

APPENDIX F

Draft Air Quality Impact Assessment



FIRST
CAPITAL



METROLINX

**First Capital
Park Lawn GO Station
Air Quality Impact Assessment**

2021-08-27	E	Louis Caron	Mark Armstrong	Melissa Alexander	Draft Final Report
2021-06-04	D	Louis Caron	Mark Armstrong	Melissa Alexander	Draft Updated Impact Assessment Report
2021-04-27	C	Louis Caron	Mark Armstrong	Melissa Alexander	Draft Impact Assessment Report
2020-05-08	B	Louis Caron	Elyse Hamel	Mark Armstrong	Draft Impact Assessment Report
2020-07-23	A	Louis Caron	Elyse Hamel	Mark Armstrong	Draft Existing Conditions Report
Date	Rev.	Prepared By	Checked By	Approved By	Status
HATCH					

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 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 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 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.

For the purposes of the Air Quality Impact Assessment (AQIA), existing and future scenarios are defined as follows:

- Existing conditions (2020);
- Future, without the Park Lawn GO Station (2028) (No-Build); and
- Future, with the Park Lawn GO Station (2028) (Build).

This AQIA was based on a comprehensive analysis as per the Ministry of Transportation (MTO) Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (MTO, 2020). The variability of meteorological conditions is addressed using a comprehensive analysis approach by predicting ambient air pollutant concentrations for five years on an hourly basis.

Assessment of the Project is being carried out in accordance with the TPAP. The TPAP is regulated by the (EAA) under *Ontario Regulation 231/08: Transit Projects and Metrolinx Undertakings* (O. Reg. 231/08) (Government of Ontario, 2015).

For the three scenarios, rail traffic, scheduled bus traffic and on-road Toronto Transit Commission (TTC) vehicles travelling on local transit lines near the station were utilized to determine impacts of the Park Lawn GO Station on sensitive receptors within the Study Area. Air dispersion modelling was performed for the selected representative contaminants for the Future Project case scenario to evaluate predicted air quality effects. The Future Project case scenario predicts the air emissions effects related

to the impact of the Park Lawn GO Station. Under the Future Project case, two scenarios are considered; the Future Build and Future No-Build. The first one considers the Park Lawn GO Station and its associated rail traffic while the latter corresponds to the future conditions of the Study Area, but without the Park Lawn GO Station in place. Only the changes in the vehicles traffic patterns associated with the Park Lawn GO Station are considered. The concentrations predicted by the dispersion model were added to the background measurements and the total cumulative effects were assessed.

Private vehicles were not considered in this assessment because the selected National Air Pollution Surveillance (NAPS) and Ministry of the Environment, Conservation, and Parks (MECP) monitoring stations are in locations with significant road traffic in close proximity. Hence, the resulting ambient background concentrations account for nearby sources of local air pollution unrelated to the Project's completion, such as private vehicle traffic.

Based on the dispersion modelling results, the Existing Conditions (2020) indicate that the emissions from the vehicles travelling in the vicinity of the Project are mostly negligible at the selected sensitive and critical receptors.

For both Future Case scenarios, except for NO₂, the modelled results demonstrate that the effects on air quality associated with the Park Lawn GO project are not deemed significant based on the fact that ambient concentrations of the considered contaminants either slightly increased or remained at a similar level compared to the existing conditions. This can be explained by the fact that the bus and train traffic growth due to the Project's completion is not significant enough to counteract the decreasing emission rates of the different types of vehicles being modelled. This is due to the constant introduction of new pollution control technologies in the transportation sector, which occurs in response to the progressively stricter emission standards that are being implemented.

The major source of air emissions considered in the analysis is generated by the trains travelling along the Lakeshore West rail corridor, as well as on nearby paved surfaces, such as adjacent municipal roadways and on-site driveways. It is noted that predicted cumulative concentrations of Benzo(a)pyrene (B(a)P) for all the scenarios exceed the applicable daily and annual limit values. It is also noted that predicted cumulative concentrations of benzene for all the scenarios exceed the applicable annual limit values and that Particulate Matter that are 2.5 microns or less in diameter (PM_{2.5}) concentrations exceed the hourly limit values for the Future Build Scenario. These exceedances can be explained by the high background levels that are almost at the limit for PM_{2.5} and that are significantly exceeding the limits for B(a)P and benzene.

Therefore, during the operations of the Future Build scenario, the effects on air quality in the surrounding area of the GO Station is expected to be negligible when compared to the existing modelled conditions, as well as to the provincial and national air quality objectives. Nevertheless, to improve general air quality around the Park Lawn GO Station, once the Project will be completed, the following measures are recommended but not limited to:

- Allow for the future connections to multi-use paths (MUP) to increase the number of passengers that are walking or cycling to access the new GO Station; and

- During construction best management practices will be put into place during road sweeping and covering of stockpiles and dump trucks.

During the construction of the Park Lawn GO Station, temporary effects are expected in the surrounding area of the station. Typically, emissions related to construction activities consist of fugitive dust emissions (Total Suspended Particles (TSP), inhalable particulate matter (PM₁₀) and respirable particulate matter (PM_{2.5})) as well as mobile equipment emissions. Therefore, people living next to the station construction area may experience an increase in dust concentrations and other criteria air contaminants for the duration of the construction phase. It is recommended that, at a minimum, dust levels be monitored during the construction phase and as many mitigation measures as needed be applied, to reduce the effects on the surrounding receptors.

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GO Train schedules

Glossary of Terms and Acronyms

AAQC	Ambient Air Quality Criteria
AQIA	Air Quality Impact Assessment
BMP	Best Management Practices
CAAQS	Canadian Ambient Air Quality Standard
CO	Carbon Monoxide
COC	Contaminant of concern
CO ₂	Carbon Dioxide
CO _{2eq}	Carbon Dioxide equivalent
DMP	Dust Management Plan
EA	Environmental Assessment
EAA	<i>Environmental Assessment Act</i>
ECCC	Environment and Climate Change Canada
Etc.	et cetera
e.g.	example given
EF	Emission Factor
g/h	grams per hour
g/m ²	grams per square metre
g/km	grams per Kilometre
g/vehicle/km	grams per Vehicle/Kilometre
GHG	Greenhouse Gas
HC	Hydrocarbon
IBC	Initial Business Case
Km	Kilometre
km/h	Kilometre per hour
lb	pound
m	Metre
m/s	metres per second

MC	Motorcycles
MOE	Ministry of the Environment
MECP	Ministry of the Environment and Climate Change
MOVES	Motor Vehicle Emission Simulator
Mt	Mega-Tonnes
MTO	Ministry of Transportation
NAPS	National Air Pollution Surveillance
N ₂ O	Nitrous Oxide
NO ₂	Nitrogen Dioxide
NO	Nitric Oxide
NO _x	Nitrogen Oxides
O ₂	Oxygen
O ₃	Ozone
OLM	Ozone Limiting Method
PM _{2.5}	respirable particulate matter
PM ₁₀	inhalable particulate matter
PM	Particulate Matter
POI	Point of Impingement
PPB	Parts per Billion
PUDO	Pick-Up and Drop-Off
SO ₂	Sulfur Dioxide
TPAP	Transit Project Assessment Process
US EPA	United States Environmental Protection Agency
Vehicles/h	Vehicles per hour
VKT	Vehicle Kilometres Travelled
VOC	Volatile Organic Compound
µg/m ³	micro-gram per cubic metre

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 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 will be 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. 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.

As a component of the EA, this Air Quality Impact Assessment (AQIA) Report was completed to document the existing conditions, and assess the potential increase or decrease in pollutant concentration levels as a result of the proposed GO Station and related accelerating and decelerating rail traffic.

1.2 Study Objective

The objectives of the AQIA are:

- To predict the concentrations of the selected contaminants resulting from rail traffic along the Lakeshore West rail corridor and buses from adjacent roadways for the three scenarios:
 - Existing Conditions (2020);
 - Future, without Park Lawn GO Station (2028) (No-Build); and
 - Future, with the Park Lawn GO Station (2028) (Build).
- To predict the combined effect of the Project and ambient background concentrations at representative worst-case receptors; and
- To use these predictions to assess potential impacts of the Project according to applicable guidelines.

To satisfy the study objectives, existing and planned sensitive receptors within the Study Area for the Park Lawn GO Station were confirmed and documented. The predicted air quality impacts associated with the development of the Park Lawn GO Station have been assessed and compared to threshold limits. A sensitive receptor for the purposes of this AQIA is defined by the Ministry of the Environment, Conservation and Parks (MECP, 2017) to include a:

- Place of residence;
- Child care facility;
- Health care facility;
- Senior citizen's residence;
- Long-term care facility; or
- School.

In cases where one of these scenarios lead to an excessive concentration of one of the selected pollutants, mitigation measures will be suggested to reduce the severity of potential impacts on air quality.

1.3 Study Area

As shown in Figure 1-1 the Park Lawn GO Station is to be located to 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, in the City of Toronto. The Park Lawn GO Station will provide a stop between Mimico GO Station and Exhibition GO Station.

The AQIA Study Area for the proposed Park Lawn GO Station is bounded by one kilometre to the northeast, and one kilometre to the southwest, for a total of two kilometres along the Lakeshore West rail corridor to incorporate trains accelerating out of and decelerating into the GO Station (i.e., changing notch settings, braking, etc.). Predicted local air quality impacts associated with roadways and railways tend to drop off significantly at downwind distances greater than 300 metres; therefore, the sensitive receptors included in this assessment were restricted to within 300 metres of the rail corridor.



LEGEND		NOTES		Project: Park Lawn GO Station			
<div><div></div>Proposed Project Footprint (approximate)</div>		<div>1. Coordinate system - UTM NAD 1983 Zone 17N 2. Sources: Roads, Railways, Watercourses - Land Information Ontario; RNFP, City of Toronto 2019.</div> <div><div>0225450900</div>Meters</div> <div>1:14,000</div>		Figure Title: Air Quality Impact Assessment - Study Area			
<div><div></div>Study Area - 300 Meters</div>				Prepared By: <div>HATCH</div>		Date: August 18, 2021	
<div><div></div>Railway</div>				Version: PL.AQ.90-1		Review: <div></div>	
<div><div></div>Permanent Watercourse</div>				Figure: 1-1		Page: 1 of 1	

2. Methodology

Local air quality impacts were assessed by estimating contaminant concentrations resulting from the GO Transit operations for three scenarios:

- Existing scenario (2020);
- Future, without Park Lawn GO Station (2028) (No-Build); and
- Future, with the Park Lawn GO Station (2028) (Build).

The methodology used for this AQIA is outlined in the Ministry of Transportation (MTO) Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (MTO, 2020). The guidance pertaining to the technical aspects of the modelling is provided within the MECP Air Dispersion Modelling Guideline for Ontario (ADMGO) (MECP, 2017).

Note that for the Existing Scenario (2020), the potential impacts of Covid-19 on traffic were not considered as part of the assessment. Considering traffic reductions were observed during the pandemic, the traffic volumes employed are therefore conservative.

2.1 Approach

For the three scenarios, rail traffic, scheduled bus traffic and on-road vehicles travelling on local roads near the station were utilized to determine impacts of the Park Lawn GO Station on sensitive receptors within the Study Area. Contaminants considered in this study are presented in Table 2-1 and included carbon monoxide, nitrogen dioxide, acrolein, benzene, 1-3 butadiene, acetaldehyde, formaldehyde, benzo(a)pyrene and particulate matter with a diameter under 2.5 microns. Emissions of CO_{2eq} were also considered for climate change.

Table 2-3 presents the applicable thresholds, which are not regulatory, but are more an indicator of acceptable levels of contaminants in the atmosphere. Operations considered in the Study Area included other rail service providers using the rail corridor such as the Canadian National Railway Corporation (CN), VIA Rail Canada (VIA), and small third party regional rail users. The impacts were predicted using engine emission rates, modelled emission rates and air dispersion modelling. Emission and dispersion models used for this assessment were the United States Environmental Protection Agency's (US EPA) Motor Vehicle Emission Simulator (MOVES) and American Meteorological Society/EPA Regulatory Model (AERMOD version 19191). The MOVES software is an MECP approved simulator used to determine vehicle emissions. It is noted that AERMOD is also an approved MECP air dispersion model under Ontario Regulation 419/05 (MECP, 2017). It is a steady-state dispersion model used to determine short-range dispersion of the air emissions associated with the aforementioned three scenarios. AERMOD is also composed of a meteorological data pre-processor (AERMET) and a terrain pre-processor (AERMAP).

The modelled concentrations due to GO Transit operations were added to background sources and the resulting sums were compared to the most stringent air quality thresholds in order to

evaluate the potential for adverse effects. A potential for an adverse effect is considered to exist when the summed concentration for a contaminant exceeds the air quality criterion at a sensitive receptor. If the background concentration of a contaminant already exceeds the criterion, then a potential for an adverse effect already exists, without considering the proposed Park Lawn GO Station.

2.2 Contaminants of Concern

Table 2-1 presents the Contaminants of Concern (COCs) considered in this study.

Table 2-1: Contaminants of Concern

Contaminants of Concern
Particulate Matter less than 2.5 µm (PM _{2.5})
Nitrogen Dioxide (NO ₂)
Carbon Monoxide (CO)
Ozone (O ₃)
Acrolein
Benzene
1,3-Butadiene
Acetaldehyde
Formaldehyde
Benzo(a)pyrene

A qualitative assessment was also undertaken for:

- Particulate matter less than 10 micrometre (µm) (PM₁₀); and
- Total Suspended Particulate (TSP).

2.3 Air Quality Thresholds

In order to assess the impact of the Project, the predicted effects at sensitive receptors were compared to guidelines established by government agencies and organizations. Relevant agencies and organizations in Canada and their applicable contaminant guidelines are:

- Ontario Ambient Air Quality Criteria (AAQC) (Ministry of the Environment, 2004); and
- Canadian Ambient Air Quality Standards (CAAQS) (Canadian Council of Ministers of the Environment, 2012).

The Ontario AAQC list desirable concentrations of contaminants in air, based on protection against adverse effects on health and/or the environment. AAQCs are developed by the MECP and have varying time weighted averaging periods (e.g., 30-minute, one hour, eight hour, 24 hour, and annual) appropriate for the adverse effect that they are intended to protect against (i.e., acute or chronic). The adverse effects considered may be related to health, odour, vegetation, soiling, visibility, or corrosion. AAQCs may be changed from time to time based on the state-of-the-science for a particular contaminant (MECP, 2012).

The CAAQS are health-based air quality objectives for pollutant concentrations in outdoor air. Under the Air Quality Management System, Environment Canada and Health Canada established air quality standards for fine particulate matter and ground-level ozone, two pollutants of concern to human health and the major components of smog.

These standards are more stringent and more comprehensive than the previous Canada-wide Standards for these pollutants. The new CAAQS were established by the federal government in 2012 and provide more stringent objectives for outdoor air quality in Canada as shown in the table below. For the first time in Canada, the standards also include a long-term (annual) target for fine particulate matter. Applicable standards include the 2020 proposed CAAQS standards for PM_{2.5}. This standard is based on the 98th percentile ambient measurement (24-hour), annually averaged over three years. Since the Project's completion is planned for 2028, threshold values that are planned to phase in 2020 and 2025 were used as the effective concentration limits for existing and future scenarios, respectively. The most recent NO₂ CAAQS were published by the Canadian Council of Ministers of the Environment (CCME) in November 2017. These new standards represent unparalleled ambitious long-term objectives. As objectives, they are not binding and do not directly apply to this AQIA for which highly conservative assumptions are employed to predict the worst-case potential outcomes. Table 2-2 shows the recent CAAQS for NO₂ and Ozone as published on the CCME website.

It is worth noting that the statistical form required for the CAAQS, especially for the one hour averaging period, entails special processing of the output results (98th percentile of the daily maximum one hour average concentration). This processing would remove the highest outliers as being meteorological anomalies. As all results in this report were selected as the maximum 1st ranked concentrations modelled, thus not removing outliers, the results shown in this study are a conservative comparison to the CAAQS.

Table 2-2: New CAAQS for NO₂ and Ozone

Contaminant	Averaging Period	Concentration Objective for Indicated Years		Statistical Form
		2020	2025	
NO ₂	1 hour	60 ppb (119 µg/m ³)	42 ppb (83 µg/m ³)	Three-year average of the annual 98 th percentile of the daily maximum one hour average concentrations.
	Annual	17 ppb (34 µg/m ³)	12 ppb (24 µg/m ³)	Average over a single calendar year of all one-hour average concentrations.
Ozone	8 hour	62 ppb (124 µg/m ³)	60 ppb (120 µg/m ³)	Three-year average of the annual 4 th highest of the daily maximum 8-hour average concentrations.

Notes:

1. Table based on CCME website: <http://airquality-qualitedelair.ccme.ca/en/>
2. CAAQS are published in ppb. Conversions to µg/m³ were calculated for easier comparisons to results in this report. Conversions assume ambient pressure of one atmosphere and a temperature of 10 degrees Celsius.

When compared to the AAQC standards, the 2025 one hour CAAQS brings down the air quality threshold by 80 percent from $400 \mu\text{g}/\text{m}^3$ to $83 \mu\text{g}/\text{m}^3$. Comparing the maximum one-hour NO_2 cumulative concentrations shown in Table 2-2 for the Cumulative Effects of both Future Case scenarios with the new CAAQS, several key factors should be pointed out in interpreting such a comparison:

- Applying the statistical form required for the one-hour NO_2 CAAQS would bring down the one-hour NO_2 result shown in the table, which is using the maximum concentration modelled thus conservatively treating the results;
- The NO_2 background levels calculated as the 90th percentile over the five years of data from the air quality station selected is contributing to a high percentage of the future one hour CAAQ limit value to be enforced in 2025 ($46.3 \mu\text{g}/\text{m}^3$ for 56 percent of the threshold), leaving a $36.7 \mu\text{g}/\text{m}^3$ contribution possible for the modelling of all sources for the Future Build case scenario; and
- Public transit helps reduce pollution by reducing the total vehicle kilometres travelled in the region.

Regarding the high background contribution to the cumulative concentrations relative to the new CAAQS, the new federal CAAQS are taking into account future progress in local NO_2 emissions. Future background levels of NO_2 are expected to decline with the progress of clean emissions technology. For example, the MECPs 2015 Air Quality Report (MECP, 2017) shows historic trends that all contaminant levels have continued to decrease from 2006 to 2015:

- 32 percent decrease for NO_2 ;
- 25 percent decrease for $\text{PM}_{2.5}$;
- 53 percent decrease for CO; and
- 40 percent decrease for benzene.

Although the rate at which these trends will continue is uncertain, the historic trend of decreasing background levels is expected to continue. In general, these decreasing trends are resulting from more stringent regulations regarding not only the concentrations of pollutants in ambient air, but to the standards of emissions at the source; industries must emit less and on-road vehicles must implement technologies to create cleaner engines. For example, prior to the cancellation of Ontario's emissions trading regulations (O. Reg. 397/01 and O. Reg. 194/05), the cap and trade program is estimated to have contributed to the reduction in NO_x emissions. Nevertheless, considering the unpredictability of the continuity of the trends, existing background levels are always used for air modelling purposes of future scenarios as a conservative practice.

The aforementioned air quality criteria, objectives, and standards are collectively referred to as "air quality thresholds" in this AQIA. An exceedance of one of the air quality thresholds will cause mitigation to be considered, assuming the air quality threshold is not already exceeded by the ambient background concentration of a contaminant. Table 2-3 summarizes the air

quality thresholds for this AQIA. NAAQO and CAAQS are also listed below for information only and are not compared with predicted concentrations in the results analysis section. CAAQS are long-term objectives and are not used for regulatory compliance.

Table 2-3: Air Quality Thresholds for the Contaminants of Concern

Contaminant	Averaging Time	Threshold Value ($\mu\text{g}/\text{m}^3$)	Source
PM _{2.5}	24 hours	28	CAAQS
	24 hours	27	CAAQS (2020)
	Annual	10	CAAQS
	Annual	8.8	CAAQS (2020)
NO ₂	1 hour	400	AAQC
	1 hour	119	CAAQS (2020)
	1 hour	83	CAAQS (2025)
	24 hours	200	AAQC
	Annual	60	NAAQO
	Annual	23	CAAQS (2025)
CO	1 hour	36,200	AAQC
	8 hours	15,700	AAQC
Acrolein	1 hour	4.5	AAQC
	24 hours	0.4	AAQC
Benzene	24 hours	2.3	AAQC
	Annual	0.45	AAQC
1,3-Butadiene	24 hours	10	AAQC
	Annual	2	AAQC
Acetaldehyde	30 minutes	500	AAQC
	24 hours	500	AAQC
Formaldehyde	24 hours	65	AAQC
Benzo(a)pyrene	24 hours	0.00005	AAQC
	Annual	0.00001	AAQC

Data for ambient air monitoring stations is readily available online and was obtained from the Ontario MECP, as well as Environment and Climate Change Canada (ECCC). The air quality thresholds represent target levels and are not specifically enforceable within any of the jurisdictions. The threshold value for each contaminant and its applicable averaging period were used to assess the maximum predicted effect at sensitive receptors. Different averaging periods were used for different contaminants according to their specific impact on human health or adverse effects on vegetation and animals. The applicable averaging periods for the COCs are based on 30 minutes, one hour, eight-hour, 24-hour, and annual exposures. Maximum concentration levels are presented in the Ontario Ambient Air Quality Criteria (MOECC, 2016).

2.4 Background Air Quality

By definition, background concentrations include sources that affect air quality in the Study Area, and generally do not include emissions from the Project itself. Thus, the MECP and National Air Pollution Surveillance (NAPS) ambient air monitoring stations were reviewed and selected based on their proximity to the Study Area and the fact that they are located in an area that has minimal to no influence from an existing rail corridor. This avoids double counting

the ambient background levels of the COCs when processed with the dispersion modelling results.

However, even though the background air quality stations selected were not necessarily close to an existing rail corridor, it is important to note that the background levels used include and double count some of the traffic modelled. The Existing Scenario (2020) models the current situation without the Project. The vehicles modelled for this scenario are thus already included in the background concentrations used since they currently contribute to ambient air pollutant concentrations.

A total of five MECP and NAPS ambient air monitoring stations were identified as shown in Table 2-4 and Figure 2-1. However, not all contaminant concentrations are available at every station, which is the reason five stations were selected to characterize background concentrations. One MECP station was selected to represent respirable particulate matter (PM_{2.5}), Nitrogen Dioxide (NO₂) and Ozone (O₃). The Toronto Downtown ambient air monitoring station was chosen because it is the closest station to the Study Area. As Carbon Monoxide (CO) was not measured at this particular MECP station, another MECP station, the Toronto West ambient air monitoring station, was also used to evaluate the background concentration of that specific COC. Furthermore, both of the station locations are qualified as an urban area, which is representative of the Park Lawn GO Station's surroundings. Toronto Downtown and Toronto West stations were thus selected to represent the background PM_{2.5}, NO₂ as well as O₃ and CO concentrations, respectively.

Three NAPS stations were selected to represent background concentrations for other contaminants. The Egbert monitoring station was the only station with recent data for acetaldehyde and formaldehyde and was thus selected to represent the acetaldehyde and formaldehyde background concentrations. Toronto Gage Institute monitoring station was selected to represent B(a)P, benzene and 1,3-butadiene background concentrations due to its proximity to the Project's location. Toronto (Ruskin/Perth St) monitoring station was used for acrolein. A summary of data from these stations and the years of data used are provided in Table 2-4, while their locations are shown on Figure 2-1.

Table 2-4: Ambient Air Monitoring Station Information

Contaminant of Concern	Station ID	Station Location	Years of Data Used
Particulate Matter (PM _{2.5})	MECP - 31103	Toronto Downtown (Bay/Wellesley St. W)	2013-2020
Nitrogen Dioxide (NO ₂)	MECP - 31103	Toronto Downtown (Bay/Wellesley St. W)	2013-2020
Carbon Monoxide (CO)	MECP - 35125	Toronto West (125 Resources Road)	2013-2020
Ozone (O ₃)	MECP - 31103	Toronto Downtown (Bay/Wellesley St. W)	2013-2020
Acrolein	NAPS - 60418	Toronto (Ruskin/Perth Street)	2002-2006
Benzene	NAPS - 60427	Toronto - Gage Institute (223 College Street)	2010-2014
1,3-Butadiene	NAPS - 60427	Toronto - Gage Institute (223 College Street)	2010-2014

Contaminant of Concern	Station ID	Station Location	Years of Data Used
Acetaldehyde	NAPS - 64401	Egbert (8 th Line and 10 th Side Road)	2006-2010
Formaldehyde	NAPS - 64401	Egbert (8 th Line and 10 th Side Road)	2006-2010
B(a)P	NAPS - 60427	Toronto - Gage Institute (223 College Street)	2010-2014

To establish an initial baseline of concentrations for the COCs, background data from the stations listed above were gathered and compiled for the most recent five consecutive years. Based on published air quality studies and common practice, the 90th percentile concentration for each COC was used for averaging periods of one hour, eight hours and 24 hours to determine the background concentration. For COCs with an annual averaging period, the annual mean from the ambient air monitoring stations was used. Values of interest were compiled and are presented in Table 2-5. Ambient air quality monitoring data is provided in Appendix A of this report.

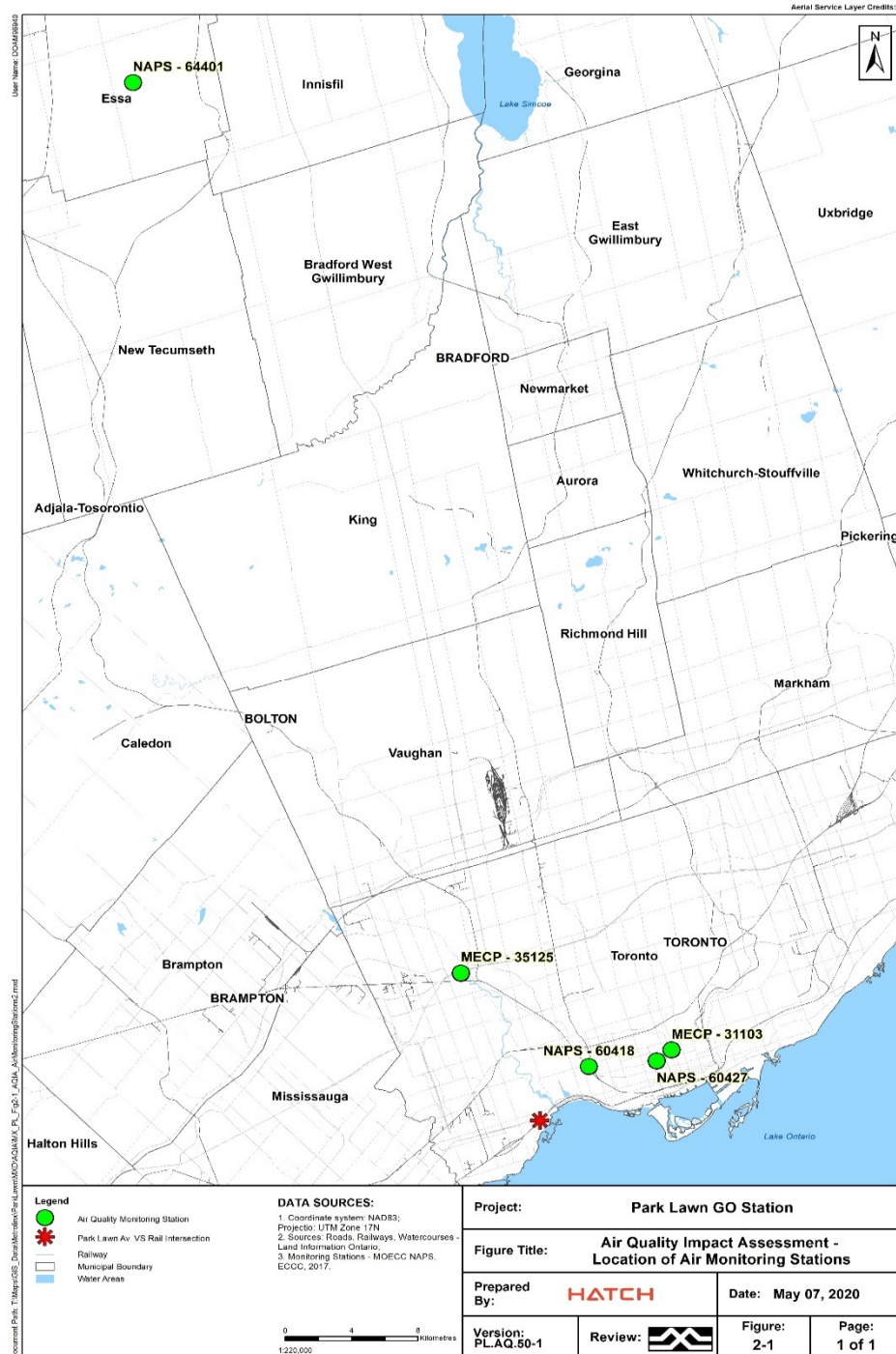


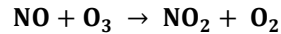
Figure 2-1: Location of Air Monitoring Stations

Table 2-5: Background Concentrations ($\mu\text{g}/\text{m}^3$)

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value	% of criterion
PM _{2.5}	24 Hour	$\mu\text{g}/\text{m}^3$	27.0	39.1	0.1	6.7	14.1	52%
PM _{2.5}	Annual	$\mu\text{g}/\text{m}^3$	8.8	8.7	7.0	8.3	7.93	90%
NO ₂	1 Hour	$\mu\text{g}/\text{m}^3$	400	122.2	1.9	21.4	46.3	12%
NO ₂ (CAAQS 2025)	1 Hour	$\mu\text{g}/\text{m}^3$	83	122.2	1.9	21.4	46.3	56%
NO ₂	24 Hour	$\mu\text{g}/\text{m}^3$	200	80.6	4.9	23.6	38.9	19%
NO ₂	Annual	$\mu\text{g}/\text{m}^3$	60	26.3	24.4	25.1	25.2	42%
NO ₂ (CAAQS 2025)	Annual	$\mu\text{g}/\text{m}^3$	23	26.3	24.4	25.1	25.2	110%
CO	1 Hour	$\mu\text{g}/\text{m}^3$	36200	1911	0	256	412	1%
CO	8 Hour	$\mu\text{g}/\text{m}^3$	15700	1412	34	264	400	3%
O ₃	1 Hour	$\mu\text{g}/\text{m}^3$		176.6	0.0	49.4	81.6	
O ₃	24 Hour	$\mu\text{g}/\text{m}^3$		115.1	6.0	49.0	73.6	
O ₃	Annual	$\mu\text{g}/\text{m}^3$		51.5	50.2	50.4	50.5	
Acrolein	24 Hour	$\mu\text{g}/\text{m}^3$	0.4	1.2	0.0	0.072	0.24	59%
Acrolein	1 Hour	$\mu\text{g}/\text{m}^3$	4.5					
Benzene	24 Hour	$\mu\text{g}/\text{m}^3$	2.3				0.95	41%
Benzene	Annual	$\mu\text{g}/\text{m}^3$	0.45	2.03	0.19	0.61	0.64	141%
1,3 Butadiene	24 Hour	$\mu\text{g}/\text{m}^3$	10				0.10	1%
1,3 Butadiene	Annual	$\mu\text{g}/\text{m}^3$	2	0.19	0.01	0.05	0.06	3%
Acetaldehyde	24 Hour	$\mu\text{g}/\text{m}^3$	500	3.1	0.0	0.85	1.6	0.3%
Acetaldehyde	30 minutes	$\mu\text{g}/\text{m}^3$	500					
Formaldehyde	24 Hour	$\mu\text{g}/\text{m}^3$	65	8.2	0.14	2.2	4.2	6%
Benzo(a)pyrene	24 Hour	$\mu\text{g}/\text{m}^3$	0.00005				0.00012	240%
Benzo(a)pyrene	Annual	$\mu\text{g}/\text{m}^3$	0.00001				0.000077	770%
Notes: Ozone (O ₃) concentrations were used to calculate the NO to NO ₂ conversion using the Ozone Limiting Method (See Section 2.5). '-': Insufficient data to estimate these values								

2.5 Conversion of Nitrogen Oxides (NO_x) to Nitrogen Dioxide (NO₂)

When nitrogen oxides (NO_x) are emitted in diesel exhaust, their initial composition is dominated by nitric oxide (NO). Once in the ambient air, some of the NO is irreversibly oxidized in reactions with other pollutants (ground level ozone - O₃) to produce NO₂ as follows:



NO₂ is a contaminant of concern with established air quality thresholds, so the concentration of NO₂ is important to quantify. For the purpose of this assessment, a simplified version of the Ozone Limiting Method (OLM) was used to estimate the maximum short-term NO₂ concentrations resulting from emissions of NO_x. The one hour and 24 hours NO_x concentrations predicted by AERMOD were compared to the average 90th percentile measured ambient ozone (O₃) concentration for years 2013 – 2020 from Toronto Downtown (Bay/Wellesley St. W).

The OLM assumes that if the concentration of available O₃ (90th percentile) is less than that of the NO contributed by the modelled railway emissions, then the portion of NO_x that is converted to NO₂ equals the available O₃ according to the following equation:

$$\text{I} \quad \text{NO (ppm)} < \text{O}_3(\text{ppm}), \text{ then } \text{NO}_2(\text{ppm}) = \text{NO (ppm)}$$

On the other hand, if the concentration of available O₃ (90th percentile) exceeds that of the NO contributed by the modelled railway, then all of the NO is converted to NO₂. The OLM also assumes that approximately 10 percent of the emitted NO_x is already in the form of NO₂ before exiting the exhaust. The OLM in this case is expressed mathematically as follows:

$$\text{I} \quad \text{NO (ppm)} > \text{O}_3(\text{ppm}), \text{ then } \text{NO}_2(\text{ppm}) = .1\text{NO (ppm)} + \text{O}_3(\text{ppm})$$

The conservative nature of this method assumes that the peak NO_x emissions from the dispersion modelling occur simultaneously with the 90th percentile peak of O₃, to maximize the amount of NO₂ that could be present.

2.6 Predictable Worst-Case Analysis

The COC concentrations from modelling the Park Lawn GO Station operations were summed with background concentrations. The results were then compared to the applicable air quality thresholds in order to evaluate the potential for adverse effects. This approach accounts for the cumulative effect of the Project's emissions in combination with background air contaminant levels.

It is noted that the Project's contribution and the background concentrations vary widely from day to day, depending on weather conditions and operational conditions. Thus, the predictable worst-case analysis was undertaken for this assessment, as an appropriate analytical response to this issue. This analysis is based on the concept that a project is acceptable under all conditions if it is acceptable under a predictable worst-case condition (MTO, 2020). In the predictable worst-case analysis, the maximum modelled 30 minutes, one hour, eight hour and 24 hour contributions from the Project, under maximum operating conditions and worst-case

meteorological conditions, are assumed to coincide with peak ambient background concentrations.

For each COC, the 90th percentile concentration from the ambient background monitoring data was used to represent the peak background condition in this calculation. The sum of the maximum modelled Project contribution and the 90th percentile background concentration was compared to the applicable air quality threshold. If the predictable worst-case analysis indicate that a significant number of sensitive receptors may be subject to air quality that does not meet the provincial/national ambient air quality criteria/standards (AAQS/CAAQS), then a more detailed analysis will be carried out for that specific community or receptor. Otherwise, no further local AQIA is needed (MTO, 2020).

2.7 Atmospheric Dispersion Modeling

Dispersion models use mathematical formulations to represent the atmospheric process that transport and disperse air contaminants emitted by a source. This AQIA involved the AERMOD dispersion model. The AERMOD model is the US EPA's preferred steady-state dispersion model, designed to predict air contaminant concentrations at receptor locations within several kilometres of a source. It incorporates the turbulence structure associated with the atmosphere near the ground, and includes treatment of surface and elevated sources, as well as both simple and complex topography. It is noted that AERMOD has been adopted by the MECP as an approved dispersion model for regulatory purposes under *Ontario Regulation 419/05*.

Dispersion models such as AERMOD are steady-state models over a time interval of one hour, and are not designed for modelling transient, moving emission sources such as locomotives. Instead, the emissions from the locomotives are represented in the model as stationary, steady-state emissions, distributed along the corridor for each hour of the day, based on schedules. This introduces an extra degree of uncertainty in the analysis; however, the use of steady-state dispersion of emissions from transportation corridors is a widely-accepted practice.

The US EPA provides guidance to assess transportation sources within AERMOD, which has been adopted in this AQIA. All accepted dispersion modelling approaches for transportation emissions treat the emissions as steady-state within a given hour. Since the shortest averaging time of interest for pollutant concentrations is 30 minutes, this assumption does not significantly compromise the results.

AERMOD uses the meteorological information (e.g., temperature, wind speed, relative humidity) and terrain data (e.g., surface roughness, albedo, and Bowen ratio) supplied by AERMET pre-processor in dispersion models to calculate the mixed layer height which was used in estimating the dispersion of emissions.

The MTO Guide prescribes a single worst-case set of meteorological conditions for use in a predictable worst-case analysis (MTO, 2020). In the present study, a more refined approach was adopted, in which five years of hourly meteorological data were used in AERMOD. Predicted worst-case concentrations for 30 minutes, 1 hour, 24 hours, and annual averaging times were extracted from the results for the entire five-year period.

Two meteorological datasets were needed to perform dispersion modelling analysis using the AERMOD model: upper air data (i.e., measurements recorded at various heights above the surface by weather balloons released twice per day); and surface data (i.e., hourly measurements recorded at surface-based weather stations located ten metres above the ground). Upper air data were obtained from the Buffalo International Airport Station (ID 14733) for the years 2015 - 2019 inclusively, and surface data were obtained from the Toronto City Center Airport (ID 61583) for the same five-year period in pre-processed datasets directly from the MECP. Buffalo is the upper air station designated for the City of Toronto, as upper air quality does not change significantly over a geographic area. Data from 2015 to 2019 are the most recent available from the Buffalo Station and were used for the purposes of this study. The MECP also recommended to use the Toronto City Centre station for the surface station data. A dataset was requested and obtained from the MECP for the years 2015 to 2019. The MECP meteorological datasets were processed using the AERMET meteorological data processor for a predominant urban land use.

Terrain information for the area surrounding the rail corridor was obtained from the MECP Ontario Digital Elevation Model Data web site. The terrain data are based on the North American Datum 1983 (NAD83) horizontal reference datum (Tile 087). These data were run through the AERMAP terrain pre-processor to estimate base elevations for sources and receptors and to help the model account for changes in elevation of the surrounding terrain.

Ministry Point of Impingement (POI) Limits are expressed over certain averaging periods for each specific contaminant based on health impact or other adverse impacts to the environment or vegetation.

The AERMOD model is able to generate values for different averaging periods (hourly, 24-hour and annual averages) over the five years of simulation. The hourly concentrations were estimated based on emission rates (g/s). Figure 2-2 presents the wind rose resulting from the meteorological data pre-processing. The model calculated concentrations over the five years (one value for each hour) and the results presented as both the maximum and 90th percentile. The 24-hour average value was calculated using the emission rates and daily variation of emissions which is driven by train traffic.

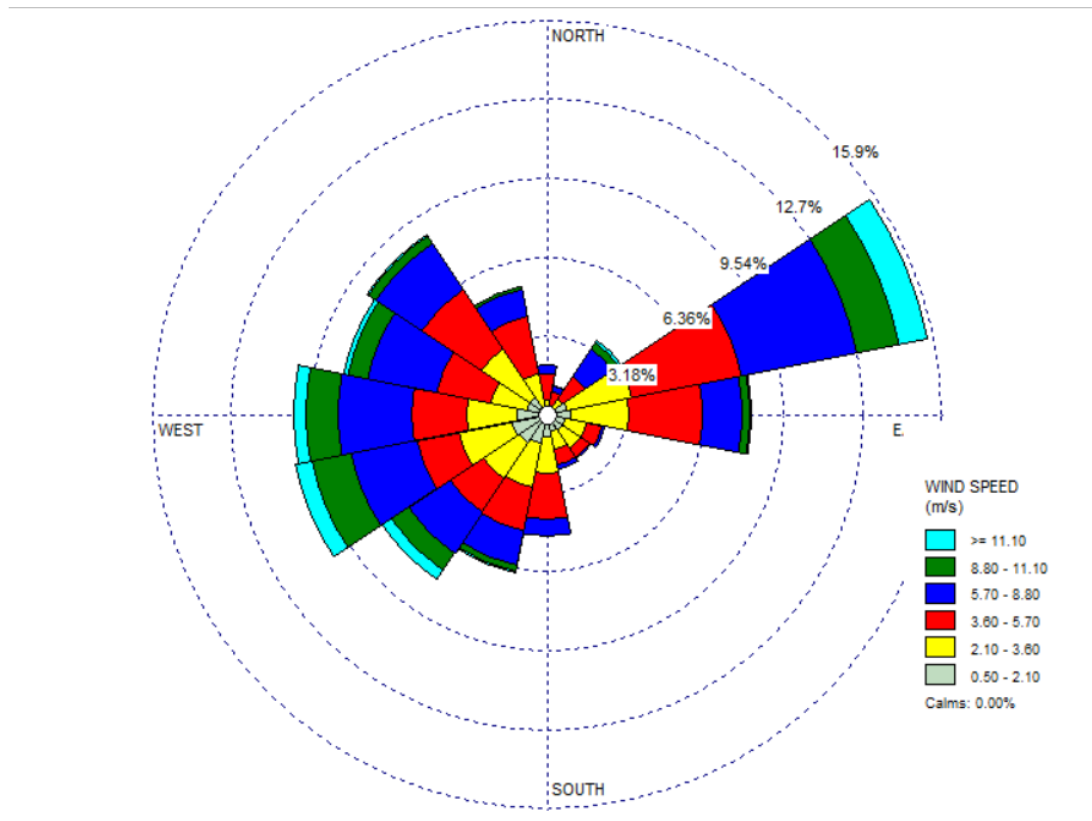


Figure 2-2: Wind Rose for Toronto City Centre Station (2015-2019)

2.8 Modeling Scenarios

Each GO Train currently in use is comprised of a single diesel locomotive and 12 passenger cars. The locomotive includes an Electro-Motive Diesel Model 710 (EMD 710) main engine (i.e., prime mover), of approximately 4,300 bhp, and a Caterpillar model C27 (CAT C27) diesel-powered generator termed the Head End Power (HEP) of 824 kW (1,105 bhp), which provides electricity to passenger cars for the purpose of lighting, heating/cooling, etc.

The US EPA has standards for emissions from various internal combustion sources including locomotives and generators. In the interest of reducing emissions, railway operations in Canada have adopted the US EPA standards through the *Railway Safety Act*. These standards are phased in through a tiered approach where Tier 0 is the least stringent (highest emissions) and Tier 4 is the most stringent (lowest emissions). These emission standards only apply to diesel-powered equipment. Generators, such as the HEP unit, are also required to meet US EPA standards, though the phased in approach is less rigorous than for locomotives. The following summarizes the US EPA tiers and their phase in period:

- Tier 0 – Tier 2 standards: The first emission regulation for railroad locomotives was adopted in December 1997.

The rulemaking, which became effective in 2000, applied to locomotives originally manufactured from 1973, any time they were manufactured or remanufactured (i.e., rebuilt).

- Tier 3 – Tier 4 standards: A regulation signed in March 2008 introduced more stringent emission requirements. Tier 3 standards became effective in 2011/2012. Tier 4 standards became effective in 2015. The 2008 regulation also includes more stringent emission standards for remanufactured Tier 0 – Tier 2 locomotives

For all the scenarios (Existing, Future Build and Future Non-Build), Metrolinx's current fleet mix was considered for the locomotives emission standards. The following fleet was considered: 8 Tier 0, 56 Tier 2, 10 Tier 3, and 17 Tier 4. This legacy fleet will remain in service over the foreseeable future, but any new purchases will be Tier 4s.

For the Future scenarios, diesel locomotives were considered regardless of the electrification planned for future years as a worst-case scenario. Also, Metrolinx plans to use double diesel locomotives instead of the current single locomotive.

2.9 Emission Sources

The emission sources included in the atmospheric dispersion modelling are presented below:

- Mobile GO Transit locomotives along the rail corridor (regular, express and non-revenue);
- Idling GO Transit locomotives at the Park Lawn GO Station; and
- On-road buses emissions for current and future bus routes designated specifically to service the Park Lawn GO Station.

Each of the above sources were assessed and included in the dispersion model. Other rail traffic such as VIA, CN and CP along the Lakeshore West corridor was also evaluated.

Mobile trains were represented by line volume sources, with each line volume source representing a segment of the corridor with unique geometry and emission levels (i.e., speed, number of trains, etc.). The emission level for each rail segment was calculated based on the number of trains expected to pass through the rail segment each hour, their expected speed, and engine load factor (brake horse power) within that segment.

Idling trains were represented by point sources with emission levels calculated based on the number of trains passing through the station per hour and the engine load factor during idling.

Private on-road vehicles were not considered in this assessment because the selected NAPS and MECP monitoring stations are in locations with significant road traffic in close proximity. Hence, the resulting ambient background concentrations account for nearby sources of local air pollution unrelated to the Project's completion, such as private on-road vehicle traffic. They are also predicted to have an insignificant contribution to the local air quality of the Study Area (i.e., decreasing emissions rates are expected as new pollution control technologies are constantly introduced in that sector).

2.10 Receptors

As defined earlier in Section 1.3, sensitive receptors are within 300 meters of the rail corridor. These limits were considered applicable as predicted local air quality impacts associated with roadways and railways tend to drop off significantly at downwind distances greater than 300 metres. For the purposes of this AQIA, a sensitive receptor is defined by the MTO (2012) as a residential dwelling, while critical receptors are defined as a:

- Place of residence;
- Child care facility;
- Health care facility;
- Senior citizen's residence;
- Long-term care facility; or
- School.

Each sensitive receptor location was selected to represent people who will experience the greatest effect after implementation of the Project and to provide a global view of the contaminants' dispersion around the proposed Park Lawn GO Station. As shown in Figure 2-3, 14 critical receptors and six sensitive receptors were identified, and are mostly located where people spend an extended period of time, like residences or hospitals, within the vicinity of the Project.

Sensitive receptors for the dispersion model were identified by municipal zoning within the Study Area, as well as aerial imagery to confirm zoning. In the event that land is zoned for a sensitive receptor, but aerial imagery confirms the land is vacant or of a different land use, a sensitive receptor was included at these locations (i.e., a receptor could exist there in the future). Furthermore, some receptors were also placed outside the Study Area in order to get a better understanding of the air quality at further distances from the Project's location. The outermost receptors is located just inside 1 km from the Study Area.










Sensitive points of reception were considered as "flag pole" receptors at variable heights from the ground. For one story buildings and green space (i.e., yards, patios, school yards, etc.) a receptor was placed 1.5 metres off the ground according to Metrolinx's air quality guidelines. For multi-storey buildings, the 1.5 metre flag pole receptor was utilized, as well as an additional reception point vertically every 3.0 metres for each additional storey. Childcare facilities and schools do not have reduced receptor heights to represent children as the difference in air concentration from AERMOD for heights of 0.5 metres to 1.5 metres are not significant, nor is there any guidance published by the MECP.

Table 2-6: Sensitive and Critical Receptors in Park Lawn Go Station Stations Study Area

Receptor ID	Address	Receptor Description	Height Above Ground (m)	Distance from Track (m)	Side of Track
Critical Receptor					
R1	602 The Queensway, Etobicoke, ON M8Y 1K1	School	1.5	790	North
R2	45 Cloverhill Rd Etobicoke, ON M8Y 1T4	School	1.5	975	North
R3	260 The Queensway, Etobicoke, ON M8Y 1J4	Pre-School	1.5	475	North
R4	125 The Queensway Etobicoke, ON M8Y 1H6	Medical Clinic	1.5	200	North
R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	Medical Clinic	1.5	115	South
R6	103 The Queensway Toronto, ON M6S 5B4	Child care center	1.5	45	North
R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	Residential Development	1.5	200	South
R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	Medical Clinic	1.5	250	South
R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	Medical Center	1.5	460	South
R10	32 Victoria St Etobicoke, ON M8V 1M6	School	1.5	230	South
R11	5 Superior Ave Etobicoke, ON M8V 2M1	Child care center	1.5	650	South
R12	202 Melrose St Etobicoke, ON M8Y 1B7	Child care center	1.5	380	North
R13	200 Melrose St Etobicoke, ON M8Y 1B7	School	1.5	360	North

Receptor ID	Address	Receptor Description	Height Above Ground (m)	Distance from Track (m)	Side of Track
R14	63 Manchester St Etobicoke, ON M8V 3V7	Senior Care	1.5	30	South
Sensitive Receptors					
R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	2-storey house	1.5	40	South
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	1-storey house	1.5	45	North
R17	5 Harold St Etobicoke, ON M8Z 3R4	2-storey house	1.5	105	North
R18	295 Royal York Rd Etobicoke, ON M8V 2W1	2-storey house	1.5	100	South
R19	210 Manitoba St Etobicoke, ON M8Y 4G7	3-storey house	1.5	220	North
R20	28 Simpson Ave Etobicoke, ON M8Z 1E1	2-storey house	1.5	325	North



LEGEND		NOTES		Project: Park Lawn GO Station			
	Proposed Project Footprint (approximate)	Receptors  Critical  Sensitive		Figure Title: Air Quality Impact Assessment - Critical and Sensitive Receptors			
	Study Area - 300 Metres						
	Railway						
	Permanent Watercourse	Prepared By: 		Date: August 18, 2021			
		 0 250 500 1,000 Meters 1:15,000		Version: PL.AQ.90-1	Review: 	Figure: 2-3	Page: 1 of 1

2.11 Activity Data

In the AERMOD dispersion model, the two-kilometre section of the Lakeshore West corridor, the Park Lawn TTC buses and the buses circulating in the vicinity of the Project's location were modelled as described in Section 2.13.

2.11.1 Mobile GO Trains

Existing rail traffic (2020) based on the GO Train schedule for the Lakeshore West corridor includes 172 trains per day, with 84 eastbound and 88 westbound trains. In keeping with the GO Expansion, Metrolinx plans to increase ridership and electrify the corridor by 2037. Upon completion, the projected rail traffic will be 309 trains per day, with 157 eastbound trains and 152 westbound trains. The train schedule, provided by Metrolinx for the current scenario and based on assumptions for the future scenarios, is presented in Table 2-7. It includes non-revenue movements on the corridor such as deadhead runs and maintenance runs, as well as electric and diesel GO train volumes. The schedule used to implement those volumes into the models is summarized in Appendix D of this Report. Note that electric trains, representing approximately 60 percent of the daily train volumes included in Table 2-7, were all considered to be diesel locomotives as a conservative assumptions.

Table 2-7: Lakeshore West Corridor GO Train Schedule

Year	Section	Daily Trains
2020	Eastbound	84
	Westbound	88
	Total	172
2028	Eastbound	157
	Westbound	152
	Total	309

The locomotives operate under steady-state load and speed conditions and the throttle is controlled by a series of notch positions, ranging from one through eight, plus an idle position. Notch position (or setting) corresponds to the level of effort provided by the train and has no direct link with the train's speed. Dynamic breaking (DB) is where the traction motor is employed as a generator to absorb some of the train's kinetic energy (i.e., to slow the locomotive), which is ultimately dissipated as heat. To estimate emissions, the information on what power output is occurring at what section of railway track is required. Table 2-8 provides the relationship between notch setting and brake horsepower.

Table 2-8: Notch Setting and Corresponding Brake Horsepower

Notch setting	Low Idle	Idle	DB	1	2	3	4	5	6	7	8
BHP¹	10.4	15.4	99.7	216	440	988	1,460	1,912	2,912	3,683	4,245

Notes:

¹ Data from an MP40PH-3C EMD 16-710G3C engine test.

Low Idle was taken from the manufacturer's data sheet. It represents engines slowing to a neutral setting after a certain length of time in idle, or when the reverser is centered. Most engines have a low "neutral-idle" speed, where the throttle is in idle and the reverser is in neutral, which allows them to save fuel. The train speeds and throttle profiles were approximated based on data provided by Metrolinx for the Lakeshore West corridor. The locomotive speeds and throttle settings follow a similar profile between each station as presented in Table 2-9.

Note that the train speed is the same (40 km/hr) for both Notch 1 and Notch 8 since they represent the average speed for each segment. As previously mentioned, the notch setting corresponds to the level of effort provided by the train and has no direct link with the train's speed. In fact, for the Future Build scenario, some trains will stop at the station and some trains will pass by the station without stopping (Express trains, VIA, CN and non-revenue trains). It was assumed that the trains that are not stopping at the station would also travel on notch 5 with an average speed of 105 km/hr. For the trains that will stop at the station, it was assumed that they are in notch 1 when decelerating and in notch 8 when accelerating. GO trains are assumed to be in idle mode for 90 seconds while passengers are boarding/leaving the train.

Table 2-9 shows the assumed notch settings for trains operating within the modelled section of the Lakeshore West corridor in proximity to the Park Lawn GO Station.

Table 2-9: Horsepower and Average GO Train Speed Assumptions for Park Lawn GO Station Study Area

Direction	Study Area	Distance from Station (m)	Segment	Notch	Speed (km/hr)
Current and Future No Build Case					
Westbound	Park Lawn – South Kingsway Interchange	1500	go_west	5	105
Eastbound	Park Lawn – Royal York Road	1500	go_east	5	105
Future Build Case					
Westbound	Park Lawn – South Kingsway Interchange	1500	go_west1	1	40
			go_west2	8	40
Eastbound	Park Lawn – Royal York Road	1500	go_east1	1	40
			go_east2	8	40
Westbound	Park Lawn – South Kingsway Interchange	1500	go_eastX	5	105
Eastbound	Park Lawn – Royal York Road	1500	go_westX	5	105

The GO Metrolinx HEP unit can operate under various load settings which have different corresponding bhp outputs. For modelling it was assumed that the HEP units operate at 100 percent load (1,105 bhp) whenever the trains are in operation, which is a conservative estimate as they often operate at only 50 percent load. This conservative assumption, results in a worst-case prediction of effects associated with the HEP units.

2.11.2 Idling GO Trains

To estimate emissions from idling GO Trains at the Park Lawn GO Station, the following information was used:

- Train Schedules (Existing and 2037 Forecasted GO Train Schedule) – The number of locomotives idling at the station and the time of day they idle follow the GO Train schedules included in Appendix D of this Report, which is the same schedule used for mobile trains.
- Brake Horsepower – The locomotive engines were assumed to idle at 9 bhp based on information provided in Table 2-8. The HEP unit engines were assumed to remain at 100 percent load (1,105 bhp) during idle, as a conservative assumption.
- Duration – It was assumed the locomotives idle for 90 seconds while passengers disembark and embark.

2.12 Emission Factors

2.12.1 GO Trains

The emissions for the Existing (2020) and Future (2028) conditions for the GO Train prime mover and the HEP unit were estimated using the trains' supplier data. Metrolinx has recommend that emission rates (a weighted average) represent the current fleet mix: 8 Tier 0, 56 Tier 2, 10 Tier 3, and 17 Tier 4. This legacy fleet will remain in service over the foreseeable future, but any new purchases will be Tier 4s. The weighted average emission factors (EF) are presented in Table 2-10.

As a conservative assumption, locomotives were all considered to be diesel locomotives as the progress of the electrification on the rail corridor is not yet known by 2028. In fact, not knowing the electrification progress through 2028, the aforementioned current fleet mix of locomotives, and their applicable weighted emission factors, was also employed for future operations. This is another conservative approach applied to the assessment.

The train schedule that was provided by Metrolinx is presented on Figure 2-4. It is important to note that some of the train passages will be composed of 1 locomotive and 6 coaches or 2 locomotives and 12 coaches.

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

Figure 2-4: Future Train Schedule – Park Lawn

Table 2-10: MP40PH-3C Emission Factors from Current Fleet Mix (Existing and Future Scenarios)

Notch setting	PM _{2.5}	NO _x	CO	Benzene	1,3 Butadiene	Formaldehyde	Acetaldehyde	Acrolein	B(a)P
Low IDLE	0.85	45.6	16.3	0.03	1.11E-04	0.17	0.05	0.01	3.86E-06
IDLE	2.63	141	50.3	0.09	3.43E-04	0.53	0.17	0.04	1.19E-05
DB	4.42	237	84.4	0.16	5.77E-04	0.88	0.28	0.07	2.00E-05
1	21.9	1 174	419	0.79	2.86E-03	4.38	1.39	0.33	9.93E-05
2	42.4	2 274	811	1.53	5.54E-03	8.49	2.70	0.63	1.92E-04
3	92.9	4 980	1 777	3.34	1.21E-02	18.61	5.91	1.38	4.22E-04
4	137	7 322	2 612	4.91	1.78E-02	27.35	8.69	2.03	6.20E-04
5	177	9 506	3 391	6.38	2.32E-02	35.51	11.28	2.64	8.05E-04
6	272	14 583	5 203	9.79	3.55E-02	54.48	17.30	4.05	1.23E-03
7	346	18 535	6 613	12.44	4.52E-02	69.25	21.99	5.15	1.57E-03
8	400	21 434	7 647	14.38	0.05	80.07	25.43	5.96	1.81E-03

Emission rates were calculated based on EFs for non-road diesel engines and locomotive and HEP unit horsepower for each modelling scenario. Emission factors for each respective Volatile Organic Compound (VOC) were calculated from non-methane hydrocarbons (NMHC) EFs. Emission factors for PM_{2.5} were calculated from EFs for PM assuming 97 percent of total PM is PM_{2.5}. US EPA emission profiles (SPECIATE 4.2) were used to calculate EFs for acrolein and benzene based on VOC emissions. Emission profiles for diesel bus exhaust were used in this case as the closest estimate since no emission profiles for diesel trains were available. Emission factors for B(a)P were prorated based on the particulate EFs using the speciation profile for locomotive emissions estimation. All EFs and rates are summarized in Appendix B of this Report.

Though EFs from westbound and eastbound trains are the same, emission rates (EF x activity data) differ only because of the number of trains running in each direction. The emission rate is the sum of the emissions from westbound, eastbound and idle trains (as appropriate). For the hourly emission case, the worst-case hour based on the schedule and typical travel times was used. For daily and annual predictions, the hourly emission was the average of all emissions for the day.

2.12.2 *Passenger Vehicles and Transit Buses*

To estimate emissions from buses surrounding the Lakeshore West corridor, EFs for the selected contaminants were generated by US EPA MOVES. The MOVES model has been used in transportation projects in Ontario and it is the MECP recommended model for these assessments. MOVES is a state-of-the-science emission modelling system that estimates emissions for mobile sources at the national, county, and project level for criteria pollutants, Greenhouse Gases (GHGs), and air toxics. MOVES provides estimates of current and future emission rates from motor vehicles based on a variety of factors such as local meteorology and vehicle fleet composition. For this study, MOVES was used to estimate vehicle emissions based on vehicle type, model year, and vehicle speed. Table 2-11 specifies the major inputs into MOVES.

Table 2-11: MOVES Input Parameters

Parameter	Input
Scale and Geographical Bounds	Custom County Domain
Pollutants	PM _{2.5} , CO, NO _x , Acetaldehyde, Formaldehyde, 1,3-Butadiene, Benzene, Acrolein, and Benzo(a)pyrene
Years	2020 (existing) and 2028 (future)
Meteorology	Temperature and Relative Humidity Values were obtained from the Toronto City Center Airport Station (2015-2019).
Source Use Types and Fuel Combinations	Transit Buses (Diesel)
Road Type	Urban Unrestricted Access
Vehicle Age Distribution	MOVES defaults based on years selected

Emission factors were calculated for the Existing Scenario (2020) and the Future Scenarios (2028). All EFs were computed for two months: January and July. The highest value was retained and used in the air dispersion model. Associated hourly meteorological data (temperature and relative humidity) for those months were collected from the Toronto City Centre Airport Station. January and July were used to consider two extremes as they resulted in high end estimates of EFs for most contaminants due to reduced operating efficiency in cold/hot weather. For some contaminants, such as VOCs, the EFs are normally higher during warmer conditions due to a lower evaporative component at cold temperatures.

The following emission sources were included in this AQIA:

- Emissions from vehicles on the adjacent roads, including:
- Emissions due to TTC on-road vehicle at 40 km/h; and
- Emissions due to TTC buses travelling on local roads in the vicinity of the Project's location.

The emission rates were calculated in custom county domain scale and the EFs for on-road travelling were generated for selected road type and vehicle types. The MOVES model has the capability to provide EFs for a specific speed range. For example, travelling vehicles are assumed to have a maximum speed of 20 km/h. This is a conservative assumption, as not all vehicles travel at that speed. The EF generated for the third speed range (12–20 km/h) from the MOVES model was used for travelling emissions. For idling activities, the common approach is to use the first EFs generated by the model for the first speed range (zero-four km/h) and multiply it by half of the average speed (two km/h). The vehicle speed was determined based on relative activity (idling or travelling in the parking lot).

A summary of MOVES EFs for passenger car for 2020 are presented in Table 2-12 and EFs for transit buses for 2020 are presented in Table 2-13.

Table 2-12: Passenger Car MOVES Output Emissions Factors for Year 2020

Contaminant	Passenger Vehicles		
	Idle (g/v h)	20 km/h (g/VKT)	40 km/h (g/VKT)
PM _{2.5} ¹	6.59E-06	7.48E-06	4.50E-06
Nitrogen Oxides (NO _x)	5.98E-05	3.99E-05	3.85E-05
Carbon Monoxide (CO)	1.04E-03	1.17E-03	9.70E-04
Acrolein	1.03E-08	1.50E-08	8.95E-09
Benzene	5.11E-07	7.45E-07	4.38E-07
1,3-Butadiene	7.13E-08	1.04E-07	6.77E-08
Acetaldehyde	1.99E-07	2.91E-07	1.82E-07
Formaldehyde	2.20E-07	3.21E-07	1.92E-07
Benzo(a)pyrene	3.52E-09	4.00E-09	2.41E-09

Notes:

¹ Includes breakwear and tirewear.

Table 2-13: Bus MOVES Output Emissions Factors for Year 2020

Contaminant	Transit Buses		
	Idle (g/v h)	20 km/h (g/VKT)	40 km/h (g/VKT)
PM _{2.5} ²	5.87E-04	7.49E-05	7.30E-05
Nitrogen Oxides (NO _x)	2.42E-02	5.15E-03	5.17E-03
Carbon Monoxide (CO)	6.19E-03	3.29E-03	1.78E-03
Acrolein	3.70E-06	5.19E-06	2.80E-06
Benzene	4.41E-06	6.20E-06	3.34E-06
1,3-Butadiene	1.52E-06	2.07E-06	1.12E-06
Acetaldehyde	2.04E-05	2.88E-05	1.55E-05
Formaldehyde	4.68E-05	6.71E-05	3.61E-05
Benzo(a)pyrene	2.25E-08	1.36E-08	1.17E-08

Notes:

¹ Start emissions are not applicable to buses (enter, idle, exit)

² Includes breakwear and tirewear.

Table 2-14: Heavy-Duty Vehicles MOVES Output Emissions Factors for Year 2020

Contaminant	Heavy Duty Vehicles		
	Idle (g/v h)	20 km/h (g/VKT)	40 km/h (g/VKT)
PM _{2.5} ¹	N/A	1.51E-04	1.17E-04
Nitrogen Oxides (NO _x)	N/A	3.69E-03	3.70E-03
Carbon Monoxide (CO)	N/A	1.84E-03	1.01E-03
Acrolein	N/A	5.28E-06	2.59E-06
Benzene	N/A	3.09E-06	3.10E-06
1,3-Butadiene	N/A	2.11E-06	1.03E-06
Acetaldehyde	N/A	2.93E-05	1.44E-05
Formaldehyde	N/A	6.84E-05	3.37E-05
Benzo(a)pyrene	N/A	2.64E-08	2.00E-08

Notes:

¹ Includes breakwear and tirewear.

Table 2-15: Passenger Car MOVES Output Emissions Factors for Year 2028

Contaminant	Passenger Vehicles		
	Idle (g/v h)	20 km/h (g/VKT)	40 km/h (g/VKT)
PM _{2.5} ¹	9.90E-06	1.87E-06	9.33E-07
Nitrogen Oxides (NO _x)	1.17E-05	6.62E-06	3.31E-06
Carbon Monoxide (CO)	2.05E-04	6.50E-04	3.25E-04
Acrolein	6.91E-09	2.97E-09	1.49E-09
Benzene	3.86E-07	1.73E-07	8.64E-08
1,3-Butadiene	1.83E-08	3.45E-09	1.73E-09
Acetaldehyde	9.49E-08	3.37E-08	1.68E-08
Formaldehyde	1.47E-07	6.27E-08	3.14E-08
Benzo(a)pyrene	2.11E-09	9.98E-10	4.99E-10

Notes:

¹ Includes breakwear and tirewear.

Table 2-16: Bus MOVES Output Emissions Factors for Year 2028

Contaminant	Transit Buses		
	Idle (g/v h)	20 km/h (g/VKT)	40 km/h (g/VKT)
PM _{2.5} ²	1.16E-04	2.61E-05	1.30E-05
Nitrogen Oxides (NO _x)	9.07E-03	1.77E-03	8.85E-04
Carbon Monoxide (CO)	2.38E-03	1.23E-03	6.16E-04
Acrolein	5.69E-06	2.37E-06	1.18E-06
Benzene	6.88E-06	2.89E-06	1.44E-06
1,3-Butadiene	1.99E-06	7.62E-07	3.81E-07
Acetaldehyde	3.28E-05	1.39E-05	6.97E-06
Formaldehyde	8.14E-05	3.57E-05	1.79E-05
Benzo(a)pyrene	2.04E-09	3.76E-09	1.88E-09

Notes:

¹ Start emissions are not applicable to buses (enter, idle, exit)

² Includes breakwear and tirewear.

Table 2-17: Heavy-Duty Vehicles MOVES Output Emissions Factors for Year 2028

Contaminant	HV		
	Idle (g/v h)	20 km/h (g/VKT)	40 km/h (g/VKT)
PM _{2.5} ¹	N/A	2.44E-05	1.22E-05
Nitrogen Oxides (NO _x)	N/A	6.56E-04	3.28E-04
Carbon Monoxide (CO)	N/A	7.31E-04	3.66E-04
Acrolein	N/A	2.02E-06	1.01E-06
Benzene	N/A	2.48E-06	1.24E-06
1,3-Butadiene	N/A	6.06E-07	3.03E-07
Acetaldehyde	N/A	1.21E-05	6.05E-06
Formaldehyde	N/A	3.18E-05	1.59E-05
Benzo(a)pyrene	N/A	3.56E-09	1.78E-09

Notes:

¹ Includes breakwear and tirewear.

2.13 Source Parameters for Dispersion Modelling

Dispersion models are used to predict how a contaminant concentration is diluted as it moves through the atmosphere. The concentration of a contaminant at a specific receptor is a function of a variety of parameters, including meteorological conditions in the vicinity of the source, contaminant emission rate(s), physical characteristics of the source and terrain in the vicinity of both the source and receptor. Atmospheric dispersion models use a combination of data inputs for these parameters in conjunction with mathematical algorithms that describe both the temporal and spatial variation of contaminants as they move away from the source (MECP, 2017). The most important data input into dispersion model is emissions. An effective collection of emission rates input will result in less uncertainties in prediction of pollutant concentrations. Selecting emission source parameters for the AERMOD model plays a very essential role in modelling. The dispersion modelling parameters for each of the emission sources used in this assessment are discussed below.

2.13.1 Mobile GO Trains

The US EPA provides guidance on modelling mobile trains and vehicles. In dispersion models, emissions from moving locomotives are represented as if coming from stationary sources (i.e., volume sources) distributed along the corridor of travel. The corridor is divided into short line segments and each segment is treated as a stationary source. The emissions from each stationary source corresponds to the amount of emissions produced by the locomotives travelling along that segment of the corridor. Table 2-18 below summarizes the source parameters for mobile GO Trains on the Lakeshore West corridor.

Table 2-18: Mobile GO Train Source Parameters

Parameters	Unit	Value	Notes
Configuration	-	Adjacent	Adjacent Volume Sources
Plume Height	m	8.02	Locomotive Height x 2
Plume Width	m	9.24	Single Track
Release Height	m	4.01	Height of Locomotive

2.13.2 Buses

The TTC buses driving in the vicinity of the Project were modeled as line volume sources with the parameters provided in Table 2-19.

Table 2-19: TTC Bus Roads Source Parameters

Parameters	Unit	Value	Notes
Configuration	-	Adjacent	Adjacent Volume Sources
Plume Height	m	5.7	Vehicle Height x 1.7
Plume Width, one lane	m	8.6	Vehicle width + 6 m
Plume Width, two lanes	m	17.2	2 x (Vehicle width + 6 m)
Release Height	m	2.85	0.5 x Height of plume

2.13.3 TTC Vehicles

The TTC vehicles, travelling along the 501 and 508 lines, were modeled as line volume sources with the pertinent parameters summarized in Table 2-20.

Table 2-20: TTC Vehicles Roads Source Parameters

Parameters	Unit	Value	Notes
Configuration	-	Adjacent	Adjacent Volume Sources
Plume Height	m	2.55	Vehicle Height x 1.7
Plume Width, one lane	m	7.8	Vehicle width + 6 m
Plume Width, two lanes	m	16	2 x (Vehicle width + 6 m)
Release Height	m	1.28	0.5 x Height of plume

2.14 Assumptions

A few assumptions were required to complete this AQIA. The approach employed to determine these assumptions were always leaning towards conservatism. Hence, the impacts of the Park Lawn GO Station on the air quality in the vicinity of the project are not underestimated. Here is a brief description of the assumptions made for the completion of this assessment.

Off-Peak bus traffic volume was assumed to be 25 percent of peak bus traffic volume

Considering the transit analysis focused largely on AM and PM peaks, there were very few Off-Peak data projections available. However, data from past similar transportation projects tend to show that Off-Peak bus traffic volumes are about one-fourth of what's available during peak hours. Hence, the Off-Peak data projection was made by assuming a 25 percent ratio for all three scenarios. Furthermore, it was assumed that there was no bus traffic during nighttime.

Future bus traffic volume doubled

To be very conservative, the bus traffic volumes were doubled for AM, PM and OFF peaks.

New projected transit routes included in the Future No-Build scenario

Although, the Future No-Build scenario assumes no Park Lawn GO Station, a few elements from the transit routes were kept as sources in the air dispersion model. It applies to Bus Line 66, Bus Line 77, Bus Line 175, Transit Car Line 501/508. For these routes, the segment (loop) going around the future Park Lawn Development, were kept and adjusted accordingly in the models. Furthermore, for Bus Line 66, the new Bus Line 66 was considered for both Future Case scenarios, but the loop going on Marina Paradise Drive was not included in the Future No-Build scenario. Finally, it is worth noting that the buses and streetcars from transit routes were not included in the Future No-Build scenario as no expansion is assumed.

Current Mix Fleet used in both Future Scenarios

As progress of the electrification process through 2028 is not known, the conservative approach to use the current mix fleet (8 Tier 0, 56 Tier 2, 10 Tier 3, and 17 Tier 4) was used. Furthermore, all trains are considered to be diesel fueled, which also adds to the conservatism of the assessment.

3. Results

3.1 Air Dispersion Modelling Results

The following sections present the various tables summarizing the results for all pollutants modelled for both scenarios. The results were evaluated at all sensitive and critical receptors, as summarized in Appendix C of this Report, but only the most affected receptor is presented for each contaminant in this Section. It is to be noted that, depending on the averaging period, the most affected sensitive and critical receptors may vary from one another. The receptor is the POI while the resulting impact is the Project's maximum contribution to pollutant concentration at the receptor.

The cumulative contaminant concentration was calculated by summing the 90th percentile background concentration and the modelled concentration at each sensitive and critical receptor.

All the dispersion models completed provided hourly results. Where the criterion was on an hourly basis, the maximum hourly result was reported. If the criterion was on a daily (24 hour) basis, the maximum 24 hour concentration result was reported. The annual results were the average of the hourly values for the year. The results were separated by contaminant and the following parameters are presented in the results tables:

- Receptor ID;
- Address (POI);
- Averaging Period;
- Scenario;
- The 90th percentile background value (from the MECP and NAPS air quality monitoring stations). This value is summed with the modelled concentration to result in the maximum cumulative predicted concentration;
- Criterion (applicable limit value);
- The maximum concentration predicted;
- The median concentration predicted;
- The 90th percentile concentration predicted;
- The maximum cumulative concentration predicted for the most impacted receptor;
- The median cumulative concentration predicted;
- The 90th percentile cumulative concentration predicted;
- The maximum cumulative percentage (%) of criterion; and
- The 90th percentile cumulative percentage (%) of criterion.

It is to be noted that emission rates for passenger vehicles, buses and heavy vehicles tend to decrease over time as new pollution control technologies are introduced in the transportation sector.

3.1.1 Carbon Monoxide

Values predicted for CO are shown in Table 3-1 for the hourly and eight hour averaging periods. The 90th percentile background concentrations at the MECP station were 412 µg/m³ for the hourly criterion and 400 µg/m³ for the eight hour criterion. They respectively represent 1.1 percent and 2.5 percent of their applicable limit values.

The most impacted receptor for the Existing scenario is R16 with a maximum cumulative concentration of 452 $\mu\text{g}/\text{m}^3$ for the hourly averaging period and 417 $\mu\text{g}/\text{m}^3$ for the eight hour averaging period. They respectively represent 1.2 percent and 2.7 percent of their applicable limit values.

For both the Future No-Build scenario and Future Build scenario, the most impacted receptor, R16, is the same as the Existing scenario. The maximum cumulative concentrations modelled for both of these two scenarios are very close to the existing modelled concentrations. There is a very small increase in the concentrations, which will not be perceptible for future scenarios. Therefore, the Project's completion will not have any significant impact on air quality in the vicinity of the Park Lawn GO Station associated with carbon monoxide emissions.

**Table 3-1: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - Carbon Monoxide**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	1-HR	Existing	412	36200	452	415	422	1.2%	1.2%
		1-HR	Future No-Build	412	36200	503	418	430	1.4%	1.2%
		1-HR	Future Build	412	36200	633	429	429	1.7%	1.2%
		8-HR	Existing	400	15700	417	404	408	2.7%	2.6%
		8-HR	Future No-Build	400	15700	429	407	415	2.7%	2.6%
		8-HR	Future Build	400	15700	496	420	446	3.2%	2.8%

3.1.2 Nitrogen Dioxide

Values predicted for NO₂ are shown in Table 3-2 for the hourly, 24 hour (daily) and annual averaging periods. The 90th percentile background at the MECF station was 46.3 µg/m³ for the hourly averaging period, 38.9 µg/m³ for the 24 hour averaging period and 25.2 µg/m³ for the annual averaging period. They respectively represent 12 percent, 19 percent and 42 percent of their applicable limit values. All the scenarios tend to show that the most impacted receptor, with regards to nitrogen dioxide, is R16.

For the Existing scenario, the maximum modelled concentration results with background levels are 128 µg/m³, 66.3 µg/m³ and 33.8 µg/m³ for the hourly, daily and annual averaging periods, respectively. The maximum projected results represent respectively 32 percent, 33 percent and 56 percent of the hourly, daily and annual applicable limit values for NO₂. The exceedance for the annual period can be explained by the important background concentration already present in the vicinity of the project. For the Future No-Build scenario, projected concentrations including background levels are 229 µg/m³, 88 µg/m³ and 41 µg/m³, respectively, for the hourly, 24 hour and annual maximums, representing 57, 44 and 68 percent of the applicable limit values. For the Future Build scenario, projected concentrations including background levels are 531 µg/m³, 196 µg/m³ and 77 µg/m³, respectively, for the hourly, 24 hour and annual maximums, which represents a small increase in concentrations. It represents 133 percent, 98 percent and 127 percent for the hourly, 24 hour and annual maximums. Consequently, the Project will have an influence on the increase of NO₂ concentration in the ambient air in the vicinity of the Project, as the concentrations may be higher over time. However, this can be explained by the fact that, in the Future Build scenario, GO trains will decelerate to and accelerate from the Park Lawn GO Station. The deceleration (Notch 1) and the acceleration (Notch 8) generate NO₂ emissions at a much greater rate than trains passing through the station (Notch 5), as it is the case in the other two scenarios, and therefore, increase the concentration of NO₂ in the vicinity of the project.

However, it is important to mention that this is a worst-case scenario as the electrification of the fleet was not considered in this assessment. In fact, the emission rates employed are the same as the Existing and Future Non-Build scenarios, which tends to be conservative on the long-term perspective of the project. It is also important to consider that the background levels utilized include, and may double count, some of the bus traffic modelled. The Existing case scenario (2020) models the current situation without any station or traffic route changes from the Park Lawn GO Station project. Some of the emissions generated from the buses modelled for this scenario are thus already included in the background concentrations used since they currently contribute to ambient air pollutants concentrations.

Therefore, although the predicted concentration result contribution is high for the Future Build Scenario, it is mainly due to the conservatism of the assessment and to the new train operations, which consist of decelerating, idling and accelerating in and out of the new station.

**Table 3-2: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - Nitrogen Dioxide**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	1-HR	Existing	46.3	400	128.1	52.8	65.5	32%	16%
		1-HR	Future No-Build	46.3	400	229	57.4	81.0	57%	20%
		1-HR	Future Build	46.3	400	531	82.6	165.0	133%	41%
		1-HR (CAAQS 2025)	Future No-Build	46.3	83	229	57.4	81.0	275%	99%
		1-HR (CAAQS 2025)	Future Build	46.3	83	531	82.6	165.0	640%	199%
		24-HR	Existing	38.9	200	66.3	47.3	53.7	33%	27%
		24-HR	Future No-Build	38.9	200	88.2	53.9	65.4	44%	33%
		24-HR	Future Build	38.9	200	196.4	89.3	127.3	98%	64%
		Annual	Existing	25.2	60	33.8	N/A	N/A	56%	N/A
		Annual	Future No-Build	25.2	60	40.6	N/A	N/A	68%	N/A

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
		Annual	Future Build	25.2	60	76.5	N/A	N/A	127%	N/A
		Annual	Future No-Build	25.2	23	40.6	N/A	N/A	176%	N/A
		Annual	Future Build	25.2	23	76.5	N/A	N/A	332%	N/A

3.1.3 Fine Particulate Matter ($PM_{2.5}$)

Values predicted for $PM_{2.5}$ are shown in Table 3-3 for the 24 hour (daily) and annual averaging periods. The 90th percentile background levels at the MECP station were $14.1 \mu\text{g}/\text{m}^3$ for the 24 hour and $7.9 \mu\text{g}/\text{m}^3$ for the annual averaging period. They respectively represent 52 percent and 90 percent of their criteria. Therefore, the background is almost already exceeding the criterion for $PM_{2.5}$ in the Study Area. Hence, exceedances for that specific averaging period were expected.

All the scenarios tend to show that the most impacted receptor, with regards to fine particulate matter, is R16.

The maximum modelled concentrations including background levels for the Existing scenario are $14.9 \mu\text{g}/\text{m}^3$ and $8.2 \mu\text{g}/\text{m}^3$ for the daily and annual averaging periods, respectively. These values are slightly higher than the existing background levels and represent 55 percent and 93 percent of the daily and annual averaging periods, respectively.

For the Future Build and Future No-Build scenario, the 24 hour maximum of $15.5 \mu\text{g}/\text{m}^3$ and $17.8 \mu\text{g}/\text{m}^3$ represent almost no change compared to the Existing scenario. The annual average concentration is estimated at $9.1 \mu\text{g}/\text{m}^3$ and $8.3 \mu\text{g}/\text{m}^3$ for the Future Build and Future No-Build scenarios, which is almost the same as the Existing scenario values. Although the predicted concentration result contribution is high for all three scenarios, it is mainly due to the prevailing background levels. In fact, the Project's effect on air quality will still be negligible in the Study Area.

It is also important to consider that the background levels utilized include, and double count, some of the bus traffic modelled. The Existing case scenario (2020) models the current situation without any station or traffic route change from the Park Lawn GO Station project. Some of the emissions generated from the buses modelled for this scenario are thus already included in the background concentrations used since they currently contribute to ambient air pollutants concentrations.

**Table 3-3: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - PM_{2.5}**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Existing	14.1	27.0	14.9	14.4	14.5	55%	54%
		24-HR	Future No-Build	14.1	27.0	15.5	14.5	14.8	57%	55%
		24-HR	Future Build	14.1	27.0	17.8	15.3	16.1	66%	60%
		Annual	Existing	7.9	8.8	8.2	N/A	N/A	93%	N/A
		Annual	Future	7.9	8.8	8.3	N/A	N/A	94%	N/A
		Annual	Future	7.9	8.8	9.1	N/A	N/A	103%	N/A

3.1.4 Benzene

Values predicted by the model for benzene are shown in Table 3-4 for the 24 hour (daily) and annual averaging periods. The 90th percentile backgrounds at the MECP station were 0.95 µg/m³ for the 24 hour and 0.64 µg/m³ for the annual averaging periods. They respectively represent 41 percent and 142 percent of their criterions. It is to be noted that the annual background is almost already exceeding the annual applicable limit value.

All the scenarios tend to show that the most impacted receptor, with regards to benzene, is R16.

The maximum cumulative concentrations for the Existing scenario is 0.97 µg/m³ for the daily average period, which is slightly superior to the background (ambient) levels. For the annual average concentration, the Existing scenario result is estimated to be 0.65 µg/m³, including background levels. This result exceeds benzene saturation with 144 percent of the applicable limit value for the annual averaging period. However, it is important to note that the annual background level already represents 142 percent of the applicable annual limit values. Therefore, the Existing conditions considered in this assessment only have a slight contribution to the existing benzene levels in the ambient air. For both Future scenarios, the modelling results are predicting similar benzene levels in the Study Area, specifically for the 24 hour averaging period. For the annual averaging periods, the modelled concentrations are almost the same for all three scenarios. Therefore, for Benzene, the project completion will not have significant impact on air quality in the vicinity of the Study Area.

**Table 3-4: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - Benzene**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Existing	0.95	2.3	0.97	0.96	0.96	42%	42%
		24-HR	Future No-Build	0.95	2.3	0.99	0.96	0.97	43%	42%
		24-HR	Future Build	0.95	2.3	1.06	0.99	1.01	46%	44%
		Annual	Existing	0.64	0.45	0.65	N/A	N/A	144%	N/A
		Annual	Future No-Build	0.64	0.45	0.65	N/A	N/A	145%	N/A
		Annual	Future Build	0.64	0.45	0.68	N/A	N/A	150%	N/A

3.1.5 1,3-Butadiene

Values predicted with the dispersion model for 1,3-Butadiene are shown in Table 3-5 for the 24 hour (daily) and annual averaging periods. The 90th percentile backgrounds at the MECP station were 0.1 µg/m³ for the 24 hour averaging period and 0.06 µg/m³ for the annual averaging period. They respectively represent 1 percent and 3 percent of their criteria.

All the scenarios tend to show that the most impacted receptor, with regards to butadiene, is R7.

The maximum cumulative modelled concentrations for the Existing case scenario are 0.1 µg/m³ and 0.06 µg/m³ for the daily and annual averaging periods, respectively. They respectively represent 1 percent and 3 percent of their criteria.

For the Future case scenarios, the modelling results are very similar to the results modelled for the Existing scenario. As shown in Table 3-5, the 24 hour maximum is exactly the same for the Future case scenario with a predicted cumulative concentration of 0.1 µg/m³, representing 1 percent of the criterion including the background level. The Future No-Build and Future Build annual average concentration result is expected to increase by 0.001 µg/m³ in comparison with the Existing scenario, which represents about 3 percent of the criterion. Consequently, 1,3-Butadiene is only present in small concentrations in the atmosphere for both the Existing and Future scenarios and is therefore not considered significant.

**Table 3-5: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - 1,3-Butadiene**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	24-HR	Existing	0.1	10	0.1	0.1	0.1	1.0%	1.0%
		24-HR	Future No-Build	0.1	10	0.1	0.1	0.1	1.0%	1.0%
		24-HR	Future Build	0.1	10	0.1	0.1	0.1	1.0%	1.0%
		Annual	Existing	0.06	2	0.06	N/A	N/A	3.0%	N/A
		Annual	Future No-Build	0.06	2	0.06	N/A	N/A	3.0%	N/A
		Annual	Future Build	0.06	2	0.06	N/A	N/A	3.0%	N/A

3.1.6 Formaldehyde

Values predicted for formaldehyde are shown in Table 3-6 for the 24 hour (daily) averaging period. The 90th percentile background at the MECP station was 4.2 µg/m³ for the 24 hour averaging period, which represents 6.5 percent of the applicable limit value.

All the scenarios tend to show that the most impacted receptor, with regards to formaldehyde, is R16.

The maximum cumulative modelled concentration for the Existing case scenario is 4.32 µg/m³ for the 24 hour (daily) averaging period. The daily concentration represents only 7 percent of the criterion, which is slightly higher than its corresponding background value.

For the Future case scenario, the modelling results are also similar to the background level. The 24 hour maximum cumulative concentration for Future Build scenario is 4.51 µg/m³, representing 7 percent of the criterion and the Future No-Build scenario is the same as the Existing case. Consequently, in terms of formaldehyde concentrations, the project completion will not have a significant impact on the air quality in the vicinity of the project.

**Table 3-6: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - Formaldehyde**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Existing	4.2	65.0	4.32	4.24	4.27	6.7%	6.6%
		24-HR	Future No-Build	4.2	65.0	4.32	4.24	4.27	6.7%	6.6%
		24-HR	Future Build	4.2	65.0	4.51	4.32	4.38	6.9%	6.7%

3.1.7 Acetaldehyde

Values predicted for acetaldehyde are shown in Table 3-7 for the 30 minute and 24 hour (daily) averaging periods. The 90th percentile background at the MECF station was 1.55 µg/m³ for the 24 hour averaging period and no background was calculated for the half-hour (30 minute) averaging period as data was only available on a daily basis. The 24 hour background represents 0.31 percent of the criterion.

All the scenarios tend to show that the most impacted receptor, with regards to acetaldehyde, is R16.

The modelling results obtained for all scenarios demonstrate that acetaldehyde concentrations in the atmosphere are very low compared to the applicable limit values. The maximum cumulative concentration for the 30 minute averaging period of the Existing scenario is 0.14 µg/m³, representing only 0.04 percent of the criterion. The 24 hour maximum cumulative concentration for the Existing scenario is 1.59 µg/m³, which represents only 0.3 percent of the applicable criterion.

For the Future No-Build and Future Build scenario, the modelling results remain similar to the existing levels and are contributing 0.4 percent of the applicable limit values. Therefore, the Project is not expected to have significant impact on acetaldehyde concentrations in the ambient air of the Study Area.

**Table 3-7: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - Acetaldehyde**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	30-MINS	Existing	0	500.0	0.14	0.01	0.03	0.03%	0.01%
		30-MINS	Future No-Build	0	500.0	0.30	0.02	0.06	0.06%	0.01%
		30-MINS	Future Build	0	500.0	0.73	0.05	0.18	0.1%	0.04%
		24-HR	Existing	1.55	500.0	1.59	1.56	1.57	0.3%	0.3%
		24-HR	Future No-Build	1.55	500.0	1.62	1.57	1.59	0.3%	0.3%
		24-HR	Future Build	1.55	500.0	1.75	1.61	1.66	0.4%	0.3%

3.1.8 Acrolein

Values predicted for acrolein are shown in Table 3-8 for the 1 hour (hourly) and 24 hour (daily) averaging periods. The 90th percentile background at the MECP station was 0.2 µg/m³ for the 24 hour averaging period and no background concentration was calculated for the hourly criterion because data were only available on a daily basis. The background represents 50 percent of the daily averaging period.

All the scenarios tend to show that the most impacted receptor, with regards to acrolein, is R16.

The maximum modelled concentrations, including the background levels, for the Existing case scenario is 0.03 µg/m³ for the hourly averaging period and 0.25 µg/m³ for the daily averaging periods. The cumulative daily result is contributing to 62 percent of the applicable limit value, which is slightly higher than the background value. For the hourly result, the maximum modelled concentration represents only 0.7 percent of the applicable limit value. The discrepancy in percentage between the hourly and daily averaging periods can be explained by the fact that no background concentrations were added to the hourly concentration due to lack of data.

As shown in Table 3-8, for the Future No-Build and Future Build scenarios, the hourly maximum is slightly increasing with a predicted concentration of 0.1 and 0.15 µg/m³, respectively. This represents 2.3 and 3.3 percent of their applicable limit value including the background levels. The Future Build maximum daily concentration result is also estimated to be slightly greater than the background level with a concentration of 0.29 µg/m³, which represents 73 percent of the applicable limit value. Therefore, the Project's impact to the ambient air quality is considered negligible.

**Table 3-8: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - Acrolein**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration ($\mu\text{g}/\text{m}^3$)	Criterion ($\mu\text{g}/\text{m}^3$)	Maximum Cumulative Concentration ($\mu\text{g}/\text{m}^3$)	Median Cumulative Concentration ($\mu\text{g}/\text{m}^3$)	90 th Percentile Cumulative Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	1-HR	Existing	0	4.5	0.03	0.002	0.01	0.6%	0.1%
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	1-HR	Future No-Build	0	4.5	0.1	0.004	0.01	2.3%	0.1%
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	1-HR	Future Build	0	4.5	0.15	0.01	0.04	3.3%	0.8%
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Existing	0.24	0.4	0.25	0.24	0.24	62%	61%
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Future No-Build	0.24	0.4	0.26	0.24	0.25	65%	63%
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Future Build	0.24	0.4	0.29	0.26	0.27	73%	67%

3.1.9 Benzo(a)pyrene (B(a)P)

Values predicted for B(a)P are shown in Table 3-9 for the 24 hour (daily) and annual averaging periods. The 90th percentile background at the MECP station was 1.2E-04 µg/m³ for the 24 hour averaging period and 7.7E-05 µg/m³ for the annual averaging period. The background represents 240 percent of the daily applicable limit value and 770 percent of the annual applicable limit value. Therefore, the background concentrations already significantly exceed the criterion for B(a)P in the Study Area.

For the Existing case scenario, the daily maximum modelled concentration is 1.38E-04 µg/m³, representing 276 percent of the criterion. For the Future No-Build scenario, the daily maximum modelled concentration is 1.28E-04 µg/m³, representing 256 percent of the criterion and a small decrease in comparison with the existing air quality conditions. For the Future Build scenario, the daily maximum modelled concentration is 1.48E-04 µg/m³, representing 296 percent of the criterion, the same as the existing case.

The Existing case annual average concentration is estimated to be 7.70E-5 µg/m³, representing 770 percent of the criterion, equivalent to background levels. The results are the same for the Future No-Build and Future Build scenarios.

Although the predicted concentration result contribution is high for all three scenarios, it is mainly due to the prevailing background levels and the low criterion value. Therefore, implementation of the Park Lawn GO Station will not increase ambient B(a)P concentration levels in the vicinity of the Project. In fact, a few years after the Project's completion (2030), the daily and annual B(a)P concentrations should decrease.

**Table 3-9: Summary of Model Predicted Results for the Most Impacted
Sensitive Receptor - B(a)P**

Receptor ID	Address	Averaging Period	Scenario	Background Concentration (µg/m³)	Criterion (µg/m³)	Maximum Cumulative Concentration (µg/m³)	Median Cumulative Concentration (µg/m³)	90 th Percentile Cumulative Concentration (µg/m³)	Maximum Cumulative % of Criterion (%)	90 th Percentile Cumulative % of Criterion (%)
R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	24-HR	Existing	1.2E-04	5.0E-05	1.38E-04	1.30E-04	1.31E-04	276%	263%
		24-HR	Future No-Build	1.2E-04	5.0E-05	1.38E-04	1.30E-04	1.32E-04	276%	263%
		24-HR	Future Build	1.2E-04	5.0E-05	1.48E-04	1.34E-04	1.38E-04	296%	275%
		Annual	Existing	7.7E-05	1.0E-05	7.70E-05	N/A	N/A	770%	N/A
		Annual	Future No-Build	7.7E-05	1.0E-05	7.70E-05	N/A	N/A	770%	N/A
		Annual	Future Build	7.7E-05	1.0E-05	7.70E-05	N/A	N/A	770%	N/A

3.2 Greenhouse Gases/Climate Change Analysis

The emissions of GHGs for the Existing (2020) and Future Build (2028) scenario were evaluated to assess the effect of the Park Lawn GO Station. The most common transportation GHGs are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), with CO₂ being the main by-product of combustion. The other two gases have lower concentrations in the atmosphere, but their potential to contribute to global warming is greater. It is noted that individual GHGs have differing abilities to absorb heat in the atmosphere. Thus, to assess the potential of each gas to contribute to global warming, their varying heat absorption properties are quantified to express the GHGs in a single parameter called CO₂ equivalent (CO_{2eq}).

Metrolinx, as an agency of the Province of Ontario, has a direct interest in measuring and minimizing these emissions. In addition to the paramount importance to the overall environment, there is an economic interest in reducing GHG emissions, since they are very closely related to fuel/energy consumption. The quantity of GHGs emitted by commuter train service can be most conveniently calculated from the quantity of fuel used and associated fuel consumption based EFs in grams per litre (or g/L). This approach can be applied to liquid fuels (e.g., diesel fuel, gasoline), gaseous fuels (e.g., propane, natural gas) and electricity generation.

The CO_{2eq} EF (g/L of fuel consumed) for diesel trains was retrieved from Metrolinx Guide for Assessing and Mitigating Air Quality Impacts and Greenhouse Gas Emissions of Metrolinx Public Transit Projects (Metrolinx, 2015). This value is equal to 3,007 g/L. Using this EF with the engine head-end power and the time elapsed in the Study Area, the GHG emissions were estimated.

However, as previously mentioned, both scenario considers a full diesel locomotive fleet (current fleet mix), which implies using the same CO_{2eq} EF. Considering the fact that no parking lot and PUDO were considered in the air dispersion model, the only change applicable to GHG calculation is the train volumes passing through the station, as well as trains entering and departing the Station. Hence, by using these assumptions, the increase in GHG emissions is expected to be proportional to the increase in train volumes applicable to the Future scenario. The following sections describe the estimated GHG emissions for both scenarios.

3.2.1 Existing Conditions

The CO_{2eq} emissions, based on fuel and energy consumption, are presented in Table 3-10 for the Existing condition (2020).

Table 3-10: GHG Emissions Generated by GO Diesel Trains for Existing Conditions

Parameters	Unit	Value
Notch Setting	-	5
Travel Time through Station block	s	104.55
Fuel Consumption	L/bhp-hr	78.74

Parameters	Unit	Value
Diesel EF (fuel consumption)	g/L	3,007
Diesel EF (energy)	g/bhp-hr	320
Number of trains - Eastbound	-	84
Number of trains - Westbound	-	88
CO _{2eq} Emissions	tonnes CO _{2eq} /day	2.0

3.2.2 Future Scenarios

The CO_{2eq} emissions, based on fuel and energy consumption, are presented in Table 3-11 for the Future condition without the station and Table 3-12 with the station (2028) to assess the impact due to the station. .

Table 3-11: GHG Emissions Generated by GO Diesel Trains for Future Conditions - No-Build

Parameters	Unit	Value
Notch Setting	-	5
Travel Time through Station block	s	104.55
Fuel Consumption	L/bhp-hr	78.74
Diesel EF (fuel consumption)	g/L	3,007
Diesel EF (energy)	g/bhp-hr	320
Number of trains - Eastbound	-	157
Number of trains - Westbound	-	152
CO _{2eq} Emissions	tonnes CO _{2eq} /day	3.7

Table 3-12: GHG Emissions Generated by GO Diesel Trains for Future Conditions - Build

Parameters	Unit	Value
Notch Setting	-	1 / 8
Travel Time through Station block	s	83.3 / 86.6
Fuel Consumption	L/bhp-hr	78.74
Diesel EF (fuel consumption)	g/L	3,007
Diesel EF (energy)	g/bhp-hr	320
Number of trains - Eastbound	-	157
Number of trains - Westbound	-	152

Parameters	Unit	Value
CO _{2eq} Emissions	tonnes CO _{2eq} /day	6.2

Comparing the local CO_{2eq} emissions in the Study Area between the two scenarios shows an increase for the Future No-Build and Build scenarios. The difference with the Build scenario is each train slowing down and then accelerating away from the station represents an increase in 2.5 tonnes of CO_{2eq} emissions per day, for an estimated increase of 919 tonnes per year.

Nevertheless, as electrification of the rail network is anticipated, the GHG emissions generation is expected to decrease significantly over time. In fact, the GO Rail Network Electrification TPAP Environmental Project Report released by Metrolinx (Metrolinx, 2017) quantified the GHG emissions from the electricity generation required to power the electric trains within the GO Transit network based on the future train volume prediction. The GHG emissions associated with electricity consumption are not incurred on site through an internal combustion engine on the prime mover, they are incurred at the location of electricity generation. Greenhouse gas emissions from electric locomotives depend on the relevant mix of electricity generation, which is commonly assumed to be the provincial electricity generation mix.

For reference, the change in annual CO_{2eq} emissions due to the electrification of the GO Train Network was retrieved from the BRCE TPAP EPR and is summarized in Table 3-13. The annual CO_{2eq} generated from diesel trains were compared to electric trains.

Table 3-13: Annual GHG Emissions for Current Scenario and Estimated Reduction for Future Scenarios with Electrification

Contaminant	Current Scenario (T/year)	GHG Reduction Electric Trains with Average Electricity Production ² (T/year)	GHG Reduction Electric Trains with Capacity Electricity Production ³ (T/year)
CO _{2eq} emissions for Ontario Rail Transportation ¹	1,200,000	-294,000	-235,000

Notes:

¹Ontario Emissions of CO_{2eq} are for 2012 (Ontario Ministry of the Environment and Climate Change, 2014; Natural Resources Canada – Online)

²Average scenario considers 10% of energy from fossil fuel sources

³Capacity scenario considers 28% of energy from fossil fuel sources

Based on the analysis presented in this section, the construction of the Park Lawn GO Station should not have a significant impact on the GHG emissions on a regional, provincial or national level. As the electrification of the network will take place, the GHG emissions in the vicinity of the Park Lawn GO Station will decrease. Locally, the construction of the Park Lawn GO Station should also (e.g., increase in trains volumes) result in more cars being removed from roadways,

as they are replaced by trains carrying more passengers, which decreases overall GHG emissions from a provincial and/or regional perspective. This expected decrease is qualitative since predicting the final destination of cars is not currently possible with the available data. Thus, it is not possible to determine the exact reduction of GHG emissions on a national, provincial and/or regional basis.

4. Effects Assessment, Mitigation, and Monitoring

The AQIA considered how the Project components could potentially affect air quality in the vicinity of the Park Lawn GO Station. It documents the potential effects that may occur due to the project's completion. This section also documents the mitigation measures and monitoring activities (as applicable) identified to minimize the predicted effects on air quality.

4.1 Construction

4.1.1 Potential Effects

The construction activities associated with the Project consist of the construction of station buildings, new underground tunnels, structures, platforms, walkways and landscaped areas. Therefore, air emissions associated with Project construction will typically include:

- Fugitive dust emissions (Total Suspended Particles (TSP), inhalable particulate matter (PM₁₀) and PM_{2.5}) resulting from:
 - Clearing and grubbing of the Project site;
 - Soil excavation and filling activities required to facilitate the site layout for the new station;
 - Demolition of existing infrastructure necessary to accommodate the new station;
 - Stockpiling of soil and other friable construction materials;
 - Granular (i.e., aggregate) material loading and unloading activities;
 - Transport of soils and other friable construction materials to/from the Project site via dump trucks; and
 - Movement of heavy and light vehicles on paved and unpaved roads.
- Emissions resulting from the use of combustion engines associated within mobile and stationary construction equipment and machinery on-site; and
 - In addition to the above, construction activities will result in temporary traffic disruption and detours. This can lead to increased traffic congestion, thereby increasing motor vehicle exhaust emissions on nearby roadways, which could result in elevated localized pollutant levels (or concentrations). However, compared with emissions from other motor vehicle sources in the Study Area, emissions from construction equipment and machinery are temporary and generally insignificant with respect to compliance with Provincial and Federal ambient air quality standards.

4.1.2 **Mitigation Measures**

Best Management Practices (BMPs) will be implemented to mitigate potential air quality effects associated with the construction activities, which will be included in an Air Quality Management Plan. This plan will be implemented for the duration of the construction phase, and will address the areas of vehicle and construction equipment exhaust, potential traffic disruption and congestion, fugitive dust, and odour. Potential mitigation measures for these areas are:

- Implementation of dust suppression measures (i.e., application of water wherever appropriate, or the use of approved non-chloride chemical dust suppressants, where the application of water is not suitable) as needed to control fugitive dust emissions in accordance with the (Cheminfo Services Inc., 2005) publication "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities";
- Stockpiling of soil and other friable materials in locations that are less exposed to wind (i.e., protected from the wind by suitable barriers or wind fences/screens) and far from sensitive receptors;
- Seeding, paving, covering, wetting, or otherwise treating disturbed soil surfaces as soon as reasonably possible after disturbance. Permanently stabilizing exposed soil areas with non-erodible material (i.e., stone or vegetation) as soon as reasonably possible after construction in the affected area is complete;
- Modifying work schedules when weather conditions could lead to adverse impacts (i.e., very dry soil and high winds);
- Removing all loose or unsecured debris or materials from empty trucks prior to leaving the Project site;
- Covering all truckloads of dust-producing material, including use of dump trucks with retractable covers for the transport of soils and other friable materials;
- Minimizing the number of loading and unloading of friable materials;
- Minimizing drop heights, using enclosed chutes, and covering debris bins used for deconstruction of affected structures;
- Reducing unnecessary traffic and implementation of speed limits on any unpaved surfaces;
- Vacuum sweeping or watering of all paved surfaces and roadways on which equipment and truck traffic enter and leave the construction areas;
- Washing of equipment and machinery, and use of wheel washes or mud mats where practical at construction site exits to limit the migration of soil and dust off-site;
- Ensuring that all construction vehicles, machinery, and equipment is equipped with current emission controls, which are in a state of good repair, that equipment is properly and regularly maintained, and compliant with applicable federal and provincial regulations for off-road diesel engines; and

- Site supervisors during the construction phase should monitor the site for wind direction and weather conditions to ensure that high-impact activities be reduced when the wind is blowing consistently towards nearby sensitive receptors. The site supervisor should also monitor for visible fugitive dust and take action to determine the root-cause in order to counteract this. Specific details to this effect should be included in the construction site's Dust Management Plan (DMP).

4.1.3 Monitoring Requirements

Construction activities will be monitored by a qualified Environmental Inspector who will frequently review the effectiveness of the mitigation measures and construction BMPs to confirm that they are functioning as intended. The Operations Manual for Air Quality Monitoring in Ontario will be used as reference for such monitoring (MECP, 2018).

In the event that mitigation measures and/or construction BMPs are not functioning as intended (or are ineffective), revised mitigation measures/BMPs designed to improve their overall effectiveness will be implemented. Dust levels will be monitored to assess the effectiveness of dust suppression measures and will be adjusted if required. Monitoring will continue throughout the construction phase until activities are complete, all exposed soils have been stabilized, and all construction waste has been cleaned up. A complaint response protocol for nuisance effects, such as dust, will also be established.

4.2 Operations of Future Case scenario

4.2.1 Potential Effects

Major sources of air emissions considered in this analysis are generated by:

- The combustion engines of passenger and heavy vehicles, as well as buses travelling adjacent to the Park Lawn GO Station on nearby paved surfaces, such as adjacent municipal roadways and on-site driveways. The only roads included in this analysis are the ones considered to be affected by the Park Lawn GO Station.

The potential effect on local air quality during the operations of the Future Build scenario is predicted to be negligible for all the contaminants. Within the Study Area, the modelling results indicate that the Future Build scenario modelled concentrations will be, for the most part, slightly higher than the Existing scenario.

This can be explained by the fact that the traffic growth due to the Project's completion is not important enough to counteract the decreasing emission rates of the different vehicles being modelled.

It is noted that the background levels for B(a)P and PM_{2.5} is already high in the Study Area and that the Future Case scenario exceedances are not caused by the Project.

4.2.2 Mitigation Measures

4.2.2.1 Future Build scenario

Operation of the Park Lawn GO Station will be carried out in accordance with applicable regulations and standards, including Ontario's AAQC (PIBS#6570e01) (MOE, 2012). To improve general air quality around the Station during the operations and maintenance phase, the following measures could be implemented:

- Allow for future connections to multi-use paths to increase the number of passengers that are walking or cycling to access the new GO Station; and
- During construction, best management practices will be put into place including road sweeping, and covering of stockpiles and dump trucks.

Considering the air quality will not be decreased by the Project's completion, the measures to be taken are limited. However, if other structures, such as parking lots and PUDO areas were to be constructed, additional measures could be implemented to limit idling times in the station footprint.

4.2.3 Monitoring Requirements.

Metrolinx maintains ongoing inspection schedules to monitor the effectiveness of its Transit operations. A complaints procedure is in place to address any concern raised by neighboring land owners, municipalities or the public.

4.3 Summary of Potential Effects, Mitigation Measures, and Monitoring Activities

The potential air quality effects associated with implementation of the Park Lawn GO Station are summarized in Table 4-1 for the operation phase of the Future case scenario. In addition, mitigation measures and prescribed monitoring measures are identified.

Table 4-1: Summary of Potential Effects, Mitigation Measures and Monitoring for Air Quality

Feature	Potential Effect	Mitigation Measures	Monitoring
Lands Adjacent to Station (construction)	<ul style="list-style-type: none">Fugitive dust emissions (TSP), inhalable particulate matter (PM₁₀) and PM_{2.5}) resulting from:Soil excavation and filling activities required to facilitate the site layout for the new station;Cutting of existing and new concrete;Stockpiling of soil and other friable construction materials;Granular material loading and unloading activities;Transport of soils and other friable construction materials via dump trucks; andCirculation of heavy and light vehicles on paved and unpaved roads.Emissions resulting from the combustion engines of construction equipment.	<ul style="list-style-type: none">Dust suppression measures (i.e., application of water wherever appropriate, or the use of approved non-chloride chemical dust suppressants, where the application of water is not suitable) as needed to control fugitive dust emissions, in accordance with the Cheminfo Services Inc. March 2005 publication “Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities” prepared for Environment Canada.Stockpiling of soil and other friable materials in locations that are less exposed to wind (i.e., protected from the wind by suitable barriers or wind fences/screens) and far from sensitive receptors.Use of dump trucks with retractable covers for the transport of soils and other friable materials.Minimize the number of loadings and unloadings of soils and other friable materials.Minimize drop heights, use enclosed chutes, and cover bins for debris associated with deconstruction of affected structures.Reduction of unnecessary traffic and implementation of speed limits.Washing of equipment and/ use of mud mats where practical at construction site exits to limit the migration of soil and dust off-site.Ensuring that all construction vehicles, machinery, and equipment is equipped with current emission controls, which are in a state of good repair.Dust-generating activities should be minimized during windy conditions.	<ul style="list-style-type: none">Construction activities will be monitored by a qualified Environmental Inspector who will frequently review the effectiveness of the BMPs being implemented. If mitigation is found to not be effective, revised mitigation measures designed to improve effectiveness will be implemented.Dust levels will be monitored daily to assess the effectiveness of dust suppression measures and will be adjusted, if required.Monitoring will continue throughout the construction phase until activities are complete, all material is compacted, and all construction waste has been cleaned up.A complaint response protocol will be established for nuisance effects, such as dust.
Lands Adjacent to Station (operations)	<ul style="list-style-type: none">Fugitive dust emissions may be generated from buses travelling on the paved surfaces and adjacent driveways.	<ul style="list-style-type: none">Operations of the Park Lawn GO Station will be carried out in accordance with applicable regulations and standards, including Ontario's AAQC (PIBS#6570e01) (MECP, 2012). To improve general air quality around the Station during the operations and maintenance phase, the following measures are recommended but not limited to:Allow for future connections to MUPs to increase the number of passengers that are walking or cycling to access the new GO Station; andDuring construction, best management practices will be put into place including road sweeping, and covering of stockpiles and dump trucks. Considering the air quality will not be decreased by the Project's completion, the measures to be taken are limited.	<ul style="list-style-type: none">Metrolinx has ongoing inspection schedules to monitor the effectiveness of its Transit operations. <p>A complaints procedure is in place to address any concern raised by neighboring land owners, municipalities or the public.</p>

5. Conclusions

In conclusion, the results of this AQIA show that the Park Lawn GO Station project will not have a significant effect on local air quality.

Within the Study Area, the modelling results indicate that the Future Build scenario modelled concentrations will be, except for NO₂, slightly higher than the Existing scenario. In fact, the main reason for the increase is the increase in rail traffic and the fact that the locomotives will stop at the station and idle for a limited period of time. The idling and the acceleration of the locomotives when they leave the station are the main reasons for the increase in ambient air concentrations. The increase in bus traffic is not significant based on the lower emission rates predicted for 2028.

It is also important to mention that the Future scenarios were modelled considering a full diesel locomotive fleet. When the electrification of the corridor is completed, it is expected that air quality will improve in the station surroundings as most of the emissions coming from the rail corridor will no longer be emitted with the exception of CN and VIA locomotives.

During construction of the Park Lawn GO Station, temporary effects are expected in the Study Area. Typical emissions related to construction activities consist of fugitive dust emissions (TSP, PM₁₀ and PM_{2.5}) and mobile equipment emissions; therefore, people living in proximity to the construction area may experience an increase in dust concentrations and other criteria air contaminants during the construction phase. Specific attention will be given to monitoring dust levels during the construction phase and applying mitigation measures to reduce the effects on the surrounding receptors.

References

1. Canadian Council of Ministers of the Environment. (2012). *Guidance Document on a Achievement Determination Canadian Ambient Air Quality Standards for Fine Particulate Matter and Ozone*. Retrieved from ccme.ca:
http://www.ccme.ca/files/Resources/air/aqms/pn_1483_gdad_eng.pdf
2. Canadian Council of Ministers of the Environment. (1999). *Canadian National Ambient Air Quality Objectives: Process and Status*. Retrieved from ceqg-rcqe.ccme.ca:
<http://ceqg-rcqe.ccme.ca/download/en/133/>
3. Canadian Council of Ministers of the Environment. (2012). *Guidance Document on a Achievement Determination Canadian Ambient Air Quality Standards for Fine Particulate Matter and Ozone*. Retrieved from ccme.ca:
http://www.ccme.ca/files/Resources/air/aqms/pn_1483_gdad_eng.pdf
4. Cheminfo Services Inc. (2005, 3). *Best practice for the Reduction of Air Emissions From Construction and Demolition Activities*. Retrieved from bv.transport.gouv.qc.ca:
<http://www.bv.transports.gouv.qc.ca/mono/1173259.pdf>
5. Government of Ontario. (2015, 7 1). O. Reg. 231/08: TRANSIT PROJECTS AND METROLINX UNDERTAKINGS. Retrieved from ontario.ca:
<https://www.ontario.ca/laws/regulation/080231>
6. Metrolinx. (2015, 8 15). *Environmental Guide: Recommended Approach for Assessing and Mitigating Air Quality Impacts and Greenhouse Gas Emissions of Metrolinx Public Transit Projects*. Toronto, Ontario, Canada.
7. Metrolinx. (2015). *Recommended Approach for Assessing and Mitigating Air Quality Impacts and Greenhouse Gas Emissions of Metrolinx Public Transit Projects*. Toronto.
8. Metrolinx. (2017). *Barrie Rail Corridor Extension Transit Project Assessment Process Environmental Project Report*.
9. Ministry of the Environment (MOE). (2014, 1). *Guide to Environmental Assessment Requirements for Transit Projects*. Retrieved from: <https://www.ontario.ca/page/guide-environmental-assessment-requirements-transit-projects>
10. Ministry of the Environment. (2004, 1). *Guide: Ontario's Transit Project Assessment Process*. Retrieved from: <https://dr6j45jk9xcmk.cloudfront.net/documents/1799/3-8a-6-ea-transit-projects-en-pdf.pdf>
11. Ministry of Transportation. (2020, 6). *Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects*. Retrieved from raqsb.mto.gov.on.ca:
[http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/24fe4bb174a2af7085257aa9006558f4/\\$FILE/MTO%20Environmental%20Guide%20for%20Air%20Quality%20June%202012%20Final%20ACC.pdf](http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/24fe4bb174a2af7085257aa9006558f4/$FILE/MTO%20Environmental%20Guide%20for%20Air%20Quality%20June%202012%20Final%20ACC.pdf)
12. MECP. (2012). *Ontario's Ambient Air Quality Criteria, PIBS #6570e01*. Ontario Ministry of Environment Standard Development Branch Ontario Ministry of the Environment.

13. MECP. (2016, 12). *Ontario's Ambient Air Quality Criteria - Sorted by Contaminant Name*. Retrieved from ontario.ca: <https://www.ontario.ca/page/ontarios-ambient-air-quality-criteria-sorted-contaminant-name>
14. MECP. (2017, 2). *Guideline A-11: Air Dispersion Modelling Guideline for Ontario*. Retrieved from ontario.ca: <https://www.ontario.ca/document/guideline-11-air-dispersion-modelling-guideline-ontario-0>
15. MECP. (2018). *Operations Manual for Air Quality Monitoring in Ontario*. Retrieved from Ontario.ca: <https://www.ontario.ca/document/operations-manual-air-quality-monitoring-ontario-0>
16. MTO. (2012, 6). *Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects*. Retrieved from raqsb.mto.gov.on.ca: [http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/24fe4bb174a2af7085257aa9006558f4/\\$FILE/MTO%20Environmental%20Guide%20for%20Air%20Quality%20June%202012%20Final%20ACC.pdf](http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/24fe4bb174a2af7085257aa9006558f4/$FILE/MTO%20Environmental%20Guide%20for%20Air%20Quality%20June%202012%20Final%20ACC.pdf)

Appendix A

Ambient Air Quality Monitoring Data

Ambient Air Quality Data - PM2.5

Source for raw data

Station: Toronto Downtown

Address: Bay St./Wellesley St. W.

Latitude: 43.662972

Longitude: - 79.388111

Elevation: 105 metres

Air Intake Height: 10 metres

Pollutant: Fine Particulate Matter (Fine Particulate Matter PM2.5)

Method: SHARP 5030 operated 35% RH

Unit: micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)

Years: 2013-2017

URL: <http://airqualityontario.com/history/index.php>

Table A-1: PM2.5 background concentration data ($\mu\text{g}/\text{m}^3$)

Year	Mean	Median 1-HR	Max 1-HR	Max 1-HR	Min 1-HR	Median 24-HR	Max 24-HR	Min 24-HR	90th 1-HR	90th 24-HR
2013	8.25	7.00	75.0	0	7.08	38.6	0	16.0	15.3	8.25
2014	8.67	7.00	52.0	0	7.42	39.1	1	17.0	14.9	8.67
2015	8.37	7.00	54.0	0	6.83	37.9	1	17.0	15.6	8.37
2016	6.97	6.00	36.0	0	6.000	23.8	0.08	13.0	11.9	6.97
2017	7.38	6.00	82	0	6.333	30.71	0.46	14.0	13.0	7.38

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
PM2.5	24 hour	$\mu\text{g}/\text{m}^3$	27	39.1	0	6.73	14.1
PM2.5	Annual	$\mu\text{g}/\text{m}^3$	8.8	8.67	6.97	8.25	7.93

Ambient Air Quality Data – NO2

Source for raw data

Station: Toronto Downtown

Address: Bay St./Wellesley St. W.

Latitude: 43.662972

Longitude: - 79.388111

Elevation: 105 metres

Air Intake Height: 10 metres

Pollutant: Nitrogen dioxide (NO2)

Method: SHARP 5030 operated 35% RH

Unit: parts per billion (ppb)

Years: 2013-2017

URL: <http://airqualityontario.com/history/index.php>

Table A-2: NO2 background concentration data (ppb)

Year	Mean	Median 1-HR	Max 1-HR	Min 1-HR	Median 24-HR	Max 24-HR	Min 24-HR	90th 1-HR	90th 24-HR
2013	16.12	13.00	129.00	1.00	14.92	53.58	2.88	30.00	25.5
2014	16.49	13.00	162.00	1.00	14.63	80.50	3.08	30.00	26.3
2015	16.04	13.00	129.00	2.00	14.26	56.25	4.09	30.00	26.3
2016	15.92	13.00	182.00	2.00	14.52	66.54	3.26	29.00	25.2
2017	15.69	12.00	122.00	3.00	14.04	63.46	4.13	30.00	25.2

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
NO2	1 hour	ppb	-	182.00	1.00	12.8	29.8
NO2	24 hour	ppb	-	80.50	2.9	14.47	25.7
NO2	Annual	ppb	-	16.49	15.7	16.04	16.1

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
NO2	1 hour	µg/m3	400	342.2	1.9	24.1	56.0
NO2	24 hour	µg/m3	200	151.4	5.4	27.2	48.3
NO2	Annual	µg/m3	60	31.0	29.5	30.2	30.2

*Temperature assumed for conversion is 0°C

Ambient Air Quality Data - CO

Source for raw data

Station: Toronto West

Address: 125 Resources Rd

Latitude: 43.709444

Longitude: -79.5435

Elevation: 141 metres

Air Intake Height: 8 metres

Pollutant: Carbon monoxide (CO)

Method: SHARP 5030 operated 35% RH

Unit: micrograms per cubic metre (µg/m³)

Years: 2013-2017

URL: <http://airqualityontario.com/history/index.php>

Table A-3: CO background concentration data (ppm)

Year	Mean	Median 1-HR	Max 1-HR	Min 1-HR	Median 8-HR	Max 8-HR	Min 8-HR	90th 1-HR	90th 8-HR
2013	0.25	0.23	1.41	0.11	0.24	1.21	0.13	0.36	0.35
2014	0.26	0.23	1.60	0.03	0.24	1.07	0.03	0.37	0.36
2015	0.25	0.22	1.30	0.10	0.23	0.82	0.11	0.36	0.35
2016	0.25	0.22	1.67	0.00	0.23	1.23	0.07	0.36	0.35
2017	0.25	0.22	1.23	0.09	0.23	0.86	0.12	0.35	0.35

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
CO	1-Hour	ppm	36200 µg/m ³	1.7	0.000	0.22	0.36
CO	8-Hour	ppm	15700 µg/m ³	1.2	0.030	0.23	0.35

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
CO	1-Hour	µg/m ³	36200 µg/m ³	1912	0	257	412
CO	8-Hour	µg/m ³	15700 µg/m ³	1413	34	264	400

*Temperature assumed for conversion is 0°C

Ambient Air Quality Data – O₃

Source for raw data

Station: Toronto Downtown

Address: Bay St./Wellesley St. W.

Latitude: 43.662972

Longitude: - 79.388111

Elevation: 105 metres

Air Intake Height: 10 metres

Pollutant: Ozone (O₃)

Method: SHARP 5030 operated 35% RH

Unit: micrograms per cubic metre (µg/m³)

Years: 2013-2017

URL: <http://airqualityontario.com/history/index.php>

Table A-4: O₃ background concentration data (ppb)

Year	Mean	Median 1-HR	Max 1HR	Min 1-HR	Median 24-HR	Max 24-HR	Min 24-HR	90th 1-hr	90th 24-hr
2013	26.2	25.0	90.0	1	24.8	54.9	3.04	43.0	39.0
2014	25.7	25.0	80.0	0	25.2	55.5	4.50	42.0	37.5
2015	25.7	25.0	80.0	0	24.7	54.7	3.54	43.0	38.5
2016	25.6	25.0	81.0	0	24.9	52.8	3.63	40.0	36.7
2017	25.6	26.0	85.0	1	25.3	58.7	3.75	40.0	36.0

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
O ₃	1 hour	ppb	-	90	0	25.2	41.6
O ₃	24 hour	ppb	-	58.7	3.04	25.0	37.5
O ₃	Annual	ppb	-	26.2	25.6	25.7	25.8

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
O ₃	1 hour	µg/m ³	-	177	0	49	82
O ₃	24 hour	µg/m ³	-	115	6	49	74
O ₃	Annual	µg/m ³	-	52	50	50	51

*Temperature assumed for conversion is 0°C

Ambient Air Quality Data - Acrolein

Source for raw data

Station: NAPS No. 60418

Address: Perth Ave./Ruskin Ave.

Latitude: 43.662933

Longitude: -79.451538

Elevation: 119 metres

Pollutant: Acrolein

Unit: micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)

Years: 2002-2006

URL: <http://maps-cartes.ec.gc.ca/rnspa-naps/data.aspx?lang=en>

Table A-5: Acrolein background concentration data ($\mu\text{g}/\text{m}^3$)

Year	Annual Mean	Median 24-HR	Max 24-HR	Min 24-HR	90th 24-HR
2002	0.12	0.11	0.29	0.04	0.20
2003	0.13	0.12	0.26	0.06	0.22
2004	0.09	0.06	0.35	0.01	0.14
2005	0.19	0.05	1.17	0.03	0.57
2006	0.02	0.02	0.06	0	0.04

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
Acrolein	24 hour	$\mu\text{g}/\text{m}^3$	0.4	1.17	0	0.07	0.24
Acrolein	1 hour	$\mu\text{g}/\text{m}^3$	4.5	-	-	-	-

Ambient Air Quality Data - Benzene

Source for raw data

Station: NAPS No. 60427

Address: College St./Ross St.

Latitude: 43.658222

Longitude: -79.397183

Elevation: 122 metres

Pollutant: Benzene

Unit: micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)

Years: 2010-2014

URL: <http://maps-cartes.ec.gc.ca/rnspa-naps/data.aspx?lang=en>

Table A-6: Benzene background concentration data ($\mu\text{g}/\text{m}^3$)

Year	Annual Mean	Median 24-HR	Max 24-HR	Min 24-HR	90th 24-HR
2010	0.77	0.76	1.39	0.26	1.16
2011	0.59	0.56	1.12	0.19	0.90
2012	0.62	0.56	1.34	0.22	0.98
2013	0.61	0.57	2.03	0.19	0.92
2014	0.59	0.58	1.18	0.34	0.80

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
Benzene	Annual	$\mu\text{g}/\text{m}^3$	0.45	2.03	0.19	0.61	0.64
Benzene	24 hour	$\mu\text{g}/\text{m}^3$	2.3	-	-	-	0.95

Ambient Air Quality Data – 1,3-Butadiene

Source for raw data

Station: NAPS No. 60427

Address: College St./Ross St.

Latitude: 43.658222

Longitude: -79.397183

Elevation: 122 metres

Pollutant: 1,3 Butadiene

Unit: Micrograms per cubic metre (µg/m³)

Years: 2010-2014

URL: <http://maps-cartes.ec.gc.ca/rnspa-naps/data.aspx?lang=en>

Table A-7: 1-3-Butadiene background concentration data (µg/m³)

Year	Annual Mean	Median 24-HR	Max 24-HR	Min 24-HR	90th 24-HR
2010	0.07	0.07	0.19	0.02	0.12
2011	0.06	0.06	0.17	0.02	0.10
2012	0.06	0.05	0.16	0.02	0.11
2013	0.05	0.05	0.14	0.02	0.09
2014	0.04	0.04	0.10	0.01	0.07

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
1,3-Butadiene	Annual	µg/m ³	2	0.19	0.01	0.05	0.06
1,3-Butadiene	24 hour	µg/m ³	10	-	-	-	0.1

Ambient Air Quality Data – Formaldehyde

Source for raw data

Station: NAPS No. 64401

Address: 8th Line/10th Side Road

Latitude: 44.231111

Longitude: -79.783056

Elevation: 253 metres

Pollutant: Formaldehyde

Unit: Micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)

Years: 2006-2010

URL: <http://maps-cartes.ec.gc.ca/rnspa-naps/data.aspx?lang=en>

Table A-8: Formaldehyde background concentration data ($\mu\text{g}/\text{m}^3$)

Year	Annual Mean	Median 24-HR	Max 24-HR	Min 24-HR	90th 24-HR
2006	3.06	2.61	8.17	0.66	4.99
2007	2.08	1.74	4.64	0.73	3.48
2008	2.49	2.53	6.75	0.37	4.83
2009	1.12	0.92	2.99	0.22	2.53
2010	3.00	3.00	7.44	0.14	5.24

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
Formaldehyde	24 hour	$\mu\text{g}/\text{m}^3$	65	8.17	0.14	2.16	4.21

Ambient Air Quality Data – Acetaldehyde

Source for raw data

Station: NAPS No. 64401

Address: 8th Line/10th Side Road

Latitude: 44.231111

Longitude: -79.783056

Elevation: 253 metres

Pollutant: Acetaldehyde

Unit: Micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)

Years: 2006-2010

URL: <http://maps-cartes.ec.gc.ca/rnspa-naps/data.aspx?lang=en>

Table A-9: Acetaldehyde background concentration data ($\mu\text{g}/\text{m}^3$)

Year	Annual Mean	Median 24-HR	Max 24-HR	Min 24-HR	90th 24-HR
2006	1.28	1.23	3.09	0.26	2.06
2007	1.01	1.00	2.02	0.36	1.44
2008	1.09	0.91	2.97	0.25	1.96
2009	0.60	0.53	1.83	0	1.02
2010	0.68	0.58	2.53	0	1.27

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
Acetaldehyde	24 hour	$\mu\text{g}/\text{m}^3$	500	3.09	0	0.85	1.55
Acetaldehyde	0.5-hour	$\mu\text{g}/\text{m}^3$	500	-	-	-	-

Ambient Air Quality Data – B(a)P

Source for raw data

Station: NAPS No. 60427

Address: College St./Ross St.

Latitude: 43.658222

Longitude: -79.397183

Elevation: 122 metres

Pollutant: Benzo(a)pyrene (B(a)P)

Unit: Micrograms per cubic metre (µg/m³)

Years: 2010-2014

URL: <http://maps-cartes.ec.gc.ca/rnspa-naps/data.aspx?lang=en>

Table A-10: B(a)P background concentration data (µg/m³)

Year	Mean	90th percentile
2010	0.12	0.15
2011	0.09	0.15
2012	0.08	0.13
2013	0.06	0.10
2014	0.04	0.07

Contaminant	Period	Unit	Criterion	Maximum	Minimum	Median	Background Value
B(a)P	Annual	µg/m ³	0.00001	-	-	-	0.000077
B(a)P	24 hour	µg/m ³	0.00005	-	-	-	0.00012

Appendix B

Emission Factors

Table C- 1: Light vehicles Emission Factors (g/VmeterT) – EXISTING scenario

Light vehicles Emission factors (g/VmeterT)									
Speed limit	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
40 km/hr	4.5E-06	3.9E-05	9.7E-04	4.4E-07	6.8E-08	1.9E-07	1.8E-07	9.0E-09	2.4E-09

Table C-2: Bus Emission Factors (g/VmeterT) – EXISTING scenario

Heavy vehicles Emission factors (g/VmeterT)									
Speed limit	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
40 km/hr	7.3E-05	5.2E-03	1.8E-03	3.3E-06	1.1E-06	3.6E-05	1.6E-05	2.8E-06	1.2E-08
100 km/hr	3.8E-05	2.2E-03	1.2E-03	2.2E-06	7.5E-07	2.3E-05	1.0E-05	1.8E-06	4.5E-09

Table C-3: Light vehicles Emission Factors (g/VmeterT) – FUTURE scenario

Light vehicles Emission factors (g/VmeterT)									
Speed limit	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
40 km/hr	9.3E-07	3.3E-06	3.3E-04	1.5E-09	8.6E-08	1.7E-09	1.7E-08	3.1E-08	5.0E-10

Table C-4: Bus Emission Factors (g/VmeterT) – FUTURE scenario

Heavy vehicles Emission factors (g/VmeterT)									
Speed limit	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
40 km/hr	2.6E-05	1.8E-03	1.2E-03	2.4E-06	2.9E-06	7.6E-07	1.4E-05	3.6E-05	3.8E-09
100 km/hr	1.3E-05	8.9E-04	6.2E-04	1.2E-06	1.4E-06	3.8E-07	7.0E-06	1.8E-05	1.9E-09

Table C-5: Emission Rates of Contaminants by Road Segment – EXISTING AM PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	4.88E-04	3.46E-02	1.19E-02	2.23E-05	7.49E-06	2.42E-04	1.04E-04	1.87E-05	7.83E-08
Bus Line 80 East	1.86E-04	1.32E-02	4.54E-03	8.52E-06	2.86E-06	9.20E-05	3.95E-05	7.14E-06	2.98E-08
Bus Line 80 West	1.86E-04	1.32E-02	4.53E-03	8.50E-06	2.85E-06	9.19E-05	3.94E-05	7.13E-06	2.98E-08
Bus Line 145	2.58E-04	1.83E-02	6.29E-03	1.18E-05	3.96E-06	1.28E-04	5.48E-05	9.89E-06	4.13E-08
Bus Line 66A	2.16E-04	1.53E-02	5.28E-03	9.90E-06	3.32E-06	1.07E-04	4.59E-05	8.30E-06	3.47E-08
Bus Line 66B	1.15E-03	8.17E-02	2.81E-02	5.28E-05	1.77E-05	5.70E-04	2.45E-04	4.42E-05	1.85E-07
Bus Line 77	6.46E-04	4.58E-02	1.58E-02	2.96E-05	9.91E-06	3.20E-04	1.37E-04	2.48E-05	1.04E-07
Street car line 501/508	1.10E-04	9.45E-04	2.38E-02	1.07E-05	1.66E-06	4.71E-06	4.46E-06	2.20E-07	5.91E-08

Table C-6: Emission Rates of Contaminants by Road Segment – EXISTING PM PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	4.88E-04	3.46E-02	1.19E-02	2.23E-05	7.49E-06	2.42E-04	1.04E-04	1.87E-05	7.83E-08
Bus Line 80 East	1.86E-04	1.32E-02	4.54E-03	8.52E-06	2.86E-06	9.20E-05	3.95E-05	7.14E-06	2.98E-08
Bus Line 80 West	1.86E-04	1.32E-02	4.53E-03	8.50E-06	2.85E-06	9.19E-05	3.94E-05	7.13E-06	2.98E-08
Bus Line 145	1.93E-04	1.37E-02	4.72E-03	8.85E-06	2.97E-06	9.57E-05	4.11E-05	7.42E-06	3.10E-08
Bus Line 66A	1.83E-04	1.30E-02	4.46E-03	8.38E-06	2.81E-06	9.05E-05	3.89E-05	7.02E-06	2.93E-08
Bus Line 66B	9.76E-04	6.91E-02	2.38E-02	4.47E-05	1.50E-05	4.83E-04	2.07E-04	3.74E-05	1.56E-07
Bus Line 77	6.46E-04	4.58E-02	1.58E-02	2.96E-05	9.91E-06	3.20E-04	1.37E-04	2.48E-05	1.04E-07
Street car line 501/508	1.06E-04	9.05E-04	2.28E-02	1.03E-05	1.59E-06	4.51E-06	4.28E-06	2.10E-07	5.67E-08

Table C-7: Emission Rates of Contaminants by Road Segment – EXISTING OFF PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	1.27E-04	8.99E-03	3.10E-03	5.81E-06	1.95E-06	6.28E-05	2.70E-05	4.87E-06	2.04E-08
Bus Line 80 East	4.96E-05	3.52E-03	1.21E-03	2.27E-06	7.62E-07	2.45E-05	1.05E-05	1.90E-06	7.96E-09

Bus Line 80 West	4.95E-05	3.51E-03	1.21E-03	2.27E-06	7.60E-07	2.45E-05	1.05E-05	1.90E-06	7.94E-09
Bus Line 145	6.45E-05	4.57E-03	1.57E-03	2.95E-06	9.89E-07	3.19E-05	1.37E-05	2.47E-06	1.03E-08
Bus Line 66A	5.49E-05	3.89E-03	1.34E-03	2.51E-06	8.43E-07	2.72E-05	1.17E-05	2.11E-06	8.80E-09
Bus Line 66B	2.93E-04	2.07E-02	7.14E-03	1.34E-05	4.49E-06	1.45E-04	6.22E-05	1.12E-05	4.69E-08
Bus Line 77	1.62E-04	1.14E-02	3.94E-03	7.39E-06	2.48E-06	7.99E-05	3.43E-05	6.20E-06	2.59E-08
Street car line 501/508	2.76E-05	2.36E-04	5.95E-03	2.69E-06	4.15E-07	1.18E-06	1.12E-06	5.49E-08	1.48E-08

Table C-8: Emission Rates of Contaminants by Road Segment – EXISTING Nighttime

Vehicles' weighted Emission rates (g/s)									
Road Segments	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 80 East	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 80 West	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 145	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 66A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 66B	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 77	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Street car line 501/508	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table C-9: Emission Rates of Contaminants by Road Segment – FUTURE NO-BUILD AM PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	1.75E-04	1.18E-02	8.25E-03	1.58E-05	1.93E-05	5.10E-06	9.32E-05	2.39E-04	2.52E-08
Bus Line 80 East	6.65E-05	4.52E-03	3.14E-03	6.04E-06	7.36E-06	1.94E-06	3.55E-05	9.11E-05	9.59E-09
Bus Line 80 West	6.64E-05	4.51E-03	3.14E-03	6.03E-06	7.34E-06	1.94E-06	3.55E-05	9.09E-05	9.57E-09
Bus Line 145	6.91E-05	4.69E-03	3.27E-03	6.28E-06	7.65E-06	2.02E-06	3.69E-05	9.47E-05	9.97E-09
Bus Line 66A	6.54E-05	4.44E-03	3.09E-03	5.94E-06	7.24E-06	1.91E-06	3.49E-05	8.96E-05	9.43E-09
New Bus Line 66	2.22E-04	1.51E-02	1.05E-02	2.02E-05	2.46E-05	6.49E-06	1.19E-04	3.04E-04	3.20E-08
Bus Line 77	2.31E-04	1.57E-02	1.09E-02	2.10E-05	2.55E-05	6.75E-06	1.23E-04	3.16E-04	3.33E-08
Street car line 501/508	4.39E-05	1.56E-04	1.53E-02	6.98E-08	4.06E-06	8.12E-08	7.92E-07	1.47E-06	2.35E-08

Line 77 Extension	3.65E-04	2.48E-02	1.73E-02	3.32E-05	4.04E-05	1.07E-05	1.95E-04	5.00E-04	5.27E-08
Line 176 Extension	3.53E-05	2.40E-03	1.67E-03	3.21E-06	3.91E-06	1.03E-06	1.89E-05	4.84E-05	5.09E-09
Extension line 80	1.14E-04	7.71E-03	5.37E-03	1.03E-05	1.26E-05	3.32E-06	6.07E-05	1.56E-04	1.64E-08

Table C-10: Emission Rates of Contaminants by Road Segment – FUTURE NO-BUILD PM PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	1.75E-04	1.18E-02	8.25E-03	1.58E-05	1.93E-05	5.10E-06	9.32E-05	2.39E-04	2.52E-08
Bus Line 80 East	6.65E-05	4.52E-03	3.14E-03	6.04E-06	7.36E-06	1.94E-06	3.55E-05	9.11E-05	9.59E-09
Bus Line 80 West	6.64E-05	4.51E-03	3.14E-03	6.03E-06	7.34E-06	1.94E-06	3.55E-05	9.09E-05	9.57E-09
Bus Line 145	6.91E-05	4.69E-03	3.27E-03	6.28E-06	7.65E-06	2.02E-06	3.69E-05	9.47E-05	9.97E-09
Bus Line 66A	6.54E-05	4.44E-03	3.09E-03	5.94E-06	7.24E-06	1.91E-06	3.49E-05	8.96E-05	9.43E-09
New Bus Line 66	2.22E-04	1.51E-02	1.05E-02	2.02E-05	2.46E-05	6.49E-06	1.19E-04	3.04E-04	3.20E-08
Bus Line 77	2.31E-04	1.57E-02	1.09E-02	2.10E-05	2.55E-05	6.75E-06	1.23E-04	3.16E-04	3.33E-08
Street car line 501/508	4.39E-05	1.56E-04	1.53E-02	6.98E-08	4.06E-06	8.12E-08	7.92E-07	1.47E-06	2.35E-08
Line 77 Extension	3.65E-04	2.48E-02	1.73E-02	3.32E-05	4.04E-05	1.07E-05	1.95E-04	5.00E-04	5.27E-08
Line 176 Extension	3.53E-05	2.40E-03	1.67E-03	3.21E-06	3.91E-06	1.03E-06	1.89E-05	4.84E-05	5.09E-09
Extension line 80	1.14E-04	7.71E-03	5.37E-03	1.03E-05	1.26E-05	3.32E-06	6.07E-05	1.56E-04	1.64E-08

Table C-11: Emission Rates of Contaminants by Road Segment – FUTURE NO-BUILD OFF PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	4.54E-05	3.08E-03	2.14E-03	4.12E-06	5.02E-06	1.33E-06	2.42E-05	6.22E-05	6.54E-09
Bus Line 80 East	1.77E-05	1.20E-03	8.38E-04	1.61E-06	1.96E-06	5.18E-07	9.48E-06	2.43E-05	2.56E-09
Bus Line 80 West	1.77E-05	1.20E-03	8.37E-04	1.61E-06	1.96E-06	5.17E-07	9.46E-06	2.42E-05	2.55E-09
Bus Line 145	2.30E-05	1.56E-03	1.09E-03	2.09E-06	2.55E-06	6.73E-07	1.23E-05	3.16E-05	3.32E-09
Bus Line 66A	1.96E-05	1.33E-03	9.27E-04	1.78E-06	2.17E-06	5.74E-07	1.05E-05	2.69E-05	2.83E-09
New Bus Line 66	6.66E-05	4.52E-03	3.15E-03	6.05E-06	7.37E-06	1.95E-06	3.56E-05	9.12E-05	9.60E-09
Bus Line 77	5.77E-05	3.92E-03	2.73E-03	5.24E-06	6.39E-06	1.69E-06	3.08E-05	7.91E-05	8.32E-09
Street car line 501/508	1.14E-05	4.06E-05	3.99E-03	1.82E-08	1.06E-06	2.12E-08	2.06E-07	3.85E-07	6.12E-09

Line 77 Extension	9.13E-05	6.20E-03	4.32E-03	8.29E-06	1.01E-05	2.67E-06	4.88E-05	1.25E-04	1.32E-08
Line 176 Extension	9.18E-06	6.23E-04	4.34E-04	8.34E-07	1.02E-06	2.68E-07	4.91E-06	1.26E-05	1.32E-09
Extension line 80	3.03E-05	2.06E-03	1.43E-03	2.75E-06	3.35E-06	8.85E-07	1.62E-05	4.15E-05	4.37E-09

Table C-12: Emission Rates of Contaminants by Road Segment – FUTURE NO-BUILD Nighttime

Vehicles' weighted Emission rates (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 80 East	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 80 West	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 145	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 66A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
New Bus Line 66	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 77	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Street car line 501/508	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Line 77 Extension	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Line 176 Extension	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Extension line 80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table C-13: Emission Rates of Contaminants by Road Segment – FUTURE BUILD AM PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	1.75E-04	1.18E-02	8.25E-03	1.58E-05	1.93E-05	5.10E-06	9.32E-05	2.39E-04	2.52E-08
Bus Line 80 East	6.65E-05	4.52E-03	3.14E-03	6.04E-06	7.36E-06	1.94E-06	3.55E-05	9.11E-05	9.59E-09
Bus Line 80 West	6.64E-05	4.51E-03	3.14E-03	6.03E-06	7.34E-06	1.94E-06	3.55E-05	9.09E-05	9.57E-09
Bus Line 145	9.21E-05	6.26E-03	4.36E-03	8.37E-06	1.02E-05	2.69E-06	4.92E-05	1.26E-04	1.33E-08
Bus Line 66A	7.73E-05	5.25E-03	3.65E-03	7.02E-06	8.55E-06	2.26E-06	4.13E-05	1.06E-04	1.11E-08
New Bus Line 66	2.62E-04	1.78E-02	1.24E-02	2.38E-05	2.90E-05	7.67E-06	1.40E-04	3.59E-04	3.78E-08
Bus Line 77	2.31E-04	1.57E-02	1.09E-02	2.10E-05	2.55E-05	6.75E-06	1.23E-04	3.16E-04	3.33E-08
Street car line 501/508	4.58E-05	1.62E-04	1.60E-02	7.29E-08	4.24E-06	8.47E-08	8.26E-07	1.54E-06	2.45E-08

GO Transit Bus Routes	2.67E-04	1.81E-02	1.26E-02	2.42E-05	2.95E-05	7.79E-06	1.42E-04	3.65E-04	3.85E-08
Line 501/508 Extension	7.84E-06	2.78E-05	2.73E-03	1.25E-08	7.26E-07	1.45E-08	1.41E-07	2.63E-07	4.19E-09
Line 77 Extension	3.65E-04	2.48E-02	1.73E-02	3.32E-05	4.04E-05	1.07E-05	1.95E-04	5.00E-04	5.27E-08
Line 176 Extension	3.53E-05	2.40E-03	1.67E-03	3.21E-06	3.91E-06	1.03E-06	1.89E-05	4.84E-05	5.09E-09
Extansion line 80	1.14E-04	7.71E-03	5.37E-03	1.03E-05	1.26E-05	3.32E-06	6.07E-05	1.56E-04	1.64E-08
GO Transit Bus Routes - Expressway East	6.16E-05	4.56E-03	2.30E-03	3.37E-06	4.12E-06	1.05E-06	2.00E-05	5.20E-05	5.29E-09
GO Transit Bus Routes - Expressway West	8.01E-05	5.93E-03	2.99E-03	4.39E-06	5.36E-06	1.36E-06	2.60E-05	6.76E-05	6.88E-09

Table C-14: Emission Rates of Contaminants by Road Segment – FUTURE BUILD PM PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	1.75E-04	1.18E-02	8.25E-03	1.58E-05	1.93E-05	5.10E-06	9.32E-05	2.39E-04	2.52E-08
Bus Line 80 East	6.65E-05	4.52E-03	3.14E-03	6.04E-06	7.36E-06	1.94E-06	3.55E-05	9.11E-05	9.59E-09
Bus Line 80 West	6.64E-05	4.51E-03	3.14E-03	6.03E-06	7.34E-06	1.94E-06	3.55E-05	9.09E-05	9.57E-09
Bus Line 145	9.21E-05	6.26E-03	4.36E-03	8.37E-06	1.02E-05	2.69E-06	4.92E-05	1.26E-04	1.33E-08
Bus Line 66A	7.73E-05	5.25E-03	3.65E-03	7.02E-06	8.55E-06	2.26E-06	4.13E-05	1.06E-04	1.11E-08
New Bus Line 66	2.62E-04	1.78E-02	1.24E-02	2.38E-05	2.90E-05	7.67E-06	1.40E-04	3.59E-04	3.78E-08
Bus Line 77	2.31E-04	1.57E-02	1.09E-02	2.10E-05	2.55E-05	6.75E-06	1.23E-04	3.16E-04	3.33E-08
Street car line 501/508	4.58E-05	1.62E-04	1.60E-02	7.29E-08	4.24E-06	8.47E-08	8.26E-07	1.54E-06	2.45E-08
GO Transit Bus Routes	2.67E-04	1.81E-02	1.26E-02	2.42E-05	2.95E-05	7.79E-06	1.42E-04	3.65E-04	3.85E-08
Line 501/508 Extansion	7.84E-06	2.78E-05	2.73E-03	1.25E-08	7.26E-07	1.45E-08	1.41E-07	2.63E-07	4.19E-09
Line 77 Extension	3.65E-04	2.48E-02	1.73E-02	3.32E-05	4.04E-05	1.07E-05	1.95E-04	5.00E-04	5.27E-08
Line 176 Extension	3.53E-05	2.40E-03	1.67E-03	3.21E-06	3.91E-06	1.03E-06	1.89E-05	4.84E-05	5.09E-09
Extansion line 80	1.14E-04	7.71E-03	5.37E-03	1.03E-05	1.26E-05	3.32E-06	6.07E-05	1.56E-04	1.64E-08
GO Transit Bus Routes - Expressway East	6.16E-05	4.56E-03	2.30E-03	3.37E-06	4.12E-06	1.05E-06	2.00E-05	5.20E-05	5.29E-09
GO Transit Bus Routes - Expressway West	8.01E-05	5.93E-03	2.99E-03	4.39E-06	5.36E-06	1.36E-06	2.60E-05	6.76E-05	6.88E-09

Table C-15: Emission Rates of Contaminants by Road Segment – FUTURE BUILD OFF PEAK

Vehicles' weighted Emission rates (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene

Bus line 176	4.54E-05	3.08E-03	2.14E-03	4.12E-06	5.02E-06	1.33E-06	2.42E-05	6.22E-05	6.54E-09
Bus Line 80 East	1.77E-05	1.20E-03	8.38E-04	1.61E-06	1.96E-06	5.18E-07	9.48E-06	2.43E-05	2.56E-09
Bus Line 80 West	1.77E-05	1.20E-03	8.37E-04	1.61E-06	1.96E-06	5.17E-07	9.46E-06	2.42E-05	2.55E-09
Bus Line 145	2.30E-05	1.56E-03	1.09E-03	2.09E-06	2.55E-06	6.73E-07	1.23E-05	3.16E-05	3.32E-09
Bus Line 66A	1.96E-05	1.33E-03	9.27E-04	1.78E-06	2.17E-06	5.74E-07	1.05E-05	2.69E-05	2.83E-09
New Bus Line 66	6.66E-05	4.52E-03	3.15E-03	6.05E-06	7.37E-06	1.95E-06	3.56E-05	9.12E-05	9.60E-09
Bus Line 77	5.77E-05	3.92E-03	2.73E-03	5.24E-06	6.39E-06	1.69E-06	3.08E-05	7.91E-05	8.32E-09
Street car line 501/508	1.14E-05	4.06E-05	3.99E-03	1.82E-08	1.06E-06	2.12E-08	2.06E-07	3.85E-07	6.12E-09
GO Transit Bus Routes	6.22E-05	4.22E-03	2.94E-03	5.65E-06	6.88E-06	1.82E-06	3.32E-05	8.52E-05	8.97E-09
Line 501/508 Extension	1.96E-06	6.95E-06	6.83E-04	3.12E-09	1.82E-07	3.63E-09	3.54E-08	6.59E-08	1.05E-09
Line 77 Extension	9.13E-05	6.20E-03	4.32E-03	8.29E-06	1.01E-05	2.67E-06	4.88E-05	1.25E-04	1.32E-08
Line 176 Extension	9.18E-06	6.23E-04	4.34E-04	8.34E-07	1.02E-06	2.68E-07	4.91E-06	1.26E-05	1.32E-09
Extension line 80	3.03E-05	2.06E-03	1.43E-03	2.75E-06	3.35E-06	8.85E-07	1.62E-05	4.15E-05	4.37E-09
GO Transit Bus Routes - Expressway East	1.44E-05	1.06E-03	5.37E-04	7.87E-07	9.62E-07	2.44E-07	4.67E-06	1.21E-05	1.23E-09
GO Transit Bus Routes - Expressway West	1.87E-05	1.38E-03	6.98E-04	1.02E-06	1.25E-06	3.18E-07	6.08E-06	1.58E-05	1.60E-09

Table C-16: Emission Rates of Contaminants by Road Segment – FUTURE BUILD Nighttime

Vehicles' weighted Emission rates AM PEAK (g/s)									
Road Segments (60 km/hr)	PM2.5	NOx	CO	Benzene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Benzo(a)pyrene
Bus line 176	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 80 East	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 80 West	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 145	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 66A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
New Bus Line 66	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bus Line 77	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Street car line 501/508	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GO Transit Bus Routes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Line 501/508 Extension	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Line 77 Extension	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Line 176 Extension	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Extansion line 80	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GO Transit Bus Routes - Expressway East	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GO Transit Bus Routes - Expressway West	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix C

Individual Sensitive Receptor Results

Table C-1: CO Results – 1 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
CO	1-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	3.62E+04	4.12E+02	7.66E+00	1.04E-01	9.89E-01
CO	1-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	3.62E+04	4.12E+02	5.75E+00	4.61E-02	4.15E-01
CO	1-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	3.62E+04	4.12E+02	1.08E+01	2.77E-01	1.78E+00
CO	1-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	3.62E+04	4.12E+02	1.75E+01	7.38E-01	3.43E+00
CO	1-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	3.62E+04	4.12E+02	1.25E+01	7.53E-01	2.81E+00
CO	1-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	3.62E+04	4.12E+02	6.88E+00	1.51E-01	9.66E-01
CO	1-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	3.62E+04	4.12E+02	9.67E+00	4.99E-01	1.99E+00
CO	1-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	3.62E+04	4.12E+02	7.29E+00	4.17E-01	1.63E+00
CO	1-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	3.62E+04	4.12E+02	5.73E+00	3.34E-01	1.24E+00
CO	1-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	3.62E+04	4.12E+02	6.73E+00	3.50E-01	1.52E+00
CO	1-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	3.62E+04	4.12E+02	3.10E+00	1.09E-01	6.01E-01
CO	1-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	3.62E+04	4.12E+02	1.12E+01	1.58E-01	2.02E+00
CO	1-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	3.62E+04	4.12E+02	1.18E+01	2.09E-01	2.15E+00
CO	1-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	3.62E+04	4.12E+02	1.87E+01	1.12E+00	4.15E+00
CO	1-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	3.62E+04	4.12E+02	1.90E+01	1.32E+00	4.78E+00
CO	1-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	3.62E+04	4.12E+02	4.03E+01	3.19E+00	9.54E+00
CO	1-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	3.62E+04	4.12E+02	2.33E+01	3.34E-01	3.39E+00
CO	1-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	3.62E+04	4.12E+02	1.11E+01	3.81E-01	1.97E+00
CO	1-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	3.62E+04	4.12E+02	1.53E+01	7.82E-01	3.60E+00
CO	1-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	3.62E+04	4.12E+02	1.23E+01	1.28E-01	1.94E+00

CO	1-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	3.62E+04	4.12E+02	1.41E+01	1.38E-01	1.58E+00
CO	1-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	3.62E+04	4.12E+02	1.14E+01	5.93E-02	6.48E-01
CO	1-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	3.62E+04	4.12E+02	2.07E+01	4.44E-01	2.94E+00
CO	1-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	3.62E+04	4.12E+02	3.56E+01	1.21E+00	5.98E+00
CO	1-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	3.62E+04	4.12E+02	2.34E+01	1.18E+00	5.08E+00
CO	1-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	3.62E+04	4.12E+02	1.19E+01	2.36E-01	1.70E+00
CO	1-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	3.62E+04	4.12E+02	1.94E+01	7.36E-01	3.23E+00
CO	1-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	3.62E+04	4.12E+02	1.40E+01	6.62E-01	2.98E+00
CO	1-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	3.62E+04	4.12E+02	8.77E+00	4.11E-01	1.75E+00
CO	1-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	3.62E+04	4.12E+02	1.40E+01	5.45E-01	2.70E+00
CO	1-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	3.62E+04	4.12E+02	5.54E+00	1.48E-01	1.01E+00
CO	1-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	3.62E+04	4.12E+02	2.40E+01	3.05E-01	3.77E+00
CO	1-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	3.62E+04	4.12E+02	2.56E+01	3.82E-01	4.01E+00
CO	1-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	3.62E+04	4.12E+02	3.54E+01	1.97E+00	8.00E+00
CO	1-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	3.62E+04	4.12E+02	3.94E+01	2.20E+00	8.79E+00
CO	1-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	3.62E+04	4.12E+02	9.10E+01	5.53E+00	1.79E+01
CO	1-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	3.62E+04	4.12E+02	4.90E+01	5.57E-01	6.39E+00
CO	1-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	3.62E+04	4.12E+02	2.33E+01	6.00E-01	3.47E+00
CO	1-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	3.62E+04	4.12E+02	3.19E+01	1.24E+00	6.08E+00
CO	1-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	3.62E+04	4.12E+02	2.75E+01	3.07E-01	3.67E+00
CO	1-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	3.62E+04	4.12E+02	2.60E+01	2.45E-01	2.54E+00
CO	1-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	3.62E+04	4.12E+02	2.14E+01	1.00E-01	1.22E+00
CO	1-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	3.62E+04	4.12E+02	3.70E+01	7.38E-01	4.65E+00

CO	1-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	3.62E+04	4.12E+02	4.15E+01	1.80E+00	7.86E+00
CO	1-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	3.62E+04	4.12E+02	2.65E+01	1.51E+00	6.29E+00
CO	1-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	3.62E+04	4.12E+02	1.58E+01	2.88E-01	2.32E+00
CO	1-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	3.62E+04	4.12E+02	2.34E+01	1.14E+00	5.42E+00
CO	1-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	3.62E+04	4.12E+02	2.56E+01	1.42E+00	6.84E+00
CO	1-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	3.62E+04	4.12E+02	1.45E+01	7.49E-01	3.69E+00
CO	1-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	3.62E+04	4.12E+02	3.03E+01	1.24E+00	6.31E+00
CO	1-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	3.62E+04	4.12E+02	1.15E+01	2.80E-01	2.22E+00
CO	1-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	3.62E+04	4.12E+02	4.96E+01	7.22E-01	9.48E+00
CO	1-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	3.62E+04	4.12E+02	5.34E+01	8.53E-01	1.03E+01
CO	1-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	3.62E+04	4.12E+02	7.57E+01	4.84E+00	1.92E+01
CO	1-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	3.62E+04	4.12E+02	8.09E+01	5.48E+00	2.09E+01
CO	1-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	3.62E+04	4.12E+02	2.21E+02	1.66E+01	5.40E+01
CO	1-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	3.62E+04	4.12E+02	1.11E+02	1.17E+00	1.64E+01
CO	1-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	3.62E+04	4.12E+02	4.41E+01	1.24E+00	8.61E+00
CO	1-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	3.62E+04	4.12E+02	7.32E+01	3.01E+00	1.59E+01
CO	1-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m3)	3.62E+04	4.12E+02	6.18E+01	6.69E-01	8.88E+00

Table C-2: CO Results – 8 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
CO	8-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.57E+04	4.00E+02	3.02E+00	1.62E-01	9.89E-01
CO	8-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.57E+04	4.00E+02	2.37E+00	7.76E-02	4.15E-01
CO	8-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.57E+04	4.00E+02	4.64E+00	3.60E-01	1.78E+00
CO	8-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.57E+04	4.00E+02	7.39E+00	8.99E-01	3.43E+00
CO	8-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.57E+04	4.00E+02	4.89E+00	9.59E-01	2.81E+00
CO	8-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.57E+04	4.00E+02	1.79E+00	2.55E-01	9.66E-01
CO	8-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.57E+04	4.00E+02	3.47E+00	6.61E-01	1.99E+00
CO	8-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.57E+04	4.00E+02	2.84E+00	5.26E-01	1.63E+00
CO	8-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	1.57E+04	4.00E+02	2.13E+00	4.07E-01	1.24E+00
CO	8-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.57E+04	4.00E+02	2.62E+00	4.70E-01	1.52E+00
CO	8-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.57E+04	4.00E+02	1.09E+00	1.66E-01	6.01E-01
CO	8-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.57E+04	4.00E+02	5.04E+00	2.89E-01	2.02E+00
CO	8-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.57E+04	4.00E+02	5.28E+00	3.49E-01	2.15E+00
CO	8-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.57E+04	4.00E+02	6.77E+00	1.47E+00	4.15E+00
CO	8-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.57E+04	4.00E+02	7.71E+00	1.68E+00	4.78E+00
CO	8-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.57E+04	4.00E+02	1.70E+01	3.80E+00	9.54E+00
CO	8-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.57E+04	4.00E+02	9.73E+00	6.00E-01	3.39E+00
CO	8-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.57E+04	4.00E+02	3.29E+00	5.68E-01	1.97E+00
CO	8-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.57E+04	4.00E+02	7.09E+00	9.51E-01	3.60E+00
CO	8-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.57E+04	4.00E+02	5.41E+00	2.50E-01	1.94E+00

CO	8-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.57E+04	4.00E+02	4.76E+00	1.58E+00	1.77E+00
CO	8-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.57E+04	4.00E+02	3.89E+00	6.48E-01	8.67E-01
CO	8-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.57E+04	4.00E+02	7.46E+00	2.94E+00	2.75E+00
CO	8-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.57E+04	4.00E+02	1.26E+01	5.98E+00	5.30E+00
CO	8-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.57E+04	4.00E+02	7.98E+00	5.08E+00	4.03E+00
CO	8-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.57E+04	4.00E+02	2.95E+00	1.70E+00	1.32E+00
CO	8-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.57E+04	4.00E+02	5.31E+00	3.23E+00	2.62E+00
CO	8-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.57E+04	4.00E+02	4.85E+00	2.98E+00	2.37E+00
CO	8-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	1.57E+04	4.00E+02	2.89E+00	1.75E+00	1.42E+00
CO	8-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.57E+04	4.00E+02	4.42E+00	2.70E+00	2.16E+00
CO	8-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.57E+04	4.00E+02	1.66E+00	1.01E+00	7.84E-01
CO	8-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.57E+04	4.00E+02	8.47E+00	3.77E+00	3.54E+00
CO	8-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.57E+04	4.00E+02	8.89E+00	4.01E+00	3.74E+00
CO	8-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.57E+04	4.00E+02	1.23E+01	8.00E+00	6.40E+00
CO	8-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.57E+04	4.00E+02	1.35E+01	8.79E+00	7.04E+00
CO	8-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.57E+04	4.00E+02	2.91E+01	1.79E+01	1.53E+01
CO	8-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.57E+04	4.00E+02	1.65E+01	6.39E+00	6.20E+00
CO	8-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.57E+04	4.00E+02	6.25E+00	3.47E+00	2.76E+00
CO	8-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.57E+04	4.00E+02	1.17E+01	6.08E+00	5.40E+00
CO	8-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.57E+04	4.00E+02	8.71E+00	3.67E+00	3.67E+00
CO	8-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.57E+04	4.00E+02	1.37E+01	4.65E-01	3.02E+00
CO	8-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.57E+04	4.00E+02	1.17E+01	2.22E-01	1.47E+00
CO	8-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.57E+04	4.00E+02	1.83E+01	1.15E+00	4.20E+00

CO	8-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.57E+04	4.00E+02	1.51E+01	2.46E+00	6.84E+00
CO	8-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.57E+04	4.00E+02	1.08E+01	2.07E+00	5.03E+00
CO	8-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.57E+04	4.00E+02	4.18E+00	5.62E-01	1.73E+00
CO	8-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.57E+04	4.00E+02	9.67E+00	1.70E+00	4.20E+00
CO	8-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.57E+04	4.00E+02	1.29E+01	2.15E+00	5.55E+00
CO	8-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	1.57E+04	4.00E+02	7.01E+00	1.13E+00	3.07E+00
CO	8-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.57E+04	4.00E+02	1.26E+01	1.99E+00	5.37E+00
CO	8-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.57E+04	4.00E+02	4.45E+00	5.89E-01	1.84E+00
CO	8-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.57E+04	4.00E+02	2.67E+01	1.46E+00	8.92E+00
CO	8-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.57E+04	4.00E+02	2.81E+01	1.77E+00	9.54E+00
CO	8-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.57E+04	4.00E+02	3.49E+01	6.71E+00	1.57E+01
CO	8-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.57E+04	4.00E+02	3.79E+01	7.45E+00	1.69E+01
CO	8-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.57E+04	4.00E+02	9.63E+01	2.00E+01	4.61E+01
CO	8-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.57E+04	4.00E+02	5.23E+01	2.57E+00	1.55E+01
CO	8-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.57E+04	4.00E+02	1.50E+01	2.24E+00	6.62E+00
CO	8-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.57E+04	4.00E+02	3.78E+01	4.41E+00	1.42E+01
CO	8-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m3)	1.57E+04	4.00E+02	2.73E+01	1.43E+00	9.25E+00

Table C-3: NO₂ Results – 1 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
NO2	1-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.00E+02	4.63E+01	1.63E+01	2.45E-01	2.12E+00
NO2	1-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.00E+02	4.63E+01	1.18E+01	1.07E-01	8.82E-01
NO2	1-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.00E+02	4.63E+01	2.26E+01	6.03E-01	3.64E+00
NO2	1-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.00E+02	4.63E+01	3.54E+01	1.51E+00	6.94E+00
NO2	1-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.00E+02	4.63E+01	2.62E+01	1.57E+00	5.76E+00
NO2	1-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.00E+02	4.63E+01	1.46E+01	2.95E-01	1.91E+00
NO2	1-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.00E+02	4.63E+01	1.84E+01	9.53E-01	3.73E+00
NO2	1-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.00E+02	4.63E+01	1.50E+01	8.68E-01	3.32E+00
NO2	1-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	4.00E+02	4.63E+01	1.03E+01	5.58E-01	2.11E+00
NO2	1-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.00E+02	4.63E+01	1.36E+01	6.88E-01	3.04E+00
NO2	1-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.00E+02	4.63E+01	5.86E+00	2.00E-01	1.13E+00
NO2	1-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.00E+02	4.63E+01	2.27E+01	3.25E-01	4.08E+00
NO2	1-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.00E+02	4.63E+01	2.41E+01	4.18E-01	4.31E+00
NO2	1-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.00E+02	4.63E+01	3.83E+01	2.27E+00	8.34E+00
NO2	1-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.00E+02	4.63E+01	3.84E+01	2.65E+00	9.54E+00
NO2	1-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.00E+02	4.63E+01	8.18E+01	6.53E+00	1.92E+01
NO2	1-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.00E+02	4.63E+01	4.71E+01	6.88E-01	6.87E+00
NO2	1-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.00E+02	4.63E+01	2.27E+01	7.93E-01	3.94E+00
NO2	1-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.00E+02	4.63E+01	3.16E+01	1.63E+00	7.31E+00
NO2	1-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.00E+02	4.63E+01	2.51E+01	2.60E-01	3.93E+00

NO2	1-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.00E+02	4.63E+01	2.71E+01	2.51E-01	3.05E+00
NO2	1-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.00E+02	4.63E+01	2.08E+01	1.07E-01	1.25E+00
NO2	1-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.00E+02	4.63E+01	4.04E+01	8.56E-01	5.57E+00
NO2	1-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.00E+02	4.63E+01	6.58E+01	2.37E+00	1.15E+01
NO2	1-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.00E+02	4.63E+01	4.50E+01	2.29E+00	9.73E+00
NO2	1-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.00E+02	4.63E+01	2.19E+01	4.39E-01	3.22E+00
NO2	1-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.00E+02	4.63E+01	3.66E+01	1.32E+00	5.88E+00
NO2	1-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.00E+02	4.63E+01	2.60E+01	1.22E+00	5.57E+00
NO2	1-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	4.00E+02	4.63E+01	1.46E+01	6.01E-01	3.06E+00
NO2	1-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.00E+02	4.63E+01	2.78E+01	1.06E+00	5.13E+00
NO2	1-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.00E+02	4.63E+01	1.05E+01	2.67E-01	1.86E+00
NO2	1-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.00E+02	4.63E+01	4.80E+01	5.98E-01	7.31E+00
NO2	1-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.00E+02	4.63E+01	5.12E+01	7.43E-01	7.80E+00
NO2	1-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.00E+02	4.63E+01	7.07E+01	3.87E+00	1.56E+01
NO2	1-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.00E+02	4.63E+01	7.67E+01	4.32E+00	1.71E+01
NO2	1-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.00E+02	4.63E+01	1.82E+02	1.11E+01	3.47E+01
NO2	1-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.00E+02	4.63E+01	9.59E+01	1.10E+00	1.24E+01
NO2	1-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.00E+02	4.63E+01	4.33E+01	1.18E+00	6.80E+00
NO2	1-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.00E+02	4.63E+01	6.32E+01	2.43E+00	1.17E+01
NO2	1-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.00E+02	4.63E+01	5.49E+01	6.07E-01	7.12E+00
NO2	1-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.00E+02	4.63E+01	5.60E+01	4.38E-01	4.56E+00
NO2	1-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.00E+02	4.63E+01	4.65E+01	1.74E-01	2.29E+00
NO2	1-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.00E+02	4.63E+01	7.97E+01	1.19E+00	7.73E+00

NO2	1-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.00E+02	4.63E+01	8.21E+01	2.52E+00	1.21E+01
NO2	1-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.00E+02	4.63E+01	4.31E+01	2.03E+00	9.28E+00
NO2	1-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.00E+02	4.63E+01	2.42E+01	4.29E-01	3.36E+00
NO2	1-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.00E+02	4.63E+01	3.96E+01	1.67E+00	8.18E+00
NO2	1-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.00E+02	4.63E+01	5.34E+01	2.83E+00	1.37E+01
NO2	1-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1	622370	4830857	(µg/m³)	4.00E+02	4.63E+01	2.99E+01	1.30E+00	7.09E+00
NO2	1-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.00E+02	4.63E+01	6.12E+01	2.67E+00	1.37E+01
NO2	1-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.00E+02	4.63E+01	2.25E+01	5.56E-01	4.61E+00
NO2	1-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.00E+02	4.63E+01	1.05E+02	1.52E+00	2.01E+01
NO2	1-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.00E+02	4.63E+01	1.11E+02	1.82E+00	2.18E+01
NO2	1-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.00E+02	4.63E+01	1.66E+02	1.06E+01	4.25E+01
NO2	1-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.00E+02	4.63E+01	1.77E+02	1.19E+01	4.54E+01
NO2	1-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.00E+02	4.63E+01	4.85E+02	3.63E+01	1.19E+02
NO2	1-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.00E+02	4.63E+01	2.44E+02	2.53E+00	3.64E+01
NO2	1-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.00E+02	4.63E+01	9.25E+01	2.75E+00	1.86E+01
NO2	1-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.00E+02	4.63E+01	1.57E+02	6.28E+00	3.33E+01
NO2	1-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m3)	4.00E+02	4.63E+01	1.29E+02	1.46E+00	1.91E+01

Table C-4: NO₂ Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
NO2	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.00E+02	3.89E+01	4.25E+00	5.98E-01	1.72E+00
NO2	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.00E+02	3.89E+01	2.32E+00	2.80E-01	9.19E-01
NO2	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.00E+02	3.89E+01	6.33E+00	1.11E+00	2.69E+00
NO2	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.00E+02	3.89E+01	9.98E+00	2.33E+00	4.93E+00
NO2	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.00E+02	3.89E+01	7.11E+00	2.38E+00	3.85E+00
NO2	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.00E+02	3.89E+01	2.61E+00	6.00E-01	1.23E+00
NO2	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.00E+02	3.89E+01	4.70E+00	1.53E+00	2.47E+00
NO2	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.00E+02	3.89E+01	3.99E+00	1.33E+00	2.13E+00
NO2	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.00E+02	3.89E+01	2.58E+00	8.69E-01	1.41E+00
NO2	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.00E+02	3.89E+01	3.57E+00	1.16E+00	1.89E+00
NO2	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.00E+02	3.89E+01	1.42E+00	4.08E-01	6.92E-01
NO2	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.00E+02	3.89E+01	6.52E+00	9.85E-01	2.97E+00
NO2	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.00E+02	3.89E+01	7.09E+00	1.11E+00	3.15E+00
NO2	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.00E+02	3.89E+01	9.26E+00	3.44E+00	5.45E+00
NO2	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.00E+02	3.89E+01	1.09E+01	3.96E+00	6.26E+00
NO2	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.00E+02	3.89E+01	2.74E+01	8.39E+00	1.48E+01
NO2	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.00E+02	3.89E+01	1.11E+01	1.55E+00	5.99E+00
NO2	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.00E+02	3.89E+01	4.80E+00	1.48E+00	2.48E+00

NO2	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.00E+02	3.89E+01	9.92E+00	2.50E+00	5.20E+00
NO2	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.00E+02	3.89E+01	6.57E+00	8.93E-01	3.21E+00
NO2	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.00E+02	3.89E+01	6.61E+00	8.12E-01	2.57E+00
NO2	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.00E+02	3.89E+01	3.80E+00	3.80E-01	1.40E+00
NO2	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.00E+02	3.89E+01	1.04E+01	1.65E+00	4.04E+00
NO2	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.00E+02	3.89E+01	1.83E+01	3.81E+00	8.18E+00
NO2	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.00E+02	3.89E+01	1.17E+01	3.76E+00	6.06E+00
NO2	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.00E+02	3.89E+01	4.56E+00	9.82E-01	2.07E+00
NO2	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.00E+02	3.89E+01	7.49E+00	2.24E+00	3.70E+00
NO2	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.00E+02	3.89E+01	6.83E+00	2.08E+00	3.45E+00
NO2	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.00E+02	3.89E+01	3.81E+00	1.12E+00	1.87E+00
NO2	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.00E+02	3.89E+01	6.28E+00	1.89E+00	3.17E+00
NO2	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.00E+02	3.89E+01	2.34E+00	6.21E-01	1.08E+00
NO2	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.00E+02	3.89E+01	1.17E+01	1.74E+00	5.20E+00
NO2	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.00E+02	3.89E+01	1.27E+01	2.01E+00	5.50E+00
NO2	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.00E+02	3.89E+01	1.78E+01	6.22E+00	9.90E+00
NO2	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.00E+02	3.89E+01	1.94E+01	6.84E+00	1.10E+01
NO2	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.00E+02	3.89E+01	4.93E+01	1.50E+01	2.65E+01
NO2	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.00E+02	3.89E+01	1.99E+01	2.64E+00	1.05E+01
NO2	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.00E+02	3.89E+01	8.61E+00	2.41E+00	4.11E+00
NO2	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.00E+02	3.89E+01	1.78E+01	3.90E+00	8.27E+00
NO2	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.00E+02	3.89E+01	1.07E+01	1.66E+00	5.56E+00

NO2	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m ³)	2.00E+02	3.89E+01	1.14E+01	1.37E+00	4.52E+00
NO2	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m ³)	2.00E+02	3.89E+01	8.81E+00	6.43E-01	2.39E+00
NO2	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m ³)	2.00E+02	3.89E+01	1.61E+01	2.62E+00	5.86E+00
NO2	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m ³)	2.00E+02	3.89E+01	1.70E+01	4.69E+00	8.29E+00
NO2	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m ³)	2.00E+02	3.89E+01	1.16E+01	3.40E+00	5.69E+00
NO2	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m ³)	2.00E+02	3.89E+01	4.65E+00	9.81E-01	2.10E+00
NO2	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m ³)	2.00E+02	3.89E+01	1.04E+01	2.94E+00	5.04E+00
NO2	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m ³)	2.00E+02	3.89E+01	1.58E+01	5.20E+00	8.53E+00
NO2	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m ³)	2.00E+02	3.89E+01	8.60E+00	2.68E+00	4.51E+00
NO2	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m ³)	2.00E+02	3.89E+01	1.68E+01	5.24E+00	8.75E+00
NO2	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m ³)	2.00E+02	3.89E+01	5.83E+00	1.58E+00	2.78E+00
NO2	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m ³)	2.00E+02	3.89E+01	3.43E+01	4.90E+00	1.56E+01
NO2	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m ³)	2.00E+02	3.89E+01	3.71E+01	5.69E+00	1.66E+01
NO2	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m ³)	2.00E+02	3.89E+01	4.93E+01	1.73E+01	2.80E+01
NO2	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m ³)	2.00E+02	3.89E+01	5.32E+01	1.89E+01	3.03E+01
NO2	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m ³)	2.00E+02	3.89E+01	1.57E+02	5.04E+01	8.84E+01
NO2	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m ³)	2.00E+02	3.89E+01	5.63E+01	7.08E+00	3.19E+01
NO2	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m ³)	2.00E+02	3.89E+01	2.33E+01	6.30E+00	1.11E+01
NO2	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m ³)	2.00E+02	3.89E+01	5.10E+01	1.12E+01	2.42E+01
NO2	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m ³)	2.00E+02	3.89E+01	3.23E+01	4.62E+00	1.68E+01

Table C-5: NO₂ Results – Annual Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)
NO2	Annual	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	6.00E+01	2.52E+01	7.86E-01
NO2	Annual	Existing	R2	45 Cloverhill Rd,Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	6.00E+01	2.52E+01	4.02E-01
NO2	Annual	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	6.00E+01	2.52E+01	1.34E+00
NO2	Annual	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	6.00E+01	2.52E+01	2.62E+00
NO2	Annual	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	6.00E+01	2.52E+01	2.40E+00
NO2	Annual	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	6.00E+01	2.52E+01	6.69E-01
NO2	Annual	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	6.00E+01	2.52E+01	1.54E+00
NO2	Annual	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	6.00E+01	2.52E+01	1.38E+00
NO2	Annual	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	6.00E+01	2.52E+01	8.95E-01
NO2	Annual	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	6.00E+01	2.52E+01	1.19E+00
NO2	Annual	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	6.00E+01	2.52E+01	4.16E-01
NO2	Annual	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	6.00E+01	2.52E+01	1.32E+00
NO2	Annual	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	6.00E+01	2.52E+01	1.43E+00
NO2	Annual	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	6.00E+01	2.52E+01	3.45E+00
NO2	Annual	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	6.00E+01	2.52E+01	3.98E+00
NO2	Annual	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	6.00E+01	2.52E+01	8.59E+00
NO2	Annual	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	6.00E+01	2.52E+01	2.50E+00

NO2	Annual	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	6.00E+01	2.52E+01	1.51E+00
NO2	Annual	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	6.00E+01	2.52E+01	2.79E+00
NO2	Annual	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	6.00E+01	2.52E+01	1.34E+00
NO2	Annual	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	6.00E+01	2.52E+01	1.12E+00
NO2	Annual	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	6.00E+01	2.52E+01	5.84E-01
NO2	Annual	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	6.00E+01	2.52E+01	2.01E+00
NO2	Annual	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	6.00E+01	2.52E+01	4.31E+00
NO2	Annual	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	6.00E+01	2.52E+01	3.78E+00
NO2	Annual	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	6.00E+01	2.52E+01	1.11E+00
NO2	Annual	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	6.00E+01	2.52E+01	2.28E+00
NO2	Annual	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	6.00E+01	2.52E+01	2.16E+00
NO2	Annual	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	6.00E+01	2.52E+01	1.15E+00
NO2	Annual	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	6.00E+01	2.52E+01	1.95E+00
NO2	Annual	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	6.00E+01	2.52E+01	6.41E-01
NO2	Annual	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	6.00E+01	2.52E+01	2.33E+00
NO2	Annual	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	6.00E+01	2.52E+01	2.54E+00
NO2	Annual	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	6.00E+01	2.52E+01	6.23E+00
NO2	Annual	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	6.00E+01	2.52E+01	6.88E+00
NO2	Annual	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	6.00E+01	2.52E+01	1.54E+01
NO2	Annual	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	6.00E+01	2.52E+01	4.37E+00
NO2	Annual	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	6.00E+01	2.52E+01	2.48E+00
NO2	Annual	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	6.00E+01	2.52E+01	4.41E+00

NO2	Annual	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	6.00E+01	2.52E+01	2.41E+00
NO2	Annual	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	6.00E+01	2.52E+01	1.97E+00
NO2	Annual	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	6.00E+01	2.52E+01	1.02E+00
NO2	Annual	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	6.00E+01	2.52E+01	3.11E+00
NO2	Annual	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	6.00E+01	2.52E+01	4.76E+00
NO2	Annual	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	6.00E+01	2.52E+01	3.53E+00
NO2	Annual	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	6.00E+01	2.52E+01	1.12E+00
NO2	Annual	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	6.00E+01	2.52E+01	3.06E+00
NO2	Annual	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	6.00E+01	2.52E+01	5.28E+00
NO2	Annual	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	6.00E+01	2.52E+01	2.72E+00
NO2	Annual	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	6.00E+01	2.52E+01	5.33E+00
NO2	Annual	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	6.00E+01	2.52E+01	1.64E+00
NO2	Annual	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	6.00E+01	2.52E+01	6.83E+00
NO2	Annual	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	6.00E+01	2.52E+01	7.50E+00
NO2	Annual	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	6.00E+01	2.52E+01	1.73E+01
NO2	Annual	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	6.00E+01	2.52E+01	1.88E+01
NO2	Annual	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	6.00E+01	2.52E+01	5.13E+01
NO2	Annual	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	6.00E+01	2.52E+01	1.28E+01
NO2	Annual	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	6.00E+01	2.52E+01	6.55E+00
NO2	Annual	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	6.00E+01	2.52E+01	1.27E+01
NO2	Annual	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m3)	6.00E+01	2.52E+01	7.09E+00

Table C-6: PM_{2.5} Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
PM25	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.70E+01	1.41E+01	1.11E-01	1.51E-02	4.58E-02
PM25	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.70E+01	1.41E+01	6.38E-02	7.06E-03	2.46E-02
PM25	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.70E+01	1.41E+01	1.71E-01	2.94E-02	7.18E-02
PM25	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.70E+01	1.41E+01	2.82E-01	6.65E-02	1.41E-01
PM25	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.70E+01	1.41E+01	1.93E-01	6.47E-02	1.05E-01
PM25	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.70E+01	1.41E+01	7.08E-02	1.65E-02	3.43E-02
PM25	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.70E+01	1.41E+01	1.23E-01	3.98E-02	6.49E-02
PM25	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.70E+01	1.41E+01	1.09E-01	3.56E-02	5.80E-02
PM25	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.70E+01	1.41E+01	6.61E-02	2.16E-02	3.53E-02
PM25	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.70E+01	1.41E+01	1.02E-01	3.31E-02	5.40E-02
PM25	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.70E+01	1.41E+01	3.86E-02	1.12E-02	1.90E-02
PM25	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.70E+01	1.41E+01	1.85E-01	2.83E-02	8.54E-02
PM25	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.70E+01	1.41E+01	2.02E-01	3.17E-02	9.05E-02
PM25	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.70E+01	1.41E+01	2.66E-01	9.93E-02	1.58E-01
PM25	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.70E+01	1.41E+01	3.13E-01	1.14E-01	1.82E-01

PM25	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.70E+01	1.41E+01	7.87E-01	2.41E-01	4.25E-01
PM25	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.70E+01	1.41E+01	3.22E-01	4.49E-02	1.72E-01
PM25	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.70E+01	1.41E+01	1.37E-01	4.16E-02	6.98E-02
PM25	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.70E+01	1.41E+01	2.75E-01	7.00E-02	1.46E-01
PM25	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.70E+01	1.41E+01	1.87E-01	2.58E-02	9.23E-02
PM25	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.70E+01	1.41E+01	1.81E-01	2.22E-02	7.04E-02
PM25	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.70E+01	1.41E+01	1.06E-01	1.04E-02	3.88E-02
PM25	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.70E+01	1.41E+01	2.85E-01	4.53E-02	1.12E-01
PM25	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.70E+01	1.41E+01	5.10E-01	1.07E-01	2.29E-01
PM25	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.70E+01	1.41E+01	3.27E-01	1.05E-01	1.69E-01
PM25	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.70E+01	1.41E+01	1.23E-01	2.69E-02	5.77E-02
PM25	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.70E+01	1.41E+01	2.04E-01	6.10E-02	1.00E-01
PM25	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.70E+01	1.41E+01	1.89E-01	5.71E-02	9.55E-02
PM25	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.70E+01	1.41E+01	1.05E-01	3.04E-02	5.12E-02
PM25	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.70E+01	1.41E+01	1.77E-01	5.33E-02	8.92E-02
PM25	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.70E+01	1.41E+01	6.53E-02	1.73E-02	3.02E-02
PM25	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.70E+01	1.41E+01	3.26E-01	4.92E-02	1.46E-01
PM25	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.70E+01	1.41E+01	3.55E-01	5.64E-02	1.55E-01
PM25	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.70E+01	1.41E+01	5.03E-01	1.75E-01	2.79E-01
PM25	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.70E+01	1.41E+01	5.47E-01	1.92E-01	3.07E-01
PM25	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.70E+01	1.41E+01	1.38E+00	4.23E-01	7.45E-01
PM25	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.70E+01	1.41E+01	5.58E-01	7.41E-02	2.95E-01

PM25	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.70E+01	1.41E+01	2.40E-01	6.74E-02	1.16E-01
PM25	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.70E+01	1.41E+01	4.94E-01	1.09E-01	2.31E-01
PM25	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.70E+01	1.41E+01	3.00E-01	4.65E-02	1.56E-01
PM25	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.70E+01	1.41E+01	2.74E-01	3.79E-02	1.21E-01
PM25	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.70E+01	1.41E+01	2.09E-01	1.75E-02	6.44E-02
PM25	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.70E+01	1.41E+01	3.81E-01	7.57E-02	1.66E-01
PM25	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.70E+01	1.41E+01	5.83E-01	1.51E-01	2.70E-01
PM25	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.70E+01	1.41E+01	3.93E-01	1.21E-01	1.98E-01
PM25	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.70E+01	1.41E+01	1.54E-01	3.29E-02	7.04E-02
PM25	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.70E+01	1.41E+01	2.94E-01	8.59E-02	1.44E-01
PM25	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.70E+01	1.41E+01	3.87E-01	1.26E-01	2.06E-01
PM25	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.70E+01	1.41E+01	2.08E-01	6.48E-02	1.09E-01
PM25	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.70E+01	1.41E+01	3.99E-01	1.24E-01	2.07E-01
PM25	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.70E+01	1.41E+01	1.37E-01	3.80E-02	6.68E-02
PM25	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.70E+01	1.41E+01	8.02E-01	1.17E-01	3.66E-01
PM25	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.70E+01	1.41E+01	8.69E-01	1.34E-01	3.91E-01
PM25	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.70E+01	1.41E+01	1.16E+00	4.09E-01	6.60E-01
PM25	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.70E+01	1.41E+01	1.26E+00	4.45E-01	7.16E-01
PM25	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.70E+01	1.41E+01	3.66E+00	1.18E+00	2.05E+00
PM25	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.70E+01	1.41E+01	1.32E+00	1.70E-01	7.42E-01
PM25	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.70E+01	1.41E+01	5.50E-01	1.49E-01	2.62E-01
PM25	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.70E+01	1.41E+01	1.20E+00	2.66E-01	5.71E-01

PM25	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m3)	2.70E+01	1.41E+01	7.54E-01	1.10E-01	3.91E-01
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Table C-7: PM_{2.5} Results – Annual

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)
PM25	Annual	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	8.80E+00	7.93E+00	2.02E-02
PM25	Annual	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	8.80E+00	7.93E+00	1.05E-02
PM25	Annual	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	8.80E+00	7.93E+00	3.56E-02
PM25	Annual	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	8.80E+00	7.93E+00	7.43E-02
PM25	Annual	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	8.80E+00	7.93E+00	6.55E-02
PM25	Annual	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	8.80E+00	7.93E+00	1.85E-02
PM25	Annual	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	8.80E+00	7.93E+00	4.04E-02
PM25	Annual	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	8.80E+00	7.93E+00	3.67E-02
PM25	Annual	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	8.80E+00	7.93E+00	2.22E-02
PM25	Annual	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	8.80E+00	7.93E+00	3.37E-02
PM25	Annual	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	8.80E+00	7.93E+00	1.14E-02
PM25	Annual	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	8.80E+00	7.93E+00	3.77E-02
PM25	Annual	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	8.80E+00	7.93E+00	4.11E-02
PM25	Annual	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	8.80E+00	7.93E+00	9.96E-02
PM25	Annual	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	8.80E+00	7.93E+00	1.15E-01
PM25	Annual	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	8.80E+00	7.93E+00	2.47E-01
PM25	Annual	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	8.80E+00	7.93E+00	7.21E-02
PM25	Annual	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	8.80E+00	7.93E+00	4.24E-02
PM25	Annual	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	8.80E+00	7.93E+00	7.77E-02

PM25	Annual	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	8.80E+00	7.93E+00	3.84E-02
PM25	Annual	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	8.80E+00	7.93E+00	3.07E-02
PM25	Annual	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	8.80E+00	7.93E+00	1.60E-02
PM25	Annual	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	8.80E+00	7.93E+00	5.57E-02
PM25	Annual	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	8.80E+00	7.93E+00	1.21E-01
PM25	Annual	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	8.80E+00	7.93E+00	1.06E-01
PM25	Annual	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	8.80E+00	7.93E+00	3.06E-02
PM25	Annual	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	8.80E+00	7.93E+00	6.20E-02
PM25	Annual	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	8.80E+00	7.93E+00	5.91E-02
PM25	Annual	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	8.80E+00	7.93E+00	3.12E-02
PM25	Annual	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	8.80E+00	7.93E+00	5.47E-02
PM25	Annual	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	8.80E+00	7.93E+00	1.79E-02
PM25	Annual	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	8.80E+00	7.93E+00	6.55E-02
PM25	Annual	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	8.80E+00	7.93E+00	7.16E-02
PM25	Annual	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	8.80E+00	7.93E+00	1.75E-01
PM25	Annual	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	8.80E+00	7.93E+00	1.94E-01
PM25	Annual	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	8.80E+00	7.93E+00	4.33E-01
PM25	Annual	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	8.80E+00	7.93E+00	1.23E-01
PM25	Annual	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	8.80E+00	7.93E+00	6.96E-02
PM25	Annual	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	8.80E+00	7.93E+00	1.23E-01
PM25	Annual	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	8.80E+00	7.93E+00	6.78E-02
PM25	Annual	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	8.80E+00	7.93E+00	5.25E-02

PM25	Annual	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	8.80E+00	7.93E+00	2.73E-02
PM25	Annual	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	8.80E+00	7.93E+00	8.69E-02
PM25	Annual	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	8.80E+00	7.93E+00	1.54E-01
PM25	Annual	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	8.80E+00	7.93E+00	1.23E-01
PM25	Annual	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	8.80E+00	7.93E+00	3.75E-02
PM25	Annual	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	8.80E+00	7.93E+00	8.89E-02
PM25	Annual	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	8.80E+00	7.93E+00	1.27E-01
PM25	Annual	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	8.80E+00	7.93E+00	6.56E-02
PM25	Annual	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	8.80E+00	7.93E+00	1.26E-01
PM25	Annual	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	8.80E+00	7.93E+00	3.93E-02
PM25	Annual	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	8.80E+00	7.93E+00	1.61E-01
PM25	Annual	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	8.80E+00	7.93E+00	1.77E-01
PM25	Annual	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	8.80E+00	7.93E+00	4.07E-01
PM25	Annual	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	8.80E+00	7.93E+00	4.44E-01
PM25	Annual	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	8.80E+00	7.93E+00	1.19E+00
PM25	Annual	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	8.80E+00	7.93E+00	2.99E-01
PM25	Annual	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	8.80E+00	7.93E+00	1.55E-01
PM25	Annual	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	8.80E+00	7.93E+00	3.01E-01
PM25	Annual	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	8.80E+00	7.93E+00	1.67E-01

Table C-8: Benzene Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Benzene	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.30E+00	9.50E-01	3.03E-03	4.23E-04	1.23E-03
Benzene	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.30E+00	9.50E-01	1.66E-03	1.98E-04	6.58E-04
Benzene	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.30E+00	9.50E-01	4.55E-03	7.99E-04	1.93E-03
Benzene	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.30E+00	9.50E-01	7.23E-03	1.69E-03	3.57E-03
Benzene	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.30E+00	9.50E-01	5.12E-03	1.71E-03	2.77E-03
Benzene	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.30E+00	9.50E-01	1.90E-03	4.37E-04	8.93E-04
Benzene	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.30E+00	9.50E-01	3.46E-03	1.12E-03	1.82E-03
Benzene	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.30E+00	9.50E-01	2.88E-03	9.54E-04	1.53E-03
Benzene	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.30E+00	9.50E-01	1.92E-03	6.57E-04	1.07E-03
Benzene	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.30E+00	9.50E-01	2.60E-03	8.42E-04	1.38E-03
Benzene	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.30E+00	9.50E-01	1.05E-03	3.02E-04	5.12E-04
Benzene	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.30E+00	9.50E-01	4.73E-03	7.13E-04	2.15E-03
Benzene	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.30E+00	9.50E-01	5.14E-03	8.03E-04	2.28E-03
Benzene	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.30E+00	9.50E-01	6.72E-03	2.50E-03	3.95E-03
Benzene	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.30E+00	9.50E-01	7.89E-03	2.88E-03	4.55E-03
Benzene	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.30E+00	9.50E-01	1.99E-02	6.09E-03	1.07E-02
Benzene	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.30E+00	9.50E-01	8.09E-03	1.12E-03	4.35E-03
Benzene	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.30E+00	9.50E-01	3.48E-03	1.07E-03	1.79E-03
Benzene	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.30E+00	9.50E-01	7.16E-03	1.80E-03	3.75E-03

Benzene	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.30E+00	9.50E-01	4.77E-03	6.47E-04	2.33E-03
Benzene	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.30E+00	9.50E-01	4.99E-03	6.25E-04	1.95E-03
Benzene	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.30E+00	9.50E-01	2.85E-03	2.94E-04	1.06E-03
Benzene	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.30E+00	9.50E-01	7.78E-03	1.25E-03	3.05E-03
Benzene	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.30E+00	9.50E-01	1.35E-02	2.83E-03	6.01E-03
Benzene	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.30E+00	9.50E-01	8.71E-03	2.80E-03	4.50E-03
Benzene	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.30E+00	9.50E-01	3.42E-03	7.43E-04	1.55E-03
Benzene	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.30E+00	9.50E-01	5.82E-03	1.75E-03	2.86E-03
Benzene	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.30E+00	9.50E-01	5.14E-03	1.60E-03	2.61E-03
Benzene	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.30E+00	9.50E-01	2.93E-03	8.65E-04	1.45E-03
Benzene	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.30E+00	9.50E-01	4.61E-03	1.39E-03	2.33E-03
Benzene	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.30E+00	9.50E-01	1.75E-03	4.64E-04	8.09E-04
Benzene	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.30E+00	9.50E-01	8.57E-03	1.27E-03	3.81E-03
Benzene	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.30E+00	9.50E-01	9.34E-03	1.47E-03	4.03E-03
Benzene	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.30E+00	9.50E-01	1.30E-02	4.55E-03	7.24E-03
Benzene	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.30E+00	9.50E-01	1.42E-02	5.00E-03	8.00E-03
Benzene	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.30E+00	9.50E-01	3.61E-02	1.10E-02	1.93E-02
Benzene	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.30E+00	9.50E-01	1.46E-02	1.93E-03	7.66E-03
Benzene	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.30E+00	9.50E-01	6.30E-03	1.77E-03	3.03E-03
Benzene	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.30E+00	9.50E-01	1.32E-02	2.89E-03	6.13E-03
Benzene	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.30E+00	9.50E-01	7.88E-03	1.21E-03	4.06E-03
Benzene	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.30E+00	9.50E-01	0.00822	1.06E-03	3.43E-03

Benzene	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.30E+00	9.50E-01	0.0065	4.97E-04	1.81E-03
Benzene	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.30E+00	9.50E-01	0.01179	2.06E-03	4.56E-03
Benzene	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.30E+00	9.50E-01	0.01359	3.71E-03	6.59E-03
Benzene	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.30E+00	9.50E-01	0.00943	2.79E-03	4.61E-03
Benzene	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.30E+00	9.50E-01	0.00381	8.01E-04	1.70E-03
Benzene	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.30E+00	9.50E-01	0.00829	2.43E-03	4.13E-03
Benzene	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.30E+00	9.50E-01	0.01169	3.87E-03	6.29E-03
Benzene	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.30E+00	9.50E-01	0.00634	2.00E-03	3.35E-03
Benzene	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.30E+00	9.50E-01	0.01199	3.74E-03	6.26E-03
Benzene	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.30E+00	9.50E-01	0.00418	1.15E-03	2.01E-03
Benzene	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.30E+00	9.50E-01	0.02444	3.52E-03	1.11E-02
Benzene	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.30E+00	9.50E-01	0.02646	4.05E-03	1.19E-02
Benzene	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.30E+00	9.50E-01	0.03501	1.23E-02	1.99E-02
Benzene	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.30E+00	9.50E-01	0.03779	1.34E-02	2.16E-02
Benzene	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.30E+00	9.50E-01	0.11171	3.58E-02	6.26E-02
Benzene	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.30E+00	9.50E-01	0.03992	5.05E-03	2.26E-02
Benzene	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.30E+00	9.50E-01	0.01662	4.49E-03	7.89E-03
Benzene	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.30E+00	9.50E-01	0.03694	8.10E-03	1.75E-02
Benzene	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.30E+00	9.50E-01	0.02297	3.30E-03	1.19E-02

Table C-9: Benzene Results – Annual

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)
Benzene	Annual	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.50E-01	6.40E-01	5.60E-04
Benzene	Annual	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.50E-01	6.40E-01	2.90E-04
Benzene	Annual	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.50E-01	6.40E-01	9.60E-04
Benzene	Annual	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.50E-01	6.40E-01	1.90E-03
Benzene	Annual	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.50E-01	6.40E-01	1.73E-03
Benzene	Annual	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.50E-01	6.40E-01	4.90E-04
Benzene	Annual	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.50E-01	6.40E-01	1.13E-03
Benzene	Annual	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.50E-01	6.40E-01	9.90E-04
Benzene	Annual	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.50E-01	6.40E-01	6.80E-04
Benzene	Annual	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.50E-01	6.40E-01	8.60E-04
Benzene	Annual	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.50E-01	6.40E-01	3.10E-04
Benzene	Annual	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.50E-01	6.40E-01	9.60E-04
Benzene	Annual	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.50E-01	6.40E-01	1.04E-03
Benzene	Annual	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.50E-01	6.40E-01	2.51E-03
Benzene	Annual	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.50E-01	6.40E-01	2.89E-03
Benzene	Annual	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.50E-01	6.40E-01	6.23E-03
Benzene	Annual	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.50E-01	6.40E-01	1.82E-03
Benzene	Annual	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.50E-01	6.40E-01	1.09E-03
Benzene	Annual	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.50E-01	6.40E-01	2.01E-03

Benzene	Annual	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.50E-01	6.40E-01	9.70E-04
Benzene	Annual	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.50E-01	6.40E-01	8.50E-04
Benzene	Annual	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.50E-01	6.40E-01	4.40E-04
Benzene	Annual	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.50E-01	6.40E-01	1.52E-03
Benzene	Annual	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.50E-01	6.40E-01	3.18E-03
Benzene	Annual	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.50E-01	6.40E-01	2.81E-03
Benzene	Annual	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.50E-01	6.40E-01	8.40E-04
Benzene	Annual	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.50E-01	6.40E-01	1.77E-03
Benzene	Annual	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.50E-01	6.40E-01	1.67E-03
Benzene	Annual	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.50E-01	6.40E-01	9.00E-04
Benzene	Annual	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.50E-01	6.40E-01	1.43E-03
Benzene	Annual	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.50E-01	6.40E-01	4.80E-04
Benzene	Annual	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.50E-01	6.40E-01	1.71E-03
Benzene	Annual	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.50E-01	6.40E-01	1.87E-03
Benzene	Annual	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.50E-01	6.40E-01	4.55E-03
Benzene	Annual	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.50E-01	6.40E-01	5.03E-03
Benzene	Annual	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.50E-01	6.40E-01	1.13E-02
Benzene	Annual	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.50E-01	6.40E-01	3.19E-03
Benzene	Annual	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.50E-01	6.40E-01	1.83E-03
Benzene	Annual	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.50E-01	6.40E-01	3.27E-03
Benzene	Annual	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.50E-01	6.40E-01	1.76E-03
Benzene	Annual	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.50E-01	6.40E-01	1.51E-03

Benzene	Annual	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.50E-01	6.40E-01	7.80E-04
Benzene	Annual	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.50E-01	6.40E-01	2.40E-03
Benzene	Annual	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.50E-01	6.40E-01	3.79E-03
Benzene	Annual	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.50E-01	6.40E-01	2.87E-03
Benzene	Annual	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.50E-01	6.40E-01	9.20E-04
Benzene	Annual	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.50E-01	6.40E-01	2.52E-03
Benzene	Annual	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.50E-01	6.40E-01	3.95E-03
Benzene	Annual	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.50E-01	6.40E-01	2.03E-03
Benzene	Annual	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.50E-01	6.40E-01	3.81E-03
Benzene	Annual	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.50E-01	6.40E-01	1.19E-03
Benzene	Annual	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.50E-01	6.40E-01	4.88E-03
Benzene	Annual	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.50E-01	6.40E-01	5.36E-03
Benzene	Annual	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.50E-01	6.40E-01	1.23E-02
Benzene	Annual	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.50E-01	6.40E-01	1.34E-02
Benzene	Annual	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.50E-01	6.40E-01	3.64E-02
Benzene	Annual	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.50E-01	6.40E-01	9.06E-03
Benzene	Annual	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.50E-01	6.40E-01	4.68E-03
Benzene	Annual	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.50E-01	6.40E-01	9.21E-03
Benzene	Annual	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.50E-01	6.40E-01	5.05E-03

Table C-10: 1,3-Butadiene Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Butadiene	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.00E+01	1.00E-01	1.80E-04	3.50E-05	7.66E-05
Butadiene	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.00E+01	1.00E-01	9.00E-05	1.57E-05	3.57E-05
Butadiene	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.00E+01	1.00E-01	2.10E-04	4.58E-05	9.44E-05
Butadiene	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.00E+01	1.00E-01	1.40E-04	3.08E-05	6.36E-05
Butadiene	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.00E+01	1.00E-01	2.70E-04	6.81E-05	1.25E-04
Butadiene	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.00E+01	1.00E-01	7.00E-05	1.59E-05	2.87E-05
Butadiene	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.00E+01	1.00E-01	2.50E-04	7.77E-05	1.29E-04
Butadiene	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.00E+01	1.00E-01	2.10E-04	4.69E-05	1.03E-04
Butadiene	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	1.00E+01	1.00E-01	2.20E-04	7.05E-05	1.18E-04
Butadiene	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.00E+01	1.00E-01	8.00E-05	1.52E-05	3.17E-05
Butadiene	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.00E+01	1.00E-01	5.00E-05	1.39E-05	2.47E-05
Butadiene	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.00E+01	1.00E-01	7.00E-05	8.60E-06	2.83E-05
Butadiene	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.00E+01	1.00E-01	8.00E-05	9.60E-06	3.02E-05
Butadiene	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.00E+01	1.00E-01	7.00E-05	2.03E-05	3.43E-05
Butadiene	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.00E+01	1.00E-01	1.00E-04	2.28E-05	4.13E-05
Butadiene	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.00E+01	1.00E-01	2.10E-04	5.87E-05	9.98E-05
Butadiene	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.00E+01	1.00E-01	7.00E-05	1.02E-05	3.36E-05
Butadiene	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.00E+01	1.00E-01	8.00E-05	2.43E-05	4.14E-05
Butadiene	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.00E+01	1.00E-01	2.00E-04	4.92E-05	9.96E-05

Butadiene	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.00E+01	1.00E-01	7.00E-05	8.00E-06	2.81E-05
Butadiene	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.00E+01	1.00E-01	5.10E-04	9.35E-05	2.20E-04
Butadiene	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.00E+01	1.00E-01	2.60E-04	4.30E-05	1.05E-04
Butadiene	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.00E+01	1.00E-01	6.60E-04	1.30E-04	2.79E-04
Butadiene	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.00E+01	1.00E-01	4.50E-04	1.00E-04	2.04E-04
Butadiene	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.00E+01	1.00E-01	5.60E-04	1.57E-04	2.64E-04
Butadiene	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.00E+01	1.00E-01	2.90E-04	7.71E-05	1.41E-04
Butadiene	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.00E+01	1.00E-01	1.21E-03	3.20E-04	5.27E-04
Butadiene	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.00E+01	1.00E-01	9.70E-04	2.11E-04	4.87E-04
Butadiene	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	1.00E+01	1.00E-01	5.90E-04	1.86E-04	3.11E-04
Butadiene	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.00E+01	1.00E-01	2.00E-04	3.93E-05	8.30E-05
Butadiene	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.00E+01	1.00E-01	1.50E-04	3.67E-05	6.60E-05
Butadiene	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.00E+01	1.00E-01	2.40E-04	2.30E-05	8.51E-05
Butadiene	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.00E+01	1.00E-01	2.60E-04	2.59E-05	9.16E-05
Butadiene	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.00E+01	1.00E-01	1.60E-04	4.68E-05	8.31E-05
Butadiene	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.00E+01	1.00E-01	3.20E-04	6.01E-05	1.26E-04
Butadiene	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.00E+01	1.00E-01	5.20E-04	1.41E-04	2.45E-04
Butadiene	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.00E+01	1.00E-01	1.80E-04	2.45E-05	7.66E-05
Butadiene	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.00E+01	1.00E-01	2.00E-04	6.04E-05	1.05E-04
Butadiene	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.00E+01	1.00E-01	6.60E-04	1.39E-04	3.21E-04
Butadiene	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.00E+01	1.00E-01	2.00E-04	2.05E-05	7.54E-05
Butadiene	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.00E+01	1.00E-01	4.60E-04	8.67E-05	2.07E-04

Butadiene	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.00E+01	1.00E-01	2.40E-04	3.96E-05	9.75E-05
Butadiene	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.00E+01	1.00E-01	6.10E-04	1.25E-04	2.57E-04
Butadiene	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.00E+01	1.00E-01	4.30E-04	9.27E-05	1.96E-04
Butadiene	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.00E+01	1.00E-01	5.10E-04	1.35E-04	2.29E-04
Butadiene	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.00E+01	1.00E-01	2.60E-04	6.64E-05	1.21E-04
Butadiene	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.00E+01	1.00E-01	1.23E-03	3.11E-04	5.21E-04
Butadiene	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.00E+01	1.00E-01	1.10E-03	2.43E-04	5.55E-04
Butadiene	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	1.00E+01	1.00E-01	5.50E-04	1.72E-04	2.88E-04
Butadiene	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.00E+01	1.00E-01	2.00E-04	4.21E-05	8.51E-05
Butadiene	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.00E+01	1.00E-01	1.40E-04	3.52E-05	6.40E-05
Butadiene	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.00E+01	1.00E-01	2.80E-04	3.05E-05	9.90E-05
Butadiene	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.00E+01	1.00E-01	3.00E-04	3.49E-05	1.07E-04
Butadiene	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.00E+01	1.00E-01	1.70E-04	5.18E-05	9.06E-05
Butadiene	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.00E+01	1.00E-01	3.70E-04	7.39E-05	1.47E-04
Butadiene	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.00E+01	1.00E-01	5.90E-04	1.58E-04	2.77E-04
Butadiene	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.00E+01	1.00E-01	2.00E-04	2.65E-05	8.28E-05
Butadiene	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.00E+01	1.00E-01	1.80E-04	5.56E-05	9.62E-05
Butadiene	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.00E+01	1.00E-01	7.50E-04	1.58E-04	3.50E-04
Butadiene	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.00E+01	1.00E-01	2.20E-04	2.36E-05	8.26E-05

Table C-11: 1,3-Butadiene Results – Annual

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)
Butadiene	Annual	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Existing	R2	45 Cloverhill Rd,Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.00E+00	6.00E-02	2.00E-05
Butadiene	Annual	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.00E+00	6.00E-02	7.00E-05
Butadiene	Annual	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.00E+00	6.00E-02	2.00E-05
Butadiene	Annual	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.00E+00	6.00E-02	8.00E-05
Butadiene	Annual	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.00E+00	6.00E-02	6.00E-05
Butadiene	Annual	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.00E+00	6.00E-02	7.00E-05
Butadiene	Annual	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.00E+00	6.00E-02	2.00E-05
Butadiene	Annual	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.00E+00	6.00E-02	1.00E-05
Butadiene	Annual	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.00E+00	6.00E-02	1.00E-05
Butadiene	Annual	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.00E+00	6.00E-02	1.00E-05
Butadiene	Annual	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.00E+00	6.00E-02	2.00E-05
Butadiene	Annual	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.00E+00	6.00E-02	3.00E-05
Butadiene	Annual	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.00E+00	6.00E-02	6.00E-05
Butadiene	Annual	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.00E+00	6.00E-02	1.00E-05
Butadiene	Annual	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.00E+00	6.00E-02	3.00E-05
Butadiene	Annual	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.00E+00	6.00E-02	6.00E-05

Butadiene	Annual	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.00E+00	6.00E-02	1.00E-05
Butadiene	Annual	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.00E+00	6.00E-02	1.10E-04
Butadiene	Annual	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.00E+00	6.00E-02	1.50E-04
Butadiene	Annual	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.00E+00	6.00E-02	1.10E-04
Butadiene	Annual	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.00E+00	6.00E-02	1.60E-04
Butadiene	Annual	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.00E+00	6.00E-02	9.00E-05
Butadiene	Annual	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.00E+00	6.00E-02	3.20E-04
Butadiene	Annual	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.00E+00	6.00E-02	2.50E-04
Butadiene	Annual	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.00E+00	6.00E-02	2.00E-04
Butadiene	Annual	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.00E+00	6.00E-02	7.00E-05
Butadiene	Annual	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.00E+00	6.00E-02	1.50E-04
Butadiene	Annual	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.00E+00	6.00E-02	3.00E-05
Butadiene	Annual	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.00E+00	6.00E-02	6.00E-05
Butadiene	Annual	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.00E+00	6.00E-02	1.70E-04
Butadiene	Annual	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.00E+00	6.00E-02	3.00E-05
Butadiene	Annual	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	2.00E+00	6.00E-02	1.00E-04

Butadiene	Annual	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	2.00E+00	6.00E-02	1.40E-04
Butadiene	Annual	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	2.00E+00	6.00E-02	1.10E-04
Butadiene	Annual	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	2.00E+00	6.00E-02	1.40E-04
Butadiene	Annual	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	2.00E+00	6.00E-02	7.00E-05
Butadiene	Annual	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	2.00E+00	6.00E-02	3.10E-04
Butadiene	Annual	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	2.00E+00	6.00E-02	2.90E-04
Butadiene	Annual	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	2.00E+00	6.00E-02	1.80E-04
Butadiene	Annual	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	2.00E+00	6.00E-02	5.00E-05
Butadiene	Annual	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	2.00E+00	6.00E-02	6.00E-05
Butadiene	Annual	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	2.00E+00	6.00E-02	9.00E-05
Butadiene	Annual	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	2.00E+00	6.00E-02	1.70E-04
Butadiene	Annual	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	2.00E+00	6.00E-02	4.00E-05
Butadiene	Annual	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	2.00E+00	6.00E-02	6.00E-05
Butadiene	Annual	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	2.00E+00	6.00E-02	1.90E-04
Butadiene	Annual	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	2.00E+00	6.00E-02	4.00E-05

Table C-12: B(a)P Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
BaP	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	4.10E-07	9.59E-07
BaP	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.92E-07	4.48E-07
BaP	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	5.86E-07	1.25E-06
BaP	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	5.64E-07	1.18E-06
BaP	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	9.69E-07	1.67E-06
BaP	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.52E-07	4.48E-07
BaP	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.10E-06	1.80E-06
BaP	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.58E-07	1.28E-06
BaP	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.03E-06	1.71E-06
BaP	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.95E-07	5.45E-07
BaP	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.22E-07	3.82E-07
BaP	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.09E-07	6.24E-07
BaP	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.32E-07	6.58E-07
BaP	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	5.91E-07	9.52E-07
BaP	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.49E-07	1.05E-06
BaP	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E-05	1.20E-04	1.00E-05	1.50E-06	2.63E-06
BaP	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.68E-07	9.81E-07
BaP	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	4.09E-07	6.72E-07
BaP	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	7.49E-07	1.55E-06

BaP	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.85E-07	6.43E-07
BaP	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.15E-07	5.87E-07
BaP	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.04E-07	3.02E-07
BaP	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	3.67E-07	8.52E-07
BaP	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.21E-07	1.27E-06
BaP	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.74E-07	1.10E-06
BaP	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.34E-07	4.36E-07
BaP	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	7.50E-07	1.22E-06
BaP	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	5.57E-07	9.47E-07
BaP	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	4.65E-07	7.56E-07
BaP	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.97E-07	4.94E-07
BaP	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.42E-07	2.46E-07
BaP	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.51E-07	7.56E-07
BaP	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.88E-07	8.09E-07
BaP	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	8.38E-07	1.34E-06
BaP	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	9.28E-07	1.48E-06
BaP	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E-05	1.20E-04	1.00E-05	2.05E-06	3.60E-06
BaP	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	3.63E-07	1.40E-06
BaP	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	3.84E-07	6.39E-07
BaP	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.62E-07	1.44E-06
BaP	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.32E-07	7.91E-07
BaP	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.25E-07	5.86E-07

BaP	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.06E-07	2.90E-07
BaP	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	3.66E-07	7.65E-07
BaP	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	4.44E-07	8.31E-07
BaP	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	4.70E-07	7.75E-07
BaP	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.93E-07	3.45E-07
BaP	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	7.94E-07	1.32E-06
BaP	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.98E-07	1.28E-06
BaP	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	4.86E-07	7.92E-07
BaP	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.72E-07	4.52E-07
BaP	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	1.38E-07	2.42E-07
BaP	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.36E-07	7.36E-07
BaP	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.70E-07	7.84E-07
BaP	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	7.09E-07	1.15E-06
BaP	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	8.03E-07	1.30E-06
BaP	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E-05	1.20E-04	1.00E-05	2.00E-06	3.48E-06
BaP	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	3.06E-07	1.24E-06
BaP	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	3.43E-07	5.72E-07
BaP	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	6.97E-07	1.53E-06
BaP	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E-05	1.20E-04	0.00E+00	2.12E-07	7.37E-07

Table C-13: B(a)P Results – Annual

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)
BaP	Annual	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.00E-05	7.70E-05	0.00E+00

BaP	Annual	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	1.00E-05	7.70E-05	0.00E+00

BaP	Annual	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	1.00E-05	7.70E-05	0.00E+00
BaP	Annual	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	1.00E-05	7.70E-05	0.00E+00

Table C-14: Formaldehyde Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Formaldehyde	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	6.50E+01	4.20E+00	1.96E-02	2.89E-03	7.99E-03
Formaldehyde	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	6.50E+01	4.20E+00	1.04E-02	1.34E-03	4.17E-03
Formaldehyde	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	6.50E+01	4.20E+00	2.83E-02	5.13E-03	1.20E-02
Formaldehyde	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	6.50E+01	4.20E+00	4.21E-02	9.79E-03	2.07E-02
Formaldehyde	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	6.50E+01	4.20E+00	3.16E-02	1.06E-02	1.71E-02
Formaldehyde	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	6.50E+01	4.20E+00	1.15E-02	2.63E-03	5.26E-03
Formaldehyde	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	6.50E+01	4.20E+00	2.20E-02	7.16E-03	1.16E-02
Formaldehyde	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	6.50E+01	4.20E+00	1.75E-02	6.00E-03	9.60E-03
Formaldehyde	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	6.50E+01	4.20E+00	1.24E-02	4.31E-03	7.01E-03
Formaldehyde	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	6.50E+01	4.20E+00	1.49E-02	4.84E-03	7.94E-03
Formaldehyde	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	6.50E+01	4.20E+00	6.38E-03	1.83E-03	3.08E-03
Formaldehyde	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	6.50E+01	4.20E+00	2.72E-02	4.11E-03	1.24E-02
Formaldehyde	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	6.50E+01	4.20E+00	2.96E-02	4.61E-03	1.30E-02
Formaldehyde	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	6.50E+01	4.20E+00	3.82E-02	1.42E-02	2.24E-02
Formaldehyde	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	6.50E+01	4.20E+00	4.46E-02	1.63E-02	2.57E-02
Formaldehyde	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	6.50E+01	4.20E+00	1.13E-01	3.46E-02	6.09E-02
Formaldehyde	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	6.50E+01	4.20E+00	4.58E-02	6.36E-03	2.46E-02
Formaldehyde	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	6.50E+01	4.20E+00	1.99E-02	6.29E-03	1.05E-02

Formaldehyde	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	6.50E+01	4.20E+00	4.28E-02	1.07E-02	2.23E-02
Formaldehyde	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	6.50E+01	4.20E+00	2.74E-02	3.72E-03	1.33E-02
Formaldehyde	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	6.50E+01	4.20E+00	2.59E-02	3.11E-03	9.97E-03
Formaldehyde	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	6.50E+01	4.20E+00	1.50E-02	1.46E-03	5.51E-03
Formaldehyde	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	6.50E+01	4.20E+00	4.09E-02	6.41E-03	1.59E-02
Formaldehyde	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	6.50E+01	4.20E+00	7.38E-02	1.54E-02	3.31E-02
Formaldehyde	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	6.50E+01	4.20E+00	4.66E-02	1.50E-02	2.42E-02
Formaldehyde	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	6.50E+01	4.20E+00	1.80E-02	3.81E-03	8.21E-03
Formaldehyde	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	6.50E+01	4.20E+00	2.84E-02	8.44E-03	1.40E-02
Formaldehyde	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	6.50E+01	4.20E+00	2.68E-02	8.05E-03	1.35E-02
Formaldehyde	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	6.50E+01	4.20E+00	1.46E-02	4.17E-03	7.08E-03
Formaldehyde	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	6.50E+01	4.20E+00	2.54E-02	7.66E-03	1.28E-02
Formaldehyde	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	6.50E+01	4.20E+00	9.27E-03	2.46E-03	4.29E-03
Formaldehyde	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	6.50E+01	4.20E+00	4.72E-02	7.05E-03	2.10E-02
Formaldehyde	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	6.50E+01	4.20E+00	5.15E-02	8.13E-03	2.23E-02
Formaldehyde	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	6.50E+01	4.20E+00	7.25E-02	2.52E-02	4.03E-02
Formaldehyde	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	6.50E+01	4.20E+00	7.89E-02	2.78E-02	4.43E-02
Formaldehyde	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	6.50E+01	4.20E+00	2.00E-01	6.09E-02	1.08E-01
Formaldehyde	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	6.50E+01	4.20E+00	8.10E-02	1.07E-02	4.27E-02
Formaldehyde	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	6.50E+01	4.20E+00	3.49E-02	9.69E-03	1.65E-02
Formaldehyde	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	6.50E+01	4.20E+00	7.12E-02	1.56E-02	3.31E-02
Formaldehyde	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	6.50E+01	4.20E+00	4.35E-02	6.73E-03	2.25E-02

Formaldehyde	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	6.50E+01	4.20E+00	2.26E-02	3.08E-03	1.00E-02
Formaldehyde	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	6.50E+01	4.20E+00	1.78E-02	1.43E-03	5.32E-03
Formaldehyde	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	6.50E+01	4.20E+00	3.18E-02	6.08E-03	1.38E-02
Formaldehyde	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	6.50E+01	4.20E+00	4.60E-02	1.25E-02	2.21E-02
Formaldehyde	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	6.50E+01	4.20E+00	3.18E-02	9.55E-03	1.56E-02
Formaldehyde	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	6.50E+01	4.20E+00	1.22E-02	2.57E-03	5.58E-03
Formaldehyde	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	6.50E+01	4.20E+00	2.38E-02	7.23E-03	1.21E-02
Formaldehyde	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	6.50E+01	4.20E+00	3.22E-02	1.04E-02	1.71E-02
Formaldehyde	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	6.50E+01	4.20E+00	1.71E-02	5.32E-03	9.00E-03
Formaldehyde	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	6.50E+01	4.20E+00	3.30E-02	1.03E-02	1.71E-02
Formaldehyde	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	6.50E+01	4.20E+00	1.13E-02	3.14E-03	5.49E-03
Formaldehyde	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	6.50E+01	4.20E+00	6.61E-02	9.71E-03	3.04E-02
Formaldehyde	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	6.50E+01	4.20E+00	7.17E-02	1.11E-02	3.25E-02
Formaldehyde	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	6.50E+01	4.20E+00	9.60E-02	3.38E-02	5.44E-02
Formaldehyde	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	6.50E+01	4.20E+00	1.04E-01	3.67E-02	5.90E-02
Formaldehyde	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	6.50E+01	4.20E+00	3.01E-01	9.67E-02	1.69E-01
Formaldehyde	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	6.50E+01	4.20E+00	1.09E-01	1.40E-02	6.12E-02
Formaldehyde	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	6.50E+01	4.20E+00	4.53E-02	1.23E-02	2.16E-02
Formaldehyde	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	6.50E+01	4.20E+00	1.01E-01	2.20E-02	4.80E-02
Formaldehyde	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	6.50E+01	4.20E+00	6.20E-02	9.02E-03	3.24E-02

Table C-15: Acetaldehyde Results – 0.5-hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Acetaldehyde	1/2-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E+02	-	3.43E-02	5.98E-04	4.31E-03
Acetaldehyde	1/2-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E+02	-	2.26E-02	2.53E-04	1.82E-03
Acetaldehyde	1/2-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E+02	-	4.44E-02	1.24E-03	6.87E-03
Acetaldehyde	1/2-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E+02	-	6.14E-02	2.55E-03	1.15E-02
Acetaldehyde	1/2-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E+02	-	5.21E-02	2.92E-03	1.07E-02
Acetaldehyde	1/2-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E+02	-	2.40E-02	5.61E-04	3.38E-03
Acetaldehyde	1/2-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E+02	-	3.93E-02	1.96E-03	7.65E-03
Acetaldehyde	1/2-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E+02	-	2.94E-02	1.67E-03	6.36E-03
Acetaldehyde	1/2-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E+02	-	2.37E-02	1.26E-03	4.69E-03
Acetaldehyde	1/2-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E+02	-	2.38E-02	1.20E-03	5.08E-03
Acetaldehyde	1/2-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E+02	-	1.16E-02	3.89E-04	2.12E-03
Acetaldehyde	1/2-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E+02	-	3.92E-02	5.56E-04	6.77E-03
Acetaldehyde	1/2-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E+02	-	4.16E-02	7.18E-04	7.17E-03
Acetaldehyde	1/2-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E+02	-	6.30E-02	3.73E-03	1.36E-02
Acetaldehyde	1/2-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E+02	-	6.35E-02	4.35E-03	1.55E-02
Acetaldehyde	1/2-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E+02	-	1.36E-01	1.08E-02	3.17E-02
Acetaldehyde	1/2-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E+02	-	7.85E-02	1.13E-03	1.12E-02
Acetaldehyde	1/2-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E+02	-	3.82E-02	1.46E-03	6.68E-03
Acetaldehyde	1/2-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E+02	-	5.76E-02	2.92E-03	1.25E-02

Acetaldehyde	1/2-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E+02	-	4.29E-02	4.45E-04	6.51E-03
Acetaldehyde	1/2-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E+02	-	5.40E-02	7.36E-04	6.27E-03
Acetaldehyde	1/2-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E+02	-	3.95E-02	3.12E-04	2.65E-03
Acetaldehyde	1/2-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E+02	-	7.54E-02	1.78E-03	1.06E-02
Acetaldehyde	1/2-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E+02	-	1.16E-01	4.05E-03	1.99E-02
Acetaldehyde	1/2-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E+02	-	8.17E-02	4.15E-03	1.75E-02
Acetaldehyde	1/2-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E+02	-	4.14E-02	1.01E-03	6.13E-03
Acetaldehyde	1/2-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E+02	-	7.06E-02	3.06E-03	1.30E-02
Acetaldehyde	1/2-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E+02	-	5.40E-02	2.82E-03	1.13E-02
Acetaldehyde	1/2-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E+02	-	3.41E-02	1.60E-03	6.45E-03
Acetaldehyde	1/2-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E+02	-	4.69E-02	1.82E-03	8.73E-03
Acetaldehyde	1/2-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E+02	-	1.95E-02	5.35E-04	3.39E-03
Acetaldehyde	1/2-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E+02	-	7.95E-02	1.02E-03	1.23E-02
Acetaldehyde	1/2-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E+02	-	8.49E-02	1.28E-03	1.31E-02
Acetaldehyde	1/2-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E+02	-	1.14E-01	6.37E-03	2.55E-02
Acetaldehyde	1/2-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E+02	-	1.24E-01	7.16E-03	2.79E-02
Acetaldehyde	1/2-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E+02	-	2.95E-01	1.82E-02	5.71E-02
Acetaldehyde	1/2-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E+02	-	1.55E-01	1.82E-03	2.03E-02
Acetaldehyde	1/2-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E+02	-	7.34E-02	2.12E-03	1.15E-02
Acetaldehyde	1/2-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E+02	-	1.09E-01	4.31E-03	2.05E-02
Acetaldehyde	1/2-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E+02	-	8.99E-02	1.01E-03	1.19E-02
Acetaldehyde	1/2-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E+02	-	8.90E-02	1.04E-03	8.62E-03

Acetaldehyde	1/2-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E+02	-	7.19E-02	4.33E-04	4.26E-03
Acetaldehyde	1/2-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E+02	-	1.24E-01	2.44E-03	1.42E-02
Acetaldehyde	1/2-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E+02	-	1.30E-01	4.76E-03	2.16E-02
Acetaldehyde	1/2-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E+02	-	8.23E-02	4.04E-03	1.76E-02
Acetaldehyde	1/2-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E+02	-	4.36E-02	1.03E-03	6.50E-03
Acetaldehyde	1/2-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E+02	-	7.51E-02	3.88E-03	1.75E-02
Acetaldehyde	1/2-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E+02	-	8.59E-02	6.11E-03	2.38E-02
Acetaldehyde	1/2-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E+02	-	4.87E-02	2.81E-03	1.23E-02
Acetaldehyde	1/2-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E+02	-	9.54E-02	4.26E-03	2.09E-02
Acetaldehyde	1/2-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E+02	-	3.60E-02	9.75E-04	7.46E-03
Acetaldehyde	1/2-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E+02	-	1.59E-01	2.37E-03	3.09E-02
Acetaldehyde	1/2-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E+02	-	1.69E-01	2.87E-03	3.38E-02
Acetaldehyde	1/2-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E+02	-	2.51E-01	1.60E-02	6.36E-02
Acetaldehyde	1/2-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E+02	-	2.68E-01	1.81E-02	6.85E-02
Acetaldehyde	1/2-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E+02	-	7.32E-01	5.49E-02	1.78E-01
Acetaldehyde	1/2-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E+02	-	3.68E-01	3.88E-03	5.43E-02
Acetaldehyde	1/2-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E+02	-	1.42E-01	4.39E-03	2.85E-02
Acetaldehyde	1/2-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E+02	-	2.42E-01	1.02E-02	5.33E-02
Acetaldehyde	1/2-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E+02	-	1.99E-01	2.28E-03	2.93E-02

Table C-16: Acetaldehyde Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Acetaldehyde	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E+02	1.60E+00	7.00E-03	1.06E-03	2.84E-03
Acetaldehyde	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E+02	1.60E+00	3.66E-03	4.93E-04	1.46E-03
Acetaldehyde	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E+02	1.60E+00	9.90E-03	1.83E-03	4.23E-03
Acetaldehyde	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E+02	1.60E+00	1.42E-02	3.29E-03	6.91E-03
Acetaldehyde	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E+02	1.60E+00	1.10E-02	3.65E-03	5.98E-03
Acetaldehyde	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E+02	1.60E+00	3.97E-03	9.11E-04	1.81E-03
Acetaldehyde	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E+02	1.60E+00	7.95E-03	2.57E-03	4.18E-03
Acetaldehyde	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E+02	1.60E+00	6.16E-03	2.11E-03	3.40E-03
Acetaldehyde	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E+02	1.60E+00	4.63E-03	1.62E-03	2.64E-03
Acetaldehyde	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E+02	1.60E+00	4.98E-03	1.63E-03	2.67E-03
Acetaldehyde	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E+02	1.60E+00	2.25E-03	6.38E-04	1.08E-03
Acetaldehyde	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E+02	1.60E+00	9.12E-03	1.36E-03	4.12E-03
Acetaldehyde	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E+02	1.60E+00	9.91E-03	1.54E-03	4.35E-03
Acetaldehyde	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E+02	1.60E+00	1.27E-02	4.68E-03	7.40E-03
Acetaldehyde	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E+02	1.60E+00	1.47E-02	5.37E-03	8.48E-03
Acetaldehyde	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E+02	1.60E+00	3.77E-02	1.15E-02	2.02E-02
Acetaldehyde	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E+02	1.60E+00	1.51E-02	2.11E-03	8.15E-03
Acetaldehyde	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E+02	1.60E+00	6.64E-03	2.14E-03	3.55E-03
Acetaldehyde	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E+02	1.60E+00	1.46E-02	3.66E-03	7.62E-03

Acetaldehyde	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E+02	1.60E+00	9.15E-03	1.24E-03	4.43E-03
Acetaldehyde	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E+02	1.60E+00	1.08E-02	1.47E-03	4.22E-03
Acetaldehyde	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E+02	1.60E+00	5.99E-03	6.94E-04	2.25E-03
Acetaldehyde	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E+02	1.60E+00	1.64E-02	2.74E-03	6.51E-03
Acetaldehyde	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E+02	1.60E+00	2.62E-02	5.54E-03	1.16E-02
Acetaldehyde	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E+02	1.60E+00	1.77E-02	5.66E-03	9.10E-03
Acetaldehyde	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E+02	1.60E+00	7.22E-03	1.61E-03	3.25E-03
Acetaldehyde	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E+02	1.60E+00	1.40E-02	4.19E-03	6.87E-03
Acetaldehyde	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E+02	1.60E+00	1.10E-02	3.68E-03	5.93E-03
Acetaldehyde	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E+02	1.60E+00	6.75E-03	2.13E-03	3.48E-03
Acetaldehyde	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E+02	1.60E+00	8.80E-03	2.66E-03	4.46E-03
Acetaldehyde	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E+02	1.60E+00	3.64E-03	9.61E-04	1.67E-03
Acetaldehyde	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E+02	1.60E+00	1.64E-02	2.42E-03	7.24E-03
Acetaldehyde	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E+02	1.60E+00	1.79E-02	2.80E-03	7.69E-03
Acetaldehyde	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E+02	1.60E+00	2.43E-02	8.49E-03	1.36E-02
Acetaldehyde	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E+02	1.60E+00	2.65E-02	9.36E-03	1.50E-02
Acetaldehyde	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E+02	1.60E+00	6.79E-02	2.06E-02	3.62E-02
Acetaldehyde	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E+02	1.60E+00	2.73E-02	3.63E-03	1.42E-02
Acetaldehyde	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E+02	1.60E+00	1.19E-02	3.46E-03	5.86E-03
Acetaldehyde	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E+02	1.60E+00	2.64E-02	5.78E-03	1.23E-02
Acetaldehyde	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E+02	1.60E+00	1.50E-02	2.30E-03	7.71E-03
Acetaldehyde	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	5.00E+02	1.60E+00	1.60E-02	2.22E-03	6.83E-03

Acetaldehyde	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	5.00E+02	1.60E+00	1.22E-02	1.04E-03	3.54E-03
Acetaldehyde	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	5.00E+02	1.60E+00	2.25E-02	4.18E-03	9.04E-03
Acetaldehyde	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	5.00E+02	1.60E+00	2.59E-02	6.95E-03	1.25E-02
Acetaldehyde	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	5.00E+02	1.60E+00	1.87E-02	5.51E-03	9.11E-03
Acetaldehyde	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	5.00E+02	1.60E+00	7.78E-03	1.69E-03	3.45E-03
Acetaldehyde	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	5.00E+02	1.60E+00	1.86E-02	5.52E-03	9.21E-03
Acetaldehyde	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	5.00E+02	1.60E+00	2.29E-02	7.78E-03	1.24E-02
Acetaldehyde	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	5.00E+02	1.60E+00	1.26E-02	4.09E-03	6.63E-03
Acetaldehyde	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	5.00E+02	1.60E+00	2.15E-02	6.69E-03	1.12E-02
Acetaldehyde	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	5.00E+02	1.60E+00	7.69E-03	2.14E-03	3.73E-03
Acetaldehyde	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	5.00E+02	1.60E+00	4.37E-02	6.30E-03	1.98E-02
Acetaldehyde	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	5.00E+02	1.60E+00	4.74E-02	7.25E-03	2.11E-02
Acetaldehyde	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	5.00E+02	1.60E+00	6.19E-02	2.17E-02	3.51E-02
Acetaldehyde	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	5.00E+02	1.60E+00	6.69E-02	2.38E-02	3.82E-02
Acetaldehyde	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	5.00E+02	1.60E+00	1.98E-01	6.33E-02	1.11E-01
Acetaldehyde	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	5.00E+02	1.60E+00	7.05E-02	8.96E-03	3.98E-02
Acetaldehyde	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	5.00E+02	1.60E+00	2.96E-02	8.11E-03	1.42E-02
Acetaldehyde	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	5.00E+02	1.60E+00	6.76E-02	1.48E-02	3.19E-02
Acetaldehyde	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	5.00E+02	1.60E+00	4.09E-02	5.87E-03	2.11E-02

Table C-17: Acrolein Results – 1 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Acrolein	1-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.50E+00	-	7.10E-03	1.20E-04	8.99E-04
Acrolein	1-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.50E+00	-	4.78E-03	5.08E-05	3.80E-04
Acrolein	1-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.50E+00	-	9.46E-03	2.64E-04	1.47E-03
Acrolein	1-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.50E+00	-	1.36E-02	5.71E-04	2.60E-03
Acrolein	1-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.50E+00	-	1.10E-02	6.39E-04	2.31E-03
Acrolein	1-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.50E+00	-	5.45E-03	1.22E-04	7.42E-04
Acrolein	1-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.50E+00	-	8.05E-03	4.10E-04	1.60E-03
Acrolein	1-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.50E+00	-	6.26E-03	3.62E-04	1.38E-03
Acrolein	1-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.50E+00	-	4.76E-03	2.55E-04	9.51E-04
Acrolein	1-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.50E+00	-	5.28E-03	2.65E-04	1.14E-03
Acrolein	1-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.50E+00	-	2.45E-03	8.34E-05	4.57E-04
Acrolein	1-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.50E+00	-	8.72E-03	1.24E-04	1.53E-03
Acrolein	1-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.50E+00	-	9.25E-03	1.60E-04	1.62E-03
Acrolein	1-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.50E+00	-	1.43E-02	8.45E-04	3.10E-03
Acrolein	1-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.50E+00	-	1.44E-02	9.87E-04	3.54E-03
Acrolein	1-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.50E+00	-	3.07E-02	2.44E-03	7.19E-03
Acrolein	1-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.50E+00	-	1.77E-02	2.56E-04	2.55E-03
Acrolein	1-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.50E+00	-	8.59E-03	3.18E-04	1.49E-03
Acrolein	1-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.50E+00	-	1.25E-02	6.39E-04	2.79E-03

Acrolein	1-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.50E+00	-	9.60E-03	9.92E-05	1.47E-03
Acrolein	1-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.50E+00	-	4.45E-02	7.12E-04	4.24E-03
Acrolein	1-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.50E+00	-	2.64E-02	3.00E-04	2.01E-03
Acrolein	1-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.50E+00	-	4.69E-02	1.12E-03	6.00E-03
Acrolein	1-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.50E+00	-	4.39E-02	1.37E-03	6.34E-03
Acrolein	1-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.50E+00	-	4.38E-02	1.59E-03	7.60E-03
Acrolein	1-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.50E+00	-	2.15E-02	6.51E-04	3.20E-03
Acrolein	1-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.50E+00	-	6.48E-02	2.27E-03	1.18E-02
Acrolein	1-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.50E+00	-	6.42E-02	1.69E-03	9.64E-03
Acrolein	1-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.50E+00	-	3.25E-02	1.37E-03	6.24E-03
Acrolein	1-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.50E+00	-	2.06E-02	5.82E-04	2.50E-03
Acrolein	1-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.50E+00	-	1.22E-02	2.67E-04	1.50E-03
Acrolein	1-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.50E+00	-	3.46E-02	2.81E-04	3.26E-03
Acrolein	1-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.50E+00	-	3.72E-02	3.58E-04	3.46E-03
Acrolein	1-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.50E+00	-	3.12E-02	1.46E-03	5.64E-03
Acrolein	1-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.50E+00	-	3.69E-02	1.77E-03	6.43E-03
Acrolein	1-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.50E+00	-	7.27E-02	4.25E-03	1.35E-02
Acrolein	1-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.50E+00	-	4.00E-02	4.45E-04	4.63E-03
Acrolein	1-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.50E+00	-	2.21E-02	8.68E-04	3.56E-03
Acrolein	1-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.50E+00	-	5.89E-02	1.66E-03	7.88E-03
Acrolein	1-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.50E+00	-	3.08E-02	2.65E-04	3.14E-03
Acrolein	1-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.50E+00	-	6.19E-02	8.24E-04	5.12E-03

Acrolein	1-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.50E+00	-	3.61E-02	3.37E-04	2.37E-03
Acrolein	1-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.50E+00	-	5.93E-02	1.48E-03	7.44E-03
Acrolein	1-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.50E+00	-	5.28E-02	1.61E-03	6.92E-03
Acrolein	1-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.50E+00	-	4.55E-02	1.61E-03	7.81E-03
Acrolein	1-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.50E+00	-	2.31E-02	6.59E-04	3.37E-03
Acrolein	1-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.50E+00	-	8.13E-02	2.69E-03	1.42E-02
Acrolein	1-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.50E+00	-	8.92E-02	3.04E-03	1.49E-02
Acrolein	1-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.50E+00	-	3.63E-02	1.75E-03	7.41E-03
Acrolein	1-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.50E+00	-	2.78E-02	1.18E-03	5.19E-03
Acrolein	1-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.50E+00	-	1.51E-02	3.65E-04	2.34E-03
Acrolein	1-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.50E+00	-	4.87E-02	6.10E-04	7.53E-03
Acrolein	1-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.50E+00	-	5.27E-02	7.61E-04	8.18E-03
Acrolein	1-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.50E+00	-	5.54E-02	3.42E-03	1.32E-02
Acrolein	1-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.50E+00	-	6.25E-02	4.19E-03	1.49E-02
Acrolein	1-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.50E+00	-	1.49E-01	1.18E-02	3.67E-02
Acrolein	1-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.50E+00	-	7.48E-02	8.57E-04	1.12E-02
Acrolein	1-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.50E+00	-	3.84E-02	1.36E-03	6.70E-03
Acrolein	1-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.50E+00	-	8.87E-02	3.44E-03	1.53E-02
Acrolein	1-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.50E+00	-	4.57E-02	5.19E-04	6.82E-03

Table C-18: Acrolein Results – 24 hour Averaging Period

Contaminant	Averaging Period	Scenario	Receptor ID	Description	UTM X Coordinate	UTM Y Coordinate	Units	Criterion (µg/m³)	Background Value (µg/m³)	Model Maximum (µg/m³)	Model Median (µg/m³)	Model 90th Percentile (µg/m³)
Acrolein	24-HR	Existing	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.00E-01	2.40E-01	1.79E-03	2.63E-04	7.26E-04
Acrolein	24-HR	Existing	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.00E-01	2.40E-01	9.48E-04	1.23E-04	3.78E-04
Acrolein	24-HR	Existing	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.00E-01	2.40E-01	2.57E-03	4.67E-04	1.09E-03
Acrolein	24-HR	Existing	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.00E-01	2.40E-01	3.82E-03	8.85E-04	1.87E-03
Acrolein	24-HR	Existing	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.00E-01	2.40E-01	2.87E-03	9.58E-04	1.55E-03
Acrolein	24-HR	Existing	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.00E-01	2.40E-01	1.04E-03	2.38E-04	4.77E-04
Acrolein	24-HR	Existing	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.00E-01	2.40E-01	2.00E-03	6.51E-04	1.05E-03
Acrolein	24-HR	Existing	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.00E-01	2.40E-01	1.58E-03	5.44E-04	8.71E-04
Acrolein	24-HR	Existing	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.00E-01	2.40E-01	1.13E-03	3.93E-04	6.39E-04
Acrolein	24-HR	Existing	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.00E-01	2.40E-01	1.34E-03	4.38E-04	7.17E-04
Acrolein	24-HR	Existing	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.00E-01	2.40E-01	5.76E-04	1.65E-04	2.80E-04
Acrolein	24-HR	Existing	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.00E-01	2.40E-01	2.46E-03	3.71E-04	1.12E-03
Acrolein	24-HR	Existing	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.00E-01	2.40E-01	2.68E-03	4.17E-04	1.18E-03
Acrolein	24-HR	Existing	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.00E-01	2.40E-01	3.44E-03	1.28E-03	2.02E-03
Acrolein	24-HR	Existing	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.00E-01	2.40E-01	4.02E-03	1.47E-03	2.32E-03
Acrolein	24-HR	Existing	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.00E-01	2.40E-01	1.02E-02	3.13E-03	5.50E-03
Acrolein	24-HR	Existing	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.00E-01	2.40E-01	4.13E-03	5.75E-04	2.22E-03
Acrolein	24-HR	Existing	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.00E-01	2.40E-01	1.80E-03	5.69E-04	9.50E-04

Acrolein	24-HR	Existing	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.00E-01	2.40E-01	3.88E-03	9.71E-04	2.02E-03
Acrolein	24-HR	Existing	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.00E-01	2.40E-01	2.47E-03	3.36E-04	1.20E-03
Acrolein	24-HR	Future Null	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.00E-01	2.40E-01	7.97E-03	1.35E-03	3.35E-03
Acrolein	24-HR	Future Null	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.00E-01	2.40E-01	3.86E-03	6.36E-04	1.62E-03
Acrolein	24-HR	Future Null	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.00E-01	2.40E-01	1.08E-02	2.05E-03	4.44E-03
Acrolein	24-HR	Future Null	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.00E-01	2.40E-01	1.04E-02	2.32E-03	4.53E-03
Acrolein	24-HR	Future Null	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.00E-01	2.40E-01	9.60E-03	2.90E-03	4.78E-03
Acrolein	24-HR	Future Null	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.00E-01	2.40E-01	4.71E-03	1.21E-03	2.15E-03
Acrolein	24-HR	Future Null	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.00E-01	2.40E-01	1.55E-02	4.30E-03	7.08E-03
Acrolein	24-HR	Future Null	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.00E-01	2.40E-01	1.31E-02	3.21E-03	6.52E-03
Acrolein	24-HR	Future Null	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.00E-01	2.40E-01	7.12E-03	2.26E-03	3.79E-03
Acrolein	24-HR	Future Null	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.00E-01	2.40E-01	3.46E-03	9.54E-04	1.69E-03
Acrolein	24-HR	Future Null	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.00E-01	2.40E-01	2.23E-03	5.74E-04	1.02E-03
Acrolein	24-HR	Future Null	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.00E-01	2.40E-01	5.73E-03	7.89E-04	2.45E-03
Acrolein	24-HR	Future Null	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.00E-01	2.40E-01	6.26E-03	8.91E-04	2.59E-03
Acrolein	24-HR	Future Null	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.00E-01	2.40E-01	6.57E-03	2.27E-03	3.66E-03
Acrolein	24-HR	Future Null	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.00E-01	2.40E-01	7.80E-03	2.60E-03	4.20E-03
Acrolein	24-HR	Future Null	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.00E-01	2.40E-01	1.99E-02	5.85E-03	1.02E-02
Acrolein	24-HR	Future Null	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.00E-01	2.40E-01	7.63E-03	1.01E-03	3.73E-03
Acrolein	24-HR	Future Null	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.00E-01	2.40E-01	4.30E-03	1.42E-03	2.36E-03
Acrolein	24-HR	Future Null	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.00E-01	2.40E-01	1.29E-02	2.75E-03	6.17E-03
Acrolein	24-HR	Future Null	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.00E-01	2.40E-01	5.26E-03	7.02E-04	2.41E-03

Acrolein	24-HR	Future Build	R1	602 The Queensway, Etobicoke, ON M8Y 1K1	621438	4831690	(µg/m³)	4.00E-01	2.40E-01	9.61E-03	1.66E-03	4.25E-03
Acrolein	24-HR	Future Build	R2	45 Cloverhill Rd, Etobicoke, ON M8Y 1T4	621787	4832349	(µg/m³)	4.00E-01	2.40E-01	5.66E-03	7.79E-04	2.05E-03
Acrolein	24-HR	Future Build	R3	260 The Queensway, Etobicoke, ON M8Y 1J4	622000	4831864	(µg/m³)	4.00E-01	2.40E-01	1.23E-02	2.60E-03	5.44E-03
Acrolein	24-HR	Future Build	R4	125 The Queensway, Etobicoke, ON M8Y 1H6	622397	4831887	(µg/m³)	4.00E-01	2.40E-01	1.08E-02	2.74E-03	5.17E-03
Acrolein	24-HR	Future Build	R5	2077 Lake Shore Blvd W, Etobicoke, ON M8V 4C2	622907	4831948	(µg/m³)	4.00E-01	2.40E-01	1.02E-02	2.97E-03	4.95E-03
Acrolein	24-HR	Future Build	R6	103 The Queensway, Toronto, ON M6S 5B4	623366	4832558	(µg/m³)	4.00E-01	2.40E-01	5.01E-03	1.26E-03	2.23E-03
Acrolein	24-HR	Future Build	R7	2150 Lake Shore Blvd W Etobicoke, ON M8V 1A3	622710	4831572	(µg/m³)	4.00E-01	2.40E-01	1.95E-02	5.15E-03	8.62E-03
Acrolein	24-HR	Future Build	R8	8 Park Lawn Rd, Etobicoke, ON M8Y 3H8	622340	4831149	(µg/m³)	4.00E-01	2.40E-01	1.89E-02	5.13E-03	9.52E-03
Acrolein	24-HR	Future Build	R9	2240 Lake Shore Blvd W #107, Toronto, ON M6K 3R1 M8Y 3H8	622370	4830857	(µg/m³)	4.00E-01	2.40E-01	8.58E-03	2.87E-03	4.63E-03
Acrolein	24-HR	Future Build	R10	32 Victoria St, Etobicoke, ON M8V 1M6	621917	4830716	(µg/m³)	4.00E-01	2.40E-01	6.33E-03	1.98E-03	3.29E-03
Acrolein	24-HR	Future Build	R11	5 Superior Ave, Etobicoke, ON M8V 2M1	622034	4830212	(µg/m³)	4.00E-01	2.40E-01	3.35E-03	8.86E-04	1.58E-03
Acrolein	24-HR	Future Build	R12	202 Melrose St, Etobicoke, ON M8Y 1B7	621139	4830788	(µg/m³)	4.00E-01	2.40E-01	1.28E-02	1.78E-03	5.63E-03
Acrolein	24-HR	Future Build	R13	200 Melrose St, Etobicoke, ON M8Y 1B7	621243	4830845	(µg/m³)	4.00E-01	2.40E-01	1.39E-02	2.04E-03	6.00E-03
Acrolein	24-HR	Future Build	R14	63 Manchester St, Etobicoke, ON M8V 3V7	621526	4830572	(µg/m³)	4.00E-01	2.40E-01	1.56E-02	5.44E-03	8.76E-03
Acrolein	24-HR	Future Build	R15	121 Harbour View Crescent, Etobicoke, ON M8V 4A8	621914	4830979	(µg/m³)	4.00E-01	2.40E-01	1.73E-02	6.07E-03	9.79E-03
Acrolein	24-HR	Future Build	R16	4 Grand Ave, Etobicoke, ON M8Y 2Y5	621682	4830881	(µg/m³)	4.00E-01	2.40E-01	5.11E-02	1.60E-02	2.79E-02
Acrolein	24-HR	Future Build	R17	5 Harold St, Etobicoke, ON M8Z 3R4	621007	4830276	(µg/m³)	4.00E-01	2.40E-01	1.80E-02	2.33E-03	9.72E-03
Acrolein	24-HR	Future Build	R18	295 Royal York Rd, Etobicoke, ON M8V 2W1	621233	4830203	(µg/m³)	4.00E-01	2.40E-01	8.01E-03	2.58E-03	4.34E-03
Acrolein	24-HR	Future Build	R19	210 Manitoba St, Etobicoke, ON M8Y 4G7	621744	4831197	(µg/m³)	4.00E-01	2.40E-01	2.47E-02	5.34E-03	1.17E-02
Acrolein	24-HR	Future Build	R20	28 Simpson Ave, Etobicoke, ON M8Z 1E1	620976	4830562	(µg/m³)	4.00E-01	2.40E-01	1.13E-02	1.61E-03	5.66E-03

Appendix D

GO Train schedules

Number of Trains - Existing case scenario (diesel only)

Train Type	Direction	Weekdays	Weekends
GO Regular	EB	48	35
	WB	45	37
GO Express	EB	11	3
	WB	17	5
GO Non-Revenue	EB	25	8
	WB	26	7
Total GO		172	95
VIA	EB	8	0
	WB	7	1
VIA Non-Revenue	EB	12	6
	WB	7	3
Total VIA		34	10
CN Switchers	EB	1	0
	WB	0	0
Total CN		1	0
OVERALL TOTAL		207	105

Number of Trains - Future case scenario (diesel only)

Train Type	Direction	Day Volume	Night Volume	Total
GO Regular	EB	72	13	85
	WB	71	13	84
GO Express	EB	37	12	49
	WB	42	7	49
GO Non-Revenue	EB	21	2	23
	WB	16	3	19
Total GO		259	50	309
VIA	EB	8	0	8
	WB	7	1	8
VIA Non-Revenue	EB	12	6	18
	WB	7	3	10
Total VIA		34	10	44
CN Switchers	EB	1	0	1
	WB	0	0	0
Total CN		1	0	1
OVERALL TOTAL		294	60	354

GO (MP40)	Eastbound				
	Existing			Future Build	
	Regular	Express	Non-revenue	Regular	Express and Non-revenue
00:00 - 01:00	1	-	1	2	1
01:00 - 02:00	-	-	1	0	1
02:00 - 03:00	-	-	1	0	1
03:00 - 04:00	-	-	1	0	1
04:00 - 05:00	-	-	1	0	1
05:00 - 06:00	3	2	1	5	9
06:00 - 07:00	1	1	1	2	6
07:00 - 08:00	2	4	2	3	18
08:00 - 09:00	2	4	1	3	17
09:00 - 10:00	3	-	1	5	2
10:00 - 11:00	2	-	1	4	2
11:00 - 12:00	3	-	1	5	2
12:00 - 13:00	3	-	1	5	2
13:00 - 14:00	3	-	1	5	2
14:00 - 15:00	3	-	1	6	2
15:00 - 16:00	3	-	1	6	2
16:00 - 17:00	4	-	1	7	1
17:00 - 18:00	3	-	1	6	1
18:00 - 19:00	2	-	1	4	1
19:00 - 20:00	2	-	1	4	1
20:00 - 21:00	2	-	1	4	1
21:00 - 22:00	2	-	1	4	1
22:00 - 23:00	2	-	1	4	1
23:00 - 00:00	2	-	1	4	1

GO (MP40)	Westbound				
	Existing			Future	
	Regular	Express	Non-revenue	Regular	Express and Non-revenue
00:00 - 01:00	2	2	1	4	7
01:00 - 02:00	-	3	1	0	10
02:00 - 03:00	-	-	1	0	1
03:00 - 04:00	-	-	1	0	1
04:00 - 05:00	-	-	1	0	1
05:00 - 06:00	-	1	1	0	4
06:00 - 07:00	2	-	1	4	1
07:00 - 08:00	1	3	2	2	11
08:00 - 09:00	4	-	1	9	1
09:00 - 10:00	4	-	1	9	1
10:00 - 11:00	3	-	1	7	1
11:00 - 12:00	3	-	1	7	1
12:00 - 13:00	3	-	1	6	1
13:00 - 14:00	3	-	1	6	1
14:00 - 15:00	2	-	1	4	1
15:00 - 16:00	2	1	1	4	4
16:00 - 17:00	2	2	1	4	7
17:00 - 18:00	2	3	2	4	10
18:00 - 19:00	2	2	1	4	7
19:00 - 20:00	2	-	1	4	1
20:00 - 21:00	2	-	1	4	1
21:00 - 22:00	2	-	1	4	1
22:00 - 23:00	2	-	1	4	1
23:00 - 00:00	2	-	1	4	1

Via Rail	Eastbound			
	Existing		Future Build	
	Regular	Non-revenue	Regular	Non-revenue
00:00 - 01:00	-	-	-	1
01:00 - 02:00	-	1	-	1
02:00 - 03:00	-	-	-	1
03:00 - 04:00	-	1	-	-
04:00 - 05:00	-	-	-	1
05:00 - 06:00	-	1	-	1
06:00 - 07:00	1	-	1	1
07:00 - 08:00	1	1	1	-
08:00 - 09:00	1	-	1	1
09:00 - 10:00	1	1	1	1
10:00 - 11:00	-	-	-	1
11:00 - 12:00	-	1	-	-
12:00 - 13:00	1	-	1	1
13:00 - 14:00	-	1	-	1
14:00 - 15:00	-	-	-	1
15:00 - 16:00	-	1	-	-
16:00 - 17:00	-	-	-	1
17:00 - 18:00	1	1	1	1
18:00 - 19:00	-	-	-	1
19:00 - 20:00	1	1	1	-
20:00 - 21:00	-	-	-	1
21:00 - 22:00	1	1	1	1
22:00 - 23:00	-	-	-	1
23:00 - 00:00	-	1	-	-

Via Rail	Westbound			
	Existing		Future Build	
	Regular	Non-revenue	Regular	Non-revenue
00:00 - 01:00	-	1	-	1
01:00 - 02:00	-	-	-	-
02:00 - 03:00	-	1	-	1
03:00 - 04:00	-	-	-	-
04:00 - 05:00	-	1	-	1
05:00 - 06:00	-	-	-	-
06:00 - 07:00	1	-	1	1
07:00 - 08:00	-	-	-	-
08:00 - 09:00	2	-	3	1
09:00 - 10:00	-	-	-	-
10:00 - 11:00	-	1	-	1
11:00 - 12:00	-	-	-	-
12:00 - 13:00	1	-	1	-
13:00 - 14:00	-	-	-	-
14:00 - 15:00	-	1	-	1
15:00 - 16:00	-	-	-	-
16:00 - 17:00	-	-	-	1
17:00 - 18:00	2	-	2	-
18:00 - 19:00	-	-	-	-
19:00 - 20:00	1	-	1	-
20:00 - 21:00	-	1	-	1
21:00 - 22:00	-	-	-	-
22:00 - 23:00	-	1	-	1
23:00 - 00:00	-	-	-	-

CN	Eastbound/Westbound	
	Existing	Future Build
00:00 - 01:00	-	-
01:00 - 02:00	-	-
02:00 - 03:00	-	-
03:00 - 04:00	-	-
04:00 - 05:00	-	-
05:00 - 06:00	-	-
06:00 - 07:00	-	-
07:00 - 08:00	-	-
08:00 - 09:00	-	-
09:00 - 10:00	-	-
10:00 - 11:00	1	1
11:00 - 12:00	-	-
12:00 - 13:00	-	-
13:00 - 14:00	-	-
14:00 - 15:00	-	-
15:00 - 16:00	-	-
16:00 - 17:00	-	-
17:00 - 18:00	-	-
18:00 - 19:00	-	-
19:00 - 20:00	-	-
20:00 - 21:00	-	-
21:00 - 22:00	-	-
22:00 - 23:00	-	-
23:00 - 00:00	-	-