50	08 56	09 04	09 11	09 16	09 24	09 30	09 40
18	18340			08 31	08 38	08 46	1010	09 01	09 07	09 14	09 20	09 26	09 34	09 41	09 46	09 54	10 00	10 10
18	18360			09 01	09 08	09 16	1210	09 31	09 37	09 44	09 50	09 56	10 04	10 11	10 16	10 24	10 30	10 40
18	18400			09 31	09 38	09 46	1012	10 01	10 07	10 14	10 20	10 26	10 34	10 41	10 46	10 54	11 00	11 10
18	18420			10 01	10 08	10 16	1212	10 31	10 37	10 44	10 50	10 56	11 04	11 11	11 16	11 24	11 30	11 40
18	18440			10 31	10 38	10 46	1014	11 01	11 07	11 14	11 20	11 26	11 34	11 41	11 46	11 54	12 00	12 10
18	18470			11 01	11 08	11 16	1214	11 31	11 37	11 44	11 50	11 56	12 04	12 11	12 16	12 24	12 30	12 40
18	18490			11 31	11 38	11 46	1016	12 01	12 07	12 14	12 20	12 26	12 34	12 41	12 46	12 54	13 00	13 10
18	18510			12 01	12 08	12 16	1216	12 31	12 37	12 44	12 50	12 56	13 04	13 11	13 16	13 24	13 30	13 40
18	18530			12 31	12 38	12 46	1018	13 01	13 07	13 14	13 20	13 26	13 34	13 41	13 46	13 54	14 00	14 10
18	18550			13 01	13 08	13 16	1218	13 31	13 37	13 44	13 50	13 56	14 04	14 11	14 16	14 24	14 30	14 40
18	18570			13 31	13 38	13 46	1020	14 01	14 07	14 14	14 20	14 26	14 34	14 41	14 46	14 54	15 00	15 10
18	18590			14 01	14 08	14 16	1220	14 31	14 37	14 44	14 50	14 56	15 04	15 11	15 16	15 24	15 30	15 40
18	18610			14 31	14 38	14 46	1022	15 01	15 07	15 14	15 20	15 26	15 34	15 41	15 46	15 54	16 00	16 10

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→	Exception 1	Hamilton 18 Dp Hamilton GO Centre	Hamilton 18 King St. W. & Dundurn St. N.	Burlington 17 Ar Aldershot GO	Transfer -Correspondances Trip Number/Numéro du parcours	Burlington 17 Dp Aldershot GO	Burlington 16 Burlington GO	Burlington 15 Appleby GO	Oakville 14 Bronte GO	Oakville 13 Oakville GO	Mississauga 12 Clarkson GO	Mississauga 10 Port Credit GO	Etobicoke 59 Long Branch GO	Etobicoke 79 Mimico GO	Toronto 2 Exhibition GO	Toronto 2 Ar Union Station
18	18630			15 01	15 08	15 16	1222	15 31	15 37	15 44	15 50	15 56	16 04	16 11	16 16	16 24	16 30	16 40
18	18650			15 31	15 38	15 46	1024	16 01	16 07	16 14	16 20	16 26	16 34	16 41	16 46	16 54	17 00	17 10
18	18670			16 01	16 08	16 16	1224	16 31	16 37	16 44	16 50	16 56	17 04	17 11	17 16	17 24	17 30	17 40
18	18690			16 31	16 38	16 46	1026	17 01	17 07	17 14	17 20	17 26	17 34	17 41	17 46	17 54	18 00	18 10
18	18710			17 01	17 08	17 16	1226	17 31	17 37	17 44	17 50	17 56	18 04	18 11	18 16	18 24	18 30	18 40
18	18730			17 31	17 38	17 46	1028	18 01	18 07	18 14	18 20	18 26	18 34	18 41	18 46	18 54	19 00	19 10
18	18750			18 01	18 08	18 16	1228	18 31	18 37	18 44	18 50	18 56	19 04	19 11	19 16	19 24	19 30	19 40
18	18770			18 31	18 38	18 46	1030	19 01	19 07	19 14	19 20	19 26	19 34	19 41	19 46	19 54	20 00	20 10
18	18790			19 01	19 08	19 16	1230	19 31	19 37	19 44	19 50	19 56	20 04	20 11	20 16	20 24	20 30	20 40
18	18810			19 31	19 38	19 46	1032	20 01	20 07	20 14	20 20	20 26	20 34	20 41	20 46	20 54	21 00	21 10
18	18820			20 01	20 08	20 16	1232	20 31	20 37	20 44	20 50	20 56	21 04	21 11	21 16	21 24	21 30	21 40
18	18840			20 31	20 38	20 46	1034	21 01	21 07	21 14	21 20	21 26	21 34	21 41	21 46	21 54	22 00	22 10
18	18860			21 01	21 08	21 16	1234	21 31	21 37	21 44	21 50	21 56	22 04	22 11	22 16	22 24	22 30	22 40
18	18870			21 31	21 38	21 46	1036	22 01	22 07	22 14	22 20	22 26	22 34	22 41	22 46	22 54	23 00	23 10
18	18880			22 01	22 08	22 16	1236	22 31	22 37	22 44	22 50	22 56	23 04	23 11	23 16	23 24	23 30	23 40
18	18900			22 31	22 38	22 46	1038	23 01	23 07	23 14	23 20	23 26	23 34	23 41	23 46	23 54	00 01	00 10
18	18920			23 01	23 08	23 16	1238	23 31	23 37	23 44	23 50	23 56	00 04	00 11	00 16	00 24	00 30	00 40
18	18930			23 31	23 38	23 46	1490	00 01	→	→	→	→	→	→	00 30			
							1492	00 31	→	→	→	→	→	→	01 00			
							1494	01 01	→	→	→	→	→	→	01 30			
							1496	01 31	→	→	→	→	→	→	02 00			
							1498	02 01	→	→	→	→	→	→	02 30			

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Exception 1	Toronto 2 Dp — Union Station	Toronto 2 — Exhibition GO	Etobicoke 79 — Mimico GO	Etobicoke 59 — Long Branch GO	Mississauga 10 — Port Credit GO	Mississauga 12 — Clarkson GO	Oakville 13 — Oakville GO	Oakville 14 — Bronte GO	Burlington 15 — Appleby GO	Burlington 16 — Burlington GO	Burlington 17 Ar — Aldershot GO	Transfer - Correspondances / Trip Number/Numéro du parcours	Burlington 17 Dp — Aldershot GO	Hamilton 18 — Main St. W. @ Longwood Rd. S	Hamilton 18 Ar — Hamilton GO Centre
18	1203		06 43	06 50	06 58	07 04	07 10	07 16	07 24	07 30	07 37	07 44	07 51	18081	07 59	08 06	08 14
18	1005		07 13	07 20	07 28	07 34	07 40	07 46	07 54	08 00	08 07	08 14	08 21	18111	08 29	08 36	08 44
18	1205		07 43	07 50	07 58	08 04	08 10	08 16	08 24	08 30	08 37	08 44	08 51	18131	08 59	09 06	09 14
18	1007		08 13	08 20	08 28	08 34	08 40	08 46	08 54	09 00	09 07	09 14	09 21	18151	09 29	09 36	09 44
18	1207		08 43	08 50	08 58	09 04	09 10	09 16	09 24	09 30	09 37	09 44	09 51	18171	09 59	10 06	10 14
18	1009		09 13	09 20	09 28	09 34	09 40	09 46	09 54	10 00	10 07	10 14	10 21	18191	10 29	10 36	10 44
18	1209		09 43	09 50	09 58	10 04	10 10	10 16	10 24	10 30	10 37	10 44	10 51	18201	10 59	11 06	11 14
18	1011		10 13	10 20	10 28	10 34	10 40	10 46	10 54	11 00	11 07	11 14	11 21	18221	11 29	11 36	11 44
18	1211		10 43	10 50	10 58	11 04	11 10	11 16	11 24	11 30	11 37	11 44	11 51	18241	11 59	12 06	12 14
18	1013		11 13	11 20	11 28	11 34	11 40	11 46	11 54	12 00	12 07	12 14	12 21	18261	12 29	12 37	12 46
18	1213		11 43	11 50	11 58	12 04	12 10	12 16	12 24	12 30	12 37	12 44	12 51	18281	12 59	13 07	13 16
18	1015		12 13	12 20	12 28	12 34	12 40	12 46	12 54	13 00	13 07	13 14	13 21	18301	13 29	13 37	13 46
18	1215		12 43	12 50	12 58	13 04	13 10	13 16	13 24	13 30	13 37	13 44	13 51	18331	13 59	14 07	14 16
18	1017		13 13	13 20	13 28	13 34	13 40	13 46	13 54	14 00	14 07	14 14	14 21	18371	14 29	14 37	14 46
18	1217		13 43	13 50	13 58	14 04	14 10	14 16	14 24	14 30	14 37	14 44	14 51	18411	14 59	15 07	15 16
18	1019		14 13	14 20	14 28	14 34	14 40	14 46	14 54	15 00	15 07	15 14	15 21	18451	15 29	15 37	15 46
18	1219		14 43	14 50	14 58	15 04	15 10	15 16	15 24	15 30	15 37	15 44	15 51	18491	15 59	16 07	16 16
18	1021		15 13	15 20	15 28	15 34	15 40	15 46	15 54	16 00	16 07	16 14	16 21	18511	16 29	16 37	16 46
18	1221		15 43	15 50	15 58	16 04	16 10	16 16	16 24	16 30	16 37	16 44	16 51	18541	16 59	17 07	17 16
18	1023		16 13	16 20	16 28	16 34	16 40	16 46	16 54	17 00	17 07	17 14	17 21	18591	17 29	17 37	17 46
18	1223		16 43	16 50	16 58	17 04	17 10	17 16	17 24	17 30	17 37	17 44	17 51	18641	17 59	18 07	18 16
18	1025		17 13	17 20	17 28	17 34	17 40	17 46	17 54	18 00	18 07	18 14	18 21	18681	18 29	18 37	18 46

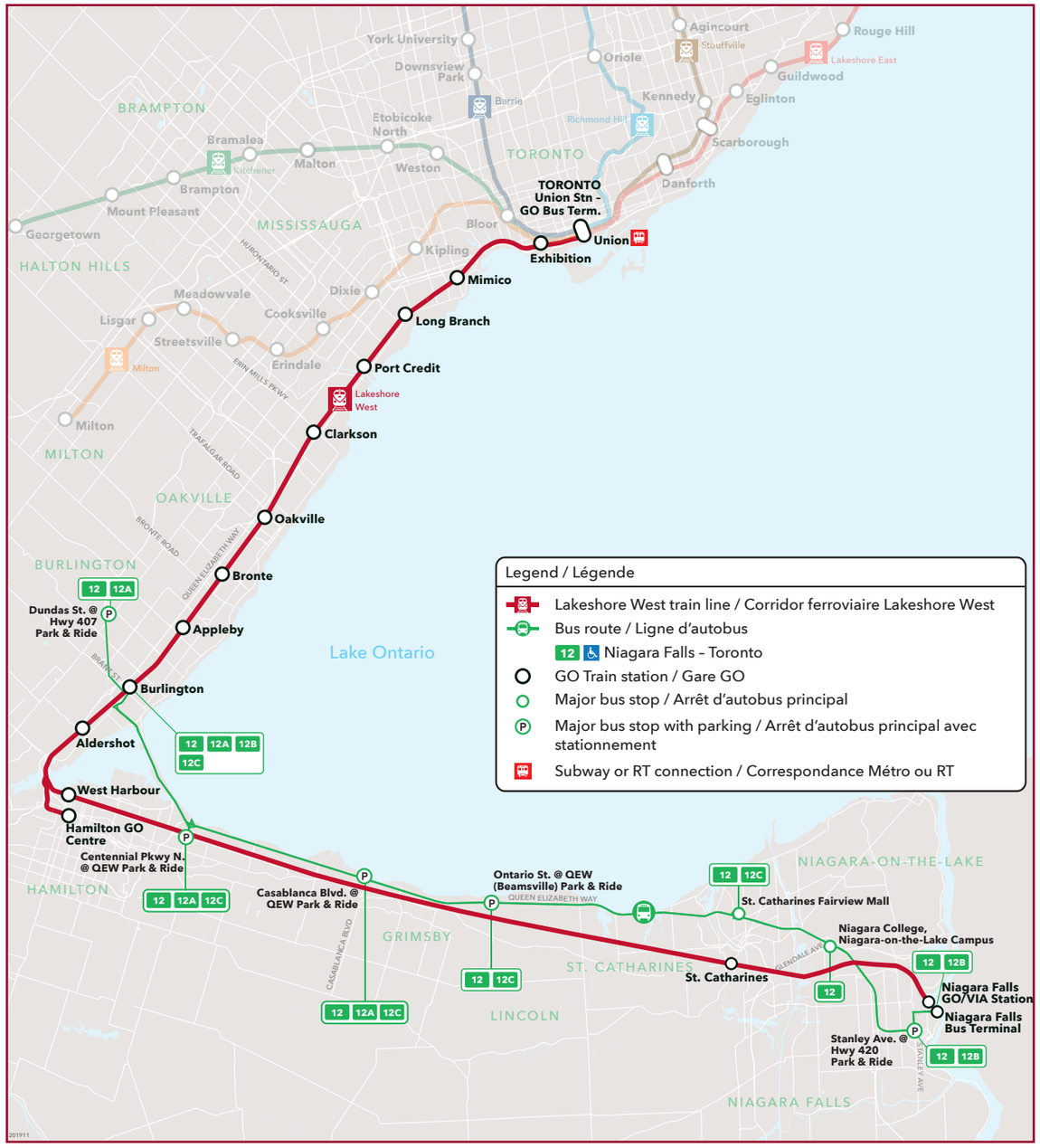
Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Exception 1	Toronto 2 Dp — Union Station	Toronto 2 — Exhibition GO	Etobicoke 79 — Mimico GO	Etobicoke 59 — Long Branch GO	Mississauga 10 — Port Credit GO	Mississauga 12 — Clarkson GO	Oakville 13 — Oakville GO	Oakville 14 — Bronte GO	Burlington 15 — Appleby GO	Burlington 16 — Burlington GO	Burlington 17 Ar — Aldershot GO	Transfer - Correspondances / Trip Number/Numéro du parcours	Burlington 17 Dp — Aldershot GO	Hamilton 18 — Main St. W. @ Longwood Rd. S	Hamilton 18 Ar — Hamilton GO Centre
18	1225		17 43	17 50	17 58	18 04	18 10	18 16	18 24	18 30	18 37	18 44	18 51	18721	18 59	19 06	19 16
18	1027		18 13	18 20	18 28	18 34	18 40	18 46	18 54	19 00	19 07	19 14	19 21	18751	19 29	19 36	19 46
18	1227		18 43	18 50	18 58	19 04	19 10	19 16	19 24	19 30	19 37	19 44	19 51	18781	19 59	20 06	20 16
18	1029		19 13	19 20	19 28	19 34	19 40	19 46	19 54	20 00	20 07	20 14	20 21	18801	20 29	20 36	20 46
18	1229		19 43	19 50	19 58	20 04	20 10	20 16	20 24	20 30	20 37	20 44	20 51	18841	20 59	21 06	21 16
18	1031		20 13	20 20	20 28	20 34	20 40	20 46	20 54	21 00	21 07	21 14	21 21	18851	21 29	21 36	21 44
18	1231		20 43	20 50	20 58	21 04	21 10	21 16	21 24	21 30	21 37	21 44	21 51	18871	21 59	22 06	22 14
18	1033		21 13	21 20	21 28	21 34	21 40	21 46	21 54	22 00	22 07	22 14	22 21	18881	22 29	22 36	22 44
18	1233		21 43	21 50	21 58	22 04	22 10	22 16	22 24	22 30	22 37	22 44	22 51	18901	22 59	23 06	23 14
18	1035		22 13	22 20	22 28	22 34	22 40	22 46	22 54	23 00	23 07	23 14	23 21	18911	23 29	23 36	23 44
18	1235		22 43	22 50	22 58	23 04	23 10	23 16	23 24	23 30	23 37	23 44	23 51	18931	23 59	00 06	00 14
18	1037		23 13	23 20	23 28	23 34	23 40	23 46	23 54	00 00	00 07	00 14	00 21	18941	00 29	00 36	00 44
18	1237		23 43	23 50	23 58	00 04	00 10	00 16	00 24	00 30	00 37	00 44	00 51	18961	00 59	01 06	01 14
18	1039		00 13	00 20	00 28	00 34	00 40	00 46	00 54	01 00	01 07	01 14	01 21	18971	01 29	01 36	01 44
18	1239		00 43	00 50	00 58	01 04	01 10	01 16	01 24	01 30	01 37	01 44	01 51	18981	01 59	02 06	02 14
18D	18993	Sat	01 30	→	→	→	01 48	02 00									
18F	18991	Sat	01 30	→	→	→	→	→	01 57	02 05	02 15	02 23	02 33	→	02 33	D02 40	D02 50
18C	18991	Sun	01 30	→	→	→	01 48	01 58	02 07	02 15	02 25	02 33	02 43	→	02 43	D02 50	D03 00
18C	18995	Sat	02 00	→	→	→	02 18	02 28	02 37	02 45	02 55	03 03	03 13	→	03 13	D03 20	D03 30
18D	18989	Sat	02 30	→	→	→	02 48	03 00									
18F	18997	Sat	02 30	→	→	→	→	→	02 57	03 05	03 15	03 23	03 33	→	03 33	D03 40	D03 50
18C	18999	Sun	02 30	→	→	→	02 48	02 58	03 07	03 15	03 25	03 33	03 43	→	03 43	D03 50	D04 00

12 Route number / Numéro du trajet

Niagara Falls/Toronto



CONTACT US

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gotransit.com/OnTheGO

03-10-2019

Niagara Falls/ Toronto

GO Train and Bus Schedule/
Horaire des trains et des autobus GO

METROLINX

12

- Toronto
- Mississauga
- Oakville
- Burlington
- Hamilton
- St. Catharines
- Niagara Falls

Daily / Quotidiennement

Includes GO Bus route 12 /
Inclut le trajet 12 d'autobus GO

Includes Lakeshore West GO Trains/
Inclut les trains GO Lakeshore West

Effective / À partir de:
2 NOVEMBER NOVEMBRE 2019

How to read our schedules

Step 1
Find the station or terminal you are departing from. Stops are listed across the top in the order they are served.

Step 2
The upper left corner tells you what day the schedule is for and the direction of travel.

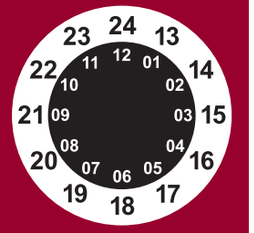
Step 3
Look across the rows for available departure times.

Step 4
Not all trains or buses stop at every station. If you see → the train or bus will not stop at that station.

Schedule times shown in 24-hour clock

Midnight to noon
00 01 - 12 00

Noon to midnight
12 01 - 24 00



Legend

- Train trips
- Bus trips
- → Trip does not serve this location.
- ↓ Check below for connecting trips.
- GO Train service is accessible to passengers using mobility devices at this location.
- GO Bus service is accessible to passengers using mobility devices at this location.
- GO Train & GO Bus service is accessible to passengers using mobility devices at this location.
- P Parking Available.

For the latest schedule information and updates, please visit gotransit.com/schedules.

Notes

Fri Trip operates on Fridays only. If Friday is a holiday, the trip operates on the Thursday beforethe holiday.

h Trip holds for connection from train.

c Trip holds for connection from bus.

Bicycles

1. Bicycles are not allowed in Union Station or on-board trains during morning rush hour (6:30-9:30) and evening rush hour (15:30-18:30), Monday to Friday.

2. Foldable bicycles are allowed on-board trains at all times.

Comment lire nos horaires

Étape 1
Trouvez votre gare ou terminus de départ. La liste des arrêts est donnée en haut dans l'ordre dans lequel ils sont desservis.

Étape 2
Le coin supérieur gauche vous indique le jour pour lequel l'horaire est donné et la direction de circulation.

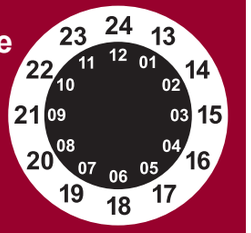
Étape 3
Regardez dans les rangées pour obtenir les heures de départ offertes.

Étape 4
Les trains ou les autobus ne s'arrêtent pas tous à chaque gare. Si vous voyez le symbole → le train ou l'autobus ne s'arrêtera pas à cette gare.

Indications selon un système horaire de 24 heures

De minuit à midi:
00 01 - 12 00

De midi à minuit:
12 01 - 24 00



Légende

- Horaire des trains
- Horaire des autobus
- → Trajet ne sert pas cette station.
- ↓ Vérifiez les trajets de correspondance cidessous.
- Service de trains GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Service d'autobus GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Les services de trains et d'autobus GO sont accessibles aux utilisateurs d'un appareil d'aide à la mobilité à cet endroit.
- P Stationnement disponible.

Pour consulter les horaires les plus récents et les mises à jour, veuillez visiter gotransit.com/schedules.

Notes

Fri Service offert les vendredis seulement ou les jeudis précédant un vendredi férié.

h Le départ de l'autobus est retardé pour assurer la correspondance avec le service de trains.

c Le départ de l'autobus est retardé pour assurer la correspondance avec le service de l'autobus.

Vélos

1. Les vélos ne sont pas autorisés dans la gare Union ou à bord des trains du lundi au vendredi, pendant l'heure de pointe (6:30-9:30) et pendant l'heure de pointe du soir (15:30-18:30).

2. Les vélos pliables sont permis à bord des trains en tout temps.

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours (Zone →)	Exception 1	Exception 2	Niagara Falls GO (Niagara Falls 84) Dp	Niagara Falls Bus Terminal (Niagara Falls 84) Dp	Stanley Ave. @ Hwy. 420 (Niagara Falls 84)	Niagara College (Niagara-on-the-Lake 84)	St. Catharines Fairview Mall (St. Catharines 83) Dp	St. Catharines GO (St. Catharines 83)	Ontario St. @ QEW (Beamsville 82)	Casablanca Blvd. @ QEW (Grimsby 81) Dp	Centennial Pkwy. N. @ QEW (Stoney Creek 80)	West Harbour GO (Hamilton 18)	Aldershot GO (Burlington 17)	Burlington GO (Burlington 16)	Dundas St. @ Hwy. 407 (Burlington 16) Ar	Appleby GO (Burlington 15)	Bronte GO (Oakville 14)	Oakville GO (Oakville 13)	Clarkson GO (Mississauga 12)	Port Credit GO (Mississauga 10)	Long Branch GO (Etobicoke 59)	Mimico GO (Etobicoke 79)	Exhibition GO (Toronto 2)	Union Station (Toronto 2) Ar
12A	12050										04 54	05 06	→	→	05 24↓	05 34									
	1202														05 39	→	05 46	05 51	05 57	06 05	06 12	06 17	06 23	06 29	06 40
12	12080				04 49	04 53	05 03	05 14	→	05 28	05 39	05 53	→	→	06 14↓	06 24									
	1754														06 29	→	06 36	06 41	06 47	06 55	→	→	→	→	07 20
12	12110				05 14	05 18	05 30	05 44	→	05 58	06 09	06 23	→	→	06 44↓	06 54									
	1954			05 23	→	→	→	→	05 46	→	→	→	06 39	06 53	06 59	→	07 06	07 11	07 17	07 25	→	→	→	→	07 50
12C	12150							06 14	→	06 28	06 39	06 53	→	→	07 14↓										
	1756														07 29	→	07 36	07 41	07 47	07 55	→	→	→	→	08 20
12	12180				06 09	06 13	06 25	06 39	→	06 53	07 04	07 18	→	→	07 44↓	07 59									
	1256														07 59	→	08 06	08 11	08 18	08 27	→	→	→	→	08 52
12C	12220							07 22	→	07 36	07 47	08 01	→	→	08 27↓										
	1208														08 42	→	08 49	08 55	09 01	09 09	09 16	09 21	09 29	09 35	09 46
12	12240				07 12	07 16	07 30	07 47	→	08 02	08 15	08 31	→	→	08 57↓	09 07									
	1010														09 12	→	09 19	09 25	09 31	09 39	09 46	09 51	09 59	10 05	10 16
12	12280				08 12	08 16	08 30	08 47	→	09 02	09 15	09 31	→	→	09 57↓	10 07									
	1012														10 12	→	10 19	10 25	10 31	10 39	10 46	10 51	10 59	11 05	11 16
12	12320				09 07	09 11	09 25	09 42	→	09 57	10 10	10 26	→	→	10 52↓	11 02									
	1014														11 07	→	11 14	11 20	11 26	11 34	11 41	11 46	11 54	12 00	12 11
12	12360				10 07	10 11	10 25	10 42	→	10 57	11 10	11 26	→	→	11 52↓	12 02									
	1016														12 07	→	12 14	12 20	12 26	12 34	12 41	12 46	12 54	13 00	13 11
12	12400				11 07	11 11	11 25	11 42	→	11 57	12 10	12 26	→	→	12 52↓	13 02									
	1018														13 07	→	13 14	13 20	13 26	13 34	13 41	13 46	13 54	14 00	14 11
12	12440				12 07	12 11	12 25	12 42	→	12 57	13 10	13 26	→	→	13 52↓	14 02									
	1020														14 07	→	14 14	14 20	14 26	14 34	14 41	14 46	14 54	15 00	15 11
12	12470				13 04	13 08	13 22	13 39	→	13 54	14 07	14 23	→	→	14 49↓	14 59									
	1022														15 04	→	15 11	15 17	15 23	15 31	15 38	15 43	15 51	15 57	16 08

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours (Zone →)	Exception 1	Exception 2	Niagara Falls GO (Niagara Falls 84) Dp	Niagara Falls Bus Terminal (Niagara Falls 84) Dp	Stanley Ave. @ Hwy. 420 (Niagara Falls 84)	Niagara College (Niagara-on-the-Lake 84)	St. Catharines Fairview Mall (St. Catharines 83) Dp	St. Catharines GO (St. Catharines 83)	Ontario St. @ QEW (Beamsville 82)	Casablanca Blvd. @ QEW (Grimsby 81) Dp	Centennial Pkwy. N. @ QEW (Stoney Creek 80)	West Harbour GO (Hamilton 18)	Aldershot GO (Burlington 17)	Burlington GO (Burlington 16)	Dundas St. @ Hwy. 407 (Burlington 16) Ar	Appleby GO (Burlington 15)	Bronte GO (Oakville 14)	Oakville GO (Oakville 13)	Clarkson GO (Mississauga 12)	Port Credit GO (Mississauga 10)	Long Branch GO (Etobicoke 59)	Mimico GO (Etobicoke 79)	Exhibition GO (Toronto 2)	Union Station (Toronto 2) Ar
12	12530				14 02	14 06	14 20	14 42	→	14 57	15 10	15 26	→	→	15 52↓	16 02									
	1024														16 07	→	16 14	16 20	16 26	16 34	16 41	16 46	16 54	17 00	17 11
12C	12560							15 10	→	15 25	15 38	15 54	→	→	16 20↓										
	1224														16 35	→	16 42	16 48	16 54	17 02	17 09	17 14	17 22	17 27	17 35
12	12590				15 02	15 06	15 20	15 42	→	15 57	16 10	16 26	→	→	16 52↓	17 02									
	1026														17 07	→	17 14	17 20	17 26	17 34	17 41	17 46	17 54	18 00	18 11
12C	12620							16 12	→	16 27	16 40	16 56	→	→	17 22↓										
	1226														17 37	→	17 44	17 50	17 56	18 04	18 11	18 16	18 24	18 30	18 41
12	12650				16 02	16 06	16 20	16 42	→	16 57	17 10	17 26	→	→	17 52↓	18 02									
	1028														18 07	→	18 14	18 20	18 26	18 34	18 41	18 46	18 54	19 00	19 11
12C	12680							17 22	→	17 37	17 50	18 06	→	→	18 27↓										
	1228														18 42	→	18 49	18 55	19 01	19 09	19 16	19 21	19 29	19 35	19 46
12	12700				17 12	17 16	17 30	17 47	→	18 02	18 15	18 31	→	→	18 52↓	19 02									
	1030														19 07	→	19 14	19 20	19 26	19 34	19 41	19 46	19 54	20 00	20 11
12	12740				18 12	18 16	18 30	18 47	→	19 02	19 15	19 31	→	→	19 52↓	20 02									
	1032														20 07	→	20 14	20 20	20 26	20 34	20 41	20 46	20 54	21 00	21 11
12	12780				19 17	19 21	19 35	19 52	→	20 06	20 17	20 31	→	→	20 52↓	21 02									
	1034														21 07	→	21 14	21 20	21 26	21 34	21 41	21 46	21 54	22 00	22 11
12	12810				20 17	20 21	20 35	20 52	→	21 06	21 17	21 31	→	→	21 52↓	22 02									
	1036														22 07	→	22 14	22 20	22 26	22 34	22 41	22 46	22 54	23 00	23 11
12	12850				21 17	21 21	21 35	21 52	→	22 06	22 17	22 31	→	→	22 52↓	23 02									
	1038														23 07	→	23 14	23 20	23 26	23 34	23 41	23 46	23 54	00 00	00 11

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Zone →			Toronto 2 Dp	Toronto 2	Etobicoke 79	Etobicoke 59	Mississauga 10	Mississauga 12	Oakville 13	Oakville 14	Burlington 15	Burlington 16 Dp	Burlington 16	Burlington 17	Hamilton 18	Stoney Creek 80	Grimsby 81	Beamsville 82	St. Catharines 83	St. Catharines 83 Ar	St. Catharines 84 Ar	Niagara Falls 84	Niagara Falls 84 Ar	Niagara Falls 84 Ar
Trip Number / Numéro du parcours		Exception 1	Exception 2	Union Station	Exhibition GO	Mimico GO	Long Branch GO	Port Credit GO	Clarkson GO	Oakville GO	Bronte GO	Appleby GO	Dundas St. @ Hwy. 407	Burlington GO	Aldershot GO	West Harbour GO	Centennial Pkwy. N. @ QEW	Casablanca Blvd. @ QEW	Ontario St. @ QEW	St. Catharines GO	St. Catharines Fairview Mall	Niagara-on-the-Lake	Niagara College	Stanley Ave. @ Hwy. 420	Niagara Falls Bus Terminal	Niagara Falls GO
18C	18051			05 30	→	→	→	05 48	06 00	06 12	06 23	06 33	→	06 45↓												
12	12121												06 32	06 50c	→	→	07 04	07 17	07 26	→	07 42	07 52	08 02	08 12	
	1003			06 13	06 19	06 27	06 32	06 38	06 44	06 51	06 57	07 03	→	07 10											
12C	12151													07 20h	→	→	07 36	07 49	07 58	→	08 20				
	1203			06 43	06 50	06 58	07 04	07 10	07 16	07 24	07 30	07 37	→	07 44											
12	12181												07 36	07 54h	→	→	08 10	08 23	08 32	→	08 51	09 01	09 11	09 21	
	1205			07 48	07 55	08 03	08 09	08 15	08 21	08 29	08 35	08 42	→	08 49											
12	12241												08 41	08 59h	→	→	09 15	09 28	09 37	→	09 56	10 09	10 21	10 31	
	1207			08 48	08 55	09 03	09 09	09 15	09 21	09 29	09 35	09 42	→	09 49											
12	12281												09 41	09 59h	→	→	10 15	10 28	10 37	→	10 56	11 09	11 21	11 31	
	1209			09 43	09 50	09 58	10 04	10 10	10 16	10 24	10 30	10 37	→	10 44											
12	12311												10 36	10 54h	→	→	11 10	11 23	11 32	→	11 51	12 04	12 16	12 26	
	1211			10 43	10 50	10 58	11 04	11 10	11 16	11 24	11 30	11 37	→	11 44											
12	12361												11 36	11 54h	→	→	12 10	12 23	12 32	→	12 51	13 04	13 16	13 26	
	1213			11 43	11 50	11 58	12 04	12 10	12 16	12 24	12 30	12 37	→	12 44											
12	12391												12 36	12 54h	→	→	13 10	13 23	13 32	→	13 51	14 04	14 16	14 26	
	1215			12 43	12 50	12 58	13 04	13 10	13 16	13 24	13 30	13 37	→	13 44											
12	12441												13 36	13 54h	→	→	14 13	14 26	14 35	→	14 56	15 06	15 16	15 26	
12B	12443	Fri												13 54h	→	→	→	→	→	→	→	→	14 49	14 59	
	1217			13 43	13 50	13 58	14 04	14 10	14 16	14 24	14 30	14 37	→	14 44											
12	12481												14 31	14 54h	→	→	15 13	15 26	15 35	→	15 56	16 06	16 16	16 26	
	1019			14 13	14 20	14 28	14 34	14 40	14 46	14 54	15 00	15 07	→	15 14											
12C	12501													15 24h	→	→	15 43	15 56	16 05	→	16 29				
	1219			14 43	14 50	14 58	15 04	15 10	15 16	15 24	15 30	15 37	→	15 44											
12	12531												15 31	15 54h	→	→	16 13	16 26	16 35	→	16 56	17 06	17 16	17 26	

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Zone →			Toronto 2 Dp	Toronto 2	Etobicoke 79	Etobicoke 59	Mississauga 10	Mississauga 12	Oakville 13	Oakville 14	Burlington 15	Burlington 16 Dp	Burlington 16	Burlington 17	Hamilton 18	Stoney Creek 80	Grimsby 81	Beamsville 82	St. Catharines 83	St. Catharines 83 Ar	St. Catharines 84 Ar	Niagara Falls 84	Niagara Falls 84 Ar	Niagara Falls 84 Ar
Trip Number / Numéro du parcours		Exception 1	Exception 2	Union Station	Exhibition GO	Mimico GO	Long Branch GO	Port Credit GO	Clarkson GO	Oakville GO	Bronte GO	Appleby GO	Dundas St. @ Hwy. 407	Burlington GO	Aldershot GO	West Harbour GO	Centennial Pkwy. N. @ QEW	Casablanca Blvd. @ QEW	Ontario St. @ QEW	St. Catharines GO	St. Catharines Fairview Mall	Niagara-on-the-Lake	Niagara College	Stanley Ave. @ Hwy. 420	Niagara Falls Bus Terminal	Niagara Falls GO
1071				15 30	→	→	→	→	15 53	16 01	16 07	16 14	→	16 21												
12C	12571													16 31h	→	→	16 50	17 03	17 12	→	17 36				
12	1775			16 00	→	→	→	→	16 23	16 31	16 37	16 44	→	16 51											
12	12601												16 38	17 01h	→	→	17 22	17 35	17 44	→	18 08	18 18	18 28	18 38	
12B	12603	Fri												17 01h			→	→	→	→	→	→	18 06	18 16	
	1873			16 30	→	→	→	→	16 53	17 01	17 07	17 14	→	17 21											
12C	12631													17 31h	→	→	17 52	18 05	18 14	→	18 41				
	1875			17 00	→	→	→	→	17 23	17 31	17 37	17 44	→	17 51											
12	12661												17 38	18 01h	→	→	18 22	18 35	18 44	→	19 03	19 13	19 23	19 33	
12B	12663	Fri												18 01h	→	→	→	→	→	→	→	→	19 01	19 11	
	1975			17 15	→	→	→	→	17 38	17 46	17 52	17 59	→	18 06	18 13	18 27	→	→	→	19 17	→	→	→	→	19 42	
	1225			17 40	17 47	17 55	18 01	18 07	18 13	18 21	18 27	18 34	→	18 41											
12	12691												18 28	18 51h	→	→	19 05	19 18	19 27	→	19 43	19 53	20 03	20 13	
	1227			18 46	18 52	18 59	19 05	19 11	19 18	19 26	19 32	19 38	→	19 44											
12	12741												19 31	19 54h	→	→	20 08	20 21	20 30	→	20 46	20 56	21 06	21 16	
12B	12743	Fri												19 54h	→	→	→	→	→	→	→	→	20 39	20 49	
	1229			19 43	19 50	19 58	20 04	20 10	20 16	20 24	20 30	20 37	→	20 44											
12	12781												20 36	20 54h	→	→	21 08	21 21	21 30	→	21 46	21 56	22 06	22 16	
	1231			20 43	20 50	20 58	21 04	21 10	21 16	21 24	21 30	21 37	→	21 44											
12	12811												21 36	21 54h	→	→	22 08	22 21	22 30	→	22 46	22 56	23 06	23 16	
	1233			21 43	21 50	21 58	22 04	22 10	22 16	22 24	22 30	22 37	→	22 44											
12	12841												22 36	22 54h	→	→	23 08	23 21	23 30	→	23 46	23 56	00 06	00 16	
	1235			22 43	22 50	22 58	23 04	23 10	23 16	23 24	23 30	23 37	→	23 44											
12	12871												23 36	23 54h	→	→	00 08	00 21	00 30	→	00 46	00 56	01 06	01 16	

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→	Exception 1	Exception 2	Niagara Falls 84 Dp **Niagara Falls GO**	Niagara Falls 84 Dp **Niagara Falls Bus Terminal**	Niagara Falls 84 **Stanley Ave. @ Hwy. 420**	Niagara-On-The-Lake 84 **Niagara College**	St. Catharines 83 **St. Catharines Fairview Mall**	St. Catharines 83 **St. Catharines GO**	Beamsville 82 **Ontario St. @ QEW**	Grimsby 81 **Casablanca Blvd. @ QEW**	Stoney Creek 80 **Centennial Pkwy. N. @ QEW**	Burlington 16 **Burlington GO**	Burlington 16 Ar **Dundas St. @ Hwy. 407**	Burlington 15 **Appleby GO**	Oakville 14 **Bronte GO**	Oakville 13 **Oakville GO**	Mississauga 12 **Clarkson GO**	Mississauga 10 **Port Credit GO**	Etobicoke 59 **Long Branch GO**	Etobicoke 79 **Mimico GO**	Toronto 2 **Exhibition GO**	Toronto 2 Ar **Union Station**
12	12130					05 22	05 26	05 38	05 52	→	06 07	06 17	06 31	06 52↓	07 02									
	1006													07 07	→	07 14	07 20	07 26	07 34	07 41	07 46	07 54	08 00	08 10
12	12190					06 22	06 26	06 38	06 52	→	07 07	07 17	07 31	07 52↓	08 02									
	1008													08 07	→	08 14	08 20	08 26	08 34	08 41	08 46	08 54	09 00	09 10
12	12230					07 17	07 21	07 33	07 47	→	08 02	08 15	08 31	08 52↓	09 02									
	1010													09 07	→	09 14	09 20	09 26	09 34	09 41	09 46	09 54	10 00	10 10
	1960			08 30	→	→	→	→	08 55	→	→	→		09 53	→	→	→	10 05	→	10 14	→	→	10 24	10 34
12	12270				08 12	08 16	08 30	08 47	→	09 02	09 15	09 31		09 52↓	10 02									
	1012													10 07	→	10 14	10 20	10 26	10 34	10 41	10 46	10 54	11 00	11 10
12	12320				09 12	09 16	09 30	09 47	→	10 02	10 15	10 31		10 52↓	11 02									
	1014													11 07	→	11 14	11 20	11 26	11 34	11 41	11 46	11 54	12 00	12 10
12	12360				10 12	10 16	10 30	10 47	→	11 02	11 15	11 31		11 52↓	12 02									
	1016													12 07	→	12 14	12 20	12 26	12 34	12 41	12 46	12 54	13 00	13 10
12	12400				11 07	11 11	11 25	11 47	→	12 02	12 15	12 31		12 52↓	13 02									
	1968			11 30	→	→	→	→	11 55	→	→	→		12 53	→	→	→	13 05	→	13 14	→	→	13 24	13 34
	1018													13 07	→	13 14	13 20	13 26	13 34	13 41	13 46	13 54	14 00	14 10
12	12440				12 07	12 11	12 25	12 47	→	13 02	13 15	13 31		13 52↓	14 02									
	1020													14 07	→	14 14	14 20	14 26	14 34	14 41	14 46	14 54	15 00	15 10
12	12480				13 07	13 11	13 25	13 47	→	14 02	14 15	14 31		14 52↓	15 02									
	1022													15 07	→	15 14	15 20	15 26	15 34	15 41	15 46	15 54	16 00	16 10
12	12530				14 02	14 06	14 20	14 42	→	14 57	15 10	15 26		15 52↓	16 02									
	1024													16 07	→	16 14	16 20	16 26	16 34	16 41	16 46	16 54	17 00	17 10
12	12590				15 02	15 06	15 20	15 42	→	15 57	16 10	16 26		16 52↓	17 02									
	1026													17 07	→	17 14	17 20	17 26	17 34	17 41	17 46	17 54	18 00	18 10
12	12650				16 02	16 06	16 20	16 42	→	16 57	17 10	17 26		17 52↓	18 02									
	1028													18 07	→	18 14	18 20	18 26	18 34	18 41	18 46	18 54	19 00	19 10
12	12700				17 02	17 06	17 20	17 42	→	17 57	18 10	18 26		18 52↓	19 02									
	1030													19 07	→	19 14	19 20	19 26	19 34	19 41	19 46	19 54	20 00	20 10
12	12740				18 07	18 11	18 25	18 42	→	18 57	19 10	19 26		19 52↓	20 02									
	1032													20 07	→	20 14	20 20	20 26	20 34	20 41	20 46	20 54	21 00	21 10
	1982			19 20	→	→	→	→	19 45	→	→	→		20 43	→	→	→	20 55	→	21 04	→	→	21 14	21 24
12	12780				19 12	19 16	19 30	19 42	→	19 57	20 10	20 26		20 52↓	21 02									
	1034													21 07	→	21 14	21 20	21 26	21 34	21 41	21 46	21 54	22 00	22 10
12	12810				20 12	20 16	20 30	20 42	→	20 57	21 10	21 26		21 52↓	22 02									
	1036													22 07	→	22 14	22 20	22 26	22 34	22 41	22 46	22 54	23 00	23 10
12	12850				21 12	21 16	21 30	21 42	→	21 57	22 10	22 26		22 52↓	23 02									
	1038													23 07	→	23 14	23 20	23 26	23 34	23 41	23 46	23 54	00 01	00 10
	1990			23 00	→	→	→	→	23 25	→	→	→		00 23	→	→	→	00 35	→	00 44	→	→	00 54	01 04

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→	Exception 1	Exception 2	Toronto 2 Dp **Union Station**	Toronto 2 **Exhibition GO**	Etobicoke 3 **Mimico GO**	Etobicoke 3 **Long Branch GO**	Mississauga 10 **Port Credit GO**	Mississauga 12 **Clarkson GO**	Oakville 13 **Oakville GO**	Oakville 14 **Bronte GO**	Burlington 15 **Appleby GO**	Burlington 16 Dp **Dundas St. @ Hwy. 407**	Burlington 16 **Burlington GO**	Stoney Creek 80 **Centennial Pkwy. N. @ QEW**	Grimsby 81 **Casablanca Blvd. @ QEW**	Beamsville 82 **Ontario St. @ QEW**	St. Catharines 83 **St. Catharines GO**	St. Catharines 83 **St. Catharines Fairview Mall**	Niagara-on-the-Lake 84 **Niagara College**	Niagara Falls 84 **Stanley Ave. @ Hwy. 420**	Niagara Falls 84 Ar **Niagara Falls Bus Terminal**	Niagara Falls 84 Ar **Niagara Falls GO**
	1203				06 43	06 50	06 58	07 04	07 10	07 16	07 24	07 30	07 37	→	07 44									
12	12181													07 36	07 54**h**	08 08	08 21	08 30	→	08 46	08 56	09 06	09 16	
	1205				07 43	07 50	07 58	08 04	08 10	08 16	08 24	08 30	08 37	→	08 44									
12	12231													08 36	08 54**h**	09 10	09 23	09 32	→	09 51	10 01	10 11	10 21	
	1207				08 43	08 50	08 58	09 04	09 10	09 16	09 24	09 30	09 37	→	09 44									
12	12261													09 36	09 54**h**	10 10	10 23	10 32	→	10 51	11 04	11 16	11 26	
	1961				09 00	09 06	→	→	09 18	→	09 29	→	→	→	09 40	→	→	→	10 38	→	→	→	→	11 04	
	1209				09 43	09 50	09 58	10 04	10 10	10 16	10 24	10 30	10 37	→	10 44									
12	12301													10 36	10 54**h**	11 15	11 28	11 37	→	12 01	12 14	12 26	12 36	
	1211				10 43	10 50	10 58	11 04	11 10	11 16	11 24	11 30	11 37	→	11 44									
12	12351													11 36	11 54**h**	12 15	12 28	12 37	→	13 01	13 14	13 26	13 36	
	1213				11 43	11 50	11 58	12 04	12 10	12 16	12 24	12 30	12 37	→	12 44									
12	12391													12 36	12 54**h**	13 15	13 30	13 42	→	14 06	14 19	14 31	14 41	
	1215				12 43	12 50	12 58	13 04	13 10	13 16	13 24	13 30	13 37	→	13 44									
12	12421													13 36	13 54**h**	14 15	14 30	14 42	→	15 06	15 19	15 31	15 41	
	1217				13 43	13 50	13 58	14 04	14 10	14 16	14 24	14 30	14 37	→	14 44									
12	12461													14 36	14 54**h**	15 15	15 28	15 37	→	16 01	16 14	16 26	16 36	
	1219				14 43	14 50	14 58	15 04	15 10	15 16	15 24	15 30	15 37	→	15 44									
12	12521													15 36	15 54**h**	16 15	16 28	16 37	→	17 01	17 14	17 26	17 36	
	1221				15 43	15 50	15 58	16 04	16 10	16 16	16 24	16 30	16 37	→	16 44									
12	12601													16 36	16 54**h**	17 13	17 26	17 35	→	17 56	18 09	18 21	18 31	
	1975				16 18	16 24	→	→	16 36	→	16 47	→	→	→	16 58	→	→	→	17 56	→	→	→	→	18 22	
	1223				16 43	16 50	16 58	17 04	17 10	17 16	17 24	17 30	17 37	→	17 44									
12	12641													17 36	17 54**h**	18 10	18 23	18 32	→	18 51	19 04	19 16	19 26	
	1225				17 43	17 50	17 58	18 04	18 10	18 16	18 24	18 30	18 37	→	18 44									
12	12671													18 36	18 54**h**	19 10	19 23	19 32	→	19 51	20 01	20 11	20 21	
	1227				18 43	18 50	18 58	19 04	19 10	19 16	19 24	19 30	19 37	→	19 44									
12	12721													19 36	19 54**h**	20 10	20 23	20 32	→	20 51	21 01	21 11	21 21	
	1229				19 43	19 50	19 58	20 04	20 10	20 16	20 24	20 30	20 37	→	20 44									
12	12781													20 36	20 54**h**	21 08	21 21	21 30	→	21 46	21 56	22 06	22 16	
	1983				20 10	20 16	→	→	20 28	→	20 39	→	→	→	20 50	→	→	→	21 48	→	→	→	→	22 14	
	1231				20 43	20 50	20 58	21 04	21 10	21 16	21 24	21 30	21 37	→	21 44									
12	12811													21 36	21 54**h**	22 08	22 21	22 30	→	22 46	22 56	23 06	23 16	
	1233				21 43	21 50	21 58	22 04	22 10	22 16	22 24	22 30	22 37	→	22 44									
12	12841													22 36	22 54**h**	23 08	23 21	23 30	→	23 46	23 56	00 06	00 16	
	1235				22 43	22 50	22 58	23 04	23 10	23 16	23 24	23 30	23 37	→	23 44									
12	12871													23 36	23 54**h**	00 08	00 21	00 30	→	00 46	00 56	01 06	01 16	

PRESTO

SAVE WITH PRESTO!

You can load money onto your PRESTO card:

- At **prestocard.ca**
- By creating a My PRESTO Account and setting up Autoload
- With a PRESTO self-serve machine
- At select Shoppers Drug Mart locations in the GTHA or select Fortinos locations in Hamilton.
- At ticket counters in GO stations, GO Bus terminals, and at participating ticket agencies
- By phone at 1-877-378-6123

For more information please visit

gotransit.com/PRESTO

PRESTO

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Vous pouvez ajouter des fonds à votre carte PRESTO :

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- En créant un compte PRESTO et en configurant le chargement automatique
- À partir d'une borne de rechargement libre-service PRESTO
- Dans certains magasins Shoppers Drug Mart dans la RGTH ou dans certains établissements Fortinos à Hamilton
- À une billetterie dans une gare GO ou une station d'autobus GO, ou à une billetterie participante
- Par téléphone au 1-877-378-6123

Pour en savoir davantage, veuillez visiter le site

gotransit.com/fr/PRESTO

16 Route number / Nombre d'itinéraire

Hamilton/Toronto Express

CONTACT US

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gotransit.com/OnTheGO

28-11-2018

Hamilton/ Toronto Express

GO Bus Schedule/
Horaire des autobus GO

METROLINX

16

Union Station

Hamilton GO Station

Daily / Quotidiennement
Includes GO Bus routes 16 / Inclut les routes 16 d'autobus GO

Effective / À partir de:
5 JANUARY JANVIER 2019

How to read our schedules

Step 1
Find the station or terminal you are departing from. Stops are listed across the top in the order they are served.

Step 2
The upper left corner tells you what day the schedule is for and the direction of travel.

Step 3
Look across the rows for available departure times.

Step 4
Not all trains or buses stop at every station. If you see → the train or bus will not stop at that station.

Schedule times shown in 24-hour clock

Midnight to noon
00 01 - 12 00

Noon to midnight
12 01 - 24 00

Legend

Bus trips

GO Bus service is accessible to passengers using mobility devices at this location.

Notes

M-Th Trip operates Monday to Thursday ONLY. If Friday is a holiday, this trip will not operate on the Thursday before the Friday holiday.

Fri Trip operates on Fridays ONLY. If Friday is a holiday, the trip operates on the Thursday before the holiday.

Late night service available. Please see the Lakeshore West Schedule for more information.

Bicycles

1. Bicycles are not allowed in Union Station or on-board trains during morning rush hour (6:30-9:30) and evening rush hour (15:30-18:30), Monday to Friday.

2. Foldable bicycles are allowed on-board trains at all times.

For the latest schedule information and updates, please visit gotransit.com/schedules.

Comment lire nos horaires

Étape 1
Trouvez votre gare ou terminus de départ. La liste des arrêts est donnée en haut dans l'ordre dans lequel ils sont desservis.

Étape 2
Le coin supérieur gauche vous indique le jour pour lequel l'horaire est donné et la direction de circulation.

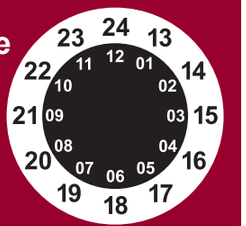
Étape 3
Regardez dans les rangées pour obtenir les heures de départ offertes.

Étape 4
Les trains ou les autobus ne s'arrêtent pas tous à chaque gare. Si vous voyez le symbole → le train ou l'autobus ne s'arrêtera pas à cette gare.

Indications selon un système horaire de 24 heures

De minuit à midi:
00 01 - 12 00

De midi à minuit:
12 01 - 24 00



Légende

Horaire des autobus

Service d'autobus GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.

Notes

M-Th Le trajet sera offert du lundi au jeudi SEULEMENT. Si le vendredi tombe un jour férié, ce trajet ne sera pas offert le jeudi précédent.

Fri Service offert les vendredis SEULEMENT ou les jeudis précédant un vendredi férié.

Service de nuit disponible. Consultez l'horaire de Lakeshore West pour plus d'information.

Vélos

1. Les vélos ne sont pas autorisés dans la gare Union ou à bord des trains du lundi au vendredi, pendant l'heure de pointe (6:30-9:30) et pendant l'heure de pointe du soir (15:30-18:30).

2. Les vélos pliables sont permis à bord des trains en tout temps.

Pour consulter les horaires les plus récents et les mises à jour, veuillez visiter gotransit.com/schedules.

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Nombre d'itinéraire	Trip Number / N° du trajet	Exception 1	Hamilton 18 Dp — Hamilton GO Centre	Hamilton 18 — King St. W. @ Dundurn St. N.	Toronto 2 Ar — Union Station Bus Terminal
16	16040		04 15	04 22	05 05
16	16080		05 00	05 07	05 55
16	16100		05 20	05 27	06 15
16	16120		05 40	05 47	06 45
16	16160		06 00	06 07	07 15
16	16180		06 20	06 27	07 45
16	16200		06 40	06 47	08 10
16	16230		07 00	07 07	08 35
16	16240		07 20	07 27	09 00
16	16260		07 40	07 47	09 20
16	16280		08 00	08 07	09 35
16	16300		08 20	08 27	09 45
16	16320		08 40	08 47	10 05
16	16340		09 00	09 07	10 20
16	16360		09 20	09 27	10 35
16	16380		09 40	09 47	10 50
16	16400		10 00	10 07	11 05
16	16420		10 20	10 27	11 20
16	16440		10 40	10 47	11 40
16	16460		11 00	11 07	12 00
16	16480		11 30	11 37	12 30
16	16500		12 00	12 07	13 00
16	16520		12 30	12 37	13 30
16	16540		13 00	13 07	14 00
16	16560		13 30	13 37	14 30
16	16570	Fri	13 50	13 57	14 50
16	16580	M-Th	14 00	14 07	15 00

Route Number / Nombre d'itinéraire	Trip Number / N° du trajet	Exception 1	Hamilton 18 Dp — Hamilton GO Centre	Hamilton 18 — King St. W. @ Dundurn St. N.	Toronto 2 Ar — Union Station Bus Terminal
16	16582	Fri	14 10	14 20	15 15
16	16600		14 30	14 40	15 35
16	16610	Fri	14 50	15 00	16 00
16	16620	M-Th	15 00	15 10	16 10
16	16622	Fri	15 10	15 20	16 25
16	16640		15 30	15 40	16 45
16	16650	Fri	15 50	16 00	17 15
16	16660	M-Th	16 00	16 10	17 25
16	16662	Fri	16 10	16 20	17 40
16	16680		16 30	16 40	18 05
16	16690	Fri	16 50	17 00	18 25
16	16720	M-Th	17 00	17 10	18 35
16	16722	Fri	17 10	17 20	18 45
16	16740		17 30	17 40	19 00
16	16750	Fri	17 50	18 00	19 20
16	16760	M-Th	18 00	18 07	19 15
16	16762	Fri	18 10	18 17	19 25
16	16780		18 30	18 37	19 40
16	16800		19 00	19 07	20 05
16	16820		19 30	19 37	20 30
16	16840		20 00	20 07	20 55
16	16850		20 30	20 37	21 25
16	16860		21 00	21 07	21 55
16	16880		22 00	22 07	22 55
16	16900		23 00	23 07	23 50
16	16920		23 30	23 37	00 20
16	16960		00 30	00 37	01 20

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Nombre d'itinéraire	Trip Number / N° du trajet	Toronto 2 Dp — Union Station Bus Terminal	Hamilton 18 Ar — Main St. W. @ Longwood Rd. S.	Hamilton 18 Ar — Hamilton GO Centre
16	16111	05 45	06 27	06 40
16	16121	06 30	07 12	07 25
16	16131	07 00	07 42	08 00
16	16141	07 30	08 32	08 55
16	16161	08 00	09 02	09 20
16	16181	08 30	09 27	09 45
16	16201	09 00	09 47	10 05
16	16221	09 30	10 12	10 30
16	16241	10 00	10 42	11 00
16	16261	10 30	11 12	11 30
16	16281	11 00	11 42	12 00
16	16301	11 30	12 12	12 30
16	16321	12 00	12 42	13 00
16	16341	12 30	13 12	13 30
16	16361	13 00	13 42	14 00
16	16381	13 30	14 17	14 35
16	16401	14 00	14 57	15 15
16	16421	14 30	15 32	15 55
16	16441	14 50	16 02	16 25
16	16461	15 10	16 27	16 50
16	16481	15 30	16 52	17 15
16	16501	15 50	17 12	17 35
16	16521	16 10	17 32	17 55

Route Number / Nombre d'itinéraire	Trip Number / N° du trajet	Toronto 2 Dp — Union Station Bus Terminal	Hamilton 18 Ar — Main St. W. @ Longwood Rd. S.	Hamilton 18 Ar — Hamilton GO Centre
16	16541	16 30	17 52	18 15
16	16561	16 50	18 12	18 35
16	16581	17 05	18 27	18 50
16	16601	17 20	18 37	19 00
16	16621	17 35	18 47	19 10
16	16641	17 50	18 57	19 20
16	16661	18 05	19 07	19 30
16	16681	18 20	19 22	19 40
16	16701	18 35	19 32	19 50
16	16721	18 50	19 42	20 00
16	16741	19 05	19 57	20 15
16	16761	19 20	20 07	20 25
16	16781	19 40	20 27	20 45
16	16801	20 00	20 42	21 00
16	16821	20 30	21 12	21 30
16	16841	21 00	21 42	22 00
16	16861	21 30	22 12	22 25
16	16881	22 00	22 42	22 55
16	16891	22 30	23 12	23 25
16	16901	23 00	23 42	23 55
16	16921	23 45	00 27	00 40
16	16941	00 30	01 12	01 25

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number Nombre d'itinéraire	Zone→ Trip Number N° du trajet	Hamilton 18 Dp **Hamilton GO Centre**	Hamilton 18 **King St. W. @ Dundurn St. N.**	Toronto 2 Ar **Union Station Bus Terminal**
16	16220	07 00	07 07	07 55
16	16250	07 30	07 37	08 25
16	16280	08 00	08 07	08 55
16	16310	08 20	08 27	09 15
16	16320	08 40	08 47	09 35
16	16340	09 00	09 07	10 00
16	16360	09 20	09 27	10 20
16	16380	09 40	09 47	10 40
16	16400	10 00	10 07	11 05
16	16420	10 20	10 27	11 25
16	16440	10 40	10 47	11 50
16	16460	11 00	11 07	12 10
16	16470	11 20	11 27	12 30
16	16490	11 40	11 47	12 50
16	16500	12 00	12 07	13 10
16	16510	12 20	12 27	13 30
16	16530	12 40	12 47	13 50
16	16540	13 00	13 07	14 10
16	16560	13 20	13 27	14 30
16	16570	13 40	13 47	14 50
16	16580	14 00	14 07	15 10
16	16600	14 20	14 27	15 30
16	16610	14 40	14 47	15 50

Route Number Nombre d'itinéraire	Zone→ Trip Number N° du trajet	Hamilton 18 Dp **Hamilton GO Centre**	Hamilton 18 **King St. W. @ Dundurn St. N.**	Toronto 2 Ar **Union Station Bus Terminal**
16	16620	15 00	15 07	16 10
16	16640	15 20	15 27	16 30
16	16650	15 40	15 47	16 55
16	16660	16 00	16 07	17 15
16	16680	16 20	16 27	17 35
16	16700	16 40	16 47	17 55
16	16720	17 00	17 07	18 15
16	16740	17 20	17 27	18 35
16	16750	17 40	17 47	18 55
16	16760	18 00	18 07	19 10
16	16780	18 20	18 27	19 30
16	16790	18 40	18 47	19 50
16	16800	19 00	19 07	20 05
16	16820	19 30	19 37	20 35
16	16840	20 00	20 07	21 00
16	16850	20 30	20 37	21 30
16	16860	21 00	21 07	21 55
16	16870	21 30	21 37	22 25
16	16880	22 00	22 07	22 55
16	16890	22 30	22 37	23 25
16	16900	23 00	23 07	23 55
16	16920	23 30	23 37	00 25
16	16940	00 30	00 37	01 25

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

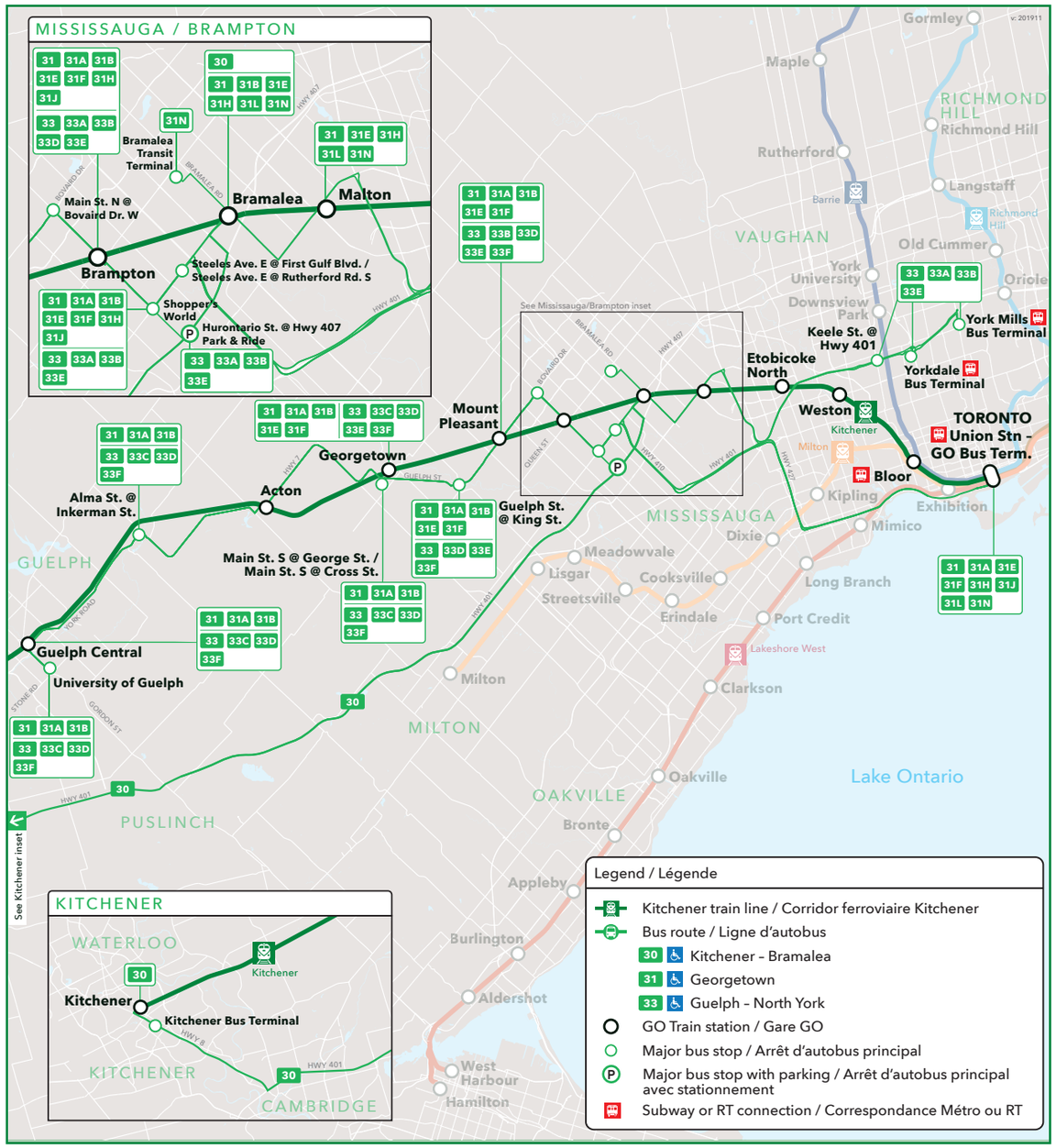
Route Number Nombre d'itinéraire	Zone→ Trip Number N° du trajet	Toronto 2 Dp **Union Station Bus Terminal**	Hamilton 18 **Main St. W. @ Longwood Rd. S.**	Hamilton 18 Ar **Hamilton GO Centre**
16	16141	07 30	08 12	08 25
16	16181	08 30	09 12	09 25
16	16201	09 00	09 42	09 55
16	16221	09 30	10 12	10 25
16	16241	09 50	10 32	10 45
16	16251	10 10	10 52	11 10
16	16261	10 30	11 12	11 30
16	16281	10 50	11 32	11 50
16	16291	11 10	11 57	12 15
16	16301	11 30	12 17	12 35
16	16321	11 50	12 37	12 55
16	16331	12 10	13 02	13 20
16	16341	12 30	13 22	13 40
16	16361	12 50	13 42	14 00
16	16371	13 10	14 02	14 20
16	16381	13 30	14 22	14 40
16	16401	13 50	14 42	15 00
16	16411	14 10	15 02	15 20
16	16421	14 30	15 22	15 40
16	16431	14 50	15 42	16 00
16	16451	15 10	16 02	16 20
16	16471	15 30	16 22	16 40
16	16491	15 50	16 42	17 00

Route Number Nombre d'itinéraire	Zone→ Trip Number N° du trajet	Toronto 2 Dp **Union Station Bus Terminal**	Hamilton 18 **Main St. W. @ Longwood Rd. S.**	Hamilton 18 Ar **Hamilton GO Centre**
16	16511	16 10	17 02	17 20
16	16531	16 30	17 22	17 40
16	16551	16 50	17 42	18 00
16	16571	17 10	18 02	18 20
16	16601	17 30	18 22	18 40
16	16631	17 50	18 42	19 00
16	16651	18 10	18 57	19 15
16	16681	18 30	19 17	19 35
16	16711	18 50	19 37	19 55
16	16731	19 10	19 57	20 15
16	16771	19 30	20 17	20 35
16	16781	19 50	20 32	20 50
16	16801	20 10	20 52	21 10
16	16821	20 30	21 12	21 30
16	16841	21 00	21 42	22 00
16	16861	21 30	22 12	22 30
16	16881	22 00	22 42	23 00
16	16891	22 30	23 12	23 25
16	16901	23 00	23 42	23 55
16	16921	23 30	00 12	00 25
16	16931	24 00	00 42	00 55
16	16941	00 30	01 12	01 25

30-31-33

Route number
Numéro du trajet

Kitchener



CONTACT US

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gotransit.com/schedules

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See Something?
Say Something.

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1-877-297-0642

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Sign-up for email or text alerts/ Inscrivez-vous pour recevoir des alertes par courriel ou message texte.
gotransit.com/OnTheGO

29-11-2019

Kitchener

GO Train and Bus Schedule/
Horaire des trains et des autobus GO

METROLINX

KT 30 31 33

- Kitchener
- Guelph
- Rockwood
- Acton
- Georgetown
- Brampton
- Toronto

Daily / Quotidiennement
Includes GO Bus routes 30, 31, and 33 / Inclut les trajets 30, 31, et 33 d'autobus GO

Effective / À partir de:
11 JANUARY JANVIER 2020

How to read our schedules

Step 1
Find the station or terminal you are departing from. Stops are listed across the top in the order they are served.

Step 2
The upper left corner tells you what day the schedule is for and the direction of travel.

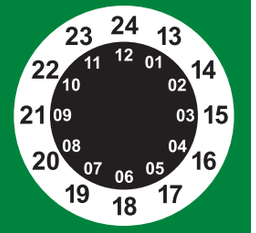
Step 3
Look across the rows for available departure times.

Step 4
Not all trains or buses stop at every station. If you see → the train or bus will not stop at that station.

Schedule times shown in 24-hour clock

Midnight to noon
00 01 - 12 00

Noon to midnight
12 01 - 24 00



Legend

- Train trips
- Bus trips
- → Trip does not serve this location.
- ↓ Check below for connecting trips.
- GO Train service is accessible to passengers using mobility devices at this location.
- GO Bus service is accessible to passengers using mobility devices at this location.
- GO Train & GO Bus service is accessible to passengers using mobility devices at this location.
- P Parking available.

Notes

D Stops to let off passengers on request only.

b Trip holds for connection from bus.

c Trip continues to and terminates at Bramalea Transit Terminal.

h Trip holds for connection.

S GO Bus services GO Station from bus stop on street.

Sat Trip operates on Saturdays ONLY.

Bicycles

1. Bicycles are not allowed in Union Station or on-board trains during morning rush hour (6:30-9:30) and evening rush hour (15:30-18:30), Monday to Friday.

2. Foldable bicycles are allowed on-board trains at all times.

For the latest schedule information and updates, please visit gotransit.com/schedules.

Comment lire nos horaires

Étape 1
Trouvez votre gare ou terminus de départ. La liste des arrêts est donnée en haut dans l'ordre dans lequel ils sont desservis.

Étape 2
Le coin supérieur gauche vous indique le jour pour lequel l'horaire est donné et la direction de circulation.

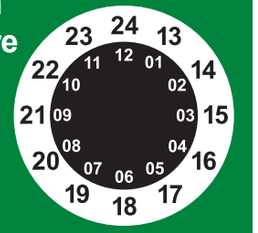
Étape 3
Regardez dans les rangées pour obtenir les heures de départ offertes.

Étape 4
Les trains ou les autobus ne s'arrêtent pas tous à chaque gare. Si vous voyez le symbole → le train ou l'autobus ne s'arrêtera pas à cette gare.

Indications selon un système horaire de 24 heures

De minuit à midi:
00 01 - 12 00

De midi à minuit:
12 01 - 24 00



Légende

- Horaire des trains
- Horaire des autobus
- → Trajet ne sert pas cette station.
- ↓ Vérifiez les trajets de correspondance cidessous.
- Service de trains GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Service d'autobus GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Les services de trains et d'autobus GO sont accessibles aux utilisateurs d'un appareil d'aide à la mobilité à cet endroit.
- P Stationnement disponible.

Notes

D Arrêt sur demande seulement.

b Le départ de l'autobus est retardé pour assurer la connexion de l'autobus.

c Le parcours s'arrête au terminus Bramalea Transit Terminal.

h Le départ de l'autobus est retardé pour assurer la correspondance.

S Les autobus GO desservent la gare à partir de l'arrêt situé sur la rue.

Sat Service offert les samedis SEULEMENT.

Vélos

1. Les vélos ne sont pas autorisés dans la gare Union ou à bord des trains du lundi au vendredi, pendant l'heure de pointe (6:30-9:30) et pendant l'heure de pointe du soir (15:30-18:30).

2. Les vélos pliables sont permis à bord des trains en tout temps.

Pour consulter les horaires les plus récents et les mises à jour, veuillez visiter gotransit.com/schedules.

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Kitchener 27 Dp **Kitchener GO**	Kitchener 27 **Kitchener Bus Terminal**	Guelph 39 **University of Guelph**	Guelph 39 **Guelph Central GO**	Rockwood 38 **Alma St. @ Inkerman St.**	Acton 37 **Acton GO**	Georgetown 35 **Main St. S. @ George St.**	Georgetown 35 **Georgetown GO**	Georgetown 35 **Guelph St. @ King St.**	Brampton 34 **Mount Pleasant GO**	Brampton 33 **Main St. N @ Bovaird Dr. W.**
31E	31020									04 05	04 12	04 20	04 26
31F	31030									04 40	04 47	04 55	05 01
31L	31040												
30	30020		04 39	04 44	→	→	→	→	→	→	→	→	→
	3402											05 38	→
33E	33050									04 55	05 02	05 10	05 18
33A	33070												
33	33080				04 42	04 47	05 00	05 11**S**	05 23	05 32↓	05 40	05 50	05 58
	3602									05 44	→	05 53	→
33A	33100												
33E	33110									06 00	06 08	06 18	06 27
	3802		05 20	→	→	05 42	→	05 58	→	06 14	→	06 23	→
33A	33120												
33C	33140				05 29	05 39	05 52	06 03**S**	06 15	06 24			
33E	33142									06 30	06 38	06 48	06 57
	3902		05 45	→	→	06 07	→	06 23	→	06 39	→	06 48	→
33A	33160												
33E	33170									07 00	07 08	07 18	07 27
	3854		06 10	→	→	06 32	→	06 48	→	07 04	→	07 13	→
	3606									07 14	→	07 23	→
33	33200				06 30	06 40	06 53	07 04**S**	07 18	07 30↓	07 38	07 50	07 59
	3306												
	3904		06 50	→	→	07 12	→	07 28	→	07 44	→	07 53	→
	3108												
	3806		07 15	→	→	07 37	→	07 53	→	08 09	→	08 18	→
33	33240				07 25	07 35	07 48	07 59**S**	08 13	08 25	08 33	08 45↓	08 54
	3906		07 57	→	→	08 19	→	08 35	→	08 51	→	09 00	→
33	33280				08 20	08 30	08 43	08 54**S**	09 08	09 20	09 28	09 40↓	09 49

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Brampton 33 **Brampton GO**	Brampton 33 **Shopper's World**	Brampton 22 **Hurontario St. @ Hwy. 407**	Brampton 33 **Steeles Ave. E. @ First Gulf Blvd.**	Brampton 32 **Bramalea GO**	Mississauga 31 **Malton GO**	North York 5 D **Keele St. @ Hwy. 401**	North York 5 **Yorkdale Bus Terminal**	North York 5 Ar **York Mills Bus Terminal**	Etobicoke 4 **Etobicoke North GO**	Toronto 4 **Weston GO**	Toronto 2 **Bloor GO**	Toronto 2 Ar **Union Station**
31E	31020		04 35	04 39	→	04 44	04 50	05 00	→	→	→	→	→	→	05 30
31F	31030		05 10	05 14	→	05 19	→	→	→	→	→	→	→	→	05 50
31L	31040						05 10	05 20	→	→	→	→	→	→	05 50
30	30020		→	→	→	→	05 39↓								
	3402		05 45	→	→	→	05 54	06 00	→	→	→	06 06	06 12	06 20	06 32
33E	33050		05 30	05 36	05 40	→	→	→	06 00	06 05	06 15				
33A	33070		06 00	06 08	06 15	→	→	→	06 40	06 45	06 55				
33	33080		06 10	06 18	06 25	→	→	→	06 50	06 55	07 05				
	3602		06 00	→	→	→	06 09	06 15	→	→	→	06 21	06 27	06 35	06 47
33A	33100		06 30	06 38	06 45	→	→	→	07 10	07 15	07 25				
33E	33110		06 40	06 48	06 55	→	→	→	07 25	07 30	07 40				
	3802		06 30	→	→	→	06 40	06 46	→	→	→	06 52	06 58	07 06	07 18
33A	33120		07 00	07 08	07 15	→	→	→	07 45	07 55	08 05				
33C	33140														
33E	33142		07 10	07 18	07 25	→	→	→	07 55	08 05	08 15				
	3902		06 55	→	→	→	07 05	07 11	→	→	→	07 17	07 23	07 31	07 43
33A	33160		07 30	07 38	07 46	→	→	→	08 20	08 30	08 40				
33E	33170		07 40	07 48	07 56	→	→	→	08 30	08 40	08 50				
	3854		07 20	→	→	→	07 30	→	→	→	→	→	→	→	07 56
	3606		07 30	→	→	→	07 40	07 46	→	→	→	07 52	07 58	08 06	08 18
33	33200		08 15	08 23	08 31	→	→	→	09 05	09 15	09 25				
	3306						07 55	08 01	→	→	→	08 07	08 13	08 21	08 33
	3904		08 00	→	→	→	08 10	08 16	→	→	→	08 22	08 28	08 36	08 48
	3108						08 27	08 33	→	→	→	08 39	08 45	08 53	09 05
	3806		08 25	→	→	→	08 35	08 41	→	→	→	08 47	08 53	09 01	09 13
33	33240		09 10	09 18	09 25	→	→	→	09 50	10 00	10 10				
	3906		09 07	→	→	→	09 14	09 22	→	→	→	09 27	09 32	09 39	09 51
33	33280		10 05	10 13	10 20	→	→	→	10 45	10 50	11 00				

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Kitchener 27 Dp	Kitchener 27	Guelph 39	Guelph 39	Rockwood 38	Acton 37	Georgetown 35	Georgetown 35	Georgetown 35	Brampton 34	Brampton 33
			Kitchener GO	Kitchener Bus Terminal	University of Guelph	Guelph Central GO	Alma St. @ Inkerman St.	Acton GO	Main St. S. @ George St.	Georgetown GO	Guelph St. @ King St.	Mount Pleasant GO	Main St. N @ Bovaird Dr. W.
30	30230		08 39	08 46	→	→	→	→	→	→	→	→	→
	3412											09 55	→
33	33320				09 30	09 40	09 53	10 04**S**	10 16	10 25	10 33	10 45↓	10 54
30	30270		09 44	09 51	→	→	→	→	→	→	→	→	→
	3414											11 00	→
33	33360				10 30	10 40	10 53	11 04**S**	11 16	11 25	11 33	11 45↓	11 54
30	30310		10 44	10 51	→	→	→	→	→	→	→	→	→
	3416											12 00	→
33	33400				11 30	11 40	11 53	12 04**S**	12 16	12 25	12 33	12 45↓	12 54
33A	33420												
30	30350		11 44	11 51	→	→	→	→	→	→	→	→	→
	3418											13 00	→
33	33440				12 30	12 40	12 53	13 04**S**	13 16	13 25	13 33	13 45↓	13 54
33A	33460												
30	30390		12 44	12 51	→	→	→	→	→	→	→	→	→
	3420											14 00	→
33	33480				13 30	13 40	13 53	14 04**S**	14 16	14 25	14 33	14 45↓	14 54
30	30430		13 39	13 46	→	→	→	→	→	→	→	→	→
	3422											15 00	→
33A	33520												
33	33530				14 25	14 35	14 48	14 59**S**	15 11	15 23	15 31	15 45↓	15 54
	3920		14 57	→	→	15 19	→	15 35	→	15 51	→	16 00	→
31J	31570												
33A	33580												
31L	31580												
31A	31600				15 15	15 25	15 39	15 53**S**	16 08	16 20	16 28	16 40	16 51
33A	33610												
30	30540		15 50	15 57	→	→	→	→	→	→	→	→	→
31L	31610												
33A	33640												

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Brampton 33	Brampton 33	Brampton 22	Brampton 33	Brampton 32	Mississauga 31	North York 5 D	North York 5	North York 5 Ar	Etobicoke 4	Toronto 4	Toronto 2	Toronto 2 Ar
		Brampton GO	Shopper's World	Hurontario St. @ Hwy. 407	Steeles Ave. E. @ First Gulf Blvd.	Bramalea GO	Malton GO	Keele St. @ Hwy. 401	Yorkdale Bus Terminal	York Mills Bus Terminal	Etobicoke North GO	Weston GO	Bloor GO	Union Station
30	30230	→	→	→	→	09 54↓								
	3412	10 02	→	→	→	10 09	10 16	→	→	→	10 22	10 27	10 34	10 46
33	33320	11 10	11 18	11 25	→	→	→	11 50	11 55	12 05				
30	30270	→	→	→	→	10 59↓								
	3414	11 07	→	→	→	11 14	11 21	→	→	→	11 27	11 32	11 39	11 51
33	33360	12 10	12 16	12 22	→	→	→	12 45	12 50	13 00				
30	30310	→	→	→	→	11 59↓								
	3416	12 07	→	→	→	12 14	12 21	→	→	→	12 27	12 32	12 39	12 51
33	33400	13 10	13 16	13 22	→	→	→	13 45	13 50	14 00				
33A	33420	13 40	13 46	13 52	→	→	→	14 15	14 20	14 30				
30	30350	→	→	→	→	12 59↓								
	3418	13 07	→	→	→	13 14	13 21	→	→	→	13 27	13 32	13 39	13 51
33	33440	14 10	14 16	14 22	→	→	→	14 45	14 50	15 05				
33A	33460	14 40	14 48	14 55	→	→	→	15 20	15 25	15 40				
30	30390	→	→	→	→	13 59↓								
	3420	14 07	→	→	→	14 14	14 21	→	→	→	14 27	14 32	14 39	14 51
33	33480	15 10	15 18	15 25	→	→	→	15 50	15 55	16 10				
30	30430	→	→	→	→	14 59↓								
	3422	15 07	→	→	→	15 14	15 21	→	→	→	15 27	15 32	15 39	15 51
33A	33520	15 40	15 48	15 55	→	→	→	16 20	16 25	16 45				
33	33530	16 10	16 18	16 25	→	→	→	16 55	17 00	17 20				
	3920	16 07	→	→	→	16 14	16 21	→	→	→	→	16 30	16 37	16 51
31J	31570	16 35**b**	16 43	→	16 50	→	→	→	→	→	→	→	→	17 50
33A	33580	16 40	16 48	16 55	→	→	→	17 25	17 30	17 50				
31L	31580					16 45	16 55	→	→	→	→	→	→	17 50
31A	31600	17 05	17 13	→	17 20	→	→	→	→	→	→	→	→	18 20
33A	33610	17 10	17 18	17 25	→	→	→	17 55	18 00	18 20				
30	30540	→	→	→	→	17 10↓								
31L	31610					17 15**h**	17 25	→	→	→	→	→	→	18 20
33A	33640	17 40	17 48	17 55	→	→	→	18 25	18 30	18 45				

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Kitchener 27 Dp **Kitchener GO**	Kitchener 27 **Kitchener Bus Terminal**	Guelph 39 **University of Guelph**	Guelph 39 **Guelph Central GO**	Rockwood 38 **Alma St. @ Inkerman St.**	Acton 37 **Acton GO**	Georgetown 35 **Main St. S. @ George St.**	Georgetown 35 **Georgetown GO**	Georgetown 35 **Guelph St. @ King St.**	Brampton 34 **Mount Pleasant GO**	Brampton 33 **Main St. N @ Bovaird Dr. W.**
31B	31620				15 39	15 49	16 03	16 17**S**	16 32	16 44	16 52	17 04	17 15
30	30590		16 34	16 41	→	→	→	→	→	→	→	→	→
	3028												
31H	31650												
33A	33670												
31B	31662				16 44	16 54	17 08	17 22**S**	17 37	17 49	17 57	18 09	18 20
33A	33680												
33	33710				17 25	17 35	17 49	18 00**S**	18 15	18 25	18 33	18 45	18 55
30	30660		17 39	17 46	→	→	→	→	→	→	→	→	→
	3030												
31H	31712												
33	33750				18 30	18 40	18 54	19 05**S**	19 17	19 27	19 35	19 45↓	19 55
30	30700		18 44	18 51	→	→	→	→	→	→	→	→	→
	3432											20 00	→
31H	31760												
33E	33790									20 30	20 38	20 45↓	20 55
30	30740		19 49	19 56	→	→	→	→	→	→	→	→	→
	3434											21 00	→
31H	31800												
33	33820				20 30	20 40	20 54	21 05**S**	21 17	21 27	21 35	21 45↓	21 55
	3932		20 57	→	→	21 19	→	21 35	→	21 51	→	22 00	→
30	30830		22 10	22 15	→	→	→	→	→	→	→	→	→
31H	31840												
31E	31850									22 30	22 37	22 45	22 51
33A	33850												
31H	31870												
31E	31880									23 30	23 37	23 45	23 51
33A	33890												
31E	31910									00 30	00 37	00 45	00 51

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND EN DIRECTION EST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Brampton 33 **Brampton GO**	Brampton 33 **Shopper's World**	Brampton 22 **Hurontario St. @ Hwy. 407**	Brampton 33 **Steeles Ave. E. @ First Gulf Blvd.**	Brampton 32 **Bramalea GO**	Mississauga 31 **Malton GO**	North York 5 D **Keele St. @ Hwy. 401**	North York 5 **Yorkdale Bus Terminal**	North York 5 Ar **York Mills Bus Terminal**	Etobicoke 4 **Etobicoke North GO**	Toronto 4 **Weston GO**	Toronto 2 **Bloor GO**	Toronto 2 Ar **Union Station**
31B	31620	17 29	17 37	→	17 44	17 59↓								
30	30590	→	→	→	→	17 59↓								
	3028					18 14	18 21	→	→	→	18 27	18 32	18 39	18 51
31H	31650	18 05	18 13	→	18 20	18 30	18 40	→	→	→	→	→	→	19 25
33A	33670	18 10	18 18	18 25	→	→	→	18 50	18 55	19 10				
31B	31662	18 34	18 42	→	18 49	18 59↓								
33A	33680	18 40	18 48	18 55	→	→	→	19 20	19 25	19 40				
33	33710	19 10	19 16	19 22	→	→	→	19 45	19 50	20 00				
30	30660	→	→	→	→	18 59↓								
	3030					19 14	19 21	→	→	→	19 27	19 32	19 39	19 51
31H	31712	19 25	19 30	→	19 35	19 45	19 55	→	→	→	→	→	→	20 30
33	33750	20 10	20 16	20 22	→	→	→	20 45	20 50	21 00				
30	30700	→	→	→	→	19 59↓								
	3432	20 07	→	→	→	20 14	20 21	→	→	→	20 27	20 32	20 39	20 51
31H	31760	20 35	20 40	→	20 45	20 50	21 00	→	→	→	→	→	→	21 35
33E	33790	21 10	21 15	21 20	→	→	→	21 40	21 45	21 55				
30	30740	→	→	→	→	20 59↓								
	3434	21 07	→	→	→	21 14	21 21	→	→	→	21 27	21 32	21 39	21 51
31H	31800	21 35	21 40	→	21 45	21 50	22 00	→	→	→	→	→	→	22 35
33	33820	22 10	22 15	22 20	→	→	→	22 40	22 45	22 55				
	3932	22 07	→	→	→	22 14	22 21	→	→	→	22 27	22 32	22 39	22 51
30	30830	→	→	→	→	23 15↓								
31H	31840	22 35**b**	22 40	→	22 45	22 50	23 00	→	→	→	→	→	→	23 30
31E	31850	23 05	23 10	→	23 15	23 20**h**	23 30	→	→	→	→	→	→	00 00
33A	33850	23 10	23 15	23 20	→	→	→	23 40	23 45	23 55				
31H	31870	23 35	23 40	→	23 45	23 50	00 00	→	→	→	→	→	→	00 30
31E	31880	00 05	00 10	→	00 15	00 20	00 30	→	→	→	→	→	→	01 00
33A	33890	00 10	00 15	00 20	→	→	→	00 40	00 45	00 55				
31E	31910	01 05	01 10	→	01 15	01 20	01 30	→	→	→	→	→	→	02 00

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Toronto 2 Dp	Toronto 2	Toronto 4	Etobicoke 4	North York 5	North York 5	North York 5	Mississauga 31	Brampton 32	Brampton 33	Brampton 22
			Union Station	Bloor GO	Weston GO	Etobicoke North GO	York Mills Bus Terminal	Yorkdale Bus Terminal	Keele St. @ Hwy. 401	Malton GO	Bramalea GO	Steeles Ave. E @ Rutherford Road S.	Hurontario St. @ Hwy. 407
33D	33081												
31	31101		05 50	→	→	→	→	→	→	06 15	06 25↓	06 32	→
30	30101										06 30**h**	→	→
31	31151		06 20	→	→	→	→	→	→	06 45	07 00↓	07 07	→
30	30131										07 05**h**	→	→
33A	33151						06 30	06 40	06 45	→	→	→	07 05
33A	33181						07 00	07 12	07 17	→	→	→	07 40
31H	31191		06 50	→	→	→	→	→	→	07 20	07 35↓	07 42	→
30	30171										07 40**h**	→	→
33A	33211						07 30	07 42	07 47	→	→	→	08 10
31	31221		07 20	→	→	→	→	→	→	08 00	08 15↓	08 22	→
30	30211										08 20**h**	→	→
33A	33241						08 00	08 12	08 17	→	→	→	08 40
31H	31241		07 50	→	→	→	→	→	→	08 30	08 45↓	08 52	→
30	30231										08 50**h**	→	→
	3411		08 55	09 05	09 11	09 16	→	→	→	09 22	09 29↓	→	→
33	33261						08 30	08 42	08 47	→	→	→	09 10
30	30261										09 39**h**	→	→
33A	33271						09 00	09 12	09 17	→	→	→	09 40
33B	33291						09 30	09 40	09 45	→	→	→	10 05
	3413		09 48	09 58	10 04	10 09	→	→	→	10 15	10 22↓	→	→
30	30301										10 32**h**	→	→
33A	33311						10 00	10 10	10 15	→	→	→	10 35
33F	33293												
33B	33331						10 30	10 40	10 45	→	→	→	11 05
	3415		10 53	11 03	11 09	11 14	→	→	→	11 20	11 27↓	→	→
30	30341										11 37**h**	→	→
33F	33333												
33B	33371						11 30	11 40	11 45	→	→	→	12 10

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Brampton 33	Brampton 33	Brampton 33	Brampton 34	Georgetown 35	Georgetown 35	Georgetown 35	Acton 37	Rockwood 38	Guelph 39	Guelph 39	Kitchener 27	Kitchener 27 Ar
		Shopper's World	Brampton GO	Bovaird Dr. W. @ Hurontario St.	Mount Pleasant GO	Guelph St. @ King St.	Georgetown GO	Main St. S. @ Cross St.	Acton GO	Alma St. @ Inkerman St.	Guelph Central GO	University of Guelph	Kitchener Bus Terminal	Kitchener GO
33D	33081		06 15	06 22	06 30	06 36	06 46	06 53	07 05**S**	07 17	07 35**S**	07 45		
31	31101	06 35	06 45	06 51	07 05	07 10	07 20	07 27	07 40**S**	07 52	08 10**S**	08 20		
30	30101	→	→	→	→	→	→	→	→	→	→	→	07 27	07 35
31	31151	07 12	07 25**b**	07 31	07 45	07 50	08 05	08 12	08 25**S**	08 37	08 55**S**	09 05		
30	30131	→	→	→	→	→	→	→	→	→	→	→	08 07	08 15
33A	33151	07 10	07 20											
33A	33181	07 45	07 55											
31H	31191	07 47	08 00											
30	30171	→	→	→	→	→	→	→	→	→	→	→	08 47	08 55
33A	33211	08 15	08 30											
31	31221	08 27	08 40	08 46	09 00	09 05	09 20	09 27	09 40**S**	09 52	10 10**S**	10 20		
30	30211	→	→	→	→	→	→	→	→	→	→	→	09 27	09 35
33A	33241	08 45	09 00											
31H	31241	08 57	09 10											
30	30231	→	→	→	→	→	→	→	→	→	→	→	09 52	10 00
	3411	→	09 36	→	09 44↓									
33	33261	09 15	09 30	09 37	09 54**h**	10 00	10 10	10 17	10 29**S**	10 39	10 59**S**	11 09		
30	30261	→	→	→	→	→	→	→	→	→	→	→	10 41	10 49
33A	33271	09 45	10 00											
33B	33291	10 10	10 20	10 27	10 40									
	3413	→	10 29	→	10 37↓									
30	30301	→	→	→	→	→	→	→	→	→	→	→	11 34	11 42
33A	33311	10 40	10 50											
33F	33293				10 47**h**	10 53	11 03	11 10	11 22**S**	11 32	11 52**S**	12 02		
33B	33331	11 10	11 20	11 27	11 40									
	3415	→	11 34	→	11 42↓									
30	30341	→	→	→	→	→	→	→	→	→	→	→	12 39	12 47
33F	33333				11 52**h**	11 58	12 08	12 15	12 27**S**	12 37	12 57**S**	13 07		
33B	33371	12 15	12 25	12 32	12 45									

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Toronto 2 Dp Union Station	Toronto 2 Bloor GO	Toronto 4 Weston GO	Etobicoke 4 Etobicoke North GO	North York 5 York Mills Bus Terminal	North York 5 Yorkdale Bus Terminal	North York 5 Keele St. @ Hwy. 401	Mississauga 31 Malton GO	Brampton 32 Bramalea GO	Brampton 33 Steeles Ave. E @ Rutherford Road S.	Brampton 22 Hurontario St. @ Hwy. 407
	3417		11 53	12 03	12 09	12 14	→	→	→	12 20	12 27↓	→	→
30	30381										12 37**h**	→	→
33F	33373												
	3919		12 53	13 03	13 09	13 14	→	→	→	13 20	13 27↓	→	→
33	33411						12 30	12 40	12 45	→	→	→	13 10
	3421		13 53	14 03	14 09	14 14	→	→	→	14 20	14 27↓	→	→
30	30461										14 37**h**	→	→
33	33451						13 30	13 40	13 45	→	→	→	14 10
	3423		14 53	15 03	15 09	15 14	→	→	→	15 20	15 27↓	→	→
30	30511										15 37**h**	→	→
33	33501						14 30	14 42	14 47	→	→	→	15 15
	3823		15 45	15 55	16 04	16 11	→	→	→	16 18	16 26	→	→
33E	33541						15 00	15 12	15 17	→	→	→	15 45
33C	33543												
33E	33571						15 30	15 42	15 47	→	→	→	16 17
	3675		16 13	→	→	16 33	→	→	→	16 40	16 48	→	→
	3225		16 32	16 42	16 48	16 53	→	→	→	17 00	17 10		
	3975		16 50	→	→	→	→	→	→	→	17 18	→	→
33	33601						16 00	16 12	16 17	→	→	→	16 50
	3627		17 02	17 12	17 21	17 28	→	→	→	17 35	17 43	→	→
33E	33641						16 30	16 42	16 47	→	→	→	17 20
	3827		17 27	17 37	17 46	17 53	→	→	→	18 00	18 08	→	→
33E	33671						16 50	17 02	17 07	→	→	→	17 40
	3227		17 43	17 53	17 59	18 04	→	→	→	18 11	18 21		
	3977		18 00	→	→	→	→	→	→	→	18 27	→	→
33	33681						17 10	17 22	17 27	→	→	→	18 00
33E	33691						17 30	17 42	17 47	→	→	→	18 20
33E	33701						18 00	18 12	18 17	→	→	→	18 47

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Brampton 33 Shopper's World	Brampton 33 Brampton GO	Brampton 33 Bovaird Dr. W. @ Hurontario St.	Brampton 34 Mount Pleasant GO	Georgetown 35 Guelph St. @ King St.	Georgetown 35 Georgetown GO	Georgetown 35 Main St. S. @ Cross St.	Acton 37 Acton GO	Rockwood 38 Alma St. @ Inkerman St.	Guelph 39 Guelph Central GO	Guelph 39 University of Guelph	Kitchener 27 Kitchener Bus Terminal	Kitchener 27 Ar Kitchener GO
	3417	→	12 34	→	12 42↓									
30	30381	→	→	→	→	→	→	→	→	→	→	→	13 39	13 47
33F	33373				12 52**h**	12 58	13 08	13 15	13 27**S**	13 37	13 57**S**	14 07		
	3919	→	13 34	→	13 42	→	13 52	→	14 07	→	14 22	→	→	14 47
33	33411	13 15	13 30	13 37	13 52**h**	13 58	14 08	14 15	14 27**S**	14 37	14 57**S**	15 12		
	3421	→	14 34	→	14 42									
30	30461	→	→	→	→	→	→	→	→	→	→	→	15 44	15 52
33	33451	14 15	14 30	14 37	14 52**h**	14 58	15 12	15 19	15 32**S**	15 42	16 02**S**	16 17		
	3423	→	15 34	→	15 42									
30	30511	→	→	→	→	→	→	→	→	→	→	→	16 49	16 57
33	33501	15 20	15 35	15 42	15 55**h**	16 01	16 15	16 22	16 35**S**	16 45	17 05**S**	17 20		
	3823	→	16 34	→	16 40	→	16 52↓	→	17 07	→	17 22	→	→	17 47
33E	33541	15 50	16 05	16 12	16 25	16 31	16 45							
33C	33543						17 02**h**	17 09	17 22**S**	17 32	17 52**S**	18 07		
33E	33571	16 22	16 40	16 47	17 00	17 06	17 20							
	3675	→	16 57	→	17 03	→	17 15							
	3225													
	3975	→	17 27	→	17 33	→	17 45↓	→	18 00	→	18 15	→	→	18 40
33	33601	16 55	17 15	17 22	17 35	17 41	17 55**h**	18 00	18 12**S**	18 23	18 40	18 55		
	3627	→	17 52	→	17 58	→	18 10							
33E	33641	17 25	17 45	17 52	18 05	18 11	18 25							
	3827	→	18 17	→	18 23	→	18 35	→	18 50	→	19 05	→	→	19 30
33E	33671	17 45	18 05	18 12	18 25	18 31	18 50							
	3227													
	3977	→	18 34	→	18 42	→	18 52↓	→	19 07	→	19 22	→	→	19 47
33	33681	18 05	18 25	18 32	18 45	18 51	19 10**h**	19 15	19 27**S**	19 38	19 55**S**	20 05		
33E	33691	18 25	18 45	18 52	19 05	19 11	19 25							
33E	33701	18 52	19 10	19 17	19 30	19 36	19 50							

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone →	Toronto 2 Dp	Toronto 2	Toronto 4	Etobicoke 4	North York 5	North York 5	North York 5	Mississauga 31	Brampton 32	Brampton 33	Brampton 22
			Union Station	Bloor GO	Weston GO	Etobicoke North GO	York Mills Bus Terminal	Yorkdale Bus Terminal	Keele St. @ Hwy. 401	Malton GO	Bramalea GO	Steeles Ave. E @ Rutherford Road S.	Hurontario St. @ Hwy. 407
	3929		18 53	19 03	19 09	19 14	→	→	→	19 20	19 27	→	→
33	33721						18 30	18 40	18 45	→	→	→	19 10
31E	31711		19 20	→	→	→	→	→	→	19 50	20 05	20 10	→
	3531		19 53	20 03	20 09	20 14	→	→	→	20 20	20 27↓	→	→
30	30761										20 37**h**	→	→
33E	33761						19 30	19 40	19 45	→	→	→	20 05
31E	31753		20 20	→	→	→	→	→	→	20 47	21 02	21 07	→
33B	33791						20 30	20 40	20 45	→	→	→	21 05
	3533		20 53	21 03	21 09	21 14	→	→	→	21 20	21 27↓	→	→
30	30801										21 37**h**	→	→
33F	33793												
31E	31793		21 20	→	→	→	→	→	→	21 47	22 02	22 07	→
33A	33831						21 30	21 40	21 45	→	→	→	22 05
	3935		21 53	22 03	22 09	22 14	→	→	→	22 20	22 27	→	→
31E	31837		22 20	→	→	→	→	→	→	22 47	23 02	23 07	→
	3937		22 53	23 03	23 09	23 14	→	→	→	23 20	23 27↓	→	→
30	30871										23 37**h**	→	→
33A	33861						22 30	22 40	22 45	→	→	→	23 05
31F	31881		23 20	→	→	→	→	→	→	→	→	23 47	→
31N	31891		23 30	→	→	→	→	→	→	23 55	**c**00 05		
33A	33891						23 30	23 40	23 45	→	→	→	00 05
31A	31901		23 50	→	→	→	→	→	→	→	→	00 17	→
31N	31911		00 00	→	→	→	→	→	→	00 25	**c**00 35		
33A	33921						00 30	00 40	00 45	→	→	→	01 05
31E	31921		00 30	→	→	→	→	→	→	00 55	01 05	01 10	→
33A	33951						01 30	01 40	01 45	→	→	→	02 05
31E	31951		01 30	→	→	→	→	→	→	01 55	02 05	02 10	→
31E	31961		02 30	→	→	→	→	→	→	02 55	03 05	03 10	→

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Brampton 33	Brampton 33	Brampton 33	Brampton 34	Georgetown 35	Georgetown 35	Georgetown 35	Acton 37	Rockwood 38	Guelph 39	Guelph 39	Kitchener 27	Kitchener 27 Ar
		Shopper's World	Brampton GO	Bovaird Dr. W. @ Hurontario St.	Mount Pleasant GO	Guelph St. @ King St.	Georgetown GO	Main St. S. @ Cross St.	Acton GO	Alma St. @ Inkerman St.	Guelph Central GO	University of Guelph	Kitchener Bus Terminal	Kitchener GO
	3929	→	19 34	→	19 42	→	19 52↓	→	20 07	→	20 22	→	→	20 47
33	33721	19 15	19 30	19 37	19 50	19 56	20 10**h**	20 15	20 27**S**	20 38	20 55**S**	21 05		
31E	31711	20 14	20 30	20 36	20 50	20 55	21 10							
	3531	→	20 34	→	20 42↓									
30	30761	→	→	→	→	→	→	→	→	→	→	→	21 34	21 42
33E	33761	20 10	20 25	20 32	20 52**h**	20 58	21 12							
31E	31753	21 11	21 25	21 31	21 43	21 48	22 00							
33B	33791	21 10	21 25	21 32	21 45									
	3533	→	21 34	→	21 42↓									
30	30801	→	→	→	→	→	→	→	→	→	→	→	22 34	22 42
33F	33793				21 52**h**	21 58	22 12	22 17	22 29**S**	22 40	22 57**S**	23 07		
31E	31793	22 11	22 25	22 31	22 43	22 48	23 00							
33A	33831	22 10	22 20											
	3935	→	22 34	→	22 42	→	22 52	→	23 07	→	23 22	→	→	23 47
31E	31837	23 11	23 25	23 31	23 43	23 48	00 00							
	3937	→	23 34	→	23 42	→	23 52	→	00 07	→	00 22			
30	30871	→	→	→	→	→	→	→	→	→	→	→	00 29	00 37
33A	33861	23 10	23 20											
31F	31881	23 51	00 00	00 06	00 18	00 23	00 35							
31N	31891													
33A	33891	00 10	00 20											
31A	31901	00 21	00 30	00 36	00 45	00 50	01 00	01 05	01 17**S**	01 28	01 40**S**	01 50		
31N	31911													
33A	33921	01 09	01 15											
31E	31921	01 14	01 20	01 26**D**	01 35**D**	01 40**D**	01 50**D**							
33A	33951	02 09	02 15											
31E	31951	02 14	02 20	02 26**D**	02 35**D**	02 40**D**	02 50**D**							
31E	31961	03 14	03 20	03 25**D**	03 30**D**	03 35**D**	03 45**D**							

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Zone→		Guelph 39 Dp	Guelph 39	Rockwood 38	Acton 37	Georgetown 35	Georgetown 35	Georgetown 35	Brampton 34	Brampton 33	Brampton 33	Brampton 33	Brampton 33	Brampton 32	Mississauga 31	Toronto 2 Ar
Trip Number / Numéro du parcours		Exception 1	University of Guelph	Guelph Central GO	Alma St. @ Inkerman St.	Acton GO	Main St. S. @ George St.	Georgetown GO	Guelph St. @ King St.	Mount Pleasant GO	Main St. N @ Bovaird Dr. W.	Brampton GO	Shopper's World	Steeles Ave. E. @ First Gulf Blvd.	Bramalea GO	Malton GO	Union Station Bus Terminal
31E	31090							05 00	05 07	05 12	05 19	05 30	05 35	05 40	05 45	05 55	06 20
31E	31150							06 00	06 07	06 12	06 19	06 30	06 35	06 40	06 45	06 55	07 20
31F	31170	Sat						06 30	06 37	06 42	06 49	07 00	07 05	07 10	→	→	07 40
31F	31202							07 00	07 07	07 12	07 19	07 30	07 35	07 40	→	→	08 10
31L	31210														07 45	07 55	08 25
31F	31222							07 30	07 37	07 42	07 49	08 00	08 05	08 10	→	→	08 45
31L	31230														08 15	08 25	08 55
31A	31242		07 00	07 10	07 23	07 34**S**	07 46	07 55	08 03	08 10	08 17	08 30	08 35	08 40	→	→	09 15
31L	31250														08 45	08 55	09 25
31F	31270							08 25	08 33	08 40	08 47	09 00	09 05	09 10	→	→	09 45
31L	31280														09 15	09 25	09 55
31F	31292							08 55	09 03	09 10	09 17	09 30	09 35	09 40	→	→	10 20
31L	31300														09 45	09 55	10 25
31F	31310							09 25	09 33	09 40	09 47	10 00	10 05	10 15	→	→	10 55
31L	31320														10 15	10 25	11 00
31A	31332		08 55	09 05	09 18	09 29**S**	09 41	09 50	09 58	10 06	10 15	10 30	10 35	10 45	→	→	11 30
31L	31340														10 45	10 55	11 30
31F	31350							10 20	10 28	10 36	10 45	11 00	11 05	11 15	→	→	12 00
31L	31360														11 15	11 25	12 05
31F	31372							10 50	10 58	11 06	11 15	11 30	11 35	11 45	→	→	12 30
31L	31380														11 45	11 55	12 35
31F	31390							11 20	11 28	11 36	11 45	12 00	12 05	12 15	→	→	13 00
31L	31400														12 15	12 25	13 05
31A	31412		10 55	11 05	11 18	11 29**S**	11 41	11 50	11 58	12 06	12 15	12 30	12 35	12 45	→	→	13 30
31L	31420														12 45	12 55	13 35
31F	31430							12 20	12 28	12 36	12 45	13 00	13 05	13 15	→	→	14 00
31L	31450														13 15	13 25	14 05
31F	31452							12 50	12 58	13 06	13 15	13 30	13 35	13 45	→	→	14 30
31L	31460														13 45	13 55	14 35

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Zone→		Guelph 39 Dp	Guelph 39	Rockwood 38	Acton 37	Georgetown 35	Georgetown 35	Georgetown 35	Brampton 34	Brampton 33	Brampton 33	Brampton 33	Brampton 33	Brampton 32	Mississauga 31	Toronto 2 Ar
Trip Number / Numéro du parcours		Exception 1	University of Guelph	Guelph Central GO	Alma St. @ Inkerman St.	Acton GO	Main St. S. @ George St.	Georgetown GO	Guelph St. @ King St.	Mount Pleasant GO	Main St. N @ Bovaird Dr. W.	Brampton GO	Shopper's World	Steeles Ave. E. @ First Gulf Blvd.	Bramalea GO	Malton GO	Union Station Bus Terminal
31F	31472							13 20	13 28	13 36	13 45	14 00	14 05	14 15	→	→	15 00
31L	31480														14 15	14 25	15 05
31A	31492		12 50	13 00	13 13	13 24**S**	13 38	13 50	13 58	14 06	14 15	14 30	14 35	14 45	→	→	15 30
31L	31510														14 45	14 55	15 35
31F	31522							14 20	14 28	14 36	14 45	15 00	15 05	15 15	→	→	16 00
31L	31540														15 15	15 25	16 05
31F	31552							14 50	14 58	15 06	15 15	15 30	15 35	15 45	→	→	16 30
31L	31570														15 45	15 55	16 35
31F	31582							15 20	15 28	15 36	15 45	16 00	16 05	16 15	→	→	17 00
31L	31600														16 15	16 25	17 05
31A	31612		14 50	15 00	15 13	15 24**S**	15 38	15 50	15 58	16 06	16 15	16 30	16 35	16 45	→	→	17 30
31L	31630														16 45	16 55	17 35
31F	31640							16 20	16 28	16 36	16 45	17 00	17 05	17 15	→	→	18 00
31L	31660														17 15	17 25	18 05
31F	31672							16 50	16 58	17 06	17 15	17 30	17 35	17 45	→	→	18 30
31L	31680														17 45	17 55	18 35
31F	31690							17 20	17 28	17 36	17 45	18 00	18 05	18 15	→	→	19 00
31L	31700														18 15	18 25	19 05
31A	31712		16 50	17 00	17 13	17 24**S**	17 38	17 50	17 58	18 06	18 15	18 30	18 35	18 40	→	→	19 25
31L	31720														18 45	18 55	19 35
31F	31742							18 50	18 58	19 06	19 15	19 30	19 35	19 40	→	→	20 20
31L	31750														19 45	19 55	20 30
31A	31782		19 00	19 10	19 23	19 34**S**	19 46	19 55	20 03	20 10	20 18	20 30	20 35	20 40	→	→	21 20
31L	31790														20 45	20 55	21 30
31E	31830							20 55	21 03	21 10	21 18	21 30	21 35	21 40	21 50	22 00	22 30
31	31860		21 00	21 10	21 23	21 34**S**	21 46	21 55	22 03	22 10	22 18	22 30	22 35	22 40	22 45	22 55	23 25
31E	31890							23 00	23 07	23 12	23 19	23 30	23 35	23 40	23 45	23 55	00 25
31E	31920							00 00	00 07	00 12	00 19	00 30	00 35	00 40	00 45	00 55	01 25

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→		Toronto 2 Dp	Mississauga 31	Brampton 32	Brampton 33	Brampton 33	Brampton 33	Brampton 33	Brampton 34	Georgetown 35	Georgetown 35	Georgetown 35	Acton 37	Rockwood 38	Guelph 39	Guelph 39 Ar
		Exception 1		Union Station Bus Terminal	Malton GO	Bramalea GO	Steeles Ave. E @ Rutherford Road S.	Shopper's World	Brampton GO	Bovaird Dr. W. @ Hurontario St.	Mount Pleasant GO	Guelph St. @ King St.	Georgetown GO	Main St. S. @ Cross St.	Acton GO	Alma St. @ Inkerman St.	Guelph Central GO	University of Guelph
31	31161			07 30	07 55	08 05	08 10	08 14	08 25	08 31	08 40	08 45	08 55	09 03	09 16**S**	09 28	09 45	10 00
31L	31221			08 30	08 55	09 05												
31F	31233			08 50	→	→	09 15	09 19	09 30	09 36	09 45	09 50	10 05					
31L	31271			09 00	09 25	09 40												
31F	31253			09 20	→	→	09 45	09 49	10 00	10 06	10 15	10 20	10 35					
31L	31261			09 30	09 55	10 10												
31A	31273			09 50	→	→	10 17	10 21	10 35	10 41	10 50	10 55	11 05	11 13	11 26**S**	11 38	11 55	12 10
31L	31291			10 00	10 25	10 40												
31L	31301			10 30	10 55	11 10												
31F	31313			10 50	→	→	11 17	11 21	11 35	11 41	11 50	11 55	12 10					
31L	31331			11 00	11 27	11 45												
31F	31333			11 20	→	→	11 47	11 51	12 05	12 11	12 20	12 25	12 40					
31L	31341			11 30	11 57	12 15												
31A	31353			11 50	→	→	12 22	12 26	12 40	12 46	12 55	13 00	13 10	13 18	13 31**S**	13 43	14 00	14 15
31L	31361			12 00	12 27	12 45												
31F	31373			12 20	→	→	12 52	12 56	13 10	13 16	13 25	13 30	13 45					
31L	31381			12 30	12 57	13 15												
31F	31393			12 50	→	→	13 22	13 26	13 40	13 46	13 55	14 00	14 15					
31L	31391			13 00	13 27	13 45												
31F	31413			13 20	→	→	13 52	13 56	14 10	14 16	14 25	14 30	14 45					
31L	31421			13 30	13 57	14 15												
31A	31433			13 50	→	→	14 24	14 28	14 45	14 52	15 02	15 08	15 20	15 28	15 41**S**	15 53	16 10	16 25
31L	31441			14 00	14 27	14 45												
31F	31453			14 20	→	→	14 54	14 58	15 15	15 22	15 32	15 38	15 55					
31L	31461			14 30	14 57	15 15												
31F	31473			14 50	→	→	15 24	15 28	15 45	15 52	16 02	16 08	16 25					
31L	31481			15 00	15 27	15 45												
31F	31503			15 20	→	→	15 54	15 58	16 15	16 22	16 32	16 38	16 55					
31L	31511			15 30	15 57	16 15												
31A	31533			15 50	→	→	16 24	16 28	16 45	16 52	17 02	17 08	17 20	17 28	17 41**S**	17 53	18 10	18 25

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Trip Number / Numéro du parcours	Zone→		Toronto 2 Dp	Mississauga 31	Brampton 32	Brampton 33	Brampton 33	Brampton 33	Brampton 33	Brampton 34	Georgetown 35	Georgetown 35	Georgetown 35	Acton 37	Rockwood 38	Guelph 39	Guelph 39 Ar
		Exception 1		Union Station Bus Terminal	Malton GO	Bramalea GO	Steeles Ave. E @ Rutherford Road S.	Shopper's World	Brampton GO	Bovaird Dr. W. @ Hurontario St.	Mount Pleasant GO	Guelph St. @ King St.	Georgetown GO	Main St. S. @ Cross St.	Acton GO	Alma St. @ Inkerman St.	Guelph Central GO	University of Guelph
31L	31541			16 00	16 27	16 45												
31F	31563			16 20	→	→	16 54	16 58	17 15	17 22	17 32	17 38	17 55					
31L	31571			16 30	17 00	17 20												
31F	31593			16 50	→	→	17 24	17 28	17 45	17 52	18 02	18 08	18 25					
31L	31601			17 00	17 30	17 50												
31F	31623			17 20	→	→	17 54	17 58	18 15	18 22	18 32	18 38	18 55					
31L	31631			17 30	18 02	18 20												
31A	31653			17 50	→	→	18 24	18 28	18 45	18 52	19 02	19 08	19 20	19 28	19 41**S**	19 53	20 10	20 25
31L	31661			18 00	18 32	18 50												
31F	31673			18 20	→	→	18 52	18 56	19 10	19 17	19 27	19 33	19 50					
31L	31681			18 30	18 57	19 15												
31F	31693			18 50	→	→	19 22	19 26	19 40	19 47	19 57	20 03	20 20					
31L	31701			19 00	19 27	19 45												
31F	31713			19 20	→	→	19 52	19 56	20 10	20 17	20 27	20 33	20 50					
31L	31721			19 30	19 57	20 15												
31A	31733			19 50	→	→	20 22	20 26	20 40	20 46	20 55	21 00	21 11	21 18	21 31**S**	21 43	22 00	22 15
31F	31751			20 20	→	→	20 50	20 54	21 05	21 12	21 22	21 28	21 45					
31L	31761			20 30	20 55	21 10												
31F	31773			20 50	→	→	21 20	21 24	21 35	21 41	21 50	21 55	22 10					
31F	31791			21 20	→	→	21 50	21 54	22 05	22 11	22 20	22 25	22 40					
31L	31801			21 30	21 55	22 10												
31A	31813			21 50	→	→	22 20	22 24	22 35	22 41	22 50	22 55	23 06	23 13	23 26**S**	23 38	23 55	00 05
31L	31831			22 30	22 55	23 10												
31F	31841			22 50	→	→	23 20	23 24	23 35	23 41	23 50	23 55	00 10					
31L	31851			23 00	23 25	23 40												
31	31861			23 30	23 55	00 05	00 10	00 14	00 25	00 31	00 40	00 45	00 56	01 03	01 16**S**	01 28	01 45	01 55
31E	31881			00 00	00 25	00 35	00 40	00 44	00 50	**D**00 56	**D**01 05	**D**01 10	**D**01 25					
31E	31891			00 30	00 55	01 05	01 10	01 14	01 20	**D**01 26	**D**01 35	**D**01 40	**D**01 55					
31E	31921			01 30	01 55	02 05	02 10	02 14	02 20	**D**02 26	**D**02 35	**D**02 40	**D**02 50					
31E	31951			02 30	02 55	03 05	03 10	03 14	03 20	**D**03 26	**D**03 35	**D**03 40	**D**03 50					

2037 Forecasted GO Train Data - Park Lawn

Station	Route	D1L6		D2L12		E1L6		E2L12	
		DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
REVENUE									
Mimico to Park Lawn	GO Eastbound Local	5	-	-	-	51	5	16	8
	GO Eastbound Express 1*	-	-	-	-	1	-	1	1
	GO Eastbound Express 2**	32	6	1	5	1	-	1	-
	GO Westbound Local	6	-	-	-	42	10	23	3
	GO Westbound Express 1*	-	-	-	-	1	1	2	1
	GO Westbound Express 2**	33	5	6	-	-	-	-	-
Park Lawn to Exhibition	GO Eastbound Local	5	-	-	-	51	5	16	8
	GO Eastbound Express 1*	-	-	-	-	1	-	1	1
	GO Eastbound Express 2**	32	6	1	5	1	-	1	-
	GO Westbound Local	6	-	-	-	42	10	23	3
	GO Westbound Express 1*	-	-	-	-	1	1	2	1
	GO Westbound Express 2**	33	5	6	-	-	-	-	-
Non Revenue:									
Willowbrook RMF to Union Station	GO Eastbound Non-Revenue	3	-	11	-	2	1	5	1
	GO Westbound Non-Revenue	4	1	5	0	2	1	5	1

* Express 1 Route stops at Burlington, Appleby, Bronte, Oakville, Clarkson and Union Stations

**Express 2 route stops at Burlington, Oakville, Clarkson and Union Stations

D1L6 – 1 diesel loco. 6 bi-level coaches
E1L6 – 1 electric loco. 6 coaches
E2L12 – 2 electric locos. 12 coaches
D2L12 – 2 diesel locos. 12 coaches

Existing and Forecasted CN and VIA Train Data - Park Lawn

	Section	Train Type	Train Type	Number of trains	
				Daytime	Nightime
2015 Existing Service Rail Traffic Data	Exhbition GO to Mimico GO	Eastbound VIA Train (revenue)	diesel	8	0
		Eastbound VIA Train (Non-revenue)	diesel	12	6
		Westbound VIA Train (revenue)	diesel	7	1
		Westbound VIA Train (Non -revenue)	diesel	7	3
		Eastbound/Westbound CN Freight Switchers	diesel	1	0
2037 Future Electric RER Service Traffic Data	Exhbition GO to Mimico GO	Eastbound VIA Train (revenue)	diesel	8	0
		Eastbound VIA Train (Non-revenue)	diesel	12	6
		Westbound VIA Train (revenue)	diesel	7	1
		Westbound VIA Train (Non -revenue)	diesel	7	3
		Eastbound/Westbound CN Freight Switchers	diesel	1	0

System Engineering
Engineering Services

1 Administration Road
Concord, ON, L4K 1B9
T: 905.669.3264
F: 905.760.3406

Train Count Data

TRANSMITTAL

To: *Destinataire :*	Hatch-Environmental services group Sheridan Science and Technology Park, 2800 Speakman Drive, Mississauga, ON L5K 2R7	*Project :*	Oakville -5.80- Proposed Park Lawn GO Station
Att'n:	Melissa Alexander	*Routing:*	Rachel.eagles@hatch.com
From: *Expéditeur :*	Michael Vallins	*Date:*	2020/02/25
Cc:	Adjacent Development CN via e-mail		

☐ Urgent ☐ For Your Use ☐ For Review ■ For Your Information ☐ Confidential

Re: Train Traffic Data – CN Oakville Subdivision near Park Lawn Road Toronto, ON

Please find attached the requested Train Traffic Data; this data does not reflect GO Metrolinx Traffic. The application fee in the amount of **$500.00** +HST will be invoiced.

Should you have any questions, please do not hesitate to contact the undersigned at 905-669-3264.

Sincerely,
CN Design & Construction

Michael Vallins P.Eng
Manager of Public Works
permits.gld@cn.ca

Date: 2020/02/25 Project Number: Oakville -5.80- Proposed Park Lawn GO Station

Dear Melissa

Re: Train Traffic Data – CN Oakville Subdivision near Park Lawn Road in Toronto ON

The following is provided in response to Rachel's 2020/02/10 request for information regarding rail traffic in the vicinity of Park Lawn Road, Toronto ON at approximately Mile 5.80 on CN's Oakville Subdivision for the development of a new GO station.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	65	4
Way Freight	0	25	65	4
Passenger	14	10	100	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	65	4
Way Freight	5	25	65	4
Passenger	1	10	100	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There is no at-grade crossing in the immediate vicinity of the study area. Anti-whistling bylaws are not in effect at this crossing. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The triple mainline track is considered to be continuously welded rail throughout the study area. The presence of five (5) switches located at Mile 5.60, 5.61, 5.64, 5.67 and 5.71 may exacerbate the noise and vibration caused by train movements. Train traffic arrive and depart into Mimico Yard from this location.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,

Michael Vallins P.Eng
Manager of Public Works
permits.gld@cn.ca

APPENDIX A

1. **Train schedules (current and projected):** The current train schedules are available at our website, www.viarail.ca; we are currently unable to provide projected train schedules, nevertheless such information would be protected in virtue of section 18.1(1)(d) *ATIA*.
2. **Engine specifications to be used on Lakeshore West Corridor (tier level of engines now and before electrification occurs):** Please refer to Appendix B for the engine specifications for both types of locomotives (EPA42 & GPA30H) that VIA Rail operates.
3. **Size of trains (number of passenger cars, length and width):** In the normal course of business, there are twelve (12) passenger trains per day that pass through the proposed GO Station, plus a similar number of non-revenue trains (i.e. equipment moves between Union Station and VIA Rail's Toronto Maintenance Centre). The average train length for a passenger train would be five (5) cars, however non-revenue trains may have a maximum train length of thirty (30) cars. The width of VIA Rail's fleet is between 3.05 and 3.25 m for locomotives (see Appendix B) and between 3 and 3.2 m for passenger cars (HEP and LRC, respectively).
4. **Regulated Engine Speed (in/out station) for trains passing by (required for trains travelling in both directions along the tracks):** The speed for HEP and F40 locomotives is 95MPH, whereas the speed for P42's, Renaissance and LRC locomotives is 100MPH. However, no train shall operate at more than 80MPH in the designated area.
5. **Head End Power (HEP) Unit Expected Usage and level of operation expected (Winter/Summer):** The HEP Unit expected usage varies widely on how and when the samples are taken; annual HEP consumption use is on average 21 kW per car whereas consumption use is on average 35-40 kW per car in very cold weather and 13 kW per car in the summer.

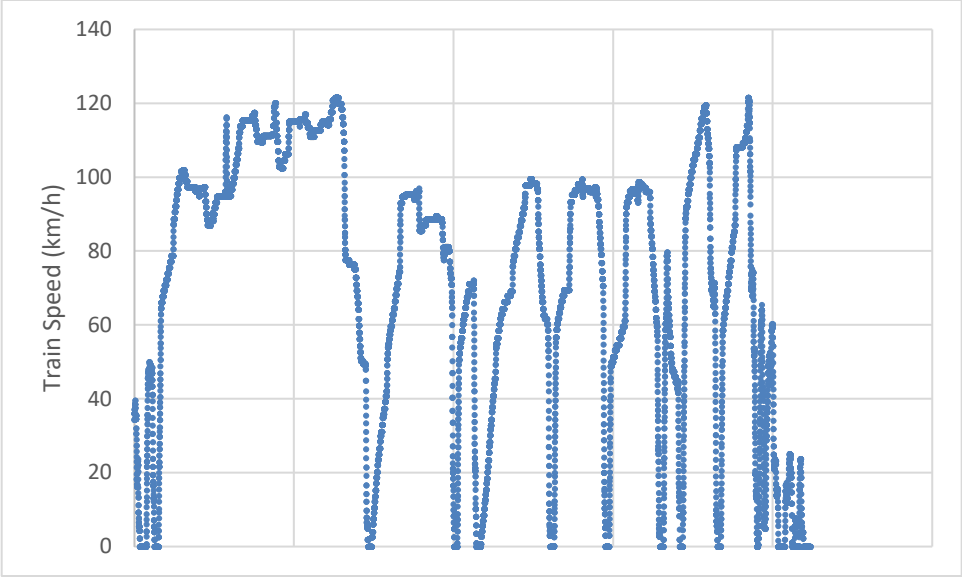


Figure 11-11: Train Speed Profiles. Note that stations are located where speed = 0 km/h

Appendix E

Noise Contour Plots

Aerial Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

User Name: SNEL97010

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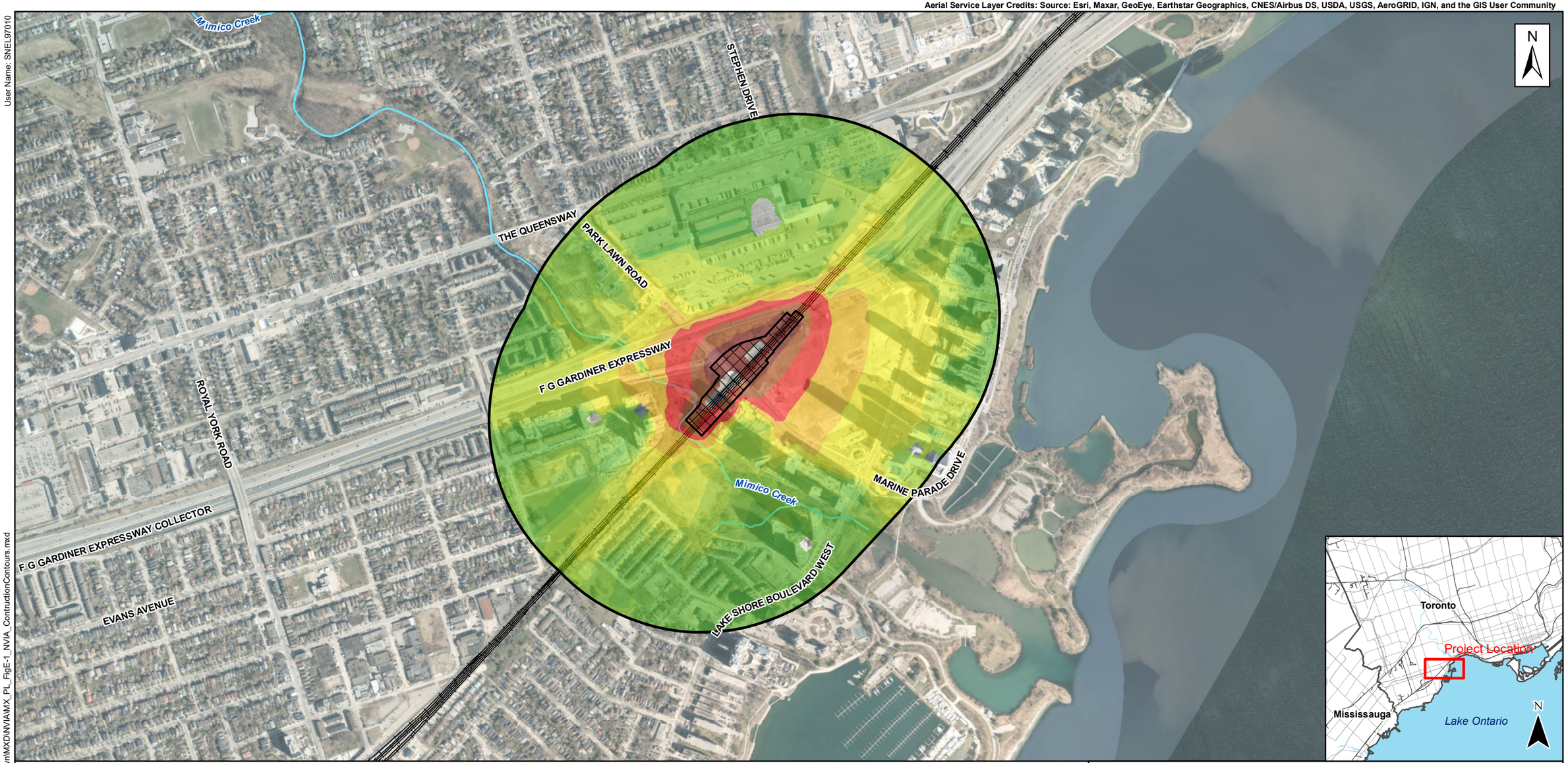


LEGEND

- Proposed Project Footprint (approximate)
- Study area - 500 metres
- Railway
- Permanent Watercourse

Construction [dBA]

< 40 | 40 - 45 | 45 - 50 | 50 - 55 | 55 - 60 | 60 - 65 | 65 - 70 | 70 - 75 | > 75

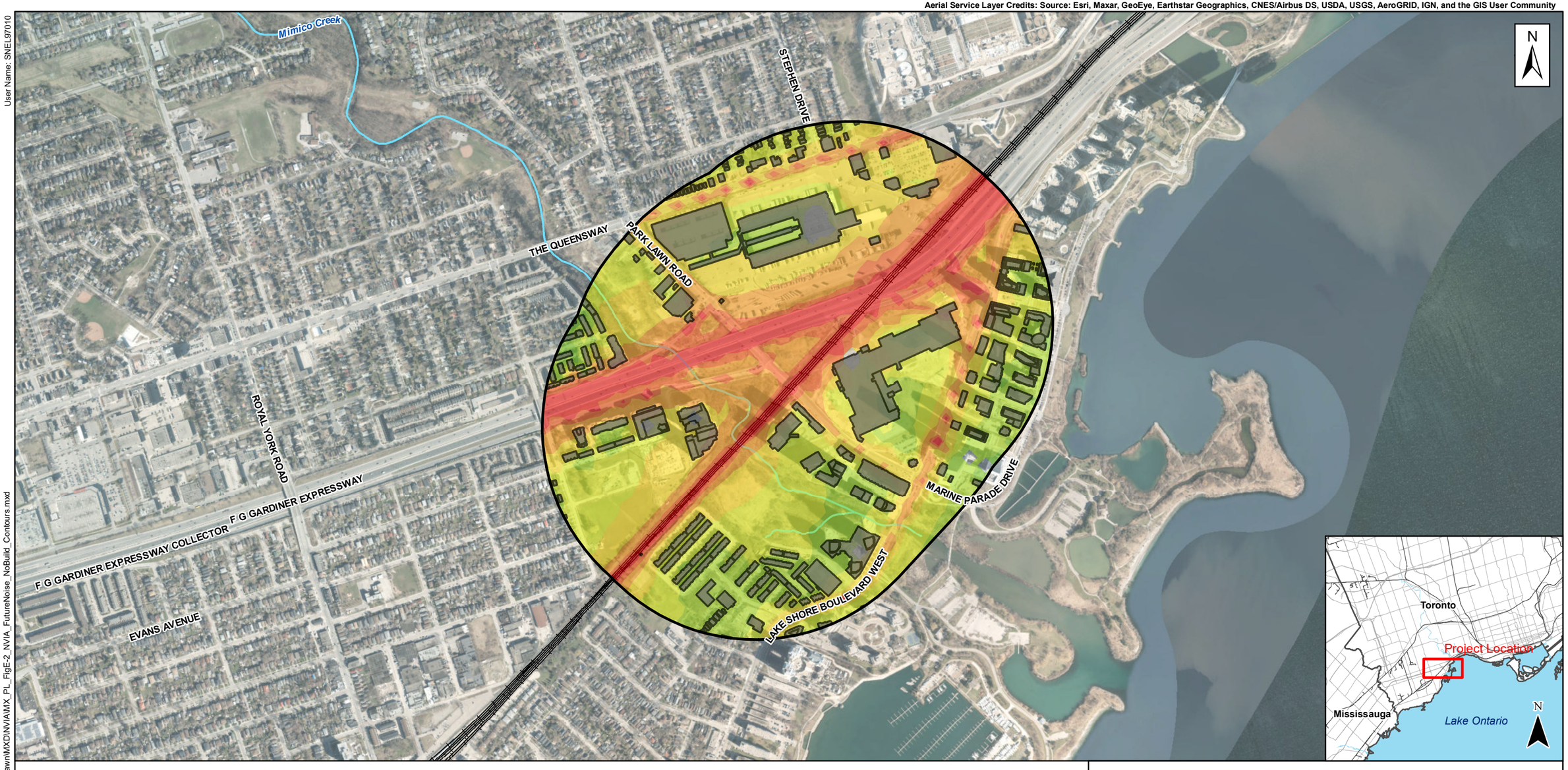
NOTES

1. Coordinate system - UTM NAD 1983 Zone 17N.
2. Sources: Roads, Railways, Watercourses - Land Information Ontario;
3. Station Footprint Based on Preliminary Station Design.

0 100 200 400 Meters

1:10,000

Project:	**Park Lawn GO Station**		
Figure Title:	**Noise and Vibration Impact Assessment - Contruction Noise Contour**		
Prepared By: HATCH		**Date:** August 23, 2021	
Version: PL.NV.75-1	**Review:**	**Figure:** E-1	**Page:** 1 of 1



LEGEND

- Study Area - 500 metres
- Buiding
- Railway
- Permanent Watercourse

Future [dBA]

< 40 | 40 - 45 | 45 - 50 | 50 - 55 | 55 - 60 | 60 - 65 | 65 - 70 | > 70

NOTES

1. Coordinate system - UTM NAD 1983 Zone 17N.
2. Sources: Roads, Railways, Watercourses - Land Information Ontario;
3. Station Footprint Based on Preliminary Station Design.

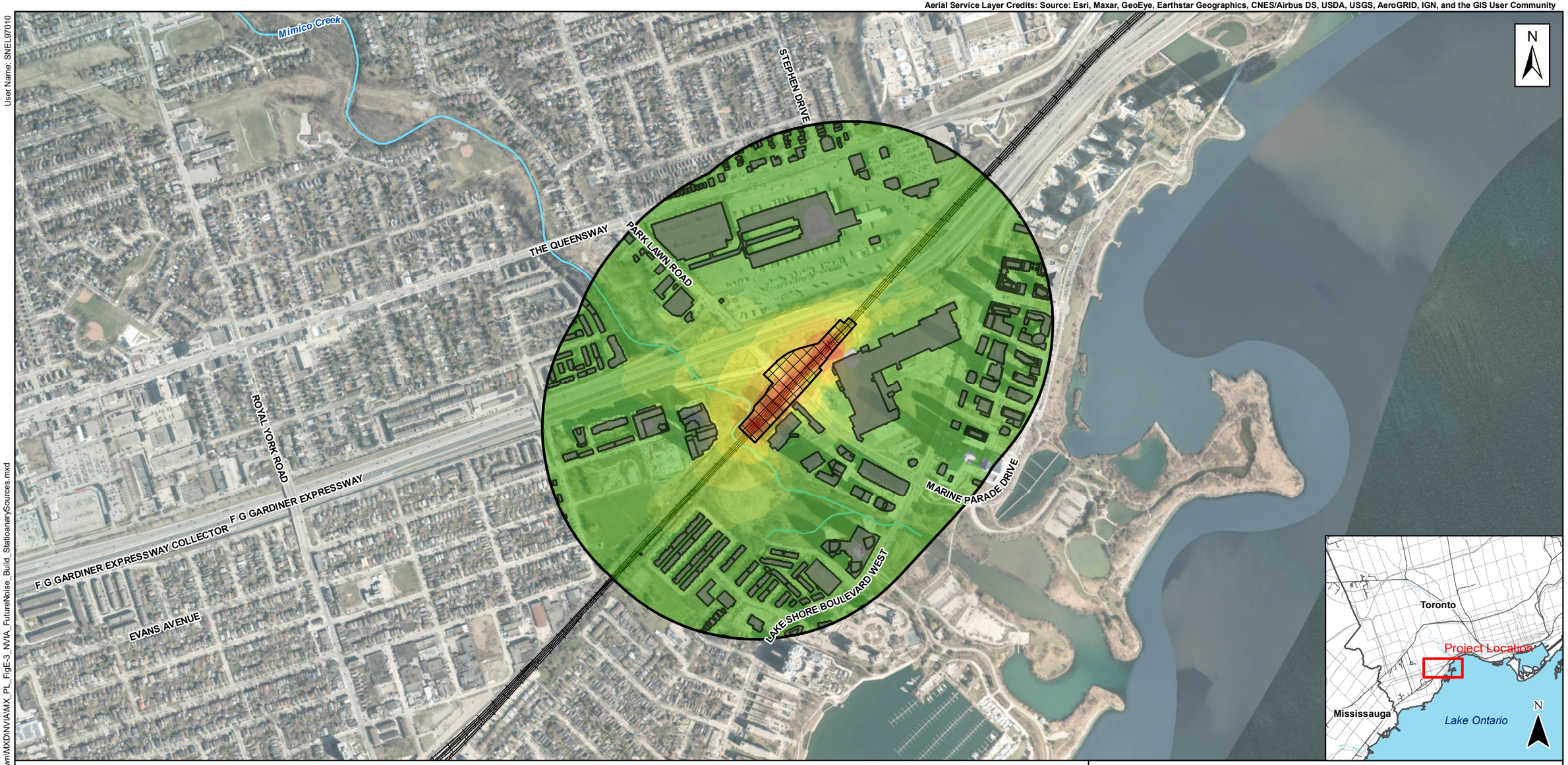
0 100 200 400 Meters

1:10,000

Project:	**Park Lawn GO Station**		
Figure Title:	**Noise and Vibration Impact Assessment - Future - No-Build Noise Contour**		
Prepared By: HATCH		**Date:** August 23, 2021	
Version: PL.NV.75-1	**Review:**	**Figure:** E-2	**Page:** 1 of 1

Aerial Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

User Name: SNEL97010



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LEGEND

- Proposed Project Footprint (approximate)
- Study Area - 500 metres
- Buiding
- Railway
- Permanent Watercourse

Future [dBA]

< 40 | 40 - 45 | 45 - 50 | 50 - 55 | 55 - 60 | 60 - 65 | 65 - 70 | > 70

NOTES

1. Coordinate system - UTM NAD 1983 Zone 17N.
2. Sources: Roads, Railways, Watercourses - Land Information Ontario;
3. Station Footprint Based on Preliminary Station Design.

0 100 200 400 Meters

1:10,000

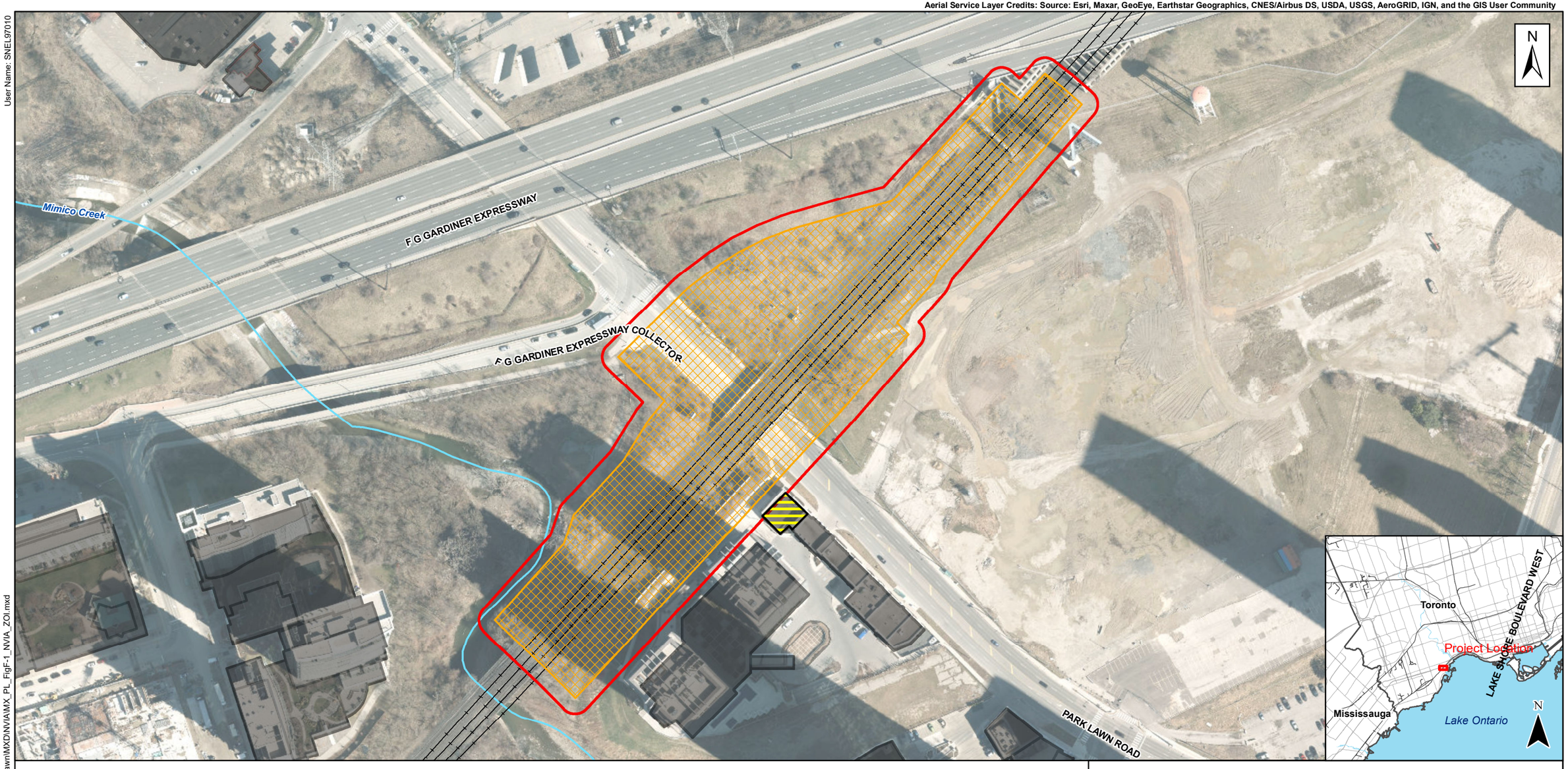
Project:	**Park Lawn GO Station**		
Figure Title:	**Noise and Vibration Impact Assessment - Future - Station Build, Stationary Sources**		
Prepared By:	HATCH	**Date:**	**August 23, 2021**
Version: PL.NV.75-1	**Review:**	**Figure:** E-3	**Page:** 1 of 1

Appendix F

Vibration Zone of Influence

User Name: SNEL97010

Aerial Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Document Path: T:\Maps\GIS_Data\Metrolinx\ParkLawn\MXD\NV\AMX_PL_FigF-1_NVIA_ZOI.mxd

LEGEND

- Construction Zone
- Building Damage Vibration Zone of Influence for Auger Piling/Vibratory Roller - 8 meters
- Building Requiring Continuous Vibration Monitoring
- Building
- Railway
- Permanent Watercourse

NOTES

1. Coordinate system - UTM NAD 1983 Zone 17N.
2. Sources: Roads, Railways, Watercourses - Land Information Ontario;
3. Station Footprint Based on Preliminary Station Design.

0 25 50 100 Meters

1:2,000

Project:	**Park Lawn GO Station**		
Figure Title:	**Construction Vibration Assessment Building Damage Zone of Influence**		
Prepared By: HATCH		**Date:** August 23, 2021	
Version: PL.NV.75-1	**Review:**	**Figure:** F-1	**Page:** 1 of 1