

CITY OF MISSISSAUGA

# 2019 DEVELOPMENT CHARGES UPDATE TRANSPORTATION BACKGROUND STUDY

MAY 28, 2019

REVISED FINAL





2019 DEVELOPMENT  
CHARGES UPDATE  
TRANSPORTATION  
BACKGROUND STUDY

CITY OF MISSISSAUGA

PROJECT NO.: 18M-00021  
CLIENT REF: 4500477270  
DATE: MAY 28, 2019

WSP CANADA GROUP LIMITED

WSP.COM



# TABLE OF CONTENTS

- 1 INTRODUCTION ..... 1
- 2 THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR ROADS AND ROADS RELATED SERVICES.....2
  - 2.1 Road Infrastructure Costing Methodology .....2
    - 2.1.1 Unit Prices .....2
    - 2.1.2 Road Construction Benchmark Costs .....2
    - 2.1.3 Other Road Related Construction Items .....5
  - 2.2 ROADS AND ROAD-RELATED SERVICE LEVEL .....9
    - 2.2.1 Measuring Roads and Road-Related Historical Service Level .....9
    - 2.2.2 Forecast Year 2041 Service Levels .....12
  - 2.3 FORECAST 2041 ROAD INFRASTRUCTURE AND COSTS .....15
    - 2.3.1 Road and Road-Related Infrastructure Costing .....15
    - 2.3.2 Growth / Non-Growth Cost Sharing .....18
  - 2.4 Final Road Infrastructure Costs.....19
  - 2.5 Summary .....20
- 3 THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR TRANSIT RELATED SERVICES ..... 21
  - 3.1 Background.....21
  - 3.2 Planned Level of Service .....21
  - 3.3 Assessment of Transit Ridership Forecast .....23
    - 3.3.1 Transit Demand Forecast Methodology and Key Assumptions .....23
    - 3.3.2 Population and Employment Forecast .....25
  - 3.4 Transit Rolling Stock Requirements .....26
  - 3.5 Other Transit Vehicles and Equipment .....30
  - 3.6 Transit asset management plan requirements.....31
  - 3.7 Summary .....31

**LIST OF TABLES**

TABLE 1: ROAD CONSTRUCTION BENCHMARK COSTS (PER KM)..... 3

TABLE 2: CONSTRUCTION ADJUSTMENT FACTORS ..... 3

TABLE 3: OTHER ROAD RELATED INFRASTRUCTURE UNIT PRICES..... 7

TABLE 4: TEN-YEAR HISTORICAL AVERAGE VEHICLE PER LANE ..... 10

TABLE 5: TEN-YEAR HISTORICAL LANE-KILOMETERS PER POPULATION AND EMPLOYMENT ..... 10

TABLE 6: TEN-YEAR HISTORICAL ROAD INFRASTRUCTURE VALUE..... 12

TABLE 7: TEN-YEAR HISTORICAL AVERAGE VEHICLES PER LANE ..... 13

TABLE 8: FORECAST LANE-KILOMETERS PER CAPITA ..... 14

TABLE 9: ROAD NETWORK SERVICE LEVEL SUMMARY ..... 14

TABLE 10: ROAD AND ROAD-RELATED INFRASTRUCTURE COST ESTIMATES..... 16

TABLE 11: PROPOSED RAIL GRADE SEPARATIONS..... 17

TABLE 12: PRELIMINARY ROAD AND ROAD-RELATED CAPITAL COST ESTIMATES..... 19

TABLE 13: DIFFERENCES IN MUNICIPAL GROWTH FORECASTS 25

TABLE 14: SCENARIOS AND RESULTS ..... 26

TABLE 15: MIWAY 2018 VEHICLE FLEET ..... 26

TABLE 16: EXISTING (2018) MIWAY BUS FLEET AND REPLACEMENT SCHEDULE ..... 27

TABLE 17: SUMMARY OF FLEET REQUIREMENTS FOR SERVICE GROWTH..... 28

TABLE 18: MISSISSAUGA TRANSIT 2019-2028 BUS REPLACEMENT/GROWTH SCHEDULE ..... 29

TABLE 19: OTHER TRANSIT VEHICLES AND EQUIPMENT – 2018 INVENTORY ..... 30

TABLE 20: OTHER TRANSIT VEHICLES AND EQUIPMENT - FORECAST GROWTH-RELATED NEEDS..... 30

---

*APPENDICES*

Appendix A – Unit Prices and Benchmark Costs

Appendix B - Roadway Service Level Analysis

Appendix C – Historical Infrastructure Inventory

Appendix D - Road Improvement Program Costs

Appendix E – Technical Memorandum - Noise Wall Candidate  
Site Assessment

Appendix F - Growth / Non-Growth Cost Sharing Assumptions

Appendix G - Cost of Growth Analysis – Transit (MiWay)  
Services

# 1 INTRODUCTION

---

The City of Mississauga Transportation and Works Department has retained WSP to assist in the development of the transportation infrastructure component of the 2019 Development Charges (DC) By-law must be prepared in accordance with the Development Charges Act (1997, S.O. 1997, C.27) and associated regulations, and identify future transit capital costs as per the Smart Growth for Our Communities Act, 2015 (Bill 73).

The Smart Growth for Our Communities Act, 2015 (Bill 73) amends the Development Charges Act (1997) and the Planning Act. The Smart Growth for Our Communities Act reflects most significant changes to the transit development charges. These changes related to four areas of the transit DC calculations as presented below:

- elimination of the mandatory 10% deduction from the net capital cost of future projects,
- transit services must be based on a 'planned level of service' (forward looking) rather than the '10-year historical average level of service'. This requires an assessment of transit ridership forecasts for which is proposed to be funded by the development charges over the 10-year period immediately following the preparation of the background study,
- a detailed asset management strategy must be prepared, that demonstrates that all assets mentioned are financially sustainable over their full life cycle, and
- excess capacity at the end of the 10-year period immediately following the preparation of the background study must be identified and included in the estimate.

The study was directed by a working committee comprised of senior staff members from the following departments:

- City of Mississauga Transportation and Works Department
- City of Mississauga Corporate Services Department

This 2019 Development Charges Update Transportation Background Study was conducted to identify the growth-related capital costs of the City-wide Major Road Network for 2019-2041 (presented in Section 2 of the report), and the City's transit related capital cost requirements for a ten-year period from 2019 to 2028 (presented in Section 3). The costing principles used in this analysis are similar to those used in previous City of Mississauga Development Charges Update studies, and have been updated for the 2019 Development Charge Study. The following section of the report presents the Roads and Road-Related Infrastructure.

## 2 THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR ROADS AND ROADS RELATED SERVICES

---

### 2.1 ROAD INFRASTRUCTURE COSTING METHODOLOGY

This section describes the unit prices and benchmark costs used in estimating infrastructure costs, and roads and road-related construction costs. The benchmark costs represent the cost for construction from curb-to-curb on a per kilometer basis including excavation, granular, asphalt, curb and gutter, manhole, catch basin, etc. Other road network related items include traffic signals, structures, sidewalks, bicycle facilities, illumination, landscaping, etc.

#### 2.1.1 UNIT PRICES

Unit prices for basic construction items (such as asphalt, granular A and B, excavation, curb and gutter, etc.) were derived from actual City of Mississauga / Peel Region road widening and construction contracts tendered between 2014 and 2017; and were reviewed in order to determine appropriate unit prices that are reflective of current conditions and trends. Several alternative approaches for calculating average unit prices were reviewed including a weighted average (excluding the lowest and highest unit prices) and a series of 3-year moving averages from 2014 to 2017.

A review of sixteen contracts that were awarded between 2014 and 2017 revealed that most of the unit prices have increased since the last DC study. Based on the review of alternative methods, a weighted average approach was utilized to determine the unit prices. These unit prices were verified by City staff, and where sufficient samples for some construction items were not available from the past contracts, unit prices were revised using the City's most recent average unit prices. The unit prices for basic construction items are presented in Table A-1 and A-2 in Appendix A.

#### 2.1.2 ROAD CONSTRUCTION BENCHMARK COSTS

The road construction costs were estimated on a per kilometer basis (benchmark costs) using recent unit prices and the City's design standards for road widening and reconstruction projects as shown in Table 1. The detailed benchmark cost calculations are presented in Appendix A (Table A-4 to Table A-6).



**Table 1: Road Construction Benchmark Costs (per km)**

Road Improvement Type	2014 DC Costs	2019 DC Costs	Difference	
			Total Difference	% increase
New Construction				
2 Lane	\$ 1,776,000	\$ 2,274,000	\$ 498,000	28%
4 Lane	\$ 2,323,000	\$ 2,958,000	\$ 635,000	27%
6 Lane	\$ 2,871,000	\$ 3,642,000	\$ 771,000	27%
Reconstruction				
2 Lane	\$ 1,837,000	\$ 2,347,000	\$ 510,000	28%
4 Lane	\$ 2,380,000	\$ 3,026,000	\$ 646,000	27%
6 Lane	\$ 2,923,000	\$ 3,704,000	\$ 781,000	27%
Road Widening				
2-4 Lane	\$ 1,731,000	\$ 2,317,000	\$ 586,000	34%
4-6 Lane	\$ 1,895,000	\$ 2,490,000	\$ 595,000	31%
2-6 Lane	\$ 2,541,000	\$ 3,305,000	\$ 764,000	30%

The costs shown in Table 1 reflect the cost for construction from curb-to-curb and related intersection tie-in, but do not include bridges, culverts, traffic signals, sidewalk, illumination, noise wall, utility relocation, etc. (which are further described in the following Section 2.1.3).

The road construction costs per kilometer include adjustment factors that account for basic construction items, miscellaneous items, and engineering costs are presented in Table 2. These factors were derived from the Ministry's Road Evaluation Manual (RIMS). They are used to estimate the cost of an entire roadway construction project by costing the major items and then general factors were used to address smaller construction items. (miscellaneous and contingency items) that are unique to each project. These adjustment factors were applied to each project cost estimate included in the development charges program except in cases where a detailed costing analysis was conducted (e.g., Municipal Class EA studies cost estimates).

**Table 2: Construction Adjustment Factors**

Construction Type	Basic Construction	Engineering	Miscellaneous
Road Widening	15%	19%	22%
Reconstruction	-	19%	-
New Construction	10%	10%	-

### Basic Construction Adjustment Factor

The adjustment for basic construction items was applied only to road widenings (15%) and new construction (10%), and represents the cost adjustment for construction items which could vary from project to project.

The following items were accounted to be covered by the Basic Construction Adjustment Factor rather than using a detailed costing analysis for each project:

- Larger than typical storm sewer and catch basin requirements
- grading and boulevard sodding
- boulevard splash pads
- base repairs and milling on more than 10% of existing road surface
- test holes
- relocation of street signs
- traffic control (signs, temporary delineation, barriers, flag persons, etc.)
- permanent pavement markings
- dust control

A basic construction adjustment factor was not used for reconstruction projects since our costing methodology, which reflects new construction costs and techniques, assumes that the existing road is completely excavated. Since some components of the existing road are normally salvaged during most reconstruction projects, our reconstruction benchmark costs do not need any further adjustments.

### Engineering Adjustment Factor

The engineering adjustment factor (19%) for road widenings and reconstruction reflects the costs associated with the following activities:

- 10% - functional planning, detail design, tendering, and contract administration for new construction, road widening and reconstruction
- 5% - survey, geological investigations, and disbursements
- 4% - inspection, monitoring, testing, and disbursements

The engineering adjustment factor does not include the costs of undertaking Environmental Assessment (EA) studies. The costs of EA studies have been estimated based on 1.5% of the total cost for roadway, structure, and grade separation program.

### Miscellaneous Adjustment Factor

A miscellaneous adjustment factor of 22% was applied to road widening projects only. The purpose of this factor is to address the additional costs associated with widening a road in an established area that could result in significant impacts on existing properties and road access points. The miscellaneous adjustment factor addresses the following:

- restoration of driveway entrances
- restoration of cross and side street culverts
- boulevard restoration

- restoration of fencing
- relocation of fire hydrants
- water valve adjustments
- possible utility relocations
- reinstatement of landscaping on private properties resulting from accidental damage
- excavation in excess of typical depths
- excavation through rock
- lighting for night time work
- other unforeseen items encountered during construction

### Intersection Tie-in Costs

The road construction benchmark costs reflect a continuous mid-block road cross-section and do not address the additional costs associated with tying into existing intersections including the reconstruction of turning lanes. A detailed review of the intersection tie-in requirements for the roads within the development charge program was carried out to assess the number of minor and major intersection tie-ins that will be required. An average cost of \$671,000 per km was calculated for intersection tie-ins based on a cost of \$221,000 for a tie-in to a minor road, and \$264,000 for a tie-in to a major road. The calculation of the average per km intersection tie-in cost is shown in Table A-3 in Appendix A.

### **2.1.3 OTHER ROAD RELATED CONSTRUCTION ITEMS**

The benchmark costs were used to calculate the basic “curb-to-curb” road improvement costs. In order to address the total cost of road construction, costs for the following items were included for each construction project in the roads program. The unit prices for each of these items are summarized in Table 3 (please refer to Page 7-8).

#### ***Traffic Signals***

The unit price of \$150,000 for a new signal installation and \$225,000 for relocating a set of existing signals (\$75,000 for temporary signals and \$150,000 for permanent signals) per intersection was based on the City costs. The traffic signal costs for each of the roadway improvement programs were estimated based on the number of existing and new signals along the corridor.

#### ***Structures***

The City’s 2017 Bridges and Culvert Inventory (Source: EMSi Bridge TMS Inventory) was used to determine the total deck area of the existing roadway structures within the City of Mississauga.

The structures were sub-divided into categories based on the size of the structure. The unit prices for new bridge construction were obtained from the MTO Parametric Estimating Guide (2016); additional 10% cost was included for existing bridge removal for bridge widening projects. The unit prices for new culvert construction and existing culvert widening were estimated based on construction costs for projects completed from 2015 to 2016.

**Noise Walls**

The unit cost for noise wall of \$1,500/m (City data) includes both construction costs and engineering costs. Additionally, the unit cost for associated easement of approximately \$6,750 per property (City data) was included into the cost estimate for noise wall implementation.

**Sidewalks**

The unit costs for removal and replacement of sidewalks are based on a width of 1.5 m. The unit price was estimated based on construction costs extracted from previous City and Regional contracts.

**Illumination**

The unit price for illumination of \$400,000 per kilometer was estimated by the WSP electrical department, considering \$10,000 per pole with a 50-m spacing on both sides of a roadway.

**Landscaping**

The landscaping component of the infrastructure inventory includes tree planting along all major collectors and arterials. It is assumed that one tree would be planted every 10 m of frontage on both sides of the street. The estimated cost of \$500 per tree resulted in a total cost of \$100,000 per centreline kilometer of roadway.

**Rail Grade Separations**

The cost for rail grade separations were estimated based on three recent contracts within the City of Mississauga (i.e., one on Goreway Drive and two on Torbram Road). The cost estimates for each grade separation are site specific and depend on the number of tracks, width of the roadway, and adjacent property constraints. The average cost for a rail grade crossing is \$34 million each.

**At-Grade Rail Crossings**

The cost of at-grade rail crossing was estimated by indexing the unit prices from the 2014 DC study.

**Special Items**

The special item category includes several construction items that may not be present on every road project including Concrete Median, Centre Turn Lanes and Left Turn Lanes. The unit prices for special items were estimated based on basic construction items and/or by indexing the unit prices from the 2014 DC study.

**Bicycle Facilities**

The total cost for the construction of bicycle facilities (City data) was included in this DC study. The unit prices for trail boulevard (within road right-of-way, ROW) and separated bike lane were estimated based on the contracts received.

**Zebra Striped Crosswalks**

In the last five-year period, a total of 59 intersections within the City were installed with zebra striped crosswalk. A unit price of \$7,500 per intersection (City data) was used in this DC study.

**Road Right-of-Way Property**

The value of the road right-of-way (City data) was estimated based on recent land purchases throughout the City of Mississauga for residential, industrial and commercial properties. The value for other land use types was assumed to be the average of the residential, commercial and industrial property values.

**Table 3: Other Road Related Infrastructure Unit Prices**

<b>Infrastructure Items</b>	<b>Unit Price</b>
<b>TRAFFIC SIGNALS</b>	
New Intersection	\$ 150,000 / Int.
Existing Intersection	\$ 225,000 / Int.
<b>STRUCTURES</b>	
<b>A – New Bridge Construction</b>	
- Deck Area (1 - 249 m <sup>2</sup> )	\$ 12,100 - 14,500 / m <sup>2</sup>
- Deck Area (250 - 499 m <sup>2</sup> )	\$ 7,500 - 9,000 / m <sup>2</sup>
- Deck Area (500 - 749 m <sup>2</sup> )	\$ 5,800 - 7,000 / m <sup>2</sup>
- Deck Area (750 - 1000 m <sup>2</sup> )	\$ 5,100 - 6,100 / m <sup>2</sup>
- Deck Area (1001 - 3000 m <sup>2</sup> )	4,500 - 5,400 / m <sup>2</sup>
- Deck Area (over 3000 m <sup>2</sup> )	2,900 - 3,500 / m <sup>2</sup>
<b>B – Existing Bridge Widening</b>	
- Deck Area (1 - 249 m <sup>2</sup> )	13,300 - 16,000 / m <sup>2</sup>
- Deck Area (250 - 499 m <sup>2</sup> )	8,100 - 9,700 / m <sup>2</sup>
- Deck Area (500 - 749 m <sup>2</sup> )	6,300 - 7,600 / m <sup>2</sup>
- Deck Area (750 - 1000 m <sup>2</sup> )	5,500 - 6,600 / m <sup>2</sup>
- Deck Area (1001 - 3000 m <sup>2</sup> )	5,100 - 6,100 / m <sup>2</sup>
- Deck Area (over 3000 m <sup>2</sup> )	3,400 - 4,100 / m <sup>2</sup>
<b>C – Culverts</b>	\$ 6,900 / m <sup>2</sup>
<b>NOISE WALL</b>	\$ 1,500 / m
<b>EASEMENT FOR NOISE WALL</b>	\$ 6,750 / property
<b>SIDEWALKS</b>	\$ 107,800 / Km
<b>ILLUMINATION</b>	\$ 400,000 / CTL Km
<b>LANDSCAPING/TREE PLANTING</b>	\$ 100,000 / CTL Km

Infrastructure Items	Unit Price
<b>RAIL CROSSINGS</b>	
<b>A - Rail Grade Separations</b>	\$ 34 M / location
<b>B - At-Grade Crossings</b>	
Signal Relocation	\$ 360,000 / location
Padding Per Track	\$ 180,000 / track
<b>SPECIAL ITEMS</b>	
Median Boulevard	\$ 487,000 / Km
Raised Median	\$ 187,000 / Km
Retaining Wall	\$ 6,250,000 / Km
Resurface Existing Centre Turn Lane	\$ 60,000 / Km
Centre Turn Lanes	
Road Widening	\$ 777,000 / Km
New Construction	\$ 615,000 / Km
<b>BICYCLE FACILITIES (within Road ROW)</b>	
Class I - Boulevard Trails	\$ 253,000 / Km
Class II - Bike Lanes	\$ 274,000 / Km
Class III - Signed Bike Route	\$ 2,000 / Km
<b>HYDRO &amp; UTILITY RELOCATION</b>	
Utility Relocation	\$ 438,000 / Km
<b>ZEBRA STRIPED CROSSWALKS</b>	
	\$ 7,500 / Int.
<b>RIGHT-OF-WAY PROPERTY</b>	
Residential	\$ 518.92 / m <sup>2</sup>
Commercial	\$ 420.08 / m <sup>2</sup>
Industrial	\$ 370.66 / m <sup>2</sup>
Other	\$ 436.55 / m <sup>2</sup>

## 2.2 ROADS AND ROAD-RELATED SERVICE LEVEL

### 2.2.1 MEASURING ROADS AND ROAD-RELATED HISTORICAL SERVICE LEVEL

The Development Charges Act, 1997 and associated regulations require that analysis be undertaken to determine the average service level that has been provided over the last ten years and that the service level that is applied to future growth cannot exceed the ten-year historical average.

The three different types of service level methodologies used in the 2019 Transportation DC Study to provide justification for the proposed road and road-related program are: 1). Average Vehicles per Lane, and 2). Lane-Kilometers per Population and Employment, and 3). Historical road infrastructure value (incorporates a total value for all road related infrastructure).

The road service level methodologies (i.e. utilizing Average Vehicles per Lane, and Lane-kilometers per Population and Employment) are the most commonly used service level methodologies, which have been used in previous development charges studies, while the historical road infrastructure value methodology was utilized in the 2014 DC Background Study.

#### 2.2.1.1 *Average Vehicles per Lane*

The 'Vehicle Per Lane' service level measure consists in determining the average daily vehicles per lane for the major road network over the past ten years. This approach utilizes traffic databases compiled by the City that include daily traffic counts by major road section on arterial and major collector roads under the jurisdiction of the City for each year from 2009 to 2018.

The traffic data was used together with the number of lanes and length of each road section to calculate the daily vehicle kilometers travelled and lane kilometers for each road section. The vehicle kilometer and lane kilometer totals for the entire road network is used to calculate the average daily traffic per lane for each of the analyzed years. The average ten-year historical service level was established by averaging the service levels for each of the 10 years. This approach is consistent with the City's last development charge update study completed in 2014. The ten-year average historical vehicle per lane is presented in Table 4.

**Table 4: Ten-Year Historical Average Vehicle per Lane**

Year	Lane KM	Vehicle KM	Average Vehicle / Lane
2009	1,381	7,418,141	5,372
2010	1,382	7,456,632	5,395
2011	1,382	7,486,589	5,419
2012	1,372	7,523,521	5,485
2013	1,374	7,259,720	5,282
2014	1,374	7,389,979	5,377
2015	1,375	7,508,536	5,460
2016	1,378	7,642,391	5,546
2017	1,379	7,766,927	5,631
2018	1,379	7,922,268	5,743
<b>Average</b>	<b>1,378</b>	<b>7,537,470</b>	<b>5,471</b>

**2.2.1.2 Lane Kilometer per Capita (Population and Employment)**

A second measure used to assess the ten-year historical service level for the City's arterial and major collector road network consists of measuring lane kilometer per population and employment. As with the vehicles per lane measure, the lane kilometer per population and employment measure is based on the average ten-year historical (2009 to 2018) lane kilometer per population and employment for the major road system using the City's population and employment totals for the respective years. The ten-year historical lane kilometers per population and employment are presented in Table 5. The detailed vehicle kilometer and lane kilometer data used to calculate the historical service levels are contained in Appendix B.

**Table 5: Ten-Year Historical Lane-Kilometers per Population and Employment**

Year	Lane KM	Population*	Employment*	Capita (Pop. + Emp.)	Lane KM Per 1000 Capita
2009	1,381	722,142	423,449	1,145,591	1.21
2010	1,382	729,777	428,797	1,158,574	1.19
2011	1,382	737,492	434,585	1,172,077	1.18
2012	1,372	739,171	438,389	1,177,560	1.16
2013	1,374	740,853	442,248	1,183,101	1.16
2014	1,374	742,539	446,164	1,188,703	1.16
2015	1,375	744,229	450,136	1,194,365	1.15
2016	1,378	745,923	454,165	1,200,088	1.15
2017	1,379	753,861	458,605	1,212,466	1.14
2018	1,379	754,630	463,094	1,217,724	1.13
<b>Average</b>	<b>1,378</b>	<b>741,062</b>	<b>443,963</b>	<b>1,185,025</b>	<b>1.16</b>

Note \*: The population and employment numbers for the last decade is collected from the City.



### 2.2.1.3 Historical Road Infrastructure Value

An inventory of the City's road infrastructure for the ten-year period (2009-2018) was compiled to calculate the historical average road infrastructure value. The historical road infrastructure value per capita (population and employment) can be used to determine the maximum growth-related funding envelope based on forecasted future population and employment to 2041, since the DC Act, 1997 and associated regulations require that the service level to be applied to future growth not exceed the historical average over the last ten years. The existing right-of-way inventory for all major collector and arterial roads in the City of Mississauga was updated based on the previous DC study, and included additional land acquired for the road construction and/ or road widening. The land component of all concession roads (with 20 m ROW) that were in existence prior to the creation of the City of Mississauga in 1974 was removed to establish the inventory of all road ROWs acquired for the purpose of urbanization and accommodating growth.

The property types were determined using aerial photography and the City of Mississauga Official Plan. The total land value was estimated based on recent land purchases throughout the City for residential, industrial and commercial properties. The value for other land use types was assumed to be the average of the residential, commercial and industrial property values. The infrastructure items included in the inventory are as follows:

- Roadways (curb-to-curb)
- Traffic Signals (signal relocation assumes cost for temporary signals)
- Bridges and Culverts (widening and new construction)
- Noise Wall
- Sidewalks (road widening includes cost of sidewalk removals)
- Illumination
- Landscaping / Tree Planting
- Rail Grade Separations
- Zebra Stripped Crosswalks
- Concrete Medians
- Centre Turn Lanes
- Left Turn Lanes
- Bicycle Facilities
- Property ROW

The average ten-year historical road infrastructure value is presented in Table 6. Details of historical road infrastructure values are presented in Appendix C.

**Table 6: Ten-Year Historical Road Infrastructure Value**

Year	Road Infrastructure Value (\$ Millions)	Population	Employment	Capita (Pop. + Emp.)	Road Infrastructure Value per 1000 Capita (\$ Millions)
2009	6,742.6	722,142	423,449	1,145,591	5.89
2010	6,753.2	729,777	428,797	1,158,574	5.83
2011	6,762.4	737,492	434,585	1,172,077	5.77
2012	6,766.7	739,171	438,389	1,177,560	5.75
2013	6,775.5	740,853	442,248	1,183,101	5.73
2014	6,817.0	742,539	446,164	1,188,703	5.73
2015	6,827.9	744,229	450,136	1,194,365	5.72
2016	6,868.8	745,923	454,165	1,200,088	5.72
2017	6,882.2	753,861	458,605	1,212,466	5.68
2018	6,885.5	754,630	463,094	1,217,724	5.65
<b>Average</b>	<b>6,808.2</b>	<b>741,062</b>	<b>443,963</b>	<b>1,185,025</b>	<b>5.75</b>

The ten-year historical road infrastructure value was defined to establish the maximum allowable growth-related funding envelope. Based on the 10-year historical road infrastructure value per capita, a maximum D.C.-eligible cost of \$ 1,069 million (presented in Table C-11 in Appendix C) could be expected to meet the future increase in needs for transportation services for roads, and road related infrastructure, including cycling lanes, rail grade separations, structures, etc. The details of the funding envelope are addressed in the 2019 Development Charges Background Study report prepared by Hemson Consulting Ltd.

## 2.2.2 FORECAST YEAR 2041 SERVICE LEVELS

The future (2041) service level is estimated for the measures of Average Vehicles per Lane, and Lane-Kilometers per Capital (Population and Employment). The future service levels were reviewed and compared with the historical service levels, providing needs and justification for the proposed road and road-related program, without resulting in excess road network capacity.

### 2.2.2.1 Average Vehicles per Lane for Year 2041

The future average vehicles per lane road network service level was determined using forecast traffic from the City's travel demand model (GTA V4 based Emme model) factored to 24-hour volumes and using the future required number of lanes for each road section. The AM peak hour traffic for both directions of travel was extracted for the arterial and major collector road network from the City's travel demand model for year 2041.

The peak hour travel demand derived from the model was expanded to reflect 24-hour traffic based on a peak hour factor. As used in the previous DC Studies, a peak-hour factor (i.e. AM peak hour to daily traffic volume) of 7.5% was used to estimate the daily traffic volumes.

The total lane kilometers for the major road network were calculated based on the required number of lanes and length of each road section. The average vehicles per lane for the forecast

2041 and 'Growth Portion Only' were calculated based on the total forecast vehicle kilometers travelled and the total future lane kilometer as shown in Table 7. The 'Growth Portion Only' calculation reflects the growth-related component of the future vehicle kilometers and lane kilometers as extracted from the City's travel demand model.

**Table 7: Ten-Year Historical Average Vehicles per Lane**

Year	Lane KM	Vehicle KM	Average Vehicles/Lane
Average 10-Year Historical	1,378	7,537,470	5,471
Growth Portion Only*	111	1,255,762	11,350
Forecast 2041	1,490	9,178,030	6,160

Note: \* the 'Growth Portion Only' indicates the difference between 2019 and 2041.

The average vehicles/lane for the 'Growth Portion Only' was calculated based on planned growth occurring between years 2019 and 2041. The results of the Average Vehicle per Lane service level analysis indicate the following:

- the average vehicles per lane is forecasted to increase significantly by 2041
- the future major road network will be more congested in the future than it has been over the past ten years
- the service level for the 'Growth Portion Only' is forecasted to be worse than the historical ten-year average
- the road network service level is forecast to deteriorate over the next 22 years

The detailed vehicle kilometer and lane kilometer data used to calculate the 2041 service levels are provided in Appendix B.

### 2.2.2.2 Lane Kilometers per Capita (Population and Employment) for Year 2041

The future lane kilometers per capita (population and employment) service level is calculated using the forecast lane kilometers, population, and employment for the year 2041. The future lane kilometers per capita (population and employment) measure is expressed in terms of total future (existing plus growth) and 'Growth Portion Only'.

The total future analysis includes all future road infrastructure, population and employment; while the 'Growth Portion Only' measure is based on additional lane kilometers required to meet the future population and employment growth forecast between 2019 and 2041. The forecast lane kilometers per population and employment service levels are presented in Table 8.

**Table 8: Forecast Lane-Kilometers per Capita**

Year	Lane KM	Population	Employment	Capita	Lane KM /1000 Capita
Average 10-Year Historical	1,378	741,062	443,963	1,185,025	1.16
Growth Portion Only*	111	123,370	62,679	186,049	0.60
Forecast 2041	1,490	878,000	525,773	1,403,773	1.06

Note: \* the 'Growth Portion Only' indicates the difference between 2019 and 2041.

The lane kilometer per population and employment service level assessment shows that the service level is forecast to deteriorate (decreasing lane kilometer per population and employment) over the next 23 years.

### 2.2.2.3 Findings of the Forecast Service Level Analysis

The results of the ten-year historical and forecast Year 2041 service level analysis using vehicles per lane (Table 7) and lane kilometer per capita (population and employment - Table 8) indicate that the service levels are forecast to deteriorate over the next 23 years, as illustrated in Table 9.

**Table 9: Road Network Service Level Summary**

Year	Average Vehicles per Lane	Lane KM / 1000 Capita
Average 10-Year Historical	5,471	1.16
Growth Portion Only	11,350	0.60
Forecast 2041	6,160	1.06

The service level of the City's major road network is forecast to deteriorate by 13% based on the average 24-hour vehicles per lane measure and by 9% based on lane kilometer per capita (population and employment) service level measure. It should be noted that the traffic data that was used to establish the average ten-year historical roads service level includes truck traffic, while the forecast 2041 traffic forecasts from the City's model does not. Therefore, regardless of the road network service level measure that is used, the City's road infrastructure is forecast to experience deterioration in the service level of the road network over the next 23 years.

## 2.3 FORECAST 2041 ROAD INFRASTRUCTURE AND COSTS

### 2.3.1 ROAD AND ROAD-RELATED INFRASTRUCTURE COSTING

The 2041 required road and roads-related program consists of projects that are included in the City's 10-year Capital Plan (2019-2028) and identified as longer-range transportation infrastructure needs by the City's Transportation and Works Department. The additional projects in the 10-year to 23-year period were determined based in part on the City's updated 2041 travel demand forecasting model and the professional judgement of Transportation and Works staff.

The unit prices and road construction benchmark costs presented in Table 1 and Table 3 (in Section 2) of this report were utilized to establish the costs of the required roads program. The benchmark costs were used to calculate the basic "curb-to-curb" road improvement costs. However, in order to address the total cost of road construction, costs for the following items were included for each construction project in the road and road-related capital program:

- Sidewalks (road widening includes cost of sidewalk removals)
- Illumination
- Utility Relocation
- Traffic Signals
- Noise Wall
- Centre Turn Lanes
- Centre Medians
- Major Road Profile Changes
- Median Boulevard
- Bicycle Facilities
- Landscaping / Tree Planting
- Bridges and Culverts (widening and new construction)
- Road Right-of-Way

A summary of the total road and road-related infrastructure costs for 2019 to 2041 is presented in Table 10. The detailed proposed road and road-related infrastructure costs are presented in Table D-1 in Appendix D. The costs presented in Table 10 have been rounded to the nearest \$1,000 and may not exactly reflect the totals presented in Appendix D (Table D-1). It is noted that a total cost for roads and road-related infrastructure is not expected to increase the 10-year historical road infrastructure value per capita. As mentioned earlier in Section 2.2.1.3, the maximum D.C.-eligible cost of \$ 1,069 million (presented in Table C-11 in Appendix C) could be expected to meet the future increase in needs for transportation services for roads, and road related infrastructure, including cycling lanes, rail grade separations, structures, etc., compared to a total cost for roads and road-related infrastructure of \$ 956.95 million identified in Table 10.

**Table 10: Road and Road-Related Infrastructure Cost Estimates**

<b>Road &amp; Road-Related Program Components</b>	<b>Proposed Total Capital Cost</b>
Arterials	\$ 265,584,000
Major Collectors	\$ 280,720,000
Grade Separations	\$ 85,750,000
EA Studies	\$ 9,481,000
EA / TPAP Studies for <i>Dundas Connects</i> and <i>Lakeshore Connecting Communities</i> *	\$ 9,943,000
DC, OP, and TMP Studies	\$ 6,600,000
Stand Alone Traffic Signal and Intersection Improvement Costs	\$ 20,700,000
Signal Phasing Upgrades, Traffic Signal Equipment Enhancements, and ITS	\$ 29,153,000
Transit Signal Priority	\$ 9,200,000
Stand Alone Sidewalk Program	\$ 7,420,000
Bicycle Facilities	\$ 170,503,000
Noise Walls	\$ 61,900,000
<b>Total</b>	<b>\$ 956,954,000</b>

Note \*: This reflects costs for the TPAP EA Studies for *Dundas Connects* and *Lakeshore Connecting Communities*; the hard infrastructure cost is currently expected to be provided by upper levels of government.

### 2.3.1.1 Structures

The unit prices used for bridge and culvert construction are presented in Table 3 (please, refer to Page 6). A cost adjustment of 20% was added to certain structures identified as being particularly complex. Costs of structures are detailed in Table D-2 of Appendix D.

### 2.3.1.2 Grade Separation Costs

It is estimated that three railway grade separations will be required over the next 23-year period and have been included as part of the development related transportation infrastructure costs for Year 2041. It is noted that the construction cost of the grade separation at Goreway Drive reflect the City of Mississauga's cost sharing arrangement with the City of Brampton. The rail grade separation construction costs are presented in Table 11.

**Table 11: Proposed Rail Grade Separations**

Rail Grade Separation Projects	City of Mississauga Construction Costs (growth related portion only)
Goreway Drive (CNR)	\$17,750,000*
Drew Road (CNR)	\$34,000,000
Ninth Line	\$34,000,000
<b>Total</b>	<b>\$85,750,000</b>

*Note: The total cost of the Goreway Drive (CNR) project is \$35,500,000*

### 2.3.1.3 Stand Alone Traffic Signals and Intersection Improvements

The stand-alone signals and intersection improvements refers to all intersection improvements or new signal installations that are not along road sections being widened or constructed before 2041. The costs for intersection improvements and new traffic signals are estimated at a cost of \$20.7M. The signal phasing improvements are estimated to cost \$5.75M and the City's traffic signal equipment enhancements are estimated at \$15.353 M. Intelligent Transportation System (ITS) components are estimated to cost \$8.05M. All signal related costs included are required to address increased traffic demands and road congestion to Year 2041. A detailed breakdown of these costs is shown in Appendix D in Table D-3.

### 2.3.1.4 Transit Priority Measures and Traffic Signal Pre-Emption

The transit priority measures considered in the City of Mississauga over the next 23 years are estimated at \$9.2M and include traffic devices for transit signal priority (TSP) and traffic signal pre-emption for Emergency Management Services.

### 2.3.1.5 Noise Walls

A noise wall candidate site assessment was undertaken as part of the 2019 DC update study. This assessment identified 415 of the noise wall segments (out of the 568 segments proposed by the City) were warranted on the City's arterial and major collector roads. These locations identified noise levels calculated at 60 dBA or higher under future (2041) traffic conditions.

In total, approximately 30,100m of noise wall has been identified as warranted at 2,469 properties. The unit costs (derived using City data) estimated for noise wall construction (\$1,500/m) and easement requirements is \$6,750 per property (for an average width of 40 feet or 12.192 m). The estimated total cost for the noise wall capital program is approximately \$61.9M (\$45.2M for noise

walls and \$16.7M for associated easements). Details for the noise wall candidate site assessment can be found in Appendix E.

### **2.3.2 GROWTH / NON-GROWTH COST SHARING**

In the case of new road construction, it is assumed that all new arterial roads are 100% growth related and will therefore be funded 100% from road and road-related development charges. For new major collectors, it is assumed that the developer is responsible for constructing the initial two lanes of the road. This includes constructing the associated infrastructure (i.e., curb, sidewalk, illumination, etc.) with the City being responsible for widening the road from two to four lanes. The cost associated with building the additional two lanes of a four-lane road represents 20% of the cost of building the four-lane road. Therefore, the City's share of the cost is 20%.

In the case of road widening or reconstruction, it is assumed that non-growth is responsible for resurfacing or reconstructing the existing road and that growth is responsible for the widening portion of the improvement. Therefore, the non-growth share of a reconstruction or widening is 10% for a two to four or two to six-lane widening; and 20 % for a four to six lane widening. The calculations used to establish the growth/non-growth cost sharing for roads is included in Appendix F (Table F-1 and Table F-2).

The cost share for bicycle facilities was determined based on the overall benefit to existing users for road segments. An equal distribution was used for the cost of noise walls between the roads and road-related development charge and non-growth. All the other components of road program (including grade separations, stand-alone traffic signals, stand-alone sidewalks, EA, DC, and TMP studies, etc.) were assumed to be 100% for the roads and road-related development charge.



## 2.4 FINAL ROAD INFRASTRUCTURE COSTS

The road infrastructure costs are separated into 'growth' related (i.e. either City-wide roads and road-related or charge to the developers) and 'non-growth' related components as presented in Table 12 (rounded to nearest thousands).

**Table 12: Preliminary Road and Road-Related Capital Cost Estimates**

Roads Program Component	Total Capital Cost	Growth-related		Non-Growth
		City-wide Roads & Road-Related	Developer / Recoveries	
Arterials	\$ 265,584,000	\$ 227,714,000	-	\$ 37,870,000
Major Collectors	\$ 280,720,000	\$ 268,462,000	\$ 4,187,000	\$ 8,071,000
Grade Separations	\$ 85,750,000	\$ 85,750,000	-	-
EA Studies	\$ 9,481,000	\$ 9,481,000	-	-
EA / TPAP Studies for Dundas and Lakeshore	\$ 9,943,000	\$ 9,943,000	-	-
DC, OP, and TMP Studies	\$ 6,600,000	\$ 6,600,000	-	-
Stand Alone Traffic Signals and Intersection Improvement Costs	\$ 20,700,000	\$ 20,700,000	-	-
ATMS, ITS, and Signal Phasing Upgrades	\$ 29,153,000	\$ 29,153,000	-	-
Transit Signal Priority	\$ 9,200,000	\$ 9,200,000	-	-
Stand Alone Sidewalk Program	\$ 7,420,000	\$ 7,420,000	-	-
Bicycle Facilities	\$ 170,503,000	\$ 156,054,000	-	\$ 14,449,000
Noise Walls	\$ 61,900,000	\$ 30,950,000	-	\$ 30,950,000
<b>Total</b>	<b>\$ 956,954,000</b>	<b>\$ 861,427,000</b>	<b>\$ 4,187,000</b>	<b>\$ 91,340,000</b>

As presented in the table above, the Total Capital Cost for the Roads and Road-Related capital program (to Year 2041) is \$956.954 million. The 'Non-Growth' share of the total cost is \$91.34 million, the Developer/Other Recoveries share is \$4.187 million, and the DC eligible share for the Growth is \$861.427 million.

## **2.5 SUMMARY**

The technical analysis presented in this report is used in calculating the growth-related development charge for the Roads and Road-Related Service. Details for the rationalization between the residential and non-residential rates are presented in the 2019 DC background study report that has been prepared by Hemson Consulting Ltd.

## 3 THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR TRANSIT RELATED SERVICES

---

### 3.1 BACKGROUND

As previously described, the 2019 Development Charges (DC) By-law must be prepared in accordance with the *Development Charges Act* (1997, S.O. 1997, C.27) and associated regulations, and identify future transit capital costs as per the *Smart Growth for Our Communities Act*, 2015 (Bill 73).

The *Smart Growth for Our Communities Act*, 2015 (Bill 73) amends the *Development Charges Act* (1997) and the *Planning Act*. The *Smart Growth for Our Communities Act* reflects significant changes to the calculation and reporting requirements for the transit service development charge. The following highlights of the legislative changes made to the *DC Act* for transit services:

- elimination of the mandatory 10% deduction from the net capital cost of future projects,
- transit services must be based on a 'planned level of service' (forward looking) rather than the '10-year historical average level of service'. This requires an assessment of transit ridership forecasts for which is proposed to be funded by the development charges over the 10-year period immediately following the preparation of the background study,
- a detailed asset management strategy must be prepared, that demonstrates that all assets mentioned are financially sustainable over their full life cycle, and
- excess capacity at the end of the 10-year period immediately following the preparation of the background study must be identified and included in the estimate.

The following section in this report provides input to the City of Mississauga's DC Analysis for transit services over the period of 2019-2028.

### 3.2 PLANNED LEVEL OF SERVICE

For the purposes of the transit services DC calculation, the "planned level of service" is considered the ten-year development-related capital forecast (2019-2028) in the City-wide 2019 DC Background Study, as informed by various sources including the City's current and proposed capital budgets, long range plans, prior DC studies, and staff reports. Additional details of the transit capital program and related planned level of service is presented as part of the 2019 City-wide DC Background Study.

Of particular relevance, MiWay, through their 5-year service plan (MiWay Five (2016-2020)), has updated their operating service standards and performance indicators. The updated standards set out the benchmarks against which the performance of the transit network is assessed, guides decision making regarding current and new service planning (e.g. routes, service frequency, hours of service, etc.), and ultimately ensures that there is a traceable and justifiable approach to operating their municipal bus services.

The document states that:

*Service standards are used to ensure the services operated by MiWay meet their customers' needs and expectations and are provided in a cost-effective, fiscally responsible manner. They provide guidance and information for the following purposes:*

- *Service development*
- *Evaluation*
- *Budgeting*
- *Public accountability*

*Service standards and key performance indicators (KPIs) are important tools for planning, operating and managing the transit system. MiWay's service standards were reviewed and updated to reflect new services, such as express routes, which have been introduced or the use of the new Transitway. MiWay has been using Boardings per Service-hour as the primary KPI, although three others are also generated: Boardings per Service Kilometre; Passenger Kilometres; and Average Load (Passenger Kilometres/Service Kilometres).*

*The performance of the existing services based on the KPIs will be reported to the Transit Management Team on a regular basis, and will be incorporated into the annual Business Plan. To help support the performance monitoring process, it would be desirable in the future for MiWay to develop a method for calculating individual route costs.*

The study recommended a three-factor composite index to monitor individual route performance, and MiWay has subsequently incorporated the approach into their regular service monitoring program. The assessment criteria are:

#### **Ridership Productivity**

- KPI: Passenger per Service Hour
- Calculation: Route Passengers per Service Hour / Category Average

#### **Utilization**

- KPI: Average Load (Passenger Kilometres per Service Kilometre)
- Calculation: Route Average Load / Category Average

#### **Cost Efficiency**

- KPI: Net Cost per Boarding
- Calculation: Category Average Net Cost per Boarding / Route Net Cost per Boarding

It is on the basis of the above-discussed service standards that MiWay's forecast transit service plan was developed, and forms the basis for the transit vehicle and facility requirements projections that comprise the transit component of the DC Background Study.

More information on the MiWay Five (2016-2020) is available at: <http://www.mississauga.ca/portal/miway/miwayfive>

The MiWay 2016-2020 report includes, in Appendix B – Service Standards, an assessment of the performance of all routes at the time of the study. MiWay continues to monitor the routes and assess their performance on the above-noted criteria in the interim, on an annual basis, and makes adjustments to their service plan to respond to current conditions.

### **3.3 ASSESSMENT OF TRANSIT RIDERSHIP FORECAST**

The City of Mississauga’s most recent travel demand model is based on the GTAModel4 platform, which is a state-of-the-art activity-based model, developed by the Travel Demand Modelling Group (TMG) at the University of Toronto. As part of the Transportation Background Study, the 2016 base year of the travel demand model was updated and calibrated with up-to-date information such as the 2016 Transportation Tomorrow Survey (TTS) data, traffic counts, transit ridership data, 2016 census data, etc. The model was updated by WSP with support from TMG.

For the purposes of the 2019 DC Background Study, the model was also used to forecast the travel demand and transit ridership for the future (2031 and 2041) planning horizon years. The travel demand forecasts were modelled based on future land use, network characteristics, and demographic data received from the City of Mississauga and adjacent municipalities.

#### **3.3.1 TRANSIT DEMAND FORECAST METHODOLOGY AND KEY ASSUMPTIONS**

The travel demand model assigns the person trips to different types of mode of transportation - i.e. autos, transit, pedestrian, cyclist, carpool/shared ride, considering the travel time/cost of trips, congestion and the overall utility of the system.

The City’s travel demand model was calibrated using the most recent available regional travel behaviour survey, the 2016 TTS, an approach used in most ridership forecasts in the region. The land use for the model calibration was taken primarily from the 2016 TTS, and scaled to match the 2016 Census totals by census sub-division. Population data provided by the City was used within its borders. Zonal employment totals were derived in a similar fashion. The transportation network used in the model calibration was primarily based on the 2016 “Base Network” compiled by TMG, and updated to reflect the City’s own zone system.

The ridership model analysis examined the proposed 2031 transit network which includes the following major transit network improvements:

- Hurontario LRT
- Dundas BRT (only a segment between Hurontario Street and Kipling Station is considered to operate with BRT lanes in 2031, the west segment between Hurontario Street and Winston Churchill Boulevard is assumed to operate with BRT lanes in 2041)
- MiWay Mississauga Transitway extension
- MiWay’s express bus routes on Dixie, Airport Road, McLaughlin, Mavis, and to Toronto Pearson
- Brampton “Zum” BRT
- York Regional Transit 407 Transitway
- GO Transit Regional Express Rail

- TTC Eglinton Crosstown
- TTC Line 1 extensions to Vaughan and Richmond Hill
- TTC Line 2 extension to Scarborough Town Center
- TTC Relief Line: Osgoode to Don Mills
- TTC Finch West LRT
- TTC Sheppard East LRT

The ridership analysis was developed using publicly available information, along with information provided by City staff. A comprehensive list of transit projects was used to develop the analysis as these projects impact the overall ridership of the City's transit network. This approach is similar to the ridership analysis completed as part of other municipal DC Background Studies (e.g. the 2018 City of Toronto DC Background Study).

### 3.3.2 POPULATION AND EMPLOYMENT FORECAST

Appendix A of the City-wide 2019 DC Background Study prepared by Hemson Consulting Ltd. provides a detailed discussion of the population and employment estimates used for the purposes of the DC Background Study as well as other planning documents and relevant master plans. The following provides an excerpt from Appendix A.

*It is recognized that Census population and employment, which is used for the purposes of the DC Background Study calculations, differs from the population and employment estimates often included in other municipal planning documents such as Official Plans and master plan documents. The table below summarizes the differences between these forecast estimates. For the purposes of explaining the differences in the context of the City of Mississauga, the Census years of 2016, 2031 and 2041 have been used.*

*The difference between Census population and total population is related to the Census net under-coverage estimate. Total population is often used when planning for municipal infrastructure as these residents will have an associated demand for services, despite not being counted by the Census.*

*In contrast, the difference between place of work employment and total employment relates to the number of employees that work at home. Similarly, total employment is common in municipal infrastructure plans as the municipality plans for the delivery of services related to total forecast employment irrespective of whether an employee works at home or not.*

**Table 13: Differences in Municipal Growth Forecasts**

	2016	2031	2041
<b>Residential</b>			
Total Population	745,923	829,000	878,000
Census Population for DC Study	721,600	802,000	849,400
<b>Non-Residential</b>			
Total Employment	476,820	527,000	552,000
Place of Work Employment for DC Study	454,165	501,961	525,773

*Source: Appendix A of the City-Wide 2019 DC Background Study, Hemson Consulting Ltd.*

*Development charge studies use Census population for the purposes of the rate calculation as there is a direct relationship with the Census regular occupied household numbers; this correlation is used to establish person per unit (PPU) assumptions which are critical in the DC rate calculation. However, it is stressed that the “total population” and “Census population” at the Census horizon years (inclusive of 2016, 2031 and 2041) reflect a consistent land use development forecast.*

For the purpose of the transit ridership analysis, two future road networks were developed for the 2031 and 2041 planning horizon years. The travel demand model includes trips generated by

total population (i.e. includes Census net under-coverage), and ‘no fixed place of work employment’. However, the model does not generate vehicular or auto trips for the ‘work from home’ employment. The transit ridership analysis relies on land use (population and employment) projections for the 2031 and 2041 planning horizons. The ridership forecasts for three land use and network scenarios are presented in Table 14. The total number of MiWay boarding reflects AM peak period (06:00 – 09:00 AM) demand.

**Table 14: Scenarios and Results**

Scenario	Land Use	Network	MiWay Boarding (AM Peak)
<b>A</b>	2016	2016	47,000
<b>B</b>	2016	2031	79,000
<b>C</b>	2041	2031	110,000

*Note: The above table “boarding” reports “unlinked” trips; that is, a full origin-to-destination trip that boards two buses will be counted as two “boarding”. This is consistent with the data collected by the City and used during model calibration.*

### 3.4 TRANSIT ROLLING STOCK REQUIREMENTS

MiWay’s rolling stock requirements are comprised of the following key components:

- Buses required for general service growth (including the Mississauga Transitway);
- Buses required for project-specific growth (e.g. Dundas Connects, Lakeshore Connecting Communities); and
- Buses required for replacement of existing vehicles at the end of their lifecycle.

Table 15, below, presents MiWay’s current (2018) Vehicle Fleet and their lifecycle costs.

**Table 15: MiWay 2018 Vehicle Fleet**

Vehicles Description	# of Vehicles (2018)	Lifecycle Costs (\$/veh)
Buses (conventional fleet)	433	\$585,000
Buses (articulated fleet)	67	\$940,000
<b>Total (#)</b>	<b>500</b>	

A breakdown of MiWay’s 2018 bus fleet, including the age of vehicles and types, and anticipated replacement schedule, is presented in Table 16.



**Table 16: Existing (2018) MiWay Bus Fleet and Replacement Schedule**

<b>Mississauga Transit 2019-2029 Bus Replacement/Growth Schedule</b>																			
Unit From	Unit To	# of Buses	Size	Current Year of Bus	Replacement Year of Bus	Life Years	Replacement (\$000's)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	# of Buses 2019-2028	
301	344	26	40	2003	2018	16	\$585		26									26	
301	344	10	40	2003	2018	16	\$585	10										10	
501	536	36	40	2005	2021	17	\$585			36								36	
537	572	36	40	2005	2022	18	\$585				36							36	
601	653	53	40	2006	2023	18	\$585					53						53	
721	735	14	40	2007	2021	15	\$585			14								14	
801	844	44	40	2008	2022	15	\$585				44							44	
881	885	5	60	2008	2019	12	\$940	5										5	
901	925	24	40	2009	2023	15	\$585					24						24	
1001	1020	20	40	2010	2024	15	\$590						20					20	
1031	1045	15	40	2010	2024	15	\$585						15					15	
1051	1072	22	60	2010	2021	12	\$940			22								22	
1101	1143	43	40	2011	2025	15	\$585							43				43	
1201	1215	15	40	2012	2026	15	\$590								15			15	
1301	1314	14	40	2012	2026	15	\$590								14			14	
1351	1360	10	60	2013	2027	15	\$940									10		10	
1401	1407	7	40	2014	2028	15	\$590										7	7	
1701	1727	27	40	2017	2031	15	\$590											0	
1730	1766	37	40	2018	2032	15	\$585											0	
1770	1799	30	60	2018	2029	12	\$940											0	
1801	1812	12	40	2018	2032	15	\$585											0	
		500	Number of replacement buses:						15	26	72	80	77	35	43	29	10	7	394
								Total Cost	\$10,600	\$15,200	\$49,900	\$46,800	\$45,000	\$20,600	\$25,200	\$17,100	\$9,400	\$4,100	\$243,900
								Federal Gas Tax 100%	10,600	15,200	49,900	46,800	45,000	20,600	25,200	17,100	9,400	4,100	\$243,900

For the purposes of the Development Charges Study, the analysis focused on the fleet requirements for general service growth. Buses required for replacement of existing vehicles are also not eligible for development charges funding.

### General Service Growth

The City has prepared an estimate of the number of new vehicles required (to 2028) to accommodate anticipated growth in ridership, based on their current forecast transit service plan. The City's current bus fleet is comprised of standard 40 ft. (12 m) and articulated 60 ft. (18 m) buses. The City bases their forecast of vehicle replacement on the type of bus and updates it according to the condition of the in-service vehicles throughout their lifespan. Generally, the assumption is that a typical 40 ft. bus would have a lifespan of approximately 15 years, while that of a 60 ft. bus would be approximately 12 years.

The cost of replacement vehicles is assumed to be \$585,000 per 40 ft. bus, and \$940,000 per 60 ft. bus. The City has, in their 2018-2027 Capital Budget, identified a service schedule for their fleet maintenance, including major engine and transmission work. The anticipated bus fleet requirements to accommodate growth is expected to be comprised entirely of conventional 40 ft. buses (i.e. no articulated 60 ft. buses). The following table summarizes the anticipated fleet growth to serve new ridership in the City, over the horizon of the Development Charges Study.

**Table 17: Summary of Fleet Requirements for Service Growth**

	No. of Buses for Growth (2019-2028)	Value for Buses (2019-2028)	Other Costs* (2019-2028)	Total DC Eligible Cost (2019-2028)
DC Growth	32	\$ 18.720 M	\$ 1.088 M	\$ 19.808 M

Note: \* Includes Presto, farebox, and radio equipment

A detailed annual breakdown of the anticipated vehicle requirements to accommodate service growth is provided in Table 18.

**Table 18: Mississauga Transit 2019-2028 Bus Replacement/Growth Schedule**

Transit Related Costs	Year										Total Cost (in 000's)
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Number of Buses for Growth	0	2	7	5	3	4	4	3	2	2	32
Costs for Growth Buses	\$0	\$1,170	\$4,095	\$2,925	\$1,755	\$2,340	\$2,340	\$1,755	\$1,170	\$1,170	\$18,720
Additional Equipment Cost	\$0	\$24	\$84	\$60	\$36	\$48	\$48	\$36	\$24	\$24	\$384
Fareboxes/radios Costs	\$0	44	\$154	\$110	\$66	\$88	\$88	\$66	\$44	\$44	\$704
<b>Total Growth Funding</b>	<b>\$0</b>	<b>\$1,238</b>	<b>\$4,333</b>	<b>\$3,095</b>	<b>\$1,857</b>	<b>\$2,476</b>	<b>\$2,476</b>	<b>\$1,857</b>	<b>\$1,238</b>	<b>\$1,238</b>	<b>\$19,808</b>

Source: City of Mississauga.

### 3.5 OTHER TRANSIT VEHICLES AND EQUIPMENT

Transit vehicles support the operations of the transit service, but are non-revenue vehicles. These typically include service trucks, supervisory vehicles, and their associated equipment. The following table presents MiWay's 2018 fleet of such vehicles, and their unit costs.

**Table 19: Other Transit Vehicles and Equipment – 2018 Inventory**

Vehicles Description	# of Vehicles (2018)	Unit Cost (\$/veh)
Supervisors Cars	22	\$37,500
Service Trucks and Vans	13	\$33,000
Change Off Vehicles	38	\$16,200
Service Development Vehicles	2	\$25,000
Enforcement Vehicles	2	\$35,000
Enforcement Vehicles	2	\$35,000
Maintenance Vehicles	1	\$21,000
<b>Total (#)</b>	<b>80</b>	
<b>Total (\$000)</b>	<b>\$2,081</b>	

Source: City Data

The City's Draft Development-Related Capital Program – Transit ([www.mississauga.ca/portal/cityhall/developmentcharges](http://www.mississauga.ca/portal/cityhall/developmentcharges)) identifies the program requirements related to Transit Vehicles and Equipment at an estimated \$80,000 (associated with growth) of which \$74,000 is eligible for DC funding. The following table summarizes the forecast expenditure requirements for these elements.

**Table 20: Other Transit Vehicles and Equipment - Forecast Growth-Related Needs**

Vehicles Description	# of Vehicles		Unit Cost (\$/veh)	Total Cost	Net Municipal Cost (after recoveries)	Total DC Eligible Costs
	2019	2022				
Supervisors Cars - Growth						
Service Trucks and Vans – Growth						
Change Off Vehicles - Growth	1	1	\$20,000	\$40,000	\$78,000	\$78,000
Service Development Vehicles - Growth	-					
Enforcement Vehicles - Growth	1	1	\$20,000	\$40,000	\$36,000	\$36,000
Maintenance Vehicles – Growth	0	0			\$0	\$0
<b>Total (#)</b>	<b>2</b>	<b>2</b>				
<b>Total</b>				<b>\$80,000</b>	<b>\$74,000</b>	<b>\$74,000</b>

Source: City Data

### **3.6 TRANSIT ASSET MANAGEMENT PLAN REQUIREMENTS**

In addition to the Asset Management Plan requirements set out in section 10 of the Development Charges Act, the regulations to the Act, Ontario Regulation 82/98, identifies additional direction on the contents of the asset management strategy for transit services, to be addressed in a Development Charges Background Study. This includes an asset management plan as well as an asset and financial strategy. However, it is noted that the Regulations are silent with respect to the AMP requirements for the Background Study for transportation services, or any other services. For further details, refer to Appendix G.

### **3.7 SUMMARY**

The technical analysis presented in this section of the report is used in calculating the growth-related development charge for the Transit and Transit-related Service. Details of the rationalization for the residential and non-residential rates are presented in the 2019 DC background study report that has been prepared by Hemson Consulting Ltd.

# Appendix A

## Unit Prices and Benchmark Costs



TABLE A-1

CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY

SUMMARY OF ANNUAL CONSTRUCTION UNIT PRICES  
WITH CONSTRUCTION INDEX ADJUSTMENT

	ITEM	UNIT	5 Yrs Weighted Average (-Hi&Lo)
1	EXCAVATION	m <sup>3</sup>	\$ 17.14
2	REMOVE EXISTING STORM SEWER (all sizes)	m	\$ 72.99
3a	BASE COURSE ASPHALT (HL-8)	tonne	\$ 94.87
3b	BASE COURSE ASPHALT (HDBC)	tonne	\$ 79.97
3c	SUPERPAVE	tonne	\$ 72.88
4a	TOP COURSE ASPHALT (HL-1)	tonne	\$ 94.97
4b	TOP COURSE ASPHALT (HL-3)	tonne	\$ 92.03
	Weighted Average (Top & Base Asphalt Course)		\$ 86.52
5	GRANULAR A	tonne	\$ 22.70
6	GRANULAR B	tonne	\$ 23.80
7	CURB & GUTTER REMOVAL	m	\$ 17.87
8	CURB & GUTTER INSTALLATION	m	\$ 69.20
9	CONCRETE SIDEWALK REMOVAL	m <sup>2</sup>	\$ 17.37
10	CONCRETE SIDEWALK INSTALLATION	m <sup>2</sup>	\$ 71.83
11	SUBDRAINS	m	\$ 27.54
12	INSTALL CONCRETE SPLASH PAD	m <sup>2</sup>	\$ 69.10
13	STORM SEWERS (525mm)	m	\$ 390.12
14a	CATCHBASIN LEADS (250mm)	m	\$ 325.03
14b	CATCHBASIN LEADS (300mm)	m	\$ 348.31
	Weighted Average (Catchbasin Leads)		\$ 340.97
15	MANHOLE REMOVAL	each	\$ 648.32
16a	MANHOLE INSTALL (1200mm)	each	\$ 4,632.07
16b	MANHOLE INSTALL (1500mm)	each	\$ 6,473.65
16c	MANHOLE INSTALL (1800mm)	each	\$ 8,847.28
16d	MANHOLE INSTALL (2400mm)	each	\$ 11,100.00
	Weighted Average (Manholes Installed)		\$ 5,132.14
17	CATCHBASIN REMOVAL	each	\$ 533.77
18a	CATCHBASIN INSTALL (SINGLE)	each	\$ 2,976.82
18b	CATCHBASIN INSTALL (TWIN)	each	\$ 4,216.34
	Weighted Average (Catchbasins Installed)		\$ 3,137.06
19	ADJUST MANHOLE (< 400 mm)	each	\$ 603.06
20	ADJUST MANHOLE (>400mm)	each	\$ 881.01
21	ADJUST CATCHBASIN	each	\$ 481.91
22	GRINDING	m <sup>2</sup>	\$ 4.08

TABLE A-2

CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDYCONSTRUCTION UNIT PRICES FOR 2014 - 2017 PROJECTS  
WEIGHTED AVERAGE ANALYSIS (AFTER PRICE ADJUSTMENT)

DESCRIPTION OF PROJECT	UNIT	2014 1			2014 2			2014 3			2014 4			2014 5			2015 6			2015 7			2015 8			2015 9			
		Ninth Line			Mavis Road			Bovaird Drive			Derry Road			Derry Road			Torbram Road			Derry Road			Britannia Road			Derry Road			
		Derry Road to CP Railway & Resurfacing of Ninth Line - CP Railway			Mavis Road Widening - 4-6 lanes, 1.5km			Resurfacing on Bovaird (6 lanes, 1.3km), includes intersection improvement			Resurfacing on Derry Road (4 lanes, 2km)			Resurfacing on Derry Road (6 lanes, 1.3km)			Grade Separations (Section A - Roadworks Section B - Storm Sewers)			Resurfacing on Derry Road (6 lanes, 1.6km)			Resurfacing on Britannia Road (5 lanes, 2.3km)			Resurfacing on Derry Road (6 lanes, 4.7km)			
ITEM	UNIT	Widening			Widening			Resurfacing			Resurfacing			Resurfacing			Grade Separations			Resurfacing			Resurfacing			Resurfacing			
		14-107			Peel Region			Peel Region			Peel Region			Peel Region			FA 49.468-13			Peel Region			Peel Region			Peel Region			
		Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	Unit Price	Quantity	Product	
1	EXCAVATION	m³	\$ 17.22	8780.00	\$ 151,190	\$ 12.05	12730.00	\$ 153,386	\$ 16	8470.00	\$ 139,168			\$ 29.27	500.00	\$ 14,634										\$ 32.05	1000.00	\$ 32,052	
2	REMOVE EXISTING STORM SEWER (all sizes)	m				\$ 35.05	214.00	\$ 7,501	\$ 164	5.00	\$ 822						\$ 24.79	755.00	\$ 18,716										
3a	BASE COURSE ASPHALT (HL-8)	tonne	\$ 69.06	654.33	\$ 45,190												\$ 96.83	14750.00	\$ 1,428,279										
3b	BASE COURSE ASPHALT (HDBC)	tonne	\$ 80.73	4891.34	\$ 394,875	\$ 88.73	10517.00	\$ 933,128	\$ 93	8897.00	\$ 828,375	\$ 82.72	14500.00	\$ 1,199,484	\$ 87.84	5000.00	\$ 439,192				\$ 84.84	11900.00	\$ 1,009,548	\$ 85.00	1685.00	\$ 143,221	\$ 82.29	14000.00	\$ 1,152,005
3c	SUPERPAVE	tonne																											
4a	TOP COURSE ASPHALT (HL-1)	tonne	\$ 85.44	2768.90	\$ 236,574	\$ 98.58	2815.00	\$ 277,514	\$ 99	6151.00	\$ 606,391	\$ 96.45	11300.00	\$ 1,089,864	\$ 102.13	3800.00	\$ 388,094	\$ 114.83	5900.00	\$ 677,504	\$ 100.51	4200.00	\$ 422,151	\$ 90.38	7895.00	\$ 713,526	\$ 98.54	10000.00	\$ 985,431
4b	TOP COURSE ASPHALT (HL-3)	tonne	\$ 91.46	501.51	\$ 45,866																								
	Weighted Average (Top & Base Asphalt Course)		\$ 81.95	8,816.08	\$ 722,505	\$ 90.81	13,332.00	\$ 1,210,642	\$ 95.35	15,048.00	\$ 1,434,766	\$ 88.73	25,800.00	\$ 2,289,347	\$ 94.01	8,800.00	\$ 827,286	\$ 101.97	20,650.00	\$ 2,105,783	\$ 88.93	16,100.00	\$ 1,431,699	\$ 89.43	9,580.00	\$ 856,747	\$ 89.06	24,000.00	\$ 2,137,436
5	GRANULAR A	tonne	\$ 21.69	11864.70	\$ 257,328	\$ 24.10	8663.00	\$ 208,764	\$ 21.91	2250.00	\$ 49,292			\$ 23.86	500.00	\$ 11,929	\$ 31.52	19600.00	\$ 617,877							\$ 23.48	500.00	\$ 11,738	
6	GRANULAR B	tonne	\$ 20.59	11208.87	\$ 230,826	\$ 24.10	8322.00	\$ 200,546	\$ 19.72	7450.00	\$ 146,890			\$ 23.46	500.00	\$ 11,732	\$ 25.18	47700.00	\$ 1,200,916							\$ 23.24	500.00	\$ 11,620	
7	CURB & GUTTER REMOVAL	m	\$ 10.95	89.40	\$ 979	\$ 15.88	967.00	\$ 15,359	\$ 13.14	2940.00	\$ 38,645	\$ 25.82	450.00	\$ 11,618	\$ 25.14	1000.00	\$ 25,137	\$ 12.91	2700.00	\$ 34,860	\$ 31.20	200.00	\$ 6,240	\$ 25.82	150.00	\$ 3,873	\$ 24.63	1400.00	\$ 34,488
8	CURB & GUTTER INSTALLATION	m	\$ 47.10	1092.70	\$ 51,468	\$ 71.20	4620.00	\$ 328,942	\$ 74.71	4965.00	\$ 370,950	\$ 103.27	450.00	\$ 46,473	\$ 100.55	1000.00	\$ 100,547	\$ 61.33	2225.00	\$ 136,453	\$ 122.04	350.00	\$ 42,714	\$ 103.29	150.00	\$ 15,493	\$ 98.54	1400.00	\$ 137,951
9	CONCRETE SIDEWALK REMOVAL	m²	\$ 10.95	36.37	\$ 398	\$ 15.88	363.00	\$ 5,766	\$ 16.43	1460.00	\$ 23,989	\$ 20.93	400.00	\$ 8,373	\$ 21.63	150.00	\$ 3,244	\$ 15.06	1400.00	\$ 21,088	\$ 18.54	470.00	\$ 8,715	\$ 23.67	50.00	\$ 1,184	\$ 19.39	450.00	\$ 8,725
10	CONCRETE SIDEWALK INSTALLATION	m²	\$ 60.25	247.25	\$ 14,896	\$ 65.72	1270.00	\$ 83,468	\$ 66.18	1245.00	\$ 82,400	\$ 83.73	400.00	\$ 33,492	\$ 86.52	150.00	\$ 12,978	\$ 75.38	2477.00	\$ 186,722	\$ 74.17	470.00	\$ 34,860	\$ 94.68	50.00	\$ 4,734	\$ 86.55	700.00	\$ 60,586
11	SUBDRAINS	m	\$ 24.10	1092.70	\$ 26,332	\$ 25.19	2412.00	\$ 60,767	\$ 38.34	1680.00	\$ 64,408							\$ 35.18	3000.00	\$ 105,547	\$ 107.59	150.00	\$ 16,139						
12	INSTALL CONCRETE SPLASH PAD	m²	\$ 63.53	771.39	\$ 49,008				\$ 87.63	75.00	\$ 6,572			\$ 60.19	2000.00	\$ 120,382	\$ 79.62	1770.00	\$ 140,923	\$ 56.95	1510.00	\$ 85,999							
13	STORM SEWERS (all sizes)	m	\$ 223.60	1030.90	\$ 230,512	\$ 374.06	1090.00	\$ 407,724									\$ 1,683.14	1588.00	\$ 2,672,821	\$ 292.03	105.00	\$ 30,664							
14a	CATCHBASIN LEADS (250mm)	m	\$ 219.08	129.70	\$ 28,414				\$ 273.84	65.00	\$ 17,800						\$ 346.44	145.00	\$ 50,235										
14b	CATCHBASIN LEADS (300mm)	m	\$ 273.84	118.70	\$ 32,505				\$ 383.38	45.00	\$ 17,252						\$ 372.27	303.00	\$ 112,797										
	Weighted Average (Catchbasin Leads)		\$ 245.25	248.40	\$ 60,920	-	0.00	\$ -	\$ 318.66	110.00	\$ 35,052	-	0.00	\$ -	-	0.00	\$ -	\$ 363.91	448.00	\$ 163,031	-	0.00	\$ -	-	0.00	\$ -	-	0.00	\$ -
15	MANHOLE REMOVAL	each															\$ 643.98	13.00	\$ 8,372										
16a	MANHOLE INSTALL (1200mm)	each	\$ 4,929.21	12.00	\$ 59,150	\$ 5,584.13	19.00	\$ 106,098	\$ 5,476.89	1.00	\$ 5,477						\$ 5,357.34	3.00	\$ 16,072										
16b	MANHOLE INSTALL (1500mm)	each	\$ 6,024.58	3.00	\$ 18,074												\$ 8,353.87	7.00	\$ 58,477										
16c	MANHOLE INSTALL (1800mm)	each																											
16d	MANHOLE INSTALL (2400mm)	each																											
	Weighted Average (Manholes Installed)		\$ 5,148.28	15.00	\$ 77,224	\$ 5,584.13	19.00	\$ 106,098	\$ 5,476.89	1.00	\$ 5,477	-	0.00	\$ -	-	0.00	\$ -	\$ 7,454.91	10.00	\$ 74,549	-	0.00	\$ -	-	0.00	\$ -	-	0.00	\$ -
17	CATCHBASIN REMOVAL	each	\$ 547.69	3.00	\$ 1,643	\$ 432.67	15.00	\$ 6,490	\$ 547.69	28.00	\$ 15,335						\$ 514.29	20.00	\$ 10,286										
18a	CATCHBASIN INSTALL (SINGLE)	each	\$ 1,643.07	15.00	\$ 24,646	\$ 2,278.39	32.00	\$ 72,908	\$ 3,599.10	35.00	\$ 125,969						\$ 3,022.25	26.00	\$ 78,578	\$ 5,702.36	2.00	\$ 11,405							
18b	CATCHBASIN INSTALL (TWIN)	each	\$ 2,738.45	10.00	\$ 27,384	\$ 3,761.84	7.00	\$ 26,333	\$ 4,746.64	6.00	\$ 28,480						\$ 4,080.95	10.00	\$ 40,810										
	Weighted Average (Catchbasins Installed)		\$ 2,081.22	25.00	\$ 52,030	\$ 2,544.65	39.00	\$ 99,241	\$ 3,767.03	41.00	\$ 154,448	-	0.00	\$ -	-	0.00	\$ -	\$ 3,316.33	36.00	\$ 119,388	\$ 5,702.36	2.00	\$ 11,405	-	0.00	\$ -	-	0.00	\$ -
19	ADJUST MANHOLE (< 400 mm)	each	\$ 438.15	4.00	\$ 1,753				\$ 565.95	30.00	\$ 16,978	\$ 676.92	30.00	\$ 20,308	\$ 701.39	35.00	\$ 24,549	\$ 758.52	15.00	\$ 11,378	\$ 699.35	10.00	\$ 6,993	\$ 537.96	5.00	\$ 2,690	\$ 829.60	32.00	\$ 26,547
20	ADJUST MANHOLE (>400mm)	each							\$ 766.77	5.00	\$ 3,834						\$ 2,475.69	2.00	\$ 4,951	\$ 895.32	14.00	\$ 12,534	\$ 537.96	4.00	\$ 2,152	\$ 1,059.17	2.00	\$ 2,118	
21	ADJUST CATCHBASIN	each				\$ 471.01	18.00	\$ 8,478	\$ 821.53	10.00	\$ 8,215	\$ 472.46	122.00	\$ 57,641	\$ 450.09	55.00	\$ 24,755	\$ 586.38	4.00	\$ 2,346	\$ 584.74	23.00	\$ 13,449	\$ 494.92	5.00	\$ 2,475	\$ 541.52	132.00	\$ 71,481
22	GRINDING	m²	\$ 4.77	8575.41	\$ 40,863							\$ 3.94	83500.00	\$ 329,271				\$ 15.49	250.00	\$ 3,873									







Table A-3

CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY

INTERSECTION RELATED TIE-IN COST

INTERSECTION TYPE	# OF INTERSECTIONS	COST / INTERSECTION	TOTAL COST
Type A - Intersection of Two Major Roads (City Arterial / Regional Arterial / City Major Collector)	44	\$ 263,691	\$ 11,602,423
Type B - Intersection of a Major Road and a Local Road	86	\$ 220,752	\$ 18,984,641
TOTAL			\$ 30,587,064
IMPROVEMENT LENGTH			45.59 km
COST PER KM			\$ 670,916
<b>COST PER KM</b>			<b>\$ 671,000</b>

Table A-4

**CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**ROAD WIDENING BENCHMARK COSTS**

Based on 5-Year Weighted Average Unit Prices

	<b>ROAD WIDENING 2-4 LANES (8m TO 15.5m)</b>	<b>ROAD WIDENING 4-6 LANES (15.5m TO 23m)</b>	<b>ROAD WIDENING 2-6 LANES (8m TO 23m)</b>
EXCAVATION	\$99,191	\$103,561	\$194,304
GRANULAR 'A'	\$89,340	\$97,511	\$171,053
GRANULAR 'B'	\$142,800	\$142,800	\$285,600
HOT MIX (BASE REPAIRS)	\$243,340	\$265,597	\$465,907
HOT MIX (SURFACE)	\$122,942	\$186,532	\$186,532
HOT MIX (PADDING)	\$11,870	\$24,588	\$11,870
CURB & GUTTER (REMOVE)	\$35,736	\$35,736	\$35,736
CURB & GUTTER (PLACE)	\$138,400	\$138,400	\$138,400
LATERAL STORMS	\$28,130	\$28,130	\$56,259
MANHOLES (ADJUST)	\$7,237	\$7,237	\$7,237
CATCH BASINS (REMOVE)	\$11,743	\$11,743	\$11,743
CATCH BASINS (PLACE)	\$69,015	\$69,015	\$69,015
SUBDRAINS	\$55,084	\$55,084	\$55,084
<b>SUBTOTAL</b>	<b>\$1,054,828</b>	<b>\$1,165,935</b>	<b>\$1,688,742</b>
<b>BASIC CONSTRUCTION (15%)</b>	\$158,224	\$174,890	\$253,311
<b>ENGINEERING (19%)</b>	\$200,417	\$221,528	\$320,861
<b>CONTINGENCY (22%)</b>	\$232,062	\$256,506	\$371,523
<b>SUBTOTAL</b>	<b>\$1,645,532</b>	<b>\$1,818,859</b>	<b>\$2,634,437</b>
<b>INTERSECTION TIE-IN COST</b>	\$671,000	\$671,000	\$671,000
<b>TOTAL</b>	<b>\$2,316,532</b>	<b>\$2,489,859</b>	<b>\$3,305,437</b>
<b>2019 DC COSTS</b>	<b>\$2,317,000</b>	<b>\$2,490,000</b>	<b>\$3,305,000</b>
<b>2014 DC COSTS</b>	<b>\$1,731,000</b>	<b>\$1,895,000</b>	<b>\$2,541,000</b>

Note:

Benchmark Costs do not include traffic signals, sidewalk, illumination, utility relocation, noise attenuation walls, bicycle paths, etc.

Table A-5

**CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**RE-CONSTRUCTION BENCHMARK COSTS**

Based on 5-Year Weighted Average Unit Prices

	<b>2 LANE CONSTRUCTION (8m)</b>	<b>4 LANE CONSTRUCTION (15.5m)</b>	<b>6 LANE CONSTRUCTION (23m)</b>
<b>EXCAVATION</b>	\$114,135	\$209,248	\$304,361
<b>GRANULAR 'A'</b>	\$98,056	\$179,769	\$261,482
<b>GRANULAR 'B'</b>	\$171,360	\$314,160	\$456,960
<b>HOT MIX</b>	\$207,729	\$430,296	\$652,863
<b>CURB &amp; GUTTER</b>	\$138,400	\$138,400	\$138,400
<b>STORM SEWER</b>	\$390,121	\$390,121	\$390,121
<b>REMOVAL OF STORM SEWERS LATERAL STORMS</b>	\$72,985	\$72,985	\$72,985
<b>MANHOLES</b>	\$30,005	\$58,135	\$86,265
<b>MANHOLES</b>	\$61,586	\$61,586	\$61,586
<b>CATCH BASINS</b>	\$69,015	\$69,015	\$69,015
<b>SUBDRAINS</b>	\$55,084	\$55,084	\$55,084
<b>SUBTOTAL</b>	<b>\$1,408,477</b>	<b>\$1,978,800</b>	<b>\$2,549,123</b>
<b>ENGINEERING (19%)</b>	\$267,611	\$375,972	\$484,333
<b>SUBTOTAL</b>	<b>\$1,676,088</b>	<b>\$2,354,772</b>	<b>\$3,033,456</b>
<b>INTERSECTION TIE-IN COST</b>	\$671,000	\$671,000	\$671,000
<b>TOTAL</b>	<b>\$2,347,088</b>	<b>\$3,025,772</b>	<b>\$3,704,456</b>
<b>2019 DC COSTS</b>	<b>\$2,347,000</b>	<b>\$3,026,000</b>	<b>\$3,704,000</b>
<b>2014 DC COSTS</b>	<b>\$1,837,000</b>	<b>\$2,380,000</b>	<b>\$2,923,000</b>

Note:

Benchmark Costs do not include traffic signals, sidewalk, illumination, utility relocation, noise attenuation walls, bicycle paths, etc.

Table A-6

**CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**NEW CONSTRUCTION BENCHMARK COSTS**

Based on 5-Year Weighted Average Unit Prices

	<b>2 LANE CONSTRUCTION (8m)</b>	<b>4 LANE CONSTRUCTION (15.5m)</b>	<b>6 LANE CONSTRUCTION (23m)</b>
<b>EXCAVATION</b>	\$114,135	\$209,248	\$304,361
<b>GRANULAR 'A'</b>	\$98,056	\$179,769	\$261,482
<b>GRANULAR 'B'</b>	\$171,360	\$314,160	\$456,960
<b>HOT MIX</b>	\$207,729	\$430,296	\$652,863
<b>CURB &amp; GUTTER</b>	\$138,400	\$138,400	\$138,400
<b>STORM SEWER</b>	\$390,121	\$390,121	\$390,121
<b>LATERAL STORMS</b>	\$30,005	\$58,135	\$86,265
<b>MANHOLES</b>	\$61,586	\$61,586	\$61,586
<b>CATCH BASINS</b>	\$69,015	\$69,015	\$69,015
<b>SUBDRAINS</b>	\$55,084	\$55,084	\$55,084
<b>SUBTOTAL</b>	<b>\$1,335,492</b>	<b>\$1,905,815</b>	<b>\$2,476,138</b>
<b>BASIC CONSTRUCTION (10%)</b>	\$133,549	\$190,581	\$247,614
<b>ENGINEERING (10%)</b>	\$133,549	\$190,581	\$247,614
<b>SUBTOTAL</b>	<b>\$1,602,591</b>	<b>\$2,286,978</b>	<b>\$2,971,365</b>
<b>INTERSECTION TIE-IN COST</b>	\$671,000	\$671,000	\$671,000
<b>TOTAL</b>	<b>\$2,273,591</b>	<b>\$2,957,978</b>	<b>\$3,642,365</b>
<b>2019 DC COSTS</b>	<b>\$2,274,000</b>	<b>\$2,958,000</b>	<b>\$3,642,000</b>
<b>2014 DC COSTS</b>	<b>\$1,776,000</b>	<b>\$2,323,000</b>	<b>\$2,871,000</b>

Note:

Benchmark Costs do not include traffic signals, sidewalk, illumination, utility relocation, noise attenuation walls, bicycle paths, etc.

# Appendix B

## Roadway Service Level Analysis



Table B-1

CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY

10-Year Historical  
Lane Kilometres Per Capita

Year	Lane KM	Population	Employment	Pop. + Emp.	Lane KM Per Capita (1000)
2009	1,381	722,142	423,449	1,145,591	1.21
2010	1,382	729,777	428,797	1,158,574	1.19
2011	1,382	737,492	434,585	1,172,077	1.18
2012	1,372	739,171	438,389	1,177,560	1.16
2013	1,374	740,853	442,248	1,183,101	1.16
2014	1,374	742,539	446,164	1,188,703	1.16
2015	1,375	744,229	450,136	1,194,365	1.15
2016	1,378	745,923	454,165	1,200,088	1.15
2017	1,379	753,861	458,605	1,212,466	1.14
2018	1,379	754,630	463,094	1,217,724	1.13
<b>Average</b>	<b>1,378</b>	<b>741,062</b>	<b>443,963</b>	<b>1,185,025</b>	<b>1.16</b>
<i>Average from 2014 DC Study</i>					1.21
<b>Growth Only</b>	<i>(Max Allowable)</i> 216	123,370	62,679	186,049	1.16
<b>Forecast 2041</b>	<i>(Max Allowable)</i> 1,596	878,000	525,773	1,403,773	1.14

**Max Allowable Additional Lane KMs**                      216                      Lane Kms

**Proposed Additional Lane KMs**                      111                      Lane Kms



Table B-2

**CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**10-Year Historical  
Average Vehicles Per Lane - 24 Hour**

<b>Year</b>	<b>Lane KM</b>	<b>Vehicle KM</b>	<b>Average Vehicle / Lane</b>
2009	1,381	7,418,141	5,372
2010	1,382	7,456,632	5,395
2011	1,382	7,486,589	5,419
2012	1,372	7,523,521	5,485
2013	1,374	7,259,720	5,282
2014	1,374	7,389,979	5,377
2015	1,375	7,508,536	5,460
2016	1,378	7,642,391	5,546
2017	1,379	7,766,927	5,631
2018	1,379	7,922,268	5,743
<b>Average</b>	<b>1,378</b>	<b>7,537,470</b>	<b>5,471</b>
<i>Average from 2014 DC Study</i>			5,803
<b>Growth Only</b>	111	1,255,762	11,350
<b>Forecast 2041</b>	1,490	9,178,030	6,160

**10 Year Historical Average**

Vehicle Kms	7,537,470
Lane Kms	<u>1,378</u>
Vehicles per Lane	5,471

**Proposed Additional Lane KMs**

111 Lane Kms

**Permitted Additional Lane KMs that are DC Eligible**

230 Lane Kms

Table B-3

CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY

10 Year Historical Service Level  
Road Infrastructure Value with Property

Year	Road Infrastructure Value (\$ Millions)	Population	Employment	Pop. + Emp.	Road Infrastructure Value (\$ Millions) per Capita (1000)
2009	6,742.6	722,142	423,449	1,145,591	5.89
2010	6,753.2	729,777	428,797	1,158,574	5.83
2011	6,762.4	737,492	434,585	1,172,077	5.77
2012	6,766.7	739,171	438,389	1,177,560	5.75
2013	6,775.5	740,853	442,248	1,183,101	5.73
2014	6,817.0	742,539	446,164	1,188,703	5.73
2015	6,827.9	744,229	450,136	1,194,365	5.72
2016	6,868.8	745,923	454,165	1,200,088	5.72
2017	6,882.2	753,861	458,605	1,212,466	5.68
2018	6,885.5	754,630	463,094	1,217,724	5.65
<b>Average</b>	<b>6,808.2</b>	<b>741,062</b>	<b>443,963</b>	<b>1,185,025</b>	<b>5.75</b>
<i>Average from 2014 Study</i>					4.31





Table B-4

CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY  
10-YEAR HISTORICAL SERVICE LEVEL ANALYSIS

Table with columns: Sec. No., Name, From, To, Length (km), and data for years 2009-2018. Each year has sub-columns for Lanes, Final ADT, Travelled, and Lane KMs. Rows list various streets and their characteristics.





**TABLE B-5**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2041 SERVICE LEVEL ANALYSIS**

Name	From	To	Length (km)	Pk Hr to 24-Hr Factor 0.0750		
				2041 ADT	Vehicle KMs	Lane KMs
AQUITAINE AVE.	TENTH LINE	WINSTON CHURCHILL BLVD.	0.65	3900	2540	2.60
AQUITAINE AVE.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	0.56	15900	8900	2.24
AQUITAINE AVE.	GLEN ERIN DR.	MILLCREEK DR.	1.10	19000	20900	4.40
ARGENTIA RD.	NINTH LINE	TENTH LINE	1.35	8800	11880	2.70
ARGENTIA RD.	TENTH LINE	WINSTON CHURCHILL BLVD.	0.63	17100	10770	2.52
ARGENTIA RD.	WINSTON CHURCHILL BLVD.	DERRY RD.	2.30	21900	50370	9.20
ARGENTIA RD.	DERRY RD.	MISSISSAUGA RD.	1.70	17500	29750	6.80
ARGENTIA RD.	MISSISSAUGA RD.	C.P.R.	0.75	18900	14180	3.00
ARGENTIA RD.	C.P.R.	CREDITVIEW RD.	0.65	12900	8390	2.60
ATWATER AVE.	MINEOLA RD.	CAWTHRA RD.	1.00	8100	8100	2.00
ATWATER AVE.	CAWTHRA RD.	OGDEN AVE.	0.98	5100	5000	1.96
AVEBURY RD.	MATHESON BLVD.	BRITANNIA RD.	1.05	16600	17430	4.20
BATTLEFORD RD.	TENTH LINE	WINSTON CHURCHILL BLVD.	0.64	15400	9860	2.56
BATTLEFORD RD.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	0.52	11800	6140	2.08
BATTLEFORD RD.	GLEN ERIN DR.	ERIN MILLS PKWY.	0.95	16800	15960	3.80
BELGRAVE RD.	MAVIS RD.	CANTAY RD.	0.83	7900	6560	3.32
BLOOR ST.	CENTRAL PKWY.	CAWTHRA RD.	1.05	22800	23940	4.20
BLOOR ST.	CAWTHRA RD.	TOMKEN RD.	0.84	22700	19070	3.36
BLOOR ST.	TOMKEN RD.	DIXIE RD.	1.26	20700	26080	5.04
BLOOR ST.	DIXIE RD.	FIELDGATE DR.	0.91	19500	17750	3.64
BLOOR ST.	FIELDGATE DR.	ETOBICOKE CREEK	0.71	18700	13280	2.84
BRAMALEA RD.	DERRY RD.	DREW RD.	0.74	27000	19980	4.44
BRAMALEA RD.	DREW RD.	NORTH CITY LIMITS	0.83	28000	23240	4.98
BRISTOL RD. W.	ALBERT ST.	CREDITVIEW RD.	0.98	14700	14410	1.96
BRISTOL RD. W.	CREDITVIEW RD.	WHITEHORN AVE.	0.26	20800	5410	1.04
BRISTOL RD. W.	WHITEHORN AVE.	TERRY FOX WAY	1.14	18700	21320	4.56
BRISTOL RD. W.	TERRY FOX WAY	MAVIS RD.	0.51	13300	6780	2.04
BRISTOL RD. W.	MAVIS RD.	McLAUGHLIN DR.	0.90	8100	7290	1.80
BRISTOL RD. W.	McLAUGHLIN DR.	SWIFTCURRENT TRAIL	0.83	8000	6640	1.66
BRISTOL RD. W.	SWIFTCURRENT TRAIL	HURONTARIO ST.	0.62	9700	6010	1.24
BRISTOL RD. E.	HURONTARIO ST.	TRAILWOOD DR.	0.45	6000	2690	0.90
BRISTOL RD. E.	TRAILWOOD DR.	KENNEDY RD.	1.05	8700	9140	2.10
BRITANNIA RD. E.	HURONTARIO ST.	KENNEDY RD.	1.42	29900	42460	5.68
BRITANNIA RD. E.	TOMKEN RD.	DIXIE RD.	1.35	11700	15800	5.40
BRITANNIA RD. E.	DIXIE RD.	LUKE RD.	1.16	24200	28070	4.64
BURNHAMTHORPE RD.	NINTH LINE	RIDGEWAY DR.	0.56	30000	16800	2.24
BURNHAMTHORPE RD.	RIDGEWAY DR.	LOYALIST DR.	0.98	21200	20780	3.92
BURNHAMTHORPE RD.	LOYALIST DR.	WINSTON CHURCHILL BLVD.	0.47	18400	8650	1.88
BURNHAMTHORPE RD.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	1.04	21900	22780	4.16
BURNHAMTHORPE RD.	GLEN ERIN DR.	ERIN MILLS PKWY.	0.76	28400	21580	3.04
BURNHAMTHORPE RD.	ERIN MILLS PKWY.	MISSISSAUGA RD.	1.03	36500	37600	4.12
BURNHAMTHORPE RD.	MISSISSAUGA RD.	THE CREDIT WOODLANDS	1.39	43400	60330	5.56
BURNHAMTHORPE RD.	THE CREDIT WOODLANDS	ERINDALE STATION RD.	1.02	45100	46000	4.08
BURNHAMTHORPE RD.	ERINDALE STATION RD.	MAVIS RD.	1.25	44900	56130	7.50
BURNHAMTHORPE RD.	MAVIS RD.	CONFEDERATION PKWY.	0.84	45300	38050	5.04
BURNHAMTHORPE RD.	CONFEDERATION PKWY.	DUKE OF YORK BLVD.	0.42	38200	16040	2.52
BURNHAMTHORPE RD.	DUKE OF YORK BLVD.	HURONTARIO ST.	0.80	44000	35200	3.20
BURNHAMTHORPE RD.	HURONTARIO ST.	CENTRAL PKWY. E.	1.10	47800	52580	6.60
BURNHAMTHORPE RD.	CENTRAL PKWY. E.	CAWTHRA RD.	0.96	42700	40990	5.76
BURNHAMTHORPE RD.	CAWTHRA RD.	TOMKEN RD.	0.90	45600	41040	5.40
BURNHAMTHORPE RD.	TOMKEN RD.	DIXIE RD.	1.30	27800	36140	7.80
BURNHAMTHORPE RD.	DIXIE RD.	FIELDGATE DR.	0.84	37500	31500	5.04
BURNHAMTHORPE RD.	FIELDGATE DR.	PONYTRAIL DR.	0.68	41200	26020	4.08
BURNHAMTHORPE RD.	PONYTRAIL DR.	ETOBICOKE CREEK	0.66	54100	35710	3.96
CAMILLA RD.	DUNDAS ST.	KING ST.	0.26	8600	2240	0.52
CANTAY RD.	McLAUGHLIN DR.	BRITANNIA RD.	1.21	26400	31940	4.84
CANTAY RD.	McLAUGHLIN DR.	MAVIS RD.	0.70	7400	5180	2.80
CENTRAL PKWY. W.	ERINDALE STATION RD.	BURNHAMTHORPE RD.	0.71	15800	11220	2.84
CENTRAL PKWY. W.	ERINDALE STATION RD.	WOLFEDALE RD.	0.81	17000	13770	3.24
CENTRAL PKWY. W.	MAVIS RD.	WOLFEDALE RD.	0.40	16900	6760	1.60
CENTRAL PKWY. W.	MAVIS RD.	CONFEDERATION PKWY.	1.22	14900	18180	4.88
CENTRAL PKWY. W.	CONFEDERATION PKWY.	HURONTARIO ST.	0.87	18100	15750	3.48
CENTRAL PKWY. E.	HURONTARIO ST.	BLOOR ST.	1.16	17700	20530	4.64
CENTRAL PKWY. E.	BLOOR ST.	BURNHAMTHORPE RD.	0.62	20800	12900	2.48
CENTRAL PKWY. E.	BURNHAMTHORPE RD.	RATHBURN RD.	0.84	14900	12520	3.36
CENTRAL PKWY. E.	RATHBURN RD.	LAURENTIAN AVE.	0.51	29200	14890	2.04
CENTRAL PKWY. E.	LAURENTIAN AVE.	EGLINTON AVE.	0.86	30300	26060	3.44
CENTREVIEW DR.	MAVIS RD.	DUKE OF YORK BLVD.	1.22	13700	16710	2.44
CENTREVIEW DR.	DUKE OF YORK BLVD.	RATHBURN RD.	0.80	25700	20560	3.20
CENTREVIEW DR. LINK	CENTREVIEW DR.	HWY. 403	0.50	13400	6700	0.50
CITY CENTRE DR. FLYOVER	RATHBURN RD.	NORTHERN DISTRIBUTION RD.	0.40	100	40	0.80
CITY CENTRE DR. RAMP	CITY CENTRE DR.	NORTHERN DISTRIBUTION RD.	0.25	100	30	0.50
CLARKSON RD.	LAKESHORE RD.	TRUSCOTT DR.	1.40	1000	1400	2.80
CLARKSON RD.	TRUSCOTT DR.	SOUTH SHERIDAN WAY	0.60	7200	4320	1.20
CONFEDERATION PKWY.	QUEENSWAY	KING ST.	0.70	12200	8540	1.40
CONFEDERATION PKWY.	KING ST.	DUNDAS ST. W.	0.27	13000	3510	0.81
CONFEDERATION PKWY.	DUNDAS ST. W.	HILLCREST AVE.	0.43	19700	8470	1.72
CONFEDERATION PKWY.	HILLCREST AVE.	CENTRAL PKWY. W.	1.11	23600	26200	4.44
CONFEDERATION PKWY.	CENTRAL PKWY. W.	BURNHAMTHORPE RD.W.	0.78	24900	19420	3.12
CONFEDERATION PKWY.	BURNHAMTHORPE RD.W.	RATHBURN RD.	0.73	21100	15400	2.92
CONFEDERATION PKWY.	RATHBURN RD.	EGLINTON AVE.	1.29	24800	31990	5.16
CONFEDERATION PKWY. RAMP	CONFEDERATION PKWY.	NORTHERN DISTRIBUTION RD.	0.25	1000	250	0.25
COURTNEYPARK DR.	MAVIS RD.	MCLAUGHLIN RD.	0.70	22700	15890	2.80
COURTNEYPARK DR.	MCLAUGHLIN RD.	MARITZ DR.	1.10	37700	41470	4.40
COURTNEYPARK DR.	MARITZ DR.	HURONTARIO ST.	0.30	31100	9330	1.80



**TABLE B-5**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2041 SERVICE LEVEL ANALYSIS**

Name	From	To	Length (km)	Pk Hr to 24-Hr Factor 0.0750		
				2041 ADT	Vehicle KMs	Lane KMs
COURTNEYPARK DR.	HURONTARIO ST.	KENNEDY RD.	1.43	40400	57770	8.58
COURTNEYPARK DR.	KENNEDY RD.	TOMKEN RD.	1.45	73800	107010	8.70
COURTNEYPARK DR.	TOMKEN RD.	DIXIE RD.	1.35	33400	45090	8.10
COURTNEYPARK DR.	DIXIE RD.	NETHERHART RD.	1.24	21500	26660	4.96
CREDITVIEW RD.	BURNHAMTHORPE RD.W.	ROSE HAVEN RD.	1.19	33000	39270	4.76
CREDITVIEW RD.	ROSE HAVEN RD.	EGLINTON AVE.	0.90	24600	22140	3.60
CREDITVIEW RD.	EGLINTON AVE.	BRISTOL RD.W.	1.38	22900	31600	5.52
CREDITVIEW RD.	BRISTOL RD.W.	WILLOW WAY	0.60	17500	10500	2.40
CREDITVIEW RD.	WILLOW WAY	BRITANNIA RD. W.	1.09	31200	34010	4.36
CREDITVIEW RD.	BRITANNIA RD. W.	BANCROFT RD.	0.35	23400	8190	1.40
CREDITVIEW RD.	BANCROFT RD.	ARGENTIA RD.	1.43	29400	42040	5.72
CREDITVIEW RD.	ARGENTIA RD.	OLD DERRY RD.	0.77	24500	18870	3.08
CREDITVIEW RD.	OLD DERRY RD.	DERRY RD.	0.85	20000	17000	3.40
CREEKBANK RD.	EGLINTON AVE.	MATHESON BLVD.	1.00	18700	18700	4.00
CREEKBANK RD.	MATHESON BLVD.	NORTH END	0.30	28400	8520	1.20
CREEKBANK RD.	NORTH END	BRITANNIA RD.	1.89	17700	33450	7.56
DERRYCREST DR.	DERRY RD.	HURONTARIO ST.	0.89	7700	6850	2.67
DREW RD.	TOMKEN RD.	DIXIE RD.	1.50	4300	6450	6.00
DREW RD.	DIXIE RD.	BRAMALEA RD.	1.39	22200	30860	5.56
DREW RD.	BRAMALEA RD.	TORBRAM RD.	1.35	16000	21600	5.40
DREW RD.	TORBRAM RD.	AIRPORT RD.	1.54	7400	11400	6.16
DUKE OF YORK BLVD.	WEBB DR.	BURNAMTHORPE RD.	0.17	500	90	0.68
DUKE OF YORK BLVD.	BURNAMTHORPE RD.	CENTREVIEW DR.	0.96	11300	10850	1.92
DUKE OF YORK BLVD. FLYOVER	CENTREVIEW DR.	NORTHERN DISTRIBUTION RD.	0.22	100	20	0.44
DUKE OF YORK BLVD. RAMP	DUKE OF YORK BLVD.	NORTHERN DISTRIBUTION RD.	0.25	100	30	0.50
DUNDAS ST. W.	HYDE PARK GATE	RIDGEWAY DR.	0.31	38900	12060	1.86
DUNDAS ST. W.	RIDGEWAY DR.	WINSTON CHURCHILL BLVD.	0.71	34000	24140	4.26
DUNDAS ST. W.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	1.13	31100	35140	4.52
DUNDAS ST. W.	GLEN ERIN DR.	ERIN MILLS PKWY.	0.87	33200	28880	3.48
DUNDAS ST. W.	ERIN MILLS PKWY.	MISSISSAUGA RD.	0.85	45000	38250	3.40
DUNDAS ST. W.	MISSISSAUGA RD.	THE CREDIT WOODLANDS	1.36	48300	65690	5.44
DUNDAS ST. W.	THE CREDIT WOODLANDS	ERINDALE STATION RD.	0.79	45500	35950	4.74
DUNDAS ST. W.	ERINDALE STATION RD.	MAVIS RD.	1.25	42700	53380	7.50
DUNDAS ST. W.	MAVIS RD.	CLAYHILL RD.	0.65	28800	18720	3.90
DUNDAS ST. W.	CLAYHILL RD.	CONFEDERATION PKWY.	1.03	26600	27400	4.12
DUNDAS ST. W.	CONFEDERATION PKWY.	HURONTARIO ST.	0.38	27700	10530	1.52
DUNDAS ST. E.	HURONTARIO ST.	CLIFF RD.	1.07	33200	35520	4.28
DUNDAS ST. E.	CLIFF RD.	CAWTHRA RD.	0.89	37600	33460	3.56
DUNDAS ST. E.	CAWTHRA RD.	TOMKEN RD.	0.96	39700	38110	3.84
DUNDAS ST. E.	TOMKEN RD.	DIXIE RD.	1.25	59000	73750	7.50
DUNDAS ST. E.	DIXIE RD.	WHARTON WAY	1.37	56100	76860	8.22
DUNDAS ST. E.	WHARTON WAY	ETOBICOKE CREEK	1.20	39400	47280	4.80
EASTGATE PKWY.	CAWTHRA RD.	TOMKEN RD.	0.80	45100	36080	3.20
EASTGATE PKWY.	TOMKEN RD.	DIXIE RD.	1.22	37300	45510	4.88
EASTGATE PKWY.	DIXIE RD.	FIELDGATE DR.	0.98	24800	24300	3.92
EASTGATE PKWY.	FIELDGATE DR.	EGLINTON AVE.	0.64	39800	25470	2.56
EDWARDS BLVD.	KENNEDY RD.	COURTNEYPARK DR.	1.89	1700	3210	3.78
EDWARDS BLVD.	COURTNEYPARK DR.	DERRY RD.	1.39	15300	21270	2.78
EDWARDS BLVD.	DERRY RD.	HWY. 407	1.16	18700	21690	4.64
EGLINTON AVE. W.	NINTH LINE	RIDGEWAY DR.	0.66	23400	15440	2.64
EGLINTON AVE. W.	RIDGEWAY DR.	TENTH LINE	0.55	24200	13310	2.20
EGLINTON AVE. W.	TENTH LINE	WINSTON CHURCHILL BLVD.	0.82	23700	19430	3.28
EGLINTON AVE. W.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	0.69	44500	30710	4.14
EGLINTON AVE. W.	GLEN ERIN DR.	ERIN MILLS PKWY.	0.69	43100	29740	4.14
EGLINTON AVE. W.	ERIN MILLS PKWY.	CREDIT VALLEY RD.	0.48	32400	15550	2.88
EGLINTON AVE. W.	CREDIT VALLEY RD.	MISSISSAUGA RD.	0.90	48100	43290	5.40
EGLINTON AVE. W.	MISSISSAUGA RD.	HEWICKS LANE	0.56	54900	30740	3.36
EGLINTON AVE. W.	HEWICKS LANE	CREDITVIEW RD.	0.79	59100	46690	4.74
EGLINTON AVE. W.	CREDITVIEW RD.	TERRY FOX WAY	1.39	40200	55880	8.34
EGLINTON AVE. W.	TERRY FOX WAY	MAVIS RD.	0.67	40300	27000	4.02
EGLINTON AVE. W.	MAVIS RD.	MCLAUGLIN RD.	0.71	40000	28400	4.26
EGLINTON AVE. W.	MCLAUGLIN RD.	HURONTARIO ST.	1.36	37300	50730	8.16
EGLINTON AVE. E.	HURONTARIO ST.	KENNEDY RD.	1.50	43200	64800	9.00
EGLINTON AVE. E.	KENNEDY RD.	HWY. 403 SB OFF-RAMP	0.57	55800	31810	3.42
EGLINTON AVE. E.	HWY. 403 SB OFF-RAMP	TOMKEN RD.	0.96	52000	49920	5.76
EGLINTON AVE. E.	TOMKEN RD.	DIXIE RD.	1.24	43300	53690	7.44
EGLINTON AVE. E.	DIXIE RD.	EASTGATE PKWY.	0.79	44300	35000	4.74
EGLINTON AVE. E.	EASTGATE PKWY.	SPECTRUM WAY	1.05	45300	47570	6.30
EGLINTON AVE. E.	SPECTRUM WAY	CENTENNIAL PARK BLVD.	1.03	41900	43160	4.12
EGLINTON AVE. E.	CENTENNIAL PARK BLVD.	RENFORTH DR.	1.44	46500	66960	5.76
ERIN CENTRE BLVD.	NINTH LINE	TENTH LINE	1.32	10000	13200	2.64
ERIN CENTRE BLVD.	TENTH LINE	WINSTON CHURCHILL BLVD.	0.73	10100	7370	2.92
ERIN CENTRE BLVD.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	1.38	17200	23740	5.52
ERIN CENTRE BLVD.	GLEN ERIN DR.	ERIN MILLS PKWY.	1.38	15100	20840	5.52
ERIN CENTRE BLVD.	ERIN MILLS PKWY.	MISSISSAUGA RD.	1.50	8500	12750	3.00
ERINDALE STATION RD.	DUNDAS ST.	CENTRAL PKWY. W.	1.55	19800	30690	6.20
ERINDALE STATION RD.	CENTRAL PKWY. W.	BURNHAMTHORPE RD.	0.57	4900	2790	2.28
FINANCIAL DR.	DERRY RD.	MEADOWVALE BLVD.	0.35	11800	4130	1.40
FINANCIAL DR.	MEADOWVALE BLVD.	NORTH CITY LIMITS	0.65	16800	10920	2.60
FOWLER DR.	ERIN MILLS PKWY.	NORTH SHERIDAN WAY	0.44	3800	1670	0.88
FOWLER DR.	NORTH SHERIDAN WAY	LINCOLN GREEN WAY	0.25	4100	1030	0.50
GLEN ERIN DR.	DUNDAS ST.	THE COLLEGEWAY	1.28	11500	14720	5.12
GLEN ERIN DR.	THE COLLEGEWAY	BURNHAMTHORPE RD.	0.86	7800	6710	3.44
GLEN ERIN DR.	BURNHAMTHORPE RD.	FOLKWAY DR.	0.85	9500	8080	3.40
GLEN ERIN DR.	FOLKWAY DR.	CREDIT VALLEY RD.	0.90	10900	9810	3.60

**TABLE B-5**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2041 SERVICE LEVEL ANALYSIS**

Name	From	To	Length (km)	Pk Hr to 24-Hr Factor 0.0750		
				2041 ADT	Vehicle KMs	Lane KMs
GLEN ERIN DR.	CREDIT VALLEY RD.	EGLINTON AVE. W	0.40	11100	4440	1.60
GLEN ERIN DR.	EGLINTON AVE.	ERIN CENTRE BLVD.	0.62	5900	3660	2.48
GLEN ERIN DR.	ERIN CENTRE BLVD.	THOMAS ST.	1.22	7200	8780	4.88
GLEN ERIN DR.	THOMAS ST.	BRITANNIA RD. W.	1.20	6000	7200	4.80
GLEN ERIN DR.	BRITANNIA RD. W.	WINDWOOD DR.	0.75	7800	5850	3.00
GLEN ERIN DR.	WINDWOOD DR.	BATTLEFORD RD.	0.85	4900	4170	3.40
GLEN ERIN DR.	BATTLEFORD RD.	AQUITAINE AVE.	0.55	6700	3690	2.20
GLEN ERIN DR.	AQUITAINE AVE.	DERRY RD.	1.00	3400	3400	4.00
GOREWAY DR.	ATTWELL DR.	DERRY RD.	2.47	20200	49890	9.88
GOREWAY DR.	DERRY RD.	MORNING STAR DR.	1.17	24400	28550	4.68
GOREWAY DR.	MORNING STAR DR.	C.N.R.	0.98	23000	22540	3.92
HWY. 401 WB OFF RAMP	HWY. 401	ENTERPRISE DR.	1.30	20300	26390	2.60
HILLCREST. AVE.	HURONTARIO ST.	CONFEDERATION PKWY.	0.53	28400	15050	2.12
HURONTARIO ST.	LAKESHORE RD.	PARK ST.	0.24	21300	5110	0.96
HURONTARIO ST.	PARK ST.	MINEOLA RD.	0.77	25400	19560	3.08
HURONTARIO ST.	MINEOLA RD.	Q.E.W.	1.03	50700	52220	6.18
HURONTARIO ST.	Q.E.W.	HARBORN RD.	0.25	48500	12130	1.50
HURONTARIO ST.	HARBORN RD.	QUEENSWAY	0.55	38000	20900	2.20
HURONTARIO ST.	QUEENSWAY	DUNDAS ST.	1.10	31700	34870	4.40
HURONTARIO ST.	DUNDAS ST.	SOUTH OF C.P.R.	0.66	46100	30430	2.64
HURONTARIO ST.	SOUTH OF C.P.R.	CENTRAL PKWY.	0.76	46000	34960	3.04
HURONTARIO ST.	CENTRAL PKWY.	BURNHAMTHORPE RD.	0.69	40700	28080	2.76
HURONTARIO ST.	BURNHAMTHORPE RD.	SOUTH OF HWY. 403	0.91	57900	52690	3.64
HURONTARIO ST.	SOUTH OF HWY. 403	NORTH OF HWY. 403	0.37	61200	22640	1.48
HURONTARIO ST.	NORTH OF HWY. 403	EGLINTON AVE.	0.68	44300	30120	2.72
HURONTARIO ST.	EGLINTON AVE.	BRISTOL RD.	1.21	38700	46830	4.84
HURONTARIO ST.	BRISTOL RD.	MATHESON BLVD.	0.77	44000	33880	3.08
HURONTARIO ST.	MATHESON BLVD.	BRITANNIA RD.	1.07	43900	46970	4.28
HURONTARIO ST.	BRITANNIA RD.	SOUTH OF HWY. 401	0.39	63600	24800	1.56
HURONTARIO ST.	SOUTH OF HWY. 401	NORTH OF HWY. 401	0.34	55300	18800	1.36
HURONTARIO ST.	NORTH OF HWY. 401	COURTNEYPARK DR.	0.96	41700	40030	3.84
HURONTARIO ST.	COURTNEYPARK DR.	DERRY RD. W.	1.38	51200	70660	5.52
HURONTARIO ST.	DERRY RD. W.	NORTH CITY LIMITS	0.86	55200	47470	3.44
INDIAN RD.	SOUTH SHERIDAN WAY	LORNEPARK RD.	0.51	8000	4080	1.02
INDIAN RD.	LORNEPARK RD.	WOODEDEN DR.	1.54	6700	10320	3.08
INDIAN RD.	WOODEDEN DR.	MISSISSAUGA RD.	1.26	7500	9450	2.52
KATESON DR.	COURTNEYPARK DR.	MADILL BLVD.	0.90	2200	1980	1.80
KENNEDY RD.	EGLINTON AVE.	BRISTOL RD. E.	0.69	24800	17110	2.76
KENNEDY RD.	BRISTOL RD. E.	MATHESON BLVD.	0.83	20800	17260	3.32
KENNEDY RD.	MATHESON BLVD.	BRITANNIA RD. E.	1.26	33300	41960	5.04
KENNEDY RD.	EDWARDS BLVD.	COURTNEYPARK DR.	1.06	25500	27030	4.24
KENNEDY RD.	BRITANNIA RD. E.	EDWARDS BLVD.	1.03	30100	31000	4.12
KENNEDY RD.	COURTNEYPARK DR.	DERRY RD.	1.26	24000	30240	2.52
KENNEDY RD.	DERRY RD.	NORTH CITY LIMITS	0.65	17600	11440	1.30
KING ST.	HURONTARIO ST.	CONFEDERATION PKWY.	0.38	6100	2320	0.76
KING ST.	HURONTARIO ST.	CAMILLA RD.	0.51	4900	2500	1.02
KIRWIN AVE.	HURONTARIO ST.	DUNDAS ST.	0.85	11000	9350	1.70
LAKESHORE RD.	WINSTON CHURCHILL BLVD.	SOUTHDOWN RD.	2.00	23900	47800	8.00
LAKESHORE RD.	SOUTHDOWN RD.	CLARKSON RD.	0.89	29800	26520	3.56
LAKESHORE RD.	CLARKSON RD.	BEXHILL RD.	1.16	25700	29810	4.64
LAKESHORE RD.	BEXHILL RD.	LORNEPARK RD.	0.90	25600	23040	3.60
LAKESHORE RD.	LORNEPARK RD.	SHAWN MARR RD.	1.21	28300	34240	4.84
LAKESHORE RD.	SHAWN MARR RD.	MISSISSAUGA RD.	1.08	29700	32080	4.32
LAKESHORE RD.	MISSISSAUGA RD.	STAVEBANK RD.	0.59	37200	21950	2.36
LAKESHORE RD.	STAVEBANK RD.	HURONTARIO ST.	0.44	36300	15970	1.76
LAKESHORE RD.	HURONTARIO ST.	SENECA AVE.	1.04	31800	33070	4.16
LAKESHORE RD.	SENECA AVE.	CAWTHRA RD.	1.00	33100	33100	4.00
LAKESHORE RD.	CAWTHRA RD.	OGDEN AVE.	1.00	38500	38500	4.00
LAKESHORE RD.	OGDEN AVE.	DIXIE RD.	1.04	34100	35460	4.16
LAKESHORE RD.	DIXIE RD.	ETOBICOKE CREEK	0.62	41000	25420	2.48
LEANNE BLVD.	ERIN MILLS PKWY.	NORTH SHERIDAN WAY	0.64	1000	640	1.28
LINCOLN GREEN WAY	ERIN MILLS PKWY.	FOWLER DR.	0.25	5200	1300	0.50
LORNEPARK RD.	INDIAN RD.	TRUSCOTT DR.	0.54	5500	2970	1.08
LORNEPARK RD.	TRUSCOTT DR.	LAKESHORE BLVD.	1.43	6800	9720	2.86
MAIN ST.	QUEEN ST.	ALBERT ST.	0.51	15500	7910	1.02
MARITZ DR.	DERRY RD.	COURTNEYPARK DR.	1.39	11800	16400	4.17
MADILL BLVD.	KATESON DR.	HURONTARIO ST.	0.26	8100	2110	0.52
MATHESON BLVD. W.	TERRY FOX WAY	MAVIS RD.	0.70	10100	7070	2.80
MATHESON BLVD. W.	MAVIS RD.	MCLAUGHLIN RD.	0.70	16000	11200	2.80
MATHESON BLVD. W.	MCLAUGHLIN RD.	AVEBURY RD.	0.87	23800	20710	3.48
MATHESON BLVD. W.	AVEBURY RD.	HURONTARIO ST.	0.56	17400	9740	2.24
MATHESON BLVD. E.	HURONTARIO ST.	KENNEDY RD.	1.40	25100	35140	5.60
MATHESON BLVD. E.	KENNEDY RD.	TOMKEN RD.	1.39	43500	60470	5.56
MATHESON BLVD. E.	TOMKEN RD.	LITTLE ETOBICOKE CREEK	0.31	31300	9700	1.24
MATHESON BLVD. E.	LITTLE ETOBICOKE CREEK	DIXIE RD.	1.06	27400	29040	4.24
MATHESON BLVD. E.	DIXIE RD.	CREEKBANK RD.	1.00	26300	26300	4.00
MATHESON BLVD. E.	CREEKBANK RD.	EXPLORER DR.	0.63	39100	24630	2.52
MATHESON BLVD. E.	EXPLORER DR. (WEST)	ORBITOR DR.	1.25	32600	40750	5.00
MATHESON BLVD. E.	ORBITOR DR.	EXPLORER DR. (EAST)	0.67	18400	12330	2.68
MATHESON BLVD. E.	EXPLORER DR. (EAST)	RENFORTH DR.	0.88	24000	21120	3.52
MAVIS RD.	QUEENSWAY	DUNDAS ST.	1.10	32300	35530	4.40
MAVIS RD.	DUNDAS ST.	C.P.R.	0.81	32800	26570	4.86
MAVIS RD.	C.P.R.	CENTRAL PKWY. W.	0.66	34700	22900	3.96
MAVIS RD.	CENTRAL PKWY. W.	BURNHAMTHORPE RD.	0.66	40300	26600	3.96
MAVIS RD.	BURNHAMTHORPE RD.	RATHBURN RD.	0.48	53500	25680	2.88

**TABLE B-5**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2041 SERVICE LEVEL ANALYSIS**

Name	From	To	Length (km)	Pk Hr to 24-Hr Factor 0.0750		
				2041 ADT	Vehicle KMs	Lane KMs
MAVIS RD.	RATHBURN RD.	SOUTH OF HWY. 403	0.38	66700	25350	2.28
MAVIS RD.	SOUTH OF HWY. 403	NORTH OF HWY. 403	0.32	68300	21860	1.92
MAVIS RD.	NORTH OF HWY. 403	EGLINTON AVE. W.	0.83	56000	46480	4.98
MAVIS RD.	EGLINTON AVE. W.	WINTERTON WAY	0.62	63100	39120	3.72
MAVIS RD.	WINTERTON WAY	BRISTOL RD.W.	0.58	54500	31610	3.48
MAVIS RD.	BRISTOL RD.W.	MATHESON BLVD. W.	1.28	60000	76800	7.68
MAVIS RD.	MATHESON BLVD. W.	BRITANNIA RD. W.	0.62	58100	36020	3.72
MAVIS RD.	BRITANNIA RD.	CANTAY RD.	0.78	48700	37990	4.68
MAVIS RD.	CANTAY RD.	SOUTH OF HWY. 401	0.42	58600	24610	2.52
MAVIS RD.	SOUTH OF HWY. 401	NORTH OF HWY. 401	0.33	69100	22800	1.98
MAVIS RD.	NORTH OF HWY. 401	COURTNEYPARK DR.	0.32	61600	19710	1.92
MAVIS RD.	COURTNEYPARK DR.	DERRY RD.	1.32	52000	68640	7.92
MAVIS RD.	DERRY RD.	SOUTH OF HWY. 407	1.20	49200	59040	7.20
McLAUGHLIN RD.	EGLINTON AVE.	BRISTOL RD.	0.90	16600	14940	3.60
McLAUGHLIN RD.	BRISTOL RD.	MATHESON BLVD.	1.52	17900	27210	6.08
McLAUGHLIN RD.	MATHESON BLVD.	BRITANNIA RD.	0.64	20400	13060	2.56
McLAUGHLIN RD.	BRITANNIA RD.	CANTAY RD.	0.66	24700	16300	2.64
McLAUGHLIN RD.	CANTAY RD.	COURTNEYPARK DR.	0.81	37000	29970	3.24
McLAUGHLIN RD.	COURTNEYPARK DR.	DERRY RD.	1.59	28500	45320	6.36
McLAUGHLIN RD.	DERRY RD.	NORTH CITY LIMITS	1.17	36600	42820	4.68
MEADOWPINE BLVD.	WINSTON CHURCHILL BLVD.	MEADOWVALE BLVD.	1.91	11200	21390	7.64
MEADOWVALE BLVD.	DERRY RD.	MISSISSAUGA RD.	0.90	19800	17820	3.60
MEADOWVALE BLVD.	MISSISSAUGA RD.	SYNTEX DR.	0.72	10800	7780	2.88
MEADOWVALE BLVD.	SYNTEX DR.	MEADOWPINE BLVD.	1.07	16800	17980	4.28
MEADOWVALE BLVD.	MEADOWPINE BLVD.	NORTH CITY LIMITS	0.70	13800	9660	2.80
MILLCREEK DR.	DERRY RD.	AQUITAINE AVE.	0.48	27400	13150	1.92
MILLCREEK DR.	AQUITAINE AVE.	ERIN MILLS PKWY.	1.36	28800	39170	5.44
MINEOLA RD.	HURONTARIO ST.	ATWATER AVE.	1.29	7800	10060	2.58
MISSISSAUGA RD.	LAKESHORE RD.	FRONT ST.	0.37	3800	1410	0.74
MISSISSAUGA RD.	FRONT ST.	SOUTH OF Q.E.W.	1.57	13200	20720	3.14
MISSISSAUGA RD.	SOUTH OF Q.E.W.	NORTH SHERIDAN WAY	1.01	15000	15150	2.02
MISSISSAUGA RD.	NORTH SHERIDAN WAY	DUNDAS ST.	3.93	6300	24760	7.86
MISSISSAUGA RD.	DUNDAS ST.	THE COLLEGEWAY	0.38	16900	6420	0.76
MISSISSAUGA RD.	THE COLLEGEWAY	BURNHAMTHORPE RD.	1.38	23200	32020	2.76
MISSISSAUGA RD.	BURNHAMTHORPE RD.	BRIDLEPATH TRAIL	1.01	6100	6160	2.02
MISSISSAUGA RD.	BRIDLEPATH TRAIL	EGLINTON AVE.	1.46	6800	9930	2.92
MISSISSAUGA RD.	EGLINTON AVE.	C.P.R.	0.96	8200	7870	1.92
MISSISSAUGA RD.	ERIN MILLS PKWY.	KITIMAT RD.	0.43	11900	5120	1.72
MISSISSAUGA RD.	KITIMAT RD.	C.P.R.	0.90	15000	13500	3.60
MORNING STAR DR.	AIRPORT RD.	GOREWAY DR.	1.44	14500	20880	2.88
MORNING STAR DR.	GOREWAY DR.	DARCEL AVE.	0.53	12400	6570	1.06
MORNING STAR DR.	DARCEL AVE.	EAST CITY LIMITS	1.10	15600	17160	2.20
NETHERHART RD.	COURTNEYPARK DR.	BRITANNIA RD.	1.48	0	0	5.92
NINTH LINE	BURNHAMTHORPE RD.	DUNDAS ST.	2.10	30900	64890	8.40
NINTH LINE	BURNHAMTHORPE RD.	EGLINTON AVE.	2.10	31400	65940	8.40
NINTH LINE	EGLINTON AVE.	ERIN CENTRE BLVD.	0.76	26500	20140	3.04
NINTH LINE	ERIN CENTRE BLVD.	THOMAS ST.	1.34	28700	38460	5.36
NINTH LINE	THOMAS ST.	BRITANNIA RD.	0.99	29600	29300	3.96
NINTH LINE	BRITANNIA RD.	DOUG LEAVE.NS BLVD.	1.77	23700	41950	7.08
NINTH LINE	DOUG LEAVE.NS BLVD.	DERRY RD.	1.30	22500	29250	5.20
NINTH LINE	DERRY RD.	ARGENTIA RD.	1.62	23100	37420	6.48
NINTH LINE	ARGENTIA RD.	HWY. 401	0.83	26900	22330	3.32
NORTHERN DISTRIBUTION RD.	MAVIS RD.	HURONTARIO ST.	2.08	5900	12270	4.16
NORTH SERVICE RD.	HURONTARIO ST.	CLIFF RD.	1.12	10500	11760	2.24
NORTH SERVICE RD.	CLIFF RD.	PEAR TREE RD.	0.37	9000	3330	0.74
NORTH SERVICE RD.	PEAR TREE RD.	CAWTHRA RD.	0.86	7700	6620	1.72
NORTH SERVICE RD.	CAWTHRA RD.	STANFIELD RD.	1.45	8700	12620	2.90
NORTH SERVICE RD.	STANFIELD RD.	DIXIE RD.	0.72	9200	6620	1.44
NORTH SHERIDAN WAY	WINSTON CHURCHILL BLVD.	ERIN MILLS PKWY.	2.60	14600	37960	5.20
NORTH SHERIDAN WAY	FOWLER DR.	SPRINGBANK RD.	1.40	8200	11480	2.80
NORTH SHERIDAN WAY	SPRINGBANK RD.	MISSISSAUGA RD.	2.10	6600	13860	4.20
OGDEN AVE.	LAKESHORE RD.	ATWATER AVE.	0.76	6000	4560	1.52
OGDEN AVE.	ATWATER AVE.	SOUTH SERVICE RD.	1.05	8900	9350	2.10
PONYTRAIL DR.	RATHBURN RD. EAST.	BURNHAMTHORPE RD.	0.42	13100	5500	1.68
QUEEN ST.	C.P.R.	THOMAS ST.	0.86	11800	10150	1.72
QUEEN ST.	THOMAS ST.	MAIN ST.	0.13	17500	2280	0.26
QUEEN ST.	MAIN ST.	BRITANNIA RD.	1.10	14000	15400	2.20
QUEEN ST.	BRITANNIA RD.	C.P.R.	0.42	17400	7310	1.68
RATHBURN RD. W.	CREDITVIEW RD.	PERIVALE RD.	0.81	6200	5020	3.24
RATHBURN RD. W.	PERIVALE RD.	MAVIS RD.	1.04	13500	14040	4.16
RATHBURN RD. W.	MAVIS RD.	CONFEDERATION PKWY.	0.91	13300	12100	3.64
RATHBURN RD. W.	CONFEDERATION PKWY.	DUKE OF YORK BLVD.	0.38	11300	4290	1.52
RATHBURN RD. W.	DUKE OF YORK BLVD.	CITY CENTER DR.	0.65	14400	9360	2.60
RATHBURN RD. W.	CITY CENTER DR.	SHERWOODTOWNE BLVD.	0.47	6300	2960	1.88
RATHBURN RD. E.	SHERWOODTOWNE BLVD.	CENTRAL PKWY.	0.84	15500	13020	3.36
RATHBURN RD. E.	CENTRAL PKWY. EAST.	CAWTHRA RD.	1.22	12500	15250	4.88
RATHBURN RD. E.	CAWTHRA RD.	TOMKEN RD.	0.83	15000	12450	3.32
RATHBURN RD. E.	TOMKEN RD.	DIXIE RD.	1.28	22700	29060	5.12
RATHBURN RD. E.	DIXIE RD.	FIELDGATE DR.	0.95	19300	18340	3.80
RATHBURN RD. E.	FIELDGATE DR.	EAST LEG OF RATHBURN RD.	0.57	15000	8550	2.28
RATHBURN RD. E.	PONYTRAIL DR.	EAST END	0.90	0	0	3.60
RIDGEWAY DR.	DUNDAS ST.	THE COLLEGEWAY	1.60	11400	18240	6.40
RIDGEWAY DR.	THE COLLEGEWAY	BURNHAMTHORPE RD.	0.65	13800	8970	2.60
RIDGEWAY DR.	BURNHAMTHORPE RD.	UNITY DR.	0.78	6700	5230	3.12
RIDGEWAY DR.	UNITY DR.	EGLINTON AVE.	1.30	12200	15860	5.20

**TABLE B-5**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2041 SERVICE LEVEL ANALYSIS**

Name	From	To	Length (km)	Pk Hr to 24-Hr Factor 0.0750		
				2041 ADT	Vehicle KMs	Lane KMs
ROYAL WINDSOR DR.	SOUTHDOWN RD.	WINSTON CHURCHILL BLVD.	2.10	23900	50190	8.40
SHERIDAN PARK DR.	WINSTON CHURCHILL BLVD.	SPEAKMAN DR. EAST	0.15	14100	2120	0.30
SHERIDAN PARK DR.	SPEAKMAN DR. EAST	SPEAKMAN DR. WEST	1.14	800	910	2.28
SHERIDAN PARK DR.	SPEAKMAN DR. WEST	ERIN MILLS PKWY.	0.76	13300	10110	1.52
SOUTH SERVICE RD.	HURONTARIO ST.	KENMUIR AVE.	1.38	8800	12140	2.76
SOUTH SERVICE RD.	KENMUIR AVE.	CAWTHRA RD.	0.93	8400	7810	1.86
SOUTH SERVICE RD.	CAWTHRA RD.	OGDEN AVE.	1.16	5400	6260	2.32
SOUTH SERVICE RD.	OGDEN AVE.	DIXIE RD.	0.98	14400	14110	1.96
SOUTH SERVICE RD.	DIXIE RD.	EASTERLY END	0.70	20900	14630	0.70
SOUTH SHERIDIAN WAY	WINSTON CHURCHILL BLVD.	BENEDET DR.	0.90	8300	7470	1.80
SOUTH SHERIDAN WAY	BENEDET DR.	SOUTHDOWN RD.	1.14	4500	5130	2.28
SOUTH SHERIDAN WAY	SOUTHDOWN RD.	CLARKSON RD.	0.88	14200	12500	1.76
SOUTH SHERIDAN WAY	CLARKSON RD.	INDIAN RD.	0.87	14100	12270	1.74
SOUTH SHERIDAN WAY	INDIAN RD.	Q.E.W. EB OFF-RAMP	2.37	10900	25830	4.74
SOUTH SHERIDAN WAY	Q.E.W. EB OFF-RAMP	MISSISSAUGA RD.	0.22	8800	1940	0.44
SOUTHDOWN RD.	Q.E.W. EB OFF-RAMP	TRUSCOTT DR.	0.63	42200	26590	2.52
SOUTHDOWN RD.	TRUSCOTT DR.	ROYAL WINDSOR DR.	1.27	31000	39370	5.08
SOUTHDOWN RD.	ROYAL WINDSOR DR.	LAKESHORE RD. W.	2.00	9000	18000	4.00
TENTH LINE	EGLINTON AVE.	ERIN CENTRE BLVD.	0.58	5900	3420	1.16
TENTH LINE	ERIN CENTRE BLVD.	THOMAS ST.	1.63	12400	20210	3.26
TENTH LINE	THOMAS ST.	BRITANNIA RD.	0.92	12400	11410	1.84
TENTH LINE	BRITANNIA RD.	BATTLEFORD. RD.	1.53	6300	9640	6.12
TENTH LINE	BATTLEFORD. RD.	AQUITAINE AVE.	0.78	5300	4130	3.12
TENTH LINE	BATTLEFORD. RD.	DERRY RD.	0.77	20800	16020	3.08
TENTH LINE	DERRY RD.	ARGENTIA RD.	1.44	11800	16990	5.76
TERRY FOX WAY	EGLINTON AVE.	BRISTOL RD.	1.22	7500	9150	2.44
TERRY FOX WAY	BRISTOL RD.	MATHESON BLVD.	1.23	9600	11810	2.46
TERRY FOX WAY	MATHESON BLVD.	BRITANNIA RD.	0.62	10000	6200	1.24
THE COLLEGEWAY	RIDGEWAY DR.	WINSTON CHURCHILL BLVD.	1.30	15400	20020	5.20
THE COLLEGEWAY	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	0.86	15400	13240	3.44
THE COLLEGEWAY	GLEN ERIN DR.	ERIN MILLS PKWY.	1.06	14500	15370	4.24
THE COLLEGEWAY	ERIN MILLS PKWY.	MISSISSAUGA RD.	1.61	15900	25600	6.44
THOMAS ST.	NINTH LINE	TENTH LINE	1.41	8400	11840	5.64
THOMAS ST.	TENTH LINE	WINSTON CHURCHILL BLVD.	0.73	14600	10590	2.90
THOMAS ST.	WINSTON CHURCHILL BLVD.	GLEN ERIN DR.	0.68	17700	12040	2.72
THOMAS ST.	GLEN ERIN DR.	ERIN MILLS PKWY.	0.65	22300	14500	2.60
THOMAS ST.	ERIN MILLS PKWY.	MCFARREN BLVD.	0.77	14500	11170	3.08
THOMAS ST.	MCFARREN BLVD.	QUEEN ST.	0.39	21500	8390	1.56
TOMKEN RD.	DUNDAS ST.	BLOOR ST.	1.10	9100	10010	4.40
TOMKEN RD.	BLOOR ST.	BURNHAMTHORPE RD.	1.00	18700	18700	4.00
TOMKEN RD.	BURNHAMTHORPE RD.	RATHBURN RD.	0.42	12800	5380	1.68
TOMKEN RD.	RATHBURN RD.	EASTGATE PKWY.	0.83	25000	20750	3.32
TOMKEN RD.	EASTGATE PKWY.	EGLINTON AVE.	0.84	18700	15710	3.36
TOMKEN RD.	EGLINTON AVE.	MATHESON BLVD.	1.17	23600	27610	4.68
TOMKEN RD.	MATHESON BLVD.	KAMATO RD.	0.53	30800	16320	2.12
TOMKEN RD.	KAMATO RD.	BRITANNIA RD.	1.40	19900	27860	5.60
TOMKEN RD.	BRITANNIA RD.	COURTNEYPARK DR.	1.39	19000	26410	5.56
TOMKEN RD.	COURTNEYPARK DR.	DERRY RD.	1.70	27400	46580	6.80
TOMKEN RD.	DERRY RD.	NORTH CITY LIMITS	0.68	21000	14280	2.72
TORBRAM RD.	DERRY RD.	DREW RD.	0.75	24100	18080	4.50
TORBRAM RD.	DREW RD.	NORTH CITY LIMITS	1.41	28700	40470	8.46
TRUSCOTT DR.	WINSTON CHURCHILL BLVD.	SANDGATE CR.	0.79	2900	2290	1.58
TRUSCOTT DR.	SANDGATE CR.	SOUTHDOWN RD.	1.35	13900	18770	2.70
TRUSCOTT DR.	SOUTHDOWN RD.	CLARKSON RD.	0.82	11700	9590	1.64
TRUSCOTT DR.	CLARKSON RD.	LORNEPARK RD.	1.24	12000	14880	2.48
WAINSCOT DR.	EGLINTON AVE.	WHITE CLOVER WAY	0.40	5000	2000	0.80
WHITTLE RD.	HWY. 401 EB OFF-RAMP	BRITANNIA RD.	0.55	24000	13200	1.10
WHITTLE RD.	BRITANNIA RD.	MATHESON BLVD.	1.10	19200	21120	4.40
WINSTON CHURCHILL BLVD.	DUNDAS ST.	THE COLLEGEWAY	1.26	46400	58460	7.56
WINSTON CHURCHILL BLVD.	THE COLLEGEWAY	BURNHAMTHORPE RD.	0.85	39800	33830	5.10
WINSTON CHURCHILL BLVD.	BURNHAMTHORPE RD.	SOUTH OF HWY. 403	0.90	52100	46890	5.40
WINSTON CHURCHILL BLVD.	SOUTH OF HWY. 403	NORTH OF HWY. 403	0.38	49900	18960	2.28
WINSTON CHURCHILL BLVD.	NORTH OF HWY. 403	EGLINTON AVE.	0.72	51000	36720	4.32
WINSTON CHURCHILL BLVD.	EGLINTON AVE.	ERIN CENTRE BLVD.	0.61	40600	24770	3.66
WINSTON CHURCHILL BLVD.	ERIN CENTRE BLVD.	THOMAS ST.	1.24	49300	61130	7.44
WINSTON CHURCHILL BLVD.	THOMAS ST.	BRITANNIA RD.	1.22	41900	51120	7.32
WINSTON CHURCHILL BLVD.	BRITANNIA RD.	BATTLEFORD RD.	1.65	38500	63530	9.90
WINSTON CHURCHILL BLVD.	BATTLEFORD RD.	AQUITAINE AVE.	0.57	43200	24620	3.42
WINSTON CHURCHILL BLVD.	AQUITAINE AVE.	DERRY RD. W.	0.84	37100	31160	5.04
WINSTON CHURCHILL BLVD.	DERRY RD. W.	ARGENTIA RD.	1.47	46700	68650	8.82
WINSTON CHURCHILL BLVD.	ARGENTIA RD.	NORTH CITY LIMITS	0.80	72900	58320	4.80
WORLD DR.	KATESON DR.	HURONTARIO ST.	0.30	0	0	0.60
WORLD DR.	EDWARDS BLVD.	HURONTARIO ST.	0.32	8000	2560	0.64
TOTAL					9,178,030	1490
VEH. / LANE						6160
POPULATION						878,000
EMPLOYMENT						525,773
POP. + EMP.						1,403,773
LANE KM PER CAPITAL						1.06

# Appendix C

## Historical Infrastructure Inventory



**TABLE C-1**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2009 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	99.6	\$ 2,274,000	\$ 226,519,962
3	0.4	\$ 2,616,000	\$ 915,600
4	218.6	\$ 2,958,000	\$ 646,544,554
5	1.8	\$ 3,300,000	\$ 6,006,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>369.9</b>		<b>\$ 1,060,335,407</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	390	\$ 150,000	\$ 58,500,000
3 Way <sup>1</sup>	81	\$ 150,000	\$ 12,150,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>471</b>		<b>\$ 73,650,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	5	8,882.4	\$ 6,600	\$ 58,623,576
RD-O-WAT	81	55,398.1	\$ 6,400	\$ 354,548,096
PED-O-RD	7	1,599.6	\$ 3,800	\$ 6,078,442
<b>Total</b>	<b>108</b>	<b>70,740.5</b>		<b>\$ 457,563,537</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	1	255.9	\$ 5,300	\$ 1,356,217
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	109	28,508.7	\$ 5,300	\$ 151,096,057
PED-O-RD			-	-
<b>Total</b>	<b>110</b>	<b>28,764.6</b>		<b>\$ 152,452,274</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	23,684	\$ 1,500	\$ 35,526,000
Wood	25,897	\$ 1,500	\$ 38,845,500
<b>Total</b>			<b>\$ 74,371,500</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
630	\$ 107,800	\$ 67,966,822
<b>Total</b>		<b>\$ 67,966,822</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
370	\$ 400,000	\$ 147,950,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
370	\$ 100,000	\$ 36,987,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	52.9	\$ 187,000	\$ 9,899,406
Centre Turn Lane	130.9	\$ 615,000	\$ 80,503,500
Left Turn Lanes	28.5	\$ 430,000	\$ 12,246,400
Bicycle Lanes C-1	45.6	\$ 253,000	\$ 11,536,800
Bicycle Lanes C-2	22.7	\$ 274,000	\$ 6,219,800
Bicycle Lanes C-3	17.6	\$ 2,000	\$ 35,200
<b>Total</b>			<b>\$ 120,441,106</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	24	\$ 7,500	\$ 180,000
<b>Total</b>	<b>24</b>		<b>\$ 180,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	401,173	\$ 437	\$ 175,133,192
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,959,130</b>		<b>\$ 4,142,749,660</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,742,648,906**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-2**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2010 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	98.9	\$ 2,274,000	\$ 224,928,162
3	0.4	\$ 2,616,000	\$ 915,600
4	219.3	\$ 2,958,000	\$ 648,615,154
5	1.8	\$ 3,300,000	\$ 6,006,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>369.9</b>		<b>\$ 1,060,814,207</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	398	\$ 150,000	\$ 59,700,000
3 Way <sup>1</sup>	85	\$ 150,000	\$ 12,750,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>483</b>		<b>\$ 75,450,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	7	9,638.6	\$ 6,600	\$ 63,614,826
RD-O-WAT	81	55,398.1	\$ 6,400	\$ 354,548,096
PED-O-RD	7	1,599.6	\$ 3,800	\$ 6,078,442
<b>Total</b>	<b>110</b>	<b>71,496.8</b>		<b>\$ 462,554,787</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	1	255.9	\$ 5,300	\$ 1,356,217
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	111	28,595.1	\$ 5,300	\$ 151,554,242
PED-O-RD			-	-
<b>Total</b>	<b>112</b>	<b>28,851.0</b>		<b>\$ 152,910,459</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	23,684	\$ 1,500	\$ 35,526,000
Wood	25,897	\$ 1,500	\$ 38,845,500
<b>Total</b>			<b>\$ 74,371,500</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
635	\$ 107,800	\$ 68,428,206
<b>Total</b>		<b>\$ 68,428,206</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
370	\$ 400,000	\$ 147,950,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
370	\$ 100,000	\$ 36,987,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	54.4	\$ 187,000	\$ 10,178,036
Centre Turn Lane	130.9	\$ 615,000	\$ 80,503,500
Left Turn Lanes	28.5	\$ 430,000	\$ 12,246,400
Bicycle Lanes C-1	47.8	\$ 253,000	\$ 12,093,400
Bicycle Lanes C-2	28.0	\$ 274,000	\$ 7,672,000
Bicycle Lanes C-3	17.6	\$ 2,000	\$ 35,200
<b>Total</b>			<b>\$ 122,728,536</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	28	\$ 7,500	\$ 210,000
<b>Total</b>	<b>28</b>		<b>\$ 210,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	401,173	\$ 437	\$ 175,133,192
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,959,130</b>		<b>\$ 4,142,749,660</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,753,155,955**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-3**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2011 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	99.2	\$ 2,274,000	\$ 225,519,402
3	0.4	\$ 2,616,000	\$ 915,600
4	219.0	\$ 2,958,000	\$ 647,846,074
5	1.8	\$ 3,300,000	\$ 6,006,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>369.9</b>		<b>\$ 1,060,636,367</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	406	\$ 150,000	\$ 60,900,000
3 Way <sup>1</sup>	87	\$ 150,000	\$ 13,050,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>493</b>		<b>\$ 76,950,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	7	9,638.6	\$ 6,600	\$ 63,614,826
RD-O-WAT	81	55,398.1	\$ 6,400	\$ 354,548,096
PED-O-RD	7	1,599.6	\$ 3,800	\$ 6,078,442
<b>Total</b>	<b>110</b>	<b>71,496.8</b>		<b>\$ 462,554,787</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	1	255.9	\$ 5,300	\$ 1,356,217
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	111	28,595.1	\$ 5,300	\$ 151,554,242
PED-O-RD			-	-
<b>Total</b>	<b>112</b>	<b>28,851.0</b>		<b>\$ 152,910,459</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	25,955	\$ 1,500	\$ 38,932,500
Wood	25,897	\$ 1,500	\$ 38,845,500
<b>Total</b>			<b>\$ 77,778,000</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
644	\$ 107,800	\$ 69,438,292
<b>Total</b>		<b>\$ 69,438,292</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
370	\$ 400,000	\$ 147,950,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
370	\$ 100,000	\$ 36,987,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	55.9	\$ 187,000	\$ 10,456,666
Centre Turn Lane	130.9	\$ 615,000	\$ 80,503,500
Left Turn Lanes	28.5	\$ 430,000	\$ 12,261,450
Bicycle Lanes C-1	54.0	\$ 253,000	\$ 13,662,000
Bicycle Lanes C-2	34.2	\$ 274,000	\$ 9,370,800
Bicycle Lanes C-3	17.6	\$ 2,000	\$ 35,200
<b>Total</b>			<b>\$ 126,289,616</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	15	\$ 7,500	\$ 112,500
<b>Total</b>	<b>15</b>		<b>\$ 112,500</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	401,173	\$ 437	\$ 175,133,192
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,959,130</b>		<b>\$ 4,142,749,660</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,762,358,281**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)



**TABLE C-4**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2012 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	104.2	\$ 2,274,000	\$ 236,943,978
3	0.4	\$ 2,616,000	\$ 915,600
4	214.0	\$ 2,958,000	\$ 632,985,082
5	1.8	\$ 3,300,000	\$ 6,006,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>369.9</b>		<b>\$ 1,057,199,951</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	411	\$ 150,000	\$ 61,650,000
3 Way <sup>1</sup>	89	\$ 150,000	\$ 13,350,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>500</b>		<b>\$ 78,000,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	7	9,638.6	\$ 6,600	\$ 63,614,826
RD-O-WAT	81	55,398.1	\$ 6,400	\$ 354,548,096
PED-O-RD	7	1,599.6	\$ 3,800	\$ 6,078,442
<b>Total</b>	<b>110</b>	<b>71,496.8</b>		<b>\$ 462,554,787</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	1	255.9	\$ 5,300	\$ 1,356,217
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28,674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>115</b>	<b>28,930.1</b>		<b>\$ 153,329,583</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	27,066	\$ 1,500	\$ 40,599,000
Wood	25,897	\$ 1,500	\$ 38,845,500
<b>Total</b>			<b>\$ 79,444,500</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
652	\$ 107,800	\$ 70,295,302
<b>Total</b>		<b>\$ 70,295,302</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
370	\$ 400,000	\$ 147,950,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
370	\$ 100,000	\$ 36,987,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	57.4	\$ 187,000	\$ 10,735,296
Centre Turn Lane	135.1	\$ 615,000	\$ 83,068,050
Left Turn Lanes	28.7	\$ 430,000	\$ 12,319,500
Bicycle Lanes C-1	55.2	\$ 253,000	\$ 13,965,600
Bicycle Lanes C-2	36.5	\$ 274,000	\$ 10,001,000
Bicycle Lanes C-3	19.6	\$ 2,000	\$ 39,200
<b>Total</b>			<b>\$ 130,128,646</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	10	\$ 7,500	\$ 75,000
<b>Total</b>	<b>10</b>		<b>\$ 75,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	401,173	\$ 437	\$ 175,133,192
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,959,130</b>		<b>\$ 4,142,749,660</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,766,716,029**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-5**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2013 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	104.2	\$ 2,274,000	\$ 236,943,978
3	0.4	\$ 2,616,000	\$ 915,600
4	212.4	\$ 2,958,000	\$ 628,400,182
5	3.6	\$ 3,300,000	\$ 11,946,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>370.1</b>		<b>\$ 1,058,555,051</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	414	\$ 150,000	\$ 62,100,000
3 Way <sup>1</sup>	91	\$ 150,000	\$ 13,650,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>505</b>		<b>\$ 78,750,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	7	9,638.6	\$ 6,600	\$ 63,614,826
RD-O-WAT	81	55,398.1	\$ 6,400	\$ 354,548,096
PED-O-RD	7	1,599.6	\$ 3,800	\$ 6,078,442
<b>Total</b>	<b>110</b>	<b>71,496.8</b>		<b>\$ 462,554,787</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	1	255.9	\$ 5,300	\$ 1,356,217
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28,674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>115</b>	<b>28,930.1</b>		<b>\$ 153,329,583</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	28,148	\$ 1,500	\$ 42,222,600
Wood	26,402	\$ 1,500	\$ 39,603,015
<b>Total</b>			<b>\$ 81,825,615</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
656	\$ 107,800	\$ 70,684,460
<b>Total</b>		<b>\$ 70,684,460</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
370	\$ 400,000	\$ 148,050,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
370	\$ 100,000	\$ 37,012,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	58.9	\$ 187,000	\$ 11,013,926
Centre Turn Lane	135.1	\$ 615,000	\$ 83,068,050
Left Turn Lanes	28.8	\$ 430,000	\$ 12,399,050
Bicycle Lanes C-1	51.9	\$ 253,000	\$ 13,130,700
Bicycle Lanes C-2	45.5	\$ 274,000	\$ 12,467,000
Bicycle Lanes C-3	22.6	\$ 2,000	\$ 45,200
<b>Total</b>			<b>\$ 132,123,926</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	14	\$ 7,500	\$ 105,000
<b>Total</b>	<b>14</b>		<b>\$ 105,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	405,173	\$ 437	\$ 176,879,405
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,963,130</b>		<b>\$ 4,144,495,874</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,775,487,895**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-6**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2014 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	104.2	\$ 2,274,000	\$ 236,943,978
3	0.4	\$ 2,616,000	\$ 915,600
4	212.4	\$ 2,958,000	\$ 628,400,182
5	3.6	\$ 3,300,000	\$ 11,946,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>370.1</b>		<b>\$ 1,058,555,051</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	415	\$ 150,000	\$ 62,250,000
3 Way <sup>1</sup>	93	\$ 150,000	\$ 13,950,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>508</b>		<b>\$ 79,200,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	16	15,077.8	\$ 6,600	\$ 99,513,612
RD-O-WAT	82	55,627.8	\$ 6,400	\$ 356,018,048
PED-O-RD	8	1,642.5	\$ 3,800	\$ 6,241,576
<b>Total</b>	<b>121</b>	<b>77,208.6</b>		<b>\$ 500,086,659</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	2	317.0	\$ 5,300	\$ 1,680,153
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28,674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>116</b>	<b>28,991.2</b>		<b>\$ 153,653,519</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	29,418	\$ 1,500	\$ 44,127,075
Wood	26,581	\$ 1,500	\$ 39,871,155
<b>Total</b>			<b>\$ 83,998,230</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
660	\$ 107,800	\$ 71,180,090
<b>Total</b>		<b>\$ 71,180,090</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
370	\$ 400,000	\$ 148,050,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
370	\$ 100,000	\$ 37,012,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	60.4	\$ 187,000	\$ 11,292,556
Centre Turn Lane	135.1	\$ 615,000	\$ 83,068,050
Left Turn Lanes	28.8	\$ 430,000	\$ 12,399,050
Bicycle Lanes C-1	52.3	\$ 253,000	\$ 13,231,647
Bicycle Lanes C-2	46.2	\$ 274,000	\$ 12,661,540
Bicycle Lanes C-3	25.8	\$ 2,000	\$ 51,686
<b>Total</b>			<b>\$ 132,704,529</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	11	\$ 7,500	\$ 82,500
<b>Total</b>	<b>11</b>		<b>\$ 82,500</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	405,173	\$ 437	\$ 176,879,405
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,963,130</b>		<b>\$ 4,144,495,874</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,817,020,051**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-7**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2015 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	104.6	\$ 2,274,000	\$ 237,853,578
3	0.4	\$ 2,616,000	\$ 915,600
4	212.4	\$ 2,958,000	\$ 628,400,182
5	3.6	\$ 3,300,000	\$ 11,946,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>370.5</b>		<b>\$ 1,059,464,651</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	419	\$ 150,000	\$ 62,850,000
3 Way <sup>1</sup>	94	\$ 150,000	\$ 14,100,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>513</b>		<b>\$ 79,950,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	18	15,872.7	\$ 6,600	\$ 104,759,952
RD-O-WAT	82	55,627.8	\$ 6,400	\$ 356,018,048
PED-O-RD	8	1,642.5	\$ 3,800	\$ 6,241,576
<b>Total</b>	<b>123</b>	<b>78,003.5</b>		<b>\$ 505,332,999</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	2	317.0	\$ 5,300	\$ 1,680,153
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28,674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>116</b>	<b>28,991.2</b>		<b>\$ 153,653,519</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	30,558	\$ 1,500	\$ 45,836,955
Wood	26,949	\$ 1,500	\$ 40,423,950
<b>Total</b>			<b>\$ 86,260,905</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
664	\$ 107,800	\$ 71,609,134
<b>Total</b>		<b>\$ 71,609,134</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
371	\$ 400,000	\$ 148,210,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
371	\$ 100,000	\$ 37,052,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	61.9	\$ 187,000	\$ 11,571,186
Centre Turn Lane	135.1	\$ 615,000	\$ 83,068,050
Left Turn Lanes	28.8	\$ 430,000	\$ 12,399,050
Bicycle Lanes C-1	55.4	\$ 253,000	\$ 14,005,827
Bicycle Lanes C-2	46.3	\$ 274,000	\$ 12,688,940
Bicycle Lanes C-3	25.8	\$ 2,000	\$ 51,686
<b>Total</b>			<b>\$ 133,784,739</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	12	\$ 7,500	\$ 90,000
<b>Total</b>	<b>12</b>		<b>\$ 90,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	405,173	\$ 437	\$ 176,879,405
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,963,130</b>		<b>\$ 4,144,495,874</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,827,905,420**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-8**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2016 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	105.9	\$ 2,274,000	\$ 240,923,478
3	0.4	\$ 2,616,000	\$ 915,600
4	212.4	\$ 2,958,000	\$ 628,400,182
5	3.6	\$ 3,300,000	\$ 11,946,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>371.9</b>		<b>\$ 1,062,534,551</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	422	\$ 150,000	\$ 63,300,000
3 Way <sup>1</sup>	95	\$ 150,000	\$ 14,250,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>517</b>		<b>\$ 80,550,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	25	20,319.3	\$ 6,600	\$ 134,107,248
RD-O-WAT	83	55,857.0	\$ 6,400	\$ 357,484,800
PED-O-RD	8	1,642.5	\$ 3,800	\$ 6,241,576
<b>Total</b>	<b>131</b>	<b>82,679.2</b>		<b>\$ 536,147,047</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	2	317.0	\$ 5,300	\$ 1,680,153
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>116</b>	<b>28,991.2</b>		<b>\$ 153,653,519</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	31,695	\$ 1,500	\$ 47,542,275
Wood	26,949	\$ 1,500	\$ 40,423,950
<b>Total</b>			<b>\$ 87,966,225</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
666	\$ 107,800	\$ 71,844,138
<b>Total</b>		<b>\$ 71,844,138</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
372	\$ 400,000	\$ 148,750,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
372	\$ 100,000	\$ 37,187,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	63.4	\$ 187,000	\$ 11,849,816
Centre Turn Lane	136.4	\$ 615,000	\$ 83,898,300
Left Turn Lanes	28.8	\$ 430,000	\$ 12,399,050
Bicycle Lanes C-1	62.3	\$ 253,000	\$ 15,761,900
Bicycle Lanes C-2	49.6	\$ 274,000	\$ 13,590,400
Bicycle Lanes C-3	25.8	\$ 2,000	\$ 51,600
<b>Total</b>			<b>\$ 137,551,066</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	12	\$ 7,500	\$ 90,000
<b>Total</b>	<b>12</b>		<b>\$ 90,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	405,173	\$ 437	\$ 176,879,405
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,963,130</b>		<b>\$ 4,144,495,874</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,868,771,019**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-9**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2017 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	106.7	\$ 2,274,000	\$ 242,560,758
3	0.4	\$ 2,616,000	\$ 915,600
4	212.4	\$ 2,958,000	\$ 628,400,182
5	3.6	\$ 3,300,000	\$ 11,946,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>372.6</b>		<b>\$ 1,064,171,831</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	425	\$ 150,000	\$ 63,750,000
3 Way <sup>1</sup>	96	\$ 150,000	\$ 14,400,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>521</b>		<b>\$ 81,150,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	27	21,042.3	\$ 6,600	\$ 138,878,916
RD-O-WAT	84	56,266.5	\$ 6,400	\$ 360,105,600
PED-O-RD	8	1,642.5	\$ 3,800	\$ 6,241,576
<b>Total</b>	<b>134</b>	<b>83,811.7</b>		<b>\$ 543,539,515</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	2	317.0	\$ 5,300	\$ 1,680,153
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>116</b>	<b>28,991.2</b>		<b>\$ 153,653,519</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	32,248	\$ 1,500	\$ 48,371,880
Wood	27,140	\$ 1,500	\$ 40,709,370
<b>Total</b>			<b>\$ 89,081,250</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
671	\$ 107,800	\$ 72,280,189
<b>Total</b>		<b>\$ 72,280,189</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
373	\$ 400,000	\$ 149,038,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
373	\$ 100,000	\$ 37,259,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	64.9	\$ 187,000	\$ 12,128,446
Centre Turn Lane	136.4	\$ 615,000	\$ 83,898,300
Left Turn Lanes	29.0	\$ 430,000	\$ 12,450,650
Bicycle Lanes C-1	66.1	\$ 253,000	\$ 16,723,300
Bicycle Lanes C-2	51.7	\$ 274,000	\$ 14,165,800
Bicycle Lanes C-3	25.8	\$ 2,000	\$ 51,600
<b>Total</b>			<b>\$ 139,418,096</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	12	\$ 7,500	\$ 90,000
<b>Total</b>	<b>12</b>		<b>\$ 90,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	405,173	\$ 437	\$ 176,879,405
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,963,130</b>		<b>\$ 4,144,495,874</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,882,178,873**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-10**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**2018 INFRASTRUCTURE COST**

**1 - ROAD NETWORK**

# of lanes	Centreline km	Value/Lane km <sup>0</sup>	Total Value
2	106.7	\$ 2,274,000	\$ 242,560,758
3	0.4	\$ 2,616,000	\$ 915,600
4	212.4	\$ 2,958,000	\$ 628,400,182
5	3.6	\$ 3,300,000	\$ 11,946,000
6	49.5	\$ 3,642,000	\$ 180,349,291
<b>Total</b>	<b>372.6</b>		<b>\$ 1,064,171,831</b>

**2 - TRAFFIC SIGNALS**

Type of intersection.	# of Intersections	Value/Inter.	Total Value
4 Way <sup>1</sup>	428	\$ 150,000	\$ 64,200,000
3 Way <sup>1</sup>	97	\$ 150,000	\$ 14,550,000
Traffic Computer Cost	1	\$ 3,000,000	\$ 3,000,000
<b>Total Intersections</b>	<b>525</b>		<b>\$ 81,750,000</b>

**3 - STRUCTURES**

**a - Bridges**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	14	3,631.4	\$ 7,200	\$ 26,146,224
RD-O-RR	1	1,229.0	\$ 9,900	\$ 12,167,199
RD-O-RD	27	21,042.3	\$ 6,600	\$ 138,878,916
RD-O-WAT	84	56,266.5	\$ 6,400	\$ 360,105,600
PED-O-RD	8	1,642.5	\$ 3,800	\$ 6,241,576
<b>Total</b>	<b>134</b>	<b>83,811.7</b>		<b>\$ 543,539,515</b>

**b - Culverts**

Structure Type	# of Structure	Deck Area m <sup>2</sup>	Value/m <sup>2</sup> <sup>3</sup>	Total Value
RD-O-PED	2	317.0	\$ 5,300	\$ 1,680,153
RD-O-RR			-	-
RD-O-RD			-	-
RD-O-WAT	114	28674.2	\$ 5,300	\$ 151,973,366
PED-O-RD			-	-
<b>Total</b>	<b>116</b>	<b>28,991.2</b>		<b>\$ 153,653,519</b>

**4 - NOISE WALL**

Material	Length (m)	Value/m <sup>1</sup>	Total Value
Concrete	32,248	\$ 1,500	\$ 48,371,880
Wood	27,140	\$ 1,500	\$ 40,709,370
<b>Total</b>			<b>\$ 89,081,250</b>

**5 - SIDEWALKS**

Length of SW (Km)	Value Per Km <sup>0</sup>	Total Cost
674	\$ 107,800	\$ 72,679,318
<b>Total</b>		<b>\$ 72,679,318</b>

**6 - ILLUMINATION**

Centreline KM	Value Per Km <sup>2</sup>	TOTAL COST
373	\$ 400,000	\$ 149,038,880

**7 - LANDSCAPING/TREE PLANTING**

Centreline KM	Value/km <sup>2</sup>	Total cost
373	\$ 100,000	\$ 37,259,720

**8 - RAIL GRADE SEPARATIONS**

# of Rail Grade Separations	Value/Grade Separation <sup>0</sup>	Total Cost
12	\$ 34,000,000	\$ 408,000,000

**9 - SPECIAL ITEMS**

Item	Length	Value/km <sup>0</sup>	Total Cost
Concrete Median	66.3	\$ 187,000	\$ 12,407,076
Centre Turn Lane	136.4	\$ 615,000	\$ 83,898,300
Left Turn Lanes	29.0	\$ 430,000	\$ 12,450,650
Bicycle Lanes C-1	71.1	\$ 253,000	\$ 17,988,300
Bicycle Lanes C-2	54.7	\$ 274,000	\$ 14,987,800
Bicycle Lanes C-3	27.1	\$ 2,000	\$ 54,200
<b>Total</b>			<b>\$ 141,786,326</b>

**10 - ZEBRA STRIPED CROSSWALKS**

	# Intersections	Value/Inter. <sup>1</sup>	Total Value
Intersections	12	\$ 7,500	\$ 90,000
<b>Total</b>	<b>12</b>		<b>\$ 90,000</b>

**11 - RIGHT-OF-WAY PROPERTY**

Land Use Type	Area (m <sup>2</sup> )	Value/m <sup>2</sup>	Total Value
Residential <sup>1</sup>	3,662,472	\$ 519	\$ 1,900,529,970
Commercial <sup>1</sup>	3,728,868	\$ 420	\$ 1,566,422,659
Industrial <sup>1</sup>	130,923	\$ 371	\$ 48,527,734
Institutional <sup>4</sup>	20,710	\$ 437	\$ 9,041,020
Utility <sup>4</sup>	27,800	\$ 437	\$ 12,136,183
Road/Rail <sup>4</sup>	405,173	\$ 437	\$ 176,879,405
Park <sup>4</sup>	985,865	\$ 437	\$ 430,382,652
TBD <sup>4</sup>	1,320	\$ 437	\$ 576,250
<b>Total</b>	<b>8,963,130</b>		<b>\$ 4,144,495,874</b>

**12 - TOTAL INFRASTRUCTURE COST**

With ROW Property Value

**\$ 6,885,546,233**

Note:

<sup>0</sup> - Unit cost based on weighted average cost from contracts

<sup>1</sup> - Unit cost received from the City

<sup>2</sup> - Unit cost estimated by WSP

<sup>3</sup> - Unit cost based on 2017 City of Mississauga Bridge and Culvert Inventory

<sup>4</sup> - Based on 1,000,000\$/acre (average of residential, commercial and industrial property)

**TABLE C-11**  
**CITY OF MISSISSAUGA**  
**2019 DEVELOPMENT CHARGES UPDATE STUDY**  
**SUMMARY OF INFRASTRUCTURE COST ANALYSIS**

DESCRIPTION	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1 - Road Network	\$ 1,060,335,407	\$ 1,060,814,207	\$ 1,060,636,367	\$ 1,057,199,951	\$ 1,058,555,051	\$ 1,058,555,051	\$ 1,059,464,651	\$ 1,062,534,551	\$ 1,064,171,831	\$ 1,064,171,831
2 - Traffic Signals	\$ 73,650,000	\$ 75,450,000	\$ 76,950,000	\$ 78,000,000	\$ 78,750,000	\$ 79,200,000	\$ 79,950,000	\$ 80,550,000	\$ 81,150,000	\$ 81,750,000
3a - Bridges	\$ 457,563,537	\$ 462,554,787	\$ 462,554,787	\$ 462,554,787	\$ 462,554,787	\$ 500,086,659	\$ 505,332,999	\$ 536,147,047	\$ 543,539,515	\$ 543,539,515
3b - Culverts	\$ 152,452,274	\$ 152,910,459	\$ 152,910,459	\$ 153,329,583	\$ 153,329,583	\$ 153,653,519	\$ 153,653,519	\$ 153,653,519	\$ 153,653,519	\$ 153,653,519
4 - Noise Barriers	\$ 74,371,500	\$ 74,371,500	\$ 77,778,000	\$ 79,444,500	\$ 81,825,615	\$ 83,998,230	\$ 86,260,905	\$ 87,966,225	\$ 89,081,250	\$ 89,081,250
5 - Sidewalks	\$ 67,966,822	\$ 68,428,206	\$ 69,438,292	\$ 70,295,302	\$ 70,684,460	\$ 71,180,090	\$ 71,609,134	\$ 71,844,138	\$ 72,280,189	\$ 72,679,318
6 - Illumination	\$ 147,950,880	\$ 147,950,880	\$ 147,950,880	\$ 147,950,880	\$ 148,050,880	\$ 148,050,880	\$ 148,210,880	\$ 148,750,880	\$ 149,038,880	\$ 149,038,880
7 - Landscaping/Tree Planting	\$ 36,987,720	\$ 36,987,720	\$ 36,987,720	\$ 36,987,720	\$ 37,012,720	\$ 37,012,720	\$ 37,052,720	\$ 37,187,720	\$ 37,259,720	\$ 37,259,720
8 - Rail Grade Separations	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000	\$ 408,000,000
9 - Special Items	\$ 120,441,106	\$ 122,728,536	\$ 126,289,616	\$ 130,128,646	\$ 132,123,926	\$ 132,704,529	\$ 133,784,739	\$ 137,551,066	\$ 139,418,096	\$ 141,786,326
10 - Zebra Striped Crosswalks	\$ 180,000	\$ 210,000	\$ 112,500	\$ 75,000	\$ 105,000	\$ 82,500	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000
11 - Property ROW	\$ 4,142,749,660	\$ 4,142,749,660	\$ 4,142,749,660	\$ 4,142,749,660	\$ 4,144,495,874	\$ 4,144,495,874	\$ 4,144,495,874	\$ 4,144,495,874	\$ 4,144,495,874	\$ 4,144,495,874
<b>Total Infrastructure Value</b>										
<b>With ROW Property</b>	\$ 6,742,648,906	\$ 6,753,155,955	\$ 6,762,358,281	\$ 6,766,716,029	\$ 6,775,487,895	\$ 6,817,020,051	\$ 6,827,905,420	\$ 6,868,771,019	\$ 6,882,178,873	\$ 6,885,546,233

**SERVICE LEVEL CALCULATION WITH ROW PROPERTY**

Total Infrastructure Value	\$ 6,742,648,906	\$ 6,753,155,955	\$ 6,762,358,281	\$ 6,766,716,029	\$ 6,775,487,895	\$ 6,817,020,051	\$ 6,827,905,420	\$ 6,868,771,019	\$ 6,882,178,873	\$ 6,885,546,233
Population	722,142	729,777	737,492	739,171	740,853	742,539	744,229	745,923	753,861	754,630
Employment	423,449	428,797	434,585	438,389	442,248	446,164	450,136	454,165	458,605	463,094
Total Capita <sup>1</sup>	1,145,591	1,158,574	1,172,077	1,177,560	1,183,101	1,188,703	1,194,365	1,200,088	1,212,466	1,217,724
<b>Road Infrastructure Value per Capita</b>	<b>\$ 5,886</b>	<b>\$ 5,829</b>	<b>\$ 5,770</b>	<b>\$ 5,746</b>	<b>\$ 5,727</b>	<b>\$ 5,735</b>	<b>\$ 5,717</b>	<b>\$ 5,724</b>	<b>\$ 5,676</b>	<b>\$ 5,654</b>
<b>Average Road Infrastructure Value/Capita Over The Past 10 Years</b>										<b>\$ 5,746</b>

2041 FORECAST	Population	Employment	Pop + Emp	Funding Envelop Envelop
Year 2041	878,000	525,773	1,403,773	
Growth Only	123,370	62,679	186,049	\$ 1,069,097,102



# Appendix D

## Road Improvement Program Costs





Table D-1  
CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY

DEVELOPMENT CHARGES - ROAD IMPROVEMENT PROGRAM COSTS (\$000,000's)

MAJOR ROADWAY SECTIONS NAME	FROM	TO	YEAR OF COMPLETION	CITY 10-YR CAP. PLAN FUNDING YEAR	IMP. LTH. (KM)	EX. LN.	FUT. LN.	ADDIT LANE KM.	ROAD CONST COSTS	ROAD WIDEN. COSTS	SW COSTS	ILLUM. COSTS	UTILITY COSTS	TRAFFIC SIGNAL COSTS	LAND- SCAPING	HOV LANES	SPECIAL PROJ	CENTRE TURN LANE	SUBTOT. ROAD COSTS	2019 PTY COSTS	STRUC. COSTS	TOTAL COSTS	CITY 10-YR CAP. PLAN BUDGET (M)	GROWTH		NON GRTH	GROWTH COSTS		NON GRTH COST	SPECIAL PROJECTS / COMMENTS																										
																								% DC	% DEV		DC	DEV																												
RAILWAY GRADE SEPARATIONS (3)																							85.750		100%		85.750	0.000	0.000																											
STAND ALONE SIGNALIZED INTERSECTION IMPROVEMENTS																							20.700		100%		20.700	0.000	0.000																											
SIGNAL PHASING CHANGES, TRAFFIC SIGNAL EQUIP. ENHANCEMENTS, AND ITS																							29.153		100%		29.153	0.000	0.000																											
TRANSIT SIGNAL PRIORITY																							9.200		100%		9.200	0.000	0.000																											
BICYCLE FACILITIES																							170.503																																	
STAND ALONE SIDEWALK COSTS																							7.420		100%		7.420	0.000	0.000																											
NOISE WALLS																							61.900		50%	50%	30.950	0.000	30.950																											
DC, OP and TMP STUDIES																							6.600		100%		6.600	0.000	0.000																											
EA STUDIES (1.5% OF ROADS AND RAIL GRADE SEPARATIONS)																							9.481		100%		9.481	0.000	0.000																											
EA / TPAP STUDIES FOR DUNDAS AND LAKESHORE																							9.943		100%		9.943	0.000	0.000																											This reflects costs for the TPAP EA Studies for Dundas Connects and Lakeshore Connecting Communities; the hard infrastructure cost is currently expected to be provided by upper levels of government.
SUBTOTAL - ADDITIONAL STAND ALONE COSTS																							410.650																																	
GRAND TOTAL																							956.954																																	

Note: 1. Figures have been rounded. 2. EA/TMP/DC indicates costs were estimated based on EA/TMP study or previous DC.

All unit prices were updated to reflect 2018 costs

UNIT COSTS	UNITS
NEW CONSTRUCTION - 1 LANE	1.932 \$M/KM
NEW CONSTRUCTION - 2 LANES	2.274 \$M/KM
NEW CONSTRUCTION - 4 LANES	2.958 \$M/KM
NEW CONSTRUCTION - 6 LANES	3.642 \$M/KM
ROAD WIDENING - 2 TO 4	2.317 \$M/KM
ROAD WIDENING - 4 TO 6	2.490 \$M/KM
ROAD WIDENING - 2 TO 6	3.305 \$M/KM
2 LANE RE-CONSTRUCTION	2.347 \$M/KM
4 LANE RE-CONSTRUCTION	3.026 \$M/KM
6 LANE RE-CONSTRUCTION	3.704 \$M/KM
NOISE WALLS (PER SIDE)	1.500 \$M/KM
EASEMENT (ASSOCIATED WITH NOISE WALL)	0.007 \$M/PROPERTY
LANDSCAPING / TREE PLANTING	
- ROAD WIDENING	0.100 \$M/KM
- NEW CONSTRUCTION	0.100 \$M/KM
HOV LANES	0.316 \$M/KM
SIDEWALKS (PER SIDE)	
- ROAD WIDENING	0.108 \$M/KM
- NEW CONSTRUCTION	0.108 \$M/KM
UTILITY RELOCATIONS	0.438 \$M/KM
ILLUMINATION	
- ARTERIALS	0.400 \$M/KM
- COLLECTORS	0.400 \$M/KM
TRAFFIC SIGNALS	
- REPLACE EXISTING SIGNALS	0.225 \$M PER LOCATION (TEMP. SIGNAL + NEW SIGNAL)
- NEW SIGNALS	0.150 \$M PER LOCATION (EXCLUDES GEOMETRICS)
CENTRE TURN LANE (5 M LANE WIDTH)	
ROAD WIDENING	0.777 \$M/KM
NEW CONSTRUCTION	0.615 \$M/KM
SPECIAL PROJECTS	
1. MAJOR ROAD PROFILE CHANGES (SURCHARGE)	
- ROAD WIDENING	10%
- NEW CONSTRUCTION	15%
2. MEDIAN BOULEVARD	0.487 \$M/KM
3. RAISED MEDIAN	0.187 \$M/KM
4. RETAINING WALL	6.250 \$M/KM
5. RESURFACING EXISTING CTL	0.060 \$M/KM
6. AT-GRADE CROSSING (2-4 LANE WIDENING)	
SIGNAL RELOCATION	0.360 \$M PER LOCATION
PADDING PER TRACK	0.180 \$M PER TRACK
7. TRANSIT SIGNAL PRIORITY	0.010 \$M PER INTERSECTION
8. QUEUE JUMP LANES	0.632 \$M PER INTERSECTION

**Table D-2  
CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**STRUCTURE COSTS**

LOCATION	STRUCTURE TYPE	ROAD SECTION	BRIDGE NUMBER	TYPE	EXISTING <sup>1</sup>				YEAR 2041						2019 IMPROVEMENT COST	Est 2019 BASED ON 2014 COST	2014 IMPROVEMENT COST	COMMENTS	
					LANES	DECK LENGTH	TRAVELLED WIDTH	TOTAL DECK WIDTH	LANES	DECK LENGTH	TRAVELLED WIDTH	ADDITIONAL WIDTH	TOTAL DECK WIDTH	ADDITIONAL DECK AREA					
<b>WIDENING OF EXISTING BRIDGE STRUCTURES</b>																			
BURNHAMTHORPE RD. E. - 0.4 KM EAST OF HURONTARIO ST. (COOKSVILLE CREEK) - 0.48 KM EAST OF TOMKEN RD. (LITTLE ETOBICOKE CREEK)	BRIDGE	21018	21005	O-WAT	4	12.9	17	21.8	6	12.9	25.5	8.5	30.3	110	\$1,458,000 <sup>3</sup>	\$1,029,000	\$939,000	Cost from Creditview Road EA Study 2016; price index applied	
	BRIDGE	20023	20001	O-WAT	4	13.4	18.5	29.6	6	13.4	27.0	8.5	38.1	114	\$1,515,000 <sup>3</sup>	\$1,566,000	\$1,430,000		
															\$2,973,000	\$2,595,000	\$2,369,000		
CREDITVIEW RD. - 0.32 KM NORTH OF BANCROFT RD. (CREDIT RIVER) - HWY. 401 OVERPASS	BRIDGE	45113	45001	O-WAT	2	69.2	9.2	12.2	4	69.2	17.7	8.5	20.7	588	\$3,706,000 <sup>3</sup>	\$5,462,000	\$4,986,000		
	BRIDGE			O-HWY	2	62	7	9.5	4	62	15.5	8.5	18.0	527	\$14,541,000 <sup>5</sup>	\$4,893,000	\$4,467,000		
															\$18,247,000	\$10,355,000	\$9,453,000		
NINTH LINE - 0.3 KM NORTH OF BRITANNIA RD. W.	BRIDGE			O-WAT	2	40	11	22.5	4	40	19.5	8.5	31.0	340	\$2,754,000 <sup>3</sup>	\$3,507,000	\$3,202,000		
<b>BRIDGE STRUCTURE WIDENING SUBTOTAL</b>															\$23,974,000	\$16,457,000	\$15,024,000		

LOCATION	STRUCTURE TYPE	ROAD SECTION	BRIDGE NUMBER	TYPE	EXISTING <sup>1</sup>				YEAR 2041						2019 IMPROVEMENT COST	Est 2019 BASED ON 2014 COST	2014 IMPROVEMENT COST	COMMENTS	
					LANES	SPAN		LENGTH	LANES	SPAN		ADDITIONAL LENGTH	TOTAL LENGTH	ADDITIONAL DECK AREA					
<b>WIDENING OF EXISTING CULVERT STRUCTURES</b>																			
BURNHAMTHORPE RD. E. - 0.29 KM WEST OF CENTRAL PKWY. (COOKSVILLE CREEK EAST) - 0.1 KM EAST OF PONYTRAIL DR. (LITTLE ETOBICOKE CREEK TRIB.)	CULVERT	21018	21006	O-WAT	4	4.2		29.9	6	4.2		8.5	38.4	36	\$246,000 <sup>4</sup>	\$211,000	\$193,000		
	CULVERT	19014	19002	O-WAT	4	4.1		30.5	6	4.1		8.5	39.0	35	\$240,000 <sup>4</sup>	\$241,000	\$220,000		
															\$486,000	\$452,000	\$413,000		
NINTH LINE - 0.6 KM SOUTH OF BRITANNIA RD. W. - 1.2 KM SOUTH OF BRITANNIA RD. W.	CULVERT	57003	57003	O-WAT	2	6		45.9	4	6		8.5	54.4	51	\$352,000 <sup>4</sup>	\$311,000	\$284,000		
	CULVERT	57003	57004	O-WAT	2	6		45.9	4	6		8.5	54.4	51	\$352,000 <sup>4</sup>	\$317,000	\$289,000		
															\$704,000	\$628,000	\$573,000		
<b>CULVERT STRUCTURE WIDENING SUBTOTAL</b>															\$1,190,000	\$1,080,000	\$986,000		

**Table D-2  
CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**STRUCTURE COSTS**

LOCATION	STRUCTURE TYPE	ROAD SECTION	BRIDGE NUMBER	TYPE	EXISTING				YEAR 2041						2019 IMPROVEMENT COST	Est 2019 BASED ON 2014 COST	2014 IMPROVEMENT COST	COMMENTS
					LANES	DECK LENGTH	TRAVELLED WIDTH	TOTAL DECK WIDTH	LANES	DECK LENGTH	TRAVELLED WIDTH	ADDITIONAL WIDTH	TOTAL DECK WIDTH	ADDITIONAL DECK AREA				
<b>NEW BRIDGE CONSTRUCTION</b>																		
CENTRE VIEW DR. FLYOVER - RATHBURN RD. W. TO NORTHERN DISTRIBUTION RD.	BRIDGE			O-HWY	0	0		0	4	80	15	22.50	22.50	1800	\$8,100,000 <sup>3</sup>	\$7,536,000	\$6,880,000	Assumed similar structure as Duke of York Blvd. flyover
CENTRE VIEW DR. RAMP TO HWY. 403 - OVER CREEK AND UNDERPASS	BRIDGE			O-RD	0	0		0	1	60	3.75	5.25	5.25	315	\$7,812,000 <sup>5</sup>	\$7,845,000	\$7,161,754	Using cost estimate from the 2009 DC; price index applied
CREEKBANK RD. - HWY. 401 OVERPASS	BRIDGE			O-HWY	0	0		0	4	115	15	22.50	22.50	2588	\$11,644,000 <sup>3</sup>	\$10,832,000	\$9,889,000	
CREDIT RIVER CROSSING - FRONT ST. N. TO STAVEBANK RD.	BRIDGE			O-WAT	0	0		0	2	250	7.5	15.00	15.00	3750	\$13,125,000 <sup>3</sup>	\$15,700,000	\$14,333,000	Considered as a complex project
DREW RD. - TOMKEN RD. TO DIXIE RD. (ETOBICOKE CREEK)	BRIDGE			O-WAT	0	0		0	4	50	15	22.50	22.50	1125	\$5,063,000 <sup>2,3</sup>	\$4,710,000	\$4,300,000	Assumed span
DUKE OF YORK BLVD. FLYOVER - RATHBURN RD. W. TO NORTHERN DISTRIBUTION RD.	BRIDGE			O-HWY	0	0		0	4	80	15	22.50	22.50	1800	\$8,100,000 <sup>3</sup>	\$7,536,000	\$6,880,000	
HWY. 401 RAMP EXTENSION - MAVIS RD. TO BELGRAVE RD.	BRIDGE			O-RD	0	0		0	2	25	7.5	15.00	15.00	375	\$2,813,000 <sup>3</sup>	\$1,570,000	\$1,433,000	
HIGHWAY 401 WB OFF-RAMP AT CREEKBANK RD. - OVER ETOBICOKE CREEK	BRIDGE			O-WAT	0	0		0	1	79.9		9.90	9.90	791	\$3,821,000 <sup>5</sup>	\$3,821,000	\$3,488,000	Using cost estimate from the City (2014); price index applied
HWY. 403 WB OFF-RAMP AT NORTHERN DISTRIBUTION RD. - UNDERPASS AT HURONTARIO ST.	BRIDGE			U-HWY	0	0		0	2	55	7.5	15.00	15.00	825	\$4,208,000 <sup>3</sup>	\$3,454,000	\$3,153,000	
NORTHERN DISTRIBUTION RD. - MAVIS RD. TO HURONTARIO ST. (COOKSVILLE CREEK) - GRADE SEPARATION AT MAVIS RD. RAMP	BRIDGE BRIDGE			O-WAT U-HWY	0 0	0 0		0 0	2 2	16 20	7.5 7.5	15.00 15.00	15.00 15.00	240 300	\$2,904,000 <sup>3</sup> \$3,550,000 <sup>3</sup> \$6,454,000	\$1,004,000 \$2,680,000 \$3,684,000	\$917,000 \$2,447,000 \$3,364,000	Additional \$1.3M for earthwork and realignment of existing Mavis Road ramp
<b>NEW BRIDGE CONSTRUCTION SUBTOTAL</b>															\$71,140,000	\$66,688,000	\$60,881,754	

LOCATION	STRUCTURE TYPE	ROAD SECTION	BRIDGE NUMBER	TYPE	EXISTING				YEAR 2041						2019 IMPROVEMENT COST	Est 2019 BASED ON 2014 COST	2014 IMPROVEMENT COST	COMMENTS
					LANES	SPAN		LENGTH	LANES	SPAN		ADDITIONAL LENGTH	TOTAL LENGTH	ADDITIONAL DECK AREA				
<b>NEW CULVERT CONSTRUCTION</b>																		
DREW RD. - TORBRAM RD. TO AIRPORT RD. (TUNNEL EAST OF RAIL GRADE SEPARATION)	CULVERT			U-RD	0	0		0	4	15		15.00	15.00	225	\$1,553,000 <sup>4</sup>	\$1,552,000	\$1,417,000	
EDWARDS BLVD. - HWY. 407 ON-RAMP OVER EDWARDS BLVD.	CULVERT			U-RD	0	0		0	1	13		22.00	22.00	286	\$1,973,000 <sup>2,4</sup>	N/A	N/A	New added in 2019 DC; assumed span based on similar structure at Hwy 401 on-ramp and Whittle Rd
NINTH LINE - IMMEDIATELY NORTH OF DERRY RD. (EXISTING STEEL PIPE)	CULVERT			U-RD	0	0		0	4	3		40.0	40.0	120	\$828,000 <sup>4</sup>	\$828,000	\$756,000	
SQUARE ONE DR. - HURONTARIO ST. TO RATHBURN RD. E. (COOKSVILLE CREEK)	CULVERT			O-WAT	0	0		0	2	12		25.00	25.00	300	\$2,070,000 <sup>4</sup>	\$2,070,000	\$1,890,000	
<b>NEW CULVERT CONSTRUCTION SUBTOTAL</b>															\$6,424,000	\$4,450,000	\$4,063,000	
<b>TOTAL</b>															\$102,728,000	\$88,675,000	\$80,954,754	

- NOTES: 1. ALL EXISTING WIDTHS AND LENGTHS WERE MEASURED OFF AERIAL PHOTOGRAPHY AND COMPARED TO THE CITY INVENTORY OF ALL BRIDGES AND CULVERTS  
2. ASSUMED STRUCTURE SPAN  
3. BRIDGE CONSTRUCTION COSTS ARE BASED ON A UNIT COST OF \$2,300 - \$9,300 PER SQM FOR NEW BRIDGE AND \$2,600 - \$10,300 PER SQM FOR EXISTING BRIDGE WIDENING PLUS 15% CONTINGENCY AND 15% ENGINEERING COST  
4. CULVERT CONSTRUCTION COSTS ARE BASED ON A UNIT COST OF \$5,300 PER SQM PLUS 15% CONTINGENCY AND 15% ENGINEERING COST  
5. COSTS ARE BASED ON CITY OF MISSISSAUGA COST ESTIMATE OR PREVIOUS DC/EA STUDY

**Table D-2  
CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**STRUCTURE COSTS**

UNIT COSTS	BASE	CONT.	ENG.	TOTAL	COMPLEX PROJECTS (+20%)
<b>NEW BRIDGE CONSTRUCTION</b>					
- Deck Area (1 - 249 m <sup>2</sup> )	\$9,300	\$1,400	\$1,400	\$12,100	\$14,500
- Deck Area (250 - 499 m <sup>2</sup> )	\$5,700	\$900	\$900	\$7,500	\$9,000
- Deck Area (500 - 749 m <sup>2</sup> )	\$4,400	\$700	\$700	\$5,800	\$7,000
- Deck Area (750 - 1000 m <sup>2</sup> )	\$3,900	\$600	\$600	\$5,100	\$6,100
- Deck Area (1001 - 3000 m <sup>2</sup> )	\$3,500	\$500	\$500	\$4,500	\$5,400
- Deck Area (over 3000 m <sup>2</sup> )	\$2,300	\$300	\$300	\$2,900	\$3,500
<b>EXISTING BRIDGE WIDENING</b>					
- Deck Area (1 - 249 m <sup>2</sup> )	\$10,300	\$1,500	\$1,500	\$13,300	\$16,000
- Deck Area (250 - 499 m <sup>2</sup> )	\$6,300	\$900	\$900	\$8,100	\$9,700
- Deck Area (500 - 749 m <sup>2</sup> )	\$4,900	\$700	\$700	\$6,300	\$7,600
- Deck Area (750 - 1000 m <sup>2</sup> )	\$4,300	\$600	\$600	\$5,500	\$6,600
- Deck Area (1001 - 3000 m <sup>2</sup> )	\$3,900	\$600	\$600	\$5,100	\$6,100
- Deck Area (over 3000 m <sup>2</sup> )	\$2,600	\$400	\$400	\$3,400	\$4,100
<b>CULVERTS</b>	\$5,300	\$800	\$800	\$6,900	\$8,300

NOTE: BASE COST FOR NEW BRIDGE CONSTRUCTION IS BASED ON MTO PARAMETRIC ESTIMATING GUIDE 2016; ADDITIONAL 10% WAS CONSIDERED FOR REMOVAL OF EXISTING STRUCTURE FOR BRIDGE WIDENING

Table D-3  
CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES STUDY UPDATE

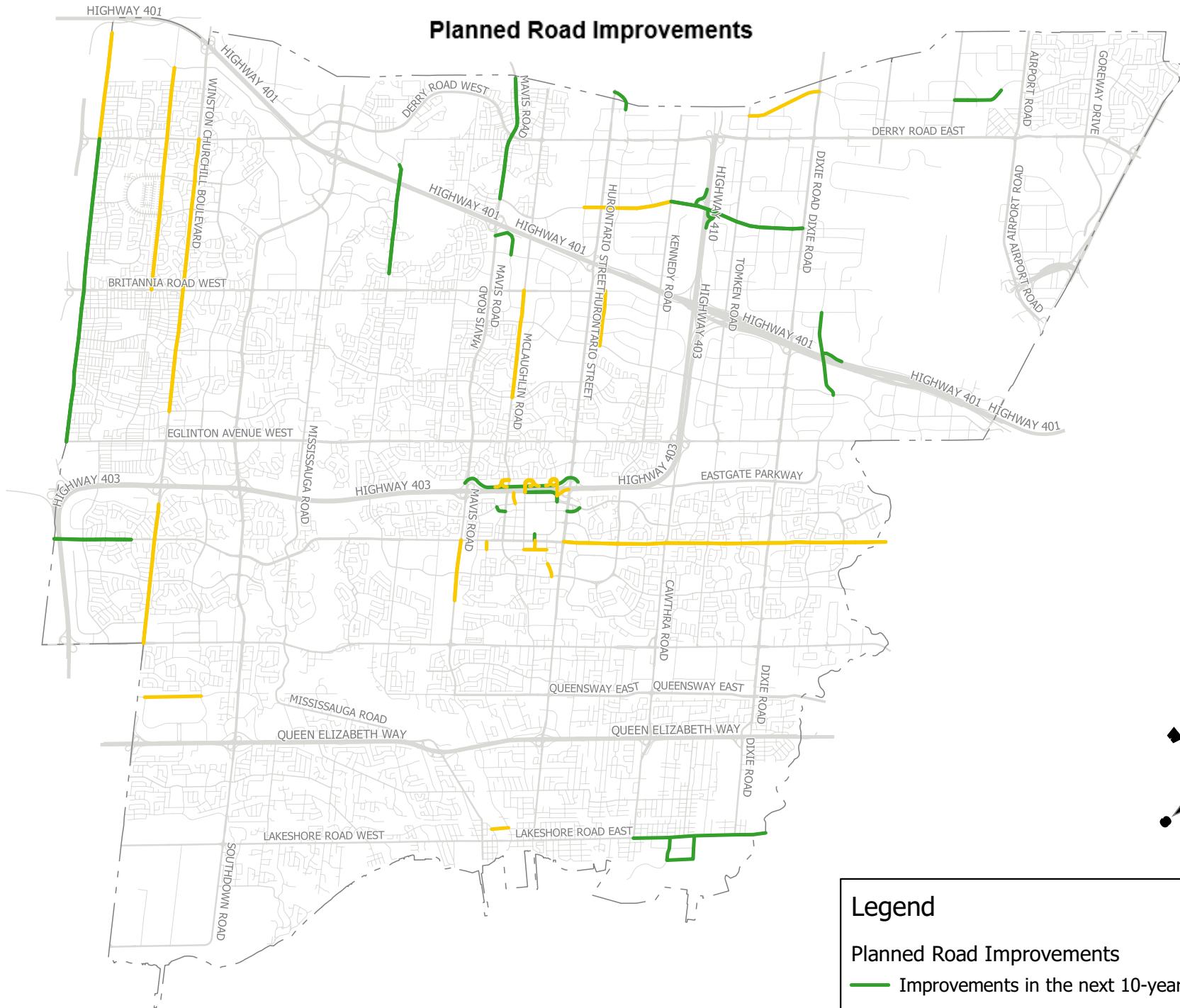
TRAFFIC MANAGEMENT PROGRAM

Traffic Management Program	Unit Cost	Quantity	Total Costs	Comments
<b>1. Traffic Signals (New)</b>				
a) New Traffic Signals (includes geometrics; accessibility; detection)	\$ 225,000	92	\$ 20,700,000	Avg. of 4 new signals per year over 23 years
<b>Sub-Total:</b>			<b>\$ 20,700,000</b>	
<b>2. Signal Phasing Changes</b>				
a) Signal Phasing Changes	\$ 25,000	230	\$ 5,750,000	Avg. of 10 phasing changes per year over 23 years
<b>Sub-Total:</b>			<b>\$ 5,750,000</b>	
<b>3. Traffic Signal Equip. Enhancements</b>				
a) Accessible Pedestrian Signals (APS)	\$ 30,000	345	\$ 10,350,000	Avg. of 15 APS per year over 23 years
b) Pedestrian Countdown Signals (PCS)	\$ 9,500	345	\$ 3,277,500	Avg. of 15 PCS per year over 23 years
c) Uninterrupted Power Supply (UPS)	\$ 15,000	115	\$ 1,725,000	Avg. of 5 UPS per year over 23 years
<b>Sub-Total:</b>			<b>\$ 15,352,500</b>	
<b>4. Intelligent Transportation System (ITS)</b>				
a) Intelligent Transportation System (ITS)	\$ 350,000	23	\$ 8,050,000	\$350,000 per year over next 23 years (includes CCTV Cameras; Adaptive/Responsive Control; Incident Management; Traveller Information)
<b>Sub-Total:</b>			<b>\$ 8,050,000</b>	
<b>5. Transit Signal Priority (TSP)</b>				
a) Traffic Devices for TSP & Fire Truck Pre-emption	\$ 10,000	920	\$ 9,200,000	Based on 920 future signalized intersections (excludes vehicle equipment costs)
<b>Sub-Total:</b>			<b>\$ 9,200,000</b>	
<b>TOTAL:</b>			<b>\$ 59,052,500</b>	

Note: Above figures refer to 2019 - 2041 DC Traffic Management Program (23 years)

Figure D-1

Planned Road Improvements



Legend

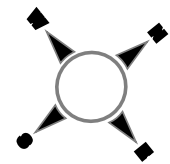
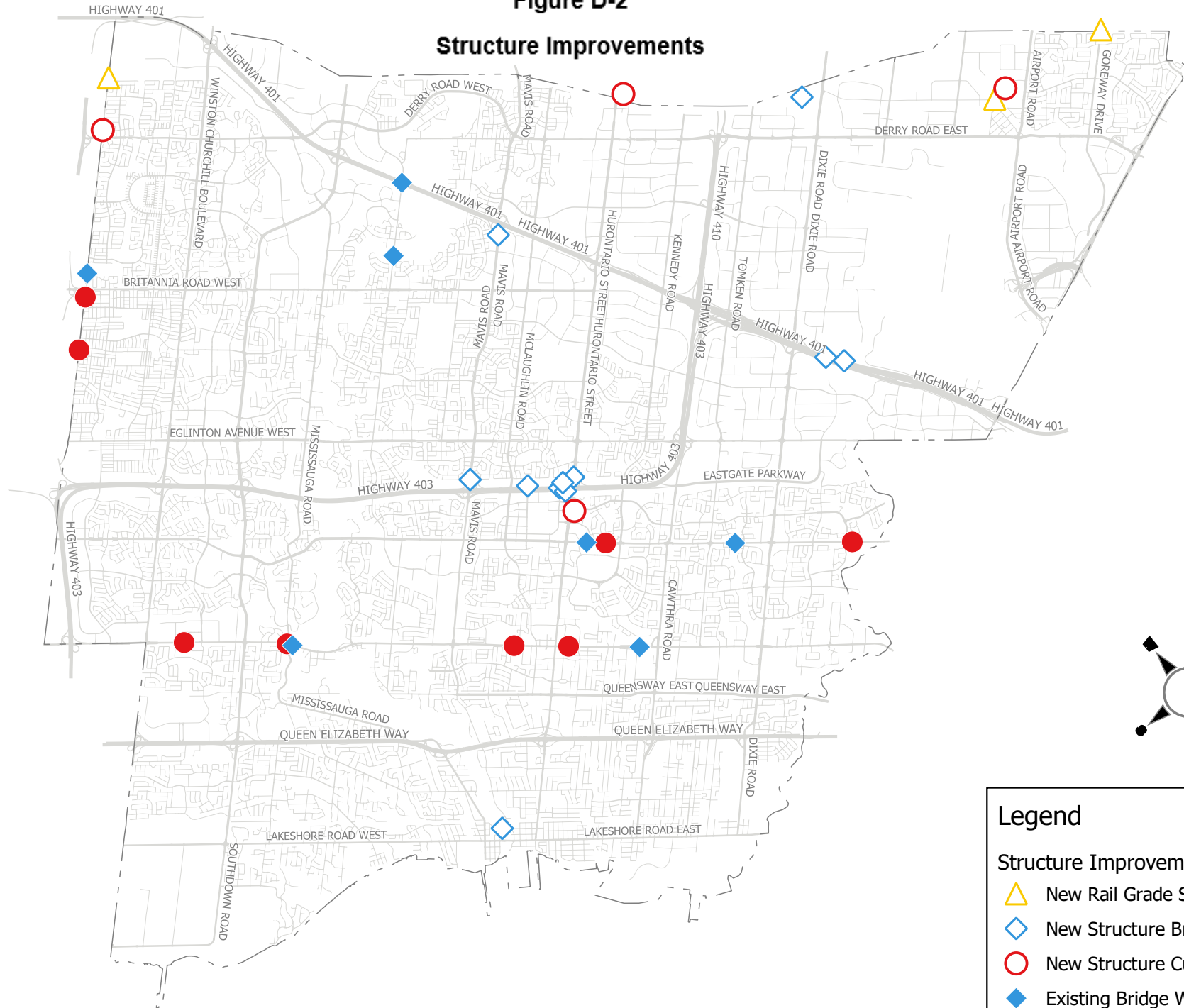
Planned Road Improvements

— Improvements in the next 10-year (2019-2028)

— Improvements beyond 10-year



**Figure D-2**  
**Structure Improvements**



- Legend**
- ▲ New Rail Grade Separation
  - ◆ New Structure Bridge
  - New Structure Culvert
  - ◆ Existing Bridge Widening
  - Existing Culvert Widening

# **Appendix E**

## **Technical Memorandum - Noise Wall Candidate Site Assessment**





## TECHNICAL MEMORANDUM

**TO:** Mark Vandersluis, City of Mississauga  
**FROM:** Qingjie Zeng, P.Eng., WSP  
**CC:** Keyur Shah, P.Eng., Katherine Jim, P.Eng., WSP  
**SUBJECT:** 18M-00021- City of Mississauga 2019 Development Charges Update  
- Noise Wall Candidate Site Assessment  
**DATE:** February 14, 2019

---

## INTRODUCTION

The City of Mississauga Transportation and Works Department has retained WSP to assist in the development of the transportation infrastructure component of the Development Charges (DC) By-law update. The purpose of the DC update study is to identify the City's future infrastructure requirements to planning horizon 2041 and associated implementation costs for the City-wide major road network, which consists of arterial and major collector roads that are under jurisdiction of the City.

As part of the 2019 Development Charges Update Transportation Background Study, the City has identified a list of potential locations where new noise wall may be warranted. All the potential noise wall locations are associated with properties that are "reversed-frontage" or "side-lot" to City's arterial or major collector roads. The warrant for future noise walls at the candidate sites was assessed based on future traffic volumes derived from the City's updated 2041 travel demand model. This technical memorandum documents the noise wall assessment findings and provides a summary of the candidate sites that meet the justification as a result of increased traffic volumes in the future.

## NOISE WALL CANDIDATE SITES

The potential noise wall candidate locations were identified by the City based on their review on current noise wall inventory/locations and areas where there are gaps for new noise walls. A list of noise wall candidate segments, which includes IDs, locations, and lengths/limits, and associated GIS files were provided by the City for the noise wall candidate site assessment (via email dated April 20 and



via ftp site transfer on May 5, 2018). The noise wall candidate site assessment carried out as part of the DC update study was only conducted for sites along the City’s arterial and major collector roads only, as identified in the candidate list provided by the City and presented in **Table 1** (per email attachment received from the City on February 22, 2018). It should be noted that there are noise wall candidate locations included in the GIS files but not in the candidate list (e.g., along Derry Road, Millcreek Drive, Hillcrest Avenue, etc.); these are sites that are not along City’s arterial or major collector roads and therefore, not included in the current scope of work for the noise wall candidate sites assessment.

**Table 1: Noise Wall Candidate Segments (as provided by City of Mississauga) and Representative Receivers**

Roadways	Number of Noise Wall Candidate Segments	Proposed Length of Noise Wall for Assessment (m)	Number of Representative Receivers
<b>Arterial</b>			
Burnhamthorpe Road	15	974.7	13
Courtneypark Drive East	3	138.2	2
Dundas Street	3	97.2	2
Eglinton Avenue	8	185.3	4
Hurontario Street	7	362.4	6
Lakeshore Road	24	1791.2	18
Mavis Road	5	786.0	7
Southdown Road	6	1222.7	12
Winston Churchill Boulevard	17	1391.7	17
<b>Major Collectors</b>			
Aquitaine Avenue	11	1215.9	11
Argentia Road	10	354.7	4
Atwater Avenue	14	380.5	7
Battleford Road	17	905.2	9
Bloor Street	17	1572.4	16
Bristol Road	25	717.3	8
Central Parkway	33	2742.4	26
Clarkson Road	14	617.6	7
Confederation Parkway	6	184.7	3
Creditview Road	13	976.9	9

Roadways	Number of Noise Wall Candidate Segments	Proposed Length of Noise Wall for Assessment (m)	Number of Representative Receivers
Erin Centre Boulevard	12	366.9	5
Erindale Station Road	4	1237.7	12
Glen Erin Drive	58	3485.7	46
Goreway Road	9	714.9	8
Kennedy Road	2	170.0	2
King Street	9	307.8	3
Kirwin Avenue	1	65.6	1
Matheson Boulevard	3	79.9	2
McLaughlin Road	1	59.8	0
Mississauga Road	29	1994.6	21
North Service Road	5	139.1	3
North Sheridan Way	6	1326.3	11
Ogden Avenue	5	126.7	3
Rathburn Road	43	3415.6	34
Ridgeway Drive	16	2060.3	23
South Service Road	8	369.7	4
South Sheridan Way	17	2537.5	25
Tenth Line	17	2519.9	28
Terry Fox Way	1	31.55	1
The Collegeway	18	1514.4	17
Thomas Street	24	1139.4	15
Tomken Road	14	2608.9	28
Truscott Drive	18	452.8	10
<b>Total</b>	<b>568*</b>	<b>43342.0*</b>	<b>485*</b>

Note: \* The number of noise wall candidate segments, lengths, and representative receiver numbers were verified and updated based on the GIS files provided by the City.

## METHODOLOGY

Noise levels are predicted in decibels in the A-weighted dBA scale, which best approximates the human perception of sound over a specified time period. An increase of 2 to 3 decibels in noise levels is considered to be just perceivable to the average person. It should be noted that a 3 dBA increase in noise equates to a doubling of traffic volumes.

Since roadway sound levels vary over time, the noise descriptor used in Ontario to assess noise is the equivalent sound level, Leq. Leq is identified as the continuous sound level, which has the same energy as a time varying sound level over a specified time period. For the purposes of assessing municipal roadway noise, Leq is calculated on the basis of the 16-hour daytime period.

The noise level calculation was conducted using STAMSON 5.0 computer modelling program for the outdoor living area (OLA, typically backyards) of each identified representative receiver.

A noise wall is justified if the absolute noise level is 60 dBA or higher (Leq day time) in the outdoor living area of the representative receiver as per the City's Noise Attenuation Policy (2011).

Other assumptions considered in this noise analysis include the following:

- Only future 2041 conditions have been assessed;
- Traffic volumes used in the noise analysis were derived from the City's updated 2041 travel demand model as part of the DC update study;
- All road profiles were assumed to have a general grade of 1.5%;
- No grade difference was considered between the noise source and noise receiver location; and
- The noise receiver location height of 1.5 m was used.

Based on the list of candidate sites/segments and GIS mapping information provided by the City, representative noise receivers were identified at the outdoor living area (typically backyards) for the noise level calculation. In general, a representative noise receiver is identified approximately every 100 m to represent adjacent properties with similar reversed frontage conditions to arterial and major collector roads. For example, a representative receiver would represent multiple noise wall candidates on the same roadway segment (i.e., same traffic conditions) with similar distance to the noise sources (i.e. the adjacent arterial or major collector road).

A total of 483 representative receivers were identified for the noise wall candidate site assessment, as presented in **Table 1**. Details about noise wall candidate and



selected representative receivers (including the municipal address) are presented in **Appendices A and B**, respectively.

## **FUTURE TRAFFIC DEMANDS**

Future traffic demands were derived from the City's updated 2041 travel demand model (autos only) for the morning peak hour condition. To estimate the 16-hour period traffic demands for autos and trucks, which are used in noise level calculation, the auto demands during the morning peak hour were factored-up based on the 2016 Cordon Counts collected within the City of Mississauga. Morning peak hour to 16-hour volume factor of 0.09 was used, and overall truck percentages of 6% and 1% were used for medium and heavy trucks, respectively.

It should be noted that the City's travel demand model is a regional model and may not be able to forecast traffic growth at each of the roadway segments where a noise wall candidate site has been identified. Therefore, to avoid underestimating the future traffic demands in the noise level calculation, the model volume outputs were reviewed and compared with the existing traffic counts to ensure the traffic volumes used in calculation are not lower than the existing condition counts. Details of future traffic demands used in the analysis are presented in the **Appendix B**.

## **NOISE WALL CANDIDATE SITE ASSESSMENT**

Noise levels were calculated at the selected representative receiver locations using future traffic volumes as shown in **Appendix B**. **Table 2** summarizes the analysis results for the number of noise wall segments and total lengths of justified noise walls for each roadway. Details of noise level calculation results and noise wall justifications are presented in **Appendix C**. Based on the noise wall assessment results, approximately 69% of the noise wall candidates (in length) along the City's major road network (i.e., arterial and major collector roadways) are warranted for implementation based on the criteria if a representative receiver location is over 60 dBA. The associated costs for noise wall implementation will be accounted for in the 2019 DC update study.

The City provided the updated unit cost for noise wall of \$1,500/m via email dated January 11, 2019, which includes both construction costs and engineering costs. The total estimated cost for the warranted noise wall (~30,100 m) is approximately \$45.2 M. Additionally, the City provided the unit cost for easement of approximately \$6,750 per property to be included into the cost estimate. The total estimated cost for easement is approximately \$16.7 M, based on an average width of 40 feet (or 12.192 m) for each property (as noted by the City), and there are approximately 2,469 properties in total associated with the noise walls (30,100 m). Therefore, the estimated total cost for noise wall



implementation is approximately \$61.9 M (i.e., total cost for noise walls and associated easement).

It is noted that some noise walls may be assessed as “partially justified”, as not all the representative receivers assessed for that noise wall are expected to have noise level over 60 dBA. For these “partially justified” noise walls, the implementation lengths were recommended to protect the representative receivers with noise level over 60 dBA and extend 2.5 times of the noise wall-receiver distance on both side of the receiver, as per the Ministry of Transportation (MTO) Technical Areas Manual – Noise, 1992 (Chapter 9). However, it is recommended that additional review to be carried out prior to implementation of the noise wall to determine the exact limits of where the noise wall will be provided. (Refer to the comments in **Appendix C** for the “partially justified” noise walls).

**Table 2: Noise Wall Assessment Results**

Roadways	Number of Noise Wall Segment Warranted	Length of Noise Wall (m) Warranted and included in 2019 DC Update
<b>Arterial</b>		
Burnhamthorpe Road	13	936.0
Courtneypark Drive East	0	0.0
Dundas Street	3	97.2
Eglinton Avenue	6	156.3
Hurontario Street	5	337.1
Lakeshore Road	21	1686.7
Mavis Road	4	760.3
Southdown Road	6	1222.7
Winston Churchill Boulevard	17	1323.6
<b>Major Collectors</b>		
Aquitaine Avenue	7	613.5
Argentia Road	10	354.7
Atwater Avenue	10	331.1
Battleford Road	13	732.0
Bloor Street	17	1572.4
Bristol Road	17	379.8
Central Parkway	33	2742.4





<b>Roadways</b>	<b>Number of Noise Wall Segment Warranted</b>	<b>Length of Noise Wall (m) Warranted and included in 2019 DC Update</b>
Clarkson Road	6	291.8
Confederation Parkway	6	184.7
Creditview Road	11	755.7
Erin Centre Boulevard	1	7.3
Erindale Station Road	4	1237.7
Glen Erin Drive	22	734.6
Goreway Road	9	714.9
Kennedy Road	2	170.0
King Street	0	0.0
Kirwin Avenue	1	65.6
Matheson Boulevard	3	79.9
McLaughlin Road	0	0.0
Mississauga Road	28	1835.4
North Service Road	5	139.1
North Sheridan Way	2	127.7
Ogden Avenue	0	0.0
Rathburn Road	30	2092.1
Ridgeway Drive	13	1990.2
South Service Road	8	369.7
South Sheridan Way	14	1131.6
Tenth Line	11	1071.0
Terry Fox Way	0	0.0
The Collegeway	16	1179.3
Thomas Street	21	897.7
Tomken Road	11	1547.5
Truscott Drive	9	230.4
<b>Total</b>	<b>415</b>	<b>30099.5</b>



## CONCLUSION

Based on the noise wall candidate site assessment carried out as part of the 2019 DC update study, 415 noise wall segments (out of the 568 segments proposed by the City) were identified as warranted on City's arterial and major collector roads. These are locations where noise levels were calculated to be 60 dBA or higher under future (2041) traffic conditions. In total, approximately 30,100 m of noise wall has been identified as warranted at 2469 properties. Based on the unit costs provided by the City for noise wall (\$1,500/m) and easement (approximately \$6,750 per property for an average width of 40 feet or 12.192 m), the estimated total cost for the noise wall implementation is approximately \$61.9 M (\$45.2 M for noise walls and \$16.7 M for associated easement). The estimated total cost for noise wall implementation is to be included in the 2019 DC update study.



## **Appendix A**

### **Noise Wall Candidates**

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>AQUITAINE AVE TOTAL LENGTH</b>		<b>1215.92</b>			
429637	AQUITAINE AVE - BEHIND 2593 BARRISDALE CT TO 2604 BARRISDALE CT	96.59	Yes		
1065431	AQUITAINE AVE - BEHIND 3176 BRACKNELL CRES TO BEHIND 3202 BRACKNELL CRES	135.5	Yes		
429638	AQUITAINE AVE - BEHIND 6724 BARRISDALE DR TO 6802 BARRISDALE DR	4.61	No	429637	
429634	AQUITAINE AVE - BEHIND 6724 BARRISDALE DR TO BEHIND 6802 BARRISDALE DR	287.44	Yes		
429636	AQUITAINE AVE - BEHIND 6808 BARRISDALE DR	52.61	Yes		
1065306	AQUITAINE AVE - BEHIND TRONDHEIM CRES	126.85	No		noise wall not along Aquitaine Ave, but along Millcreek Dr (which is not in the candidate list)
1065358	FORMENTERA AVE	4.31	Yes		noise wall not along Formentera Ave, but along Aquitaine Ave
1065359	FORMENTERA AVE	5.11	No	1065358	noise wall not along Formentera Ave, but along Aquitaine Ave
1065360	MONTEVIDEO RD	263.16	Yes		noise wall not along Formentera Ave, but along Aquitaine Ave
1065361	MILLCREEK DR	212.42	Yes		noise wall not along Millcreek Dr, but along Aquitaine Ave
1065362	MILLCREEK DR	27.32	No	1065361	noise wall not along Millcreek Dr, but along Aquitaine Ave
<b>ARGENTIA RD TOTAL LENGTH</b>		<b>354.69</b>			
1065288	ARGENTIA RD - BEHIND 6540 FALCONER DR	50.04	No	1065289	
1065289	ARGENTIA RD - BEHIND 6540 FALCONER DR	43.07	Yes		
1065290	ARGENTIA RD - BEHIND 6540 FALCONER DR	50.8	No	1065289	
1065291	ARGENTIA RD - BEHIND 6650 FALCONER DR	39.59	Yes		
1065292	ARGENTIA RD - BEHIND 6650 FALCONER DR	35.93	No	1065291	
1065293	ARGENTIA RD - BEHIND 6650 FALCONER DR	36.91	Yes		
1065294	ARGENTIA RD - BEHIND 6650 FALCONER DR	36.95	No	1065295	
1065295	ARGENTIA RD - BEHIND 6650 FALCONER DR	37.44	Yes		
1065296	ARGENTIA RD - BEHIND 6650 FALCONER DR	5.52	No	1065295	
1065297	ARGENTIA RD - BEHIND 6650 FALCONER DR	18.44	No	1065295	
<b>ATWATER AVE TOTAL LENGTH</b>		<b>380.54</b>			
1064698	ATWATER AVE - BESIDE 1047 STRATHY AVE TO BESIDE 1255 OGDEN AVE	41.01	Yes		
1064692	ATWATER AVE - BESIDE 1194 - 1246 WEST SHORE DR	8.55	No	1064691	
1064691	ATWATER AVE - BESIDE 1197 - 825 UPPER VILLAGE DR	7.47	Yes		
1064701	ATWATER AVE - BESIDE 1232 HAIG BLVD	46.73	No	1064699	
1064695	ATWATER AVE - BESIDE 1234 - 970 MEREDITH AVE	29.24	No	1064693	
1064711	ATWATER AVE - BESIDE 1241 MINEOLA GDNS	22.91	Yes		
1064700	ATWATER AVE - BESIDE 1241 STRATHY AVE	13.89	No	1064699	
1064693	ATWATER AVE - BESIDE 1242 ALEXANDRA AVE	23.37	Yes		
1064699	ATWATER AVE - BESIDE 1243 OGDEN AVE	30.85	Yes		
1064703	ATWATER AVE - BESIDE 1248 HAIG BLVD	32.32	No	1064698	
1064713	ATWATER AVE - BESIDE 1251 CANTERBURY RD	10.54	Yes		
1064696	ATWATER AVE - BESIDE 1255 ALEXANDRA AVE	41.67	Yes		
1064694	ATWATER AVE - BESIDE 938 ALEXANDRA AVE	13.61	No	1064693	
1064702	ATWATER AVE - FRONT OF 1145 ATWATER AVE	58.38	No	1064698	

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>BATTLEFORD RD TOTAL LENGTH</b>		<b>905.18</b>			
1065430	BATTLEFORD RD - BEHIND 3083 SPRING CREEK CRES TO BEHIND 3107 SPRING CREEK CRES	121.39	Yes		
429626	BATTLEFORD RD - BEHIND 3103 ARNETT CT TO 3109 ARNETT CT	35.36	No	429624	
429625	BATTLEFORD RD - BEHIND 3111 ARNETT CT TO BEHIND 3121 ARNETT CT	46.9	No	429624	
429624	BATTLEFORD RD - BEHIND 3123 ARNETT CT TO 3145 ARNETT CT	80.28	Yes		
1065428	BATTLEFORD RD - BEHIND 3228 COLEBROOK CT TO BESIDE 6516 MILLER'S GROVE	117.69	Yes		
429628	BATTLEFORD RD - BEHIND 6508 MELTZER MEWS TO 6512 MELTZER MEWS	32.62	Yes		
429629	BATTLEFORD RD - BEHIND 6514 MELTZER MEWS TO 6518 MELTZER MEWS	28.87	No	429628	
429630	BATTLEFORD RD - BEHIND 6520 MELTZER MEWS TO BESIDE 6642 EDENWOOD DR	26.25	No	429628	
429633	BATTLEFORD RD - BEHIND 6537 TISLER CRES TO BESIDE 6643 EDENWOOD DR	28.75	Yes		
1065353	BATTLEFORD RD - BESIDE 2700 BATTLEFORD RD	6.83	Yes		
429623	BATTLEFORD RD - BESIDE 6509 MILLER'S GROVE	10.66	No	429624	
1065429	BATTLEFORD RD - BESIDE 6546 MILLER'S GROVE TO BEHIND 3180 SUNDOWN CIR	108.33	Yes		
429632	BATTLEFORD RD - BESIDE 6643 EDENWOOD DR	10.75	No	429633	
1065354	MONTEVIDEO RD	18.88	No	1065353	noise wall not along Montevideo Rd, but along Battleford Rd
1065355	MONTEVIDEO RD	48.83	Yes		noise wall not along Montevideo Rd, but along Battleford Rd
1065356	MONTEVIDEO RD	37.07	No	1065355	noise wall not along Montevideo Rd, but along Battleford Rd
1065357	MONTEVIDEO RD	145.72	Yes		noise wall not along Montevideo Rd, but along Battleford Rd
<b>BLOOR STREET TOTAL LENGTH</b>		<b>1572.4</b>			
1064875	BLOOR STREET - 3367 QUEEN FREDERICA DR	28.02	No	1064874	
1064873	BLOOR STREET - 3449 ANNELIESE AVE	25.88	No	1064872	
1064890	BLOOR STREET - BEHIND 400 BLOOR STREET	117.15	Yes		
1064891	BLOOR STREET - BEHIND 400 BLOOR STREET	35.95	No	1064890	
1064892	BLOOR STREET - BEHIND 400 BLOOR STREET	6.81	No	1064890	
1064893	BLOOR STREET - BEHIND 400 BLOOR STREET	49.3	Yes		
1064894	BLOOR STREET - BEHIND 400 BLOOR STREET	4.44	No	1064893	
1064889	BLOOR STREET - BEHIND 405 HYACINTHE BLVD	78.3	Yes		
1064900	BLOOR STREET - BEHIND 725 VERMOUTH AVE	55.75	Yes		
1064901	BLOOR STREET - BEHIND 725 VERMOUTH AVE	123.04	No	1064900	
1064896	BLOOR STREET - BEHIND JUANITA CRT & BEHIND CHARMAINE HEIGHTS	313.3	Yes		
1064897	BLOOR STREET - BEHIND SILVERADO DR	34.6	Yes		
1064895	BLOOR STREET - BESIDE 280 MICHELLE ROW	36.48	No	1064893	
1064874	BLOOR STREET - BESIDE 3372 QUEEN FREDERICA DR	22.57	Yes		
1064872	BLOOR STREET - BESIDE 3450 ANNELIESE AVE	22.38	Yes		
1064899	BLOOR STREET - BESIDE 806 MISSISSAUGA VALLEY BLVD & 796 VERMOUTH AVE	59.83	Yes		
1064898	BLOOR STREET BEHIND GALENA CRES & NADINE CRES	558.6	Yes		

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>BRISTOL RD TOTAL LENGTH</b>		<b>717.32</b>			
1065146	BRISTOL RD E - BEHIND 107 BRISTOL RD E	62.57	Yes		
1065148	BRISTOL RD E - BEHIND 115 BRISTOL RD E	38.38	No	1065146	
1065147	BRISTOL RD E - BEHIND 117 BRISTOL RD E	26.02	No	1065146	
1065144	BRISTOL RD E - BEHIND 45 BRISTOL RD E	51.44	No	1065146	
1065143	BRISTOL RD E - BEHIND 65 BRISTOL RD E	15.42	No	1065146	
1065145	BRISTOL RD E - BEHIND 85 BRISTOL RD E	42.4	No	1065146	
1065149	BRISTOL RD E - BESIDE 272 ANTHONY AVE	14.69	Yes		
1065150	BRISTOL RD E - BESIDE 273 ANTHONY AVE	18.16	No	1065149	
1065151	BRISTOL RD E - BESIDE 335 GRAND HIGHLAND WAY	9.48	No	1065149	
1065152	BRISTOL RD E - BESIDE 336 GRAND HIGHLAND WAY	9.63	No	1065149	
1065154	BRISTOL RD E - BESIDE 456 NAHANI WAY TO BESIDE 450 BRISTOL RD E	29.06	No	427293	
1065153	BRISTOL RD E - BESIDE 496 BARONDALE DR	7.53	No	1065149	
427293	BRISTOL RD E - BESIDE 5320 FORESTWALK CIR	8.03	Yes		
427294	BRISTOL RD E - BESIDE 5321 FORESTWALK CIR	9.35	No	427293	
1065162	BRISTOL RD E - NEAR 435 BRISTOL RD E	13.83	No	1065161	
1065161	BRISTOL RD E - NEAR 485 BRISTOL RD E	12.02	Yes		
1065196	BRISTOL RD W - 1550 BATHGATE RD	19	No	1065197	
1065195	BRISTOL RD W - 5515 DURIE RD	11.82	Yes		
1065193	BRISTOL RD W - 5526 RIVER GROVE AVE	20.3	No	1065192	
1065194	BRISTOL RD W - 5527 RIVER GROVE AVE	18.51	No	1065192	
429718	BRISTOL RD W - BEHIND 1400 BRISTOL RD	5.99	No		noise wall available in use
1065197	BRISTOL RD W - BEHIND MANORBROOK CRT	121.15	Yes		
1063568	BRISTOL RD W - BESIDE 5391 HUNTINGFIELD DR	36.9	Yes		
1067704	BRISTOL RD W - BESIDE 990 BRISTOL RD W	8.8	No		noise wall available in use
1065192	BRISTOL RD W - SHORECREST CRES	106.84	Yes		
<b>BURNHAMTHORPE RD TOTAL LENGTH</b>		<b>974.65</b>			
2003184	BURNHAMTHORPE RD E - BEHIND 3981 MAHOGANY ROW	21.86	No	2001644	
1065002	BURNHAMTHORPE RD E - BEHIND 4020 - 4019 LOOKOUT CT	65.81	Yes		
2001644	BURNHAMTHORPE RD E - BESIDE 1186 TYNEGROVE RD	16.77	Yes		
2003189	BURNHAMTHORPE RD E - FROM BEHIND 4020 TO BEHIND 4024 LOOKOUT CT	19.4	No	1065002	
1064958	BURNHAMTHORPE RD W - BEHIND 3510 SOUTH MILLWAY	234.27	Yes		
1066963	BURNHAMTHORPE RD W - BESIDE 1695-1712 CAVERLY CT	75.83	Yes		
1064959	BURNHAMTHORPE RD W - BESIDE 3505 SANDERLING CRES	30.76	Yes		
1064960	BURNHAMTHORPE RD W - BESIDE 3526 SAWMILL VALLEY DR	25.99	No	1064961	
431378	BURNHAMTHORPE RD W - BESIDE 3528 INGRAM RD	19.61	Yes		
431379	BURNHAMTHORPE RD W - BESIDE 3528 INGRAM RD	4.53	No	431378	
431820	BURNHAMTHORPE RD W - BESIDE 3537 SOUTH MILLWAY	34.6	Yes		
2001415	BURNHAMTHORPE RD W - BESIDE 3798 AND 3803 PROMONTORY CRES	40.2	Yes		
1065084	BURNHAMTHORPE RD W - BESIDE 3803 PROMONTORY CRES	28.96	No	2001415	
1066964	BURNHAMTHORPE RD W - BESIDE 3961-3962 GLAMIS CT	65.26	Yes		
1064961	BURNHAMTHORPE RD W - FROM BEHIND 1875 SNOW BUNTING CT TO BEHIND 3555 KINGBIRD CT	290.8	Yes		

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
	<b>CENTRAL PARKWAY TOTAL LENGTH</b>	<b>2742.42</b>			
1064885	CENTRAL PARKWAY - BEHIND 405 HYACINTHE BLVD	171.5	Yes		
1064949	CENTRAL PARKWAY - BESIDE 24 ACHILL CRES	28.6	No	1064948	
1064948	CENTRAL PARKWAY - BESIDE 25 ACHILL CRES	23.07	Yes		
1064887	CENTRAL PARKWAY BEHIND 1180 MISSISSAUGA VALLEY BLVD	217.97	Yes		
1064888	CENTRAL PARKWAY BEHIND 1180 MISSISSAUGA VALLEY BLVD	46.95	No	1064887	
1065038	CENTRAL PARKWAY E - BEHIND 333 MEADOWS BLVD	124.49	Yes		
1065039	CENTRAL PARKWAY E - BEHIND 333 MEADOWS BLVD	120.33	Yes		
1065058	CENTRAL PARKWAY E - BEHIND CAMDEN CIRCLE & BEHIND PETAWAWA CRES	220.08	Yes		
1065054	CENTRAL PARKWAY E - BEHIND GATINEAU AVE	69.76	Yes		
1065057	CENTRAL PARKWAY E - BEHIND GULLFOOT CIRCLE	358.47	Yes		
1065056	CENTRAL PARKWAY E - BEHIND OWL CIRCLE	376.19	Yes		
1065053	CENTRAL PARKWAY E - BEHIND OXBOW CRES	70.78	No	1065051	
1065055	CENTRAL PARKWAY E - BEHIND TRIBAL COURT	101.42	Yes		
1065051	CENTRAL PARKWAY E - BESIDE 320 LAURENTIAN AVE	34.58	Yes		
1065052	CENTRAL PARKWAY E - BESIDE 334 LAURENTIAN AVE	32.65	Yes		
1065040	CENTRAL PARKWAY E - BESIDE 370 RATHBURN ROAD E	31.53	Yes		
1065041	CENTRAL PARKWAY E - BESIDE 370 RATHBURN ROAD E	56.39	No	1065040	
432031	CENTRAL PARKWAY W - BESIDE 3465 AFRICA CRES	23.48	Yes		
432033	CENTRAL PARKWAY W - BESIDE 3470 COPERNICUS DR	24.57	No	432031	
432027	CENTRAL PARKWAY W - BESIDE 3475 REDMOND RD TO BESIDE 3445 AFRICA CRES	53.75	No	432023	
432034	CENTRAL PARKWAY W - BESIDE 3476 CROATIA DR TO BESIDE 3481 COPERNICUS DR	16.68	No	432031	
433336	CENTRAL PARKWAY W - BESIDE 3478 REDMOND RD	3.94	No	432023	
432025	CENTRAL PARKWAY W - BESIDE 529 SHIPKA CT TO BESIDE 3478 REDMOND RD	46.84	No	432023	
432023	CENTRAL PARKWAY W - BESIDE 530 SHIPKA CT	30.17	Yes		
432038	CENTRAL PARKWAY W - BESIDE 566 LORETTA CT	25.92	Yes		
432041	CENTRAL PARKWAY W - BESIDE 3561 OLD ORCHARD PARK DR	14.54	No	432038	
1064953	CENTRAL PKWY - BESIDE 3470 OMEATH CT	36.27	Yes		
1064951	CENTRAL PKY W - BESIDE 3468 JOAN DR TO BESIDE 3469 PALGRAVE RD	96.21	No	1064950	
1064952	CENTRAL PKY W - BESIDE 3469 JOAN DR	44.34	No	1064950	
1064950	CENTRAL PRKY - BESIDE 34070 PALGRAVE RD	28.46	Yes		
1064945	HILLCREST AVE - BESIDE 3463 TESTIMONY SQ & 3452 PALGRAVE RD	24.51	Yes		noise wall not along Hillcrest Ave, but along Central Prky
1064946	HILLCREST AVE - BESIDE 3453 PALGRAVE RD & 3450 JOAN DR	64.12	No	1064945	noise wall not along Hillcrest Ave, but along Central Prky
1065472	CLIFF RD N	123.86	Yes		noise wall not along Cliff Rd, but along Central Prky

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>CLARKSON RD TOTAL LENGTH</b>		<b>617.6</b>			
1064614	CLARKSON RD N - BEHIND 1749 WEMBURY RD TO BEHIND 1773 WEMBURY RD	120.24	Yes		
1064611	CLARKSON RD N - BESIDE 1566 - 1786 CLARKSON RD N	36.48	Yes		
1064612	CLARKSON RD N - BESIDE 1566 - 1786 CLARKSON RD N	35.11	No	1064611	
1064600	CLARKSON RD N - BESIDE 1741 HINDHEAD RD	55.32	Yes		
1064602	CLARKSON RD N - BESIDE 1744 MAZO CRES AND TO BESIDE 1393 CLARKSON RD N	35.71	No	1064601	
1064597	CLARKSON RD N - BESIDE 1745 PENGILLEY PL	40.14	No	1064596	
1064596	CLARKSON RD N - BESIDE 1746 PENGILLEY PL	44.92	Yes		
1064609	CLARKSON RD N - BESIDE 1747 TRUSCOTT DR	23.51	Yes		
1064601	CLARKSON RD N - BESIDE 1755 BIRCHWOOD DR	34.93	Yes		
1064610	CLARKSON RD N - BESIDE 1758 WEDMORE WAY	38.13	No	1064609	
1064613	CLARKSON RD N - BESIDE 1769 MEDALLION CT	14.92	No	1064611	
1064598	CLARKSON RD N - BESIDE 1770 FELLEEN PL	42.8	Yes		
1064599	CLARKSON RD N - BESIDE 1771 FELLEEN PL	42.81	No	1064598	
1064603	CLARKSON RD N - BESIDE 1780 TRUSCOTT DR TO BEHIND 1780 TRUSCOTT DR	52.58	No	1064600	
<b>CONFEDERATION PKWY TOTAL LENGTH</b>		<b>184.72</b>			
1064925	CONFEDERATION PARKWAY - BESIDE 3496 TESTIMONY SQ	17.58	Yes		
1064804	CONFEDERATION PKWY - 123 DUNBAR RD	37.13	Yes		
1064801	CONFEDERATION PKWY - BESIDE 110 FLORADALE DR	37.24	Yes		
1064805	CONFEDERATION PKWY - BESIDE 111 DUNBAR RD	19.83	No	1064801	
1064803	CONFEDERATION PKWY - BESIDE 111 FLORADALE DR & 2487 CONFEDERATION PKWY	43.13	No	1064801	
1064806	KING ST W - BESIDE 114 KING ST	29.81	No	1064801	noise wall not along King St, but along Confederation Pkwy
<b>COURTNEYPARK DR TOTAL LENGTH</b>		<b>138.16</b>			
1063642	COURTNEYPARK DR W - BESIDE 6379 - 6399 SPINNAKER CIR	33.3	Yes		
1063643	COURTNEYPARK DR W - BESIDE 6379 - 6399 SPINNAKER CIR	68.44	No	1063642	
1063644	COURTNEYPARK DR W - BESIDE 6379 - 6399 SPINNAKER CIR	36.42	Yes		
<b>CREDITVIEW RD TOTAL LENGTH</b>		<b>976.92</b>			
1065275	CREDITVIEW RD - 61 KENNINGHALL CRES	23.95	Yes		
1065188	CREDITVIEW RD - AQUARIUS COURT	164.94	No		noise wall not along Creditview Rd, but along Britannia Rd W. (which is not in the candidate list)
1065285	CREDITVIEW RD - BEHIND 6433 FALCONER DR	7.24	No	1065286	
1065286	CREDITVIEW RD - BEHIND 6433 FALCONER DR	31.05	Yes		
1065284	CREDITVIEW RD	285	Yes		
1065283	CREDITVIEW RD - BEHIND ORAN CRT	102.09	Yes		
1065276	CREDITVIEW RD - BEHIND STEEN DRIVE	187.04	Yes		
1065168	CREDITVIEW RD - BESIDE 1400 BRISTOL RD W	11.85	Yes		
1065169	CREDITVIEW RD - BESIDE 1400 BRISTOL RD W	6.72	No	1065168	
1065173	CREDITVIEW RD - BESIDE 1474-1490 PICKWICK DR	27.14	Yes		
1065281	CREDITVIEW RD - BESIDE 6730 FALCONER DR	30.41	No	1065286	
1065282	CREDITVIEW RD - BESIDE 6730 FALCONER DR	43.16	No	1065286	
1065483	CAROLYN RD	56.33	Yes		noise wall not along Carolyn Rd, but along Creditview Rd
<b>DUNDAS ST W TOTAL LENGTH</b>		<b>97.16</b>			
1064833	DUNDAS ST W - BESIDE 3012 REDSTART DR	32.35	Yes		
2009757	DUNDAS ST W - BESIDE 3015 REDSTART DR	33.2	No	1064835	
1064835	DUNDAS ST W - BESIDE 3015 SIR JOHN'S HOMESTEAD	31.61	Yes		



NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>EGLINTON AVE TOTAL LENGTH</b>		<b>185.32</b>			
1063590	EGLINTON AVE W	19.68	No		Not assessed for Frontage
1065164	EGLINTON AVE W - 5025 HEATHERLEIGH AVE	6.94	No	1065163	
2001394	EGLINTON AVE W - BEHIND 5105-5117 SUMMERSKY CT	74.98	Yes		
1063474	EGLINTON AVE W - BESIDE (5016) EAST MILL RD	8.41	Yes		
1063364	EGLINTON AVE W - BESIDE (666) CONSTELLATION DR	31.56	Yes		
2001393	EGLINTON AVE W - BESIDE 5008 AND 5116 SUMMERSKY CT	28.12	No	2001394	
706222	EGLINTON AVE W - BESIDE 5233 PRESERVATION CIRCLE	9.35	No		noise wall not along Eglinton Ave, but along Perennial Dr (which is not in the candidate list)
1065163	EGLINTON AVE W - BESIDE 795 EGLINTON AVE W	6.28	Yes		
<b>ERIN CENTRE BLVD TOTAL LENGTH</b>		<b>366.92</b>			
1065265	ERIN CENTRE BLVD - 5205 GLEN ERIN DR	7.3	Yes		
1065226	ERIN CENTRE BLVD - 5213 FOREST HILL DR	16.07	No	1065223	
1065224	ERIN CENTRE BLVD - 5218 FOREST HILL DR	10.86	Yes		
1065225	ERIN CENTRE BLVD - 5223 FOREST HILL DR	20.96	No	1065224	
1065223	ERIN CENTRE BLVD - 5242 FOREST HILL DR	16.06	Yes		
1065230	ERIN CENTRE BLVD - 5295 ROANOKE CT	18.01	No	1065223	
1065229	ERIN CENTRE BLVD - 5296 ROANOKE CT	11.11	No	1065223	
1065220	ERIN CENTRE BLVD - BEHIND ELDERVIEW CRT / 4849 FOREST HILL DR	168.3	Yes		
1065222	ERIN CENTRE BLVD - BESIDE 5174 FOREST RIDGE DR	31.8	Yes		
1065227	ERIN CENTRE BLVD - BESIDE 5270 ELMRIDGE DR	23.95	No	1065224	
1065228	ERIN CENTRE BLVD - BESIDE 5271 ELMRIDGE DR	25.66	No	1065224	
1065221	ERIN CENTRE BLVD BESIDE 4848 FOREST HILL DR	16.84	No	1065224	
<b>ERINDALE STATION RD TOTAL LENGTH</b>		<b>1237.65</b>			
1064954	ERINDALE STATION RD - BEHIND JESSICA CRT	80.97	Yes		
1064956	ERINDALE STATION RD - BEHIND ELLENGALE DR	388.56	Yes		
1064955	ERINDALE STATION RD - BEHIND IBBETSON CRES	437.29	Yes		
1064957	ERINDALE STATION RD - BEHIND OAKGLADE CRES	330.83	Yes		

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
	<b>GLEN ERIN DRIVE TOTAL LENGTH</b>	<b>3485.66</b>			
1065334	GLEN ERIN DR - 2771 WILLOWMORE WAY	37.66	No	1065332	
1065318	GLEN ERIN DR - 5536 MONTEVIDEO RD	5.33	Yes		
1065319	GLEN ERIN DR - 5536 MONTEVIDEO RD	4.02	No	1065318	
1065320	GLEN ERIN DR - 5536 MONTEVIDEO RD	5.32	No	1065318	
1065321	GLEN ERIN DR - 5536 MONTEVIDEO RD	3.88	No	1065318	
1065322	GLEN ERIN DR - 6520 MONTEVIDEO RD	60.67	Yes		
1065113	GLEN ERIN DR - BEHIND 2671 ROMARK MEWS	31.3	No	1065112	
1065112	GLEN ERIN DR - BEHIND 2685 JERRING MEWS TO BEHIND 2680 ROMARK MEWS	90.65	Yes		
1065111	GLEN ERIN DR - BEHIND 2688 JERRING MEWS	33.85	No	1065112	
1065313	GLEN ERIN DR - BEHIND 2714-2716 LOS PALMAS CT	22.73	No	1065314	
1065335	GLEN ERIN DR - BEHIND 2779 GANANOQUE DR	56.22	Yes		
1065336	GLEN ERIN DR - BEHIND 2779 GANANOQUE DR	40.33	No	1065335	
1065337	GLEN ERIN DR - BEHIND 2779 GANANOQUE DR	5.21	No	1065335	
1065338	GLEN ERIN DR - BEHIND 2779 GANANOQUE DR	49.93	No	1065335	
1064982	GLEN ERIN DR - BEHIND 3350-3351 GLEN ERIN DR	33.58	Yes		
1065115	GLEN ERIN DR - BEHIND 4235 THOM GARDENS TO BEHIND 4243 THOM GARDENS	49.46	Yes		
1065317	GLEN ERIN DR - BEHIND 5878 MONTEVIDEO RD	63.93	Yes		
1065324	GLEN ERIN DR - BEHIND 6860 MEADOWVALE TOWN CENTRE CIR	7.64	No	1065323	
1065323	GLEN ERIN DR - BEHIND 6880 MEADOWVALE TOWN CENTRE CIR	5.67	Yes		
1065316	GLEN ERIN DR - BEHIND ATHERLY CRES	263.53	Yes		
1065315	GLEN ERIN DR - BEHIND BEN OAK CIR	91.6	Yes		
1064981	GLEN ERIN DR - BEHIND HORNBEAM CRES	401.39	Yes		
1065314	GLEN ERIN DR - BEHIND LOS PALMAS CT	77.19	Yes		
1064983	GLEN ERIN DR - BEHIND MARTINS PINE CRES	406.59	Yes		
1065312	GLEN ERIN DR - BEHIND QUILL CRESBESIDE 2689 INLAKE CT	173.11	Yes		
1065117	GLEN ERIN DR - BESIDE () FLITTER CT	222.74	Yes		
1065116	GLEN ERIN DR - BESIDE () THOM GARDENS	191.06	Yes		
431481	GLEN ERIN DR - BESIDE 2442 CREDIT VALLEY RD	9.75	Yes		
429669	GLEN ERIN DR - BESIDE 2573 QUAILS RUN	25.23	No	429665	
429672	GLEN ERIN DR - BESIDE 2576 QUAILS RUN	15.13	No	429665	
1065120	GLEN ERIN DR - BESIDE 2676 - 4171 FOLKWAY DR	80.32	Yes		
1065121	GLEN ERIN DR - BESIDE 2676 - 4171 FOLKWAY DR	91.93	Yes		
1065310	GLEN ERIN DR - BESIDE 2698 INLAKE COURT	26.27	Yes		
429654	GLEN ERIN DR - BESIDE 2705 BURNFORD TRAIL	15.46	No	429657	
429651	GLEN ERIN DR - BESIDE 2706 BURNFORD TRAIL	17.99	No	429657	
429665	GLEN ERIN DR - BESIDE 2728 CASTLEBRIDGE DR	12.1	Yes		
429650	GLEN ERIN DR - BESIDE 2731 DUNCAIRN DR	9.76	No	429644	
429647	GLEN ERIN DR - BESIDE 2732 DUNCAIRN DR	11.05	No	429644	
1065332	GLEN ERIN DR - BESIDE 2733 GANANOQUE DR2772 WILLOWMORE WAY	40.19	Yes		
1065114	GLEN ERIN DR - BESIDE 2736 FOLKWAY DR	41.64	Yes		
1065309	GLEN ERIN DR - BESIDE 2755 WINDWOOD DR	11.7	Yes		
429667	GLEN ERIN DR - BESIDE 2786 CASTLEBRIDGE DR	21.85	Yes		
1065118	GLEN ERIN DR - BESIDE 4147 ROLLING VALLEY DR	10.56	Yes		
431550	GLEN ERIN DR - BESIDE 4492 MARSHDALE CT	12.2	Yes		
431482	GLEN ERIN DR - BESIDE 4493 MARSHDALE CT	11.39	No	431550	
429644	GLEN ERIN DR - BESIDE 5187 MIDDLEBURY DR	11.5	Yes		
429646	GLEN ERIN DR - BESIDE 5188 MIDDLEBURY DR	15.4	No	429644	

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
429657	GLEN ERIN DR - BESIDE 5205 MIDDLEBURY DR	16	Yes		
429656	GLEN ERIN DR - BESIDE 5206 MIDDLEBURY DR	18.61	No	429657	
1065253	GLEN ERIN DR - BESIDE 5490 GLEN ERIN DR	10.55	Yes		
1065311	GLEN ERIN DR - BEHIND ANADORRA CIR	157.87	Yes		
1065326	GLEN ERIN DR -BEHIND 6680 SHELTER BAY RD	79.42	Yes		
1065328	GLEN ERIN DRIVE - BESIDE 6779 GLEN ERIN DRIVE	65.61	Yes		
1065329	GLEN ERIN DRIVE - BESIDE 6779 GLEN ERIN DRIVE	5.24	No	1065330	
1065330	GLEN ERIN DRIVE - BESIDE 6779 GLEN ERIN DRIVE	41.5	Yes		
1065331	GLEN ERIN DRIVE - BESIDE 6779 GLEN ERIN DRIVE	4.06	No	1065330	
1065325	GLEN ERIN DRIVE - BESIDE 6810 AQUITAINE AVE	9.94	No	1065323	
1065327	SHELTER BAY RD	150.85	Yes		noise wall not along Shelter Bay Rd, but along Glen Erin Dr
	<b>GOREWAY DR TOTAL LENGTH</b>	<b>714.9</b>			
1065367	GOREWAY DR - 7560 GOREWAY DR	45.29	Yes		
1065370	GOREWAY DR - BEHIND 7619 KITTRIDGE DR TO BEHIND 7685 KITTRIDGE DR	268.92	Yes		
1065368	GOREWAY DR - BESIDE 3430 BRANDON GATE DR	51.53	No	1065367	
1065369	GOREWAY DR - BESIDE 3430 BRANDON GATE DR	29.05	No	1065367	
1065363	GOREWAY DR - BESIDE 3436 DORCAS ST	22	Yes		
1065365	GOREWAY DR - BESIDE 3441 ETUDE DR	24.35	No	1065363	
1065364	GOREWAY DR - BESIDE 7086 DORCAS ST	21.5	No	1065363	
1065371	BRANDON GATE DR	82.55	Yes		noise wall not along Brandon Gate Dr, but along Goreway Dr
1065372	BRANDON GATE DR	169.71	Yes		noise wall not along Brandon Gate Dr, but along Goreway Dr
	<b>HURONTARIO ST TOTAL LENGTH</b>	<b>362.38</b>			
1064707	HURONTARIO ST - BEHIND 1219 OLD RIVER RD TO BEHIND 1249 OLD RIVER RD	76.28	Yes		
737086	HURONTARIO ST - BEHIND 52 NAHANI WAY TO BEHIND 54 NAHANI WAY	14.94	No	737085	
1066656	HURONTARIO ST - BEHIND 60 HANSON RD	211.29	Yes		
1065138	HURONTARIO ST - BESIDE 14 ANDRIKA CT	21.47	Yes		
1065139	HURONTARIO ST - BESIDE 15 ANDRIKA CT	13.08	No	1065138	
737085	HURONTARIO ST - BESIDE 52 NAHANI WAY	10.38	Yes		
1068291	HURONTARIO ST - BESIDE 5334 FERRET CT	14.94	Yes		
	<b>KENNEDY RD TOTAL LENGTH</b>	<b>170.03</b>			
1063535	KENNEDY RD - BEHIND 455 APACHE CT	25.52	Yes		
1063536	KENNEDY RD - BEHIND 455 APACHE CT	144.51	Yes		
	<b>KING ST TOTAL LENGTH</b>	<b>307.78</b>			
1064781	KING ST E - BESIDE 160 KING STREET E	33.79	No		noise wall not along King St, but along Camilla Rd (which is not in the candidate list)
1064783	KING ST E - BESIDE 169 KING STREET E	49.38	No		noise wall not along King St, but along Camilla Rd (which is not in the candidate list)
1064791	KING ST E - BESIDE 2510 CLIFF RD	63.43	No	1064788	
1064788	KING ST E - BESIDE 2515 DONNAVALE DR	34.72	Yes		
1064787	KING ST E - BESIDE 2516 DONNAVALE DR	33.39	No	1064788	
1064789	KING ST E - BESIDE 2526 EVELYN CT	25.38	Yes		
1064776	KING ST E - BESIDE 2530 SHEPARD AVE	15.96	Yes		
1064786	KING STREET - BESIDE 2513 CATHERINE JEAN LN	22.49	No	1064776	
1064790	KING STREET E - BESIDE 2526 CLIFF RD & 317 KING ST E	29.24	No	1064789	

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>KIRWIN AVE TOTAL LENGTH</b>		<b>65.63</b>			
1064884	KIRWIN AVE - BESIDE LITTLE JOHN LN	65.63	Yes		
<b>LAKESHORE RD TOTAL LENGTH</b>		<b>1791.18</b>			
1064706	LAKESHORE RD E - BESIDE 165 ST LAWRENCE DR	36.96	Yes		
1063140	LAKESHORE RD W - 967 LAKESHORE RD W	25.03	Yes		
1064640	LAKESHORE RD W - BEHIND 1017 RAIN TREE LN TO BEHIND 1021 RAIN TREE LN	76.65	No	1064639	
1065460	LAKESHORE RD W - BEHIND 1050 SHAWN MARR RD	63.29	No	1065459	
1065461	LAKESHORE RD W - BEHIND 1050 SHAWN MARR RD	63.29	No	1065459	
1065459	LAKESHORE RD W - BEHIND 1055 SHAWN MARR RD	109.24	Yes		
1064627	LAKESHORE RD W - BEHIND 1226 ECHO DR TO BEHIND 1256 ECHO DR	166.1	Yes		
1064595	LAKESHORE RD W - BEHIND 1567 STEVELES CRES TO BEHIND 1597 STEVELES CRES AND BEHIND 955 HALSHAM CT TO BEHIND 956 HALSHAM CT	257.05	Yes		
1064641	LAKESHORE RD W - BEHIND 763 DACK BLVD TO BEHIND 787 DACK BLVD AND TO BESIDE 701 BALBOA DR	114.65	Yes		
1066078	LAKESHORE RD W - BEHIND 986 RED PINE CRES	23.46	Yes		
1064639	LAKESHORE RD W - BEHIND 997 RAIN TREE LN TO BEHIND 1017 RAIN TREE LN	73.91	Yes		
1064592	LAKESHORE RD W - BESIDE 1010 CRISTINA CT TO BESIDE 1510 LAKESHORE RD W	89.73	Yes		
1063160	LAKESHORE RD W - BESIDE 1015 JOHNSON'S LN	34.45	Yes		
1064718	LAKESHORE RD W - BESIDE 1271 LORNE PARK RD	42.47	No		noise wall not along Lakeshore Rd, but along Lorne Park Rd (which is not in the candidate list)
1064624	LAKESHORE RD W - BESIDE 1301 FESTAVON CT	23.4	Yes		
1064642	LAKESHORE RD W - BESIDE 700 BALBOA DR	36.17	No	1064641	
1064630	LAKESHORE RD W - BESIDE 900 LAKESHORE RD W	60.46	Yes		
1064644	LAKESHORE RD W - BESIDE 985 CROZIER CT	18.43	Yes		
1064628	LAKESHORE RD W - BESIDE 988 TENNYSON AVE TO BESIDE 998 TENNYSON AVE	66.72	Yes		
1064629	LAKESHORE RD W - BESIDE 991 TENNYSON AVE	66.67	No	1064628	
1064622	LAKESHORE RD W - BESIDE 993 PORCUPINE AVE	48.6	No	1064627	
1064643	LAKESHORE RD W - BESIDE 998 CROZIER CT	43.8	No	1064641	
1063161	LAKESHORE RD W - FROM SILVERBIRCH TRAIL TO BEHIND 1022 ZANTE CRES	215.49	Yes		
1064587	LAKESHORE RD. W. - BESIDE 996 BEXHILL RD	35.16	Yes		
<b>MATHESON BLVD TOTAL LENGTH</b>		<b>79.85</b>			
1065127	MATHESON BLVD E - BESIDE 5537 WILDERNESS TR	26.96	No	1065126	
1065126	MATHESON BLVD E - BESIDE 5548 WILDERNESS TR	35.15	Yes		
1063546	MATHESON BLVD W - BEHIND 994 LEDBURY CRES	17.74	Yes		
<b>MAVIS RD TOTAL LENGTH</b>		<b>786.04</b>			
1064799	MAVIS RD - BEHIND 2367 CULVER WAY TO BEHIND 2421 CULVER WAY	218.7	Yes		
1064800	MAVIS RD - BEHIND 2368 CHILSWORTHY AVE TO BEHIND 2448 CHILSWORTHY AVE	309.03	Yes		
427401	MAVIS RD - BEHIND 2527 MORRISON AVE TO BEHIND 2547 MORRISON AVE	100.2	Yes		
1064798	MAVIS RD - BEHIND 596 CULLEN AVE TO BESIDE 616 LOUIS DR	132.4	Yes		
707503	MAVIS RD - BESIDE 5751 FATHER D'SOUZA DR	25.71	No		noise wall not along Mavis Rd, but along Father D'Souza Dr (which is not in the candidate list)
<b>MCLAUGHLIN RD TOTAL LENGTH</b>		<b>59.82</b>			
1048253	MCLAUGHLIN RD - BEHIND 416 DERRYDALE DR TO BEHIND 428 DERRYDALE DR	59.82	No		noise wall not along McLaughlin Rd

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
	<b>MISSISSAUGA RD TOTAL LENGTH</b>	<b>1994.61</b>			
1065183	MISSISSAUGA RD - 1988 ROYAL CREDIT BLVD	17.06	Yes		
1065184	MISSISSAUGA RD - 1989 ROYAL CREDIT BLVD	14.55	No	1065183	
1065218	MISSISSAUGA RD - 2023 MONTCREST CT	24.58	No	1065219	
1065219	MISSISSAUGA RD - 2096 MONTCREST CT	13.85	Yes		
1065095	MISSISSAUGA RD - BEHIND 1765 THORNY-BRAE PL TO BESIDE 1775 THORNY-BRAE PL	106.35	Yes		
1065099	MISSISSAUGA RD - BEHIND 1768 BRIDEWELL CT TO 1769 BRIDEWELL CT	126.84	Yes		
1064840	MISSISSAUGA RD - BEHIND 1780 CHESBRO CT TO BEHIND 1832 CHESBRO CT	241.73	Yes		
1065096	MISSISSAUGA RD - BEHIND 4032 BRIDLEPATH TR TO BEHIND 4056 BRIDLEPATH TR	171.56	Yes		
1064964	MISSISSAUGA RD - BEHIND BARCHESTER CT	28.02	Yes		
1064969	MISSISSAUGA RD - BEHIND CIDER MILL PL	170.7	Yes		
1064976	MISSISSAUGA RD - BEHIND FIFESHIRE CT	33.95	Yes		
1064974	MISSISSAUGA RD - BEHIND GROSVENOR PL	146.45	Yes		
1064968	MISSISSAUGA RD - BEHIND KINGBIRD CT	217.53	Yes		
1064970	MISSISSAUGA RD - BEHIND THE LOFT	94.27	Yes		
1065100	MISSISSAUGA RD - BESIDE 1776 THORNY-BRAE PL	37.65	Yes		
1064967	MISSISSAUGA RD - BESIDE 1795 MISSISSAUGA RD	34.45	No	1064966	
1064836	MISSISSAUGA RD - BESIDE 2148 SHAWANAGA TR TO FRONT OF 2137 MISSISSAUGA RD	22.67	Yes		
1064837	MISSISSAUGA RD - BESIDE 2185 HIGH RIVER CT	46.74	No	1064836	
1064838	MISSISSAUGA RD - BESIDE 2215 DOULTON DR TO BESIDE 2188 HIGHRIVER CT	159.19	Yes		
1064839	MISSISSAUGA RD - BESIDE 2247 GLEN OAKS BLVD	23.79	No	1064840	
1064965	MISSISSAUGA RD - BESIDE 3241 BARCHESTER CT	22.33	No	1064964	
1064966	MISSISSAUGA RD - BESIDE 3348 HARKISS RD	22.03	Yes		
1064975	MISSISSAUGA RD - BESIDE 3981 WOODCHUCK LN	53.09	Yes		
1063496	MISSISSAUGA RD - BESIDE 4034 MISSISSAUGA RD	42.93	Yes		
1065097	MISSISSAUGA RD - BESIDE 4326 BRIDLEPATH TR	35.92	No	1065096	
1065217	MISSISSAUGA RD - BESIDE 5092 ROTHESAY CT	17.84	No	1065219	
1065215	MISSISSAUGA RD - BESIDE 5216 ERIN CENTRE BLVD	14.19	No	1065219	
1065216	MISSISSAUGA RD - BESIDE ROTHESAY CT	14.52	No	1065219	
1065475	LAPAD CT	39.83	No	1064976	noise wall not along Lapad Ct, but along Mississauga Rd
	<b>NORTH SERVICE RD TOTAL LENGTH</b>	<b>139.07</b>			
1064771	NORTH SERVICE RD - BESIDE 1177 STANFIELD RD	31.23	Yes		
1064772	NORTH SERVICE RD - BESIDE 2013 REDAN DR	25.39	Yes		
1064775	NORTH SERVICE RD - BESIDE 421 MUNDEN RD	31.7	No	1064774	
1064774	NORTH SERVICE RD - BESIDE 459 PEAR TREE RD	28.85	Yes		
1064773	NORTH SERVICE RD - BESIDE 760 AJYN CT	21.9	No	1064772	
	<b>NORTH SHERIDAN WAY TOTAL LENGTH</b>	<b>1326.32</b>			
1064823	NORTH SHERIDAN WAY - BEHIND BEEMER AVE	362.27	Yes		
1064825	NORTH SHERIDAN WAY - BEHIND ROBIN DR & KNIGHTS CRT	252.36	Yes		
1064824	NORTH SHERIDAN WAY - BEHIND SHANNON DR	338.36	Yes		
1064821	NORTH SHERIDAN WAY - BESIDE 2007 STONEHOUSE CRES	48.87	No	1064822	
1064822	NORTH SHERIDAN WAY - BESIDE 2010 STONEHOUSE CRES	78.78	Yes	1064822	
1064807	NORTH SERVICE ROAD - BEHIND FLEET STREET	245.68	Yes		noise wall not along North Service Rd, but along North Sheridan Way

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
	<b>OGDEN AVE TOTAL LENGTH</b>	<b>126.71</b>			
1064675	OGDEN AVE - BESIDE 1020 FOURTH ST	6.44	No		noise wall location blocks driveway
1064677	OGDEN AVE - BESIDE 1032 FOURTH ST	9.5	Yes		
1064690	OGDEN AVE - BESIDE 1456 STRATHY AVE	36.19	Yes		
1064689	OGDEN AVE - BESIDE 1515 MUIR RD	38.09	No	1064688	
1064688	OGDEN AVE - BESIDE 1516 MUIR RD	36.49	Yes		
	<b>RATHBURN RD TOTAL LENGTH</b>	<b>3415.58</b>			
1065018	RATHBURN RD E - 4143 TAPESTRY TR	24.34	No	1065017	
1065022	RATHBURN RD E - 4233 GARNETWOOD CHASE	28.84	No	1065021	
1065023	RATHBURN RD E - BESIDE 3933 GARNETWOOD CHASE	18.11	No	1065024	
1065050	RATHBURN RD E - 4114 CAWTHRA RD	12.49	No	1065048	
1065049	RATHBURN RD E - 4121 WILCOX RD	14.49	No	1065048	
432284	RATHBURN RD E - BEHIND 1755 RATHBURN RD E	47.42	Yes		
432285	RATHBURN RD E - BEHIND 1755 RATHBURN RD E	54.86	No	432284	
432286	RATHBURN RD E - BEHIND 1755 RATHBURN RD E	55.74	Yes		
432287	RATHBURN RD E - BEHIND 1755 RATHBURN RD E	24.79	No	432286	
1065019	RATHBURN RD E - BEHIND 1891 RATHBURN RD E	76.79	Yes		
1065020	RATHBURN RD E - BEHIND 1951 RATHBURN RD E	167.49	Yes		
1065026	RATHBURN RD E - BEHIND 2120 RATHBURN RD E	76.63	Yes		
1065043	RATHBURN RD E - BEHIND 495 MEADOWS BLVD	4.54	No	1065044	
1065048	RATHBURN RD E - BEHIND AMHERST CRT AND BESIDE 4122 WILCOX RD	104.87	Yes		
1065024	RATHBURN RD E - BEHIND GARROWHILL TR	154.23	Yes		
1065044	RATHBURN RD E - BEHIND KELVEDON MEWS	105.55	Yes		
1065021	RATHBURN RD E - BEHIND MARBLETHORNE CT	221.95	Yes		
1065045	RATHBURN RD E - BEHIND RAYFIELD COURT	94.52	Yes		
1065046	RATHBURN RD E - BEHIND TWINE CRESCENT	228.64	Yes		
1065017	RATHBURN RD E - BEHIND UNICORN CT	194.66	Yes		
1065042	RATHBURN RD E - BESIDE 370 RATHBURN ROAD E	49.4	Yes		
1065032	RATHBURN RD E - BESIDE 4101 WESTMINSTER PL	91.34	Yes		
1065047	RATHBURN RD E - BESIDE 4115 WILCOX RD	19.19	No	1065046	
1065025	RATHBURN RD E - BESIDE 4215 GARNETWOOD CHASE & 2120 RATHBURN RD E	108.27	Yes		
1065066	RATHBURN RD W - 1115 DEER RUN	19.44	No	1065063	
1065064	RATHBURN RD W - 4171 DEER RUN CT	25.19	No	1065063	
1065063	RATHBURN RD W - BEHIND 4136-4152 DEER RUN CRT	76.43	Yes		
1065069	RATHBURN RD W - BEHIND ASHBURNHAM PL	141.63	Yes		
1065071	RATHBURN RD W - BEHIND IRONWOOD CRT & TALL PINE CRT	210.73	Yes		
1065068	RATHBURN RD W - BEHIND MAGNOLIA CRT AND SANDOVER CRT	172.44	Yes		
1065072	RATHBURN RD W - BEHIND SAWGRASS CRES	181.81	Yes		
1065070	RATHBURN RD W - BEHIND SWEETBIRCH CRT	75.25	Yes		
1065067	RATHBURN RD W - BESIDE 4161 PERIVALE RD & BEHIND MAGNOLIA CRT	64.33	No	1065068	
431958	RATHBURN RD W - BESIDE 4167 WAKEFIELD CRES	19.94	Yes		
2020941	RATHBURN RD W - BESIDE 4168 WAKEFIELD CRES	23.22	Yes		
1065007	RATHBURN ROAD E - 4156 FIELDGATE DR	27.91	No	1065008	
1065008	RATHBURN ROAD E - 4156 FIELDGATE DR	77.83	Yes		
1065009	RATHBURN ROAD E - 4165 FIELDGATE DR	70.04	Yes		
1065010	RATHBURN ROAD E - 4165 FIELDGATE DR	58.13	No	1065009	
1065005	RATHBURN ROAD E - 4230 FIELDGATE DR	27.01	No	1065006	
1065006	RATHBURN ROAD E - 4230 FIELDGATE DR	69.32	Yes		

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
1065011	RATHBURN ROAD E - BEHIND 17654 RATHBURN ROAD E	67.21	Yes		
1065012	RATHBURN ROAD E - BEHIND 17654 RATHBURN ROAD E	28.57	No	1065011	
	<b>RIDGEWAY DR TOTAL LENGTH</b>	<b>2060.31</b>			
431401	RIDGEWAY DR - BEHIND 3373 - 3409 AUBREY RD TO BEHIND 3499 - 3535 CHERRINGTON CRES	268.84	Yes		
1065441	RIDGEWAY DR - BEHIND 3415 CHARTRAND CRES TO BEHIND 3455 CHARTRAND CRES	139.17	Yes		
1065456	RIDGEWAY DR - BEHIND 3448 INGRAM DR TO BEHIND 3492 INGRAM DR	174.65	Yes		
1065440	RIDGEWAY DR - BEHIND 3459 CHARTRAND CRES TO BEHIND 3495 CHARTRAND CRES	139.26	Yes		
1065439	RIDGEWAY DR - BEHIND 3473 BERTRAND RD TO BESIDE 3471 DRUMMOND RD	311.58	Yes		
431402	RIDGEWAY DR - BEHIND 3491 CHERRINGTON CRES TO BEHIND 3495 CHERRINGTON CRES AND TO BESIDE 3407 FENWICK CRES	64.01	Yes		
427298	RIDGEWAY DR - BEHIND 3496 INGRAM RD TO BEHIND 3528 INGRAM RD	100.37	Yes		
1065454	RIDGEWAY DR - BEHIND 3600 COLONIAL DR	53.43	Yes		
1065455	RIDGEWAY DR - BEHIND 3600 COLONIAL DR	7.94	No	1065456	
431396	RIDGEWAY DR - BESIDE 3366 MCMASTER RD AND BEHIND 2999 VALCOURT CRES TO BEHIND 3075 VALCOURT CRES	284.07	Yes		
431399	RIDGEWAY DR - BESIDE 3367 MCMASTER RD AND BEHIND 3401 TO 3457 BEAU RIVAGE CRES AND BESIDE 3448 DOVETAIL MEWS	291.22	Yes		
2009184	RIDGEWAY DR - BESIDE 3404 FENWICK CRES TO BESIDE 3430 FENWICK CRES	41.85	Yes		
431404	RIDGEWAY DR - BESIDE 3421 FENWICK CRES	16.83	No	431402	
1065438	RIDGEWAY DR - BESIDE 3470 DRUMMOND RD TO BEHIND 4012 RUSHTON CRES	138.8	Yes		
1066671	RIDGEWAY DR - BESIDE 3565 AND 3575 STONECUTTER CRES	14.21	Yes		
1066672	RIDGEWAY DR - BESIDE 3585 AND 3595 STONECUTTER CRES	14.08	No	1066671	
	<b>SOUTH SERVICE RD TOTAL LENGTH</b>	<b>369.74</b>			
1064664	SOUTH SERVICE RD - BEHIND 1632 HOLBURNE RD TO BEHIND 1633 HOLBURNE RD	112.16	Yes		
1064663	SOUTH SERVICE RD - BEHIND 1658 ASGARD DR TO BEHIND 1659 ASGARD DR	90.27	Yes		
1064647	SOUTH SERVICE RD - BESIDE 1404 LIVEOAK DR	27.64	Yes		
1064648	SOUTH SERVICE RD - BESIDE 1405 LIVEOAK DR	17.36	No	1064647	
1064665	SOUTH SERVICE RD - BESIDE 1626 APPLEWOOD RD	10.55	No	1064664	
1064710	SOUTH SERVICE RD - BESIDE 1634 EWALD RD	37.26	No	1064709	
1064649	SOUTH SERVICE RD - BESIDE 1635 PARK ROYALE BLVD	21.63	No	1064647	
1064709	SOUTH SERVICE RD - BESIDE 1648 CREDITON PKWY	52.87	Yes		

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>SOUTH SHERIDAN WAY TOTAL LENGTH</b>		<b>2537.52</b>			
1064724	SOUTH SHERIDAN WAY - BEHIND 1181 SAGINAW CRES TO BEHIND 1263 SAGINAW CRES	256.91	Yes		
1064723	SOUTH SHERIDAN WAY - BEHIND 1279 SAGINAW CRES TO BEHIND 1385 SAGINAW CRES	394.73	Yes		
1064722	SOUTH SHERIDAN WAY - BEHIND 1415 COTTONWOOD CT TO BEHIND 1439 COTTONWOOD CT	125.53	Yes		
1064582	SOUTH SHERIDAN WAY - BEHIND 1635 WEMBURY RD TO BEHIND 1743 WEMBURY RD	375.85	Yes		
2015902	SOUTH SHERIDAN WAY - BEHIND 1935 DAVEBROOK RD TO BEHIND 1937 DAVEBROOK RD AND BESIDE 1650 ROBILLARD RD	83.76	Yes		
1064726	SOUTH SHERIDAN WAY - BEHIND 855 CHIPPENHAM DR TO BEHIND 957 CHIPPENHAM DR	355.91	Yes		
1064725	SOUTH SHERIDAN WAY - BESIDE 1205 VANIER DR AND BEHIND 993 MESA CRES TO BEHIND 1103 MESA CRES AND BESIDE 1650 GALLANT DR	500.41	Yes		
1064721	SOUTH SHERIDAN WAY - BESIDE 1517 INDIAN RD TO BESIDE 1986 CALGARY CT	88.99	Yes		
1064583	SOUTH SHERIDAN WAY - BESIDE 1522 INDIAN RD	18.16	No	1063162	
1064579	SOUTH SHERIDAN WAY - BESIDE 1650 CHIPPENDALE RD	28.57	No	2015902	
1064578	SOUTH SHERIDAN WAY - BESIDE 1651 ROBILLARD RD	48.89	Yes		
1064580	SOUTH SHERIDAN WAY - BESIDE 1654 PIERRE PL	36.45	No	1064581	
1064581	SOUTH SHERIDAN WAY - BESIDE 1655 PIERRE PL AND TO BESIDE 1652 CLARKSON RD N	65.42	Yes		
1063162	SOUTH SHERIDAN WAY - BESIDE 1982 KIRAN CT	31.96	Yes		
1063163	SOUTH SHERIDAN WAY - BESIDE 1989 KIRAN CT	31.95	No	1063162	
1064728	SOUTH SHERIDAN WAY - BESIDE 810 TRIDOM CT	51.84	No	1064727	
1064727	SOUTH SHERIDAN WAY - BESIDE 822 TRIDOM CT	42.19	Yes		
<b>SOUTHDOWN RD TOTAL LENGTH</b>		<b>1222.7</b>			
1064562	SOUTHDOWN RD - BEHIND 1426 LADBROOK CT TO BESIDE 2125 WISEMAN CT	417.91	Yes		
1064561	SOUTHDOWN RD - BEHIND 2020 - 2030 BARSUDA DR AND TO BEHIND 2054 - 2056 BARSUDA DR	322.33	Yes		
1064576	SOUTHDOWN RD - BEHIND 2047 DAVEBROOK RD TO BEHIND 2079 DAVEBROOK RD	125.11	Yes		
1064571	SOUTHDOWN RD - BEHIND 2085 DAVEBROOK RD TO BEHIND 2179 DAVEBROOK RD	314.73	Yes		
1065463	SOUTHDOWN RD - BESIDE 2038 LUSHES AVE	10.09	Yes		
1064563	SOUTHDOWN RD - BESIDE 2106 WISEMAN CT	32.53	No	1064562	



NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>TENTH LINE TOTAL LENGTH</b>		<b>2519.86</b>			
1063819	TENTH LINE - BESIDE 3253 FORRESTDALE CIR	27.39	Yes		
1063821	TENTH LINE - FROM BESIDE 3200 CORALBEAN PL TO BLOOMFIELD DR	30.77	No	1063820	
1063822	TENTH LINE - FROM BESIDE 6950 TENTH LINE TO BESIDE 3197 CORALBEAN PL	23.08	No	1063820	
1063820	TENTH LINE - FROM BLOOMFIELD DR TO FORRESTDALE CIR	19.44	Yes		
1065422	TENTH LINE W - BEHIND 3176 MCCARRON CRES TO BESIDE 3200 CHAMBERLAIN CT	171.63	Yes		
1065425	TENTH LINE W - BEHIND 3180 SUNDOWN CIR TO BEHIND 6626 MILLER'S GROVE	275.26	Yes		
1065426	TENTH LINE W - BEHIND 3182 HARRIS CRES TO BEHIND 3208 HARRIS CRES	126.96	Yes		
427212	TENTH LINE W - BEHIND 3188 ANDERSON CRES TO BEHIND 3228 ANDERSON CRES AND BESIDE 3200 KEYNES CT	197.11	Yes		
1065419	TENTH LINE W - BEHIND 3206 CAMBOURNE CRES TO BESIDE 3198 AVALON DR	242.79	Yes		
1065420	TENTH LINE W - BEHIND 7120 HARDING CRES TO BEHIND 7212 HARDING CRES	274.06	Yes		
1065424	TENTH LINE W - BESIDE 3197 SWITZER GATE TO BEHIND 3224 COLEBROOK CT	362.13	Yes		
1065423	TENTH LINE W - BESIDE 3199 CHAMBERLAIN CT TO BESIDE 3196 SWITZER GATE	37.14	No	1065422	
427213	TENTH LINE W - BESIDE 3199 KEYNES CT AND BEHIND 6132 FARMSTEAD LN TO BEHIND 6182 FARMSTEAD LN	198.36	Yes		
1065427	TENTH LINE W - BESIDE 3245 VANDERBILT RD TO BEHIND 6992 CORDINGLEY CRES	222.22	Yes		
1065436	TENTH LINE W - BESIDE 3350 - 5715 THOMAS ST	26.25	Yes		
430439	TENTH LINE W - BESIDE 6108 MILLER'S GROVE AND BEHIND 6196 KINDREE CIR TO BEHIND 6250 KINDREE CIR	238.71	Yes		
1063812	TENTH LINE WEST - BEHIND 6994 CORDINGLEY CRES	46.56	No	1065427	
<b>TERRY FOX WAY TOTAL LENGTH</b>		<b>31.55</b>			
706346	TERRY FOX WAY - BEHIND 1002 WINDBROOK GROVE TO BEHIND 1010 WINDBROOK GROVE	31.55	Yes		
<b>THE COLLEGEWAY TOTAL LENGTH</b>		<b>1514.38</b>			
1065001	THE COLLEGEWAY - 2285 THE COLLEGEWAY	36.26	Yes		
1064995	THE COLLEGEWAY - 2288 THE COLLEGEWAY	7.14	No	1064993	
1064996	THE COLLEGEWAY - 2288 THE COLLEGEWAY	35.08	No	1064993	
1064997	THE COLLEGEWAY - 2288 THE COLLEGEWAY	48.69	Yes		
1064998	THE COLLEGEWAY - 2288 THE COLLEGEWAY	6.74	No	1064997	
1064999	THE COLLEGEWAY - 2288 THE COLLEGEWAY	5.42	No	1064997	
1065000	THE COLLEGEWAY - 2288 THE COLLEGEWAY	7.32	No	1064997	
1064962	THE COLLEGEWAY - BEHIND 2079 THE COLLEGEWAY	71.14	Yes		
1065458	THE COLLEGEWAY - BEHIND 3022 PETTIGREW CRES TO BEHIND 3058 PETTIGREW CRES	163.97	Yes		
1064988	THE COLLEGEWAY - BEHIND PEACHTRE CT & SPRUCE NEEDLE DR	468.44	Yes		
1064989	THE COLLEGEWAY - BEHIND WINDJAMMER RD	458.69	Yes		
1064991	THE COLLEGEWAY - BESIDE 2468 WINDJAMMER RD	37.27	No	1064989	
1064990	THE COLLEGEWAY - BESIDE 2479 SPRUCE NEEDLE DR	21.1	No	1064988	
1064987	THE COLLEGEWAY - BESIDE 2834 COUNCIL RING RD	22.29	No	1064989	
1064986	THE COLLEGEWAY - BESIDE 2874 COUNCIL RING RD	34.05	No	1064988	
1065457	THE COLLEGEWAY - BESIDE 3537 COLONIAL DR	24.97	Yes		
1064993	THE COLLEGEWAY - BESIDE HORNBEAM CRES	58.74	Yes		
1064994	THE COLLEGEWAY - BESIDE HORNBEAM CRES	7.07	No	1064993	

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>THOMAS ST TOTAL LENGTH</b>		<b>1139.4</b>			
1065231	THOMAS ST - 5594 Highbank Rd	17.49	No	427261	
1066084	THOMAS ST - BEHIND 2665 - 2665 THOMAS ST AND BEHIND 5614 BELL HARBOUR DR	8.8	No	1065256	
2001435	THOMAS ST - BESIDE 39 GAFNEY DR	13.2	No	1065235	
1065257	THOMAS ST - BESIDE 5598 KIMMERIDGE GATE AND 2857-2955 WESTBURY COURT	105.49	Yes		
429710	THOMAS ST - BESIDE 5599 MIDDLEBURY DR	18.82	No	429707	
429707	THOMAS ST - BESIDE 5600 MIDDLEBURY DR	11.82	Yes		
1066081	THOMAS ST - BESIDE 5662 WATERSFIELD AVE	8.59	Yes		
1065255	THOMAS ST - BESIDE 5677 GREENSBORO DR	17.37	No	1065254	
1065254	THOMAS ST - BESIDE 5678 GREENSBORO DR	20.3	Yes		
706054	THOMAS ST - BESIDE 5683 FANTASIA MANOR	0	No		noise wall available in use
1065232	THOMAS ST - BESIDE 59 THOMAS ST	11.48	Yes		
427264	THOMAS ST - FROM BEHIND 2279 BANKSIDE DR TO NORTHRISE RD	97.51	Yes		
427267	THOMAS ST - FROM BEHIND 2374 YORKTOWN CIR TO BEHIND 2346 YORKTOWN CIR	121.65	Yes		
427261	THOMAS ST - FROM Highbank Rd TO NORTHRISE RD	132.6	Yes		
1065234	THOMAS ST BEHIND 5312-5342 TURNEY DR	120.1	Yes		
1065233	THOMAS ST BEHIND 5360-5434 TURNEY DR	300.36	Yes		
1065235	THOMAS ST BEHIND 6-8 MERRYDREW AND 33 GAFNEY DR	42.6	Yes		
1065259	THOMAS ST BESIDE 2768 WESTBURY CT	19.23	No	1065258	
1065260	THOMAS ST BESIDE 5530 GLEN ERIN DR	17.9	No	1065258	
1065261	THOMAS ST BESIDE 5530 GLEN ERIN DR	6.14	No	1065258	
1065262	THOMAS ST BESIDE 5530 GLEN ERIN DR	6.68	No	1065258	
1065263	THOMAS ST BESIDE 5535 GLEN ERIN DR	7.08	No	429707	
1065258	THOMAS ST BESIDE 5589 KIMMERIDGE GATE & 2767 WESTBURY CRT	17.09	Yes		
1065256	THOMAS ST- BESIDE 5625 GLEN ERIN DR	17.1	Yes		
<b>TOMKEN RD TOTAL LENGTH</b>		<b>2608.92</b>			
1064864	TOMKEN RD - 980 RUNNINGBROOK DR	39.66	Yes		
1064862	TOMKEN RD - BEHIND PARTHIA CRES	311.03	Yes		
1064860	TOMKEN RD - BEHIND SIERRA BLVD	273.36	Yes		
1064863	TOMKEN RD - BEHIND STREAMWAY CRES & BURNINGOAK CRES	381.62	Yes		
1064865	TOMKEN RD - BEHIND TWINMAPLE DR	214.87	Yes		
1064861	TOMKEN RD - BEHIND VERA CRUZ DR	219.96	Yes		
1064859	TOMKEN RD - BESIDE 3055 CONSTITUTION BLVD	66	Yes		
1064869	TOMKEN ROAD - BEHIND HOMARK DR	102.52	Yes		
1064867	TOMKEN ROAD - BEHIND MCARTHY COURT	267.44	Yes		
1064870	TOMKEN ROAD - BEHIND PINESMOKE CRESCENT	216.72	Yes		
1064871	TOMKEN ROAD - BEHIND SWIRLINGLEAVES CRES	321.62	Yes		
1064868	TOMKEN ROAD - BESIDE 960 FLAGSHIP DR	37.93	Yes		
1064866	TOMKEN ROAD - BESIDE GRETA GATE	130.43	Yes		
1065029	BURNHAMTHORPE RD E	25.76	Yes		noise wall not along Burnhamthorpe Rd, but along Tomken Rd

NW ID	Location	Length (m)	Assessed	If not assessed, refer to NW with similar condition	Remark
<b>TRUSCOTT DR TOTAL LENGTH</b>		<b>452.83</b>			
1064763	TRUSCOTT DR - BESIDE 1380 LEWISHAM DR	18.89	Yes		
1064761	TRUSCOTT DR - BESIDE 1396 SANDGATE CRES	14.01	Yes		
1064757	TRUSCOTT DR - BESIDE 1423 THETFORD CT	30.52	Yes		
1064619	TRUSCOTT DR - BESIDE 1425 ELITE RD	39.02	Yes		
1064759	TRUSCOTT DR - BESIDE 1428 BUCKBY RD	17.93	Yes		
1064618	TRUSCOTT DR - BESIDE 1445 ELITE RD	42.85	Yes		
1064617	TRUSCOTT DR - BESIDE 1446 ELITE RD	30.02	No	1064618	
1064606	TRUSCOTT DR - BESIDE 1446 HELM CT	26	No	1064607	
1064608	TRUSCOTT DR - BESIDE 1447 FAIRMILE CT	39.59	No	1064607	
1064607	TRUSCOTT DR - BESIDE 1447 HELM CT AND BESIDE 1448 FAIRMILE CT	52.8	Yes		
1064616	TRUSCOTT DR - BESIDE 1466 ROBILLARD RD	16.91	Yes		
1064621	TRUSCOTT DR - BESIDE 1469 CHASEHURST RD	17.97	No	1064618	
1064762	TRUSCOTT DR - BESIDE 2504 TRUSCOTT DR	11.48	No	1064759	
1064760	TRUSCOTT DR - BESIDE 2620 BUCKBY RD	18.67	No	1064759	
1064764	TRUSCOTT DR - FRONT OF 2271 TRUSCOTT DR	7.48	No	1064765	
1064765	TRUSCOTT DR - FRONT OF 2271 TRUSCOTT DR	24.84	Yes		
1064604	CLARKSON RD N - BESIDE 1451 CLARKSON RD N	17.16	Yes		noise wall not along Clarkson Rd, but along Truscott Dr
1064605	CLARKSON RD N - BESIDE 1480 CLARKSON RD N	26.69	No	1064616	noise wall not along Clarkson Rd, but along Truscott Dr
<b>WINSTON CHURCHILL BLVD TOTAL LENGTH</b>		<b>1391.69</b>			
1064758	WINSTON CHURCHILL BLVD - BEHIND 2685 BENEDET DR TO BEHIND 2717 BENEDET DR	181.12	Yes		
1064978	WINSTON CHURCHILL BLVD - BEHIND 2722 COUNCIL RING RD TO BEHIND 3326 DELFI RD	90.44	No	1053135	
1065102	WINSTON CHURCHILL BLVD - BEHIND 2985 DANCER CT TO BEHIND 2992 DANCER CT AND BEHIND 4168 MARIGOLD CRES TO BEHIND 4171 MARIGOLD	167.84	Yes		
1064977	WINSTON CHURCHILL BLVD - BEHIND 3018 WINDJAMMER RD TO BEHIND 3032 WINDJAMMER RD	128.01	Yes		
1065104	WINSTON CHURCHILL BLVD - BEHIND 3081 FOLKWAY DR TO BEHIND 3011 FOLKWAY DR	306.57	Yes		
1064979	WINSTON CHURCHILL BLVD - BEHIND 3342 DELFI RD TO BEHIND 3374 DELFI RD	116.48	Yes		
1065103	WINSTON CHURCHILL BLVD - BEHIND 4157 MARIGOLD CRES TO BEHIND 4161 MARIGOLD CRES	33.62	No	1065104	
1065437	WINSTON CHURCHILL BLVD - BESIDE (3035-4849) ARTESIAN DR	15.79	Yes		
1065410	WINSTON CHURCHILL BLVD - BESIDE 2989 TRADEWIND DR	12.75	No	1065411	
429602	WINSTON CHURCHILL BLVD - BESIDE 3010 BAYBERRY DR	4.57	No	429604	
1065421	WINSTON CHURCHILL BLVD - BESIDE 3012 COLLISTA CT	15.17	Yes		
429604	WINSTON CHURCHILL BLVD - BESIDE 3276 PEBBLEWOOD RD	7.39	Yes		
1064980	WINSTON CHURCHILL BLVD - BESIDE 3363 CAJUN CRES	15.07	No	431454	
1065411	WINSTON CHURCHILL BLVD - BESIDE 7223 WINDBREAK CT	29.77	Yes		
431454	WINSTON CHURCHILL BLVD - FROM BESIDE 3287 CAJUN CRES TO BESIDE 3006 ORLEANS RD	27.06	Yes		
1053135	WINSTON CHURCHILL BLVD - FROM FRANKSTONE RD TO BEHIND 2720 COUNCIL RING RD	195.45	Yes		
1065236	WINSTON CHURCHILL BLVD BESIDE 2930 ERIN CENTRE BLVD	44.59	Yes		
<b>Total NW Length</b>		<b>43342.0</b>			



## **Appendix B**

### **Representative Noise Receivers**

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>AQUITAINE AVE</b>												
429637	Yes	AQU01	2599 Barrisdale Ct	Reverse Frontage	50	-90 to 90	14	24	32	7900	510	90
1065431	Yes	AQU02	3188 Bracknell Crescent	Reverse Frontage	50	-90 to 90	11	21	29	3150	210	40
429638	No											
429634	Yes	AQU03	6742 Barrisdale Dr	Reverse Frontage	50	-90 to 90	18	27	34	7900	510	90
		AQU04	6778 Barrisdale Dr	Reverse Frontage	50	-90 to 90	18	27	35	7900	510	90
429636	Yes	AQU05	6808 Barrisdale Dr	Reverse Frontage	50	-90 to 90	20	31	40	7900	510	90
1065306	No											
1065358	Yes	AQU06	16 Aquitaine Ave	Side Lot	50	-90 to 90	3	34	22	6600	430	80
1065359	No											
1065360	Yes	AQU07	6749 Segovia Rd	Reverse Frontage	50	-90 to 90	16	33	25	7900	510	90
		AQU08	6785 Segovia Rd	Reverse Frontage	50	-90 to 90	18	34	26	7900	510	90
		AQU09	6809 Segovia Rd	Reverse Frontage	50	-90 to 90	14	31	23	7900	510	90
1065361	Yes	AQU10	2487 Trondheim Crescent	Reverse Frontage	50	-90 to 90	12	30	22	7900	510	90
		AQU11	2519 Trondheim Crescent	Reverse Frontage	50	-90 to 90	10	34	22	7900	510	90
1065362	No											
<b>ARGENTIA RD</b>												
1065288	No											
1065289	Yes	ARG01	6540 Falconer Dr (south of side Argentia Rd, appr. 95m east of railway)	Reverse Frontage	60	-90 to 90	7	22	29	7850	510	90
1065290	No											
1065291	Yes	ARG02	6650 Falconer Dr (south side of Argentia Rd, appr. 15m east of Campobello Rd)	Reverse Frontage	60	-90 to 90	3	17	24	7850	510	90
1065292	No											
1065293	Yes	ARG03	6650 Falconer Dr (south side of Argentia Rd, appr. 210m west of Creditview Rd)	Reverse Frontage	60	-90 to 90	3	15	22	7850	510	90
1065294	No											
1065295	Yes	ARG04	6650 Falconer Dr (south side of Argentia Rd, appr. 100m west of Creditview Rd)	Reverse Frontage	60	-90 to 90	4	16	24	7850	510	90
1065296	No											
1065297	No											
<b>ATWATER AVE</b>												
1064698	Yes	ATW01	1047 Atwater Ave	Side Lot	40	-90 to 90	5	18	12	5950	390	70
1064692	No											
1064691	Yes	ATW02	1247 Upper Village Dr	Side Lot	40	-90 to 90	4	19	23	5950	390	70
1064701	No											
1064695	No											
1064711	Yes	ATW03	1241 Mineola Gardens	Side Lot	40	-90 to 90	9	15	19	3350	220	40
1064700	No											
1064693	Yes	ATW04	1242 Alexandra Ave	Side Lot	40	-90 to 90	4	13	17	5950	390	70
1064699	Yes	ATW05	1243 Ogden Ave	Side Lot	40	-90 to 90	4	11	15	5950	390	70
1064703	No											
1064713	Yes	ATW06	1251 Canterbury Rd	Side Lot	40	-90 to 90	6	19	15	3350	220	40
1064696	Yes	ATW07	1255 Alexandra Ave	Side Lot	40	-90 to 90	6	13	17	5950	390	70
1064694	No											
1064702	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>BATTLEFORD RD</b>												
1065430	Yes	BAT01	3099 Spring Creek Crescent	Reverse Frontage	50	-90 to 90	13	33	25	7750	500	90
429626	No											
429625	No											
429624	Yes	BAT02	3123 Arnett Ct	Reverse Frontage	50	-90 to 90	20	30	37	7750	500	90
1065428	Yes	BAT03	3231 Colebrook Ct	Reverse Frontage	50	-90 to 90	9	19	30	7750	500	90
429628	Yes	BAT04	6510 Meltzer Mews	Reverse Frontage	50	-90 to 90	14	25	33	7750	500	90
429629	No											
429630	No											
429633	Yes	BAT05	6643 Edenwood Dr	Reverse Frontage	50	-90 to 90	15	23	34	7750	500	90
1065353	Yes	BAT06	2700 Battleford Rd	Side Lot	50	-90 to 90	4	22	30	7000	460	80
429623	No											
1065429	Yes	BAT07	3172 Sundown Cir	Reverse Frontage	50	-90 to 90	14	34	24	7750	500	90
429632	No											
1065354	No											
1065355	Yes	BAT08	2645-2657 Battleford Rd	Reverse Frontage	50	-90 to 90	1	17	26	7000	460	80
1065356	No											
1065357	Yes	BAT09	13 Moonstream Ct	Reverse Frontage	50	-90 to 90	8	15	25	7000	460	80
<b>BLOOR STREET</b>												
1064875	No											
1064873	No											
1064890	Yes	BLO01	400 Bloor St (south side of Bloor St, appr. 85m east of Central Pkwy)	Reverse Frontage	50	-90 to 90	3	19	32	9500	620	110
1064891	No											
1064892	No											
1064893	Yes	BLO02	400 Bloor St (south side of Bloor St, appr. 110m east of Hyacinthe Blvd)	Reverse Frontage	50	-90 to 90	4	17	25	9500	620	110
1064894	No											
1064889	Yes	BLO03	405 Hyacinthe Blvd (north side of Bloor St, appr. 75m east of Central Pkwy)	Reverse Frontage	50	-90 to 90	3	32	19	9500	620	110
1064900	Yes	BLO04	725 Vermouth Ave (north side of Bloor St, appr. 155m west of Cawthra Rd)	Reverse Frontage	50	-90 to 90	5	24	16	9500	620	110
1064901	No											
1064896	Yes	BLO05	285 Michelle Row	Side Lot	50	-90 to 90	13	23	31	9500	620	110
		BLO06	3385 Charmaine Heights	Reverse Frontage	50	-90 to 90	11	22	29	9500	620	110
		BLO07	791 Mississauga Valley Blvd	Side Lot	50	-90 to 90	10	19	31	9500	620	110
1064897	Yes	BLO08	26 Silverado Dr (south side of Bloor St, appr. 195m west of Cawthra Rd)	Side Lot	50	-90 to 90	11	20	28	9500	620	110
1064895	No											
1064874	Yes	BLO09	3372 Queen Frederica Dr	Side Lot	50	-90 to 90	10	18	28	8600	560	100
1064872	Yes	BLO10	3450 Anneliese Ave	Side Lot	50	-90 to 90	6	17	25	9450	610	110
1064899	Yes	BLO11	806 Mississauga Valley Blvd	Side Lot	50	-90 to 90	13	34	22	9500	620	110
1064898	Yes	BLO12	368 Hyacinthe Blvd	Side Lot	50	-90 to 90	7	25	16	9500	620	110
		BLO13	3411 Galena Crescent	Reverse Frontage	50	-90 to 90	17	34	26	9500	620	110
		BLO14	3437 Galena Crescent	Reverse Frontage	50	-90 to 90	28	45	37	9500	620	110
		BLO15	3355 Nadine Crescent	Reverse Frontage	50	-90 to 90	20	37	29	9500	620	110
		BLO16	809 Mississauga Valley Blvd	Side Lot	50	-90 to 90	12	32	21	9500	620	110

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>BRISTOL RD</b>												
1065146	Yes	BRI01	170 Bristol Rd E	Reverse Frontage	50	-90 to 90	4	22	14	3650	240	40
1065148	No											
1065147	No											
1065144	No											
1065143	No											
1065145	No											
1065149	Yes	BRI02	272 Anthony Ave	Side Lot	50	-90 to 90	7	24	17	7300	480	80
1065150	No											
1065151	No											
1065152	No											
1065154	No											
1065153	No											
427293	Yes	BRI03	5320 Forestwalk Cir	Side Lot	50	-90 to 90	6	18	26	7300	480	80
427294	No											
1065162	No											
1065161	Yes	BRI04	470 Faith Dr (north side of Bristol Rd, appr. 95m east of McLaughlin Rd)	Side Lot	50	-90 to 90	4	28	20	5650	370	70
1065196	No											
1065195	Yes	BRI05	5515 Durie Rd	Side Lot	50	-90 to 90	7	17	23	6150	400	70
1065193	No											
1065194	No											
429718	No											
1065197	Yes	BRI06	1519 Manorbrook Ct	Reverse Frontage	50	-90 to 90	14	24	35	6150	400	70
1063568	Yes	BRI07	5391 Huntingfield Dr	Side Lot	50	-90 to 90	9	20	27	4300	280	50
1067704	No											
1065192	Yes	BRI08	5493 Shorecrest Crescent	Reverse Frontage	50	-90 to 90	17	34	28	6150	400	70
<b>BURNHAMTHORPE RD</b>												
2003184	No											
1065002	Yes	BUR01	4019 Lookout Ct	Reverse Frontage	60	-90 to 90	5	53	37	22550	1460	250
2001644	Yes	BUR02	1186 Tynegrove Rd	Reverse Frontage	60	-90 to 41 (w existing NW 2 m) 41 to 90	13	50	39	11600	750	130
2003189	No											
1064958	Yes	BUR03	3510 South Millway (south side of Burnhamthorpe Rd, appr. 135m east of Erin Mills Pkwy)	Reverse Frontage	60	-90 to 90	5	19	34	15200	990	170
		BUR04	3510 South Millway (south side of Burnhamthorpe Rd, appr. 60m west of South Millway)	Side Lot	60	-90 to 90	9	21	39	15200	990	170
1066963	Yes	BUR05	1695 Caverly Ct	Reverse Frontage	60	-90 to 0 0 to 90 (w existing NW 2.4 m)	8	19	37	18050	1170	200
1064959	Yes	BUR06	3505 Sanderling Crescent	Side Lot	60	-90 to 90	4	14	32	15200	990	170
1064960	No											
431378	Yes	BUR07	3528 Ingram Rd	Side Lot	60	-90 to 90	5	29	41	8800	570	100
431379	No											
431820	Yes	BUR08	3537 Sanderling Crescent	Side Lot	60	-90 to 90	6	15	33	15200	990	170
2001415	Yes	BUR09	3798 Promontory Crescent	Side Lot	60	-90 to -35 -35 to 90 (w existing NW 2.5 m)	9	18	37	18050	1170	200
1065084	No											
1066964	Yes	BUR10	3961 Glamis Ct	Side Lot	60	-90 to -30 -30 to 90 (w existing NW 2.4 m)	6	15	34	18050	1170	200
1064961	Yes	BUR11	1875 Snow Bunting Ct	Reverse Frontage	60	-90 to 90	17	26	44	15200	990	170
		BUR12	1837 Snow Bunting Ct	Reverse Frontage	60	-90 to 90	14	24	43	15200	990	170
		BUR13	3555 Kingbird Ct	Reverse Frontage	60	-90 to 90	14	28	47	15200	990	170

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>CENTRAL PARKWAY</b>												
1064885	Yes	CEN01	405 Hyacinthe Blvd (east side of Central Pkwy, appr. 95m north of Bloor St)	Reverse Frontage	50	-90 to 90	4	24	37	8650	560	100
1064949	No											
1064948	Yes	CEN02	25 Achill Cres	Side Lot	50	-90 to 90	6	22	14	11850	770	130
1064887	Yes	CEN03	1180 Mississauga Valley Blvd (east side of Central Pkwy, appr. 45m north of Mississauga Valley Blvd)	Reverse Frontage	50	-90 to 90	10	24	37	8650	560	100
		CEN04	1180 Mississauga Valley Blvd (east side of Central Pkwy, appr. 75m south of Burnhamthorpe Rd)	Reverse Frontage	50	-90 to 90	12	25	39	8650	560	100
1064888	No											
1065038	Yes	CEN05	333 Meadows Blvd (east side of Central Pkwy, appr. 55m north of Meadows Blvd)	Reverse Frontage	50	-90 to 90	6	18	34	10400	680	120
1065039	Yes	CEN06	333 Meadows Blvd (east side of Central Pkwy, appr. 50m south of Youngstown Ave)	Reverse Frontage	50	-90 to 90	6	17	36	10400	680	120
1065058	Yes	CEN07	417 Camden Cir	Reverse Frontage	50	-90 to 90	11	27	35	16750	1090	190
		CEN08	422 Petawawa Crescent	Reverse Frontage	50	-90 to 90	5	21	29	16750	1090	190
1065054	Yes	CEN09	4527 Gatineau Ave	Reverse Frontage	50	-90 to 90	9	32	24	16750	1090	190
1065057	Yes	CEN10	4480 Gullfoot Cir	Reverse Frontage	50	-90 to 90	11	27	35	16750	1090	190
		CEN11	4516 Gullfoot Cir	Reverse Frontage	50	-90 to 90	11	28	36	16750	1090	190
		CEN12	4552 Gullfoot Cir	Reverse Frontage	50	-90 to 90	9	25	33	16750	1090	190
1065056	Yes	CEN13	4860 Owl Cir	Reverse Frontage	50	-90 to 90	15	39	31	16750	1090	190
		CEN14	4820 Owl Cir	Reverse Frontage	50	-90 to 90	12	38	30	16750	1090	190
		CEN15	4784 Owl Cir	Reverse Frontage	50	-90 to 90	12	37	25	16750	1090	190
1065053	No											
1065055	Yes	CEN16	4553 Tribal Ct	Reverse Frontage	50	-90 to 90	11	36	27	16750	1090	190
1065051	Yes	CEN17	320 Laurentian Ave	Side Lot	50	-90 to 90	4	28	17	12150	790	140
1065052	Yes	CEN18	334 Laurentian Ave	Side Lot	50	-90 to 90	5	20	31	12150	790	140
1065040	Yes	CEN19	370 Rathburn Rd (east side of Central Pkwy, appr. 70m south of Rathburn Rd)	Side Lot	50	-90 to 90	7	18	37	10400	680	120
1065041	No											
432031	Yes	CEN20	3465 Africa Crescent	Side Lot	50	-90 to 90	8	28	18	10100	660	110
432033	No											
432027	No											
432034	No											
433336	No											
432025	No											
432023	Yes	CEN21	530 Shipka Ct	Side Lot	50	-90 to 90	6	27	17	10100	660	110
432038	Yes	CEN22	566 Loretta Ct	Side Lot	50	-90 to 90	4	15	26	10100	660	110
432041	No											
1064953	Yes	CEN23	3470 Omeath Ct	Side Lot	50	-90 to 90	7	23	15	11850	770	130
1064951	No											
1064952	No											
1064950	Yes	CEN24	3470 Palgrave Rd	Side Lot	50	-90 to 90	7	30	18	11850	770	130
1064945	Yes	CEN25	3463 Testimony Square	Side Lot	50	-90 to 90	6	15	27	11850	770	130
1064946	No											
1065472	Yes	CEN26	23 Central Pkwy E (east side of Central Pkwy, appr. 85m south of Cliff Rd)	Reverse Frontage	50	-90 to 90	2	21	43	8750	570	100
<b>CLARKSON RD</b>												
1064614	Yes	CLA01	1755 Wembury Rd	Reverse Frontage	50	-90 to 90	9	20	24	6200	400	70
1064611	Yes	CLA02	1566 Clarkson Rd	Side Lot	50	-90 to 90	10	23	19	6200	400	70
1064612	No											
1064600	Yes	CLA03	1741 Hindhead Rd	Side Lot	40	-90 to 90	13	26	22	4950	320	60
1064602	No											
1064597	No											
1064596	Yes	CLA04	1746 Pengilly Pl	Side Lot	50	-90 to 90	4	16	20	4950	320	60
1064609	Yes	CLA05	1747 Truscott Dr	Side Lot	50	-90 to 90	7	23	30	6200	400	70
1064601	Yes	CLA06	1755 Birchwood Dr	Side Lot	40	-90 to 90	8	19	23	4950	320	60
1064610	No											
1064613	No											
1064598	Yes	CLA07	1170 Fellen Pl	Side Lot	50	-90 to 90	11	29	25	4950	320	60
1064599	No											
1064603	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts



NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>CONFEDERATION PKWY</b>												
1064925	Yes	CON01	3496 Testimony Sq	Side Lot	50	-90 to 90	5	31	43	13950	900	150
1064804	Yes	CON02	123 Dunbar Rd	Side Lot	50	-90 to 90	8	20	13	7750	500	90
1064801	Yes	CON03	110 Floradale Dr	Side Lot	50	-90 to 90	5	12	19	7750	500	90
1064805	No											
1064803	No											
1064806	No											
<b>COURTNEYPARK DR</b>												
1063642	Yes	COU01	6379 - 6399 Spinnaker Cir (north side of Courtneypark Dr, appr. 135m east of Mavis Rd)	Side Lot	50	-90 to 90	19	42	29	9450	610	110
1063643	No											
1063644	Yes	COU02	6379 - 6399 Spinnaker Cir (north side of Courtneypark Dr, appr. 215m east of Mavis Rd)	Side Lot	50	-90 to 90	22	45	33	9450	610	110
<b>CREDITVIEW RD</b>												
1065275	Yes	CRE01	61 Kenninghall Crescent	Side Lot	60	-90 to 90	9	26	38	12250	800	140
1065188	No											
1065285	No											
1065286	Yes	CRE02	6433 Charing Dr (west side of Creditview Rd, appr. 30m south of Falconer Dr)	Reverse Frontage	60	-90 to 90	3	27	16	12250	800	140
1065284	Yes	CRE03	8 Helsinki Mews	Reverse Frontage	60	-90 to 90	15	36	24	12250	800	140
		CRE04	6470 Dunray Ct	Reverse Frontage	60	-90 to 90	14	34	26	12250	800	140
1065283	Yes	CRE05	1518 Oran Ct	Reverse Frontage	60	-90 to 90	14	34	26	12250	800	140
1065276	Yes	CRE06	10 Steen Dr	Reverse Frontage	60	-90 to 90	17	34	42	12250	800	140
1065168	Yes	CRE07	1400 Bristol Rd	Side Lot	60	-90 to 90	3	22	34	13550	880	150
1065169	No											
1065173	Yes	CRE08	1474 Pickwick Dr	Side Lot	60	-90 to 90	3	42	54	13000	840	140
1065281	No											
1065282	No											
1065483	Yes	CRE09	1433 Daniel Creek Rd	Reverse Frontage	60	-90 to 90	21	54	64	13550	880	150
<b>DUNDAS ST</b>												
1064833	Yes	DUN01	3012 Redstart Dr	Side Lot	60	-90 to 90	12	40	27	18750	1210	210
2009757	No											
1064835	Yes	DUN02	3019 Sir Johns Homestead	Side Lot	60	-90 to 90	10	36	24	18750	1210	210
<b>EGLINGTON AVE</b>												
1063590	No			Frontage								
1065164	No											
2001394	Yes	EGL01	11 Summersky Ct	Side Lot	60	-90 to 90	11	45	30	16700	1080	180
1063474	Yes	EGL02	5016 E Mill Rd	Side Lot	60	-90 to 90	19	49	34	16750	1090	190
1063364	Yes	EGL03	666 Constellation Dr (north side of Eglinton Ave, appr. 145m east of Mavis Rd)	Side Lot	60	-90 to 90	12	44	26	16650	1080	180
2001393	No											
706222	No											
1065163	Yes	EGL04	Beside 795 Eglinton Ave (north side of Eglinton Ave, appr. 50m west of Mavis Rd)	Side Lot	60	-90 to 90	3	42	23	16800	1090	190
<b>ERIN CENTRE BLVD</b>												
1065265	Yes	ERC01	5205 Glen Erin Dr (north side of Erin Centre Blvd, appr. 105m east of Glen Erin Dr)	Side Lot	50	-90 to 90	5	31	21	6300	410	70
1065226	No											
1065224	Yes	ERC02	5218 Forest Hill Dr	Side Lot	40	-90 to 90	7	19	23	3500	230	40
1065225	No											
1065223	Yes	ERC03	5242 Forest Hill Dr	Side Lot	40	-90 to 90	10	29	25	3500	230	40
1065230	No											
1065229	No											
1065220	Yes	ERC04	4849 Forest Hill Dr	Side Lot	40	-90 to 90	11	21	25	3500	230	40
1065222	Yes	ERC05	5174 Forest Ridge Dr	Side Lot	40	-90 to 90	15	33	29	3500	230	40
1065227	No											
1065228	No											
1065221	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>ERINDALE STATION RD</b>												
1064954	Yes	ERD01	3181 Jessica Ct	Reverse Frontage	60	-90 to 90	15	24	32	8250	540	90
1064956	Yes	ERD02	3722 Ellengale Dr	Reverse Frontage	60	-90 to 90	15	33	25	8250	540	90
		ERD03	3684 Ellengale Dr	Reverse Frontage	60	-90 to 90	16	33	25	8250	540	90
		ERD04	3654 Ellengale Dr	Reverse Frontage	60	-90 to 90	16	34	26	8250	540	90
		ERD05	3620 Ellengale Dr	Reverse Frontage	60	-90 to 90	18	40	32	8250	540	90
1064955	Yes	ERD06	3157 Ibbetson Crescent	Reverse Frontage	60	-90 to 90	20	38	30	8250	540	90
		ERD07	3199 Ibbetson Crescent	Reverse Frontage	60	-90 to 90	14	32	24	8250	540	90
		ERD08	3239 Ibbetson Crescent	Reverse Frontage	60	-90 to 90	19	36	28	8250	540	90
		ERD09	1096 McBride Ave	Side Lot	60	-90 to 90	22	41	29	8250	540	90
1064957	Yes	ERD10	3493 Oakglade Crescent	Reverse Frontage	60	-90 to 90	16	24	32	8250	540	90
		ERD11	3455 Oakglade Crescent	Reverse Frontage	60	-90 to 90	16	25	33	8250	540	90
		ERD12	3419 Oakglade Crescent	Reverse Frontage	60	-90 to 90	16	27	35	8250	540	90
<b>GLEN ERIN DRIVE</b>												
1065334	No											
1065318	Yes	GLE01	5536 Montevideo Rd (west side of Glen Erin Dr, appr. 170m north of Montevideo Rd)	Side Lot	50	-90 to 90	4	21	33	3600	240	40
1065319	No											
1065320	No											
1065321	No											
1065322	Yes	GLE02	6530 Glen Erin Dr (west side of Glen Erin Dr, appr. 125m south of Battleford Rd)	Reverse Frontage	50	-90 to 90	4	28	16	3600	240	40
1065113	No											
1065112	Yes	GLE03	2685 Jerring Mews	Reverse Frontage	50	-90 to 90	8	34	22	6750	440	80
1065111	No											
1065313	No											
1065335	Yes	GLE04	2779 Gananoque Dr (west side of Glen Erin Dr, appr. 40m north of Gananoque Dr)	Reverse Frontage	50	-90 to 90	3	25	17	2800	190	40
1065336	No											
1065337	No											
1065338	No											
1064982	Yes	GLE05	3350 Glen Erin Dr (north side of Glen Erin Dr, appr. 85m east of The Collegeway)	Side Lot	50	-90 to 90	15	25	36	6750	440	80
1065115	Yes	GLE06	4243 Thom Gardens	Reverse Frontage	50	-90 to 90	11	41	29	8300	540	90
1065317	Yes	GLE07	5878 Montevideo Rd (west side of Glen Erin Dr, appr. 40m north of Montevideo Rd)	Reverse Frontage	50	-90 to 90	9	35	23	3600	240	40
1065324	No											
1065323	Yes	GLE08	6880 Meadowvale Town Centre Cir (west side of Glen Erin Dr, appr. 60m north of Meadowvale Town Centre Cir)	Side Lot	50	-90 to 90	6	29	17	3600	240	40
1065316	Yes	GLE09	6315 Atherly Crescent	Reverse Frontage	50	-90 to 90	19	41	28	3600	240	40
		GLE10	6345 Atherly Crescent	Reverse Frontage	50	-90 to 90	16	37	25	3600	240	40
		GLE11	6379 Atherly Crescent	Reverse Frontage	50	-90 to 90	16	38	26	3600	240	40
1065315	Yes	GLE12	14 Bent Oak Cir	Reverse Frontage	50	-90 to 90	11	21	32	3600	240	40
1064981	Yes	GLE13	3246 Hornbeam Crescent	Reverse Frontage	50	-90 to 90	21	31	54	6750	440	80
		GLE14	3290 Hornbeam Crescent	Reverse Frontage	50	-90 to 90	17	26	34	6750	440	80
		GLE15	3368 Chokecherry Crescent	Reverse Frontage	50	-90 to 90	18	27	35	6750	440	80
		GLE16	3350 Glen Erin Dr (north side of Glen Erin Dr, appr. 180m east of The Collegeway)	Reverse Frontage	50	-90 to 90	5	16	24	6750	440	80
1065314	Yes	GLE17	2728 Los Palmas Ct	Reverse Frontage	50	-90 to 90	14	24	36	3600	240	40
1064983	Yes	GLE18	3245 Martins Pine Crescent	Reverse Frontage	50	-90 to 90	13	56	26	6750	440	80
		GLE19	3281 Martins Pine Crescent	Reverse Frontage	50	-90 to 90	19	36	28	6750	440	80
		GLE20	3317 Martins Pine Crescent	Reverse Frontage	50	-90 to 90	19	36	28	6750	440	80
		GLE21	3347 Martins Pine Crescent	Reverse Frontage	50	-90 to 90	18	35	27	6750	440	80
1065312	Yes	GLE22	2689 Inlake Ct	Side Lot	50	-90 to 90	6	18	27	5500	360	60
		GLE23	2721 Quill Crescent	Reverse Frontage	50	-90 to 90	11	21	33	5500	360	60
1065117	Yes	GLE24	4250 Flitter Ct	Reverse Frontage	50	-90 to 90	24	36	49	8300	540	90
		GLE25	4276 Flitter Ct	Reverse Frontage	50	-90 to 90	38	50	58	8300	540	90
1065116	Yes	GLE26	4271 Thom Gardens	Reverse Frontage	50	-90 to 90	28	49	40	8300	540	90
431481	Yes	GLE27	2442 Credit Valley Rd	Side Lot	50	-90 to 90	11	32	20	8300	540	90
429669	No											
429672	No											
1065120	Yes	GLE28	2676 Folkway Dr (east side of Glen Erin Dr, appr. 125m south of Folkway Dr)	Reverse Frontage	50	-90 to 90	7	17	29	6750	440	80
1065121	Yes	GLE29	2676 Folkway Dr (east side of Glen Erin Dr, appr. 50m south of Folkway Dr)	Reverse Frontage	50	-90 to 90	6	19	31	6750	440	80

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
1065310	Yes	GLE30	2698 Inlake Court	Side Lot	50	-90 to 90	8	19	28	5500	360	60
429654	No											
429651	No											
429665	Yes	GLE31	2728 Castlebridge Dr	Side Lot	50	-90 to 90		23	32	3800	250	50
429650	No											
429647	No											
1065332	Yes	GLE32	2772 Willowmore Way	Side Lot	50	-90 to 90	5	16	24	2800	190	40
1065114	Yes	GLE33	2736 Folkway Dr (west side of Glen Erin Dr, appr. 50m south of Folkway Dr)	Reverse Frontage	50	-90 to 90	3	29	17	6750	440	80
1065309	Yes	GLE34	2755 Windwood Dr (west side of Glen Erin Dr, appr. 20m north of Windwood Dr)	Reverse Frontage	50	-90 to 90	3	33	21	5500	360	60
429667	Yes	GLE35	2706 Castlebridge Dr	Side Lot	50	-90 to 90	9	28	19	3800	250	50
1065118	Yes	GLE36	4147 Rolling Valley Dr	Side Lot	50	-90 to 90	4	24	36	6750	440	80
431550	Yes	GLE37	4492 Marshdale Ct	Side Lot	50	-90 to 90	10	22	31	8300	540	90
431482	No											
429644	Yes	GLE38	5187 Middlebury Dr	Side Lot	50	-90 to 90	7	29	17	5900	390	70
429646	No											
429657	Yes	GLE39	5205 Middlebury Dr	Side Lot	50	-90 to 90	5	16	26	5900	390	70
429656	No											
1065253	Yes	GLE40	5490 Glen Erin Dr	Side Lot	50	-90 to 90	5	31	21	5900	390	70
1065311	Yes	GLE41	2716 Andorra Cir	Reverse Frontage	50	-90 to 90	10	39	30	5500	360	60
		GLE41T	2728 Andorra Cir	Reverse Frontage	50	-90 to 90	18	39	28	5500	360	60
		GLE42	2737 Inlake Ct	Reverse Frontage	50	-90 to 90	9	31	19	5500	360	60
1065326	Yes	GLE43	6680 Shelter Bay Rd (west side of Glen Erin Dr, appr. 50m south of Shelter Bay Rd)	Reverse Frontage	50	-90 to 90	2	30	20	2800	190	40
1065328	Yes	GLE44	6779 Glen Erin Dr (east side of Glen Erin Dr, appr. 30m south of Shelter Bay Rd)	Reverse Frontage	50	-90 to 90	2	19	30	2800	190	40
1065329	No											
1065330	Yes	GLE45	6779 Glen Erin Dr (east side of Glen Erin Dr, appr. 60m north of Shelter Bay Rd)	Reverse Frontage	50	-90 to 90	2	25	34	2800	190	40
1065331	No											
1065325	No											
1065327	Yes	GLE46	6679 Shelter Bay Rd (west side of Glen Erin Dr, appr. 55m north of Shelter Bay Rd)	Reverse Frontage	50	-90 to 90	10	30	20	2800	190	40
<b>GOREWAY DR</b>												
1065367	Yes	GOR01	7560 Goreway Dr (west side of Goreway Dr, appr. 165m south of Brandon Gate Dr)	Reverse Frontage	60	-90 to 90	5	29	21	9600	620	110
1065370	Yes	GOR02	7623 Kittridge Dr	Reverse Frontage	60	-90 to 90	19	43	31	9600	620	110
		GOR03	7661 Kittridge Dr	Reverse Frontage	60	-90 to 90	14	39	32	9600	620	110
		GOR04	7685 Kittridge Dr	Reverse Frontage	60	-90 to 90	13	47	39	9600	620	110
1065368	No											
1065369	No											
1065363	Yes	GOR05	3436 Dorcas St	Side Lot	60	-90 to 90	8	33	22	10200	660	110
1065365	No											
1065364	No											
1065371	Yes	GOR06	3527 Brandon Gate (east side of Goreway Dr, appr. 60m north of Brandon Gate Dr)	Side Lot	60	-90 to 90	19	31	43	9600	620	110
1065372	Yes	GOR07	3525 Brandon Gate (east side of Goreway Dr, appr. 125m north of Brandon Gate Dr)	Reverse Frontage	60	-90 to 90	7	23	32	9600	620	110
		GOR08	3525 Brandon Gate (east side of Goreway Dr, appr. 225m north of Brandon Gate Dr)	Reverse Frontage	60	-90 to 90	3	29	37	9600	620	110
<b>HURONTARIO ST</b>												
1064707	Yes	HUR01	1235 Old River Rd	Reverse Frontage	50	-90 to 90	14	31	23	14900	970	170
737086	No											
1066656	Yes	HUR02	60 Hanson Rd (west side of Hurontario St, appr. 65m north of railway bridge)	Reverse Frontage	50	-90 to 90	6	40	27	19150	1240	210
		HUR03	60 Hanson Rd (west side of Hurontario St, appr. 175m north of railway bridge)	Side Lot	50	-90 to 90	10	42	26	19150	1240	210
1065138	Yes	HUR04	14 Andrika Ct	Reverse Frontage	60	-90 to 90	9	44	28	19750	1280	220
1065139	No											
737085	Yes	HUR05	52 Nahani Way	Side Lot	60	-90 to 90	4	145	162	18500	1200	200
1068291	Yes	HUR06	5334 Ferret Ct	Side Lot	60	-90 to 90	2	18	36	18500	1200	200
<b>KENNEDY RD</b>												
1063535	Yes	KEN01	455 Apache Ct (west side of Kennedy Rd, appr. 110m north of Dakota Rd)	Reverse Frontage	60	-90 to 90	10	30	19	11650	760	130
1063536	Yes	KEN02	455 Apache Ct (west side of Kennedy Rd, appr. 110m south of Bristol Rd)	Reverse Frontage	60	-90 to 90	3	23	11	11650	760	130

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>KING ST</b>												
1064781	No											
1064783	No											
1064791	No											
1064788	Yes	KIN01	2515 Donnavale Dr	Side Lot	40	-90 to 90	6	16	20	3600	240	40
1064787	No											
1064789	Yes	KIN02	2526 Evelyn Ct	Side Lot	40	-90 to 90	8	19	15	3600	240	40
1064776	Yes	KIN03	2530 Shepard Ave	Side Lot	50	-90 to 90	4	21	25	3600	240	40
1064786	No											
1064790	No											
<b>KIRWIN AVE</b>												
1064884	Yes	KIR01	3175 Kirwin Ave (north side of Kirwin Ave, appr. 20m east of Littlejohn Ln)	Reverse Frontage	50	-90 to 90	2	21	17	5600	370	70
<b>LAKESHORE RD</b>												
1064706	Yes	LAK01	165 St Lawrence Dr (south side of Lakeshore Rd, appr. 20m west of Elmwood Ave)	Side Lot	50	-90 to 90	34	42	49	13250	860	150
1063140	Yes	LAK02	1000 Cutler Ct	Reverse Frontage	60	-90 to -18 -18 to 90 (w existing NW 1.8 m)	24	52	44	15200	990	170
1064640	No											
1065460	No											
1065461	No											
1065459	Yes	LAK03	1055 Shawnmarr Rd (north side of Lakeshore Rd, appr. 60m east of Shawnmarr Rd)	Reverse Frontage	60	-90 to 90	0	39	28	15450	1000	170
1064627	Yes	LAK04	1246 Echo Dr	Reverse Frontage	60	-90 to 90	20	38	48	13150	850	150
1064595	Yes	LAK05	956 Halsham Ct	Reverse Frontage	60	-90 to 90	10	29	39	13250	860	150
		LAK06	1569 Steveles Crescent	Reverse Frontage	60	-90 to 90	11	28	38	13250	860	150
1064641	Yes	LAK07	771 Dack Blvd	Reverse Frontage	60	-90 to 90	24	39	47	15200	990	170
1066078	Yes	LAK08	986 Red Pine Cres	Reverse Frontage	60	-90 to 90	13	43	35	15200	990	170
1064639	Yes	LAK09	1007 Raintree Ln	Reverse Frontage	60	-90 to 90	7	36	28	15200	990	170
1064592	Yes	LAK10	1010 Cristina Ct (south side of Lakeshore Rd, appr. 55m east of Johnsons Ln)	Side Lot	60	-90 to 90	12	27	37	13250	860	150
1063160	Yes	LAK11	1015 Johnson's Ln (north side of Lakeshore Rd, appr. 5m east of Johnsons Ln)	Side Lot	60	-90 to 90	5	33	23	13250	860	150
1064718	No											
1064624	Yes	LAK12	1301 Festavon Ct	Side Lot	60	-90 to 90	12	34	25	13150	850	150
1064642	No											
1064630	Yes	LAK13	900 Lakeshore Rd	Side Lot	60	-90 to 90	11	27	33	15200	990	170
1064644	Yes	LAK14	985 Crozier Ct	Reverse Frontage	60	-90 to 90	25	39	51	15200	990	170
1064628	Yes	LAK15	988 Tennyson Av	Reverse Frontage	60	-90 to 90	10	24	36	13150	850	150
1064629	No											
1064622	No											
1064643	No											
1063161	Yes	LAK16	1014 Zante Crescent	Reverse Frontage	60	-90 to 90	3	27	18	13250	860	150
		LAK17	1442 Zante Ct	Reverse Frontage	60	-90 to 90	7	30	19	13250	860	150
1064587	Yes	LAK18	996 Bexhill Rd	Side Lot	60	-90 to 90	4	20	27	13250	860	150
<b>MATHESON BLVD</b>												
1065127	No											
1065126	Yes	MAT01	5548 Wilderness Tr	Side Lot	60	-90 to 90	4	24	35	18150	1180	200
1063546	Yes	MAT02	994 Ledbury Cres	Reverse Frontage	60	-90 to 12 (w existing NW 1.8 m) 12 to 90	10	25	35	10450	680	120
<b>MAVIS RD</b>												
1064799	Yes	MAV01	2375 Culver Way	Reverse Frontage	60	-90 to 90	15	39	30	13450	870	150
		MAV02	2417 Culver Way	Reverse Frontage	60	-90 to 90	17	41	31	13450	870	150
1064800	Yes	MAV03	2374 Chilsworthy Ave	Reverse Frontage	60	-90 to 90	17	30	40	13450	870	150
		MAV04	2414 Chilsworthy Ave	Reverse Frontage	60	-90 to 90	24	38	46	13450	870	150
		MAV05	2448 Chilsworthy Ave	Reverse Frontage	60	-90 to 90	16	29	40	13450	870	150
427401	Yes	MAV06	2527 Morrison Ave	Reverse Frontage	60	-90 to 90	10	52	43	13450	870	150
1064798	Yes	MAV07	600 Cullen Ave	Reverse Frontage	60	-90 to 90	13	26	37	13450	870	150
707503	No											
<b>MCLAUGHLIN RD</b>												
1048253	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>MISSISSAUGA RD</b>												
1065183	Yes	MIS01	1988 Royal Credit Blvd	Side Lot	50	-90 to 90	5	20	27	8500	550	100
1065184	No											
1065218	No											
1065219	Yes	MIS02	2096 Montcrest Ct	Side Lot	50	-90 to 90	8	33	27	8500	550	100
1065095	Yes	MIS03	1775 Thorny Brae Pl	Side Lot	50	-90 to 90	9	20	27	5950	390	70
1065099	Yes	MIS04	1772 Bridewell Ct	Reverse Frontage	50	-90 to 90	3	23	27	5950	390	70
1064840	Yes	MIS05	1780 Chesbro Ct	Reverse Frontage	50	-90 to 90	10	27	21	5750	380	70
		MIS06	1820 Chesbro Ct	Reverse Frontage	50	-90 to 90	4	20	16	5750	380	70
1065096	Yes	MIS07	4044 Bridlepath Trail	Reverse Frontage	50	-90 to 90	4	19	23	6750	440	80
1064964	Yes	MIS08	3240 Barchester Ct	Side Lot	50	-90 to 90	3	20	12	9700	630	110
1064969	Yes	MIS09	3356 Cider Mill Pl	Reverse Frontage	50	-90 to 90	7	15	23	9700	630	110
		MIS10	1780 Featherston Ct	Side Lot	50	-90 to 90	13	23	28	9700	630	110
1064976	Yes	MIS11	1779 Fifeshire Ct	Reverse Frontage	50	-90 to 90	8	19	23	6750	440	80
1064974	Yes	MIS12	1792 Grosvenor Pl	Reverse Frontage	50	-90 to 90	10	30	24	6750	440	80
1064968	Yes	MIS13	3501 Kingbird Ct	Reverse Frontage	50	-90 to 90	13	30	24	9700	630	110
		MIS14	3543 Kingbird Ct	Reverse Frontage	50	-90 to 90	15	28	22	9700	630	110
1064970	Yes	MIS15	1779 The Loft	Reverse Frontage	50	-90 to 90	10	19	23	9700	630	110
1065100	Yes	MIS16	1776 Thorny Brae Pl	Side Lot	50	-90 to 90	11	21	29	5950	390	70
1064967	No											
1064836	Yes	MIS17	2148 Shawanaga Trail	Side Lot	50	-90 to 90	14	26	22	5750	380	70
1064837	No											
1064838	Yes	MIS18	2188 Highriver Ct	Side Lot	50	-90 to 90	32	43	47	5750	380	70
1064839	No											
1064965	No											
1064966	Yes	MIS19	3348 Harkiss Rd	Side Lot	50	-90 to 90	5	22	18	9700	630	110
1064975	Yes	MIS20	3981 Woodchuck Ln	Side Lot	50	-90 to 90	10	28	22	6750	440	80
1063496	Yes	MIS21	4034 Mississauga Rd	Side Lot	50	-90 to 90	6	15	11	6750	440	80
1065097	No											
1065217	No											
1065215	No											
1065216	No											
1065475	No											
<b>NORTH SERVICE RD</b>												
1064771	Yes	NSR01	1177 Stanfield Rd	Side Lot	60	-90 to 90	5	17	11	4900	320	60
1064772	Yes	NSR02	2013 Redan Dr	Side Lot	60	-90 to 90	6	18	14	5200	340	60
1064775	No											
1064774	Yes	NSR03	459 Pear Tree Rd	Side Lot	60	-90 to 90	7	18	14	4950	320	60
1064773	No											
<b>NORTH SHERIDAN WAY</b>												
1064823	Yes	NSW01	1446 Beemer Ave	Reverse Frontage	60	-90 to 90	19	36	32	2750	180	30
		NSW02	1406 Beemer Ave	Reverse Frontage	60	-90 to 90	16	33	29	2750	180	30
		NSW03	1366 Beemer Ave	Reverse Frontage	60	-90 to 90	18	35	31	2750	180	30
1064825	Yes	NSW04	1908 Knights Ct	Reverse Frontage	60	-90 to 90	9	27	34	3450	230	40
		NSW05	2138 Robin Dr	Reverse Frontage	60	-90 to 90	8	26	30	3450	230	40
1064824	Yes	NSW06	2022 Shannon Dr	Reverse Frontage	60	-90 to 90	18	35	31	2750	180	30
		NSW07	1986 Shannon Dr	Reverse Frontage	60	-90 to 90	16	33	29	2750	180	30
		NSW08	2006 Portway Ave	Side Lot	60	-90 to 90	10	26	22	2750	180	30
1064821	No											
1064822	Yes	NSW09	2010 Stonehouse Cres	Side Lot	60	-90 to 90	10	22	18	2750	180	30
1064807	Yes	NSW10	1236 Fleet St	Reverse Frontage	60	-90 to 90	11	29	25	2750	180	30
		NSW11	1184 Fleet St	Reverse Frontage	60	-90 to 90	12	28	24	2750	180	30
<b>OGDEN AVE</b>												
1064675	No											
1064677	Yes	OGD01	1032 Fourth St	Side Lot	40	-90 to 90	4	12	16	2500	170	30
1064690	Yes	OGD02	1456 Strathy Ave	Side Lot	40	-90 to 90	8	16	20	3700	240	40
1064689	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts



NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
1064688	Yes	OGD03	1516 Muir Rd	Side Lot	40	-90 to 90	8	19	15	3700	240	40
<b>RATHBURN RD</b>												
1065018	No											
1065022	No											
1065023	No											
1065050	No											
1065049	No											
432284	Yes	RAT01	1755 Rathburn Rd (north side of Rathburn Rd, appr. 45m east of Fieldgate Dr)	Reverse Frontage	50	-90 to 90	3	30	17	10100	660	110
432285	No											
432286	Yes	RAT02	1755 Rathburn Rd (north side of Rathburn Rd, appr. 190m east of Fieldgate Dr)	Reverse Frontage	50	-90 to 90	3	27	14	10100	660	110
432287	No											
1065019	Yes	RAT03	1891 Rathburn Rd (north side of Rathburn Rd, appr. 180m east of Ponytrail Dr)	Reverse Frontage	50	-90 to 90	7	31	19	3850	250	50
1065020	Yes	RAT04	1951 Rathburn Rd (north side of Rathburn Rd, appr. 90m west of Bough Beeches Blvd)	Reverse Frontage	50	-90 to 90	9	33	21	3850	250	50
1065026	Yes	RAT05	2120 Rathburn Rd	Reverse Frontage	50	-90 to 90	2	12	28	3850	250	50
1065043	No											
1065048	Yes	RAT06	586 Amherst Ct	Reverse Frontage	50	-90 to 90	10	31	19	7000	460	80
1065024	Yes	RAT07	3932 Garnetwood Chase	Side Lot	50	-90 to 90	6	18	31	3850	250	50
		RAT08	4214 Garnetwood Chase	Side Lot	50	-90 to 90	7	15	28	3850	250	50
1065044	Yes	RAT09	496 Kelvedon Mews	Reverse Frontage	50	-90 to 90	14	36	24	7000	460	80
1065021	Yes	RAT10	4207 Marbledhorne Ct	Reverse Frontage	50	-90 to 90	15	38	26	3850	250	50
		RAT11	4232 Garnetwood Chase	Side Lot	50	-90 to 90	19	41	28	3850	250	50
1065045	Yes	RAT12	4209 Rayfield Ct	Reverse Frontage	50	-90 to 90	14	23	36	7000	460	80
1065046	Yes	RAT13	4131 Twine Crescent	Reverse Frontage	50	-90 to 90	13	22	34	7000	460	80
		RAT14	4112 Wilcox Rd	Side Lot	50	-90 to 90	13	22	35	7000	460	80
1065017	Yes	RAT15	1901 Unicorn Ct	Reverse Frontage	50	-90 to 90	7	19	32	3850	250	50
		RAT16	1917 Unicorn Ct	Reverse Frontage	50	-90 to 90	12	23	36	3850	250	50
1065042	Yes	RAT17	370 Rathburn Rd (south side of Rathburn Rd, appr. 40m east of Central Pkwy)	Reverse Frontage	50	-90 to 90	5	16	28	7000	460	80
1065032	Yes	RAT18	4101 Westminster Pl (south side of Rathburn Rd, appr. 50m east of Westminster Pl)	Reverse Frontage	50	-90 to 90	5	14	23	6250	410	70
1065047	No											
1065025	Yes	RAT19	2120 Rathburn Rd (south side of Rathburn Rd, appr. 80m east of Garnetwood Chase)	Reverse Frontage	50	-90 to 90	2	15	28	3850	250	50
1065066	No											
1065064	No											
1065063	Yes	RAT20	4148 Deer Run Ct (south side of Rathburn Rd, appr. 170m east of Garnetwood Chase)	Reverse Frontage	50	-90 to 90	6	22	35	6550	430	80
1065069	Yes	RAT21	757 Ashburnham Pl	Reverse Frontage	50	-90 to 90	5	16	26	5650	370	70
1065071	Yes	RAT22	1191 Ironwood Ct	Reverse Frontage	50	-90 to 90	6	24	16	6550	430	80
		RAT23	4176 Tall Pine Ct	Reverse Frontage	50	-90 to 90	2	22	12	6550	430	80
1065068	Yes	RAT24	4153 Magnolia Ct	Reverse Frontage	50	-90 to 90	10	24	33	5650	370	70
		RAT25	4159 Sandover Ct	Reverse Frontage	50	-90 to 90	8	23	31	5650	370	70
1065072	Yes	RAT26	1138 Sawgrass Crescent	Reverse Frontage	50	-90 to 90	5	23	14	6550	430	80
		RAT27	1108 Sawgrass Crescent	Reverse Frontage	50	-90 to 90	7	23	17	6550	430	80
1065070	Yes	RAT28	1266 Sweetbitch Ct	Reverse Frontage	50	-90 to 90	4	26	11	6550	430	80
1065067	No											
431958	Yes	RAT29	4167 Wakefield Cres	Side Lot	50	-90 to 90	5	25	15	5650	370	70
2020941	Yes	RAT30	4168 Wakefield Cres	Side Lot	50	-90 to 41 (w existing NW 1.8 m) 41 to 90	6	26	15	5650	370	70
1065007	No											
1065008	Yes	RAT31	4156 Fieldgate Dr (south side of Rathburn Rd, appr. 45m west of Fieldgate Dr)	Reverse Frontage	50	-90 to 90	9	22	35	8050	520	90
1065009	Yes	RAT32	4165 Fieldgate Dr (south side of Rathburn Rd, appr. 45m east of Fieldgate Dr)	Reverse Frontage	50	-90 to 90	2	16	28	10100	660	110
1065010	No											
1065005	No											
1065006	Yes	RAT33	4230 Fieldgate Dr (north side of Rathburn Rd, appr. 45m west of Fieldgate Dr)	Reverse Frontage	50	-90 to 90	3	18	31	8050	520	90
1065011	Yes	RAT34	17654 Rathburn Rd (south side of Rathburn Rd, appr. 190m east of Fieldgate Dr)	Reverse Frontage	50	-90 to 90	4	14	27	10100	660	110
1065012	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>RIDGEWAY DR</b>												
431401	Yes	RID01	3401 Aubrey Rd	Reverse Frontage	60	-90 to 90	13	25	33	7900	510	90
		RID02	3535 Cherrington Crescent	Reverse Frontage	60	-90 to 90	18	31	39	7900	510	90
		RID03	3499 Cherrington Crescent	Reverse Frontage	60	-90 to 90	9	22	30	7900	510	90
1065441	Yes	RID04	3455 Chartrand Crescent	Reverse Frontage	60	-90 to 90	15	28	37	6000	390	70
		RID05	3423 Chartrand Crescent	Reverse Frontage	60	-90 to 90	10	23	34	6000	390	70
1065456	Yes	RID06	3448 Ingram Rd	Reverse Frontage	60	-90 to 90	18	31	39	8850	580	100
		RID07	3484 Ingram Rd	Reverse Frontage	60	-90 to 90	9	23	31	8850	580	100
1065440	Yes	RID08	3491 Chartrand Crescent	Reverse Frontage	60	-90 to 90	15	27	35	6000	390	70
1065439	Yes	RID09	3471 Drummond Rd	Side Lot	60	-90 to 90	7	19	30	6000	390	70
		RID10	3529 Bertrand Rd	Reverse Frontage	60	-90 to 90	11	23	31	6000	390	70
		RID11	3481 Bertrand Rd	Reverse Frontage	60	-90 to 90	12	24	32	6000	390	70
431402	Yes	RID12	3405 Fenwick Crescent	Side Lot	60	-90 to 90	11	24	32	7900	510	90
427298	Yes	RID13	3520 Ingram Rd	Reverse Frontage	60	-90 to 90	10	24	35	8850	580	100
1065454	Yes	RID14	3600 Colonial Dr (east side of Ridgeway Dr, appr. 260m north of The Collegeway)	Reverse Frontage	60	-90 to 90	3	13	21	8850	580	100
1065455	No											
431396	Yes	RID15	3071 Valcourt Crescent	Reverse Frontage	50	-90 to 90	15	26	39	7900	510	90
		RID16	3031 Valcourt Crescent	Reverse Frontage	50	-90 to 90	11	23	31	7900	510	90
		RID17	2999 Valcourt Crescent	Reverse Frontage	50	-90 to 90	14	26	34	7900	510	90
431399	Yes	RID18	3367 McMaster Rd	Side Lot	50	-90 to 90	8	19	27	7900	510	90
		RID19	3437 Beau Rivage Crescent	Reverse Frontage	50	-90 to 90	12	23	31	7900	510	90
		RID20	3405 Beau Rivage Crescent	Reverse Frontage	50	-90 to 90	5	18	26	7900	510	90
2009184	Yes	RID21	3430 Fenwick Crescent	Side Lot	60	-90 to 90	6	36	43	7900	510	90
431404	No											
1065438	Yes	RID22	4040 Rushton Crescent	Reverse Frontage	60	-90 to 90	13	26	34	6000	390	70
1066671	Yes	RID23	3575 Stonecutter Crescent	Side Lot	60	-90 to 90	8	36	44	6900	450	80
1066672	No											
<b>SOUTH SERVICE RD</b>												
1064664	Yes	SSR01	1636 Holburne Rd	Reverse Frontage	60	-90 to 90	7	12	20	7300	480	80
1064663	Yes	SSR02	1665 Asgard Dr	Reverse Frontage	60	-90 to 90	4	13	21	5100	330	60
1064647	Yes	SSR03	1404 Liveoak Dr	Side Lot	60	-90 to 90	7	16	20	8700	570	100
1064648	No											
1064665	No											
1064710	No											
1064649	No											
1064709	Yes	SSR04	1648 Crediton Pkwy	Side Lot	60	-90 to 90	6	13	17	3700	240	40
<b>SOUTH SHERIDAN WAY</b>												
1064724	Yes	SSW01	1245 Saginaw Crescent	Reverse Frontage	60	-90 to 90	22	35	39	4550	300	50
		SSW02	1197 Saginaw Crescent	Reverse Frontage	60	-90 to 90	18	31	35	4550	300	50
1064723	Yes	SSW03	1379 Saginaw Crescent	Reverse Frontage	60	-90 to 90	27	40	44	4550	300	50
		SSW04	1349 Saginaw Crescent	Reverse Frontage	60	-90 to 90	14	27	31	4550	300	50
		SSW05	1311 Saginaw Crescent	Reverse Frontage	60	-90 to 90	14	28	32	4550	300	50
		SSW06	1279 Saginaw Crescent	Reverse Frontage	60	-90 to 90	21	35	39	4550	300	50
1064722	Yes	SSW07	1427 Cottonwood Ct	Reverse Frontage	60	-90 to 90	6	24	27	4550	300	50
1064582	Yes	SSW08	1743 Wembury Rd	Reverse Frontage	60	-90 to 90	20	29	35	5900	390	70
		SSW09	1707 Wembury Rd	Reverse Frontage	60	-90 to 90	15	28	32	5900	390	70
		SSW10	1707 Wembury Rd	Reverse Frontage	60	-90 to 90	11	24	28	5900	390	70
		SSW11	1641 Wembury Rd	Reverse Frontage	60	-90 to 90	14	27	31	5900	390	70
2015902	Yes	SSW12	1650 Robillard Rd	Side Lot	60	-90 to 90	7	13	17	5900	390	70
1064726	Yes	SSW13	941 Chippenham Dr	Reverse Frontage	60	-90 to 90	19	32	36	4550	300	50
		SSW14	907 Chippenham Dr	Reverse Frontage	60	-90 to 90	16	29	33	4550	300	50
		SSW15	867 Chippenham Dr	Reverse Frontage	60	-90 to 90	8	21	25	4550	300	50
1064725	Yes	SSW16	1103 Mesa Crescent	Reverse Frontage	60	-90 to 90	31	44	48	4550	300	50
		SSW17	1073 Mesa Crescent	Reverse Frontage	60	-90 to 90	16	29	32	4550	300	50
		SSW18	1039 Mesa Crescent	Reverse Frontage	60	-90 to 90	14	27	31	4550	300	50
		SSW19	1003 Mesa Crescent	Reverse Frontage	60	-90 to 90	18	31	35	4550	300	50
		SSW20	1650 Gallant Dr	Side Lot	60	-90 to 90	14	26	30	4550	300	50

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
1064721	Yes	SSW21	1517 Indian Rd	Side Lot	60	-90 to 90	8	23	29	4550	300	50
1064583	No											
1064579	No											
1064578	Yes	SSW22	1651 Robillard Rd	Side Lot	60	-90 to 90	8	15	19	5900	390	70
1064580	No											
1064581	Yes	SSW23	1655 Peirre Pl	Side Lot	60	-90 to 90	9	19	25	5900	390	70
1063162	Yes	SSW24	1641 Wembury Rd	Side Lot	60	-90 to 90	3	15	19	5900	390	70
1063163	No											
1064728	No											
1064727	Yes	SSW25	822 Tridom Ct	Side Lot	60	-90 to 90	5	17	21	4550	300	50
<b>SOUTHDOWN RD</b>												
1064562	Yes	SDR01	1426 Ludbrook Ct (west side of Southdown Rd, appr. 40m north of Wiseman Ct)	Reverse Frontage	60	-90 to 90	16	40	30	17000	1100	190
		SDR02	1305 Canford Crescent	Reverse Frontage	60	-90 to 90	24	46	38	17000	1100	190
		SDR03	1347 Canford Crescent	Reverse Frontage	60	-90 to 90	5	37	19	17000	1100	190
		SDR04	1430 Ludbrook Ct	Reverse Frontage	60	-90 to 90	24	47	35	17000	1100	190
1064561	Yes	SDR05	2020 Barsuda Dr (east side of Southdown Rd, appr. 55m north of Wiseman Ct)	Side Lot	60	-90 to 90	21	33	45	17000	1100	190
		SDR06	2054 Barsuda Dr (east side of Southdown Rd, appr. 195m north of Wiseman Ct)	Side Lot	60	-90 to 90	27	42	50	17000	1100	190
		SDR07	2056 Barsuda Dr (east side of Southdown Rd, appr. 280m north of Wiseman Ct)	Side Lot	60	-90 to 90	18	43	51	17000	1100	190
1064576	Yes	SDR08	2065 Davebrook Rd	Reverse Frontage	60	-90 to 90	22	33	45	17600	1140	190
1064571	Yes	SDR09	2173 Davebrook Rd	Reverse Frontage	60	-90 to 90	19	31	44	17600	1140	190
		SDR10	2125 Davebrook Rd	Reverse Frontage	60	-90 to 90	20	31	43	17600	1140	190
		SDR11	2085 Davebrook Rd	Reverse Frontage	60	-90 to 90	15	26	38	17600	1140	190
1065463	Yes	SDR12	2038 Lushes Ave	Reverse Frontage	60	-90 to 90	5	23	32	11350	740	130
1064563	No											
<b>TENTH LINE</b>												
1063819	Yes	TEN01	3253 Forrestdale Cir	Side Lot	50	-90 to 90	9	30	20	8650	560	100
1063821	No											
1063822	No											
1063820	Yes	TEN02	3189 Forrestdale Cir	Side Lot	50	-90 to 90	9	31	21	8650	560	100
1065422	Yes	TEN03	3182 McCarron Crescent	Reverse Frontage	50	-90 to 90	18	31	39	5950	390	70
		TEN04	3200 Chamberlain Ct	Side Lot	50	-90 to 90	11	24	31	5950	390	70
1065425	Yes	TEN05	3175 Sundown Cir	Reverse Frontage	50	-90 to 90	12	24	35	5150	340	60
		TEN06	6590 Millers Grove	Reverse Frontage	50	-90 to 90	15	28	36	5150	340	60
		TEN07	6626 Millers Grove	Reverse Frontage	50	-90 to 90	10	25	33	5150	340	60
1065426	Yes	TEN08		Reverse Frontage	50	-90 to 90	14	22	32	8650	560	100
427212	Yes	TEN09	3192 Anderson Crescent	Reverse Frontage	50	-90 to 90	13	23	33	5950	390	70
		TEN10	3226 Anderson Crescent	Reverse Frontage	50	-90 to 90	12	25	33	5950	390	70
1065419	Yes	TEN11	3208 Cambourne Crescent	Reverse Frontage	50	-90 to 90	7	18	28	4900	320	60
		TEN12	3244 Cambourne Crescent	Reverse Frontage	50	-90 to 90	7	16	26	4900	320	60
		TEN13	3198 Avalon Dr	Reverse Frontage	50	-90 to 90	5	16	26	4900	320	60
1065420	Yes	TEN14	7124 Harding Crescent	Reverse Frontage	50	-90 to 90	7	18	28	4900	320	60
		TEN15	7168 Harding Crescent	Side Lot	50	-90 to 90	14	24	32	4900	320	60
		TEN16	7204 Harding Crescent	Reverse Frontage	50	-90 to 90	6	16	24	4900	320	60
1065424	Yes	TEN17	6396 Millers Grove	Reverse Frontage	50	-90 to 90	19	32	43	5950	390	70
		TEN18	6428 Millers Grove	Reverse Frontage	50	-90 to 90	22	35	43	5950	390	70
		TEN19	3200 Colebrook Ct	Reverse Frontage	50	-90 to 90	12	24	33	5950	390	70
		TEN20	322 Colebrook Ct	Reverse Frontage	50	-90 to 90	9	22	32	5950	390	70
1065423	No		3188 Harris Crescent				10	27	31			
427213	Yes	TEN21	3199 Keynes Ct	Side Lot	50	-90 to 90	5	19	26	5950	390	70
		TEN22	6172 Farmstead Ln	Reverse Frontage	50	-90 to 90	13	25	35	5950	390	70
1065427	Yes	TEN23	6948 Cordingley Crescent	Reverse Frontage	50	-90 to 90	14	22	32	8650	560	100
		TEN24	6988 Cordingley Crescent	Reverse Frontage	50	-90 to 90	13	23	34	8650	560	100
1065436	Yes	TEN25	3257 Thomas St (east side of Tenth Line, appr. 80m south of Thomas St)	Side Lot	50	-90 to 90	8	17	21	5150	340	60
430439	Yes	TEN26	6108 Millers Grove	Side Lot	50	-90 to 90	11	22	32	5950	390	70
		TEN27	6218 Kindree Cir	Reverse Frontage	50	-90 to 90	19	31	39	5950	390	70
		TEN28	6248 Kindree Cir	Reverse Frontage	50	-90 to 90	19	31	39	5950	390	70
1063812	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts



NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>TERRY FOX WAY</b>												
706346	Yes	TER01	1002 Windbrook Grove	Side Lot	60	-90 to 40 (w existing NW 2 m) 40 to 90	10	30	23	6400	420	70
<b>THE COLLEGEWAY</b>												
1065001	Yes	THE01	2285 The Collegeway (north side of The Collegeway, appr. 120m west of South Millway)	Reverse Frontage	50	-90 to 90	2	33	24	6050	400	70
1064995	No											
1064996	No											
1064997	Yes	THE02	2288 The Collegeway (south side of The Collegeway, appr. 130m west of South Millway)	Reverse Frontage	50	-90 to 90	2	12	20	6050	400	70
1064998	No											
1064999	No											
1065000	No											
1064962	Yes	THE03	2079 The Collegeway (north side of The Collegeway, appr. 40m east of Erin Mills Pkwy)	Side Lot	50	-90 to 90	16	38	27	6600	430	80
1065458	Yes	THE04	3058 Pettigrew Crescent	Reverse Frontage	50	-90 to 90	10	30	22	6450	420	70
		THE05	3030 Pettigrew Crescent	Reverse Frontage	50	-90 to 90	12	33	22	6450	420	70
1064988	Yes	THE06	2873 Council Ring Rd	Side Lot	50	-90 to 90	9	30	19	6400	420	70
		THE07	3419 Peachtree Ct	Reverse Frontage	50	-90 to 90	15	33	25	6400	420	70
		THE08	2558 Spruce Needle Dr	Reverse Frontage	50	-90 to 90	10	28	20	6400	420	70
		THE09	2528 Spruce Needle Dr	Reverse Frontage	50	-90 to 90	15	32	24	6400	420	70
		THE10	2478 Spruce Needle Dr	Side Lot	50	-90 to 90	7	25	17	6400	420	70
1064989	Yes	THE11	2833 Council Ring Rd	Side Lot	50	-90 to 90	9	21	32	6400	420	70
		THE12	2591 Windjammer Rd	Reverse Frontage	50	-90 to 90	17	27	35	6400	420	70
		THE13	2561 Windjammer Rd	Reverse Frontage	50	-90 to 90	13	23	30	6400	420	70
		THE14	2521 Windjammer Rd	Reverse Frontage	50	-90 to 90	19	29	37	6400	420	70
		THE15	2473 Windjammer Rd	Reverse Frontage	50	-90 to 90	9	19	27	6400	420	70
1064991	No											
1064990	No											
1064987	No											
1064986	No											
1065457	Yes	THE16	3537 Colonial Dr	Side Lot	50	-90 to 90	5	23	15	6450	420	70
1064993	Yes	THE17	3353 Hornbeam Crescent (south side of The Collegeway, appr. 40m east of Hornbeam Ct)	Reverse Frontage	50	-90 to 90	6	16	24	6050	400	70
1064994	No											
<b>THOMAS ST</b>												
1065231	No											
1066084	No											
2001435	No											
1065257	Yes	THO01	2887 Westbury Ct	Reverse Frontage	50	-90 to 90	27	24	34	7350	480	80
429710	No											
429707	Yes	THO02	5600 Middlebury Dr	Site Lot	50	-90 to 90	10	21	32	9250	600	100
1066081	Yes	THO03	5662 Watersfield Ave	Site Lot	50	-90 to 90	2	12	20	5550	360	60
1065255	No											
1065254	Yes	THO04	5678 Greensboro Dr	Side Lot	50	-90 to 90	9	30	19	7350	480	80
706054	No											
1065232	Yes	THO05	59 Thomas St	Side Lot	50	-90 to 90	7	16	24	8950	580	100
427264	Yes	THO06	2267 Bankside Dr	Reverse Frontage	50	-90 to 90	1	21	32	7700	500	90
427267	Yes	THO07	2358 Yorktown Cir	Reverse Frontage	50	-90 to 90	4	26	35	7700	500	90
427261	Yes	THO08	5572 Creditrise Pl	Reverse Frontage	50	-90 to 90	10	22	32	7700	500	90
1065234	Yes	THO09	5330 Turney Dr	Reverse Frontage	50	-90 to 90	11	39	30	7700	500	90
1065233	Yes	THO10	5430 Turney Dr	Reverse Frontage	50	-90 to 90	13	35	25	7700	500	90
		THO11	5400 Turney Dr	Reverse Frontage	50	-90 to 90	13	35	25	7700	500	90
		THO12	5364 Turney Dr	Reverse Frontage	50	-90 to 90	14	36	24	7700	500	90
1065235	Yes	THO13	38 Gafney Dr	Side Lot	50	-90 to 90	6	27	17	7700	500	90
1065259	No											
1065260	No											
1065261	No											
1065262	No											
1065263	No											
1065258	Yes	THO14	5589 Kimmeridge Gate	Side Lot	50	-90 to 90	5	18	29	7350	480	80

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
1065256	Yes	THO15	5625 Glen Erin Dr (north side of Thomas St, appr. 120m east of Glen Erin Dr)	Side Lot	50	-90 to 90	3	28	18	9250	600	100
<b>TOMKEN RD</b>												
1064864	Yes	TOM01	980 Runningbrook Dr	Side Lot	50	-90 to 90	21	31	40	7800	510	90
1064862	Yes	TOM02	927 Parthia Crescent	Reverse Frontage	50	-90 to 90	17	27	35	6650	430	80
		TOM03	965 Parthia Crescent	Reverse Frontage	50	-90 to 90	17	28	36	6650	430	80
		TOM04	993 Parthia Crescent	Reverse Frontage	50	-90 to 90	18	27	38	6650	430	80
1064860	Yes	TOM05	947 Sierra Blvd	Reverse Frontage	50	-90 to 90	16	26	34	6650	430	80
		TOM06	983 Sierra Blvd	Reverse Frontage	50	-90 to 90	15	25	33	6650	430	80
		TOM07	984 Homeric Dr	Side Lot	50	-90 to 90	12	22	30	6650	430	80
1064863	Yes	TOM08	986 Streamway Crescent	Reverse Frontage	50	-90 to 90	25	25	36	7800	510	90
		TOM09	962 Streamway Crescent	Reverse Frontage	50	-90 to 90	24	34	42	7800	510	90
		TOM10	3462 Burningoak Crescent	Reverse Frontage	50	-90 to 90	13	23	31	7800	510	90
		TOM11	3496 Burningoak Crescent	Reverse Frontage	50	-90 to 90	13	23	31	7800	510	90
1064865	Yes	TOM12	3570 Twinmaple Dr	Reverse Frontage	50	-90 to 90	13	22	30	7800	510	90
		TOM13	3606 Twinmaple Dr	Reverse Frontage	50	-90 to 90	13	22	30	7800	510	90
1064861	Yes	TOM14	973 Vera Cruz Dr	Reverse Frontage	50	-90 to 90	16	26	34	6650	430	80
		TOM15	984 Flagship Dr	Side Lot	50	-90 to 90	11	22	29	6650	430	80
1064859	Yes	TOM16	3055 Coonstitution Blvd (east side of Tomken Rd, appr. 120m north of Dundas St)	Reverse Frontage	50	-90 to 90	1	15	23	6650	430	80
1064869	Yes	TOM17	3415 Homark Dr	Reverse Frontage	50	-90 to 90	14	30	22	6650	430	80
1064867	Yes	TOM18	3087 McCarthy Ct	Reverse Frontage	50	-90 to 90	16	33	24	6650	430	80
		TOM19	3123 McCarthy Ct	Reverse Frontage	50	-90 to 90	14	31	23	6650	430	80
		TOM20	3147 McCarthy Ct	Reverse Frontage	50	-90 to 90	15	32	23	6650	430	80
1064870	Yes	TOM21	3447 Pinesmoke Crescent	Reverse Frontage	50	-90 to 90	14	33	25	7800	510	90
		TOM22	3411 Pinesmoke Crescent	Reverse Frontage	50	-90 to 90	17	33	25	7800	510	90
1064871	Yes	TOM23	961 Runningbrook Dr	Side Lot	50	-90 to 90	19	37	27	7800	510	90
		TOM24	3583 Swirlingleaves Crescent	Reverse Frontage	50	-90 to 90	17	34	26	7800	510	90
		TOM25	3617 Swirlingleaves Crescent	Reverse Frontage	50	-90 to 90	22	43	35	7800	510	90
1064868	Yes	TOM26	980 Flagship Dr	Side Lot	50	-90 to 90	10	27	19	6650	430	80
1064866	Yes	TOM27	3043 Greta Gate	Reverse Frontage	50	-90 to 90	9	26	18	6650	430	80
1065029	Yes	TOM28	971 Lovington Crescent	Reverse Frontage	50	-90 to 90	15	26	34	9950	650	110
<b>TRUSCOTT DR</b>												
1064763	Yes	TRU01	1380 Lewisham Dr	Side Lot	50	-90 to 90	5	17	21	5750	380	70
1064761	Yes	TRU02	1396 Sandgate Cres	Side Lot	50	-90 to 90	5	21	17	2750	180	30
1064757	Yes	TRU03	1423 Thetford Ct	Side Lot	50	-90 to 90	18	41	32	5750	380	70
1064619	Yes	TRU04	1425 Elite Rd	Side Lot	40	-90 to 90	6	18	22	5000	330	60
1064759	Yes	TRU05	1428 Buckby Rd	Side Lot	50	-90 to 90	6	15	19	2750	180	30
1064618	Yes	TRU06	1445 Elite Rd	Side Lot	40	-90 to 90	10	25	21	5000	330	60
1064617	No											
1064606	No											
1064608	No											
1064607	Yes	TRU07	1447 Helm Ct	Side Lot	50	-90 to 90	8	22	18	5000	330	60
1064616	Yes	TRU08	1466 Robillard Rd	Side Lot	50	-90 to 90	8	23	19	4900	320	60
1064621	No											
1064762	No											
1064760	No											
1064764	No											
1064765	Yes	TRU09	2271 Truscott Dr	Frontage	50	-90 to 90	4	20	13	5750	380	70
1064604	Yes	TRU10	1451 Clarkson Rd N	Frontage	50	-90 to 90	4	12	19	5000	330	60
1064605	No											

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts

NW ID	NW Assessed (refer to App. A)	Receiver ID	Receiver Address	Characteristics	Posted Speed Limit (km/h)	Segments	Barrier Receiver Distance (m)	Distance to (m)		2041 Volumes (16-Hour) per Direction <sup>1</sup>		
								EB/NB	WB/SB	Auto	Medium Truck	Heavy Truck
<b>WINSTON CHURCHILL BLVD</b>												
1064758	Yes	WIN01	2717 Birch Crescent	Reverse Frontage	60	-90 to 90	25	45	58	17950	1160	200
		WIN01T	2701 Birch Crescent	Reverse Frontage	60	-90 to 90	16	50	63	17950	1160	200
		WIN02	2691 Birch Crescent	Reverse Frontage	60	-90 to 90	25	72	84	17950	1160	200
1064978	No											
1065102	Yes	WIN03	2992 Dancer Ct	Reverse Frontage	60	-90 to 90	6	26	42	21700	1400	240
		WIN04	4171 Marigold Crescent	Reverse Frontage	60	-90 to 90	8	24	47	21700	1400	240
1064977	Yes	WIN05	3026 Windjammer Rd	Reverse Frontage	60	-90 to 90	16	23	39	19350	1250	210
1065104	Yes	WIN06	3069 Folkway Dr	Reverse Frontage	60	-90 to 90	9	39	63	21700	1400	240
		WIN07	3045 Folkway Dr	Reverse Frontage	60	-90 to 90	9	20	44	21700	1400	240
		WIN08	3021 Folkway Dr	Reverse Frontage	60	-90 to 90	8	38	62	21700	1400	240
1064979	Yes	WIN09	3356 Delfi Rd	Reverse Frontage	60	-90 to 90	14	24	36	19350	1250	210
1065103	No											
1065437	Yes	WIN10	3035 Artesian Dr (west side of Winston Churchill Blvd, appr. 100m north of Credit Valley Rd)	Side Lot	60	-90 to 90	3	39	23	28550	1850	310
1065410	No											
429602	No											
1065421	Yes	WIN11	3012 Collista Ct	Side Lot	60	-90 to 90	13	40	23	18000	1170	200
429604	Yes	WIN12	3276 Pebblewood Rd	Side Lot	60	-90 to 38 (w existing NW 2.4 m) 38 to 90	10	37	21	19450	1260	210
1064980	No											
1065411	Yes	WIN13	7227 Windbreak Ct	Side Lot	60	-90 to 31 (w existing NW 2.8 m) 31 to 90	5	17	34	19450	1260	210
431454	Yes	WIN14	3287 Cajun Crescent	Side Lot	60	-90 to 90	10	38	22	19350	1250	210
1053135	Yes	WIN15	2691 Frankston Rd	Side Lot	60	-90 to 90	12	19	35	19350	1250	210
		WIN16	2722 Council Ring Rd	Reverse Frontage	60	-90 to 90	11	20	32	19350	1250	210
1065236	Yes	WIN17	2930 Erin Centre Blvd (east side of Winston Churchill Blvd, appr. 140m south of Erin Centre Blvd)	Side Lot	60	-90 to 90	4	20	35	16900	1100	190

Note: 1. Traffic volumes were derived from the City's 2041 travel demand model for the morning peak hour and factored-up to reflect the 16-hour period based on 2016 Cordon Counts



## **Appendix C**

### **Noise Level Calculation Results and Noise Wall Justifications**

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>AQUITAIN AVENUE</b>						<b>613.5</b>	
429637	Yes		AQU01	60.54	Yes	96.6	
1065431	Yes		AQU02	57.59	No		
429638	No	429637			Yes	4.6	
429634	Yes		AQU03	59.85	No		
			AQU04	59.77	No		
429636	Yes		AQU05	58.79	No		
1065306	No				not assessed <sup>2</sup>		
1065358	Yes		AQU06	60.1	Yes	4.3	
1065359	No	1065358			Yes	5.1	
1065360	Yes		AQU07	60.27	Yes	263.2	
			AQU08	60.01	Yes		
			AQU09	60.82	Yes		
1065361	Yes		AQU10	61.1	Yes	212.4	
			AQU11	60.79	Yes		
1065362	No	1065361			Yes	27.3	
<b>ARGENTIA ROAD</b>						<b>354.7</b>	
1065288	No	1065289			Yes	50.0	
1065289	Yes		ARG01	63.03	Yes	43.1	
1065290	No	1065289			Yes	50.8	
1065291	Yes		ARG02	64.7	Yes	39.6	
1065292	No	1065291			Yes	35.9	
1065293	Yes		ARG03	65.51	Yes	36.9	
1065294	No	1065295			Yes	37.0	
1065295	Yes		ARG04	64.98	Yes	37.4	
1065296	No	1065295			Yes	5.5	
1065297	No	1065295			Yes	18.4	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>ATWATER AVE</b>						<b>331.1</b>	
1064698	Yes		ATW01	60.87	Yes	41.0	
1064692	No	1064691			No		
1064691	Yes		ATW02	59.14	No		
1064701	No	1064699			Yes	46.7	
1064695	No	1064693			Yes	29.2	
1064711	Yes		ATW03	58.24	No		
1064700	No	1064699			Yes	13.9	
1064693	Yes		ATW04	61.05	Yes	23.4	
1064699	Yes		ATW05	61.48	Yes	30.9	
1064703	No	1064698			Yes	32.3	
1064713	Yes		ATW06	58.24	No		
1064696	Yes		ATW07	61.05	Yes	41.7	
1064694	No	1064693			Yes	13.6	
1064702	No	1064698			Yes	58.4	
<b>BATTLEFORD RD</b>						<b>732.0</b>	
1065430	Yes		BAT01	60.2	Yes	121.4	
429626	No	429624			No		
429625	No	429624			No		
429624	Yes		BAT02	59.09	No		
1065428	Yes		BAT03	61.73	Yes	117.7	
429628	Yes		BAT04	60.2	Yes	32.6	
429629	No	429628			Yes	28.9	
429630	No	429628			Yes	26.3	
429633	Yes		BAT05	60.52	Yes	28.8	
1065353	Yes		BAT06	60.61	Yes	6.8	
429623	No	429624			No		
1065429	Yes		BAT07	60.31	Yes	108.3	
429632	No	429633			Yes	10.8	
1065354	No	1065353			Yes	18.9	
1065355	Yes		BAT08	62.17	Yes	48.8	
1065356	No	1065355			Yes	37.1	
1065357	Yes		BAT09	62.89	Yes	145.7	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>BLOOR STREET</b>						<b>1572.4</b>	
1064875	No	1064874			Yes	28.0	
1064873	No	1064872			Yes	25.9	
1064890	Yes		BLO01	62.49	Yes	117.2	
1064891	No	1064890			Yes	36.0	
1064892	No	1064890			Yes	6.8	
1064893	Yes		BLO02	63.6	Yes	49.3	
1064894	No	1064893			Yes	4.4	
1064889	Yes		BLO03	62.49	Yes	78.3	
1064900	Yes		BLO04	63.99	Yes	55.8	
1064901	No	1064900			Yes	123.0	
1064896	Yes		BLO05	61.65	Yes	313.3	
			BLO06	62.03	Yes		
			BLO07	62.55	Yes		
1064897	Yes		BLO08	62.56	Yes	34.6	
1064895	No	1064893			Yes	36.5	
1064874	Yes		BLO09	62.63	Yes	22.6	
1064872	Yes		BLO10	63.57	Yes	22.4	
1064899	Yes		BLO11	61.62	Yes	59.8	
1064898	Yes		BLO12	63.89	Yes	558.6	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection
			BLO13	60.85	Yes		
			BLO14	58.52	No		
			BLO15	60.13	Yes		
			BLO16	61.99	Yes		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>BRISTOL RD</b>						<b>379.8</b>	
1065146	Yes		BRI01	60.31	Yes	62.6	
1065148	No	1065146			Yes	38.4	
1065147	No	1065146			Yes	26.0	
1065144	No	1065146			Yes	51.4	
1065143	No	1065146			Yes	15.4	
1065145	No	1065146			Yes	42.4	
1065149	Yes		BRI02	62.51	Yes	14.7	
1065150	No	1065149			Yes	18.2	
1065151	No	1065149			Yes	9.5	
1065152	No	1065149			Yes	9.6	
1065154	No	427293			Yes	29.1	
1065153	No	1065149			Yes	7.5	
427293	Yes		BRI03	62.04	Yes	8.0	
427294	No	427293			Yes	9.4	
1065162	No	1065161			Yes	13.8	
1065161	Yes		BRI04	60.39	Yes	12.0	
1065196	No	1065197			No		
1065195	Yes		BRI05	61.91	Yes	11.8	
1065193	No	1065192			No		
1065194	No	1065192			No		
429718	No				not assessed <sup>2</sup>		
1065197	Yes		BRI06	59.22	No		
1063568	Yes		BRI07	59.21	No		
1067704	No				not assessed <sup>2</sup>		
1065192	Yes		BRI08	58.62	No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A



NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>BURNHAMTHORPE RD</b>						<b>936.0</b>	
2003184	No	2001644			No		
1065002	Yes		BUR01	63.6	Yes	65.8	
2001644	Yes		BUR02	57.08	No		
2003189	No	1065002			Yes	19.4	
1064958	Yes		BUR03	66.2	Yes	234.3	
			BUR04	65.41	Yes		
1066963	Yes		BUR05	64.51	Yes	75.8	
1064959	Yes		BUR06	67.6	Yes	30.8	
1064960	No	1064961			Yes	26.0	
431378	Yes		BUR07	61.33	Yes	19.6	
431379	No	431378			Yes	4.5	
431820	Yes		BUR08	67.55	Yes	34.6	
2001415	Yes		BUR09	62.56	Yes	40.2	
1065084	No	2001415			Yes	29.0	
1066964	Yes		BUR10	64.05	Yes	65.3	
1064961	Yes		BUR11	64.06	Yes	290.8	
			BUR12	64.52	Yes		
			BUR13	63.54	Yes		
<b>CENTRAL PARKWAY</b>						<b>2742.4</b>	
1064885	Yes		CEN01	60.58	Yes	171.5	
1064949	No	1064948			Yes	28.6	
1064948	Yes		CEN02	65.41	Yes	23.1	
1064887	Yes		CEN03	60.58	Yes	218.0	
			CEN04	60.58	Yes		
1064888	No	1064887			Yes	47.0	
1065038	Yes		CEN05	63.04	Yes	124.5	
1065039	Yes		CEN06	63.26	Yes	120.3	
1065058	Yes		CEN07	63.04	Yes	220.1	
			CEN08	64.67	Yes		
1065054	Yes		CEN09	63.81	Yes	69.8	
1065057	Yes		CEN10	63.04	Yes	358.5	
			CEN11	62.8	Yes		
			CEN12	63.54	Yes		
1065056	Yes		CEN13	62.13	Yes	376.2	
			CEN14	62.34	Yes		
			CEN15	63.24	Yes		
1065053	No	1065051			Yes	70.8	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B  
 2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
1065055	Yes		CEN16	62.96	Yes	101.4	
1065051	Yes		CEN17	64.39	Yes	34.6	
1065052	Yes		CEN18	63.36	Yes	32.7	
1065040	Yes		CEN19	62.89	Yes	31.5	
1065041	No	1065040			Yes	56.4	
432031	Yes		CEN20	63.25	Yes	23.5	
432033	No	432031			Yes	24.6	
432027	No	432023			Yes	53.8	
432034	No	432031			Yes	16.7	
433336	No	432023			Yes	3.9	
432025	No	432023			Yes	46.8	
432023	Yes		CEN21	63.62	Yes	30.2	
432038	Yes		CEN22	64.33	Yes	25.9	
432041	No	432038			Yes	14.5	
1064953	Yes		CEN23	65.3	Yes	36.3	
1064951	No	1064950			Yes	96.2	
1064952	No	1064950			Yes	44.3	
1064950	Yes		CEN24	63.79	Yes	28.5	
1064945	Yes		CEN25	64.95	Yes	24.5	
1064946	No	1064945			Yes	64.1	
1065472	Yes		CEN26	61.02	Yes	123.9	
<b>CLARKSON RD</b>						<b>291.8</b>	
1064614	Yes		CLA01	61.09	Yes	120.2	
1064611	Yes		CLA02	61.43	Yes	36.5	
1064612	No	1064611			Yes	35.1	
1064600	Yes		CLA03	57.38	No		
1064602	No	1064601			No		
1064597	No	1064596			Yes	40.1	
1064596	Yes		CLA04	61.69	Yes	44.9	
1064609	Yes		CLA05	59.84	No		
1064601	Yes		CLA06	58.36	No		
1064610	No	1064609			No		
1064613	No	1064611			Yes	14.9	
1064598	Yes		CLA07	58.7	No		
1064599	No	1064598			No		
1064603	No	1064600			No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B  
 2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>CONFEDERATION PKWY</b>						<b>184.7</b>	
1064925	Yes		CON01	60.99	Yes	17.6	
1064804	Yes		CON02	63.86	Yes	37.1	
1064801	Yes		CON03	64.01	Yes	37.2	
1064805	No	1064801			Yes	19.8	
1064803	No	1064801			Yes	43.1	
1064806	No	1064801			Yes	29.8	
<b>COURTNEYPARK DR</b>						<b>0.0</b>	
1063642	Yes		COU01	59.76	No		
1063643	No	1063642			No		
1063644	Yes		COU02	58.98	No		
<b>CREDITVIEW RD</b>						<b>755.7</b>	
1065275	Yes		CRE01	63.48	Yes	24.0	
1065188	No				not assessed <sup>2</sup>		
1065285	No	1065286			Yes	7.2	
1065286	Yes		CRE02	66.65	Yes	31.1	
1065284	Yes		CRE03	64	Yes	285.0	
			CRE04	63.78	Yes		
1065283	Yes		CRE05	63.78	Yes	102.1	
1065276	Yes		CRE06	62.01	Yes	187.0	
1065168	Yes		CRE07	64.95	Yes	11.9	
1065169	No	1065168			Yes	6.7	
1065173	Yes		CRE08	65.69	Yes	27.1	
1065281	No	1065286			Yes	30.4	
1065282	No	1065286			Yes	43.2	
1065483	Yes		CRE09	59.2	No		
<b>DUNDAS ST</b>						<b>97.2</b>	
1064833	Yes		DUN01	64.99	Yes	32.4	
2009757	No	1064835			Yes	33.2	
1064835	Yes		DUN02	65.81	Yes	31.6	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>EGLINGTON AVE</b>						<b>156.3</b>	
1063590	No				not assessed <sup>2</sup>		
1065164	No	1065163			Yes	6.9	
2001394	Yes		EGL01	63.66	Yes	75.0	
1063474	Yes		EGL02	62.93	Yes	8.4	
1063364	Yes		EGL03	64.42	Yes	31.6	
2001393	No	2001394			Yes	28.1	
706222	No				not assessed <sup>2</sup>		
1065163	Yes		EGL04	65.23	Yes	6.3	
<b>ERIN CENTRE BLVD</b>						<b>7.3</b>	
1065265	Yes		ERC01	60.23	Yes	7.3	
1065226	No	1065223			No		
1065224	Yes		ERC02	56.8	No		
1065225	No	1065224			No		
1065223	Yes		ERC03	54.96	No		
1065230	No	1065223			No		
1065229	No	1065223			No		
1065220	Yes		ERC04	56.13	No		
1065222	Yes		ERC05	53.95	No		
1065227	No	1065224			No		
1065228	No	1065224			No		
1065221	No	1065224			No		
<b>ERINDALE STATION RD</b>						<b>1237.7</b>	
1064954	Yes		ERD01	62.55	Yes	81.0	
1064956	Yes		ERD02	62.27	Yes	388.6	
			ERD03	62.27	Yes		
			ERD04	62.02	Yes		
			ERD05	60.66	Yes		
1064955	Yes		ERD06	61.08	Yes	437.3	
			ERD07	62.55	Yes		
			ERD08	61.54	Yes		
			ERD09	61.02	Yes		
1064957	Yes		ERD10	62.55	Yes	330.8	
			ERD11	62.27	Yes		
			ERD12	61.78	Yes		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>GLEN ERIN DRIVE</b>						<b>734.6</b>	
1065334	No	1065332			No		
1065318	Yes		GLE01	57.69	No		
1065319	No	1065318			No		
1065320	No	1065318			No		
1065321	No	1065318			No		
1065322	Yes		GLE02	59.42	No		
1065113	No	1065112			Yes	31.3	
1065112	Yes		GLE03	60.17	Yes	90.7	
1065111	No	1065112			Yes	33.9	
1065313	No	1065314			No		
1065335	Yes		GLE04	58.62	No		
1065336	No	1065335			No		
1065337	No	1065335			No		
1065338	No	1065335			No		
1064982	Yes		GLE05	59.41	No		
1065115	Yes		GLE06	59.19	No		
1065317	Yes		GLE07	57.11	No		
1065324	No	1065323			No		
1065323	Yes		GLE08	59.04	No		
1065316	Yes		GLE09	55.79	No		
			GLE10	56.58	No		
			GLE11	56.33	No		
1065315	Yes		GLE12	57.76	No		
1064981	Yes		GLE13	57.43	No	58.0	noise wall is partially justified; noise wall is recommended to extend from north-end to 58 m southerly
			GLE14	59.39	No		
			GLE15	59.15	No		
			GLE16	62.53	Yes		
1065314	Yes		GLE17	56.84	No		
1064983	Yes		GLE18	58.31	No		
			GLE19	58.91	No		
			GLE20	58.91	No		
			GLE21	59.15	No		
1065312	Yes		GLE22	60.7	Yes	39.0	noise wall is partially justified; noise wall is recommended to extend from south-end to 39 m northerly
			GLE23	59.48	No		
1065117	Yes		GLE24	57.73	No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B  
 2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
			GLE25	55.83	No		
1065116	Yes		GLE26	57.27	No		
431481	Yes		GLE27	61.57	Yes	9.8	
429669	No	429665			No		
429672	No	429665			No		
1065120	Yes		GLE28	61.81	Yes	80.3	
1065121	Yes		GLE29	61.09	Yes	91.9	
1065310	Yes		GLE30	60.36	Yes	26.3	
429654	No	429657			Yes	15.5	
429651	No	429657			Yes	18.0	
429665	Yes		GLE31	57.75	No		
429650	No	429644			Yes	9.8	
429647	No	429644			Yes	11.1	
1065332	Yes		GLE32	59.01	No		
1065114	Yes		GLE33	61.81	Yes	41.6	
1065309	Yes		GLE34	59.48	No		
429667	Yes		GLE35	58.99	No		
1065118	Yes		GLE36	59.61	No		
431550	Yes		GLE37	61.19	Yes	12.2	
431482	No	431550			Yes	11.4	
429644	Yes		GLE38	61.24	Yes	11.5	
429646	No	429644			Yes	15.4	
429657	Yes		GLE39	61.78	Yes	16.0	
429656	No	429657			Yes	18.6	
1065253	Yes		GLE40	60.05	Yes	10.6	
1065311	Yes		GLE41	57.4	No	82.0	noise wall is partially justified; noise wall is recommended to extend from north-end to 82 m southerly
			GLE41T	57.71	No		
			GLE42	60.12	Yes		
1065326	Yes		GLE43	57.4	No		
1065328	Yes		GLE44	57.65	No		
1065329	No	1065330			No		
1065330	Yes		GLE45	56.04	No		
1065331	No	1065330			No		
1065325	No	1065323			No		
1065327	Yes		GLE46	57.4	No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>GOREWAY DR</b>						<b>714.9</b>	
1065367	Yes		GOR01	64.1	Yes	45.3	
1065370	Yes		GOR02	61.28	Yes	268.9	
			GOR03	61.41	Yes		
			GOR04	60.02	Yes		
1065368	No	1065367			Yes	51.5	
1065369	No	1065367			Yes	29.1	
1065363	Yes		GOR05	63.76	Yes	22.0	
1065365	No	1065363			Yes	24.4	
1065364	No	1065363			Yes	21.5	
1065371	Yes		GOR06	61.28	Yes	82.6	
1065372	Yes		GOR07	63.42	Yes	169.7	
			GOR08	61.99	Yes		
<b>HURONTARIO ST</b>						<b>337.1</b>	
1064707	Yes		HUR01	63.59	Yes	76.3	
737086	No	737085			No		
1066656	Yes		HUR02	63.22	Yes	211.3	
			HUR03	63.29	Yes		
1065138	Yes		HUR04	64.81	Yes	21.5	
1065139	No	1065138			Yes	13.1	
737085	Yes		HUR05	53.6	No		
1068291	Yes		HUR06	67.2	Yes	14.9	
<b>KENNEDY RD</b>						<b>170.0</b>	
1063535	Yes		KEN01	65.32	Yes	25.5	
1063536	Yes		KEN02	67.09	Yes	144.5	
<b>KING ST</b>						<b>0.0</b>	
1064781	No				not assessed <sup>2</sup>		
1064783	No				not assessed <sup>2</sup>		
1064791	No	1064788			No		
1064788	Yes		KIN01	58.05	No		
1064787	No	1064788			No		
1064789	Yes		KIN02	58.48	No		
1064776	Yes		KIN03	58.44	No		
1064786	No	1064776			No		
1064790	No	1064789			No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>KIRWIN AVE</b>						<b>65.6</b>	
1064884	Yes		KIR01	61.9	Yes	65.6	
<b>LAKESHORE RD</b>						<b>1686.7</b>	
1064706	Yes		LAK01	59.14	No		
1063140	Yes		LAK02	58.76	No		
1064640	No	1064639			Yes	76.7	
1065460	No	1065459			Yes	63.3	
1065461	No	1065459			Yes	63.3	
1065459	Yes		LAK03	64.03	Yes	109.2	
1064627	Yes		LAK04	61.43	Yes	166.1	
1064595	Yes		LAK05	63.24	Yes	257.1	
			LAK06	63.47	Yes		
1064641	Yes		LAK07	62.01	Yes	114.7	
1066078	Yes		LAK08	62.73	Yes	23.5	
1064639	Yes		LAK09	64.21	Yes	73.9	
1064592	Yes		LAK10	63.7	Yes	89.7	
1063160	Yes		LAK11	64.74	Yes	34.5	
1064718	No				not assessed <sup>2</sup>		
1064624	Yes		LAK12	64.24	Yes	23.4	
1064642	No	1064641			Yes	36.2	
1064630	Yes		LAK13	64.62	Yes	60.5	
1064644	Yes		LAK14	61.77	Yes	18.4	
1064628	Yes		LAK15	64.29	Yes	66.7	
1064629	No	1064628			Yes	66.7	
1064622	No	1064627			Yes	48.6	
1064643	No	1064641			Yes	43.8	
1063161	Yes		LAK16	66.39	Yes	215.5	
			LAK17	65.88	Yes		
1064587	Yes		LAK18	65.9	Yes	35.2	
<b>MATHESON BLVD</b>						<b>79.9</b>	
1065127	No	1065126			Yes	27.0	
1065126	Yes		MAT01	65.73	Yes	35.2	
1063546	Yes		MAT02	60.87	Yes	17.7	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A



NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>MAVIS RD</b>						<b>760.3</b>	
1064799	Yes		MAV01	63.13	Yes	218.7	
			MAV02	62.85	Yes		
1064800	Yes		MAV03	63.06	Yes	309.0	
			MAV04	61.63	Yes		
			MAV05	63.21	Yes		
427401	Yes		MAV06	60.75	Yes	100.2	
1064798	Yes		MAV07	63.92	Yes	132.4	
707503	No				not assessed <sup>2</sup>		
<b>MCLAUGHLIN RD</b>						<b>0.0</b>	
1048253	No				not assessed <sup>2</sup>		
<b>MISSISSAUGA RD</b>						<b>1835.4</b>	
1065183	Yes		MIS01	62.17	Yes	17.1	
1065184	No	1065183			Yes	14.6	
1065218	No	1065219			Yes	24.6	
1065219	Yes		MIS02	60.3	Yes	13.9	
1065095	Yes		MIS03	60.65	Yes	106.4	
1065099	Yes		MIS04	60.05	Yes	126.8	
1064840	Yes		MIS05	60.34	Yes	241.7	
			MIS06	62.38	Yes		
1065096	Yes		MIS07	61.88	Yes	171.6	
1064964	Yes		MIS08	64.82	Yes	28.0	
1064969	Yes		MIS09	64.46	Yes	170.7	
			MIS10	62	Yes		
1064976	Yes		MIS11	61.88	Yes	34.0	
1064974	Yes		MIS12	60.1	Yes	146.5	
1064968	Yes		MIS13	61.62	Yes	217.5	
			MIS14	62.19	Yes		
1064970	Yes		MIS15	63.39	Yes	94.3	
1065100	Yes		MIS16	60.23	Yes	37.7	
1064967	No	1064966			Yes	34.5	
1064836	Yes		MIS17	60.25	Yes	22.7	
1064837	No	1064836			Yes	46.7	
1064838	Yes		MIS18	55.67	No		
1064839	No	1064840			Yes	23.8	
1064965	No	1064964			Yes	22.3	
1064966	Yes		MIS19	63.76	Yes	22.0	
1064975	Yes		MIS20	60.68	Yes	53.1	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
1063496	Yes		MIS21	64.22	Yes	42.9	
1065097	No	1065096			Yes	35.9	
1065217	No	1065219			Yes	17.8	
1065215	No	1065219			Yes	14.2	
1065216	No	1065219			Yes	14.5	
1065475	No	1064976			Yes	39.8	
<b>NORTH SERVICE RD</b>						<b>139.1</b>	
1064771	Yes		NSR01	64.27	Yes	31.2	
1064772	Yes		NSR02	64.29	Yes	25.4	
1064775	No	1064774			Yes	31.7	
1064774	Yes		NSR03	64.1	Yes	28.9	
1064773	No	1064772			Yes	21.9	
<b>NORTH SHERIDAN WAY</b>						<b>127.7</b>	
1064823	Yes		NSW01	56.21	No		
			NSW02	56.88	No		
			NSW03	56.43	No		
1064825	Yes		NSW04	58.16	No		
			NSW05	58.7	No		
1064824	Yes		NSW06	56.43	No		
			NSW07	56.88	No		
			NSW08	58.76	No		
1064821	No	1064822			Yes	48.9	
1064822	Yes	1064822	NSW09	60.1	Yes	78.8	
1064807	Yes		NSW10	57.89	No		
			NSW11	58.17	No		
<b>OGDEN AVE</b>						<b>0.0</b>	
1064675	No				not assessed <sup>2</sup>		
1064677	Yes		OGD01	57.57	No		
1064690	Yes		OGD02	58.09	No		
1064689	No	1064688			No		
1064688	Yes		OGD03	58.52	No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>RATHBURN RD</b>			<b>2092.1</b>				
1065018	No	1065017			No		
1065022	No	1065021			No		
1065023	No	1065024			No		
1065050	No	1065048			Yes	12.5	
1065049	No	1065048			Yes	14.5	
432284	Yes		RAT01	63.39	Yes	47.4	
432285	No	432284			Yes	54.9	
432286	Yes		RAT02	64.25	Yes	55.7	
432287	No	432286			Yes	24.8	
1065019	Yes		RAT03	58.76	No		
1065020	Yes		RAT04	58.13	No		
1065026	Yes		RAT05	60.2	Yes	76.6	
1065043	No	1065044			No		
1065048	Yes		RAT06	61.22	Yes	104.9	
1065024	Yes		RAT07	59.04	No	27.5	noise wall is partially justified; noise wall is recommended to extend from east-end to 28 m easterly
			RAT08	60.2	Yes		
1065044	Yes		RAT09	59.74	No		
1065021	Yes		RAT10	56.76	No		
			RAT11	56.23	No		
1065045	Yes		RAT12	59.94	No		
1065046	Yes		RAT13	60.29	Yes	228.6	
			RAT14	60.22	Yes		
1065017	Yes		RAT15	58.7	No		
			RAT16	57.48	No		
1065042	Yes		RAT17	62.32	Yes	49.4	
1065032	Yes		RAT18	62.56	Yes	91.3	
1065047	No	1065046			Yes	19.2	
1065025	Yes		RAT19	60.2	Yes	108.3	
1065066	No	1065063			Yes	19.4	
1065064	No	1065063			Yes	25.2	
1065063	Yes		RAT20	60.01	Yes	76.4	
1065069	Yes		RAT21	61.63	Yes	141.6	
1065071	Yes		RAT22	62.45	Yes	210.7	
			RAT23	62.97	Yes		
1065068	Yes		RAT24	59.12	No		
			RAT25	59.48	No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B  
 2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
1065072	Yes		RAT26	62.86	Yes	181.8	
			RAT27	62.28	Yes		
1065070	Yes		RAT28	62.59	Yes	75.3	
1065067	No	1065068			No		
431958	Yes		RAT29	62.05	Yes	19.9	
2020941	Yes		RAT30	58.1	No		
1065007	No	1065008			Yes	27.9	
1065008	Yes		RAT31	60.78	Yes	77.8	
1065009	Yes		RAT32	63.84	Yes	70.0	
1065010	No	1065009			Yes	58.1	
1065005	No	1065006			Yes	27.0	
1065006	Yes		RAT33	62.06	Yes	69.3	
1065011	Yes		RAT34	64.25	Yes	67.2	
1065012	No	1065011			Yes	28.6	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>RIDGEWAY DR</b>						<b>1990.2</b>	
431401	Yes		RID01	62.11	Yes	268.8	
			RID02	60.7	Yes		
			RID03	62.94	Yes		
1065441	Yes		RID04	60.13	Yes	139.2	
			RID05	61.26	Yes		
1065456	Yes		RID06	61.21	Yes	174.7	
			RID07	63.17	Yes		
1065440	Yes		RID08	60.45	Yes	139.3	
1065439	Yes		RID09	62.48	Yes	311.6	
			RID10	61.5	Yes		
			RID11	61.22	Yes		
431402	Yes		RID12	62.38	Yes	64.0	
427298	Yes		RID13	62.65	Yes	100.4	
1065454	Yes		RID14	66.14	Yes	53.4	
1065455	No	1065456			Yes	7.9	
431396	Yes		RID15	59.65	No	284.1	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection
			RID16	60.82	Yes		
			RID17	60.01	Yes		
431399	Yes		RID18	62.05	Yes	291.2	
			RID19	60.82	Yes		
			RID20	62.39	Yes		
2009184	Yes		RID21	59.78	No		
431404	No	431402			Yes	16.8	
1065438	Yes		RID22	60.69	Yes	138.8	
1066671	Yes		RID23	59.15	No		
1066672	No	1066671			No		
<b>SOUTH SERVICE RD</b>						<b>369.7</b>	
1064664	Yes		SSR01	65.41	Yes	112.2	
1064663	Yes		SSR02	63.77	Yes	90.3	
1064647	Yes		SSR03	65.94	Yes	27.6	
1064648	No	1064647			Yes	17.4	
1064665	No	1064664			Yes	10.6	
1064710	No	1064709			Yes	37.3	
1064649	No	1064647			Yes	21.6	
1064709	Yes		SSR04	62.91	Yes	52.9	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>SOUTH SHERIDAN WAY</b>						<b>1131.6</b>	
1064724	Yes		SSW01	57.8	No		
			SSW02	58.63	No		
1064723	Yes		SSW03	56.88	No		
			SSW04	59.57	No		
			SSW05	59.33	No		
			SSW06	57.8	No		
1064722	Yes		SSW07	60.49	Yes	125.5	
1064582	Yes		SSW08	60.11	Yes	375.9	
			SSW09	60.54	Yes		
			SSW10	61.58	Yes		
			SSW11	60.78	Yes		
2015902	Yes		SSW12	65.06	Yes	83.8	
1064726	Yes		SSW13	58.42	No	102.0	noise wall is partially justified; noise wall is recommended to extend from east-end to 102 m easterly (houses on the rest of the street exhibit similar characteristics as the houses where noise walls are justified; however, noise calculation is less than 60 dBA)
			SSW14	59.09	No		
			SSW15	61.28	Yes		
1064725	Yes		SSW16	56.22	No		
			SSW17	59.19	No		
			SSW18	59.57	No		
			SSW19	58.63	No		
			SSW20	59.83	No		
1064721	Yes		SSW21	60.45	Yes	89.0	
1064583	No	1063162			Yes	18.2	
1064579	No	2015902			Yes	28.6	
1064578	Yes		SSW22	64.72	Yes	48.9	
1064580	No	1064581			Yes	36.5	
1064581	Yes		SSW23	62.91	Yes	65.4	
1063162	Yes		SSW24	64.72	Yes	32.0	
1063163	No	1063162			Yes	32.0	
1064728	No	1064727			Yes	51.8	
1064727	Yes		SSW25	62.69	Yes	42.2	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>SOUTHDOWN RD</b>						<b>1222.7</b>	
1064562	Yes		SDR01	64.08	Yes	417.9	
			SDR02	62.65	Yes		
			SDR03	66.52	Yes		
			SDR04	62.95	Yes		
1064561	Yes		SDR05	63.33	Yes	322.3	
			SDR06	61.99	Yes		
			SDR07	61.83	Yes		
1064576	Yes		SDR08	63.45	Yes	125.1	
1064571	Yes		SDR09	63.8	Yes	314.7	
			SDR10	63.86	Yes		
			SDR11	64.99	Yes		
1065463	Yes		SDR12	64.16	Yes	10.1	
1064563	No	1064562			Yes	32.5	
<b>TENTH LINE</b>						<b>1071.0</b>	
1063819	Yes		TEN01	61.96	Yes	27.4	
1063821	No	1063820			Yes	30.8	
1063822	No	1063820			Yes	23.1	
1063820	Yes		TEN02	61.65	Yes	19.4	
1065422	Yes		TEN03	58.69	No		
			TEN04	59.46	No		
1065425	Yes		TEN05	58.5	No		
			TEN06	57.73	No		
			TEN07	58.47	No		
1065426	Yes		TEN08	61.35	Yes	127.0	
427212	Yes		TEN09	59.48	No		
			TEN10	59.1	No		
1065419	Yes		TEN11	60.25	Yes	242.8	
			TEN12	60.99	Yes		
			TEN13	60.99	Yes		
1065420	Yes		TEN14	60.25	Yes	274.1	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection
			TEN15	58.57	No		
			TEN16	61.18	Yes		
1065424	Yes		TEN17	57.27	No		
			TEN18	56.88	No		
			TEN19	59.28	No		
			TEN20	59.77	No		

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
1065423	No	1065422			No		
427213	Yes		TEN21	60.98	Yes	31.5	noise wall is partially justified; noise wall is recommended to extend from south-end to 32 m northerly
			TEN22	58.94	No		
1065427	Yes		TEN23	61.35	Yes	222.2	
			TEN24	60.99	Yes		
1065436	Yes		TEN25	61.45	Yes	26.3	
430439	Yes		TEN26	59.77	No		
			TEN27	57.69	No		
			TEN28	57.69	No		
1063812	No	1065427			Yes	46.6	
<b>TERRY FOX WAY</b>						<b>0.0</b>	
706346	Yes		TER01	57.92	No		
<b>THE COLLEGEWAY</b>						<b>1179.3</b>	
1065001	Yes		THE01	59.35	No		
1064995	No	1064993			Yes	7.1	
1064996	No	1064993			Yes	35.1	
1064997	Yes		THE02	62.82	Yes	48.7	
1064998	No	1064997			Yes	6.7	
1064999	No	1064997			Yes	5.4	
1065000	No	1064997			Yes	7.3	
1064962	Yes		THE03	58.85	No		
1065458	Yes		THE04	60.18	Yes	164.0	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection
			THE05	59.94	No		
1064988	Yes		THE06	60.86	Yes	468.4	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection
			THE07	59.33	No		
			THE08	60.78	Yes		
			THE09	59.6	No		
			THE10	61.83	Yes		
1064989	Yes		THE11	60.22	Yes	231.0	noise wall is partially justified; noise wall is recommended to extend from west-end to 68 m easterly, from east-end to 50 m westerly, and 81 m in the middle for houses 2555 to 2565 Windjammer Road (houses on the rest of the street exhibit similar characteristics as the houses where noise walls are justified; however, noise calculation less than 60 dBA)

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A



NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
			THE12	58.84	No		
			THE13	59.97	No		
			THE14	58.36	No		
			THE15	61.12	Yes		
1064991	No	1064989			Yes	37.3	
1064990	No	1064988			Yes	21.1	
1064987	No	1064989			Yes	22.3	
1064986	No	1064988			Yes	34.1	
1065457	Yes		THE16	62.34	Yes	25.0	
1064993	Yes		THE17	62.05	Yes	58.7	
1064994	No	1064993			Yes	7.1	
<b>THOMAS ST</b>						<b>897.7</b>	
1065231	No	427261			Yes	17.5	
1066084	No	1065256			Yes	8.8	
2001435	No	1065235			Yes	13.2	
1065257	Yes		THO01	60.02	Yes	105.5	
429710	No	429707			Yes	18.8	
429707	Yes		THO02	61.79	Yes	11.8	
1066081	Yes		THO03	62.34	Yes	8.6	
1065255	No	1065254			Yes	17.4	
1065254	Yes		THO04	61.45	Yes	20.3	
706054	No				not assessed <sup>2</sup>		
1065232	Yes		THO05	63.68	Yes	11.5	
427264	Yes		THO06	61.08	Yes	97.5	
427267	Yes		THO07	59.86	No		
427261	Yes		THO08	60.86	Yes	132.6	
1065234	Yes		THO09	58.93	No		
1065233	Yes		THO10	60.04	Yes	300.4	
			THO11	60.04	Yes		
			THO12	60.16	Yes		
1065235	Yes		THO13	62.23	Yes	42.6	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
1065259	No	1065258			Yes	19.2	
1065260	No	1065258			Yes	17.9	
1065261	No	1065258			Yes	6.1	
1065262	No	1065258			Yes	6.7	
1065263	No	429707			Yes	7.1	
1065258	Yes		THO14	61.79	Yes	17.1	
1065256	Yes		THO15	62.85	Yes	17.1	
<b>TOMKEN RD</b>						<b>1547.5</b>	
1064864	Yes		TOM01	58.77	No		
1064862	Yes		TOM02	59.09	No		
			TOM03	58.85	No		
			TOM04	58.86	No		
1064860	Yes		TOM05	59.33	No	48.8	noise wall is partially justified; noise wall is recommended to extend from north-end to 49 m southerly
			TOM06	59.59	No		
			TOM07	60.42	Yes		
1064863	Yes		TOM08	60.02	Yes	381.6	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection
			TOM09	58.23	No		
			TOM10	60.8	Yes		
			TOM11	60.8	Yes		
1064865	Yes		TOM12	61.08	Yes	214.9	
			TOM13	61.08	Yes		
1064861	Yes		TOM14	59.33	No	55.5	noise wall is partially justified; noise wall is recommended to extend from north-end to 56 m southerly
			TOM15	60.52	Yes		
1064859	Yes		TOM16	62.89	Yes	66.0	
1064869	Yes		TOM17	60.42	Yes	102.5	
1064867	Yes		TOM18	59.77	No	267.4	noise wall is partially justified; the whole section is recommended to be implemented for effective noise protection

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
			TOM19	60.13	Yes		
			TOM20	60.05	Yes		
1064870	Yes		TOM21	60.25	Yes	216.7	
			TOM22	60.25	Yes		
1064871	Yes		TOM23	59.59	No		
			TOM24	59.99	No		
			TOM25	58.03	No		
1064868	Yes		TOM26	61.37	Yes	37.9	
1064866	Yes		TOM27	61.71	Yes	130.4	
1065029	Yes		TOM28	61	Yes	25.8	
<b>TRUSCOTT DR</b>						<b>230.4</b>	
1064763	Yes		TRU01	61.98	Yes	18.9	
1064761	Yes		TRU02	58.63	No		
1064757	Yes		TRU03	57.31	No		
1064619	Yes		TRU04	58.79	No		
1064759	Yes		TRU05	59.46	No		
1064618	Yes		TRU06	57.76	No		
1064617	No	1064618			No		
1064606	No	1064607			Yes	26.0	
1064608	No	1064607			Yes	39.6	
1064607	Yes		TRU07	60.97	Yes	52.8	
1064616	Yes		TRU08	60.53	Yes	16.9	
1064621	No	1064618			No		
1064762	No	1064759			No		
1064760	No	1064759			No		
1064764	No	1064765			Yes	7.5	
1064765	Yes		TRU09	62.66	Yes	24.8	
1064604	Yes		TRU10	62.18	Yes	17.2	
1064605	No	1064616			Yes	26.7	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

NW ID	NW Assessed	If not assessed, refer to NW with similar condition	Receiver ID	Noise Level (dBA) <sup>1</sup>	NW Justified	NW Length (m) included in DC	Comment
<b>WINSTON CHURCHILL BLVD</b>						<b>1323.6</b>	
1064758	Yes		WIN01	61.48	Yes	113.0	noise wall is partially justified; noise wall is recommended to extend from south-end to 113 m northerly
			WIN01T	60.79	Yes		
			WIN02	58.4	No		
1064978	No	1053135			Yes	90.4	
1065102	Yes		WIN03	65.68	Yes	167.8	
			WIN04	65.87	Yes		
1064977	Yes		WIN05	65.94	Yes	128.0	
1065104	Yes		WIN06	62.76	Yes	306.6	
			WIN07	66.99	Yes		
			WIN08	62.92	Yes		
1064979	Yes		WIN09	65.92	Yes	116.5	
1065103	No	1065104			Yes	33.6	
1065437	Yes		WIN10	66.36	Yes	15.8	
1065410	No	1065411			Yes	12.8	
429602	No	429604			Yes	4.6	
1065421	Yes		WIN11	65.61	Yes	15.2	
429604	Yes		WIN12	62.11	Yes	7.4	
1064980	No	431454			Yes	15.1	
1065411	Yes		WIN13	63.2	Yes	29.8	
431454	Yes		WIN14	66.22	Yes	27.1	
1053135	Yes		WIN15	67.16	Yes	195.5	
			WIN16	67.08	Yes		
1065236	Yes		WIN17	66.34	Yes	44.6	
<b>Total</b>						<b>30099.5</b>	

Note: 1. Noise levels were calculated based on 2041 volumes (16-hour), refer to Appendix B

2. Noise wall was not included in the assessment, refer to remarks in Appendix A

# Appendix F

## Growth / Non-Growth Cost Sharing Assumptions



Table F-1

**CITY OF MISSISSAUGA  
2019 DEVELOPMENT CHARGES UPDATE STUDY**

**PROPOSED COST SHARING SCENARIOS  
BETWEEN CITY (NON-GROWTH) AND CITY-WIDE DC (GROWTH)  
(Method of Assessing Benefit to Existing)**

Scenario	Maintain Existing Infrastructure (City Responsibility - Non-Growth)		Upgrade Existing Road and Add Capacity (Shared City (Non-Growth) and City-Wide DC (Growth))		Cost Sharing	
	Improvement <sup>1</sup>	Cost	Improvement	Cost	Non-Growth	Growth
Existing 2 Lane Urban Road	Resurface 2 Lane Road	\$277,000	Resurface and Widen from 2 to 4 Lanes	\$2,317,000	12%	88%
Existing 2 Lane Urban Road	Resurface 2 Lane Road	\$277,000	Resurface and Widen from 2 to 6 Lanes	\$3,305,000	8%	92%
Existing 4 Lane Urban Road	Resurface 4 Lane Road	\$499,000	Resurface and Widen from 4 to 6 Lanes	\$2,490,000	20%	80%

<sup>1</sup> - Assumes resurfacing of entire road surface and 50% curb and gutter replacement

**ALLOCATING GROWTH AND NON-GROWTH COST SHARING**

Type of Road Improvement	Non-Growth	Growth (City-Wide DC)
2 to 4 Lane Widennings	10%	90%
2 to 6 Lane Widennings	10%	90%
4 to 6 lane Widennings	20%	80%

**Table F-2**

**CITY OF MISSISSAUGA**

**2019 DEVELOPMENT CHARGES UPDATE STUDY**

**DEVELOPER / CITY-WIDE DC COST SHARING  
ON MAJOR COLLECTOR ROADS**

Costing Items	2 Lane Construction (8m)	4 Lane Construction (15.5m)	Estimated Cost of a 5th Lane
Road Construction Cost	2,274,000	2,958,000	319,200
Sidewalks	215,600	215,600	
Illumination	400,000	400,000	
<b>Total Cost</b>	<b>2,889,600</b>	<b>3,573,600</b>	<b>319,200</b>
Portion of Total Road Cost That is Attributable to the Developer			
	<u>Curb to Curb only</u>	<u>Road, SW, and Illum.</u>	
2 Lane Collector	100%	100%	
4 Lane Collector	77%	81%	
5 Lane Collector	69%	74%	

**ALLOCATING DEVELOPER AND CITY-WIDE DC COST SHARING**

Costing Items	Growth Related	
	Developer	City-Wide DC
4 Lane Collectors	80%	20%
5 Lane Collectors	75%	25%

# **Appendix G**

## **Cost of Growth Analysis – Transit (MiWay) Services**





## Appendix G

### Cost of Growth Analysis – Transit (MiWay) Services

An asset management plan and long-term capital and operating impact analysis is required to address the requirements of the Development Charge legislation related to transit services. This appendix presents capital investment requirements related to growth needs over the 10-year period from 2019-2028. The information contained within, is a summary analysis from existing plans, studies, and reports completed by the City of Mississauga and generally addresses development charge requirements for transit assets contained with the Development Charges Act (DCA). A comprehensive cost of growth analysis, including an asset management plan checklist, is provided in the City-wide DC Background Study.

Managing transit assets long-term requires a comprehensive demand and asset management approach. The approach employed by Mississauga is a comprehensive and evaluates the full lifecycle of the transit infrastructure. Included in this summary report, is an analysis for the 10-year 2019-2028 benefitting period. The analysis is based upon the most recent available information.

This section was informed through discussions with Mississauga as well as from previous studies completed by Hemson Consulting Ltd. as part of the City of Toronto and City of Ottawa DC Background studies.

#### A. Background

The DCA states the requirements for the background study evaluate the capital costs associated with related to the current service and all growth to the service. In both cases capital costs are to be evaluated based on the capital related to existing and new services as identified in section 8 (1) as follows:

Section 8. (1) A development charge background study under section 10 of the Act shall set out the following for each service to which the development charge relates:

1. The total of the estimated capital costs relating to the service.
2. The allocation of the costs referred to in paragraph 1 between costs that would benefit new development and costs that would benefit existing development.

3. The total of the estimated capital costs relating to the service that will be incurred during the term of the proposed development charge by-law.
4. The allocation of the costs referred to in paragraph 3 between costs that would benefit new development and costs that would benefit existing development.
5. The estimated and actual value of credits that are being carried forward relating to the service. O. Reg. 82/98, s. 8.

When transit services are part of the DC, the DCA states that the study must evaluate ridership forecasts over the 10-year benefitting period as well as beyond 10-years. The study is required to evaluate the ridership related to servicing new development. Specifically, the Act states in section 8.(2) the following:

Section 8. (2) Any background study by the municipality under section 10 of the Act that incorporates the cost of transit services shall set out the following:

1. The calculations that were used to prepare the estimate for the planned level of service for the transit services, as mentioned in subsection 5.2 (3) of the Act.
2. An identification of the portion of the total estimated capital cost relating to the transit services that would benefit,
  - i. the anticipated development over the 10-year period immediately following the preparation of the background study, or
  - ii. the anticipated development after the 10-year period immediately following the preparation of the background study.
3. An identification of the anticipated excess capacity that would exist at the end of the 10-year period immediately following the preparation of the background study.
4. An assessment of ridership forecasts for all modes of transit services proposed to be funded by the development charge over the 10-year period immediately following the preparation of the background study, categorized by development types, and whether the forecasted ridership will be from existing or planned development.

5. An assessment of the ridership capacity for all modes of transit services proposed to be funded by the development charge over the 10-year period immediately following the preparation of the background study. O. Reg. 428/15, s. 4.

Furthermore, for transit services the Act states there must be an asset management plan (AMP) developed in accordance with Section 8. (3) of the DCA. This section sets out requirements of the Transit AMP which clearly defines the state of the infrastructure, levels of service, asset strategy, and the financial strategy for sustainable services. The current Transit AMP referenced as part of this undertaking was published in 2016 by the City of Mississauga and is scheduled for a complete update every five-year.

## **B. Relevant Analysis and Documents**

The City of Mississauga employs a comprehensive financial analysis and planning approach through the utilization of robust processes to evaluate long-term capital, operations and maintenance (O&M) costs of infrastructure. This approach ensures that cost to deliver services are well understood, services and the infrastructure which deliver them can be sustainably managed long-term and that tax and rate payer funds are invested wisely to maintain the desired levels of services.

The City has developed their guiding strategies, including their asset management strategy, to align with the guiding principles and strategic goals defined as important by residents to provide long-term sustainability of services. This includes building infrastructure services decision-making approaches on the strategic pillars of Move, Belong, Connect, Prosper, and Green.

The City of Mississauga's website contains a number of key documents detailing current practice, frameworks, asset management plans and guiding policies. The City maintains a three-year business plan for MiWay assets in addition to an annual budget, Corporate and Transit AMPs, and a Long Range Financial Plan. The following links provide insight into those initiatives:

- *Corporate Policies can be found here:*  
<http://www.mississauga.ca/portal/cityhall/policies>
- *City of Mississauga – Long-Range Financial Plan can be found here:*

The City has developed a Long-Range Financial Plan to help the City understand the financial aspects of the long-term capital and operating expenditures associated with maintaining and growing the City, and to guide the City in delivering the critical

infrastructure and programs that the residents rely on. The Long-Range Financial Plan is a tool that helps identifying potential funding gaps and strategies to improve financial sustainability. This can be found here:

<http://www.mississauga.ca/file/COM/Long%20Range%20Financial%20Plan.pdf>

- *City of Mississauga – MiWay 2019-2022 Business Plan & 2019 Budget*

The City's Business Plan reflects a shorter-term forecast of the City's capital and operating expenditures associated with infrastructure and social programs. Every year, the City updates their 3-year forecast business plan and budget, which includes a comprehensive assessment of their transit needs and associated costs. The Business Plan is premised on sound financial management practices, and strives achieve efficiencies in spending where feasible. This can be *found here*:

<http://www7.mississauga.ca/eCity/Budget/img/serviceareas/business-plans/2019-miway-summary.pdf>

### **C. MiWay Asset Management Plan (AMP) Requirements**

The development of the 10-year MiWay AMP for transit related services includes the capital and O&M costs of continuing with the current level of service delivery and the projected expansion of services associated with development.

The MiWay AMP groups transit assets into the defined asset categories as follows:

1. Buses
2. Higher Order Transit
3. On-Street Facilities\*
4. Other Transit\*
5. Transit Buildings\*
6. Other (Non-Bus) Vehicles and Equipment

\*Note: These items will be covered in a separate section.

This section summarizes existing information from the 2016 MiWay Asset Management Plan to address 8 (3) of O.Reg. 82/98. Where possible, known updates had been incorporated into this Appendix. A full update of the MiWay Transit AMP is scheduled to be completed in 2021, every five-year.

## State of the Transit Infrastructure

The fleet as identified in the 2016 MiWay Asset Management Plan is comprised of major licensed busses, medium licensed vehicles and various major and medium operating equipment. The following Table 1 is from the MiWay AMP, Section 2.1 Asset Inventory.

**Table 1: Asset Inventory**

Service Area	Asset Category	Asset Sub-Category	Inventory
MiWay	Vehicles	Major Licensed Vehicles (Buses)	467
		Medium Licensed Vehicles	60
	Equipment	Major Operating Equipment	Various
		Medium Operating Equipment	Various

Source: Table from MiWay AMP

The presented condition of the fleet is identified to have high reliability and accuracy of information and shows 31% of the assets to be in Very Good condition, 59% in Good, 10% in Fair Condition. There is limited information regarding On-Street, Transit Buildings, or Other Transit asset classes in the 2016 MiWay AMP.

As of 2016, MiWay's vehicles and equipment were valued at over \$260 million as presented below in Table 2.

**Table 2: Asset Replacement Value**

Asset Type	Asset	Replacement Value (\$ 000's)	Total (\$000's)
Vehicles	Major Licensed Vehicles (Buses)	246,791	248,461
	Medium Licensed Vehicles	1,670	
Equipment	Major Operating Equipment	1,276	12,307
	Medium Operating Equipment	11,031	
<b>Total Assets</b>			<b>260,768</b>

Source: MiWay AMP (2016)

## Levels of Service

Levels of Service (LoS) identify the level at which the service is being provided to. MiWay define the level(s) at which the service will be provided, and such that users and staff have consistent expectations. Levels of Service can be customer focused (ex. frequency of service,) or technical (ex. Mean Time Between Failures,) focused.

The LoS section discussed internal and external trends and their impacts on service delivery. These factors considered included:

- Knowledge retention;
- Organizational change;
- Regulatory requirements;
- Social / Demographics changes;
- Technology; and
- Environment.

MiWay, through their five-year service plan (MiWay Five (2016-2020)), has updated their operating service standards and performance indicators. The updated standards set out the benchmarks against which the performance of the transit network is assessed, guides decision making regarding current and new service planning (e.g. routes, service frequency, hours of service, etc.), and ultimately ensure that there is a traceable and justifiable approach to operating their municipal bus services.

More information on the MiWay Five Transit Service Plan (2016-2020) is available at:

<http://www.mississauga.ca/portal/miway/miwayfive>

The MiWay Five (2016-2020) report includes, in Appendix B – Service Standards, an assessment of the performance of all routes at the time of the study. MiWay continues to monitor the routes and assess their performance on the above-noted criteria in the interim, on a regular basis, since the MiWay Five (2016-2020) service plan came into effect.

## Asset Management Strategy

The objective of the asset management strategy is to set-out the process, actions and supports that define how services are provided sustainably to the defined levels of service while managing service delivery risk. It defines assumptions on asset lifecycles, Operations and Maintenance (O&M) activities, recapitalization, and asset and service delivery risk management.

Expected useful lives are defined for asset classes so that these assumptions can be used in modeling capital investment needs. The expected useful lives used by Mississauga for Transit related assets are as follows:

**Table 3: Excepted Useful Lives**

Buses	Lifecycle	Lifecycle Costs
Diesel 40 ft.	15 Years	\$585,000
Diesel 60 ft.	12 Years	\$940,000
Other Vehicles	10 years or 200,000 kilometers	Varies

Source: MiWay's 2016 Asset Management Plan, Table 4-3 & DC study background information

The current lifecycle analysis of the diesel bus fleet includes both 40 ft (12.2m) and 60 ft (18.3 m) buses. Scheduled fleet maintenance activities were known and estimates of typical capital costs were utilized to develop the estimated lifecycle costs for the various bus configurations.

## Risk Management

Every municipal service is subject to risks and how the risks are managed are essential to having a long-term sustainable service. In support of delivering the services, the MiWay AMP identifies several potential risks and management approaches to minimize the potential impacts as follows:

**Table 4: Asset Management Risks**

Identified Risk	Potential Impacts	Mitigation
Public pressure to improve service levels	<ul style="list-style-type: none"> <li>• Failure to deliver service expectations</li> <li>• Increased pressure on operating and capital budgets</li> </ul>	<ul style="list-style-type: none"> <li>• Future Demand Strategies in place</li> <li>• Long-term financial planning</li> </ul>
Failed infrastructure	<ul style="list-style-type: none"> <li>• Failure to deliver planned service</li> <li>• Damage to MiWay fleet</li> <li>• Reduced reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Repair/replace</li> <li>• Regular Inspections</li> <li>• Increase investment</li> </ul>
Inadequate Funding	<ul style="list-style-type: none"> <li>• Service reduction</li> <li>• Asset retirements</li> <li>• Increased risk of failure</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce transit service</li> <li>• Request additional funding from other levels of government</li> <li>• Scale back growth plan</li> </ul>
Legislation Changes	<ul style="list-style-type: none"> <li>• Disruption to planning efforts</li> <li>• Additional operating costs</li> <li>• Mandatory capital investments</li> </ul>	<ul style="list-style-type: none"> <li>• Lobby against additional costs</li> <li>• Request additional funding from other levels of government</li> <li>• Reduce service levels</li> </ul>
Economic Changes	<ul style="list-style-type: none"> <li>• Reduced/increased public demand for MiWay services</li> </ul>	<ul style="list-style-type: none"> <li>• Change, increase or stop certain services</li> </ul>
Reduction in Federal and Provincial Gas Tax Funding	<ul style="list-style-type: none"> <li>• Service reduction</li> <li>• Increased pressure on operating and capital budgets</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce service levels</li> <li>• Long-term financial planning (increase reserve funds)</li> <li>• Reduce capital program</li> </ul>
Climate Change	<ul style="list-style-type: none"> <li>• Additional unplanned costs</li> <li>• Unpredicted future impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term financial planning (increase reserve funds)</li> </ul>

Source: MiWay AMP (2016)



## Financial Strategy

In the previous sections of the AMP, knowledge and assumptions about the assets which are used to deliver services are presented. In this section, a financial strategy must be provided that aligns with the previous sections.

The MiWay Asset Management Plan (2016) contains a section summarizing the financial strategy for the provision of sustainable transit services. This financial strategy section defines the capital investment requirements for providing the current transit services at the current levels of service. The MiWay AMP includes a 10-year capital forecast over the years 2017 – 2026. The financial model reported in the financial strategy includes the approved capital budget for 2017, the remainder of the forecasted budget for 2018 & 2019, as well as a long-term forecast of expected spending between 2020 – 2026.

This section also provides a breakdown of expected ridership and revenue, key assumptions and any challenges identified. For transit the following capital budget has been identified from 2017-2026.

**Table 5: Transit Capital Budget and Funding**

Program Expenditures	2017 Approved Budget (\$000's)	2018 Forecast (\$000's)	2019 Forecast (\$000's)	2020- 2026 Forecast (\$000's)	Total 2017- 2026 (\$000's)
Buses	13,876	60,231	8,073	277,466	359,646
Higher Order Transit	0	0	0	0	0
On-Street Facilities	2,926	3,426	290	2,030	8,672
Other Transit	2,400	500	650	1,150	4,700
Transit Buildings	6,180	4,160	60	2,420	12,820
Transit Vehicles and Equipment	4,150	1,305	1,455	2,570	9,480
<b>Total</b>	<b>29,532</b>	<b>69,622</b>	<b>10,528</b>	<b>285,636</b>	<b>395,318</b>

Source: MiWay AMP (2016)

The table above from the MiWay AMP, only covered a 10-year period from 2016-2026. This capital planning horizon varies from the DC study. While the table above simply summarizes the existing AMP, for the DC study the financial model was updated to cover the required planning horizon. For further details related to years 2027 & 2028 of the long-term capital plan, please see **Section D** of the report.

Funding of the Capital Budget is done through various sources including federal and provincial funds, development charges, user fees, municipal taxes, debt or other sources. Funding expectations provided in the MiWay AMP are as follows:

**Table 6: Transit Funding Source (2017-2026)**

<b>Funding</b>	<b>2017 Approved Budget (\$000's)</b>	<b>2018 Forecast (\$000's)</b>	<b>2019 Forecast (\$000's)</b>	<b>2020-2026 Forecast (\$000's)</b>	<b>Total 2017-2026 (\$000's)</b>
Development Charges	1,128	1,560	-	11,238	13,926
Federal Gas Tax	11,978	4,820	6,755	272,792	296,345
Provincial Gas Tax	-	2,700	-	-	2,700
Other	8,552	29,751	-	-	38,303
Subsidies and Senior Govt. Level Grants	-	-	-	-	-
Tax	6,625	30,791	3,733	1,606	42,795
Debt	1,250	-	-	-	1,250
<b>Total</b>	<b>29,532</b>	<b>69,622</b>	<b>10,528</b>	<b>285,636</b>	<b>395,318</b>

Source: MiWay AMP (2016)

## **D. Transit Services Long-Term Management Strategy**

O.Reg. 82/98 defines the asset management and financial plan information which is required to be included in the DC Background Study. The DC study requires a comprehensive understanding and evaluation of asset classes associated with the delivery of transit services. This must include a 10-year analysis of capital investment required to provide the current levels of service and the capital investment requirements associated with growth.

The evaluation and analysis included within this section evaluates transit assets from the three assets classes managed by MiWay. These asset classes include:

1. Non-Development Charge Capital Projects
2. Rolling Stocks (Transit Buses)
3. Vehicles (Non-Bus) and Equipment

Other transit infrastructure including, On-Street Facilities and Transit Buildings are discussed in the Transit Cost of Growth Analysis included in the 2019 DC Background Study.

Development Charges are associated with increases to the transit system to provide services to new developments, or redevelopments. The capital costs associated with providing a new level of service to addressing the increasing demand are included in the development charge analysis.

Lifecycle costs of existing assets are not development charge relatable as they do not provide an increase in the services delivered. These capital costs include, the purchase of a new bus at the end of its lifecycle, or the replacement of a transit facility with similar.

There may be additional large-scale projects which will be funded either with partners, or through alternative funding mechanisms. These large-scale projects do provide an augmented level of service to transit, but the funding mechanisms of these projects set them outside of the DC process. We identify these projects as non-development charge capital projects.

## 1. Non-Development Charge Capital Projects

The City of Mississauga is planning to undertake three major capital projects over the assessment period for the Development Charges Study: the Dundas Connects project, the Lakeshore Connecting Communities Study, and the Downtown Transitway study.

These projects are described herein for information purposes, but not included in the Development Charges costing assessment; the ultimate ownership of these projects and associated rolling stock has not been confirmed as these works are still at the planning stage.

- **Dundas Connects:** In June of 2018, the City's Planning and Development Committee approved the Dundas Connects Master Plan study. The Dundas Connects study recommends intensification along the Dundas Street corridor in Mississauga to better provide mixed-use, transit supportive development, and modifications to the transportation network to enhance access and connectivity throughout the corridor by improvements to non-auto modes of travel. Specifically, and most relevant to this assignment, is the proposed implementation of a Bus Rapid Transit facility in the corridor. The project is estimated to cost between \$422 and \$502 million for implementation of the necessary project infrastructure.

Dundas connects will have add 15 busses to the Mississauga's portfolio across 2027 & 2028 at a cost of \$13.5 million. Additional information can be found here:

<https://yoursay.mississauga.ca/transportation-masterplan>

- **Lakeshore Connecting Communities:** The City is currently undertaking an assessment of the Lakeshore Road / Royal Windsor Drive corridor, from Winston Churchill Boulevard and the eastern City Limit. Similar to the Dundas Connects study, the Lakeshore Connecting Communities study aims to provide a more-integrated transportation and land-use plan for the corridor, enhancing connections and improving the efficiency of the transportation network. The study recommends the implementation of a Bus Rapid Transit facility through the corridor, comprised of a mix of curbside and median exclusive bus lanes.

The Lakeshore Connecting Communities study is ongoing, but is anticipated open within the timeframe of the Development Charges study, and will result in a requirement for additional service vehicles. The first phase of the project to be implemented – between East Avenue and Etobicoke Creek - is anticipated to open in 2028, with the remainder of the project westward to Winston Churchill Boulevard following immediately after. The project is currently in the planning phase and the cost of the project has not yet been confirmed.

Seven (7) new busses costing \$6.3 million will be added in 2027-2028 to support service delivery in connecting Lakeshore. Additional information can be found here:

<http://www.mississauga.ca/portal/residents/lakeshore-connecting-communities>

- ***Downtown Transitway Study:*** The Downtown Transitway study is currently in the pre-planning phase. The intent of the project is to connect the existing Bus Bypass Shoulders on Highway 403 (currently originating / terminating at Mavis Road) to the Mississauga Transitway east of Hurontario Street, via the City Centre. Additional information can be found here:

<http://www.metrolinx.com/en/greaterregion/projects/mississauga-transitway.aspx>

### **Other Higher Order Transit Projects:**

- ***Mississauga Transitway:*** Mississauga Transitway is the first step to introducing higher order transit in Mississauga. Higher-order transit improves both speed and reliability of transit as bus service is moved outside the flow of regular vehicular traffic. The Mississauga Transitway provides east-west service supporting tens of thousands of customers per day, making it faster and easier for commuters to travel to, from and through Mississauga and across the region. The 18 km Transitway has 12 stations beginning at Winston Churchill Boulevard in the west and ending at Renforth Drive in the east. The Transitway is be serviced by both MiWay and GO Transit. Additional information can be found here:

<http://www.mississauga.ca/portal/miway/transitway>

- ***Hurontario Light Rail Transit (LRT) Project:*** The cities of Mississauga and Brampton, together with Metrolinx, are working on the Hurontario Light Rail Transit (LRT) Project – the largest infrastructure project in the City’s history. The LRT is a provincially planned light rail system which will be owned and operated by Metrolinx, with operating contribution from the cities of Mississauga and Brampton. The system will have 20 km of fast, reliable, rapid transit to the cities of Mississauga and Brampton along the Hurontario Street corridor with 22 stops with connections to various east-west transit linkages such as the Mississauga Transitway and the Lakeshore and Milton GO Transit lines. The Hurontario LRT project will see 11 new buses added in 2020, at a cost of \$8.64 million. Foundational information is available here:

<http://www.mississauga.ca/portal/residents/hurontario-LRT>

<http://www.metrolinx.com/en/greaterregion/projects/hurontario-lrt.aspx>

## 2. Rolling Stock (Buses)

The City has prepared an estimate of the number of new vehicles required (to 2028) to accommodate anticipated growth in ridership, based on their current forecast transit service plan. As discussed in Section 1, the City's current bus fleet is comprised of standard 40 ft (12 m) and articulated 60 ft (18 m) buses. The City bases their forecast of vehicle replacement on the type of bus and updates it according to the condition of the in-service vehicles throughout their lifespan. Generally, the assumption is that a typical 40 ft bus would have a lifespan of approximately 15 years, while that of a 60 ft bus would be approximately 12 years.

The cost of replacement vehicles is assumed to be \$585,000 per 40 ft bus, and \$940,000 per 60 ft bus. The City has, in their 2018-2027 Capital Budget, identified a service schedule for their fleet maintenance, including major engine and transmission work. The anticipated bus fleet requirements to accommodate growth is expected to be comprised entirely of conventional 40 ft buses (i.e. no articulated 60 ft buses). In addition to the cost of new vehicles, each bus purchased by MiWay requires the installation of specialty equipment, including radios, fareboxes, Presto equipment, etc. These are estimated to cost a total of \$34,000 per vehicle. These costs are included in the overall vehicle growth costs presented below.

The City's assessment has identified investment into the bus fleet will the replacement of 394 non-growth-related busses between 2019-2028 at a budgeted cost of \$247.20 million. During the same time frame, growth related bus addition will be 32 new buses at a cost of \$19.81 million (including associated equipment). The investment levels are based on expected life cycle replacement and expected growth rates.

A more detailed schedule identifying timelines, quantities and capital costs is provided below in Table 7. Table 8 summaries the growth-related costs associated with new busses.

**Table 7: Mississauga Transit Bus Replacement / Growth Schedule (\$000's)**

Transit Related Costs	Year										Total Cost (in \$000's)
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Number of Buses for Growth	0	2	7	5	3	4	4	3	2	2	32
Costs for Growth Buses	\$0	\$1,170	\$4,095	\$2,925	\$1,755	\$2,340	\$2,340	\$1,755	\$1,170	\$1,170	\$18,720
Additional Equipment Cost	\$0	\$24	\$84	\$60	\$36	\$48	\$48	\$36	\$24	\$24	\$384
Fareboxes/radios Costs	\$0	\$44	\$154	\$110	\$66	\$88	\$88	\$66	\$44	\$44	\$704
<b>Total Growth Funding</b>	<b>\$0</b>	<b>\$1,238</b>	<b>\$4,333</b>	<b>\$3,095</b>	<b>\$1,857</b>	<b>\$2,476</b>	<b>\$2,476</b>	<b>\$1,857</b>	<b>\$1,238</b>	<b>\$1,238</b>	<b>\$19,808</b>

Source: MiWay, City of Mississauga

**Table 8: Summary of Transit Costs for Buses and Related Services**

	No. of Buses for Growth (2019-2028)	Value for Buses (2019-2028)	Other Costs* (2019-2028)	Total DC Eligible Cost (2019-2028)
DC Growth	32	\$ 18.720 M	\$ 1.088 M	\$ 19.808 M

Source: MiWay, City of Mississauga

### 3. Vehicles (Non-Bus) and Equipment

Transit vehicles support the operations of the transit service, but are non-revenue vehicles, service trucks, supervisory vehicles, and equipment or other. The *City's Development-Related Capital Program – Transit* identifies the program requirements related to Transit Vehicles and Equipment at an estimated \$80,000. The following table presents the anticipated growth-related costs for additional transit vehicles and equipment.

**Table 9: Transit Vehicle Growth**

VEHICLES Description	# of Vehicles		Unit Cost (\$/vehicle)	Total Cost	Net Cost (after recoveries)	Total DC Eligible Costs
	2019	2022				
Supervisors Cars - Growth	-	-	-	-	-	-
Service Trucks and Vans – Growth	-	-	-	-	-	-
Change Off Vehicles - Growth	1	1	\$20,000	\$40,000	\$40,000	\$40,000
Service Development Vehicles - Growth	-	-	-	-	-	-
Enforcement Vehicles - Growth	1	0	\$40,000	\$40,000	\$40,000	\$40,000
Maintenance Vehicles – Growth	0	0	-	-	-	-
<b>Total (#)</b>	<b>2</b>	<b>1</b>				
<b>Total Cost</b>				<b>\$80,000</b>	<b>\$80,000</b>	<b>\$80,000</b>



## E. Transit Long-Term Capital and Operating Impacts

A summary evaluation of the long-term operating costs for the capital facilities and infrastructure to be included in the Development Charges By-law for Transit services. This section addresses the requirement of the *DCA*.

**Table 10: Gross Capital and Growth-Related Cost (2019-2028)**

Program Expenditures	Total 2019-2028 (\$000s)	DC (\$000s)
Rolling Stocks (Buses)	\$331,283	\$19,808
Transit Vehicles and Equipment	\$5,005	\$80

Source: City of Mississauga 2019-2028 Capital Budget.

**Capital Revenue Sources and Assumptions:** Transit infrastructure in the City of Mississauga is funded from a number of different sources including property taxes, federal and provincial funding (including gas tax and PTIF) and development charges. The funding of major projects is addressed individually, and Mississauga works with partners such as TTC, Metrolinx, and others to define service requirements and capital funding needs. These major regional projects are addressed outside of this work.

At the time of publication of the MiWay AMP, revenue from fares, fees and services accounted for 48% of the operating budget. Additionally, 41% of the budget came from Property Tax, 10% from Operating reserves and the remaining 1% from other.

**Use of Debt:** The City employs debt as required to deliver critical infrastructure investments, however the City's debt policy provides a rigid framework for debt. The city is well within the current debt limit.

## F. Summary

Available information provides evidence that there is a comprehensive understanding of the long-term capital and operating requirements for transit services as provided by MiWay. The asset management component of the report identifies a financial strategy including, user-fees, property taxes, reserves, development charges and other funding sources. The analysis contained herein demonstrates that the proposed Transit infrastructure is financially sustainable.