2019 Development Charges Background Study (as amended by Staff Report 2019-63 and Council Resolution)

Town of Caledon

FINAL

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List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
B.I.A.	Business Improvement Area
D.C.	Development charge
D.C.A.	Development Charges Act, 1997
E.S.A.	Environmentally Sensitive Area
G.F.A.	Gross floor area
L.P.A.T.	Local Planning Appeal Tribunal
N.A.I.C.S.	North American Industry Classification System
N.F.P.O.W.	No Fixed Place of Work
O.M.B.	Ontario Municipal Board
O.P.A.	Official Plan Amendment
O.Reg.	Ontario Regulation
P.O.A.	Provincial Offences Act
P.P.U.	Persons per unit
S.D.E.	Single detached equivalent
S.D.U.	Single detached unit
s.s.	Subsection
sq.ft.	square foot
sq.m	square metre

Executive Summary

Executive Summary

1. Purpose of this Background Study

1.1 The Background Study has been prepared pursuant to Section 10 of the Development Charges Act, 1997 (D.C.A.) and, together with the proposed by-law, was made available to the public, as required by Section 12 of the Act, more than two weeks prior to the public meeting of Council, which is to be held on April 23, 2019. It will also be available on the Town's website for at least 60 days prior to passage of a new development charges (D.C.) by-law, and remain there for the duration of the by-law.

1.2 The charges calculated represent those which can be recovered under the D.C.A., 1997, based on the Town's capital spending plans and other assumptions which are responsive to the requirements of the D.C.A. A decision is required by Council, after receiving input at the public meeting, and any other consultation sessions, and receiving the completed study and by-law, as to the magnitude of the charge it wishes to establish, for residential, commercial, industrial and/or institutional development. Property tax, user rates or other funding will be required to finance any potentially D.C.-recoverable capital costs which are not included in the charge which is adopted.

1.3 Other decisions are also involved in finalizing development charge policies within the by-law, including exemptions, phasing in, indexing, applicability to the redevelopment of land, and the schedule of charges by type of land use. It is the purpose of the public meeting and consultation activity, to obtain input on these matters.

2. The 2019 Development Charge Calculation

2.1 Table ES-1 presents the proposed Town-wide charges for a single detached residential dwelling unit and square foot of non-residential total floor area, based on the costing and related assumptions contained in this Background Study. This table further compares the proposed charges with the Town's existing development charges. The full schedule of charges for all development types are reflected in Schedule ES-2 and the proposed by-law contained in Appendix F.

Table ES-1
Town of Caledon Comparison of Current and Calculated Development Charges

Residential (Single Detached) Comparison

Service	Current (as of Feb 1, 2019)	Calculated
Municipal Wide Services:		
Services Related to a Highway	13,488	15,194
Operations	704	1,499
Fire Protection Services	1,200	1,248
Parkland and Trail Development	2,426	1,848
Indoor Recreation Facilities	6,209	8,206
Library Services	1,044	852
Development Related Studies	835	798
Animal Control	52	85
Provincial Offences Act	130	197
Total Municipal Wide Services	**26,088**	**29,927**

Non-Residential (per sq.ft.) Comparison

Service	Current (as of Feb 1, 2019)	Calculated
Municipal Wide Services:		
Services Related to a Highway	2.79	3.88
Operations	0.19	0.38
Fire Protection Services	0.32	0.32
Parkland and Trail Development	0.06	0.05
Indoor Recreation Facilities	0.15	0.22
Library Services	0.03	0.02
Development Related Studies	0.22	0.21
Animal Control	-	-
Provincial Offences Act	0.03	0.05
Total Municipal Wide Services	**3.80**	**5.13**

2.2 The 2019 calculated development charges, in comparison with the existing charges, have increased for most services. Some of the factors impacting the charge are:

- D.C. project identification, validation and costing updated for Service Related to a Highway, with focus on D.C. funding for the Settlement Roads program and Rural Roads program informed by available tax support for non-D.C. recoverable costs;

- Average service levels per capita have increased since 2014 reflecting higher building and land values, and in some cases, new facilities such as the addition of Palgrave Community Centre; and
- In the case of Operations, this service now include only roads related vehicles, equipment and facilities and needs are allocated over a longer forecast period (i.e. to 2031) and revision of future facility needs i.e. a centralized works yard being replaced by expansion to Yard 2 and new Yard 4.

3. Council Approvals Sought

At this stage in the process, the Background Study and proposed D.C. by-law are being provided for information purposes, as part of the consultation process. At such time as that process is complete and final D.C. recommendations are made to Council, approval will be sought for:

- the 2019 D.C. by-law;
- the Background Study, including the development forecast, the growth-related capital program, the D.C. calculation and associated material, subject to any Addendum which may be produced prior to by-law adoption.

The proposed by-law includes a number of policy changes in addition to the updated schedule of charges:

- Impose the large apartment rate for stacked townhomes. Back-to-back townhouses will be charged consistent with all other townhouse dwellings;
- Create an additional dwelling unit category for “special care/special need facilities” and treat these dwelling units as small apartment dwelling units;
- Explicitly exclude self storage facilities and restaurants from the definition of an industrial use and add “the processing, testing, alteration, destruction, production, packaging, shipment or distribution of cannabis where a licence, permit or authorization has been issued under applicable federal law, but does not include a building, structure or greenhouse or part thereof solely designed, used or intended to be used for sale of cannabis” to the definition;
- Revise the definition of an agricultural use to include greenhouses and the cultivation, propagation, harvesting, composting, drying, trimming, milling or storage of cannabis, and to exclude banquet and wedding facilities and building,

structure or greenhouse or part thereof solely designed, used or intended to be used for processing, hydroponics, production or sale of cannabis;
- Restrict the exemption for development in the Bolton B.I.A. and the Caledon East Commercial Core Area to non-residential uses only, with residential uses exempt if building permits were issued on or before May 28, 2021;
- Exempt on-farm wedding venues that are located on an agricultural property as a secondary use, owned by a bona fide farmer and operating no more than 30 calendar days per year.

Changes are also proposed to the Town's policy with regard to redevelopment as follows:

- Credits for residential units demolished will be given where the time period between demolition permit and redevelopment is 10 years or less;
- For non-residential development, the maximum period between demolition and redevelopment will be 15 years;
- As a transitional provision, demolitions occurring prior to by-law passage will be eligible for a credit where redevelopment occurs within the terms of redevelopment credit policy effective from the date the new by-law comes in to force;
- Where residential development is replaced by non-residential development, no credit will be calculated for services not imposed on non-residential development;
- Where a building is destroyed by fire, the date of demolition will be the date of the fire; and
- No credit will be given for the replacement or conversion of exempt uses (e.g. schools).

Table ES-2
Schedule of Development Charges

Service	RESIDENTIAL				NON-RESIDENTIAL
	Single and Semi-Detached Dwelling	Apartments Larger than 70 s.m.	Apartments 70 s.m. or Smaller	Other Residential Dwellings	(per sq.ft. of Total Floor Area)
Municipal Wide Services:					
Services Related to a Highway	15,194	8,828	5,181	11,567	3.88
Operations	1,499	871	511	1,141	0.38
Fire Protection Services	1,248	725	426	950	0.32
Parkland and Trail Development	1,848	1,074	630	1,407	0.05
Indoor Recreation Facilities	8,206	4,768	2,798	6,247	0.22
Library Services	852	495	291	649	0.02
Development Related Studies	798	464	272	608	0.21
Animal Control	85	49	29	65	0.00
Provincial Offences Act	197	114	67	150	0.05
Total Municipal Wide Services	**29,927**	**17,388**	**10,205**	**22,784**	**5.13**

Report

Chapter 1
Introduction

1. Introduction

1.1 Purpose of this Document

This Background Study has been prepared pursuant to the requirements of the Development Charges Act (D.C.A.)., 1997 (s.10), and accordingly, recommends new Development Charges (D.C.) and policies for the Town of Caledon (Town).

The Town retained Watson & Associates Economists Ltd. (Watson), in associations with HDR Inc., to undertake the D.C. study process in 2018. Watson worked with senior staff of the Town in preparing this D.C. analysis and the policy recommendations.

This D.C. background study, containing the proposed D.C. by-law, will be distributed to members of the public in order to provide interested parties with sufficient background information on the legislation, the study's recommendations and an outline of the basis for these recommendations.

This report has been prepared, in the first instance, to meet the statutory requirements applicable to the Town's D.C. background study, as summarized in Chapter 4. It also addresses the forecast amount, type and location of growth (Chapter 3), the requirement for "rules" governing the imposition of the charges (Chapter 7) and the proposed by-law to be made available as part of the approval process (Appendix F).

In addition, the report is designed to set out sufficient background on the legislation, the Town's current D.C. policy (Chapter 2) and the policies underlying the proposed by-law, to make the exercise understandable to interested parties. Finally, the D.C. background study addresses post-adoption implementation requirements (Chapter 9) which are critical to the successful application of the new policy.

The chapters in the report are supported by Appendices containing the data required to explain and substantiate the calculation of the charge. A full discussion of the statutory requirements for the preparation of a background study and calculation of a D.C. is provided herein.

1.2 Summary of the Process

As required under Section 12 of the D.C.A., 1997, a Public Meeting will be scheduled prior to Council considering the by-law for passage. Its purpose is to present the study to the public and to solicit public input on the proposed D.C. by-law. The meeting is also being held to answer any questions regarding the study's purpose, methodology and the proposed modifications to the Town's D.C. by-law. Figure 1-1 outlines the proposed schedule to be followed with respect to the D.C. by-law adoption process.

In accordance with the legislation, the D.C. background study and proposed D.C. by-law were available for public review on April 23, 2019.

The process to be followed in finalizing the report and recommendations includes:

- consideration of responses received prior to, at or immediately following the public meeting; and
- finalization of the study and Council consideration of the by-law.

Table 1-1
Schedule of Key D.C. Process Dates

Process Steps	Dates
1. Project initiation meetings with Town staff	June, 2018
2. Data collection, staff interviews, preparation of D.C. calculations, review of policy matters	July, 2018 to February, 2019
3. Stakeholder Consultation Meetings	February 27, 2019
4. D.C. Background Study and proposed D.C. by-law available to public (60 days prior to by-law passage)	March 22, 2019
5. Report and Background Study presented to Council	March 26, 2019

Process Steps	Dates
6. Statutory notice of Public Meeting advertisement placed in newspaper(s)	At least 20 days prior to public meeting
7. Public Meeting of Council	April 23, 2019
8. Council considers adoption of D.C. background study and passage of by-law	May 28, 2019
9. Newspaper notice given of by-law passage	By 20 days after passage
10. Last day for by-law appeal	40 days after passage
11. Municipality makes available D.C. pamphlet	by 60 days after in force date

Chapter 2
Town of Caledon Current D.C. Policy

2. Town of Caledon Current D.C. Policy

2.1 By-law Enactment

By-law No. 2014-054, was passed on June 24, 2014 to impose uniform Town-wide D.C.'s on residential and non-residential development. The by-law was subsequently amended by By-law No. 2015-086. The changes resulting from that amendment involved by-law provisions regarding exemptions, discounts and the application of the charge and did not impact the schedule of charges. The following discussion reflects the provisions of By-law No. 2014-054, as amended.

2.2 Services Covered

The following services are included under By-Law No. 2014-054, as amended:

- development related studies;
- roads and related structures and installations;
- works vehicles and equipment
- parkland and trail development and indoor recreation facilities;
- animal control facilities and vehicles;
- fire facilities, vehicles and equipment;
- library facilities and materials; and
- Ontario Court of Justice (Provincial Offences) court facilities.

The by-law provides for mandatory indexing on February 1st and August 1st of each year.

Table 2-1 provides the charges currently in effect as of February 1, 2019 for residential and non-residential development types, as well as a breakdown of the charges by service.

Table 2-1
Town of Caledon
Schedule of Current Development Charges (as of February 1, 2019)

Service	Residential				Non-Residential
	Single & Semi Detached	Other Residential Dwellings	Apartments > 70 s.m.	Apartments <= 70 s.m.	per sq.ft. of TFA
Development-related Studies	$834.82	$698.23	$581.86	$341.51	$0.22
Roads and related structures and installations	$13,487.51	$11,280.72	$9,400.70	$5,517.59	$2.79
Works vehicles and equipment	$704.38	$589.13	$490.95	$288.15	$0.19
Parkland and Trail development	$2,426.19	$2,029.22	$1,691.03	$992.53	$0.06
Indoor recreation facilities	$6,208.95	$5,193.06	$4,327.59	$2,540.01	$0.15
Animal control facilities and vehicles	$52.18	$43.64	$36.37	$21.34	-
Fire facilities, vehicles and equipment	$1,200.05	$1,003.70	$836.43	$490.93	$0.32
Library facilities and materials	$1,043.52	$872.78	$727.33	$426.89	$0.03
Ontario Court of Justice (Provincial Offences) court facilities	$130.44	$109.10	$90.92	$53.36	$0.03
Total	**26,088**	**21,820**	**18,183**	**10,672.32**	**3.80**

2.3 Timing of D.C. Calculation and Payment

The Town's D.C. by-law stipulates that development charges are to be paid at the time of issuance of a building permit.

2.4 Redevelopment Credits

The Town of Caledon's current D.C. by-law provides for a redevelopment credit for buildings or structures that are demolished in whole or in part on or after November 6, 1991 or for buildings that are to be demolished. Credits are also provided for the conversion from a residential use to a non-residential use or vice versa. The credit is calculated based on the rate that would be applicable for the use being demolished or converted.

For residential floor area, dwelling units must have "completed culinary and sanitary facilities" to be considered eligible units for the purposes of determining the credit.

2.5 Exemptions

The Town's D.C. By-law includes statutory exemptions from payment of D.C.s as follows:

- Development within the Bolton Business Improvement Area and the Caledon East Commercial Core Area (subsection 2(2));
- Land that is owned and used for the purposes of:
    - a college or university that is eligible to receive funding from the government of the Province of Ontario;
    - a hospital as defined in section 1 of the *Public Hospitals Act*; and
    - the Ontario Provincial Police; and
- a temporary building if erected for a maximum of 8 months.

The following development types are exempt, unless the building or structure is converted to a non-exempt use within 5 years following the occupancy permit date:

- a country inn;
- a building or structure used for the purpose of agricultural tourism;
- a farm-based home industry;
- a farm cidery;
- a farm winery;
- a garden suite;
- a non-residential agricultural building or structure;
- an outbuilding;
- an on-farm diversified use building or structure; and
- a secondary portable dwelling on an agricultural property, used as housing for farm help and occupied year-round. (Subsection 11(1))

The landowner must enter into an agreement with the Town, which is registered on title, that if within the 5-year period, the use changes to an ineligible use, the D.C. would be payable.

Bed and breakfast establishments may be eligible for a refund of D.C.s paid subject to conditions. The refund is given annually in 1/10th increments for each year of active and continuous operation for a maximum of ten years.

A discount ranging from 5% to 27.5% of D.C.s payable is available for non-residential buildings/structures that incorporate green technologies and/or incorporate LEED standards that result in LEED certification. This discount is subject to a $250,000 maximum application in-take per year. The following table summarizes the calculation of the discount.

Green Measure	Total Non-Residential Discount	Inclusions
Green Technologies	5% for any inclusion or any combination of inclusions	Solar hot water system that provides for min. 25% of the building's energy needs. Transpired solar collectors that provides for a min. 10% of the building energy needs. Solar photovoltaic system that provides for 5% of the building's energy needs.
LEED Certified	20.00%	Certified and registered with the Canada Green Building Council as meeting the current and applicable LEED Canada Rating Systems such as new construction, commercial interiors, core and shell.
LEED Silver	22.50%	
LEED Gold	25.00%	
LEED Platinum	27.50%	

Subsections 11(5) and 11(6) state that any exemptions received under subsection 11 (1) and 2(2) are to be adjusted by any grant obtained for the same development under the Town's Community Improvement Plan.

Chapter 3
Anticipated Development in the Town of Caledon

3. Anticipated Development in the Town of Caledon

3.1 Requirement of the Act

Chapter 4 provides the methodology for calculating a D.C. as per the D.C.A. Figure 4-1 presents this methodology graphically. It is noted in the first box of the schematic that in order to determine the D.C. that may be imposed, it is a requirement of Section 5 (1) of the D.C.A. that "the anticipated amount, type and location of development, for which development charges can be imposed, must be estimated."

The growth forecast contained in this chapter (with supplemental tables in Appendix A) provides for the anticipated development for which the Town of Caledon will be required to provide services, over a 10-year (mid-2019 to mid-2029), and longer time horizon to mid-2031.

3.2 Basis of Population, Household and Non-Residential Gross Floor Area Forecast

The D.C. growth forecast has been derived from the Town of Caledon Official Plan, Consolidated in April 2018. In compiling the growth forecast, the following additional information sources were consulted to help assess the residential and non-residential development potential for the Town of Caledon over the forecast period, including:

- The Town of Caledon Development Charges Background Study Draft Report, Watson & Associates Economists Ltd. in association with MMM Group Limited, April 17, 2014;
- Official Plan Amendment (OPA No. 226);
- Historical residential and non-residential building permit data over the 2008-2018 period;
- Residential and employment Census data;
- Residential supply (in the development process) as provided by the Town of Caledon; and
- Non-residential supply opportunities as provided by the Town of Caledon.

3.3 Summary of Growth Forecast

A detailed analysis of the residential and non-residential growth forecasts is provided in Appendix A and the methodology employed is illustrated in Figure 3-1. The discussion provided herein summarizes the anticipated growth for the Town and describes the basis for the forecast. The results of the residential growth forecast analysis are summarized in Table 3-1 below, and Schedule 1 in Appendix A.

As identified in Table 3-1 and Appendix A, Schedule 1, the Town's population is anticipated to reach approximately 99,610 by 2029 and 104,360 by 2031, resulting in an increase of 26,860 and 31,610 persons, respectively, over the 10-year and longer term (2019 to 2031) forecast periods.[1]

1. Unit Mix (Appendix A – Schedules 1, 6 and 7)

    - The unit mix for the Town was derived from a detailed review of historical development activity (as per Schedule 7), as well as active residential development applications (as per Schedule 6) and discussions with municipal staff regarding anticipated development trends for the Town.
    - Based on the above indicators, the 2019 to 2031 household growth forecast is comprised of a unit mix of 64% low density (single detached and semi-detached), 24% medium density (multiples except apartments) and 11% high density (bachelor, 1-bedroom and 2-bedroom apartments).

[1] The population figures used in the calculation of the 2019 D.C. exclude the net Census undercount, which is estimated at approximately 3.5%. The net Census Undercount is in accordance with the Peel Region Growth Management Strategy (GMS), 2016 population base for the Town of Caledon.

Figure 3-1
Population and Household Forecast Model

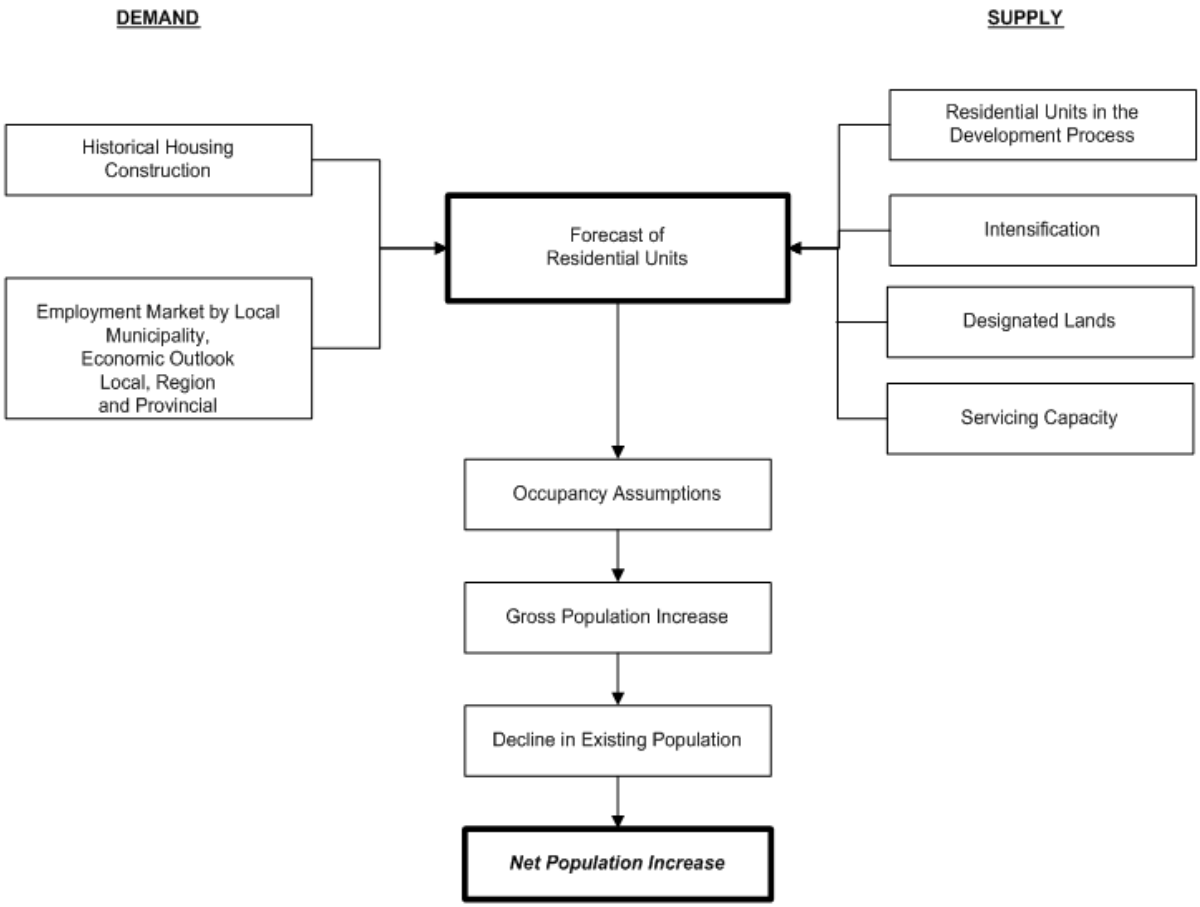


Table 3-1
Town of Caledon
Residential Growth Forecast Summary

	Year	Population (Including Census Undercount)[1]	Excluding Census Undercount			Housing Units						Person Per Unit (P.P.U.): Total Population/ Total Households
			Population	Institutional Population	Population Excluding Institutional Population	Singles & Semi-Detached	Multiple Dwellings[2]	Apartments[3]	Other	Total Households	Equivalent Institutional Households	
Historical	*Mid 2006*	59,040	57,050	245	56,805	16,605	1,110	445	60	18,220	223	3.131
	Mid 2011	61,540	59,460	490	58,970	17,304	1,184	559	39	19,086	445	3.115
	Mid 2016	68,820	66,502	282	66,220	19,015	1,695	510	30	21,250	256	3.130
Forecast	*Mid 2019*	75,290	72,750	309	72,441	20,107	2,298	852	30	23,287	281	3.124
	Mid 2029	103,080	99,607	424	99,183	26,033	4,380	1,850	30	32,292	385	3.085
	Mid 2031	108,000	104,361	443	103,918	26,990	4,788	2,054	30	33,862	403	3.082
Incremental	**Mid 2006 - Mid 2011**	**2,500**	**2,410**	**245**	**2,165**	**699**	**74**	**114**	**-21**	**866**	**222**	
	Mid 2011 - Mid 2016	**7,280**	**7,042**	**-208**	**7,250**	**1,711**	**511**	**-49**	**-9**	**2,164**	**-189**	
	Mid 2016 - Mid 2019	**6,470**	**6,248**	**27**	**6,221**	**1,092**	**603**	**342**	**0**	**2,037**	**25**	
	Mid 2019 - Mid 2029	**27,790**	**26,857**	**115**	**26,742**	**5,926**	**2,082**	**998**	**0**	**9,005**	**104**	
	Mid 2019 - Mid 2031	**32,710**	**31,611**	**134**	**31,477**	**6,883**	**2,490**	**1,202**	**0**	**10,575**	**122**	

Source: Watson & Assoicates Economists Ltd., 2019. Derived from Town of Caledon Official Plan, Consolidated April 2018.

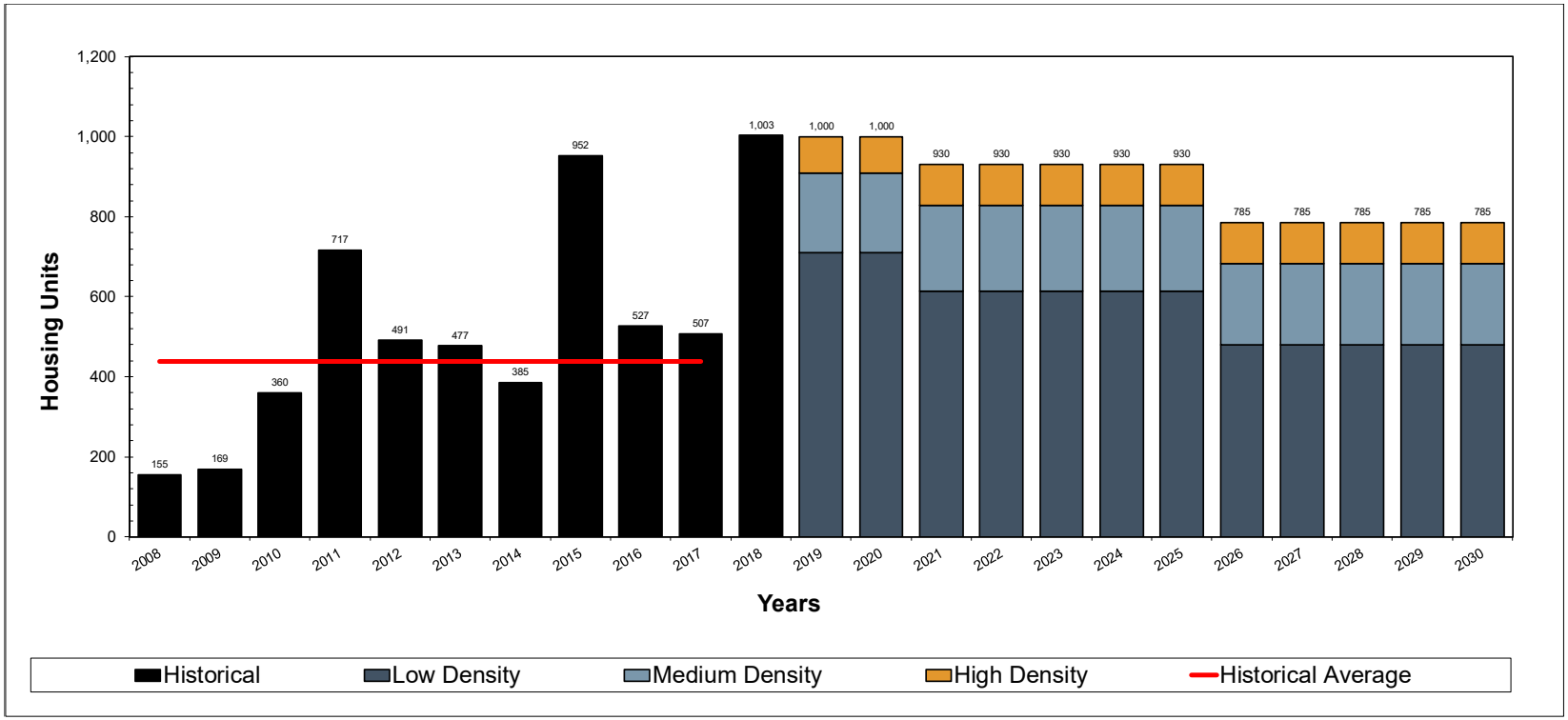
[1] Census undercount estimated at approximately 3.5% in accordance with the Peel Region Growth Management Strategy (GMS), 2016 population base for the Town of Caledon.

[2] Includes townhouses and apartments in duplexes.

[3] Includes bachelor, 1-bedroom and 2-bedroom+ apartments.

Note: Population including the undercount has been rounded.

Figure 3-2
Town of Caledon
Annual Housing Forecast



Source: Historical housing activity derived from Statistics Canada building permit data for the Town of Caledon, 2008-2017, and 2018 estimated from semi-annual Town of Caledon building permit data.
1. Growth forecast represents calendar year.

2. Geographic Location of Residential Development (Appendix A – Schedule 2a and 2b)

    - Schedule 2b summarizes the anticipated amount, type and location of development for the Town of Caledon.
    - In accordance with forecast demand and available land supply, the percentage of forecast housing growth between 2019 and 2031 by development location is summarized below.

Development Location	Percentage of Housing Growth, 2019-2031
Bolton	38%
Mayfield West	34%
Caledon East	***9%***
Villages and Hamlets	*5%*
Rural	*14%*
Total	***100%***

3. Planning Period

    - Short and longer-term time horizons are required for the D.C. process. The D.C.A. limits the planning horizon for certain services, such as parks, recreation and libraries, to a 10-year planning horizon. Services related to a highway, public works, fire, police, stormwater, water and wastewater services can utilize a longer planning period.

4. Population in New Units (Appendix A - Schedules 3, 4 and 5)

    - The number of housing units to be constructed in the Town of Caledon during the short- and long-term periods is presented on Figure 3-2. Over the 2019 to 2031 forecast period, the Town is anticipated to average approximately 881 new housing units per year.

- The institutional population[1] is anticipated to grow by 134 persons between 2019 to 2031.
- Population in new units is derived from Schedules 3, 4, and 5, which incorporate historical development activity, anticipated units (see unit mix discussion) and average persons per unit (P.P.U.) by dwelling type for new units.
- Schedules 8a and 8b summarize the P.P.U. for the new housing units by age and type of dwelling based on a 2016 custom Census data. The total calculated P.P.U. for all low and medium density types has been adjusted to account for the upward P.P.U. trend which has been recently experienced in both new and older units. Due to a lack of available data at the Town level, the high-density P.P.U. for the Town of Caledon has been derived from Peel Region data, recognizing the relatively lower P.P.U. trends for the Town relative to the Regional Average. Forecasted 15-year average P.P.U.s by dwelling type are as follows:
    - Low density: 3.666
    - Medium density: 2.791
    - High density[2]: 1.764

5. Existing Units and Population Change (Appendix A - Schedules 3, 4 and 5)

    - Existing households for 2019 are based on the 2016 Census households, plus estimated residential units constructed between mid-2016 and mid-2019 assuming a 6-month lag between construction and occupancy (see Schedule 3).
    - The decline in average occupancy levels for existing housing units is calculated in Schedules 3 through 5, by aging the existing population over the forecast period. The forecast population decline in existing households over the 2019 to 2031 forecast period is approximately 2,830.

[1] Institutional includes special care facilities such as nursing home or residences for senior citizens. A P.P.U. of 1.100 depicts 1-bedroom and 2 or more bedroom units in these special care facilities.
[2] Includes bachelor, 1-bedroom and 2 or more bedroom apartments

6. Employment (Appendix A, Schedules 10a, 10b, 10c, 11 and 12)

- Employment projections are largely based on the activity rate method, which is defined as the number of jobs in a municipality divided by the number of residents. Key employment sectors include primary, industrial, commercial/ population-related, institutional, and work at home, which are considered individually below.
- 2016 employment data[1] (place of work) for the Town of Caledon is outlined in Schedule 10a. The 2016 employment base is comprised of the following sectors:
    - 425 primary (2%);
    - 2,940 work at home employment (13%);
    - 9,185 industrial (40%);
    - 6,735 commercial/population related (30%); and
    - 3,445 institutional (15%).
- The 2016 employment by usual place of work, including work at home, is estimated at 22,730. An additional 3,038 employees have been identified for the Town in 2016 that have no fixed place of work (N.F.P.O.W.).[2] The 2016 employment base, including N.F.P.O.W., totals approximately 25,768.
- Total employment, including work at home and N.F.P.O.W., for the Town of Caledon is anticipated to reach approximately 43,120 by 2029 and 46,000 by 2031. This represents an employment increase of 15,640 for the 10-year forecast period, and 18,520 for the 2019 to 2031 forecast period.
- Schedule 10b, Appendix A, summarizes the employment forecast, excluding work at home employment and N.F.P.O.W. employment, which is the basis for the D.C. employment forecast. The impact on municipal services from work at home employees has already been included in the

[1] 2016 employment is based on Statistics Canada 2016 Place of Work Employment dataset by Watson & Associates Economists Ltd.
[2] Statistics Canada defines "No Fixed Place of Work" (N.F.P.O.W.) employees as, "persons who do not go from home to the same work place location at the beginning of each shift. Such persons include building and landscape contractors, travelling salespersons, independent truck drivers, etc."

population forecast. The need for municipal services related to N.F.P.O.W. employees has largely been included in the employment forecast by usual place of work (i.e. employment and gross floor area generated from N.F.P.O.W. construction employment). Furthermore, since these employees have no fixed work address, they cannot be captured in the non-residential gross floor area (G.F.A.) calculation.

- Total employment for the Town of Caledon (excluding work at home and N.F.P.O.W. employment) is anticipated to reach approximately 34,840 by 2029 and 37,400 by 2031. This represents an employment increase of 13,820 and 16,370 over the 10-year and 12-year forecast periods, respectively.

7. Non-Residential Sq.ft. Estimates (Gross Floor Area (G.F.A.), Appendix A, Schedule 10b)

    - Square footage estimates were calculated in Schedule 10b based on the following employee density assumptions:
        - 1,400 sq.ft. per employee for industrial;
        - 550 sq.ft. per employee for commercial/population-related; and
        - 650 sq.ft. per employee for institutional employment.
    - The Town-wide incremental Gross Floor Area (G.F.A.) increase is anticipated to be 15.88 million sq.ft. over the 10-year forecast period and 18.97 million sq.ft. over the 2019 to 2031 forecast period, downwardly adjusted to account for institutional development associates with special care facilities.
    - In terms of percentage growth, the 2019 to 2031 incremental G.F.A. forecast by sector is broken down as follows:
        - industrial – 86%;
        - commercial/population-related – 12%; and
        - institutional – 2%.

8. Geographic Location of Non-Residential Development (Appendix A, Schedule 10c)

    - Schedule 10c summarizes the anticipated amount, type and location of non-residential development for the Town of Caledon by area.
    - In accordance with forecast demand and available land supply, the percentage of forecast total non-residential growth between 2019 and 2031 by development location is summarized below.

Development Location	Percentage Total Non-Residential Growth G.F.A., 2019-2031
Bolton	43%
Mayfield West	50%
Caledon East	2%
Tullamore	4%
Rural	*1%*
Total	***100%***

Chapter 4
Approach to the Calculation of the Charge

4. Approach to the Calculation of the Charge

4.1 Introduction

This chapter addresses the requirements of s.s.5(1) of the D.C.A., 1997 with respect to the establishment of the need for service which underpins the D.C. calculation. These requirements are illustrated schematically in Figure 4-1.

4.2 Services Potentially Involved

Table 4-1 lists the full range of municipal service categories which are provided within the Town.

A number of these services are defined in s.s.2(4) of the D.C.A., 1997 as being ineligible for inclusion in D.C.s. These are shown as "ineligible" on Table 4-1. In addition, two ineligible costs defined in s.s.5(3) of the D.C.A. are "computer equipment" and "rolling stock with an estimated useful life of [less than] seven years..." In addition, local roads are covered separately under subdivision agreements and related means (as are other local services). Services which are included in the Town's D.C. by-law are indicated with a "Yes."

4.3 Increase in Need for Service

The D.C. calculation commences with an estimate of "the increase in the need for service attributable to the anticipated development," for each service to be covered by the by-law. There must be some form of link or attribution between the anticipated development and the estimated increase in the need for service. The need could conceivably be expressed generally in terms of units of capacity; however, s.s.5(1)3 requires that municipal council indicate that it intends to ensure that such an increase in need will be met. This suggests that a project-specific expression of need would be most appropriate, but provisions for service are permitted.

Figure 4-1
The Process of Calculating a D.C. under the Act

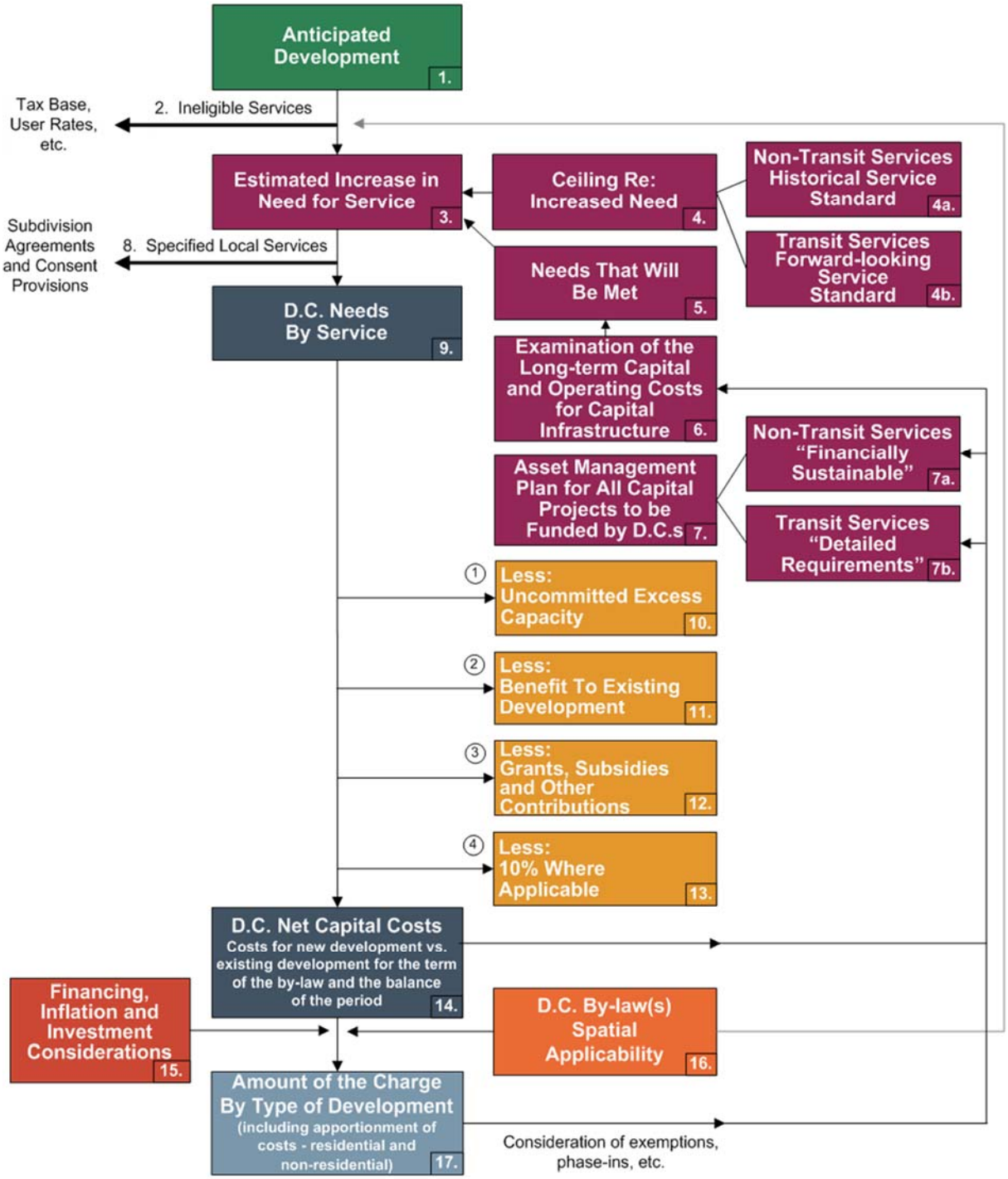


Table 4-1
Categories of Municipal Services
To Be Addressed as Part of the Calculation

Categories of Municipal Services	Eligibility for Inclusion in the D.C. Calculation	Service Components	Maximum Potential D.C. Recovery %
1. Services Related to a Highway	Yes	1.1 Arterial roads	100
	Yes	1.2 Collector roads	100
	Yes	1.3 Bridges, Culverts and Roundabouts	100
	No	1.4 Local service municipal roads	0
	Yes	1.5 Traffic signals	100
	Yes	1.6 Sidewalks and streetlights	100
	Yes	1.7 Active Transportation	100
2. Other Transportation Services	n/a	2.1 Transit vehicles[1] & facilities	100
	n/a	2.2 Other transit infrastructure	100
	n/a	2.3 Municipal parking spaces - indoor	90
	No	2.4 Municipal parking spaces - outdoor	90
	Yes	2.5 Works Yards	100
	Yes	2.6 Rolling stock[1]	100
	n/a	2.7 Ferries	90
	n/a	2.8 Airport	90
3. Stormwater Drainage and Control Services	No	3.1 Main channels and drainage trunks	100
	No	3.2 Channel connections	100
	No	3.3 Retention/detention ponds	100
4. Fire Protection Services	Yes	4.1 Fire stations	100
	Yes	4.2 Fire pumpers, aerials and rescue vehicles[1]	100
	Yes	4.3 Small equipment and gear	100

[1]with 7+ year life time
*same percentage as service component to which it pertains
computer equipment excluded throughout

Categories of Municipal Services	Eligibility for Inclusion in the D.C. Calculation	Service Components	Maximum Potential D.C. Recovery %
5. Outdoor Recreation Services (i.e. Parks and Open Space)	Ineligible	5.1 Acquisition of land for parks, woodlots and E.S.A.s	0
	Yes	5.2 Development of area municipal parks	90
	Yes	5.3 Development of district parks	90
	Yes	5.4 Development of municipal-wide parks	90
	Yes	5.5 Development of special purpose parks	90
	Yes	5.6 Parks rolling stock[1] and yards	90
6. Indoor Recreation Services	Yes	6.1 Arenas, indoor pools, fitness facilities, community centres, etc. (including land)	90
	Yes	6.2 Recreation vehicles and equipment[1]	90
7. Library Services	Yes	7.1 Public library space (incl. furniture and equipment)	90
	No	7.2 Library vehicles[1]	90
	Yes	7.3 Library materials	90
8. Electrical Power Services	Ineligible	8.1 Electrical substations	0
	Ineligible	8.2 Electrical distribution system	0
	Ineligible	8.3 Electrical system rolling stock	0
9. Provision of Cultural, Entertainment and Tourism Facilities and Convention Centres	Ineligible	9.1 Cultural space (e.g. art galleries, museums and theatres)	0
	Ineligible	9.2 Tourism facilities and convention centres	0
10. Wastewater Services	n/a	10.1 Treatment plants	100
	n/a	10.2 Sewage trunks	100
	n/a	10.3 Local systems	0
	n/a	10.4 Vehicles and equipment[1]	100

[1]with 7+ year life time

Categories of Municipal Services	Eligibility for Inclusion in the D.C. Calculation	Service Components	Maximum Potential D.C. Recovery %
11. Water Supply Services	n/a	11.1 Treatment plants	100
	n/a	11.2 Distribution systems	100
	n/a	11.3 Local systems	0
	n/a	11.4 Vehicles and equipment[1]	100
12. Waste Management Services	Ineligible	12.1 Landfill collection, transfer vehicles and equipment	0
	Ineligible	12.2 Landfills and other disposal facilities	0
	n/a	12.3 Waste diversion facilities	90
	n/a	12.4 Waste diversion vehicles and equipment[1]	90
13. Police Services	n/a	13.1 Police detachments	100
	n/a	13.2 Police rolling stock[1]	100
	n/a	13.3 Small equipment and gear	100
14. Homes for the Aged	n/a	14.1 Homes for the aged space	90
	n/a	14.2 Vehicles[1]	90
15. Child Care	n/a	15.1 Child care space	90
	n/a	15.2 Vehicles[1]	90
16. Health	n/a	16.1 Health department space	90
	n/a	16.2 Health department vehicles[1]	90
17. Social Housing	n/a	17.1 Social Housing space	90
18. Provincial Offences Act (P.O.A.)	Yes	18.1 P.O.A. space	90
19. Social Services	n/a	19.1 Social service space	90
20. Ambulance	n/a	20.1 Ambulance station space	90
	n/a	20.2 Vehicles[1]	90
21. Hospital Provision	Ineligible	21.1 Hospital capital contributions	0

[1]with 7+ year life time

Categories of Municipal Services	Eligibility for Inclusion in the D.C. Calculation	Service Components	Maximum Potential D.C. Recovery %
22. Provision of Headquarters for the General Administration of Municipalities and Area Municipal Boards	Ineligible Ineligible Ineligible	22.1 Office space 22.2 Office furniture 22.3 Computer equipment	0 0 0
23. Other Services	Yes Yes Yes	23.1 Studies in connection with acquiring buildings, rolling stock, materials and equipment, and improving land[2] and facilities, including the D.C. background study cost 23.2 Interest on money borrowed to pay for growth-related capital 23.3 Animal Control	 0-100 0-100 90

[1]with a 7+ year life time
[2]same percentage as service component to which it pertains

Eligibility for Inclusion in the D.C. Calculation	Description
Yes	Town provides the service – service has been included in the D.C. calculation.
No	Municipality provides the service – service has not been included in the D.C. calculation.
n/a	Municipality does not provide the service.
Ineligible	Service is ineligible for inclusion in the D.C. calculation.

4.4 Local Service Policy

The D.C. calculation commences with an estimate of "the increase in the need for service attributable to the anticipated development," for each service to be covered by the By-Law. There must be some form of link or attribution between the anticipated development and the estimated increase in the need for service. While the need could conceivably be expressed generally in terms of units of capacity, s.s.5(1)3 requires that municipal council indicate that it intends to ensure that such an increase in need will be met, suggesting that a project-specific expression of need would be most appropriate.

Some of the need for services generated by additional development consists of local services related to a plan of subdivision. As such, they will be required as a condition of subdivision agreements or consent conditions. The Town's general policy guidelines on D.C. and local service funding is detailed in Appendix D to this report.

4.5 Capital Forecast

Paragraph 7 of s.s.5(1) of the D.C.A. requires that, "the capital costs necessary to provide the increased services must be estimated." The Act goes on to require two potential cost reductions and the Regulation sets out the way in which such costs are to be presented. These requirements are outlined below.

These estimates involve capital costing of the increased services discussed above. This entails costing actual projects or the provision of service units, depending on how each service has been addressed.

The capital costs include:

- costs to acquire land or an interest therein (including a leasehold interest);
- costs to improve land;
- costs to acquire, lease, construct or improve buildings and structures;
- costs to acquire, lease or improve facilities including rolling stock (with a useful life of 7 or more years), furniture and equipment (other than computer equipment), materials acquired for library circulation, reference or information purposes;
- interest on money borrowed to pay for the above-referenced costs;

- costs to undertake studies in connection with the above-referenced matters; and
- costs of the D.C. background study.

In order for an increase in need for service to be included in the D.C. calculation, municipal council must indicate "...that it intends to ensure that such an increase in need will be met" (s.s.5(1)3). This can be done if the increase in service forms part of a Council-approved Official Plan, capital forecast or similar expression of the intention of Council (O.Reg. 82/98 s.3). The capital program contained herein reflects the Town's approved and proposed capital budgets and master servicing/needs studies.

4.6 Treatment of Credits

Section 8 para. 5 of O.Reg. 82/98 indicates that a D.C. background study must set out, "the estimated value of credits that are being carried forward relating to the service." s.s.17 para. 4 of the same Regulation indicates that, "...the value of the credit cannot be recovered from future D.C.s," if the credit pertains to an ineligible service. This implies that a credit for eligible services can be recovered from future D.C.s. As a result, this provision should be made in the calculation, in order to avoid a funding shortfall with respect to future service needs.

The Town has outstanding D.C. credit obligations for services that have been emplaced by developers on behalf of the Town. The outstanding credit obligations with regard to the services considered in this D.C. Background Study applicable to the Roads & Related and Studies.

4.7 Eligible Debt and Committed Excess Capacity

Section 66 of the D.C.A., 1997 states that for the purposes of developing a D.C. by-law, a debt incurred with respect to an eligible service may be included as a capital cost, subject to any limitations or reductions in the Act. Similarly, s.18 of O.Reg. 82/98 indicates that debt with respect to an ineligible service may be included as a capital cost, subject to several restrictions.

In order for such costs to be eligible, two conditions must apply. First, they must have funded excess capacity which is able to meet service needs attributable to the anticipated development. Second, the excess capacity must be "committed," that is, either before or at the time it was created, Council must have expressed a clear

intention that it would be paid for by D.C.s or other similar charges. For example, this may have been done as part of previous D.C. processes.

Outstanding debt related to the D.C. recoverable share of the Town's Platform Aerial fire vehicle has been included for recovery in the D.C. calculation.

4.8 Existing Reserve Funds

Section 35 of the D.C.A. states that:

> "The money in a reserve fund established for a service may be spent only for capital costs determined under paragraphs 2 to 8 of subsection 5(1)."

There is no explicit requirement under the D.C.A. calculation method set out in s.s.5(1) to net the outstanding reserve fund balance as part of making the D.C. calculation; however, s.35 does restrict the way in which the funds are used in future.

The Town's D.C. Reserve Funds balances, by service, are presented in Table 4-2 below. 2018 year-end reserve fund balances have been adjusted to account for D.C. anticipated proceeds and draws to mid-2019. These balances have been applied against future spending requirements for all services.

Table 4-2
Town of Caledon
Estimated D.C. Reserve Funds Balances (as at mid-2019)

Service	Estimated Mid-2019 Balance
Animal Control	$71,269
Fire	$2,947,424
Library	$645,815
Parkland Dev	$775,014
POA Courts	$632,074
Public Works	$879,181
Recreation	$3,604,773
Roads	$28,195,007
Studies	($820,721)
Total	$36,929,835

4.9 Deductions

The D.C.A. potentially requires that five deductions be made to the increase in the need for service. These relate to:

- the level of service ceiling;
- uncommitted excess capacity;
- benefit to existing development;
- anticipated grants, subsidies and other contributions; and
- a 10% reduction for certain services.

The requirements behind each of these reductions are addressed as follows:

4.9.1 Reduction Required by Level of Service Ceiling

This is designed to ensure that the increase in need included in 4.2 does "…not include an increase that would result in the level of service (for the additional development increment) exceeding the average level of the service provided in the Town over the 10-year period immediately preceding the preparation of the background study…" O.Reg. 82.98 (s.4) goes further to indicate that, "…both the quantity and quality of a service shall be taken into account in determining the level of service and the average level of service."

In many cases, this can be done by establishing a quantity measure in terms of units as floor area, land area or road length per capita, and a quality measure in terms of the average cost of providing such units based on replacement costs, engineering standards or recognized performance measurement systems, depending on circumstances. When the quantity and quality factor are multiplied together, they produce a measure of the level of service, which meets the requirements of the Act, i.e. cost per unit.

The average service level calculation sheets for each service component in the D.C. calculation are set out in Appendix B.

4.9.2 Reduction for Uncommitted Excess Capacity

Paragraph 5 of s.s.5(1) requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the Town's "excess capacity," other than excess capacity which is "committed" (discussed above in 4.6).

"Excess capacity" is undefined, but in this case, must be able to meet some or all of the increase in need for service, in order to potentially represent a deduction. The deduction of uncommitted excess capacity from the future increase in the need for service, would normally occur as part of the conceptual planning and feasibility work associated with justifying and sizing new facilities, e.g. if a road widening to accommodate increased traffic is not required because sufficient excess capacity is already available, then widening would not be included as an increase in need, in the first instance.

4.9.3 Reduction for Benefit to Existing Development

This step involves a further reduction to the need, by the extent to which such an increase in service would benefit existing development. The level of services cap in section 4.9.1 is related, but is not the identical requirement. Wastewater (sanitary), stormwater, and water trunks are highly localized to growth areas and can be more readily allocated in this regard than other services such as roads which do not have a fixed service area.

Where existing development has an adequate service level which will not be tangibly increased by an increase in service, no benefit would appear to be involved. For example, where expanding existing library facilities simply replicates what existing residents are receiving, they receive very limited (or no) benefit as a result. On the other hand, where a clear existing service problem is to be remedied, a deduction should be made accordingly.

In the case of services such as recreation facilities, community parks, libraries, etc., the service is typically provided on a municipal-wide system basis. For example, facilities of the same type may provide different services (i.e. leisure pool vs. competitive pool), different programs (i.e. hockey vs. figure skating) and different time availability for the same service (i.e. leisure skating available on Wednesday in one arena and Thursday in another). As a result, residents will travel to different facilities to access the services they want at the times they wish to use them, and facility location generally does not

correlate directly with residence location. Even where it does, displacing users from an existing facility to a new facility frees up capacity for use by others and generally results in only a very limited benefit to existing development. Further, where an increase in demand is not met for a number of years, a negative service impact to existing development is involved for a portion of the planning period.

4.9.4 Reduction for Anticipated Grants, Subsidies, and Other Contributions

This step involves reducing the capital costs necessary to provide the increased services by capital grants, subsidies and other contributions made or anticipated by Council and in accordance with various rules such as the attribution between the share related to new vs. existing development O.Reg. 82.98, s.6. Where grant programs do not allow funds to be applied to growth-related capital needs, the proceeds can be applied to the non-growth share of the project exclusively. Moreover, Gas Tax revenues are typically used to fund non-growth-related works or the non-growth share of D.C. projects, given that the contribution is not being made in respect of particular growth-related capital projects.

4.9.5 The 10% Reduction

Paragraph 8 of s.s.(1) of the D.C.A. requires that, "the capital costs must be reduced by 10 percent." This paragraph does not apply to water supply services, wastewater services, stormwater drainage and control services, services related to a highway, police, and fire protection services. The primary services that the 10% reduction does apply to include services such as parks and recreation and libraries. The 10% is to be netted from the capital costs necessary to provide the increased services, once the other deductions have been made, as per the infrastructure cost sheets in Chapter 5

Chapter 5
D.C. Eligible Cost Analysis by Service

5. D.C. Eligible Cost Analysis by Service

5.1 Introduction

This chapter outlines the basis for calculating D.C. eligible costs for the D.C.s to be applied on a uniform basis. The required calculation process set out in s.5(1) paragraphs 2 to 8 in the D.C.A., 1997, and described in Chapter 4, was followed in determining D.C. eligible costs.

The nature of the capital projects and timing identified in this chapter reflects Council's current intention. However, over time, municipal projects and Council priorities change and, accordingly, Council's intentions may alter and different capital projects (and timing) may be required to meet the need for services required by new growth.

5.2 Service Level and 10-Year Capital Costs for Municipal-wide D.C.

This section evaluates the development-related capital requirements for select services over the 10-year planning period (2019-2028). Each service component is evaluated on two format sheets: the average historical 10-year level of service calculation (see Appendix B), which "caps" the D.C. amounts; and the infrastructure cost calculation, which determines the potential D.C. recoverable cost.

5.2.1 Parkland and Trail Development

The Town currently maintains approximately 325 acres of developed parkland and 50 kilometres of trails within its jurisdiction. The developed parkland inventory consists of parks within Bolton, Caledon East, Mayfield West as well as the Town's Villages and Hamlets. In addition, the Town utilizes 14 vehicles to maintain its parks and recreation facilities and provide service.

The Town's level of service over the historical 10-year period averaged $930 per capita. In total, the maximum D.C. eligible amount for Parks and Recreation Services over the 10-year forecast period is approximately $25 million based on the established level of service.

The 10-year capital needs for Parkland and Trail development to accommodate growth have a total gross capital cost of approximately $19.8 million. These capital needs include costs for the development of District Park, a Tournament Sports Park in Mayfield West as well as numerous community parks and neighbourhood parks.

No deduction has been made for benefit to growth that will occur beyond the forecast period; however, $1.6 million was deducted from the project costs for the share attributed to existing development. This deduction was made on a project specific basis with amounts ranging from 0% for maintenance vehicles to 15% for the Tournament Sports Park. The deduction percentages are generally consistent with the approach used in the 2014 D.C. Study.

Deductions in recognition of the statutory 10% capital cost reduction total $1.8 million. After deducting $775,000 in recognition of D.Cs. already collected towards these needs, as represented by the uncommitted balance in the D.C. reserve fund, the resulting net growth-related capital costs for inclusion in the calculation total $15.6 million.

As the predominant users of this service tend to be residents of the Town, the forecast growth-related costs have been allocated 95% to residential and 5% to non-residential

5.2.2 Indoor Recreation Facilities

The Town operates 383,500 sq.ft. of indoor recreation facility space. The inventory includes the Caledon East Community Complex, the Caledon Centre for Recreation and Wellness and the Mayfield Recreation Complex.

The Town's level of service over the historical 10-year period averaged $3,060 per capita. In total, the maximum D.C. eligible amount for Indoor Recreation Services over the 10-year forecast period is approximately $82 million based on the established level of service. The unused service level cap from Parkland Development has also been applied to allow for a total maximum eligible amount of $90 million.

The 10-year capital needs for Indoor Recreation to accommodate growth have a total gross capital cost of approximately $99.3 million. These capital needs include new facilities in the Mayfield West and Bolton communities as well as expansions to the existing Caledon East and Mayfield Recreation Complexes and the Rotary Senior's Centre.

In recognition of the benefit to growth that will occur beyond the forecast period, $9.0 million in project costs have been deducted as a post period benefit from the gross project costs of the Mayfield West 2 Facility and the Bolton Indoor Recreation Centre. Approximately, $5.0 million has also been deducted from the project costs for the share attributed to existing development. This 5% deduction was applied uniformly to all of the projects and is consistent with the approach used in the 2014 D.C. Study.

Deductions in recognition of the statutory 10% capital cost reduction total $8.1 million. After deducting $3.6 million in recognition of D.Cs. already collected towards these needs, as represented by the uncommitted balance in the D.C. reserve fund, the resulting net growth-related capital costs for inclusion in the calculation total $69.3 million.

As with Parkland Development, the forecast growth-related costs have been allocated 95% to residential and 5% to non-residential

5.2.3 Library Services

The Town provides library services through 37,070 sq.ft. of facility space at six separate branches. In addition, the Town maintains an inventory of approximately 125,000 physical collection items as well as access to a broad range of electronic resources for which the Town pays access and subscription fees.

The average level of service over the past 10 years was $372 per capita. Based on the application of this level of service to the incremental forecast growth, the D.C. eligible amount is approximately $10 million for library services over the forecast period.

The capital needs required to accommodate growth have a total gross cost of $13.3 million for the construction of the Mayfield West 2 Branch as well as replacement of the Caledon East branch with new space as part of the Caledon East Community Centre expansion.

No deduction has been made for benefit to growth that will occur beyond the forecast period; however, $4.5 million was deducted from the project costs for the share attributed to existing development. The 5% deduction for benefit to existing was made for the Mayfield West branch while, for the Caledon East branch a 75% deduction to remove the share of gross project costs that is attributable to replacing existing library space.

Deductions in recognition of the statutory 10% capital cost reduction total $0.9 million. After deducting $645,815 of D.C. revenue already collected towards these needs, as represented by the uncommitted balance in the D.C. reserve fund, the resulting net growth-related capital costs for inclusion in the calculation total $7.2 million.

These costs of been allocated 95% to residential development and 5% to non-residential development.

5.2.4 Development Related Studies

The D.C.A. permits the inclusion of studies undertaken to facilitate the completion of the Town's capital works program and to support the preparation of future D.C. background studies. The Town has made provisions for the inclusion of future studies undertaken to facilitate this D.C. process, as well as other studies which benefit growth, including official plan updates and related background studies, zoning by-law updates, and various master plans and needs studies.

The cost of these projects totals approximately $15.8 million over the 10-year forecast period. A post period benefit deduction of almost $1.8 million has been made for the attribution of study costs applicable to growth beyond the 10-year period. This applies to studies related to urban boundary expansions as well as Mayfield West. $4.2 million was deducted as the share of benefit to existing development calculated as a percentage of net capital costs. The deductions ranged from nil for D.C. Background Studies to 50% for broad master planning studies.

As the D.C. reserve fund for this service is currently in a deficit position, the negative reserve fund balance of $820,000 was added to the capital needs. After the 10% statutory deduction of almost $1.0 million, the net growth-related capital costs included in the charge total $9.7 million.

These costs have been allocated 66% residential and 34% non-residential based on the incremental growth in population to employment for the 10-year forecast period.

5.2.5 Animal Control

The Town's operates its animal control services from its 3,200 sq.ft. animal shelter. In addition, two vehicles are used to provide the necessary services.

The average level of service over the past 10 years was $29 per capita. Based on the application of this level of service to the incremental forecast growth, the D.C. eligible amount is approximately $790,000 for Animal Control over the forecast period.

The capital needs required to accommodate growth have a total gross cost of $4.6 million for an expansion to the existing shelter as well as the purchase of a special purpose vehicle.

In recognition of the benefit to growth that will occur beyond the forecast period, $3.3 million in project costs have been deducted as a post period benefit from the gross project costs of the shelter expansion. Approximately, $450,000 has also been deducted from the project costs for the share attributed to existing development. This 5% deduction was applied to the shelter expansion and is consistent with the approach used in the 2014 D.C. Study.

Deductions in recognition of the statutory 10% capital cost reduction total $83,500. After deducting $71,300 in recognition of D.Cs. already collected towards these needs, as represented by the uncommitted balance in the D.C. reserve fund, the resulting net growth-related capital costs for inclusion in the calculation total $678,900.

These costs have been allocated entirely to residential development.

5.2.6 Provincial Offenses Act

The Town provides court and support facilities for Provincial Offenses with a total floor area of 10,361 sq.ft. The average level of service over the past 10 years was $104 per capita. Based on the application of this level of service to the incremental forecast growth, the D.C. eligible amount is approximately $2.8 million for court facilities over the forecast period.

The capital needs for this service related to growth involve the expansion of existing space at a total gross cost of $5.2 million. From this amount, $1.8 million has been deducted as the share attributable to growth beyond the ten year forecast period. No deduction has been made for benefit to existing development as a result of providing this additional space.

$337,000 was removed from the cost as required by the 10% statutory deduction. After reducing the potential D.C. recoverable amount by the uncommitted D.C. reserve fund balance of $632,000, the potential D.C. recoverable cost is $2.4 million.

This amount has been allocated 66% residential and 34% non-residential based on the incremental growth in population to employment for the 10-year forecast period

Infrastructure Costs Covered in the D.C. Calculation – Parkland and Trail Development

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
1	District Park (50 acres) - Town Wide	2020-2025	3,000,000	-	3,000,000	300,000		2,700,000	270,000	2,430,000	2,308,500	121,500
2	Hardball Diamonds (2) - Bolton	2020	1,630,000	-	1,630,000	-		1,630,000	163,000	1,467,000	1,393,650	73,350
3	Caledon East Skatepark	2020	572,100	-	572,100	57,210		514,890	51,489	463,401	440,231	23,170
4	Neighbourhood Park - Caledon East	2020	400,000	-	400,000	20,000		380,000	38,000	342,000	324,900	17,100
5	Parkette - Cheltenham	2020	230,000	-	230,000	11,500		218,500	21,850	196,650	186,818	9,833
6	Medium Duty Trucks (2) (to be split 50% roads - 50% parks)	2020	124,429	-	124,429	-		124,429	12,443	111,986	106,387	5,599
7	Trailers (2) (to be split 50% roads - 50% parks)	2020	10,000	-	10,000	-		10,000	1,000	9,000	8,550	450
8	Community Park (5 acres) Mayfield West	2021	1,200,000	-	1,200,000	60,000		1,140,000	114,000	1,026,000	974,700	51,300
9	Dennison Park Washroom Building	2021	259,500		259,500	12,975		246,525	24,653	221,873	210,779	11,094
10	Mayfield West Outdoor Ice Rink	2021	300,000		300,000	30,000		270,000	27,000	243,000	230,850	12,150
11	Community Park (5 acres) - Bolton	2023-2024	1,200,000	-	1,200,000	120,000		1,080,000	108,000	972,000	923,400	48,600
12	Community Park (5 acres) Caledon East	2023	1,200,000	-	1,200,000	60,000		1,140,000	114,000	1,026,000	974,700	51,300
13	Community Park (5 Acres) - Mayfield West II	2023	1,200,000	-	1,200,000	60,000		1,140,000	114,000	1,026,000	974,700	51,300
14	Neighbourhod Park (1 acre) - Mayfield West II	2023	400,000	-	400,000	-		400,000	40,000	360,000	342,000	18,000

Infrastructure Costs Covered in the D.C. Calculation – Parkland and Trail Development (cont'd)

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
15	Trail Development - Town Wide (North-South Trail Route)	2023-2026	902,000	-	902,000	135,300		766,700	76,670	690,030	655,529	34,502
16	1 Neighbourhood Park - Caledon East	2023	400,000	-	400,000	20,000		380,000	38,000	342,000	324,900	17,100
17	Mayfield West II Skatepark	2024	500,000	-	500,000	50,000		450,000	45,000	405,000	384,750	20,250
18	Mayfield West Skatepark	2024	550,000	-	550,000	55,000		495,000	49,500	445,500	423,225	22,275
19	2 Tennis Courts - Caledon East	2024	500,000		500,000	50,000		450,000	45,000	405,000	384,750	20,250
20	Medium Duty Trucks (2) (to be split 50% roads - 50% parks)	2025	124,429	-	124,429	-		124,429	12,443	111,986	106,387	5,599
21	Tournament Sports Park (15 Acres) - Mayfield West II by Rec Facility	2026	2,000,000	-	2,000,000	300,000		1,700,000	170,000	1,530,000	1,453,500	76,500
22	Trailers (2) (to be split 50% roads - 50% parks)	2027	10,000	-	10,000	-		10,000	1,000	9,000	8,550	450
23	Community Park - Mayfield West II	2027	1,200,000		1,200,000	120,000		1,080,000	108,000	972,000	923,400	48,600
24	Additional Phase of District Park - Town-wide	2028	1,500,000	-	1,500,000	150,000		1,350,000	135,000	1,215,000	1,154,250	60,750
25	Neighbourhood Park - Mayfield West II	2028	400,000	-	400,000	-		400,000	40,000	360,000	342,000	18,000
			-	-	-	-		-	-	-	-	-
	Reserve Fund Adjustment							(775,014)		(775,014)	(736,263)	(38,751)
	Total		**19,812,458**	**-**	**19,812,458**	**1,611,985**	**-**	**17,425,459**	**1,820,047**	**15,605,412**	**14,825,141**	**780,271**

Infrastructure Costs Covered in the D.C. Calculation – Indoor Recreation Facilities

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
1	Caledon East Phase 3	2020-2022	7,893,748	-		7,893,748	394,687		7,499,061	749,906	6,749,155	6,411,697	337,458
2	Rotary Expansion (Seniors)	2020-2022	4,400,000	-		4,400,000	220,000		4,180,000	418,000	3,762,000	3,573,900	188,100
3	Mayfield Recreation Complex Expansion (2nd pad plus 2 community rooms)	2023-2026	15,000,000	-		15,000,000	750,000		14,250,000	1,425,000	12,825,000	12,183,750	641,250
4	Mayfield West Facility 2	2023-2026	30,000,000	4,480,900	4,347,500	21,171,600	1,500,000		19,671,600	1,967,160	17,704,440	16,819,218	885,222
5	Caledon East (CECC) Phase 4	2023-2026	12,000,000	-		12,000,000	600,000		11,400,000	1,140,000	10,260,000	9,747,000	513,000
6	Bolton Indoor Recreation Centre	2027-2029	30,000,000	4,500,000		25,500,000	1,500,000		24,000,000	2,400,000	21,600,000	20,520,000	1,080,000
			-	-		-	-		-	-	-	-	-
				-		-	-		-	-	-	-	-
			-	-		-	-		-	-	-	-	-
	Reserve Fund Adjustment								(3,604,773)		(3,604,773)	(3,424,534)	(180,239)
	Total		**99,293,748**	**8,980,900**	**4,347,500**	**85,965,348**	**4,964,687**	**-**	**77,395,888**	**8,100,066**	**69,295,822**	**65,831,030**	**3,464,791**

Infrastructure Costs Covered in the D.C. Calculation – Library Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
1	Mayfield West 2 Branch	2023-2026	6,950,000	-		6,950,000	347,500		6,602,500	660,250	5,942,250	5,645,138	297,113
2	Mayfield West 2 Branch - Materials	2023	800,000	-		800,000	40,000		760,000	76,000	684,000	649,800	34,200
3	CECC Library Branch (CECC Phase 4 Expansion)	2023-2026	5,500,000	-		5,500,000	4,150,000		1,350,000	135,000	1,215,000	1,154,250	60,750
	Reserve Fund Adjustment								(645,815)		(645,815)	(613,524)	(32,291)
	Total		**13,250,000**	**-**	**-**	**13,250,000**	**4,537,500**	**-**	**8,066,685**	**871,250**	**7,195,435**	**6,835,663**	**359,772**

Infrastructure Costs Covered in the D.C. Calculation – Development Related Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 66%	Non-Residential Share 34%
1	South-Albion Bolton Urban Expansion (3rd Leg)	2020	446,900	127,367	319,534	22,345		297,189	29,719	267,470	176,530	90,940
2	OP 5 Year Review / PPC Exercise	2020	570,000	-	570,000	285,000		285,000	28,500	256,500	169,290	87,210
3	Library Strategic Plan	2020	25,000	-	25,000	12,500		12,500	1,250	11,250	7,425	3,825
4	Heritage Designation Studies	2020-2028	20,000	-	20,000	5,000		15,000	1,500	13,500	8,910	4,590
5	Sustainability Initiatives	2021	100,000	-	100,000	25,000		75,000	7,500	67,500	44,550	22,950
6	Cultural Heritage Landscapes Inventory Update	2021	40,000	-	40,000	10,000		30,000	3,000	27,000	17,820	9,180
7	Heritage Conservation District Study, Plan & Guidelines- Belfountain	2021	175,000	-	175,000	87,500		87,500	8,750	78,750	51,975	26,775
8	Recreation and Parks Masterplan	2021	180,000	-	180,000	90,000		90,000	9,000	81,000	53,460	27,540
9	Provincial Policy Conformity Exercise	2022	100,000	-	100,000	50,000		50,000	5,000	45,000	29,700	15,300
10	Urban Boundary Expansions/Municipal Comprehensive Reviews	2023	1,500,000	427,500	1,072,500	75,000		997,500	99,750	897,750	592,515	305,235
11	Heritage Conservation District Study, Plan & Guidelines- Cheltenham	2023	190,000	-	190,000	95,000		95,000	9,500	85,500	56,430	29,070
12	General Zoning Bylaw Update	2023	125,000	-	125,000	62,500		62,500	6,250	56,250	37,125	19,125
13	DC Background Study	2023	225,000	-	225,000	-		225,000	22,500	202,500	133,650	68,850
14	Allowance for Unspecified Planning Studies	2020-2023	1,705,000		1,705,000	852,500		852,500	85,250	767,250	506,385	260,865
15	Trails Master Plan	2024	50,000	-	50,000	25,000		25,000	2,500	22,500	14,850	7,650
16	Library Strategic Plan	2024	25,000	-	25,000	12,500		12,500	1,250	11,250	7,425	3,825
17	Urban Boundary Expansion/Municipal Comprehensive Reviews	2025	2,500,000	712,500	1,787,500	125,000		1,662,500	166,250	1,496,250	987,525	508,725
18	Employment/Commercial/Institutional Update	2025	250,000	-	250,000	125,000		125,000	12,500	112,500	74,250	38,250
19	OP 5 Year Review / PPC Exercise	2026	750,000	-	750,000	375,000		375,000	37,500	337,500	222,750	114,750
20	Transportation Planning Studies	2026	250,000	-	250,000	125,000		125,000	12,500	112,500	74,250	38,250
21	OP Policy Implementation	2026	250,000	-	250,000	25,000		225,000	22,500	202,500	133,650	68,850
22	Review of Agriculture Policy (OPA 179)	2026	100,000	-	100,000	50,000		50,000	5,000	45,000	29,700	15,300
23	OP Review	2026	1,000,000	150,000	850,000	500,000		350,000	35,000	315,000	207,900	107,100
24	Fire Master Plan	2026	125,000	-	125,000	62,500		62,500	6,250	56,250	37,125	19,125

Infrastructure Costs Covered in the D.C. Calculation – Development Related Studies (cont'd)

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 66%	Non-Residential Share 34%
25	Intensification Strategy (P2G)	2026	100,000	-	100,000	5,000		95,000	9,500	85,500	56,430	29,070
26	Library Master Plan	2026	75,000	-	75,000	37,500		37,500	3,750	33,750	22,275	11,475
27	Settlement Boundary Area Expansion Studies re: subwatershed work with Region	2026	500,000	-	500,000	25,000		475,000	47,500	427,500	282,150	145,350
28	DC Background Study	2028	250,000	-	250,000	-		250,000	25,000	225,000	148,500	76,500
29	Library Strategic Plan	2028	25,000	-	25,000	12,500		12,500	1,250	11,250	7,425	3,825
30	Mayfield West II Studies	2020-2028	2,450,000	367,500	2,082,500	122,500		1,960,000	196,000	1,764,000	1,164,240	599,760
31	Allowance for Unspecified Planning Studies	2024-2028	1,705,000	-	1,705,000	852,500		852,500	85,250	767,250	506,385	260,865
	Reserve Fund Adjustment							820,721		820,721	541,676	279,045
	Total		**15,806,900**	**1,784,867**	**14,022,034**	**4,152,345**	**-**	**10,690,410**	**986,969**	**9,703,441**	**6,404,271**	**3,299,170**

Infrastructure Costs Covered in the D.C. Calculation – Animal Control

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 100%	Non-Residential Share 0%
1	Special Purpose vehicle	2022	60,000	-	60,000	-		60,000	6,000	54,000	54,000	-
2	Expansion to Existing Shelter	2023-2026	4,550,000	3,321,500	1,228,500	455,000		773,500	77,350	696,150	696,150	-
			-	-	-	-		-	-	-	-	-
	Reserve Fund Adjustment							(71,269)		(71,269)	(71,269)	-
	Total		**4,610,000**	**3,321,500**	**1,288,500**	**455,000**	**-**	**762,231**	**83,350**	**678,881**	**678,881**	**-**

Infrastructure Costs Covered in the D.C. Calculation – Provincial Offenses Act Facilities

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 66%	Non-Residential Share 34%
1	10,361 sq.ft. Court Expansion	2020-2022	5,180,000	1,813,000	3,367,000	-		3,367,000	336,700	3,030,300	1,999,998	1,030,302
			-	-	-	-		-	-	-	-	-
	Reserve Fund Adjustment		-	-	-	-		(632,074)		(632,074)	(417,169)	(214,905)
	Total		**5,180,000**	**1,813,000**	**3,367,000**	**-**	**-**	**2,734,926**	**336,700**	**2,398,226**	**1,582,829**	**815,397**

5.3 Service Levels and 12-Year Capital Costs for Municipal-wide D.C. Calculation

This section evaluates the development-related capital requirements for select services over the 12-year planning period (2019-2031). As with the 10-year services, each service component is evaluated based on the average historical 10-year level of service calculation (see Appendix B), which "caps" the D.C. amounts; and the infrastructure cost calculation, which determines the potential D.C. recoverable cost.

5.3.1 Services Related to a Highway

Transportation Services provided by the Town include the provision of roads, bridges and culverts, sidewalks and active transportation assets, traffic signals and streetlights, and related operations facilities and vehicles. The assets include:

- 870 kms of collection and arterial roads including curbs, traffic signals and culverts etc.;
- 5,558 metres of sidewalks; and
- 219 streetlights.

Operations facilities and vehicles relating to the provision of services related to a highway are discussed in the following section.

The average level of service provided over the historical 10-year period based on this inventory is $13,900 per capita. When applied to the anticipated growth over the 2019 to 2031 period, the per capita level of service produces a maximum D.C. eligible amount for Services Related to a Highway of $440 million.

With regard to the anticipated capital needs included in the calculation of the charge for this service, HDR Inc. has undertaken an assessment of D.C. project identification, validation and costing updates. Appendix E contains the Development Charge Background Study Transportation Component Prepared by HDR Inc.

The capital needs provided for in the calculation of the charge include:

- new road construction,
- road widenings;
- reconstruction of rural and urban roads;

- intersection improvements including signalization;
- rural road upgrades;
- pedestrian crossings and traffic calming features;
- structures;
- active transportation projects; and
- studies.

The gross capital cost estimates for the anticipated Services Related to a Highway total $508.6 million. Approximately $87.1 million in capital costs have been deducted as a post-period benefit reflecting the anticipated increase in needs for future development beyond the forecast period to 2031. This deduction for post period benefit is made reflective of the Town's available tax funding for non-D.C. recoverable costs within the D.C. program, which has been applied to the rural road program, and deductions for oversizing of works within the Bolton Settlement Area. These works are being deferred beyond the D.C. forecast period for calculation purposes on this basis.

Based on the assessment undertaken by HDR Inc., $177.0 million has been deducted from the growth-related capital costs attributed to development over the forecast period recognizing the share benefiting existing development. Approximately $17.2 million of this deduction will be funded by Mayfield West landowners under conditions of agreements as fiscal impact mitigation measures. The D.C. recoverable costs were further reduced by the uncommitted D.C. reserve fund balance for this service of $28.2 million.

The net growth-related costs for Services Related to a Highway have been allocated between future residential and non-residential development on the basis of incremental population to employment growth over the forecast period (i.e. 66% residential and 34% non-residential).

5.3.2 Operations

This service encompasses vehicles, equipment and facilities pertaining to Services Related to a Highway. The Town has Operations facilities at three locations. The total floor area of these facilities is 67,741 sq.ft. In addition, there are the equivalent of 87 vehicles and 52 pieces of equipment.

The average level of service provided over the historical 10-year period based on this inventory is $681 per capita. When applied to the anticipated growth over the 12-year forecast period, this service level produces a maximum D.C. eligible amount of $21.5 million. The Operations Service is also a service related to a highway and the service level cap has been combined for these two services.

Capital needs to accommodate growth include an expansion to Yard Two and the establishment of new yard (Yard Four) and the acquisition of over 40 additional vehicles. The total gross cost of these capital needs is $31.7 million.

A deduction of $6 million has been applied to the planned Yard Four as the share that would benefit growth beyond the forecast period. In addition, a 65% deduction for benefit to existing development has been applied to the expansion of Yard Two as it is anticipated that this expansion will result in the decommissioning of space elsewhere.

The positive D.C. reserve fund balance for this service of $879,000 has been applied to the potential D.C. recoverable costs, resulting in a net growth-related share of $21.3 million.

As with Services Related to a Highway, the net growth-related costs have been allocated between future residential and non-residential development on the basis of incremental population to employment growth over the forecast period (i.e. 66% residential and 34% non-residential).

5.3.3 Fire Protection Services

The Town currently has 63,319 sq.ft. of floor space contained within nine firehalls and the fire administration building. The Town also maintains 48 vehicles as well as equipment including gear for 280 fire fighters. In total, the inventory of Fire Services assets provides an average level of service of $900 per capita over the previous ten years. The historical level of investment in Fire Services provides for a maximum D.C. eligible amount over the forecast period of $28.5 million.

In order to meet the needs of growth, the Town anticipates the establishment of two additional fire stations in Bolton West and Mayfield West, respectively, as well as additions to four existing stations. Capital needs also include equipment for the new stations and the acquisition of a number of vehicles. The total gross cost of these expenditures is $23.3 million. From this amount, a $2.6 million deduction has been

made for the share benefiting existing development based on deductions of 25% for additions to existing stations and 10% for all other items.

The positive reserve fund balance of $2.95 million was applied to the growth costs resulting in a net D.C. recoverable amount of $17.8 million for Fire Protection Services. These costs have been allocated between future residential and non-residential development on the basis of incremental population to employment growth over the forecast period (i.e. 66% residential and 34% non-residential).

Infrastructure Costs Covered in the D.C. Calculation – Services Related to a Highway

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031					Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
										Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
	Name	To	From	Improvement Type	Length (km)									
	TRAFFIC ZONE 1289:													
A001	Innis Lake Road	Mayfield Road	Healey Road	Rural Reconstruction	3.0	0	3,525,902	2,707,431	818,471	705,180		113,291	74,772	38,519
A003	Innis Lake Road	Healey Road	King Street W	Rural Reconstruction	3.1	0	3,636,799	2,792,585	844,214	727,360		116,854	77,124	39,730
0	Innis Lake Road	King Street	200m South of Old Church Road	Rural Reconstruction	6.3	0	6,986,543	5,364,750	1,621,793	1,397,309		224,484	148,159	76,325
A025	Centreville Creek Road	King Street	Castlederg Sideroad	Rural Reconstruction	3.0	2020-2023	2,927,694	-	2,927,694	1,687,146		1,240,548	818,762	421,786
0	Centreville Creek Road	Mayfield Road	King Street	Rural Reconstruction	6.1	0	6,963,725	5,347,229	1,616,496	1,392,745		223,751	147,676	76,075
0	Humber Station and Healey Road	-	-	Intersection Improvements: Signalization	0.0	0	298,900	258,206	40,694	29,890		10,804	7,131	3,673
A037	Humber Station Road	Healey Road	Mayfield Road	Urban Reconstruction	3.0	0	9,200,922	2,207,845	6,993,077	6,900,692		92,386	60,975	31,411
A039	Humber Station Road	2.8 km N of Healey (Belomat Ct)	Healey Road	Rural Reconstruction	2.8	2020-2023	3,105,130	-	3,105,130	3,016,412		88,718	58,554	30,164
A041	Humber Station Road	King Street	2.8 km N of Healey	Rural Reconstruction	0.3	2020-2023	319,385	-	319,385	310,260		9,125	6,023	3,103
A043	Humber Station Road	0.4 km N of King St	King Street W	Rural Reconstruction	0.4	2020-2023	443,590	-	443,590	392,159		51,431	33,944	17,487
A045	Humber Station Road	Castlederg Sideroad	0.4 km N of King St	Rural Reconstruction	1.6	2020-2023	1,785,450	-	1,785,450	1,578,441		207,009	136,626	70,383
A067	Duffy's Lane	1.9 km N of King St W	Castlederg Sideroad	Rural Reconstruction	1.6	0	1,984,426	1,523,779	460,647	396,885		63,762	42,083	21,679
A123	Healey Road	Airport Road	Innis Lake Road	Urban Reconstruction	1.4	0	4,360,430	1,046,325	3,314,105	3,270,323		43,783	28,897	14,886
A125	Healey Road	Innis Lake Road	Centreville Creek Road	Urban Reconstruction	1.4	0	4,360,430	1,046,325	3,314,105	3,270,323		43,783	28,897	14,886
A127	Healey Road	Centreville Creek Road	The Gore Road	Urban Reconstruction	1.4	0	4,559,407	1,094,071	3,465,336	3,419,555		45,781	30,215	15,566
A129	Healey Road	The Gore Road	Humber Station Road	Urban Reconstruction	1.4	0	4,459,325	1,070,056	3,389,269	3,344,494		44,776	29,552	15,224
A131	Healey Road	Humber Station Road	Coleraine Drive	Urban Reconstruction	1.4	0	4,459,325	1,070,056	3,389,269	3,344,494		44,776	29,552	15,224
A137	Castlederg Sideroad	Innis Lake Road	Centreville Creek Road	Rural Reconstruction	1.4	0	1,552,565	1,192,167	360,398	310,513		49,885	32,924	16,961
A139	Castlederg Sideroad	Centreville Creek Road	The Gore Road	Rural Reconstruction	1.4	0	1,552,565	727,776	824,789	794,336		30,453	20,099	10,354
A147	Castlederg Sideroad	Duffy's Lane	Regional Road 50	Rural Reconstruction	0.8	0	1,086,157	834,026	252,131	217,231		34,899	23,033	11,866
	TRAFFIC ZONE 1288:													
CG001	Heritage Road	Mayfield Road	Old School Road	Rural Road Upgrade	3.1	0	1,332,227	1,022,976	309,251	266,445		42,806	28,252	14,554
CG013	Creditview Road	Mayfield Road	Old School Road	Rural Reconstruction	3.0	0	3,326,925	2,554,643	772,282	665,385		106,897	70,552	36,345
CG023	Chinguacousy Road	Old School Road	Mayfield Road	Rural Reconstruction	0.2	2020-2023	564,299	-	564,299	75,240		489,059	322,779	166,280
CG031	McLaughlin Road	MW2 Limit	Old School Road	Rural Reconstruction	1.8	0	2,195,132	1,257,891	937,241	884,605		52,636	34,740	17,896
CG057	Bramalea Road	Mayfield Road	Old School Road	Rural Reconstruction	3.1	0	3,636,799	2,792,585	844,214	727,360		116,854	77,124	39,730
CG063	Torbram Road	Mayfield Road	Old School Road	Rural Reconstruction	3.2	0	3,747,697	2,038,400	1,709,297	1,624,002		85,295	56,295	29,000
	TRAFFIC ZONE 1296													
CG003	Heritage Road	Old School Road	0.2 km S of King St	Rural Road Upgrade	2.8	0	2,174,805	1,669,965	504,840	434,961		69,879	46,120	23,759
CG005	Heritage Road	0.2 km S of King St	King St	Rural Road Upgrade	0.2	0	155,343	119,283	36,060	31,069		4,991	3,294	1,697
CG007	Heritage Road	King St	0.7 km N of King St	Rural Road Upgrade	0.7	0	543,701	260,932	282,769	271,851		10,919	7,207	3,712
CG015	Creditview Road	Old School Road	King St	Rural Reconstruction	3.1	0	3,437,823	2,639,798	798,025	687,565		110,461	72,904	37,557
CG021	Creditview Road	Boston Mills Road	Olde Base Line Road	Rural Road Upgrade	1.2	0	932,059	-	932,059	932,059		-	-	-
CG033	McLaughlin Road	Old School Road	1.1 km S of King St	Rural Reconstruction	2.0	2020-2023	2,217,950	-	2,217,950	1,330,770		887,180	585,539	301,641
CG035	McLaughlin Road	1.1 km S of King St	King St	Rural Reconstruction	1.1	2020-2023	1,219,873	-	1,219,873	731,924		487,949	322,046	165,903
CG037	McLaughlin Road	King St	Boston Mills Road	Rural Reconstruction	3.1	2020-2023	3,010,162	-	3,010,162	602,032		2,408,130	1,589,366	818,764
CG039	McLaughlin Road	Boston Mills Road	Olde Base Line Road	Rural Reconstruction	1.1	2020-2023	1,088,610	-	1,088,610	429,278		659,332	435,159	224,173
CG043	Kennedy Road	Old School Road	King St	Rural Reconstruction	2.7	0	2,994,233	2,299,179	695,054	598,847		96,208	63,497	32,711
CG051	Heart Lake Road	Old School Road	King St	Rural Reconstruction	3.1	0	3,437,823	659,949	2,777,874	2,750,258		27,615	18,226	9,389
CG059	Bramalea Road	King St	Old School Road	Rural Reconstruction	3.1	2020-2023	3,437,823	-	3,437,823	859,456		2,578,367	1,701,722	876,645
CG061	Bramalea Road	King St	Olde Base Line	Rural Reconstruction	4.2	0	4,657,695	3,576,500	1,081,195	931,539		149,656	98,773	50,883
CG065	Torbram Road	Old School Road	King Street	Rural Reconstruction	3.2	0	3,548,720	1,879,277	1,669,443	1,590,806		78,637	51,900	26,737
CG067	Torbram Road	King Street	Old Baseline Road	Rural Reconstruction	4.2	0	4,856,672	1,598,266	3,258,406	3,191,527		66,878	44,139	22,739
CG089	Old School Road	Bramalea Road	Torbram Road	Rural Reconstruction	1.4	2020-2023	1,541,357	-	1,541,357	335,078		1,206,279	796,144	410,135
CG091	Old School Road	Torbram Road	Airport Road	Rural Reconstruction	1.4	2020-2023	1,716,456	-	1,716,456	390,104		1,326,352	875,392	450,960
CG097	Boston Mills Road	Mississauga Road	Creditview Road	Rural Road Upgrade	1.4	0	1,087,403	208,746	878,657	869,922		8,735	5,765	2,970
CG099	Boston Mills Road	Creditview Road	Chinguacousy Road	Rural Road Upgrade	1.4	2020-2023	1,286,379	-	1,286,379	1,286,379		-	-	-
CG101	Boston Mills Road	Chinguacousy Road	McLaughlin Road	Rural Road Upgrade	1.4	0	1,087,403	834,983	252,420	217,481		34,939	23,060	11,879
CG103	Boston Mills Road	McLaughlin Road	Hurontario St	Rural Road Upgrade	1.4	0	1,087,403	959,102	128,301	88,168		40,133	26,488	13,645

Infrastructure Costs Covered in the D.C. Calculation – Services Related to a Highway (cont'd)

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031					Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
										Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
	Name	To	From	Improvement Type	Length (km)									
	TRAFFIC ZONE 1300:													
A161	Patterson Sideroad	Airport Road	Innis Lake Road	Rural Reconstruction	1.4	0	1,552,565	682,264	870,301	841,752		28,549	18,842	9,707
A163	Patterson Sideroad	Innis Lake Road	Centreville Creek Road	Rural Reconstruction	1.4	0	1,552,565	727,776	824,789	794,336		30,453	20,099	10,354
A165	Patterson Sideroad	Centreville Creek Road	The Gore Road	Rural Reconstruction	1.4	0	1,552,565	727,776	824,789	794,336		30,453	20,099	10,354
A167	Patterson Sideroad	The Gore Road	1.1 km E	Rural Reconstruction	1.1	0	1,219,873	836,342	383,531	348,535		34,996	23,097	11,899
A169	Patterson Sideroad	1.1 km E of The Gore Road	Duffy's Lane	Rural Reconstruction	1.7	0	2,283,211	1,753,207	530,004	456,642		73,362	48,419	24,943
A171	Patterson Sideroad	Duffy's Lane	Regional Road 50	Rural Reconstruction	1.4	0	1,751,542	1,344,955	406,587	350,308		56,279	37,144	19,135
	TRAFFIC ZONE 1302:													
C011	Shaws Creek Road	Charleston Sideroad	Bush Street	Rural Road Upgrade	3.0	0	2,529,125	606,886	1,922,239	1,896,844		25,395	16,761	8,634
C021	Mississauga Road	Forks of Credit Road	1.5km N	Rural Road Upgrade	1.5	0	1,165,074	-	1,165,074	1,165,074		-	-	-
C023	Mississauga Road	Cataract Road	1.0km S	Rural Road Upgrade	1.0	0	776,716	-	776,716	776,716		-	-	-
C025	Mississauga Road	Charleston Sideroad	Cataract Road	Rural Road Upgrade	1.2	0	932,059	-	932,059	932,059		-	-	-
C055	McLaughlin Road	North Limit of Inglewood	The Grange Sideroad	Rural Road Upgrade	2.1	0	1,631,104	421,506	1,209,598	1,191,961		17,638	11,641	5,997
C147	The Grange Sideroad	Winston Churchill Blvd	Shaws Creek Road	Rural Road Upgrade	1.4	0	1,087,403	329,599	757,804	744,013		13,792	9,103	4,689
C149	The Grange Sideroad	Shaws Creek Road	Mississauga Road	Rural Road Upgrade	1.4	0	1,087,403	-	1,087,403	1,087,403		-	-	-
	TRAFFIC ZONE 1304:													
C077	Kennedy Road	0.8km N of Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2.5	0	1,941,791	1,491,041	450,750	388,358		62,392	41,179	21,213
C079	Kennedy Road	Beech Grove Sideroad	Highpoint Sideroad	Rural Road Upgrade	3.1	2020-2023	2,407,820	-	2,407,820	1,742,974		664,846	438,798	226,048
C089	Heart Lake Road	Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	3.0	0	2,330,149	617,558	1,712,591	1,686,750		25,841	17,055	8,786
C123	St. Andrew's Road	Beech Grove Sideroad	Charleston Sideroad	Rural Road Upgrade	3.1	2020-2023	2,407,820	-	2,407,820	2,217,729		190,091	125,460	64,631
	TRAFFIC ZONE 1306:													
C063	Willoughby Road	Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	3.0	2020-2023	2,529,125	-	2,529,125	1,870,860		658,265	434,455	223,810
C065	Willoughby Road	Beech Grove Sideroad	0.4km S of Highpoint Sideroad	Rural Road Upgrade	2.7	0	2,097,134	523,907	1,573,227	1,551,305		21,923	14,469	7,454
C069	Willoughby Road	0.4km N of Highpoint Sideroad	Town Limit	Rural Road Upgrade	3.6	0	2,995,155	743,845	2,251,310	2,220,185		31,126	20,543	10,583
	TRAFFIC ZONE 1307:													
C001	Winston Churchill Blvd.	Highpoint Sideroad	Beech Grove Sideroad	Rural Reconstruction	3.1	2020-2023	3,437,823	-	3,437,823	2,022,249		1,415,574	934,279	481,295
C003	Winston Churchill Blvd.	1.0km S of E Garafraxa	Highpoint Sideroad	Rural Reconstruction	2.6	0	3,281,288	1,296,853	1,984,435	1,930,169		54,266	35,816	18,450
C005	Winston Churchill Blvd.	0.4km S E Garafraxa	1.0km S of E Garafraxa	Rural Reconstruction	0.6	0	665,385	510,929	154,456	133,077		21,379	14,110	7,269
C008	Winston Churchill Blvd.	E Garafraxa TL	0.4 km S	Rural Reconstruction	3.1	0	3,437,823	2,639,798	798,025	687,565		110,461	72,904	37,557
C013	Shaws Creek Road	Charleston Sideroad	1.6km N Charleston Sideroad	Rural Road Upgrade	1.6	0	1,441,722	529,973	911,749	889,573		22,176	14,636	7,540
C015	Shaws Creek Road	1.6km N Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	1.6	0	1,242,746	456,830	785,916	766,801		19,116	12,617	6,499
C017	Shaws Creek Road	Beech Grove Sideroad	Highpoint Sideroad	Rural Road Upgrade	3.1	0	2,407,820	951,635	1,456,185	1,416,365		39,821	26,282	13,539
C019	Shaws Creek Road	Highpoint Sideroad	E Garafraxa -Caledon Townline	Rural Road Upgrade	3.5	0	3,116,460	1,231,708	1,884,752	1,833,212		51,540	34,016	17,524
C037	Main Street	North Limit of Alton / Queen St W	Highpoint Sideroad	Rural Road Upgrade	1.5	2020-2023	1,220,926	-	1,220,926	1,119,182		101,744	67,151	34,593
C039	Main Street	Highpoint Sideroad	E. Garafraxa- Caledon TL	Rural Road Upgrade	3.2	2020-2023	2,485,492	-	2,485,492	2,319,793		165,699	109,361	56,338
C217	Highpoint Sideroad	Main St	1.0 km E of Main Street	Rural Road Upgrade	1.0	0	776,716	596,416	180,300	155,343		24,957	16,472	8,485
C219	Highpoint Sideroad	1.0 km E of Main Street	Porterfield Road	Rural Road Upgrade	0.7	0	543,701	417,491	126,210	108,740		17,470	11,530	5,940
C229	E. Garafraxa-Caledon Town Line	Winston Churchill Blvd	Shaws Creek Road	Rural Reconstruction	1.3	0	1,441,668	1,107,012	334,656	288,334		46,322	30,573	15,749
C231	E. Garafraxa-Caledon Town Line	Shaws Creek Road	Orangeville Town Line	Rural Reconstruction	2.3	0	2,749,619	2,111,347	638,272	549,924		88,348	58,310	30,038
	TRAFFIC ZONE 1308:													
C115	St. Andrew's Road	Old Base Line Road	The Grange Sideroad	Rural Reconstruction	3.1	2020-2023	3,725,681	-	3,725,681	2,537,783		1,187,898	784,013	403,885
C117	St. Andrew's Road	The Grange Sideroad	1.7km S of Escarpment Sideroad	Rural Road Upgrade	1.5	2020-2023	1,165,074	-	1,165,074	793,601		371,473	245,172	126,301
C119	St. Andrew's Road	1.7km S of Escarpment Sideroad	Escarpment Sideroad	Rural Road Upgrade	1.7	2020-2023	1,320,418	-	1,320,418	899,415		421,003	277,862	143,141
C121	St. Andrew's Road	Escarpment Sideroad	Charleston Sideroad	Rural Road Upgrade	3.1	2020-2023	2,606,797	-	2,606,797	521,359		2,085,438	1,376,389	709,049
C129	Mountainview Road	Olde Base Line Road	1.4km N of Olde base Line Road	Urban Reconstruction	1.4	2020-2023	4,085,445	-	4,085,445	3,064,084		1,021,361	674,098	347,263
C131	Mountainview Road	1.4km N of Olde base Line Road	Granite Stone Dr	Urban Reconstruction	2.3	2020-2023	6,657,397	-	6,657,397	4,993,048		1,664,349	1,098,470	565,879
C133	Mountainview Road	Granite Stone Dr	1.1km N of Granite Stone	Rural Road Upgrade	1.1	2020-2023	854,388	-	854,388	443,016		411,372	271,506	139,866
C135	Mountainview Road	1.1km N of Granite Stone	Escarpment Sideroad	Rural Road Upgrade	1.4	2020-2023	1,087,403	-	1,087,403	624,678		462,725	305,399	157,327
C137	Mountainview Road	Escarpment Sideroad	Charleston Sideroad	Rural Road Upgrade	3.1	2020-2023	2,407,820	-	2,407,820	1,383,216		1,024,604	676,239	348,365
C159	The Grange Sideroad	Hurontario St	Kennedy St	Rural Road Upgrade	1.4	2020-2023	1,087,403	-	1,087,403	478,457		608,946	401,904	207,042
C165	The Grange Sideroad	Horseshoe Hill Road	Street Andrews Road	Rural Road Upgrade	1.4	2020-2023	1,087,403	-	1,087,403	616,195		471,208	310,997	160,211
C167	The Grange Sideroad	St Andrews Road	Mountainview Road	Rural Road Upgrade	1.4	0	1,087,403	218,093	869,310	860,184		9,126	6,023	3,103

Infrastructure Costs Covered in the D.C. Calculation – Services Related to a Highway (cont'd)

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031					Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
										Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
	Name	To	From	Improvement Type	Length (km)									
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	25,000	21,596	3,404	2,500		904	597	307
0	Traffic Calming	-	-	Traffic Calming	0.0	0	25,000	21,596	3,404	2,500		904	597	307
	ALTON SETTLEMENT AREA													
AL019	Queen Street W	Mississauga Road	John Street	Urban Reconstruction	0.6	0	1,778,697	-	1,778,697	1,334,023		444,674	293,485	151,189
AL021	Queen Street W	John Street	James St	Urban Reconstruction	0.2	0	571,545	-	571,545	428,659		142,886	94,305	48,581
AL023	Queen Street W	James St	Emeline Street	Urban Reconstruction	0.1	0	296,450	-	296,450	222,338		74,113	48,915	25,198
AL025	Queen Street W	Emeline Street	Main Street	Urban Reconstruction	0.6	0	2,176,650	-	2,176,650	1,632,488		544,163	359,148	185,015
AL057	Main Street	Queen St	0.8 km N	Urban Reconstruction	0.2	0	571,545	-	571,545	428,659		142,886	94,305	48,581
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
0	Traffic Calming	-	-	Traffic Calming	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
	BELFOUNTAIN SETTLEMENT AREA													
C009-A	Shaws Creek Road	The Grange Sideroad	South Limit of Belfountain	Rural Road Upgrade	2.0	0	1,553,432	-	1,553,432	310,686		1,242,746	820,212	422,534
C009-B	Shaws Creek Road	South Limit of Belfountain	Bush Street	Urban Reconstruction	1.1	0	3,452,838	-	3,452,838	2,589,629		863,210	569,719	293,491
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
0	Traffic Calming	-	-	Traffic Calming	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
	CALEDON VILLAGE SETTLEMENT AREA													
CV081	Kennedy Road	0.8km S of Charleston Sideroad	Charleston Sideroad	Urban Reconstruction	0.8	0	2,286,179	-	2,286,179	1,714,634		571,545	377,220	194,325
CV083	Kennedy Road	Charleston Sideroad	0.8km N of Charleston Sideroad	Urban Reconstruction	0.8	0	2,485,156	-	2,485,156	1,863,867		621,289	410,051	211,238
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
0	Traffic Calming	-	-	Traffic Calming	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
	CALEDON EAST SETTLEMENT AREA													
A010	Innis Lake Road	Patterson SR	1.6 Km N of Old Church Road	Urban Reconstruction	1.5	0	4,662,961	-	4,662,961	466,296		4,196,665	2,769,799	1,426,866
A011-A	Innis Lake Road	1.6 Km N of Old Church Road	0.6m N of Old Church Road	Urban Reconstruction	1.0	0	3,150,307	-	3,150,307	315,031		2,835,276	1,871,282	963,994
A011-B	Innis Lake Road	0.6 Km N of Old Church Road	Old Church	Urban Reconstruction	0.6	0	1,940,184	-	1,940,184	194,018		1,746,166	1,152,470	593,696
A135	Castlederg Sideroad	Airport Road	Innis Lake Road	Rural Reconstruction	1.4	0	1,552,565	-	1,552,565	841,752		710,813	469,137	241,676
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	62,500	-	62,500	6,250		56,250	37,125	19,125
0	Traffic Calming	-	-	Traffic Calming	0.0	0	62,500	-	62,500	6,250		56,250	37,125	19,125
	CHELTENHAM SETTLEMENT AREA													
CH003	Mill Street	Mississauga Road	1.0 km E	Urban Reconstruction	1.0	0	3,349,284	-	3,349,284	2,511,963		837,321	552,632	284,689
CH005	Mill Street	0.1 km E Mississauga Road	Creditview Road	Urban Reconstruction	0.6	0	2,338,137	-	2,338,137	1,753,603		584,534	385,792	198,742
CH011	Kennedy Road	Creditview Road	Credit Road	Urban Reconstruction	0.7	0	2,242,715	-	2,242,715	1,682,036		560,679	370,048	190,631
CG017	Creditview Road	Kennedy Road	King Street	Urban Reconstruction	2.4	0	8,500,253	-	8,500,253	6,375,190		2,125,063	1,402,542	722,521
CG019	Creditview Road	Boston Mills Road	Kennedy Road	Rural Road Upgrade	0.7	0	543,701	-	543,701	543,701		-	-	-
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
0	Traffic Calming	-	-	Traffic Calming	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
	INGLEWOOD SETTLEMENT AREA													
I001	McLaughlin Road	0.5 km N of Olde Base Line	N. Limit of Inglewood	Urban Reconstruction	1.5	0	4,967,896	-	4,967,896	3,725,922		1,241,974	819,703	422,271
C053	McLaughlin Road	Riverdale	0.5 km North of McCoull	Urban Reconstruction	1.0	0	3,150,307	-	3,150,307	2,362,730		787,577	519,801	267,776
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
0	Traffic Calming	-	-	Traffic Calming	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
	BOLTON SETTLEMENT AREA													
B3053	Glasgow Road	Deer Valley Drive	King St W	Urban Reconstruction	1.0	0	3,414,309	-	3,414,309	341,431		3,072,878	2,028,099	1,044,779
A117	Caledon-King Townline S	Columbia Way	King St E	Rural Reconstruction	2.3	0	3,545,525	-	3,545,525	709,105		2,836,420	1,872,037	964,383
A207	Columbia Way	Mount Hope Road	0.5km E	Urban Reconstruction	0.5	0	1,670,166	-	1,670,166	167,017		1,503,149	992,078	511,071
A208	Columbia Way	0.5km E	Caledon-King Town Line S	Rural Reconstruction	0.8	0	939,200	-	939,200	187,840		751,360	495,898	255,462
0	Columbia Way	Mount Hope Road	Highway 50	Urban Reconstruction	1.5	0	4,959,475	-	4,959,475	495,948		4,463,528	2,945,928	1,517,600
0	Mount Hope Road	Columbia Way	Guardhouse Drive	Rural Road Upgrade	0.4	0	310,686	-	310,686	62,137		248,549	164,042	84,507

Infrastructure Costs Covered in the D.C. Calculation – Services Related to a Highway (cont'd)

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031					Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
										Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
	Name	To	From	Improvement Type	Length (km)									
0	Industrial Road	Caledon/King Town Line S	Regional Road No. 50	Urban Reconstruction	0.6	0	3,760,990	-	3,760,990	376,099		3,384,891	2,234,028	1,150,863
0	McEwan Drive	-	-	Land Acquisition	0.0	0	809,247	-	809,247	-		809,247	534,103	275,144
0	Queensgate Blvd	Regional Road 50	Albion /Vaughan Road	Urban Reconstruction	1.2	0	3,970,556	-	3,970,556	397,056		3,573,500	2,358,510	1,214,990
0	Dovaston St (Daisy Meadow Lane)	@ Albion /Vaughan Rd	-	Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	29,890		269,010	177,547	91,463
0	Mayfield Road	@ Pillsworth (Nixon Rd) Extension	-	Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	29,890		269,010	177,547	91,463
0	Albion-Vaughan Road	Queensgate Boulevard	Regional Road 50	Urban Reconstruction	3.5	0	10,713,575	-	10,713,575	1,071,358		9,642,218	6,363,864	3,278,354
0	Albion-Vaughan Road	@ CPR Line	-	Structure	0.0	0	4,765,132	-	4,765,132	-		4,765,132	3,144,987	1,620,145
0	Albion-Vaughan Road	Queensgate Boulevard	Regional Road 50	Land Acquisition	0.0	0	2,265,892	-	2,265,892	-		2,265,892	1,495,489	770,403
CATS	Albion-Vaughan Road	King St	Mayfield Road	Widening: 2 to 4 lanes	4.8	2031	17,342,851	9,018,283	8,324,568	-		8,324,568	5,494,215	2,830,353
0	George Bolton Parkway	Industrial Road	Highway 50	New Construction: 2 lanes	0.3	2031	1,022,242	531,566	490,676	-		490,676	323,846	166,830
0	George Bolton Parkway	Coleraine Drive	Terminus of Road	Widening: 2 to 4 lanes	1.4	0	5,146,873	-	5,146,873	-		5,146,873	3,396,936	1,749,937
0	Healey Road and Simpson Road	-	-	Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	29,890		269,010	177,547	91,463
0	Nixon Road and McEwan Drive	-	-	Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	29,890		269,010	177,547	91,463
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	62,500	-	62,500	6,250		56,250	37,125	19,125
0	Traffic Calming	-	-	Traffic Calming	0.0	0	62,500	-	62,500	6,250		56,250	37,125	19,125
	SOUTH ALBION BOLTON EMPLOYMENT LANDS													
0	North-South Corridor	-	-	Urban Reconstruction	4.2	0	12,831,290	-	12,831,290	1,283,129		11,548,161	7,621,786	3,926,375
0	Parr Blvd	-	-	Urban Reconstruction	0.6	0	1,940,184	-	1,940,184	194,018		1,746,166	1,152,470	593,696
0	George Bolton Parkway Extension	Coleraine Drive	500m West of Coleraine	Urban Reconstruction	0.5	0	1,637,654	-	1,637,654	163,765		1,473,889	972,767	501,122
0	McEwan Drive Extension	West of Coleraine Drive	-	Urban Reconstruction	0.6	0	1,940,184	-	1,940,184	194,018		1,746,166	1,152,470	593,696
0	Intersection Signalization	-	-	Intersection Improvements: Signalization	0.0	0	597,800	-	597,800	59,780		538,020	355,093	182,927
0	McEwan Drive Extension	East of Colleraine Drive	-	Urban Reconstruction	0.6	0	1,714,635	-	1,714,635	171,464		1,543,172	1,018,494	524,678
0	Healey Road	Coleraine Drive	Humber Station Road	Road Urbanization	1.4	**0**	3,942,160	-	3,942,160	394,216		3,547,944	2,341,643	1,206,301
0	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
0	Traffic Calming	-	-	Traffic Calming	0.0	0	37,500	-	37,500	3,750		33,750	22,275	11,475
	MAYFIELD WEST SETTLEMENT AREA													
0	Kennedy Road	Bonnieglen Farm Blvd	Old School Road 620m	Urban Reconstruction	0.6	0	1,975,314	-	1,975,314	98,766		1,876,548	1,238,522	638,026
0	Heart Lake Road	Mayfield Road	N. Limit OPA 208	Urban Reconstruction	2.3	0	11,715,623	-	11,715,623	585,781		11,129,842	7,345,696	3,784,146
0	Heart Lake Road	N. Limit OPA 208	Old School Road	Urban Reconstruction	0.8	0	3,030,024	-	3,030,024	151,501		2,878,523	1,899,825	978,698
0	Old School Road	Hurontario Street	Dixie Road	Urban Reconstruction	4.1	0	8,786,762	-	8,786,762	878,676		7,908,086	5,219,337	2,688,749
0	Mayfield West Industrial Collector (Abbotside Way)	600m East of Kennedy Road	Dixie Road	Urban Reconstruction	2.7	0	2,053,145	-	2,053,145	-		2,053,145	1,355,076	698,069
0	Main Street	Coll. Village Centre	-	Streetscaping	0.0	0	479,457	-	479,457	23,973		455,484	300,619	154,865
0	Sidewalks and StreetLighting	-	-	Streetscaping	0.0	0	2,622,915	-	2,622,915	524,583		2,098,332	1,384,899	713,433
0	Dougall Ave / Main Street, west of Kennedy and collector road by west school block in MFA and DC			Intersection Improvements: Signalization	0.0	0	265,740	-	265,740	-		265,740	175,388	90,352
0	Main Street/Dougall Ave and Learmont Road by east school block in MFA and DC			Intersection Improvements: Signalization	0.0	0	265,740	-	265,740	-		265,740	175,388	90,352
0	Dougall Ave/Main St and Highway 10			Intersection Improvements: Signalization	0.0	0	280,148	-	280,148	-		280,148	184,898	95,250
0	Dixie and Abbotside way			Intersection Improvements: Signalization	0.0	0	265,740	-	265,740	-		265,740	175,388	90,352
0	Highway 10 and Main Street, left and right turn lanes, etc. in MFA			Intersection Improvements: Signalization	0.0	0	280,148	-	280,148	-		280,148	184,898	95,250
0	Kennedy @ Fernbrook intersection. Signals to be installed by Fernbrook			Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	-		298,900	197,274	101,626
0	Kennedy and Larson peak			Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	-		298,900	197,274	101,626
0	Kennedy and Dougall Ave.			Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	-		298,900	197,274	101,626
0	Kennedy and Learmont	-		Intersection Improvements: Signalization	0.0	0	298,900	-	298,900	-		298,900	197,274	101,626
0	Partial Interchange - Kennedy Road to Hwy 410 (Includes Environmental Assessment)			Structure	0.0	0	8,059,790	-	8,059,790	-		8,059,790	5,319,461	2,740,329
0	Bridge at Highway 410 - Widening to 5 Lanes	Heart Lake Road		Structure	0.0	0	3,091,426	-	3,091,426	-		3,091,426	2,040,341	1,051,085

Infrastructure Costs Covered in the D.C. Calculation – Services Related to a Highway (cont'd)

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031					Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
										Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
	Name	To	From	Improvement Type	Length (km)									
0	Chinguacousy Road	Heart Lake Road	-	Urban Reconstruction	1.0	0	2,029,618	-	2,029,618	101,481		1,928,137	1,272,570	655,567
0	Mclaughlin Road	Mayfield Road	Spine Road	Urban Reconstruction	0.4	0	952,853	-	952,853	47,643		905,210	597,439	307,771
0	McLaughlin Road	265m North of Spine Road	MW2 Limit	Widening: 2 to 4 lanes	1.5	0	21,832,423	-	21,832,423	13,099,454		8,732,969	5,763,760	2,969,209
0	The Spine Road	Mayfield Road	265m North of Spine Road	New Construction: 3 lanes	1.5	0	12,957,573	-	12,957,573	-		12,957,573	8,551,998	4,405,575
0	The Spine Road	Chinguacousy	McLaughlin	New Construction: 4 lanes	1.4	0	12,022,676	-	12,022,676	-		12,022,676	7,934,966	4,087,710
0	Modified Interchange	Mclaughlin	Collector Road F (north leg)	Structure	0.0	0	35,000,000	-	35,000,000	1,750,000		33,250,000	21,945,000	11,305,000
0	Pedestrian Crossings	New Arterial/Spine Road and Colle	Hurontairo/Hwy 410	Pedestrian Crossings	0.0	0	62,500	-	62,500	6,250		56,250	37,125	19,125
0	Traffic Calming	-	-	Traffic Calming	0.0	0	62,500	-	62,500	6,250		56,250	37,125	19,125
	PALGRAVE SETTLEMENT AREA													
P023	Pine Avenue	Mount Hope Road	1.3 km W	Rural Reconstruction	1.3	0	1,441,668	-	1,441,668	288,334		1,153,334	761,200	392,134
P017	Pine Avenue	Regional Road 50	Birch Avenue	Urban Reconstruction	0.2	0	730,061	-	730,061	547,546		182,515	120,460	62,055
A087	Mount Hope Road	1.6 km S	Hundsen Sideroad	Rural Road Upgrade	1.6	0	1,242,746	-	1,242,746	1,051,554		191,192	126,187	65,005
A089	Mount Hope Road	Hundsen Sideroad	Pine Avenue	Rural Road Upgrade	0.7	0	543,701	-	543,701	108,740		434,961	287,074	147,887
A093	Mount Pleasant Road	Caledon/King Town Line S	Castlederg Sideroad	Rural Reconstruction	2.9	0	3,216,028	-	3,216,028	2,514,349		701,679	463,108	238,571
A095	Mount Pleasant Road	Castlederg Sideroad	Old Church Road	Rural Reconstruction	3.1	0	3,437,823	-	3,437,823	2,005,397		1,432,426	945,401	487,025
A097	Mount Pleasant Road	Old Church Road	1.4 km N	Rural Reconstruction	1.4	0	1,552,565	-	1,552,565	310,513		1,242,052	819,754	422,298
A109	Mount Wolfe Road	Hundsen Sideroad	1.4 km S	Rural Reconstruction	1.4	0	1,552,565	-	1,552,565	310,513		1,242,052	819,754	422,298
A111	Mount Wolfe Road	Hwy 9	Hundsen Sideroad	Rural Reconstruction	0.9	0	998,078	-	998,078	199,616		798,462	526,985	271,477
A115	Caledon-King Townline N	Halls Lake Sideroad	Hwy 9	Rural Road Upgrade	2.1	0	1,631,104	-	1,631,104	326,221		1,304,883	861,223	443,660
	Pedestrian Crossings	-	-	Pedestrian Crossings	0.0	0	39,474	-	39,474	3,947		35,527	23,448	12,079
	Traffic Calming	-	-	Traffic Calming	0.0	0	39,474	-	39,474	3,947		35,527	23,448	12,079
	ACTIVE TRANSPORTATION PROJECTS													
0	Station Road	Old Ellwood Drive	King Street	Signed-Only Bike Route	0.7	2020-2024	42,266	-	42,266	21,133		21,133	13,948	7,185
0	Landsbridge Street/Saint Farm Drive	Allan Drive (west portion)	Allan Drive (east portion)	Bike Lane	2.9	2020-2024	207,679	-	207,679	103,840		103,840	68,534	35,306
0	Wilton Drive	Queen Street/Highway 50	Ellwood Drive	Bike Lane	0.9	2020-2024	65,695	-	65,695	32,848		32,848	21,680	11,168
0	Old Ellewood Drive	Coleraine Drive	Off-Road Trail connecting to Mello	Signed-Only Bike Route	1.9	2020-2024	121,597	-	121,597	60,799		60,799	40,127	20,672
0	DeRose Avenue	King Street	Road Terminus	Signed-Only Bike Route	0.3	2020-2024	19,508	-	19,508	9,754		9,754	6,438	3,316
0	Cedargrove Road	Harvest Moon Drive (north portion)	Harvest Moon Drive (south portion)	Signed-Only Bike Route	0.9	2020-2024	59,173	-	59,173	29,587		29,587	19,527	10,060
0	Harvest Moon Drive	King Street	Coleraine Road	Signed-Only Bike Route	1.3	2020-2024	82,582	-	82,582	41,291		41,291	27,252	14,039
0	Sneath Road	King Street	Pedestrian trail bridge	Signed-Only Bike Route	0.2	2020-2024	13,655	-	13,655	6,828		6,828	4,506	2,322
0	Kingsview Drive	Foxchase Drive	Long Wood Drive	Signed-Only Bike Route	1.0	2020-2024	65,025	-	65,025	32,513		32,513	21,459	11,054
0	Taylorwood Avenue	Existing Off-Road Trail	Existing Off-Road Trail	Signed-Only Bike Route	0.1	2020-2024	6,503	-	6,503	3,252		3,252	2,146	1,106
0	Silvermoon Avenue	Kingsview Drive	Silver Valley Drive	Signed-Only Bike Route	0.2	2020-2024	13,005	-	13,005	6,503		6,503	4,292	2,211
0	Silver Valley Drive	Silvermoon Avenue	Road Cul-de-sac	Signed-Only Bike Route	0.5	2020-2024	30,562	-	30,562	15,281		15,281	10,085	5,196
0	Evans Ridge	Silver Valley Drive	King Street East	Signed-Only Bike Route	0.3	2020-2024	16,256	-	16,256	8,128		8,128	5,364	2,764
0	Holland Drive	Coleraine Drive	Healey Road	Bike Lane	1.3	>2025	91,831	-	91,831	45,916		45,916	30,305	15,611
0	Old King Road	Bond Street	Albion Vaughan Road	Signed-Only Bike Route	1.0	>2025	63,725	-	63,725	31,863		31,863	21,030	10,833
0	Glasgow Road	Deer Valley Road	Hickman Street	Signed-Only Bike Route	0.8	>2025	52,020	-	52,020	26,010		26,010	17,167	8,843
	Reserve Fund Adjustment											(28,195,007)	(18,608,705)	(9,586,303)
	Total						**508,564,575**	**87,122,887**	**421,441,688**	**176,984,095**	**-**	**216,262,596**	**142,733,313**	**73,529,282**

Infrastructure Costs Covered in the D.C. Calculation – Operations

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
1	Grader	2020	427,000	-	427,000	-		427,000	281,820	145,180
2	Tandem Axle Truck (1)	2020	335,000	-	335,000	-		335,000	221,100	113,900
3	Single Axle Trucks (4)	2020-2025	1,308,000	-	1,308,000	-		1,308,000	863,280	444,720
4	Light Duty Pick Up Trucks (5)	2020-2023	389,500	-	389,500	-		389,500	257,070	132,430
5	Medium Duty Landscape Trucks (3)	2020-2023	373,287	-	373,287	-		373,287	246,369	126,918
6	Trackless SideWalk Machine (2)	2020-2023	300,000	-	300,000	-		300,000	198,000	102,000
7	Landscape Trailers (2)	2020-2023	20,000	-	20,000	-		20,000	13,200	6,800
8	Medium Duty Truck (2) (to be split 50 roads - 50% parks)	2020-2023	124,429	-	124,429	-		124,429	82,123	42,306
9	Trailers (2) (to be split 50% roads - 50% parks)	2020-2023	10,000	-	10,000	-		10,000	6,600	3,400
10	Tandem Axle Trucks (2)	2021	670,000	-	670,000	-		670,000	442,200	227,800
11	Street Sweeper (1)	2022	415,000	-	415,000	-		415,000	273,900	141,100
12	Yard Two Expansion	2023-2026	5,322,822	-	5,322,822	3,459,834		1,862,988	1,229,572	633,416
13	Yard Four (New Yard)	2023-2026	18,760,060	6,003,200	12,756,860	-		12,756,860	8,419,528	4,337,332
14	Loader	2023	275,000	-	275,000	-		275,000	181,500	93,500
15	Light Duty Pick Up Trucks (5)	2024-2030	389,500	-	389,500	-		389,500	257,070	132,430
16	Medium Duty Landscape Trucks (3)	2024-2028	373,287	-	373,287	-		373,287	246,369	126,918
17	Trackless SideWalk Machine (2)	2024-2028	300,000	-	300,000	-		300,000	198,000	102,000
18	Landscape Trailers (2)	2024-2028	20,000	-	20,000	-		20,000	13,200	6,800
19	Asphalt Hot Box (2)	2024-2028	91,900	-	91,900	-		91,900	60,654	31,246
20	Medium Duty Truck (2) (to be split 50 roads - 50% parks)	2024-2028	124,429	-	124,429	-		124,429	82,123	42,306
21	Trailers (2) (to be split 50% roads - 50% parks)	2024-2028	10,000	-	10,000	-		10,000	6,600	3,400
22	Single Axle Trucks (5)	2026-2030	1,635,000	-	1,635,000	-		1,635,000	1,079,100	555,900
	Reserve Fund Adjustment							(879,181)	(580,260)	(298,922)
	Total		**31,674,214**	**6,003,200**	**25,671,014**	**3,459,834**	**-**	**21,331,999**	**14,079,119**	**7,252,879**

Infrastructure Costs Covered in the D.C. Calculation – Fire Protection Services

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 66%	Non-Residential Share 34%
1	Aerial Truck Debt ($50,194 principal + $44,876 interest)	2020-2021	95,070	-	95,070	-		95,070	62,746	32,324
2	Fire Training Facility (additional costs)	2020	250,000	-	250,000	62,500		187,500	123,750	63,750
3	Small Vehicle (new Fire Inspector)	2020	42,000	-	42,000	4,200		37,800	24,948	12,852
4	Addition to Caledon Village Fire Station (2,400 sq.ft.)	2021-2022	900,000	-	900,000	90,000		810,000	534,600	275,400
5	Addition to Palgrave Fire Station (2,000 sq.ft.)	2021-2022	900,000	-	900,000	225,000		675,000	445,500	229,500
6	Platform Aerial (Valleywood Station)	2023	1,800,000	-	1,800,000	180,000		1,620,000	1,069,200	550,800
7	New Pumper/Tanker Vehicle - Station 311 Mayfield West	2023	700,000	-	700,000	70,000		630,000	415,800	214,200
8	New Pumper/Rescue Vehicle - Station 311 Mayfield West	2023	700,000	-	700,000	70,000		630,000	415,800	214,200
9	Equipment - Station 311 Mayfield West	2023	1,400,000	-	1,400,000	140,000		1,260,000	831,600	428,400
10	New Fire Station 311 - Mayfield West	2023-2026	6,500,000	-	6,500,000	650,000		5,850,000	3,861,000	1,989,000
11	Addition to Mono Mills Fire Station (2,000 sq.ft.)	2024	900,000	-	900,000	225,000		675,000	445,500	229,500
12	Addition to Alton Fire Station (2,000	2026	900,000	-	900,000	90,000		810,000	534,600	275,400
13	New Fire Station 310 - Bolton West	2027-2029	6,500,000	-	6,500,000	650,000		5,850,000	3,861,000	1,989,000
14	New Pumper/Quint Vehicle - Station 310 Bolton West	2027	1,250,000	-	1,250,000	125,000		1,125,000	742,500	382,500
15	New Equipment - Station 310 Bolton West	2027	500,000	-	500,000	50,000		450,000	297,000	153,000
	Reserve Fund Adjustment							(2,947,424)	(1,945,300)	(1,002,124)
	Total		**23,337,070**	**0**	**23,337,070**	**2,631,700**	**0**	**17,757,946**	**11,720,244**	**6,037,702**

Chapter 6
D.C. Calculation

6. D.C. Calculation

Tables 6-1 and 6-2 present the D.C. quantum calculation for the growth-related capital costs identified in Chapter 5 for Municipal-wide services over the 12-year (i.e. 2019-2031) and 10-year (i.e. 2019-2028) planning horizon, respectively.

The D.C. quantum calculation has been undertaken on an average cost basis, whereby the calculated charge seeks to recover the total costs from the anticipated development over the planning period. For the residential calculations, charges are calculated on a single detached unit equivalent basis and converted to four forms of dwelling unit types (single and semi-detached, apartments larger than 70 s.m., apartments 70 s.m. of smaller, and other residential dwellings). The non-residential D.C. has been calculated uniformly on a per sq.ft. of T.F.A. basis.

Table 6-1
Municipal-Wide Services D.C. Calculation
2019-2031

SERVICE	2019$ D.C.-Eligible Cost		2019$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per ft²
	$	$	$	$
1. Services Related to a Highway	142,733,313	73,529,282	15,194	3.88
2. Operations	14,079,119	7,252,879	1,499	0.38
3. Fire Protection Services	11,720,244	6,037,702	1,248	0.32
TOTAL	**$168,532,677**	**$86,819,864**	**$17,941**	**$4.58**
D.C.-Eligible Capital Cost	$168,532,677	$86,819,864		
12-Year Gross Population/GFA Growth (sq.ft.)	34,439	18,973,100		
Cost Per Capita/Non-Residential GFA (sq.ft.)	**$4,893.66**	**$4.58**		
By Residential Unit Type **P.P.U.**				
Single and Semi-Detached Dwelling 3.666	$17,940			
Apartments > 70 s.m. 2.130	$10,423			
Apartments <= 70 s.m. 1.250	$6,117			
Other Multiples 2.791	$13,658			

Table 6-2
Municipal-Wide Services D.C. Calculation
2019-2028

SERVICE	2019$ D.C.-Eligible Cost		2019$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per ft²
	$	$	$	$
4. Parkland and Trail Development	14,825,141	780,271	1,848	0.05
5. Indoor Recreation Facilities	65,831,030	3,464,791	8,206	0.22
6. Library Services	6,835,663	359,772	852	0.02
7. Development Related Studies	6,404,271	3,299,170	798	0.21
8. Animal Control	678,881	-	85	-
9. Provincial Offences Act	1,582,829	815,397	197	0.05
TOTAL	**96,157,817**	**8,719,400**	**11,986**	**$0.55**
D.C.-Eligible Capital Cost	$96,157,817	$8,719,400		
10-Year Gross Population/GFA Growth (sq,ft,)	29,409	15,881,100		
Cost Per Capita/Non-Residential GFA (sq.ft.)	**$3,269.67**	**$0.55**		
By Residential Unit Type **P.P.U.**				
Single and Semi-Detached Dwelling 3.666	$11,987			
Apartments > 70 s.m. 2.130	$6,964			
Apartments <= 70 s.m. 1.250	$4,087			
Other Multiples 2.791	$9,126			

Chapter 7
D.C. Policy Recommendations and D.C. By-Law Rules

7. D.C. Policy Recommendations and D.C. By-Law Rules

7.1 Introduction

This chapter outlines the D.C. policy recommendations and by-law rules.

s.s.5(1)9 states that rules must be developed:

> "...to determine if a development charge is payable in any particular case and to determine the amount of the charge, subject to the limitations set out in subsection 6."

Paragraph 10 of subsection 5(1) goes on to state that the rules may provide for exemptions, phasing in and/or indexing of D.C.s.

s.s.5(6) establishes the following restrictions on the rules:

- the total of all D.C.s that would be imposed on anticipated development must not exceed the capital costs determined under 5(1) 2-8 for all services involved;
- if the rules expressly identify a type of development, they must not provide for it to pay D.C.s that exceed the capital costs that arise from the increase in the need for service for that type of development; however, this requirement does not relate to any particular development;
- if the rules provide for a type of development to have a lower D.C. than is allowed, the rules for determining D.C.s may not provide for any resulting shortfall to be made up via other development; and
- with respect to "the rules," subsection 6 states that a D.C. by-law must expressly address the matters referred to above re s.s.5(1) para. 9 and 10, as well as how the rules apply to the redevelopment of land.

7.2 D.C. By-law Structure

It is recommended that:

- the Town uses a uniform municipal-wide D.C. calculation for all municipal services except for storm water management; and
- one municipal D.C. by-law be used for all Town-wide services.

7.3 D.C. By-law Rules

The following sets out the recommended rules governing the calculation, payment and collection of D.C.s in accordance with subsection 6 of the D.C.A., 1997.

It is recommended that the following provides the basis for the D.C.s:

7.3.1 Payment in any Particular Case

In accordance with the D.C.A., 1997, s.2(2), a D.C. be calculated, payable and collected where the development requires one or more of the following:

a) the passing of a zoning by-law or of an amendment to a zoning by-law under Section 34 of the Planning Act;
b) the approval of a minor variance under Section 45 of the Planning Act;
c) a conveyance of land to which a by-law passed under Section 50(7) of the Planning Act applies;
d) the approval of a plan of subdivision under Section 51 of the Planning Act;
e) a consent under Section 53 of the Planning Act;
f) the approval of a description under Section 50 of the Condominium Act; or
g) the issuing of a building permit under the Building Code Act in relation to a building or structure.

7.3.2 Determination of the Amount of the Charge

The following conventions be adopted:

1. Costs allocated to residential uses will be assigned to different types of residential units based on the average occupancy for each housing type constructed during the previous 25 years. Costs allocated to non-residential

uses will be assigned to industrial, commercial and institutional uses based on the total floor area (T.F.A.) constructed. T.F.A. is defined as:

"the total of the areas of the floors in a building or structure, whether at, above or below grade, measured between the exterior faces of the exterior walls of the building or structure or from the centre line of a common wall separating two uses, or from the outside edge of a floor where the outside edge of the floor does not meet an exterior or common wall, and:

(a) includes space occupied by interior walls and partitions;

(b) includes, below grade, only the floor area that is used for commercial or industrial purposes;

(c) includes the floor area of a mezzanine;

(d) where a building or structure does not have any walls, the total floor area shall be the total area of the land directly beneath the roof of the building or structure and the total areas of the floors in the building or structure;

(e) excludes any parts of the building or structure used for mechanical equipment related to the operation or maintenance of the building or structure, stairwells, elevators, washrooms, and the parking and loading of vehicles; and

(f) excludes the area of any self contained structural shelf and rack storage facility permitted by the Building Code Act."

2. Costs allocated to residential and non-residential uses are based upon a number of conventions, as may be suited to each municipal circumstance. These are summarized in Chapter 5 herein.

3. Stacked townhouses are subject to the large apartment rates.

4. A residential category has been created for "special care/special need facilities" which are subject to the same charge as a small apartment.

5. Industrial uses include the processing, testing, alteration, destruction, production, packaging, shipment or distribution of cannabis where a licence, permit or authorization has been issued under applicable federal law, but does not include

a building, structure or greenhouse or part thereof solely designed, used or intended to be used for sale of cannabis but exclude self storage facilities and restaurants.

6. Agricultural uses include greenhouses and the cultivation, propagation, harvesting, composting, drying, trimming, milling or storage of cannabis, and to exclude banquet and wedding facilities and building, structure or greenhouse or part thereof solely designed, used or intended to be used for processing, hydroponics, production or sale of cannabis.

7.3.3 Application to Redevelopment of Land (Demolition and Conversion)

If a development involves the demolition and replacement of a building or structure on the same site, or the conversion from one principal use to another, the developer shall be allowed a credit equivalent to:

- the number of dwelling units demolished/converted multiplied by the applicable residential D.C. in place at the time the D.C. is payable; and/or
- the G.F.A. of the building demolished/converted multiplied by the current non-residential D.C. in place at the time the D.C. is payable.

For demolitions occurring after the by-law enforce date, a demolition credit is allowed only if the land was improved by occupied structures, and if the demolition permit related to the site was issued less than 10 years prior to the issuance of a building permit in the case of a residential units demolished and 15 years for non-residential units. For demolitions occurring prior to by-law passage, a credit will be calculated where redevelopment occurs within the terms of the redevelopment credit policy effective from the date the new by-law comes in to force.

With respect to the replacement of a building destroyed by fire, the date of demolition will be the date of the fire. Further, no credit will be given for the replacement or conversion of exempt uses. The credit can, in no case, exceed the amount of D.C.s that would otherwise be payable.

7.3.4 Exemptions (full or partial)

Statutory exemptions

- Industrial building additions of up to and including 50% of the existing G.F.A. (defined in O.Reg. 82/98, s.1) of the building; for industrial building additions which exceed 50% of the existing G.F.A., only the portion of the addition in excess of 50% is subject to D.C.s (s.4(3));
- Buildings or structures owned by and used for the purposes of any Municipality, local board or Board of Education (s.3); and
- Residential development that results in only the enlargement of an existing dwelling unit, or that results only in the creation of up to two additional dwelling units (based on prescribed limits set out in s.2 of O.Reg. 82/98).

Non-statutory exemptions

The Town's current exemption policy, as summarized in Chapter 2, has been revised to limit the exemption within the Bolton B.I.A. and the Caledon East Commercial Core Area to non-residential development only, with residential uses exempt if building permits were issued on or before May 28, 2021. Moreover, an additional exemption for on-farm wedding venues that are located on an agricultural property as a secondary use, owned by a bona fide farmer and operating no more than 30 calendar days per year is recommended.

7.3.5 Phase in Provision(s)

The proposed D.C. By-law will come into effect at the time of By-law passage, the proposed charges will come into effect commencing June 25, 2019, with current charges maintained for the period from by-law passage through June 25, 2019.

7.3.6 Timing of Collection

The D.C.s for all services are payable upon issuance of a building permit for each dwelling unit, building or structure, subject to early or late payment agreements entered into by the Town and an owner agreement under s.27 of the D.C.A., 1997.

7.3.7 Indexing

The schedule of D.C.s will be subject to mandatory indexing annually on February 1st and August 1, of each year in accordance with provisions under the D.C.A.

7.3.8 D.C. Spatial Applicability

The D.C.A. historically has provided the opportunity for a municipality to impose municipal-wide charges or area specific charges. Sections 2(7) and 2(8) of the D.C.A. provide that a D.C. by-law may apply to the entire municipality or only part of it and more than one D.C. by-law may apply to the same area. Amendments to the D.C.A. now require municipalities to consider the application of municipal-wide and area-specific D.C.s. s.10(2)(c.1) requires Council to consider the use of more than one D.C. by-law to reflect different needs from services in different areas. Most municipalities in Ontario have established uniform, municipal-wide D.C.s. This has been the Town's approach in its 2009 and 2014 D.C. by-laws with the exception of storm water management. When area-specific charges are used, it is generally to underpin master servicing and front-end financing arrangements for more localized capital costs.

The rationale for maintaining a Town-wide D.C. approach is based, in part, on the following:

- The ten-year service level from all applicable services across the Town can be included to establish an upper ceiling on the amount of funds which can be collected. If a D.C. by-law applied to only a part of the municipality, the level of service cannot exceed that which would be determined if the by-law applied to the whole municipality. As such, when applied to forecast growth within the specific area, it would establish an area specific level of service ceiling which could reduce the total revenue recoverable for the Town, potentially resulting in D.C. revenue shortfalls and impacts on property taxes and user rates. When tested for the Town's parkland development costs of Community and Neighbourhood Parks, this would result in a D.C. funding shortfall of approximately $6.5 million.

- Town-wide D.C.s ensures a consistent approach to financing the entire cost associated with growth-related capital projects. For example, user rates and property taxes are required to finance the share of growth-related capital projects not recoverable by D.C.s and all associated operating costs. Therefore, the use of area specific D.C.s results in a share of growth-related capital costs being recovered from a specific area, with the remaining capital costs of the projects (i.e. non-D.C. recoverable share) and the associated operating costs with those

new assets being recovered from uniform user rates and property taxes, applied to the entire Town.

- Attempting to impose an area-specific D.C. potentially causes equity issues in transitioning from a Town-wide approach to an area-specific approach. An area of a municipality that is less developed and becomes subject to an area specific D.C., could face a significant increase in D.C. rates, as the municipality will not benefit from drawing on the pool of D.C. funding and may have contributed D.C.s to fund capital required to support development in other communities of the Town. Whereas, another part of the municipality that has experienced significant growth which required substantial capital investments, benefitted from the capital investments being financed by Town-wide D.C.s. The implementation of area specific development charges could result in varying D.C.s across the Town, which may impact the ability to attract investment into parts of the community.

- Services are generally available across the Town, used often by all residents and are not restricted to one specific geographic area. The use of a Town-wide D.C. approach reflects these system-wide benefits of service and more closely aligns with the funding principles of service provision (e.g. uniform Town-wide property tax rates, etc.).

Based on the foregoing and discussions with Town staff, there is no apparent justification for the establishment of area-specific D.C.s at this time. The recommendation is to continue to apply Town-wide D.C.s for all services encompassed in this Background Study.

7.4 Other D.C. By-law Provisions

7.4.1 Categories of Services for Reserve Fund and Credit Purposes

It is recommended that the Town's D.C. collections be contributed into nine separate reserve funds, including: Services Related to a Highway, Operations, Fire Protection Services, Parkland and Trail Development, Indoor Recreation Facilities, Library Services, Development Related Studies, Animal Control and Provincial Offenses Act.

7.4.2 By-law In-force Date

The proposed by-law under D.C.A., 1997 will come into force on the date of by-law passage.

7.4.3 Minimum Interest Rate Paid on Refunds and Charged for Inter-Reserve Fund Borrowing

The minimum interest rate is the Bank of Canada rate on the day on which the by-law comes into force (as per s.11 of O.Reg. 82/98).

No interest will be payable on refunds except those resulting from a complaint or appeal.

7.5 Other Recommendations

It is recommended that Council:

> "Approve the capital project listing set out in Chapter 5 of the D.C. Background Study dated March 22, 2019 (as amended), subject to further annual review during the capital budget process;"
>
> "Approve the D.C. Background Study dated March 22, 2019 (as amended)"
>
> "Determine that no further public meeting is required;" and
>
> "Approve the D.C. By-law as set out in Appendix F."

Chapter 8
Asset Management Plan

8. Asset Management Plan

The changes to the D.C.A. (new section 10(c.2)) in 2016 require that the background study must include an Asset Management Plan (A.M.P) related to new infrastructure. Section 10 (3) of the D.C.A. provides:

The A.M.P. shall,

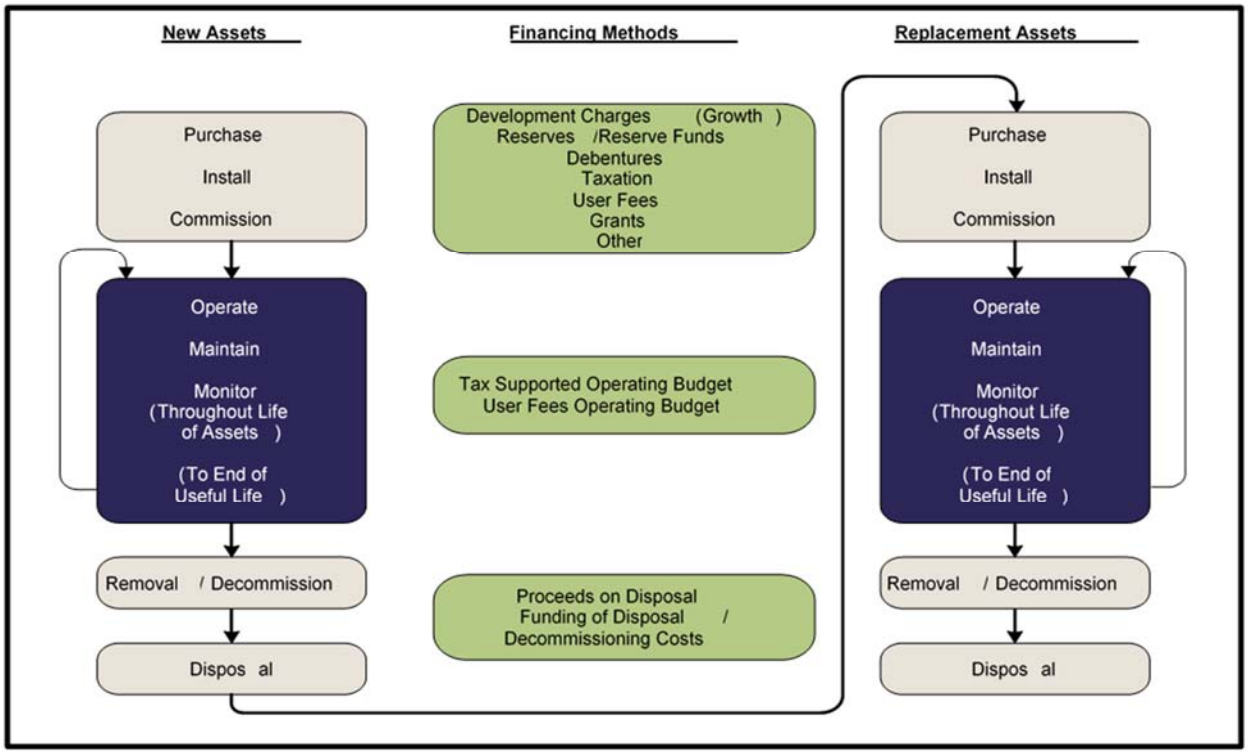
a) deal with all assets whose capital costs are proposed to be funded under the development charge by-law;
b) demonstrate that all the assets mentioned in clause (a) are financially sustainable over their full life cycle;
c) contain any other information that is prescribed; and
d) be prepared in the prescribed manner.

At a broad level, the A.M.P. provides for the long-term investment in an asset over its entire useful life along with the funding. The schematic below identifies the costs for an asset through its entire lifecycle. For growth-related works, the majority of capital costs will be funded by the D.C. Non-growth-related expenditures will then be funded from non-D.C. revenues as noted below. During the useful life of the asset, there will be minor maintenance costs to extend the life of the asset along with additional program related expenditures to provide the full services to the residents. At the end of the life of the asset, it will be replaced by non-D.C. financing sources.

In 2012, the Province developed Building Together: Guide for Municipal Asset Management Plans which outlines the key elements for an A.M.P., as follows:

State of local infrastructure: asset types, quantities, age, condition, financial accounting valuation and replacement cost valuation.

Desired levels of service: defines levels of service through performance measures and discusses any external trends or issues that may affect expected levels of service or the municipality's ability to meet them (for example, new accessibility standards, climate change impacts).



Asset management strategy: the asset management strategy is the set of planned actions that will seek to generate the desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost.

Financing strategy: having a financial plan is critical for putting an A.M.P. into action. By having a strong financial plan, municipalities can also demonstrate that they have made a concerted effort to integrate the A.M.P. with financial planning and municipal budgeting, and are making full use of all available infrastructure financing tools.

The above provides for the general approach to be considered by Ontario municipalities. At this time, there is not a mandated approach for municipalities hence leaving discretion to individual municipalities as to how they plan for the long-term replacement of their assets. The Town has undertaken an A.M.P that meets the requirements as outlined within the provincial Building Together Guide for Municipal Asset Management Plans. The analysis was focused on the road network, the storm sewer network and bridges and culverts. The findings were published in the report The Asset Management Plan for the Town of Caledon, 2013. the Town is updating its asset management plan to comply with the requirements of the Infrastructure for Jobs and Prosperity Act. The Town's current A.M.P. does not address the impact of growth-

related assets. As a result, the asset management requirement for this D.C. Background Study must be undertaken in the absence of this information.

The following table (presented in 2019$) has been developed to provide the annualized expenditures and revenues associated with new growth. Note that the D.C.A. does not require an analysis of the non-D.C. capital needs or their associated operating costs so these are omitted from the table below. Furthermore, as only the present infrastructure gap been considered at this time within the A.M.P., the following does not represent a fiscal impact assessment (including future tax/rate increases) but provides insight into the potential affordability of the new assets:

1. The non-D.C. recoverable portion of the projects which will require financing from Municipality financial resources (i.e. taxation, rates, fees, etc.). This amount has been presented on an annual debt charge amount based on 20-year financing.

2. Lifecycle costs for the 2019 D.C. capital works have been presented based on a sinking fund basis. The assets have been considered over their estimated useful lives.

3. Incremental operating costs for the D.C. services (only) have been included.

4. The resultant total annualized expenditures are $71.4 million.

5. Consideration was given to the potential new taxation and user fee revenues which will be generated as a result of new growth. These revenues will be available to finance the expenditures above. The new operating revenues are $32.2 million. This amount, totalled with the existing operating revenues of $96.5 million, provides annual revenues of $128.8 million by the end of the period.

6. In consideration of the above, the capital plan is deemed to be financially sustainable.

Table 8-1
Town of Caledon
Asset Management – Future Expenditures and Associated Revenues (2019$)

	Sub-Total	2031 (Total)
Expenditures (Annualized)		
Annual Debt Payment on Non-Growth Related Capital[1]		15,467,157
Annual Debt Payment on Post Period Capital[2]		7,891,016
Lifecycle:		
Annual Lifecycle - Town Wide Services	$32,246,202	
Sub-Total - Annual Lifecycle	$32,246,202	$32,246,202
Incremental Operating Costs (for D.C. Services)		$23,649,825
Total Expenditures (Net of Interim Funding of Post Period Benefit		**$71,363,184**
Revenue (Annualized)		
Total Existing Revenue[3]		$96,503,567
Incremental Tax and Non-Tax Revenue (User Fees, Fines, Licences, etc.)		$32,261,907
Total Revenues		**$128,765,474**

[1] Non-Growth Related component of Projects including 10% mandatory deduction on soft services

[2] Interim Debt Financing for Post Period Benefit

[3] As per Sch. 10 of FIR

Chapter 9
By-law Implementation

9. By-Law Implementation

9.1 Public Consultation

This chapter addresses the mandatory, formal public consultation process (subsection 9.1.2), as well as the optional, informal consultation process (subsection 9.1.3). The latter is designed to seek the co-operation and involvement of those involved, in order to produce the most suitable policy. Section 9.2 addresses the anticipated impact of the D.C. on development, from a generic viewpoint.

9.1.1 Public Meeting of Council

Section 12 of the D.C.A., 1997 indicates that before passing a D.C. by-law, Council must hold at least one public meeting, giving at least 20 clear days' notice thereof, in accordance with the Regulation. Council must also ensure that the proposed by-law and background report are made available to the public at least two weeks prior to the (first) meeting.

Any person who attends such a meeting may make representations related to the proposed by-law.

If a proposed by-law is changed following such a meeting, the Council must determine whether a further meeting (under this section) is necessary. For example, if the by-law which is proposed for adoption has been changed in any respect, the Council should formally consider whether an additional public meeting is required, incorporating this determination as part of the final by-law or associated resolution. It is noted that Council's decision, once made, is final and not subject to review by a Court or the Local Planning Appeal Tribunal (L.P.A.T.) (formerly the Ontario Municipal Board (O.M.B.)).

9.1.2 Other Consultation Activity

There are four broad groupings of the public who are generally the most concerned with municipal D.C. policy:

1. The residential development community, consisting of land developers and builders, who are typically responsible for generating the majority of the D.C. revenues. Others, such as realtors, are directly impacted by D.C. policy. They are, therefore, potentially interested in all aspects of the charge, particularly the

quantum by unit type, projects to be funded by the D.C. and the timing thereof, and municipal policy with respect to development agreements, D.C. credits and front-ending requirements.

2. The second public grouping embraces the public at large and includes taxpayer coalition groups and others interested in public policy (e.g. in encouraging a higher non-automobile modal split).

3. The third grouping is the industrial/commercial/institutional development sector, consisting of land developers and major owners or organizations with significant construction plans, such as hotels, entertainment complexes, shopping centres, offices, industrial buildings and institutions. Also involved are organizations such as Industry Associations, the Chamber of Commerce, the Board of Trade and the Economic Development Agencies, who are all potentially interested in municipal D.C. policy. Their primary concern is frequently with the quantum of the charge, G.F.A. exclusions such as basement, mechanical or indoor parking areas, or exemptions and phase-in or capping provisions in order to moderate the impact.

4. The fourth grouping is the agricultural community, consisting of members for the Peel Federation of Agriculture. The primary concern of this group is how D.C.s will apply to non-residential farm buildings and structures for bona fide agricultural uses. Principally in that most municipalities would exempt these types of development from the payment of D.C.s.

9.2 Anticipated Impact of the Charge on Development

The establishment of sound D.C. policy often requires the achievement of an acceptable balance between two competing realities. The first is that high non-residential D.C.s can, to some degree, represent a barrier to increased economic activity and sustained industrial/commercial growth, particularly for capital intensive uses. Also, in many cases, increased residential D.C.s can ultimately be expected to be recovered via higher housing prices and can impact project feasibility in some cases (e.g. rental apartments).

On the other hand, D.C.s or other municipal capital funding sources need to be obtained in order to help ensure that the necessary infrastructure and amenities are installed.

The timely installation of such works is a key initiative in providing adequate service levels and in facilitating strong economic growth, investment and wealth generation.

9.3 Implementation Requirements

Once the Town has calculated the charge, prepared the complete background study, carried out the public process and passed a new by-law, the emphasis shifts to implementation matters.

These include notices, potential appeals and complaints, credits, front-ending agreements, subdivision agreement conditions and finally the collection of revenues and funding of projects.

The following provides an overview of the requirements in each case.

9.3.1 Notice of Passage

In accordance with s.13 of the D.C.A., when a D.C. by-law is passed, the municipal clerk shall give written notice of the passing and of the last day for appealing the by-law (the day that is 40 days after the day it was passed). Such notice must be given not later than 20 days after the day the by-law is passed (i.e. as of the day of newspaper publication or the mailing of the notice).

Section 10 of O.Reg. 82/98 further defines the notice requirements which are summarized as follows:

- Notice may be given by publication in a newspaper which is (in the Clerk's opinion) of sufficient circulation to give the public reasonable notice, or by personal service, fax or mail to every owner of land in the area to which the by-law relates;

- s.s.10 (4) lists the persons/organizations who must be given notice; and
- s.s.10 (5) lists the eight items which the notice must cover.

9.3.2 By-law Pamphlet

In addition to providing "notice", the Town must prepare a "pamphlet" explaining each D.C. by-law in force, setting out:

- a description of the general purpose of the D.C.s;

- the “rules” for determining if a charge is payable in a particular case and for determining the amount of the charge;
- the services to which the D.C.s relate; and
- a general description of the general purpose of the Treasurer’s statement and where it may be received by the public.

Where a by-law is not appealed to the L.P.A.T., the pamphlet must be readied within 60 days after the by-law comes into force. Later dates apply to appealed by-laws.

The Town must give a copy of the most recent pamphlet without charge, to any person who requests one.

9.3.3 Appeals

Sections 13 to 19 of the D.C.A., 1997 set out requirements relative to making and processing a D.C. by-law appeal and an L.P.A.T. Hearing in response to an appeal. Any person or organization may appeal a D.C. by-law to the L.P.A.T. by filing a notice of appeal with the municipal clerk, setting out the objection to the by-law and the reasons supporting the objection. This must be done by the last day for appealing the by-law, which is 40 days after the by-law is passed.

9.3.4 Complaints

A person required to pay a D.C., or his agent, may complain to the municipal council imposing the charge that:

- the amount of the charge was incorrectly determined;
- the credit to be used against the D.C. was incorrectly determined; or
- there was an error in the application of the D.C.

Sections 20 to 25 of the D.C.A., 1997 set out the requirements that exist, including the fact that a complaint may not be made later than 90 days after a D.C. (or any part of it) is payable. A complainant may appeal the decision of municipal council to the L.P.A.T.

9.3.5 Credits

Sections 38 to 41 of the D.C.A., 1997 set out a number of credit requirements, which apply where a municipality agrees to allow a person to perform work in the future that relates to a service in the D.C. by-law.

These credits would be used to reduce the amount of D.C.s to be paid. The value of the credit is limited to the reasonable cost of the work which does not exceed the average level of service. The credit applies only to the service to which the work relates, unless the municipality agrees to expand the credit to other services for which a D.C. is payable.

9.3.6 Front-ending Agreements

The Town and one or more landowners may enter into a front-ending agreement which provides for the costs of a project which will benefit an area in the municipality to which the D.C. by-law applies. Such an agreement can provide for the costs to be borne by one or more parties to the agreement who are, in turn, reimbursed in future by persons who develop land defined in the agreement.

Part III of the D.C.A., 1997 (Sections 44 to 58) addresses front-ending agreements and removes some of the obstacles to their use which were contained in the D.C.A., 1989. Accordingly, the Town assesses whether this mechanism is appropriate for its use, as part of funding projects prior to municipal funds being available.

9.3.7 Severance and Subdivision Agreement Conditions

Section 59 of the D.C.A., 1997 prevents a municipality from imposing directly or indirectly, a charge related to development or a requirement to construct a service related to development, by way of a condition or agreement under s.51 or s.53 of the Planning Act, except for:

- "local services, related to a plan of subdivision or within the area to which the plan relates, to be installed or paid for by the owner as a condition of approval under Section 51 of the Planning Act;"

- "local services to be installed or paid for by the owner as a condition of approval under Section 53 of the Planning Act."

It is also noted that s.s.59(4) of the D.C.A., 1997 requires that the municipal approval authority for a draft plan of subdivision under s.s.51(31) of the Planning Act, use its power to impose conditions to ensure that the first purchaser of newly subdivided land is informed of all the D.C.s related to the development, at the time the land is transferred.

In this regard, if the municipality in question is a commenting agency, in order to comply with subsection 59(4) of the D.C.A., 1997 it would need to provide to the approval authority, information regarding the applicable municipal D.C.s related to the site.

If the municipality is an approval authority for the purposes of Section 51 of the *Planning Act*, it would be responsible to ensure that it collects information from all entities which can impose a D.C.

The most effective way to ensure that purchasers are aware of this condition would be to require it as a provision in a registered subdivision agreement, so that any purchaser of the property would be aware of the charges at the time the title was searched prior to closing a transaction conveying the lands.

Appendices

Appendix A
Background Information on Residential and Non-Residential Growth Forecast

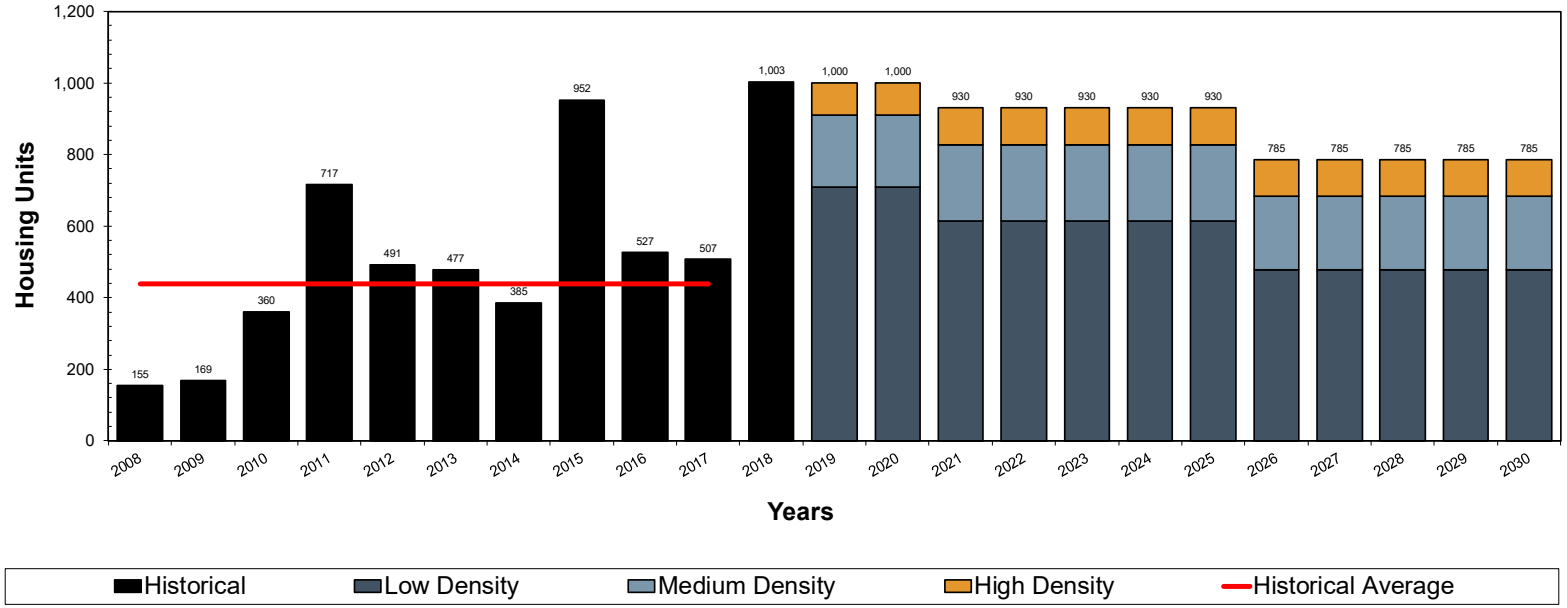
Schedule 1
Town of Caledon
Residential Growth Forecast Summary

	Year	Population (Including Census Undercount)[1]	Excluding Census Undercount			Housing Units						Person Per Unit (P.P.U.): Total Population/ Total Households
			Population	Institutional Population	Population Excluding Institutional Population	Singles & Semi-Detached	Multiple Dwellings[2]	Apartments[3]	Other	Total Households	Equivalent Institutional Households	
Historical	*Mid 2006*	59,040	57,050	245	56,805	16,605	1,110	445	60	18,220	223	3.131
	Mid 2011	61,540	59,460	490	58,970	17,304	1,184	559	39	19,086	445	3.115
	Mid 2016	68,820	66,502	282	66,220	19,015	1,695	510	30	21,250	256	3.130
Forecast	*Mid 2019*	75,290	72,750	309	72,441	20,107	2,298	852	30	23,287	281	3.124
	Mid 2029	103,080	99,607	424	99,183	26,033	4,380	1,850	30	32,292	385	3.085
	Mid 2031	108,000	104,361	443	103,918	26,990	4,788	2,054	30	33,862	403	3.082
Incremental	**Mid 2006 - Mid 2011**	**2,500**	**2,410**	**245**	**2,165**	**699**	**74**	**114**	**-21**	**866**	**222**	
	Mid 2011 - Mid 2016	**7,280**	**7,042**	**-208**	**7,250**	**1,711**	**511**	**-49**	**-9**	**2,164**	**-189**	
	Mid 2016 - Mid 2019	**6,470**	**6,248**	**27**	**6,221**	**1,092**	**603**	**342**	**0**	**2,037**	**25**	
	Mid 2019 - Mid 2029	**27,790**	**26,857**	**115**	**26,742**	**5,926**	**2,082**	**998**	**0**	**9,005**	**104**	
	Mid 2019 - Mid 2031	**32,710**	**31,611**	**134**	**31,477**	**6,883**	**2,490**	**1,202**	**0**	**10,575**	**122**	

Source: Watson & Assoicates Economists Ltd., 2019. Derived from Town of Caledon Official Plan, Consolidated April 2018.
[1] Census undercount estimated at approximately 3.5% in accordance with the Peel Region Growth Management Strategy (GMS), 2016 population base for the Town of Caledon.
[2] Includes townhouses and apartments in duplexes.
[3] Includes bachelor, 1-bedroom and 2-bedroom+ apartments.
Note: Population including the undercount has been rounded.

Figure A-1

Annual Housing Forecast[1]



Source: Historical housing activity derived from Statistics Canada building permit data for the Town of Caledon, 2008-2017, and 2018 estimated from semi-annual Town of Caledon building permit data.
1. Growth forecast represents calendar year.

Schedule 2a
Town of Caledon
Summary of Population Forecast by Area

Location	Period	Population (Including Undercount)[1]	Population (Excluding Undercount)	2019-2031
Bolton (Existing & Bolton Expansion Area)	Mid-2011	27,980	27,040	
	Mid-2016	28,080	27,130	
	Mid-2019	29,330	28,340	
	Mid-2029	38,940	37,630	
	Mid-2031	40,700	39,330	10,990
Mayfield West (Existing, Mayfield West Phases 1 & 2)	Mid-2011	4,330	4,180	
	Mid-2016	10,600	10,240	
	Mid-2019	15,240	14,723	
	Mid-2029	24,980	24,140	
	Mid-2031	26,690	25,790	11,067
Caledon East	Mid-2011	2,660	2,570	
	Mid-2016	5,070	4,900	
	Mid-2019	5,500	5,310	
	Mid-2029	7,950	7,680	
	Mid-2031	8,400	8,120	2,810
Villages & Hamlets	Mid-2011	7,460	7,200	
	Mid-2016	7,030	6,800	
	Mid-2019	7,180	6,947	
	Mid-2029	8,690	8,410	
	Mid-2031	8,960	8,650	1,703
Rural	Mid-2011	19,110	18,470	
	Mid-2016	18,040	17,430	
	Mid-2019	18,040	17,430	
	Mid-2029	22,520	21,760	
	Mid-2031	23,250	22,470	5,040
Town of Caledon	Mid-2011	61,540	59,460	
	Mid-2016	68,820	66,500	
	Mid-2019	75,290	72,750	
	Mid-2029	103,080	99,610	
	Mid-2031	108,000	104,360	31,610

Source: Watson & Assoicates Economists Ltd., 2019. Derived from OPA 226.

Note: Approximately 800 additional persons previously allocated to Alton Village have been reallocated to Bolton due to identified servicing constraints to Alton Village.

Schedule 2b
Town of Caledon
Estimate of the Anticipated Amount, Type and Location of
Residential Development for Which Development Charges Can be Imposed

Development Location	Timing	Single & Semi-Detached	Multiples[1]	Apartments[2]	Total Residential Units	Gross Population In New Units	Existing Unit Population Change	Net Population Increase, Excluding Institutional	Institutional Population	Net Population Including Institutional
Bolton	2019 - 2029	1,738	1,021	610	3,369	10,298	(1,062)	9,236	52	9,288
	2019 - 2031	2,019	1,222	735	3,975	12,108	(1,178)	10,930	60	10,990
Mayfield West	2019 - 2029	2,156	644	306	3,106	10,241	(866)	9,374	40	9,414
	2019 - 2031	2,505	770	368	3,643	11,980	(960)	11,020	47	11,067
Caledon East	2019 - 2029	372	396	82	850	2,613	(268)	2,345	23	2,368
	2019 - 2031	432	474	99	1,005	3,080	(297)	2,783	27	2,810
Villages and Hamlets	2019 - 2029	399	21	0	419	1,519	(57)	1,462	0	1,462
	2019 - 2031	463	25	0	488	1,767	(64)	1,703	0	1,703
Rural	2019 - 2029	1,261	0	0	1,261	4,623	(297)	4,326	0	4,326
	2019 - 2031	1,465	0	0	1,464	5,369	(329)	5,040	0	5,040
Town of Caledon	2019 - 2029	5,926	2,082	998	9,005	29,294	(2,551)	26,743	115	26,858
	2019 - 2031	6,883	2,490	1,202	10,575	34,304	(2,828)	31,476	134	31,610

Source: Watson & Assoicates Economists Ltd., 2019. Derived from Town of Caledon Official Plan, Consolidated April 2018.

[1] Includes townhouses and apartments in duplexes.

[2] Includes accessory apartments, bachelor, 1-bedroom and 2-bedroom+ apartments.

Note: Numbers may not add to totals due to rounding.

Schedule 3
Town of Caledon
Current Year Growth Forecast
Mid 2016 to Mid 2019

			Population
Mid 2016 Population			66,502
Occupants of New Housing Units, Mid 2016 to Mid 2019	*Units (2)*	2,037	
	multiplied by P.P.U. (3)	3.227	
	gross population increase	6,574	6,574
Occupants of New Equivalent Institutional Units, Mid 2016 to Mid 2019	*Units*	25	
	multiplied by P.P.U. (3)	1.100	
	gross population increase	27	27
Decline in Housing Unit Occupancy, Mid 2016 to Mid 2019	*Units (4)*	21,250	
	multiplied by P.P.U. decline rate (5)	-0.017	
	total decline in population	-353	-353
Population Estimate to Mid 2019			72,750
Net Population Increase, Mid 2016 to Mid 2019			*6,248*

(1) 2016 population based on Statistics Canada Census unadjusted for Census undercount.

(2) Estimated residential units constructed, Mid-2016 to the beginning of the growth period assuming a six-month lag between construction and occupancy.

(3) Average number of persons per unit (P.P.U.) is assumed to be:

Structural Type	Persons Per Unit[1] (P.P.U.)	% Distribution of Estimated Units[2]	Weighted Persons Per Unit Average
Singles & Semi Detached	3.857	54%	2.068
Multiples (6)	2.943	30%	0.871
Apartments (7)	1.716	17%	0.288
Total		100%	3.227

[1] Based on 2016 Census custom database

[2] Based on Building permit/completion activity

(4) 2016 households taken from Statistics Canada Census.

(5) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(6) Includes townhouses and apartments in duplexes.

(7) Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

Note: Numbers may not add to totals due to rounding.

Schedule 4
Town of Caledon
Ten Year Growth Forecast
Mid 2019 to Mid 2029

			Population
Mid 2019 Population			72,750
Occupants of New Housing Units, Mid 2019 to Mid 2029	*Units (2)*	9,005	
	multiplied by P.P.U. (3)	3.253	
	gross population increase	29,294	29,294
Occupants of New Equivalent Institutional Units, Mid 2019 to Mid 2029	*Units*	104	
	multiplied by P.P.U. (3)	1.100	
	gross population increase	114	114
Decline in Housing Unit Occupancy, Mid 2019 to Mid 2029	*Units (4)*	23,287	
	multiplied by P.P.U. decline rate (5)	-0.110	
	total decline in population	-2,551	-2,551
Population Estimate to Mid 2029			99,607
Net Population Increase, Mid 2019 to Mid 2029			*26,857*

(1) Mid 2019 Population based on:

2016 Population (66,502) + Mid 2016 to Mid 2019 estimated housing units to beginning of forecast period (2,037 x 3.227 = 6,574) + (25 x 1.100 = 27) + (21,250 x -0.017 = -353) = 72,750

(2) Based upon forecast building permits/completions assuming a lag between construction and occupancy.

(3) Average number of persons per unit (p.p.u.) is assumed to be:

Structural Type	Persons Per Unit[1] (P.P.U.)	% Distribution of Estimated Units[2]	Weighted Persons Per Unit Average
Singles & Semi Detached	3.666	66%	2.413
Multiples (6)	2.791	23%	0.645
Apartments (7)	1.764	11%	0.195
one bedroom or less	1.250		
two bedrooms or more	2.130		
Total		100%	3.253

[1] Persons per unit based on adjusted Statistics Canada Custom 2016 Census database.

[2] Forecast unit mix based upon historical trends and housing units in the development process.

(4) Mid 2019 households based upon 21,250 (2016 Census) + 2,037 (Mid 2016 to Mid 2019 unit estimate) = 23,287

(5) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(6) Includes townhouses and apartments in duplexes.

(7) Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

Note: Numbers may not add to totals due to rounding.

Schedule 5
Town of Caledon
Twelve Year Growth Forecast
Mid 2019 to Mid 2031

			Population
Mid 2019 Population			72,750
Occupants of New Housing Units, 2019 to 2031	*Units (2)*	10,575	
	multiplied by P.P.U. (3)	3.244	
	gross population increase	34,305	34,305
Occupants of New Equivalent Institutional Units, 2019 to 2031	*Units*	122	
	multiplied by P.P.U. (3)	1.100	
	gross population increase	134	134
Decline in Housing Unit Occupancy, 2019 to 2031	*Units (4)*	28,077	
	multiplied by P.P.U. decline rate (5)	-0.101	
	total decline in population	-2,828	-2,828
Population Estimate to			104,361
Net Population Increase, 2019 to 2031			*31,611*

(1) Mid 2019 Population based on:

2016 Population (66,502) + Mid 2016 to Mid 2019 estimated housing units to beginning of forecast period (2,037 x 3.227 = 6,574) + (25 x 1.100 = 27) + (21,250 x -0.017 = -353) = 72,750

(2) Based upon forecast building permits/completions assuming a lag between construction and occupancy.

(3) Average number of persons per unit (p.p.u.) is assumed to be:

Structural Type	Persons Per Unit[1] (P.P.U.)	% Distribution of Estimated Units[2]	Weighted Persons Per Unit Average
Singles & Semi Detached	3.666	65%	2.386
Multiples (6)	2.791	24%	0.657
Apartments (7)	1.764	11%	0.200
one bedroom or less	1.250		
two bedrooms or more	2.130		
Total		100%	3.244

[1] Persons per unit based on adjusted Statistics Canada Custom 2016 Census database.

[2] Forecast unit mix based upon historical trends and housing units in the development process.

(4) Mid 2019 households based upon 21,250 (2016 Census) + 2,037 (Mid 2016 to Mid 2019 unit estimate) = 23,287

(5) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(6) Includes townhouses and apartments in duplexes.

(7) Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

Note: Numbers may not add to totals due to rounding.

Schedule 6
Town of Caledon
Summary of Active Development Applications as of 2018

Stage of Development	Density Type			
	Singles & Semi-Detached	Multiples[2]	Apartments[3]	Total
Registered Not Built[1]	750	757	72	**1,579**
% Breakdown	*47%*	*48%*	*5%*	*100%*
Draft Plans Approved	1,277	345	140	**1,762**
% Breakdown	*72%*	*20%*	*8%*	*100%*
Application Under Review	2,995	2,749	172	**5,916**
% Breakdown	*51%*	*46%*	*3%*	*100%*
Total	**5,022**	**3,851**	**384**	**9,257**
% Breakdown	***54%***	***42%***	***4%***	***100%***

Source: Summarized from application data, 2008 - May 2018, received from the Town of Caledon by Watson & Associates Economists Ltd.

[1] Does not include 191 unit mix of singles & semi-detached units, and multiples in a registered subdivision.

[2] Includes townhomes, apartments in duplexes and condominium townhouses.

[3] Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

Note: Summary of housing potential includes planning applications for subdivisions, consents, condominiums and part lots.

Schedule 7

Town of Caledon
Historical Residential Building Permits
Years 2008 to 2017

Year	Residential Building Permits			
	Singles & Semi Detached	Multiples[1]	Apartments[2]	Total
2008	76	3	76	155
2009	130	35	4	169
2010	278	82	0	360
2011	600	112	5	717
2012	346	145	0	491
Sub-total	1,430	377	85	1,892
Average (2008 - 2012)	***286***	***75***	***17***	***378***
% Breakdown	75.6%	19.9%	4.5%	100.0%
2013	365	112	0	477
2014	235	150	0	385
2015	786	164	2	952
2016	268	258	1	527
2017	256	62	189	507
Sub-total	1,910	746	192	2,848
Average (2013 - 2017)	***382***	***149***	***38***	***570***
% Breakdown	67.1%	26.2%	6.7%	100.0%
2008 - 2017 Total	3,340	1,123	277	4,740
Average	***304***	***102***	***25***	***474***
% Breakdown	70.5%	23.7%	5.8%	100.0%

Source: Historical housing activity derived from Statistics Canada building permit data for the Town of Caledon, 2008-2017, and 2018 estimated from semi-annual Town of Caledon building permit data.

[1] Includes townhouses and apartments in duplexes.

[2] Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

Schedule 8a
Town of Caledon
Persons Per Unit By Age and Type of Dwelling
(2016 Census)

Age of Dwelling	Singles and Semi-Detached						15 Year Historic Average	15 Year Forecast[2]
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	2.176	3.737	5.000	**3.857**		
6-10	-	-	2.067	3.263	4.194	**3.362**		
11-15	-	-	1.824	3.409	4.552	**3.400**	3.540	3.666
16-20	-	-	1.706	3.265	4.114	**3.283**		
20-25	-	-	-	3.204	4.674	**3.427**		
25-35	-	-	2.353	3.133	4.000	**3.231**		
35+	-	1.571	1.866	2.768	3.852	**2.781**		
Total	**-**	**1.535**	**1.938**	**3.146**	**4.218**	**3.191**		

Age of Dwelling	Multiples[1]						15 Year Historic Average	15 Year Forecast[2]
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	-	2.968	-	**2.943**		
6-10	-	-	-	2.563	-	**2.273**		
11-15	-	-	-	3.103	-	**2.909**	2.708	2.791
16-20	-	-	-	2.701	-	**2.653**		
20-25	-	-	-	2.765	-	**2.619**		
25-35	-	-	-	3.769	-	**3.208**		
35+	-	-	1.308	2.704	-	**2.360**		
Total	**-**	**1.471**	**1.558**	**2.882**	**3.000**	**2.732**		

Age of Dwelling	All Density Types					
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total
1-5	-	-	2.200	3.569	5.067	**3.657**
6-10	-	-	1.758	3.222	4.367	**3.114**
11-15	-	-	1.905	3.394	4.552	**3.361**
16-20	-	-	1.739	3.192	4.178	**3.202**
20-25	-	-	-	3.138	4.659	**3.251**
25-35	-	1.438	2.360	3.149	3.978	**3.182**
35+	-	1.353	1.873	2.781	3.821	**2.729**
Total	**0.769**	**1.500**	**1.913**	**3.129**	**4.230**	**3.115**

[1] Includes townhouses and apartments in duplexes.

[2] PPU has been forecasted based on 2001 to 2016 historical trends.

Note: Does not include Statistics Canada data classified as 'Other'

P.P.U. Not calculated for samples less than or equal to 50 dwelling units, and does not include institutional population.

Schedule 8b
Peel Region
Persons Per Unit By Age and Type of Dwelling
(2016 Census)

Age of Dwelling	Apartments[1]						15 Year Historic Average	15 Year Forecast[2]	Targeted PPU for Town of Caledon[3]
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total			
1-5	1.357	1.495	2.258	3.298	-	**1.969**			
6-10	-	1.452	2.232	3.500	-	**1.990**			
11-15	-	1.528	2.217	3.894	-	**2.170**	2.043	2.024	1.764
16-20	-	1.555	2.506	3.696	4.875	**2.425**			
20-25	-	1.477	2.497	3.659	4.583	**2.374**			
25-35	1.294	1.469	2.405	3.354	4.019	**2.344**			
35+	1.494	1.465	2.451	3.279	4.177	**2.407**			
Total	**1.500**	**1.477**	**2.405**	**3.369**	**4.211**	**2.315**			

Age of Dwelling	All Density Types					
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total
1-5	1.938	1.563	2.375	3.794	5.240	**3.508**
6-10	2.467	1.554	2.383	3.891	5.388	**3.601**
11-15	2.500	1.711	2.442	3.811	5.175	**3.748**
16-20	2.000	1.665	2.506	3.547	4.807	**3.450**
20-25	1.385	1.542	2.509	3.504	4.690	**3.284**
25-35	1.773	1.512	2.410	3.226	4.275	**3.062**
35+	1.459	1.486	2.391	2.955	4.086	**2.761**
Total	**1.756**	**1.539**	**2.417**	**3.377**	**4.705**	**3.191**

[1] Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

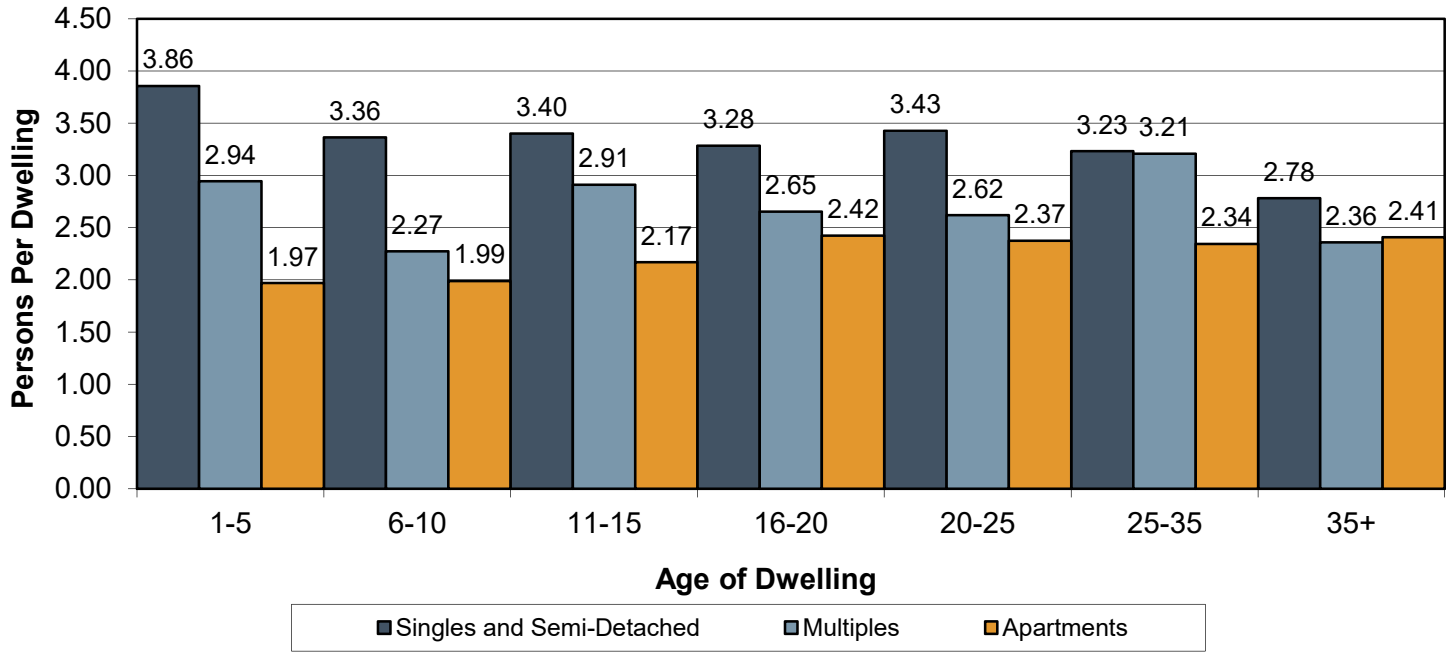
[2] PPU has been forecasted based on 2001 to 2016 historical trends.

[3] Adjusted based on ratio of low-density between Town of Caledon and Region of Peel.

Note: Does not include Statistics Canada data classified as 'Other'

P.P.U. Not calculated for samples less than or equal to 50 dwelling units, and does not include institutional population.

Schedule 9
Town of Caledon
Persons Per Unit By Structural Type and Age of Dwelling
(2016 Census)



Apartment P.P.U.s are based on Peel Region.

Schedule 10a
Town of Caledon
Employment Forecast, 2019 to 2031

Period	Population	Activity Rate								Employment								Employment
		Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	N.F.P.O.W.[1]	Total Including NFPOW	Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	N.F.P.O.W.[1]	Total Employment (Including N.F.P.O.W.)	Total (Excluding Work at Home)
Mid 2006	57,050	0.006	0.053	0.129	0.090	0.046	0.325	0.043	0.368	370	3,030	7,388	5,128	2,630	18,545	2,454	20,999	15,515
Mid 2011	59,460	0.007	0.045	0.128	0.091	0.054	0.325	0.046	0.371	390	2,670	7,590	5,435	3,235	19,320	2,737	22,057	16,650
Mid 2016	66,502	0.006	0.044	0.138	0.101	0.052	0.342	0.046	0.387	425	2,940	9,185	6,735	3,445	22,730	3,038	25,768	19,790
Mid 2019	72,750	0.006	0.044	0.141	0.093	0.049	0.333	0.046	0.379	425	3,216	10,282	6,758	3,556	24,237	3,239	27,476	21,021
Mid 2029	99,607	0.004	0.043	0.201	0.104	0.041	0.392	0.041	0.433	425	4,234	19,983	10,367	4,064	39,073	4,042	43,115	34,839
Mid 2031	104,361	0.004	0.042	0.211	0.105	0.039	0.401	0.040	0.441	425	4,410	21,970	10,930	4,070	41,805	4,195	46,000	37,395
Incremental Change																		
Mid 2006 - Mid 2011	2,410	0.000	-0.008	-0.002	0.002	0.008	0.000	0.003	0.003	20	-360	203	308	605	775	283	1,058	1,135
Mid 2011 - Mid 2016	7,042	-0.0002	-0.0007	0.0105	0.0099	-0.0026	0.0169	-0.0003	0.0165	35	270	1,595	1,300	210	3,410	301	3,711	3,140
Mid 2016 - Mid 2019	6,248	-0.0005	0.0000	0.0032	-0.0084	-0.0029	-0.0086	0.0000	-0.0086	0	276	1,097	23	111	1,507	201	1,708	1,231
Mid 2019 - Mid 2029	26,857	-0.0016	-0.0017	0.0593	0.0112	-0.0081	0.0591	-0.0051	0.0540	0	1,018	9,701	3,609	508	14,836	803	15,639	13,818
Mid 2019 - Mid 2031	31,611	-0.0018	-0.0019	0.0692	0.0118	-0.0099	0.0674	-0.0055	0.0619	0	1,194	11,688	4,172	514	17,568	956	18,524	16,374
Annual Average																		
Mid 2006 - Mid 2011	482	0.00001	-0.00164	-0.00037	0.00031	0.00166	-0.00003	0.00060	0.00057	4	-72	41	62	121	155	57	212	227
Mid 2011 - Mid 2016	1,408	0.0000	-0.0001	0.0021	0.0020	-0.0005	0.0034	-0.0001	0.0033	7	54	319	260	42	682	60	742	628
Mid 2016 - Mid 2019	2,083	-0.0002	0.0000	0.0011	-0.0028	-0.0010	-0.0029	0.0000	-0.0029	0	92	366	8	37	502	67	569	410
Mid 2019 - Mid 2029	2,686	-0.00016	-0.00017	0.00593	0.00112	-0.00081	0.00591	-0.00051	0.00540	0	102	970	361	51	1,484	80	1,564	1,382
Mid 2019 - Mid 2031	2,634	-0.00015	-0.00016	0.00577	0.00099	-0.00082	0.00562	-0.00046	0.00516	0	100	974	348	43	1,464	80	1,544	1,365

Source: Watson & Assocates Economists Ltd., 2019. Derived from Town of Caledon Official Plan, Consolidated April 2018.
[1] Statistics Canada defines no fixed place of work (N.F.P.O.W.) employees as "persons who do not go from home to the same work place location at the beginning of each shift". Such persons include building and landscape contractors, travelling salespersons, independent truck drivers, etc.

Schedule 10b
Town of Caledon
Employment & Gross Floor Area (G.F.A) Forecast, 2019 to 2031

Period	Population	Employment					Gross Floor Area in Square Feet (Estimated)[1]			
		Primary	Industrial	Commercial/ Population Related	Institutional[2]	Total	Industrial	Commercial/ Population Related	Institutional[2]	Total
Mid 2006	57,050	370	7,388	5,128	2,630	15,515				
Mid 2011	59,460	390	7,590	5,435	3,235	16,650				
Mid 2016	66,502	425	9,185	6,735	3,445	19,790				
Mid 2019	72,750	425	10,282	6,758	3,550	21,015				
Mid 2029	99,607	425	19,983	10,367	4,031	34,806				
Mid 2031	104,361	425	21,970	10,930	4,035	37,360				
Incremental Change										
Mid 2006 - Mid 2011	2,410	20	203	308	605	1,135				
Mid 2011 - Mid 2016	7,042	35	1,595	1,300	210	3,140				
Mid 2016 - Mid 2019	6,248	0	1,097	23	105	1,225	1,536,000	12,500	67,700	1,616,200
Mid 2019 - Mid 2029	26,857	0	9,701	3,609	481	13,791	13,581,200	1,985,100	314,800	15,881,100
Mid 2019 - Mid 2031	31,611	0	11,688	4,172	485	16,345	16,363,000	2,294,700	315,400	18,973,100
Annual Average										
Mid 2006 - Mid 2011	482	4	41	62	121	227				
Mid 2011 - Mid 2016	1,408	7	319	260	42	628				
Mid 2016 - Mid 2019	2,083	0	366	8	35	408	512,000	4,167	22,567	538,733
Mid 2019 - Mid 2029	2,686	0	970	361	48	1,379	1,358,120	198,510	31,480	1,588,110
Mid 2019 - Mid 2031	2,634	0	974	348	40	1,362	1,363,583	191,225	26,283	1,581,092

Source: Watson & Assoicates Economists Ltd., 2019. Derived from Town of Caledon Official Plan, Consolidated April 2018.

[1] Square Foot Per Employee Assumptions

Industrial	1,400
Commercial/ Population Related	550
Institutional	650

[2] Forecast institutional employment and gross floor area has been adjusted downward to account for employment associated with special care units.

* Reflects Mid 2019 to Mid 2031 forecast period

Note: Numbers may not add to totals due to rounding.

Schedule 10c

Estimate of the Anticipated Amount, Type and Location of Non-Residential Development for Which Development Charges Can be Imposed

Development Location	Timing	Industrial G.F.A. S.F.[1]	Commercial G.F.A. S.F.[1]	Institutional G.F.A. S.F.[1]	Total Non-Residential G.F.A. S.F.	Employment Increase[2]
Bolton	2019 - 2029	5,632,300	127,500	49,100	5,808,900	4,893
	2019 - 2031	7,858,000	214,500	49,600	8,122,100	6,682
Mayfield West	2019 - 2029	7,219,100	1,522,500	116,700	8,858,300	7,759
	2019 - 2031	7,725,000	1,672,900	116,800	9,514,700	8,371
Caledon East	2019 - 2029	-	245,000	99,600	344,600	597
	2019 - 2031	-	296,200	99,600	395,800	692
Tullamore	2019 - 2029	649,200	33,100	-	682,300	331
	2019 - 2031	686,400	40,700	-	727,100	360
Rural	2019 - 2029	80,600	57,000	49,400	187,000	210
	2019 - 2031	93,600	70,400	49,400	213,400	240
Town of Caledon	2019 - 2029	13,581,200	1,985,100	314,800	15,881,100	13,791
	2019 - 2031	16,363,000	2,294,700	315,400	18,973,100	16,345

Source: Watson & Associates Economists Ltd., 2019.

[1] Employment Increase does not include No Fixed Place of Work.

[2] Square feet per employee assumptions:

Industrial	1,400
Bolton	*1,250*
Mayfield West	*1,500*
Tullamore	*2,400*
Rural	*2,600*
Commercial	550
Institutional	650

*Reflects Mid 2019 to Mid 2031 forecast period

Note: Numbers may not add to totals due to rounding.

Schedule 11
Town of Caledon
Non-Residential Construction Value
Years 2007 to 2016
(000's 2017 $)

YEAR	Industrial				Commercial				Institutional				Total			
	New	Improve	Additions	Total	New	Improve	Additions	Total	New	Improve	Additions	Total	New	Improve	Additions	Total
2007	2,080	4,536	908	7,524	84,019	17,154	8,090	109,262	0	2,392	21,182	23,574	86,099	24,082	30,180	140,361
2008	3,265	1,892	741	5,898	78,318	15,498	1,995	95,811	20,178	751	456	21,385	101,761	18,142	3,192	123,095
2009	4,295	2,243	0	6,538	27,092	14,591	14,803	56,485	29,267	1,099	6,825	37,192	60,654	17,933	21,628	100,215
2010	4,791	881	1,171	6,843	13,380	13,722	9,032	36,134	10,927	1,998	0	12,925	29,098	16,601	10,202	55,902
2012	4,247	2,597	766	7,611	2,251	4,883	429	7,563	0	1,405	1,394	2,799	6,498	8,886	2,589	17,973
2013	1,408	1,977	1,380	4,765	133,157	7,011	3,156	143,323	8,522	1,092	1,473	11,087	143,087	10,079	6,009	159,175
2014	10,687	1,551	0	12,238	15,275	17,730	3,973	36,978	20,644	297	0	20,941	46,606	19,578	3,973	70,157
2015	33,034	1,262	0	34,295	11,354	3,462	0	14,816	6,250	126	0	6,375	50,637	4,849	0	55,487
2016	1,938	10,431	0	12,369	41,180	3,372	5,115	49,668	8,552	2,366	0	10,918	51,670	16,169	5,115	72,955
Subtotal	117,604	29,034	4,966	151,604	418,492	102,326	46,592	567,410	115,220	12,405	31,330	158,955	651,315	143,765	82,889	877,969
Percent of Total	78%	19%	3%	100%	74%	18%	8%	100%	72%	8%	20%	100%	74%	16%	9%	100%
Average	***11,760***	***2,903***	***993***	***15,160***	***41,849***	***10,233***	***5,824***	***56,741***	***14,402***	***1,241***	***6,266***	***15,895***	***65,132***	***14,377***	***10,361***	***87,797***
2007 - 2011																
Period Total				80,325				315,063				106,835				502,223
2007 - 2011 Average				***16,065***				***63,013***				***21,367***				***100,445***
% Breakdown				16.0%				62.7%				21.3%				100.0%
2012 - 2016																
Period Total				71,279				252,348				52,120				375,747
2012 - 2016 Average				***14,256***				***50,470***				***10,424***				***75,149***
% Breakdown				19.0%				67.2%				13.9%				100.0%
2007 - 2016																
Period Total				151,604				567,410				158,955				877,969
2007 - 2016 Average				***15,160***				***56,741***				***15,895***				***87,797***
% Breakdown				17.3%				64.6%				18.1%				100.0%

Source: Statistics Canada Publication, 64-001-XIB
Note: Inflated to year-end 2017 (January, 2018) dollars using Reed Construction Cost Index

Schedule 12

Town of Caledon

Employment to Population Ratio by Major Employment Sector, 2006 to 2016

NAICS	Employment & Gross Floor Area (G.F.A) Forecast, 2016 To Buildout	Year			Change			Comments
		2006	2011	2016	96-01	06-11	11-16	
	Employment by industry							
	Primary Industry Employment							Categories which relate to local land-based resources
11	*Agriculture, forestry, fishing and hunting*	620	545	600		-75	55	
21	*Mining and oil and gas extraction*	95	65	95		-30	30	
	Sub-total	**715**	**610**	**695**	**0**	**-105**	**85**	
	Industrial and Other Employment							Categories which relate primarily to industrial land supply and demand
22	*Utilities*	20	75	35		55	-40	
23	*Construction*	1,255	1,480	2,105		225	625	
31-33	*Manufacturing*	4,140	3,785	4,180		-355	395	
41	*Wholesale trade*	1,175	1,020	950		-155	-70	
48-49	*Transportation and warehousing*	1,360	1,580	2,125		220	545	
56	*Administrative and support*	335	440	548		105	108	
	Sub-total	**8,285**	**8,380**	**9,943**	**-335**	**95**	**1,563**	
	Population Related Employment							Categories which relate primarily to population growth within the municipality
44-45	*Retail trade*	1,655	1,940	2,405		285	465	
51	*Information and cultural industries*	160	195	215		35	20	
52	*Finance and insurance*	330	465	380		135	-85	
53	*Real estate and rental and leasing*	380	385	490		5	105	
54	*Professional, scientific and technical services*	1,280	1,185	1,430		-95	245	
55	*Management of companies and enterprises*	0	0	20		0	20	
56	*Administrative and support*	335	440	548		105	108	
71	*Arts, entertainment and recreation*	580	475	620		-105	145	
72	*Accommodation and food services*	1,155	930	1,395		-225	465	
81	*Other services (except public administration)*	800	815	855		15	40	
	Sub-total	**6,675**	**6,830**	**8,358**	**-335**	**155**	**1,528**	
	Institutional							
61	*Educational services*	1,390	1,640	1,770		250	130	
62	*Health care and social assistance*	990	1,225	1,270		235	45	
91	*Public administration*	490	635	695		145	60	
	Sub-total	**2,870**	**3,500**	**3,735**	**0**	**630**	**235**	
	Total Employment	**18,545**	**19,320**	**22,730**	**-670**	**775**	**3,410**	
	Population	**57,050**	**59,460**	**66,502**	**6,455**	**2,410**	**7,042**	
	Employment to Population Ratio							
	Industrial and Other Employment	**0.15**	**0.14**	**0.15**	**-0.03**	**0.00**	**0.01**	
	Population Related Employment	**0.12**	**0.11**	**0.13**	**-0.02**	**0.00**	**0.01**	
	Institutional Employment	**0.05**	**0.06**	**0.06**	**-0.01**	**0.01**	**0.00**	
	Primary Industry Employment	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	
	Total	**0.33**	**0.32**	**0.34**	**-0.05**	**0.00**	**0.02**	

Source: Statistics Canada Employment by Place of Work
Note: 2006-2016 employment figures are classified by North American Industry Classification System (NAICS) Code

Appendix B
Historical Level of Service Calculations

Town of Caledon
Service Standard Calculation Sheet

Service: Parkland Development
Contact :
Unit Measure: Acres of Parkland

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Acre)
ALTON											
Ball Park/Alton School - Station St. & Main St.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	$255,100
Emeline St. Parkette - Emeline Street	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	$91,600
BELFOUNTAIN											
Tennis/School - Bush Street	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	$376,900
Foresters Park - River Road	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	$173,900
BOLTON											
Caledon North Hill Park - (incl skatepark)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	$154,600
Goodfellow Crescent	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	$158,100
Fountainbridge Park - Fountainbridge Dr.	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	$151,300
Foundry St. Park - Foundry Street	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	$108,700
Dicks Dam - Glasgow Rd.	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	$62,100
Ellwod Drive	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	$81,700
Heritage Hills Park	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$347,900
Humberview Park - Kingsview Dr.	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	$120,800
Mill Park - Mill Street	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	$79,600
Sant Farm Park	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$347,900
Stephen Drive Park - Stephen Drive	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	$170,500
Ted Houston Park - Connaught Crescent	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	$542,400
Bill Whitbread Park - Victoria Street	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	$405,900
Edelweiss Park - Glasgow Road	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	$258,100
Jullie's Park	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$463,900
Dell'Unto Park	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$579,800
R.J.A Potts Memorial Park	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	$210,800
Humber Grove Park	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	$347,900
Montrose Farm Park	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	$116,000
Adam Wallace Memorial Park	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	$173,900
Hubert Corless Park	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$347,900

Town of Caledon
Service Standard Calculation Sheet

Service: Parkland Development
Contact :
Unit Measure: Acres of Parkland

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Acre)
Tormina Park	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$347,900
Wakely Memorial Park	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	$173,900
Russell and Joan Robertson Park	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	$77,300
Peter Eben Park	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$556,600
Whitbread Park	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$463,900
Jack Garrett Park	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	$127,600
Caledon Leash-Free Park	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	$46,400
Vincos Park	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$579,800
Keith McCreary Park	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$579,800
Humber River Heritage Park	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	$1,449,600
Johnston Sports Park			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	$173,900
Johnston Sports Park - Phase 2							5.0	5.0	5.0	5.0	$280,000
Bolton Camp Challenger Ball Diamond									2.0	2.0	$326,000
Bolton Community Park										2.0	$500,000
Bolton Gateway Park										1.3	$269,231
CALEDON EAST											
Firehall Park - Old Church Road	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	$265,800
Soccer Fields (Admin. Centre) - Old Church Rd.	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	$79,300
Trans Canada Trail Pavillion Park - Airport Rd.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	$247,400
Eliabeth Tarbox Park			0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$579,800
Greer Park				2.0	2.0	2.0	2.0	2.0	2.0	2.0	$173,900
CALEDON VILLAGE											
Tennis - Highway #10	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	$271,400
John Alexander Park	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	$135,700
Hawthorne Acres - Hawthrone Ave.	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	$91,600
Mistywood - Mistywood Drive	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	$150,300
Raeburn's Corner	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	$637,800
Fairgrounds Ball Diamond	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	$371,100

Town of Caledon
Service Standard Calculation Sheet

Service: Parkland Development
Contact :
Unit Measure: Acres of Parkland

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Acre)
CHELTENHAM											
Ball Park - Creditview Road	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	$394,300
Parkette - Creditview Road	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$289,900
Stationlands	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	$87,000
INGLEWOOD											
Ball Park - McLaughlin Rd.	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	$88,500
Tennis - McLaughlin Rd.	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	$100,800
Stationlands	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	$116,000
MAYFIELD											
Complex - Bramalea Road	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	$145,000
MONO MILLS											
Lions Park	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	$81,500
John W. Nichols Park - Richmond St	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	$248,500
Victoria Parks - Victoria Crescent	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	$112,200
PALGRAVE											
Ball Park - Mount Hope Rd. (incl rugby)	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	$247,300
Tennis - Pine Avenue	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	$637,800
Westview Park - Westview Crescent	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	$160,600
Munro St. Park - Munro St.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	$260,900
Stonehart Park	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	$116,000
Stationlands	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	$81,200
Rotary Park		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	$219,400
TERRA COTTA											
Forge Park - King Street	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	$497,000
VALLEYWOOD											
Lina Marino Park - Valleywood Blvd.	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	$181,200
Newhouse Park	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	$434,900
MAYFIELD WEST											
Topham Park			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	$301,500
Dennison Park				5.0	5.0	5.0	5.0	5.0	5.0	5.0	$243,500

Town of Caledon
Service Standard Calculation Sheet

Service: Parkland Development
Contact :
Unit Measure: Acres of Parkland

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Acre)
Snell Park (2014)					1.0	1.0	1.0	1.0	1.0	1.0	$313,100
Village Blue					1.2	1.2	1.2	1.2	1.2	1.2	$1,183,800
Bonnieglen Farm Park							6.0	6.0	6.0	6.0	$128,333
Wilson Park									1.4	1.4	$465,714
Additional Amenities											
Caledon East Splash Pad								1.0	1.0	1.0	$210,000
Lighting of Existing Soccer Pitch - Caledon East										1.0	$200,000
Total	**287.0**	**288.0**	**299.3**	**306.3**	**308.5**	**308.5**	**319.5**	**320.5**	**323.9**	**328.2**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0049	0.0049	0.0050	0.0050	0.0050	0.0049	0.0049	0.0048	0.0046	0.0045

10 Year Average	2009-2018
Quantity Standard	0.0049
Quality Standard	$166,608
Service Standard	$816

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$816
Eligible Amount	$21,925,518

Town of Caledon
Service Standard Calculation Sheet

Service: Parkland Trails
Contact :
Unit Measure: Kilometres of Trail

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/ Kilometre)
Developed Trails	46.2	46.2	46.2	46.2	46.2	47.0	47.5	48.3	49.1	49.1	$130,800
Trailway Bridge, Hwy. 10	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	$1,188,800
MW 1 Trail Bridge 1						1	1	1	1	1	$117,904
MW 1 Trail Bridge 2							1	1	1	1	$160,675
MW 1 Trail Bridge 3									1	1	$147,500
Total	**46.4**	**46.4**	**46.4**	**46.4**	**46.4**	**48.2**	**49.7**	**50.5**	**52.3**	**52.3**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0008	0.0008	0.0008	0.0008	0.0007	0.0008	0.0008	0.0008	0.0007	0.0007

10 Year Average	2009-2018
Quantity Standard	0.0008
Quality Standard	$133,792
Service Standard	$103

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$103
Eligible Amount	$2,766,808

Town of Caledon
Service Standard Calculation Sheet

Service: Parks and Recreation Vehicles and Equipment
Contact :
Unit Measure: No. of vehicles and equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Vehicles shared with Operations[1]										
Light Duty Truck	2.5	2.5	3.0	4.5	4.5	4.5	5.0	4.0	4.0	4.0
Medium Duty Truck	1.0	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Passenger Vehicle	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Trailer	2.5	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Total	**7**	**11**	**12**	**14**	**14**	**14**	**15**	**14**	**14**	**14**

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

10 Year Average	2009-2018
Quantity Standard	0.0002
Quality Standard	$51,600
Service Standard	$10

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$10
Eligible Amount	$277,164

Notes:

[1.] Only 50% of the inventory has been included here as these vehicles are shared with Operations.

Town of Caledon
Service Standard Calculation Sheet

Service: Indoor Recreation Facilities
Contact :
Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Value/ft² with land, site works, etc.
Albion Bolton Community Centre	59,694	59,694	59,694	59,694	59,694	59,694	59,694	59,694	59,694	59,694	$558
Belfountain Community Hall	2,994	2,994	2,994	2,994	2,994	2,994	2,994	2,994	2,994	2,994	$298
Bolton Kinsmen	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	$308
Caledon Centre for Recreation and Wellness	67,540	67,540	67,540	91,716	91,716	91,716	91,716	91,716	91,716	91,716	$558
Caledon East Community Complex	54,516	92,465	92,465	92,465	92,465	92,465	92,465	92,465	92,465	92,465	$558
Caledon Pool	6,471	6,471	6,471	6,471	6,471	-	-	-	-	-	$558
Caledon Village Place	3,280	3,280	3,280	3,280	3,280	3,280	3,280	3,280	3,280	3,280	$308
Cheltenham Hall	2,269	2,269	2,269	2,269	2,269	2,269	2,269	2,269	2,269	2,269	$308
Inglewood Community Centre	9,182	9,182	9,182	9,182	9,182	9,182	9,182	9,182	9,182	9,182	$358
Lloyd Wilson Arena	24,422	24,422	24,422	24,422	24,422	24,422	24,422	24,422	24,422	24,422	$358
Mayfield Recreation Complex	75,303	75,303	75,303	75,303	75,303	75,303	75,303	75,303	75,303	75,303	$558
Old Caledon Township Hall	5,866	5,866	5,866	5,866	5,866	5,866	5,866	5,866	5,866	5,866	$308
Valleywood Community Room	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	$308
Victoria Parks Community Centre	2,834	2,834	2,834	2,834	2,834	2,834	2,834	2,834	2,834	2,834	$358
Senior Centre - Rotary	-	-	6,006	6,006	6,006	6,006	6,006	6,006	6,006	6,006	$308
Melville White Church	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	$308
St.Andrew's Stone Church	1,316	1,316	1,316	1,316	1,316	1,316	1,316	1,316	1,316	1,316	$308
Palgrave Community Centre (CEP)	-						1,755	1,755	1,755	1,755	$358
Total	**320,109**	**358,058**	**364,064**	**388,240**	**388,240**	**381,769**	**383,524**	**383,524**	**383,524**	**383,524**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	5.4723	6.0710	6.1228	6.3828	6.2425	6.0065	5.9071	5.7671	5.4279	5.2718

10 Year Average	2009-2018
Quantity Standard	5.8672
Quality Standard	$521
Service Standard	$3,059

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$3,059
Eligible Amount	$82,144,820

Town of Caledon
Service Standard Calculation Sheet

Service: Library Facilities
Contact :
Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Value/ft² with land, site works, etc.
Bolton	15,132	15,132	15,132	15,132	15,132	15,132	15,132	15,132	15,132	15,132	$478
Alton	5,089	5,089	5,089	5,089	5,089	5,089	5,089	5,089	5,089	5,089	$478
Belfountain	750	750	750	750	750	750	750	750	750	-	$478
Caledon Village	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	$478
Caledon East	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	$478
Inglewood	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	$478
Margaret Dunn Valleywood (Mayfield West)	4,949	4,949	4,949	4,949	4,949	4,949	4,949	4,949	4,949	4,949	$478
Total	**37,820**	**37,820**	**37,820**	**37,820**	**37,820**	**37,820**	**37,820**	**37,820**	**37,820**	**37,070**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.6465	0.6413	0.6361	0.6218	0.6081	0.5950	0.5825	0.5687	0.5353	0.5096

10 Year Average	2009-2018
Quantity Standard	0.5945
Quality Standard	$478
Service Standard	$284

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$284
Eligible Amount	$7,631,685

Town of Caledon
Service Standard Calculation Sheet

Service: Library Collection Materials
Contact :
Unit Measure: No. of library collection items/ $ value of eResources

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/item)
Books - Circulation and Reference	155,751	158,264	161,521	176,676	193,436	222,689	237,164	250,265	97,592	109,909	$25
Books/Audiobooks - Electronic	-	1,761	2,220	2,640							$75
Periodical Titles/Subscriptions - print	763	854	947	958	213	112	161	165	124	156	$400
Media - Audio, Video, Games	476	503	3,285	6,082	9,168	16,854	20,501	24,480	17,769	14,938	$40
Other - Library of Things	7	7	9	30	61	61	71	96	109	119	$70
Launch Pads										70	$225
Databases / Digital Resources	34	31	27	14							$4,000
Periodical Titles - electronic	18,300	18,483	18,663	23,543							$1
Books.Audiobooks - Electronic Consortium	-	1,824	23,772	25,337							$75
eResources					$26,055	$38,476	$37,494	$71,467	$95,794	$87,443	1
Total	**175,331**	**181,727**	**210,444**	**235,280**	**228,933**	**278,192**	**295,391**	**346,473**	**211,388**	**212,635**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	3.00	3.08	3.54	3.87	3.68	4.38	4.55	5.21	2.99	2.92

10 Year Average	2009-2018
Quantity Standard	3.7218
Quality Standard	$24
Service Standard	$88

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$88
Eligible Amount	$2,368,519

Town of Caledon
Service Standard Calculation Sheet

Service: Animal Control Facilities
Contact :
Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Value/ft² with land, site works, etc.
Animal Shelter	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	$558
Total	**3,200**	**3,200**	**3,200**	**3,200**	**3,200**	**3,200**	**3,200**	**3,200**	**3,200**	**3,200**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0547	0.0543	0.0538	0.0526	0.0515	0.0503	0.0493	0.0481	0.0453	0.0440

10 Year Average	2009-2018
Quantity Standard	0.0504
Quality Standard	$558
Service Standard	$28

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$28
Eligible Amount	$755,219

Town of Caledon
Service Standard Calculation Sheet

Service: Animal Control Vehicles
Contact :
Unit Measure: No. of vehicles and equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Vehicle)
Passenger vehicle	2	2	2	2	2	2	2	2	2	2	$41,620
Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.000034	0.000034	0.000034	0.000033	0.000032	0.000031	0.000031	0.000030	0.000028	0.000027

10 Year Average	2009-2018
Quantity Standard	0.000031
Quality Standard	$41,622
Service Standard	$1

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$1
Eligible Amount	$35,201

Town of Caledon
Service Standard Calculation Sheet

Service: Provincial Offences Act Facilities
Contact :
Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value/ft² with land, site works, etc.
Caledon East POA Court	10,361	10,361	10,361	10,361	10,361	10,361	10,361	10,361	10,361	10,361	$638
Total	**10,361**	**10,361**	**10,361**	**10,361**	**10,361**	**10,361**	**10,361**	**10,361**	**10,361**	**10,361**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.1771	0.1757	0.1743	0.1703	0.1666	0.1630	0.1596	0.1558	0.1466	0.1424

10 Year Average	2009-2018
Quantity Standard	0.1631
Quality Standard	$638
Service Standard	$104

D.C. Amount (before deductions)	10 Year
Forecast Population	26,857
$ per Capita	$104
Eligible Amount	$2,795,277

Town of Caledon
Service Standard Calculation Sheet

Service: Roads
Contact :
Unit Measure: km of roadways

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/km)
Gravel Roads	155.19	155.19	155.19	155.19	155.19	155.19	155.19	155.19	155.19	155.19	$678,300
Rural Roads	705.47	705.47	705.47	705.47	705.47	705.47	705.24	705.24	705.24	705.24	$1,087,230
Urban Roads	-	-	-	-	5.00	6.80	9.30	9.30	9.30	10.00	$2,094,787
Total	**861**	**861**	**861**	**861**	**866**	**867**	**870**	**870**	**870**	**870**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

10 Year Average	2009-2018
Quantity Standard	0.0136
Quality Standard	$1,021,199
Service Standard	$13,888

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$13,888
Eligible Amount	$439,023,051

Town of Caledon
Service Standard Calculation Sheet

Service: Sidewalks
Contact :

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/ Linear Metre)
Sidewalks	724	724	724	724	2,363	3,449	5,357	5,357	5,357	5,558	$140
Total	**724**	**724**	**724**	**724**	**2,363**	**3,449**	**5,357**	**5,357**	**5,357**	**5,558**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.01	0.01	0.01	0.01	0.04	0.05	0.08	0.08	0.08	0.08

10 Year Average	2009-2018
Quantity Standard	0.0456
Quality Standard	$145
Service Standard	$7

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$7
Eligible Amount	$208,633

Town of Caledon
Service Standard Calculation Sheet

Service: Streetlights
Contact :
Unit Measure: No. of Streetlights

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/item)
Streetlights	124	124	124	124	124	173	211	211	211	219	$6,503
Total	**124**	**124**	**124**	**124**	**124**	**173**	**211**	**211**	**211**	**219**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

10 Year Average	2009-2018
Quantity Standard	0.0025
Quality Standard	$6,680
Service Standard	$17

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$17
Eligible Amount	$527,904

Town of Caledon
Service Standard Calculation Sheet

Service: Public Works Facilities and Equipment
Contact :
Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Bld'g Value ($/sq.ft.)
Yard 1 - Castlederg	14,198	14,198	14,198	14,198	14,198	14,198	14,198	14,198	14,198	19,499	$558
Yard 1 - Salt Dome	14,811	14,811	14,811	14,811	14,811	14,811	14,811	14,811	14,811	14,811	$183
Yard 1 - Trailer	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	-	$558
Yard 2 - Quarry Road	17,760	17,760	17,760	17,760	17,760	17,760	17,760	17,760	17,760	17,760	$558
Yard 2 - Salt Dome	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	7,320	$183
Yard 3 - Columbia Way/50	6,635	6,635	6,635	6,635	6,635	6,635	6,635	6,635	6,635	6,635	$558
Yard 3 - Salt Dome	1,716	1,716	1,716	1,716	1,716	1,716	1,716	1,716	1,716	1,716	$183
Total	**63,913**	**63,913**	**63,913**	**63,913**	**63,913**	**63,913**	**63,913**	**63,913**	**63,913**	**67,741**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	1.0926	1.0837	1.0749	1.0507	1.0277	1.0056	0.9844	0.9611	0.9045	0.9311

10 Year Average	2009-2018
Quantity Standard	1.0116
Quality Standard	$419
Service Standard	$424

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$424
Eligible Amount	$13,392,948

Town of Caledon
Service Standard Calculation Sheet

Service: Roads and Related Equipment
Contact :
Unit Measure: No. of equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Vehicle)
Asphalt hot patcher	-	-	1	1	2	2	2	2	2	2	$45,950
Asphalt packer/roller	-	-	1	1	1	1	1	1	1	1	$35,000
Case Backhoe	1	2	2	2	2	2	3	2	2	2	$315,000
Chipper	1	1	2	2	2	3	3	3	3	3	$135,000
Culvert steamer	6	6	6	6	4	4	4	4	4	4	$17,250
Forestry Attachement - Loader	-	-	-	-	-	-	1	1	1	1	$130,000
Forestry Attachement - Mower & Tree	-	-	-	-	-	-	1	1	2	2	$50,000
Front End Loader	5	5	5	5	6	6	6	6	6	6	$241,000
Gradall	-	1	1	1	1	1	1	1	1	1	$625,000
Grader	1	3	3	3	3	3	3	3	3	4	$427,000
Hoist/Lifts	5	6	7	7	7	7	7	7	13	13	$23,000
John Deere Backhoe	1	1	1	1	1	1	1	1	1	1	$130,000
Salt Brine System	-	-	-	-	-	2	2	2	2	2	$60,250
Snow Blower	-	-	-	-	-	-	2	2	2	2	$113,800
Street Sweeper	-	-	-	-	-	-	1	1	1	1	$415,000
Trackless (Sidewalk Machine)	-	-	-	-	-	7	7	7	7	7	$150,000
Total	**20**	**25**	**29**	**29**	**29**	**39**	**45**	**44**	**51**	**52**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0003	0.0004	0.0005	0.0005	0.0005	0.0006	0.0007	0.0007	0.0007	0.0007

10 Year Average	2009-2018
Quantity Standard	0.0006
Quality Standard	$141,783
Service Standard	$85

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$85
Eligible Amount	$2,689,148

Town of Caledon
Service Standard Calculation Sheet

Service: Roads and Related Vehicles
Contact :
Unit Measure: No. of vehicles

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Vehicle)
Heavy Duty Truck	20	20	19	21	26	26	27	28	28	30	$327,000
Light Duty Truck	15	16	16	12	12	12	12	17	17	10	$77,900
Medium Duty Truck	5	5	7	7	7	7	7	7	7	7	$124,429
Passenger Vehicle	5	5	6	9	10	10	7	6	5	13	$41,620
Trailer	10	10	10	11	11	11	11	12	14	13	$10,000
Shared with Parks Operations[1]											
Light Duty Truck	2.5	2.5	3.0	4.5	4.5	4.5	5.0	4.0	4.0	4.0	$77,900
Medium Duty Truck	1.0	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	$124,429
Passenger Vehicle	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	$41,620
Trailer	2.5	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	$10,000
Total	**62**	**67**	**70**	**74**	**80**	**80**	**79**	**84**	**85**	**87**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013	0.0012	0.0013	0.0012	0.0012

10 Year Average	2009-2018
Quantity Standard	0.0012
Quality Standard	$143,200
Service Standard	$172

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$172
Eligible Amount	$5,432,034

Notes:
1. Only 50% of the inventory below this line has been included here as these vehicles are shared with Parks.

Town of Caledon
Service Standard Calculation Sheet

Service: Fire Facilities
Contact :
Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Total Value ($/sq.ft.)
Firehall No. 1 - Alton	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	$458
Firehall No. 2 - Bolton	10,003	10,003	10,003	10,003	10,003	10,003	10,003	10,003	10,003	10,003	$517
Firehall No. 3 - Caledon East	9,999	9,999	9,999	9,999	9,999	9,999	9,999	9,999	9,999	9,999	$458
Firehall No. 4 - Cheltenham	7,381	7,381	7,381	7,381	7,381	7,381	7,381	7,381	7,381	7,381	$458
Firehall No. 5 - Inglewood	5,767	5,767	5,767	5,767	5,767	5,767	5,767	5,767	5,767	5,767	$428
Firehall No. 6 - Palgrave	2,977	2,977	2,977	2,977	2,977	2,977	2,977	2,977	2,977	2,977	$458
Firehall No. 7 - Snelgrove	5,800	5,800	5,800	5,800	6,754	6,754	6,754	6,754	6,754	6,754	$558
Firehall No. 8 - Mono Mills	2,965	2,965	2,965	2,965	2,965	2,965	2,965	2,965	2,965	2,965	$415
Firehall No. 9 - Caledon Village	7,212	7,212	7,212	7,212	7,212	7,212	7,212	7,212	7,212	7,212	$558
Portable	3,540	3,540	3,540	3,540							$130
Fire Administration Building	-	-	-	-	7,340	7,340	7,340	7,340	7,340	7,340	$500
Total	**58,565**	**58,565**	**58,565**	**58,565**	**63,319**	**63,319**	**63,319**	**63,319**	**63,319**	**63,319**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	1.0012	0.9930	0.9849	0.9628	1.0181	0.9962	0.9753	0.9521	0.8961	0.8704

10 Year Average	2009-2018
Quantity Standard	0.9650
Quality Standard	$480
Service Standard	$463

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$463
Eligible Amount	$14,631,151

Town of Caledon
Service Standard Calculation Sheet

Service: Fire Vehicles
Contact :
Unit Measure: No. of vehicles

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/Vehicle)
Pumpers	8	8	8	7	7	7	7	7	7	7	$700,000
Tankers	2	2	2	2	2	2	2	2	2	2	$600,000
Pumper/Rescues	9	9	9	9	9	9	9	9	9	9	$700,000
Pumper Aerial	1	1	1	1	1	1	1	1	1	1	$1,200,000
Pumper Tankers	7	7	8	8	8	8	8	8	8	8	$600,000
Tactical Unit 4x4	2	2	2	2	2	2	2	2	2	2	$150,000
Command Unit	1	1	1	1	1	1	1	1	1	1	$300,000
Vans	2	2	2	2	2	2					$61,400
SUVs	3	3	3	3	3	4	4	4	4	4	$67,000
Platform Aerial	-	-	1	1	1	1	1	1	1	1	$1,800,000
Utility Vehicle	-	-	1	1	1	1	1	3	3	3	$78,200
Fire Life Safety Trailer	-	-	-	1	1	1	1	1	1	1	$55,900
Utility Trailer	2	2	2	2	2	2	3	3	3	5	$6,700
Small Vehicles							3	3	4	4	$42,000
Total	**37**	**37**	**40**	**40**	**40**	**41**	**43**	**45**	**46**	**48**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.0006	0.0006	0.0007	0.0007	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007

10 Year Average	2009-2018
Quantity Standard	0.0007
Quality Standard	$473,057
Service Standard	$331

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$331
Eligible Amount	$10,467,667

Town of Caledon
Service Standard Calculation Sheet

Service: Fire Small Equipment and Gear
Contact :
Unit Measure: No. of equipment and gear

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 Value ($/item)
Auto-extracation	12	12	12	12	12	12	12	12	12	12	$65,000
Ventilators, Defib, Suction, Pulse	25	25	25	25	25	25	25	25	25	25	$22,000
SCBA	150	150	150	150	150	150	154	154	154	154	$8,900
Equipped Fire fighters (eg. Bunker gear, pagers, etc.)	255	255	255	255	255	265	265	265	280	280	$6,700
SCBA Cylinders	402	402	402	402	402	402	410	410	410	410	$1,300
Port-A-Pump, K12, Generators, Bullet Saw, Fans	9	9	9	9	9	9	9	9	9	9	$27,900
Hose Appliances	9	9	9	9	9	9	9	9	9	9	$55,900
Compressor	1	2	2	2	2	2	2	2	2	2	$67,000
Radios	9	9	9	9	9	9	9	9	9	9	$100,600
Total	**872**	**873**	**873**	**873**	**873**	**883**	**895**	**895**	**910**	**910**	

Population	58,496	58,978	59,460	60,826	62,193	63,559	64,926	66,502	70,658	72,750
Per Capita Standard	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

10 Year Average	2009-2018
Quantity Standard	0.0139
Quality Standard	$7,645
Service Standard	$106

D.C. Amount (before deductions)	12 Year
Forecast Population	31,611
$ per Capita	$106
Eligible Amount	$3,359,301

Appendix C
Long -Term Capital and Operating Cost Examination

Appendix C: Long-Term Capital and Operating Cost Examination

As a requirement of the D.C.A., 1997 under subsection 10(2)(c), an analysis must be undertaken to assess the long-term capital and operating cost impacts for the capital infrastructure projects identified within the D.C. As part of this analysis, it was deemed necessary to isolate the incremental operating expenditures directly associated with these capital projects, factor in cost savings attributable to economies of scale or cost sharing where applicable, and prorate the cost on a per unit basis (i.e. sq.ft. of building space, per vehicle, etc.). This was undertaken through a review of the Town's 2017 Financial Information Return.

In addition to the operational impacts, over time the initial capital projects will require replacement. This replacement of capital is often referred to as lifecycle cost. By definition, lifecycle costs are all the costs which are incurred during the life of a physical asset, from the time its acquisition is first considered, to the time it is taken out of service for disposal or redeployment. The method selected for lifecycle costing is the sinking fund method which provides that money will be contributed annually and invested, so that those funds will grow over time to equal the amount required for future replacement.

Table C-1 depicts the annual operating impact resulting from the proposed gross capital projects at the time they are all in place. It is important to note that, while municipal program expenditures will increase with growth in population, the costs associated with the new infrastructure (i.e. facilities) would be delayed until the time these works are in place.

Table C-1
Operating and Capital Expenditure Impacts for Future Capital Expenditures

SERVICE	GROSS COST LESS BENEFIT TO EXISTING	ANNUAL LIFECYCLE EXPENDITURES	ANNUAL OPERATING EXPENDITURES	TOTAL ANNUAL EXPENDITURES
1. Services Related to a Highway	331,580,480	21,260,819	3,918,402	25,179,221
2. Operations	28,214,380	1,972,641	4,686,855	6,659,496
3. Fire Protection Services	20,705,370	1,452,341	4,847,550	6,299,891
4. Parkland and Trail Development	18,200,473	1,191,984	1,273,708	2,465,692
5. Indoor Recreation Facilities	94,329,061	5,094,290	6,390,234	11,484,524
6. Library Services	8,712,500	645,573	1,622,689	2,268,262
7. Development Related Studies	11,654,555	-		-
8. Animal Control	4,155,000	314,322	165,445	479,767
9. Provincial Offences Act	5,180,000	309,930	744,941	1,054,871
Total	**522,731,818**	**32,241,900**	**23,649,825**	**55,891,725**

Appendix D
Local Service Policy

Appendix D: Local Service Policy

Introduction

This policy sets out the Town of Caledon's general guidelines on determining growth-related engineering infrastructure and parkland development that may be eligible for funding, in whole or in part, by development charges (D.C.).

The Development Charges Act, 1997 (D.C.A.) governs what constitutes eligible services for D.C. funding, and which services are considered ineligible. In the development of a new subdivision or site plan, certain elements that are considered D.C. eligible services may be cost-shared with the developer(s), or creditable or reimbursable if the developer is doing the work on behalf of the Town. There are also elements of the developer works that are considered to be local services, which are the infrastructure or component thereof required to facilitate a development, and are deemed to provide local rather than Town-wide benefits. Section 59 of the D.C.A. considers local services to be a direct developer responsibility, which means that the capital costs shall be borne entirely by the developer(s), with no credit or reimbursement from the Town.

These guidelines are developed in connection with Section 59 of the D.C.A. and Section 51 and 53 of the Planning Act.

The following policy guidelines are general principles by which staff will be guided in considering development applications. However, each application will be considered, in the context of these policy guidelines, as subsection 59(2) of the D.C.A., and the relationship between any existing and proposed development in the surrounding area as well as the location and type of services required and their relationship to the proposed development and to existing and proposed development in the area. Local services are not included in the development charge calculation.

A. SERVICES RELATED TO A HIGHWAY

A highway and services related to a highway are intended for the transportation of people and goods via many different modes including, but not limited to, passenger automobiles, commercial vehicles, transit vehicles, bicycles and pedestrians. The highway shall consist of all land and associated infrastructure built to support (or service) this movement of people and goods regardless of the mode of transportation employed, thereby achieving a complete street. A complete street is the concept

whereby a highway is planned, designed, operated and maintained to enable pedestrians, cyclists, public transit users and motorists to safely and comfortably be moved.

The associated infrastructure to achieve this concept shall include, but is not limited to: road pavement structure and curbs; grade separation/bridge structures; grading, drainage and retaining wall features; culvert structures; storm water drainage systems; utilities; traffic control systems; signage; gateway features; street furniture; active transportation facilities (e.g. sidewalks, bike lanes, multi-use trails which interconnect the transportation network etc.); roadway illumination systems; boulevard and median surfaces (e.g. sod and topsoil, paving etc.); street trees and landscaping; parking lanes and lay-bys; noise attenuation systems; railings and safety barriers.

The Town's Official Plan includes the following classifications of Town Roads:

MEDIUM CAPACITY ARTERIALS

i. Are roadways under Regional or Town jurisdiction.
ii. Serve moderate volumes of medium distance traffic at moderate speeds with limited property access.
iii. Will have a 20 to 36 metre road allowance with 2 to 4 lane capability.
iv. On-street parking will be discouraged.

COLLECTORS

i. Are roadways under the Town's jurisdiction.
ii. Serve low to moderate volumes of short distance traffic between local and arterial roads.
iii. Provide individual property access with some limitations
iv. Will generally have a 20 to 26 metre road allowance with 2 to 4 lane capability.
v. On-street parking may be permitted.

LOCAL ROADS

i. Are roadways under the Town's jurisdiction.
ii. Serve local traffic only and provide connections to collector roadways.
iii. Provide direct property access.
iv. Will have a 17 to 20 metre road allowance with 2 lane capability.
v. On-street parking may be permitted.

For the purposes of this Local Service Policy, Collector Roads have been classified as Major and Minor. The following Collector Roads, as contained in Schedule J of the Town's Official Plan, are defined as Major Collector Roads:

North-South

- Heritage Rd. / Shaws Creek Rd.
- Creditview Rd. / Main St. (Alton)
- Chinguacousy Rd.
- McLaughlin Rd. / Willoughby Rd.
- Kennedy Rd.
- Heart Lake Rd.
- Horseshoe Hill Rd.
- Bramalea Rd. / St. Andrew's Rd.
- Torbram Rd. / Mountainview Rd.
- Innis Lake Rd.
- Centreville Creek Rd.
- Humber Station Rd.
- Duffy's Ln.
- Mount Hope Rd.
- Mount Pleasant Rd.
- Caledon King Townline S. / Mount Wolfe Rd.
- Albion Trail
- Caledon King Townline
- Credit St.

East-West

- Highpoint Side Rd.
- Beech Grove Side Rd.
- Coolihans Side Rd.
- Finnerty Side Rd.
- Escarpment Side Rd.
- Patterson Side Rd.
- Pine Ave.
- The Grange Side Rd.
- Halls Lake Side Rd.

- Old Church Rd. East of R.R. 50
- Boston Mills Rd / Castlederg Side Rd.
- Old School Rd. / Healey Rd.

1. Local and Minor Collector Roads (including land)

a) Minor Collector Roads Internal to Development, inclusive of all land and associated infrastructure – direct developer responsibility under s. 59 of the D.C.A. as a local service.
b) Minor Collector Roads External to Development, inclusive of all land and associated infrastructure, if needed to support a specific development or required to link with the area to which the plan relates – direct developer responsibility under s.59 of the D.C.A.; otherwise, included in the D.C. calculation to the extent permitted under s.5(1) of the D.C.A. (dependent on local circumstances).
c) All Local Roads are considered to the developer's responsibility.

2. Major Collector and Arterial Roads

a) New, widened, extended or upgraded Major Collector Roads and Arterial Roads, inclusive of all associated infrastructure - included as part of road costing funded through D.C.A. s.5(1).

3. Traffic Control Systems, Signals and Infrastructure Improvements (including traffic calming, pavement markings, curb extensions)

a) On new Major Collector Roads and Arterial Roads and Major Collector Road and Arterial Road improvements unrelated to a specific development -- included in the D.C. calculation as permitted under s.5(1) of the D.C.A.
b) On Minor Collector Roads and Local Roads, or for any private site entrances or entrances to specific development - direct developer responsibility under s. 59 of the D.C.A. as a local service.
c) Intersection improvements, new or modified signalization, signal timing and optimization plans, area traffic studies for highways attributed to growth and unrelated to a specific development - included in D.C. calculation as permitted under s.5(1) of the D.C.A.

4. **Streetlights and Streetlight Infrastructure (including adaptive controls)**

a) Streetlights on new Major Collector Roads and Arterial Roads and Major Collector Road and Arterial Road improvements - considered part of the complete street and included as part of the road costing funded through D.C.A. s.5(1) or in exceptional circumstances, may be direct developer responsibility through local service provisions (s. 59 of the D.C.A.).
b) Streetlights on Minor Collector Roads and Local Roads internal to development - considered part of the complete street and included as a direct developer responsibility under s. 59 of the D.C.A as a local service.
c) Streetlights on Minor Collector Roads and Local Roads external to development, needed to support a specific development or required to link with the area to which the plan relates - considered part of the complete street and included as a direct developer responsibility under s. 59 of the D.C.A as a local service.

5. **Transportation Related Pedestrian and Cycling Facilities**

a) Sidewalks, multi-use trails, cycle tracks and bike lanes, inclusive of all required infrastructure, located within Major Collector Roads and Arterial Roads - considered part of the complete street and included as part of the road costing funded through D.C.A s.5(1) or in exceptional circumstances, may be direct developer responsibility through local service provisions (s. 59 of the D.C.A.).
b) Sidewalks, multi-use trails, cycle tracks and bike lanes, inclusive of all required infrastructure, located within or linking Minor Collector Road and Local Road corridors internal to development - direct developer responsibility under s. 59 of the D.C.A. as a local service.
c) Sidewalks, multi-use trails, cycle tracks and bike lanes, inclusive of all required infrastructure, located within Minor Collector Roads and Local Roads external to development and need to support a specific development or required to link with the area to which the plan relates - direct developer responsibility under s. 59 of the D.C.A as a local service.

6. **Noise Abatement Measures**

a) Noise abatement measures external and internal to development where it is related to, or a requirement of a specific development - direct developer responsibility under s. 59 of the D.C.A as a local service.

b) Noise abatement measures on new Major Collector and Arterial Roads and Collector Road and Arterial Road improvements abutting an existing community and unrelated to a specific development: included in the D.C. calculation as permitted under s.5(1) of the D.C.A.

7. **Gateway Features and Grade Separations/Bridges**

a) Gateway features – external and internal to development where it is related or a requirement of a specific development - direct developer responsibility under s. 59 of the D.C.A as a local service.
b) Grade Separations/Bridges on new Major Collector Roads and Arterial Roads and Major Collector Road and Arterial Road improvements unrelated to a specific development - included in the D.C. calculation as permitted under s.5(1) of the D.C.A.
c) Grade Separations/Bridges on Minor Collector Roads and Local Roads - direct developer responsibility under s. 59 of the D.C.A. as a local service.
d) Grade Separations/Bridges attributed to growth and unrelated to a specific development- included in D.C. calculation as permitted under s.5(1) of the D.C.A.

B. STORMWATER MANAGEMENT

a) Stormwater facilities for quality and/or quantity management, including downstream erosion works, inclusive of land and all associated infrastructure, such as landscaping and perimeter fencing - direct developer responsibility under s. 59 of the D.C.A as a local service.
b) Over-sizing cost of stormwater drainage facilities capacity, excluding land, to accommodate runoff from new, widened, extended or upgraded Major Collector and Arterial Roads that are funded as a development charges project- included as part of road costing funded through D.C.A. s.5(1).
c) Monitoring works - included in D.C's consistent with the D.C.A. s.5(1).
d) Storm sewer systems and drainage works that are required for a specific development, either internal or external to the area to which the plan relates - direct developer responsibility under s. 59 of the D.C.A as a local service.

C. PARKLAND DEVELOPMENT

1. Recreational Trails

a) All recreational trails (any trail or path outside of the road right of way) that are to be constructed within a development - direct developer responsibility under s. 59 of the D.C.A. as a local service.
b) All recreational trails external to the development required to connect trails to inter-regional trials and existing Town trails to ensure continuity of the trail system - direct developer responsibility under s. 59 of the D.C.A. (as a local service)
c) General trail improvements not specific to a development but to support overall growth of the trail system- included in D.C. calculation as permitted under s.5(1) of the D.C.A.

2. Parkland

a) Parkland development for community parks, neighbourhood parks and village squares - direct developer responsibility to provide at base conditioning, as defined in the Town's Engineering and Parks Standards Manual, as a local service provision

Parkland Development Infrastructure Assets Constructed by Developers:

a) All infrastructure assets constructed by Developers must be designed in accordance with the Town of Caledon Engineering and Parks Standards Manual, as revised.
b) All infrastructure assets shall be conveyed in accordance with the Town of Caledon Engineering and Parks Standards Manual, as revised.
   Any Parks and Open Space infrastructure assets approved to be built by the developer on behalf of the Town shall be in accordance with the Town of Caledon Park Development Methods Policy.

Appendix E
Development Charge Background Study – Roads Component

2019 Development Charges Background Study

Appendix E – Roads Component

DRAFT

Town of Caledon
March 19, 2019

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1 Introduction

In May 2018, the Town of Caledon (*the Town*) retained Watson & Associates Economists Ltd. and HDR to conduct a Transportation Background Study in support of its 2019 Development Charges (DC) Study Update. The purpose of the study is to identify the Town's future infrastructure requirements and implementation costs for the Town-wide transportation network including roads and road related infrastructure.

This report documents assumptions, analysis and recommendations for the identification, costing and financing of transportation capital projects, attributable to growth. This report is an update to the Town's 2014 Development Charge Background Study, the Town of Caledon Transportation Master Plan (TMP, 2017), Bolton TMP (2015), Mayfield West Phase 2 TMP (2016) and several other provincial, regional and municipal planning policies and studies.

The transportation capital program and associated costs detailed in this report will serve as a blueprint for the Town to strategically advance the development of its long-term transportation network through 2031.

1.1 Study Scope

The 2019 Caledon DC study was initiated in response to the Development Charges Act (the Act, 1997) requirement that the development charge (DC) by-law be updated every five years in order to collect charges from new development occurring within the Town. The Town of Caledon passed its last DC by-law on June 24, 2014 and the next by-law must be enacted before June 24, 2019.

The transportation study scope responds to the requirements of the Development Charges Act and the Terms of Reference of the study and pertains to road and road-related projects and tasks including:

1. Identification of road and road-related servicing needs to accommodate the anticipated development by 2031.
2. Identification of the road and road related capital infrastructure requirements to address the increase in needs for service attributable to development
3. Determination and recommendation of defensible allocation of the growth-related roads' capital costs to the types of anticipated development.
4. Determination and recommendation of defensible allocation of the benefit to existing development for the growth-related roads' capital costs
5. Preparation of technical report that document assumptions and recommendations of tasks 1 to 4.

1.2 Study Process

Exhibit 1-1 illustrates the process that helped guide and inform this study. The following sections of the report will describe in greater detail the development of the 2019-2031 transportation project lists, the costing of the recommended program and the allocation of the overall costs between growth and non-growth.

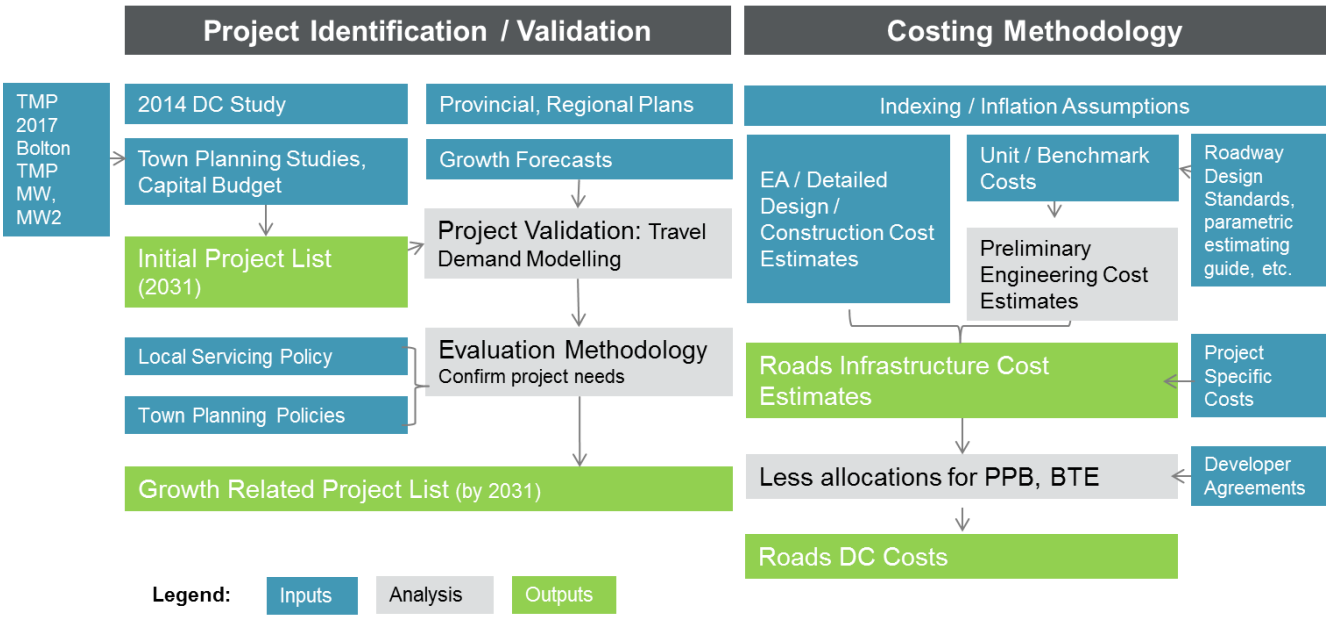


Exhibit 1-1: Study Process

The following sections of the report will discuss in greater detail the different components of the transportation DC process.

2 Planning Context

The Town of Caledon 2019 DC study was developed within the context of provincial, regional, and municipal planning policies and initiatives. This section highlights the key planning documents used as inputs for the study, particularly those which have been updated since the previous 2014 DC study, and which may influence transportation directives and needs. The resources consulted were essential in developing a list of recommended transportation improvements for the Town of Caledon's long-term network, through 2031.

2.1 Provincial Planning Policies and Studies

Several provincial plans provide guidance and direction for the transportation vision for the Town of Caledon. Further, updates to provincial plans may directly influence both Peel Region and Town of Caledon infrastructure needs, thus requiring periodical updates to the Town's plans including this DC update. The provincial plans are identified and summarized in **Table 2-1**, and specific provincial projects relevant to the DC Update are summarized below.

Table 2-1: Relevant Provincial Plans and Studies

Study / Plan	Description
Provincial Policy Statement (2014)	Description: Provides direction on land use planning and development, and the transportation system. Directions: The most relevant land use and transportation policies) include: • 1.6.7.1 Safe, energy efficient, transportation systems that move people and goods and address projected needs • 1.6.7.2 Use of Travel Demand Management (TDM) strategies to maximize efficiency • 1.6.7.3 A multimodal transportation system that provides connections within and among transportation systems and modes including across jurisdictional boundaries • 1.6.7.4 Land use patterns that minimize length and number of vehicle trips to support transit and active transportation • 1.6.7.5 Integration of transportation and land use considerations at all stages of planning • 1.6.8.2 Protect for major goods movement facilities and corridors 1.6.8.3 New development should be compatible with the long-term purposes of the corridor It is a key document outlining provincial objectives and informing the long-term vision for growth within Ontario, and applies to all lands within the Town of Caledon.

Study / Plan	Description
Growth Plan for the Greater Golden Horseshoe (2006, 2013, 2016 Update)	Description: The Growth Plan for the GGH is a long term plan released on June 16, 2006, that aims to: • Revitalize downtowns; • Create complete communities; • Provide housing options to meet the needs of people at any age; • Curb sprawl and protect farmland and green spaces; and • Reduce traffic gridlock by improving access to a greater range of transportation options. The June 2013 amendment extended the growth planning horizon to 2041 while the 2016 update identified new intensification targets. Directions: The Growth Plan defines specific policies for where and how to grow including the identification of defined urbanized areas versus a protected Greenbelt Area. The plan also identifies Urban Growth Centres across the GTA, Major Transit Station Areas, and Intensification Corridors.
Metrolinx 2041 Regional Transportation Plan (2018)	Description: The 2041 Regional Transportation Plan (RTP) is an update to The Big Move, providing next steps in building a truly integrated transportation system within the GTA. Five strategies that the 2041 RTP follow include completing the delivery of current transit projects, connecting more of the region with frequent rapid transit, optimizing the transportation system, integrating transportation and land use, and preparing for future uncertainty. At its core, the transportation system should be comprehensive, connected, accessible, sustainable, and people oriented. Directions: The RTP builds on the RER system past the 2025 year, including the development and implementation of frequent regional express bus service to serve transit needs of areas not well connected by the rail system. In order to support these services, transportation improvements are needed to ensure superior service and reliability compared to existing GO bus services: • Dedicated bus access ramps • High quality stations directly on or adjacent to highways • Good connections to other frequent rapid transit and local transit routes • Implementation of HOV infrastructure for busses to use • Strengthening and supporting local transit services Although the Bolton GO Line will not be in service until at least past the 2041 horizon year, Metrolinx's 2041 RTP proposes regional express bus services to Caledon's communities of Orangeville and Bolton in the meantime. There currently exists limited peak-hour directional service between these communities and connecting services along the Kitchener GO Line. The specific changes to transit services is currently unknown but is expected to provide more connecting trips between these communities and the GTHA.
Greenbelt Plan (2017)	The Greenbelt Plan identifies environmentally and agriculturally protected lands within the GGH, where urbanization should not occur, in order to protect ecological features. The 2017 Greenbelt Plan also introduced a designation for 'Urban River Valleys'. The Plan identifies the Greenbelt Area boundaries in the Town of Caledon with designations including Protected Countryside, Niagara Escarpment Plan Area and the Oak Ridges Moraine Area. Towns, hamlets and settlement areas are also distinguished in the Plan.

Study / Plan	Description
Niagara Escarpment Plan (2017)	The purpose of the Niagara Escarpment Plan is to provide for the maintenance of the Niagara Escarpment and lands in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment. The Town of Caledon encourages the continued protection, enhancement or restoration of natural features within the Niagara Escarpment Area.
Oak Ridges Moraine Conservation Plan (2017)	The Plan establishes the Ontario government's vision for the Moraine as "a continuous band of green rolling hills that provides form and structure to south-central Ontario, while protecting the ecological and hydrological features and functions that support the health and well-being of the region's residents and ecosystems". The document provides a planning framework for implementing this vision, primarily through municipal official plans, such as the Peel Region and Town of Caledon OPs.
MTO Transit-Supportive Guidelines (2012)	Description: Identifies best practices in Ontario, North America and abroad for transit-friendly land-use planning, urban design, and operations. Directions: Key directions relevant to the DC Update include firstly for layout and spacing of arterial and collector streets: Street networks are fine-grained and interconnected, to provide efficient transit services and connections to transit stops; Eliminate unnecessary jogs or breaks in the network; Spacing of arterial and collector roads should support a maximum 400m walk from the interior of a block to a transit stop, and facilitate higher levels of walking and cycling; and Access routes to transit stops, such as pedestrian pathways or local roads, should be spaced no greater than 200m apart. Key directions for planning around major transit station areas include: • A rational progression of facilities from passenger pick up and drop off / bus transfer / parking to ticketing and wayfinding, safe and comfortable waiting areas to finally transit loading areas; • Organize surface parking areas into smaller modules to facilitate defined walking and cycling paths to the stations and also to establish future development parcels over time; • Prioritize pedestrian access; and • Limit free surface parking where frequent feeder transit service is available.
MTO #CycleON: Ontario's Cycling Strategy (2013)	Description: Identifies a vision for cycling in the province over the next 20 years where cycling is valued as a core mode of transportation. Directions: Key directions relevant to the DC Update include: • Partner with municipalities to implement Complete Streets policies and develop active transportation plans; • Partnership with municipalities / transit agencies to integrate cycling and transit; • Develop a funding partnership to build provincial and municipal cycling routes, including pilot program funding to gather data and test new ideas; and • Create communities that have a built form that supports and promotes cycling for all trips under 5km.

Study / Plan	Description
Ontario's Climate Change Action Plan	Description: Identifies a five year plan to fight climate change, reduce greenhouse gas pollution, and transition to a low-carbon economy Directions: Specific action areas are identified to meet specific greenhouse gas emission reduction targets: • Transportation: ○ Becoming a North American leader in low-carbon and zero-emission transportation ○ Increase the use of electric vehicles ○ Support cycling and walking ○ Support the accelerated construction of GO Regional Express Rail • Land use planning: ○ Support low-carbon communities ○ Strengthen climate change policies in the municipal land use planning process ○ Eliminate minimum parking requirements

Additional provincial studies that were used to inform the study are summarized below.

2.1.1 Bolton Commuter Rail Service Feasibility Study (2010)

Metrolinx's Bolton Commuter Rail Service Feasibility Study investigated the possibility of providing regional rail services to the community of Bolton within the Town of Caledon. Numerous service implementation options were examined, including direct rail service to various areas of Toronto, as well as shuttle rail service to existing rail lines feeding into Union Station.

The results of the study showed that Bolton commuter rail service is feasible, with the preferred alternative being direct rail service between Bolton and Union Station using either CN Subdivisions or GO Weston Subdivision. However, priority for this project is low relative to other GO Transit initiatives due to low projected ridership.

Bolton rail service was originally within the 10-year priority plan in The Big Move Plan (2008) and has since been further delayed in priority. The recent 2041 RTP update indicates that Bolton rail service will be proceeded with past the 2041 planning horizon.

2.1.2 Southern Highway Program (2017 – 2021)

The DC update will consider Ministry of Transportation Ontario (MTO) improvement plans within and around Caledon. One project identified to be within vicinity includes:

- Highway 427 Extension: Extension of Highway 427 from its northern terminus at Highway 7 to Major Mackenzie. There will also be inclusion of HOV/HOT by the 2021 completion date.

2.1.3 GTA West Corridor Environmental Assessment Study

The Ontario Ministry of Transportation (MTO) initiated a study to review transportation infrastructure needs to address long-term projected growth identified in the Provincial Growth Plan for the GGH and inter-regional transportation problems and opportunities. The project, referred to as the Greater Toronto Area West (GTA West) Corridor Study, identified a preliminary study area which spanned parts of York Region, Peel Region, Halton Region, County of Wellington and the City of Guelph. The study is being undertaken as an Individual EA in accordance with the *Ontario Environmental Assessment Act* (OEAA).

In December 2015 the study was put on hold and subsequently in February 2018 the province announced that it will not proceed with an EA for a proposed highway in the corridor. However, the announcement also identified the corridor is still being protected for future infrastructure needs, such as utilities, transit, or other transportation options through the ongoing Greater Golden Horseshoe Transportation Plan. The Northwest GTA Corridor Identification Study Area identified in February 2018 is illustrated in **Exhibit 2-1**.

The Ontario 2018 Fall Economic Statement, released in November 2018, stated that the province would initiate the work necessary to resume the Environmental Assessment for the GTA West Highway Corridor, which was suspended in 2015.

At this stage, it is unlikely that the GTA West Corridor will be built within the time-horizon of the Town's 2019 DC Study Update, however, the Town of Caledon should continue to plan and protect for this corridor and engage with the MTO on the planning work for this corridor to gain clarity on its potential impacts to the Town.

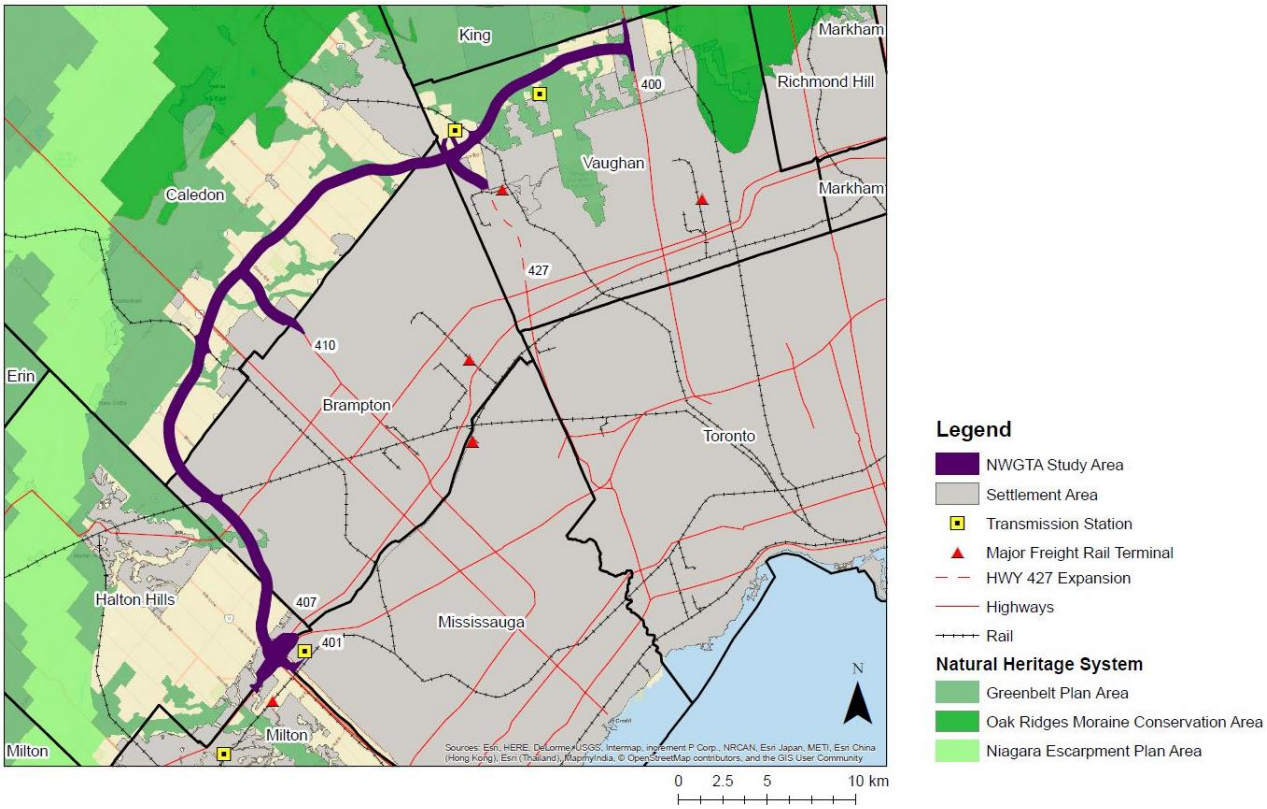


Exhibit 2-1: Northwest GTA Corridor Identification Study Area
Source: Ministry of Transportation Ontario, February 2018

2.2 Regional Planning Policies and Studies

Peel Region planning documents which influence and provide policy direction on the DC Update are summarized in this section. Primarily the update to the Region's TMP identifies new Regional improvements within the Town of Caledon and surrounding areas, and thus impact Town infrastructure needs.

2.2.1 Peel Region Development Charge Background Study (2018)

Peel Region recently updated their Development Charge Background Study in 2018, which identifies the anticipated development in the Region, the capital forecasts and development charge recoverable costs for water, wastewater, roads, transit, and general services.

The 2019 Caledon DC Update aligns recommended project phasing and prioritization with the Peel Region DC Background Study.

2.2.2 Region of Peel Official Plan (2016)

The Region of Peel's Regional Official Plan (ROP) is a long-term policy framework used for decision making to address the significant growth that the Region will experience by the 2031 future horizon year. It provides regional context for managing resources to allow for coordinated growth that will efficiently and effectively serve the Region. General objectives in the transportation context that will be considered in the DC update include the following:

- To promote and encourage the increased use of public transit and other sustainable modes of transportation (5.9.1.4);
- To maximize the capacity of the transportation system by focusing on moving people and goods rather than on moving vehicles (5.9.1.6); and
- To support the integration of transportation planning, transportation investment and land use planning (5.9.1.10)

2.2.3 Peel Long Range Transportation Plan (2012, 2017 Update)

The original Peel Long Range Transportation Plan (LRTP) provides a policy implementation framework in addressing transportation challenges for Peel Region. The 2012 update includes technical work and consultations that now also serve as a transportation master plan for the Region to the future horizon of 2031. Updates are now conducted every 5 years to provide an evolving strategic framework that reflects new priorities and trends. The Region's vision for its transportation system that helps guides efforts in achieving its desired system is as follows:

> Peel Region will have a safe, convenient, efficient, multi-modal, sustainable and integrated transportation system that supports a vibrant economy, respects the natural and urban environment, meets the diverse need of residents and contributes to a higher quality of life.

The Peel Region has identified some challenges and opportunities to be addressed, including:

- Growing road congestion
- Limited opportunities to provide more road capacity
- Lack of adequate, predictable, sustainable funding
- Transportation options for an aging population
- Excessive dependence on the automobile
- Limited travel choices
- Worsening air quality/global warming
- Rising fuel costs

As a result of these challenges, the Region of Peel will need transportation solutions that will:

- Support and conform to the Provincial Policy Statement (PPS), the Provincial Growth Plan, the Greenbelt Plan, and the Niagara Escarpment Plan
- Support policies in the Regional Official Plan and planned growth in Peel
- Protect the natural and agricultural resources of Peel
- Maintain the Region's economic competitiveness by facilitating goods movement in Peel
- Encourage sustainable modes of transportation such as transit, carpooling, cycling and walking
- Provide a connected and balanced transportation network that supports modes of travel for all

Based upon the challenges and requirements mentioned above, the Region is proceeding with a solution that combines both new road infrastructure and various transportation demand management strategies. This solution has been identified based on the most prominent outcome of reducing congestion levels while minimizing the negative impacts from the environment, social, cultural heritage, economy, and other costs.

The 2017 update on the Peel LRTP emphasizes the need for sustainable mobility, with a desired 50% sustainable mode share by 2041. This includes modes of transport such as transit, walking, cycling, and demand management.

2.3 Town Planning Policies and Studies

The 2019 Caledon DC study will primarily update the 2014 DC study. With changes to planning policy at the Provincial and Regional levels as well new transportation improvements, the Town must reconfirm its own infrastructure needs in light of these updated plans. The following sections document the Town context for growth and development requiring new transportation infrastructure.

2.3.1 Town of Caledon Official Plan (2018 consolidation)

The Town of Caledon 2018 Official Plan (COP) was approved by Council on April 2018. The Official Plan is a statement of principles, goals, objectives and policies to guide changes in physical development and land use within the Town of Caledon. The DC Update will ensure that investments are undertaken in a way consistent with the vision and policies established in the COP, in particular those highlighted below.

Policies contained in Chapter 4-Town Structure and Growth Management of the COP are of relevance to the 2019 Caledon DC Update. These policies plan for the accommodation of a population of 108,000 people and 46,000 jobs by 2031, according to Schedule A, Land Use Plan, shown in **Exhibit 2-2**. The DC Update will take into account the policies presented in Chapter 2, such as the locations of designated intensification areas, when considering how to prioritize transportation investments into the future.

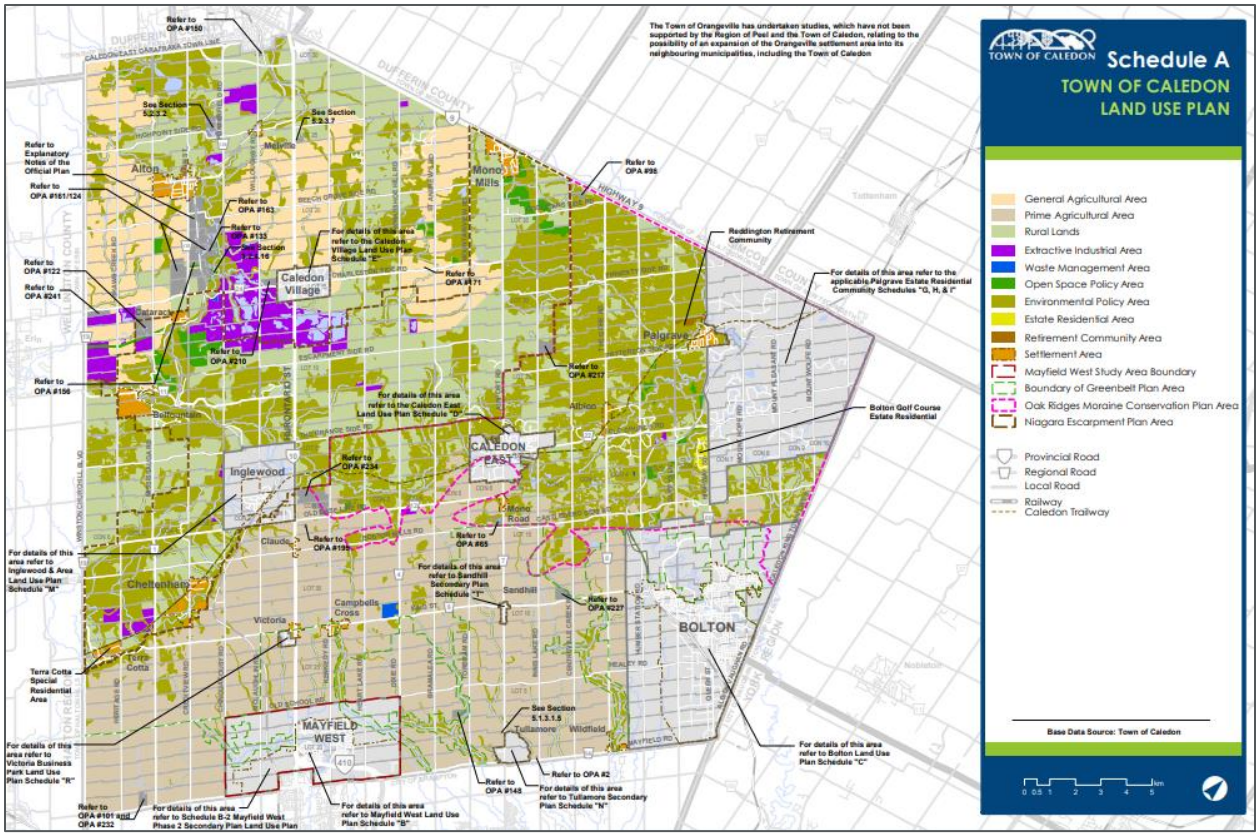


Exhibit 2-2: Town of Caledon Official Plan, Schedule A – Land Use Plan
Source: Town of Caledon Official Plan – Volume 1 - 2018 Office Consolidation, Schedules, 2018

Several objectives and policies in Section 5.9-Transportation are also of particular relevance to the DC Update, including:

- To support the planning and development of pedestrian and bicycle facilities and their linkages with open space areas (5.9.3.4);
- To support energy conservation and reduced transportation costs by advocating an expanded role of a public transit system and other sustainable modes of transportation (5.9.3.5);
- Recognizing the primary mode of travel during the plan being automobile although the Town should strive to provide a holistic transportation system comprising all modes and related elements (4.1.1.1); and
- Adequate transportation infrastructure shall be made available to service new development, in order to ensure the safe and efficient movement of traffic (5.9.4.4).

Schedule J (**Exhibit 2-3)** in the Town of Caledon's Official Plan identify the Long Range Road Network.

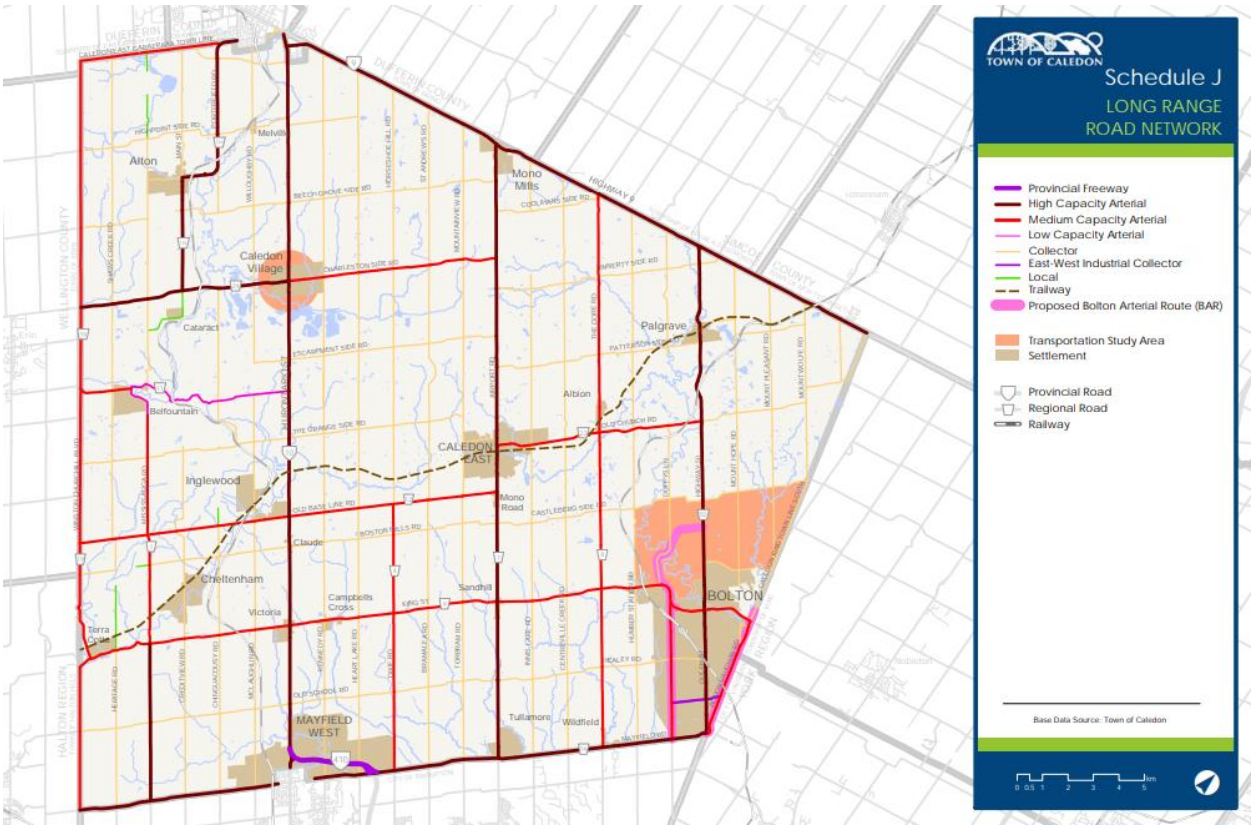


Exhibit 2-3: Town of Official Plan, Schedule J, Long Range Road Network

Source: Town of Caledon Official Plan – Volume 1- 2018 Office Consolidation, Schedules, 2018

2.3.2 Town of Caledon Transportation Master Plan (2017)

The Town of Caledon's 2017 Transportation Master Plan (TMP) details the roads, transit, active transportation and other policies required to build a transportation network that meets the Town`s future needs. The goals of the Caledon TMP focuses on addressing mobility needs, including:

- Providing choice in services;
- Facilitating economic, sustainable growth;
- Respecting and protecting the environmental integrity of the Town; and
- Developing a safe, reliable and efficient system;

The 2017 Caledon TMP recommends the incorporation of standards within their guidelines, such as typical cross sections and specifications for active transportation facilities. This is to provide a better understanding of complete streets and prioritize the accommodation of active transportation. Sustainable transportation modes such as transit and TDM are also encouraged to be further explored and brought to action, if feasible.

Based upon the objectives and policies described previously, the Caledon TMP recommends an ultimate 2031 transportation network along with short (2015-2021) and long (2021-2031) term action plans for active transportation and road improvement projects. The DC Update recognizes the above recommendations, and will be developed in accordance with the Caledon TMP.

Table 2-2 displays the TMP's recommended road network improvements by 2021 and 2031. These projects are consistent with road network improvements identified in the Bolton TMP and Mayfield West Phase 2 Secondary Plan TMP (discussed in the following sections).

Table 2-2: Caledon TMP (2017) Recommended Road Network Improvements

Road	From	To	Type of Improvement	Timing
Simpson Road	Mayfield Road	George Bolton Parkway	Extension (0-2 lanes)	By 2021
Albion Vaughan Road	Mayfield Road	King Street	Widening (2-4 lanes)	By 2031
George Bolton Parkway Extension	Highway 50	Industrial Road	Extension (0-2 lanes)	By 2031
Spine Road	Hurontario Street	Chinguacousy Road	New Road Construction	By 2031
McLaughlin Road	Mayfield Road	Old School Road	Road Improvements and Widening	By 2031
Chinguacousy Road	Mayfield Road	North Limits	Road Improvements and Widening	By 2031

The TMP also focuses heavily on the provision of multimodal choices for travel and the promotion of active modes of transportations such as cycling and walking. As such, it was an essential resource in identifying the gaps in the active transportation network. **Exhibit 2-4** shows the on-road and off-road cycling and multi-use routes intended to facilitate commute, personal and recreational bicycle travel. **Exhibit 2-5** displays pedestrian facilities for personal travel and recreation via a series of sidewalks, walkways and trails.

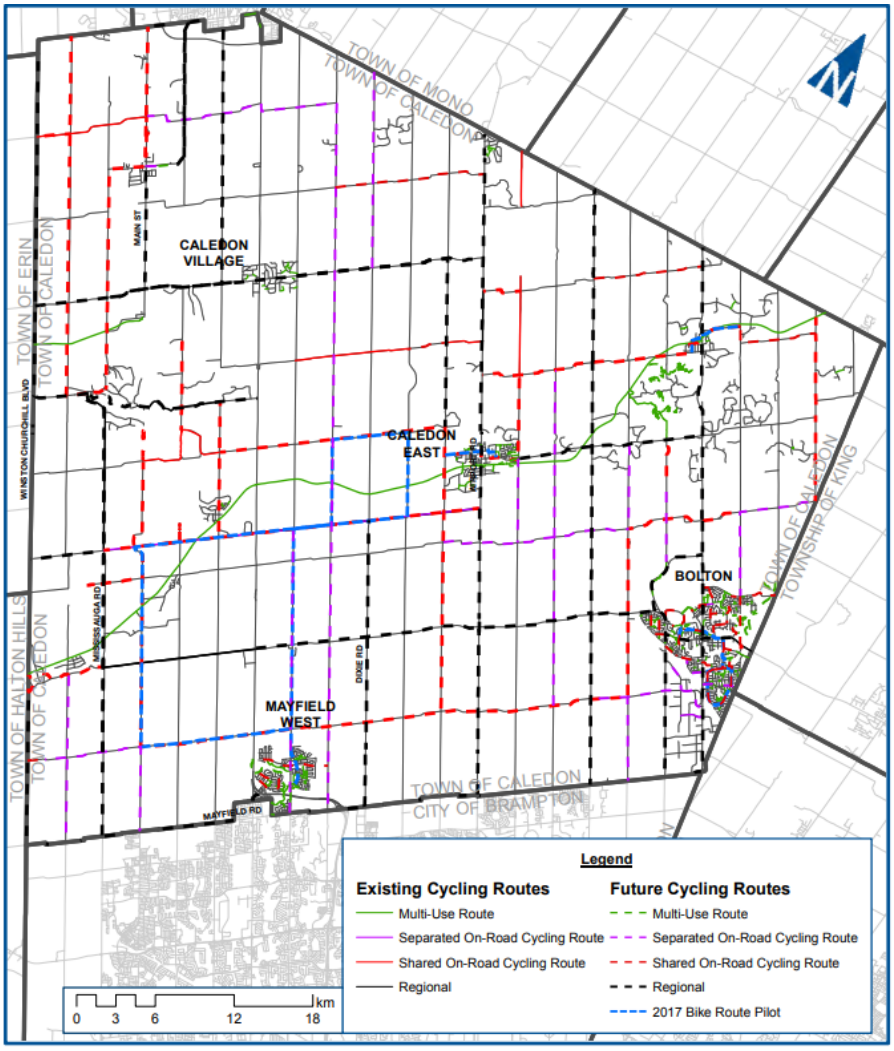


Exhibit 2-4: Caledon TMP (2017) Recommended Cycling Route
Source: Town of Caledon TMP (2017)

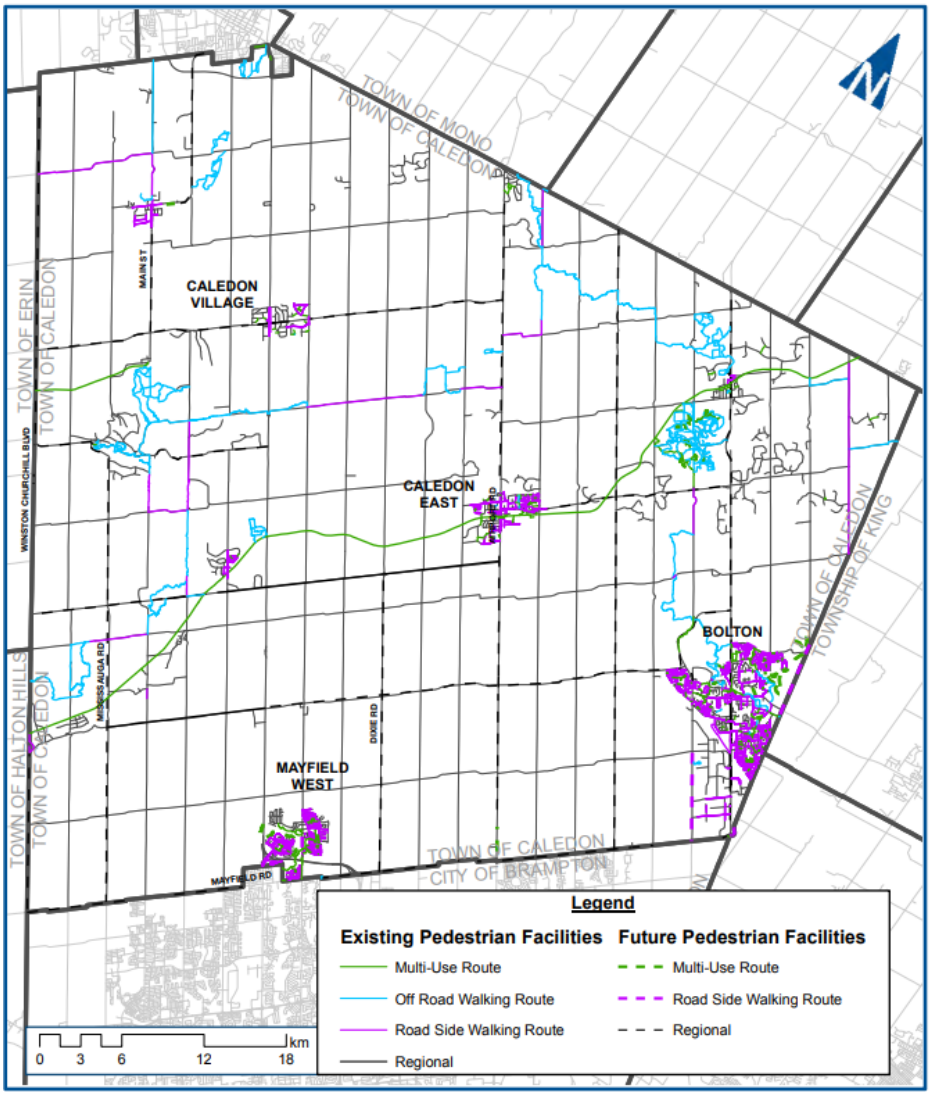


Exhibit 2-5: Caledon TMP (2017) Recommended Pedestrian Facilities
Source: Town of Caledon TMP (2017)

2.3.3 Town of Caledon DC Background Study (2014)

The Town of Caledon 2019 DC study builds upon the 2014 DC background study, completed by Watson & Associates Economists Ltd. The charges calculated represent those which can be recovered under the DCA, 1997, based on the Town's capital spending plans and other assumptions which are responsive to the requirements of the DCA. The 2014 study was used to compare the findings of the 2019 transportation assessment and recommended DC program.

2.3.4 Bolton Transportation Master Plan (2015)

The Bolton Transportation Master Plan (TMP) acts as a guiding tool for the development of transportation infrastructure and programs within the growing community of Bolton within the Town of Caledon. This is largely in part of the anticipated development in Bolton, as well as the planned Highway 427 extension. The goals of the TMP study includes supporting current and future municipal planning objectives by optimizing transportation capacity to accommodate

planned growth, specifically addressing areas such as transit opportunities and active transportation infrastructure.

Issues and opportunities identified in the Community of Bolton TMP relate to the growing population, accommodating truck traffic in and through the community, preserving heritage structures in the downtown, and a lack of multimodal transportation options.
The preferred transportation alternative included short-term multimodal recommendations for active transportation, transit, transportation demand management and truck movements, and recommended road improvements for the year 2021 and 2031.

Table 2-3: Bolton TMP (2015) Recommended Road Network Improvements

Road	From	To	Type of Improvement	Timing
Emil Kolb Parkway	King Street	Highway 50	New Road Construction (0-2 lanes)	By 2021
Queen Street (Highway 50)	South of King Street	Hickman Street	Narrowing (4-2 lanes)	By 2021
Simpson Road	Mayfield Road	George Bolton Parkway	Extension (0-2 lanes)	By 2021
Mayfield Road	Albion Vaughan Road	The Gore Road	Widening (2-4 lanes)	By 2021
Coleraine Drive	Mayfield Road	Arterial Corridor A2	Widening (2-4 lanes)	By 2021
Arterial Corridor A2	Mayfield Road	Highway 50	New Road Construction (0-6 lanes)	By 2021
Albion Vaughan Road	Mayfield Road	King Street	Widening (2-4 lanes)	By 2031
Highway 50	Mayfield Road	Castlemore Road	Widening (5-7 lanes)	By 2031
Mayfield Road	Humber Station Road	Airport Road	Widening (4-6 Lanes)	By 2031
George Bolton Parkway Extension	Highway 50	Industrial Road	Extension (0-2 lanes) 11	By 2031
King Street Realignment	King Street	Emil Kolb Parkway	New Road Construction (0-2 lanes)	By 2031
Highway 427	Highway 427 (Existing)	GTA West Corridor	New Road Construction	By 2031
GTA West Corridor	-	-	New Road Construction	By 2031
GTA West Corridor / Highway 427 Extension Interchange	-	-	New Road Construction	By 2031
GTA West Corridor / Coleraine Drive Interchange	-	-	New Road Construction	By 2031

Similarly to the Caledon TMP, the Bolton TMP was instrumental in providing the 2019 DC with a long-list of active transportation improvements to Town roads. These were later refined prior to inclusion into the DC.

2.3.5 Mayfield West Phase 2 Secondary Plan Transportation Master Plan (2016)

The Mayfield West Phase 2 Secondary Plan Transportation Master Plan (MW2TMP) was initiated by the Town to expand the Mayfield West (MW) settlement area and implement the 2031 and 2041 Growth Plan (2017) population and employment forecasts

The MW2TMP builds on the planning considerations required for the Mayfield West Rural Service Centre, one of the three rural service centers within the Town of Caledon. Transportation requirements required to support the growth and development of Mayfield West Phase 2 are identified and assessed to fulfil long range transportation needs of the community. The key objective of the MW2TMP is to:

> Develop a comprehensive and innovative transportation strategy for the Mayfield West Phase 2 Secondary Plan Area which focuses on achieving a sustainable, connected and pedestrian/cyclist friendly community; ensuring that road, transit, pedestrian and cyclist facilities are planned in an integrated manner to support the long-term needs of the Town of Caledon.

Supporting transportation principles used in the MW2TMP that considered in the current DC Update include:

- Balancing street transportation functions with pedestrian street zone and land use;
- Establishing hierarchy of roadways and transportation;
- Human-scale street right-of-ways and pavement widths; and
- Provision for dedicated on-street bike lanes as part of the overall cycling network

The MW2TMP recommended road network, illustrated in **Exhibit 2-6,** has been designed in order to support the identified levels of development while considering comments from the public and review agencies. The key elements of the plan are summarized as follows:

- A key east-west arterial roadway extending from Hurontario Street to Chinguacousy Road which serves as the internal spine road, providing direct access to the various development areas within the Secondary Plan area. The Spine Road is pivotal in providing east-west capacity required supporting the development, as well as accommodating transit service and linking the community a key pedestrian and cycling corridor
- A north-south arterial roadway (extension of McLaughlin Road) will serve as the primary gateway into the Mayfield West Phase 2 lands from the north and will bisect the development
- Provision of north-south and east-west collector roadways provide for the establishment of a modified grid road network which links the urban areas south of Mayfield Road to Mayfield West Phase 2.

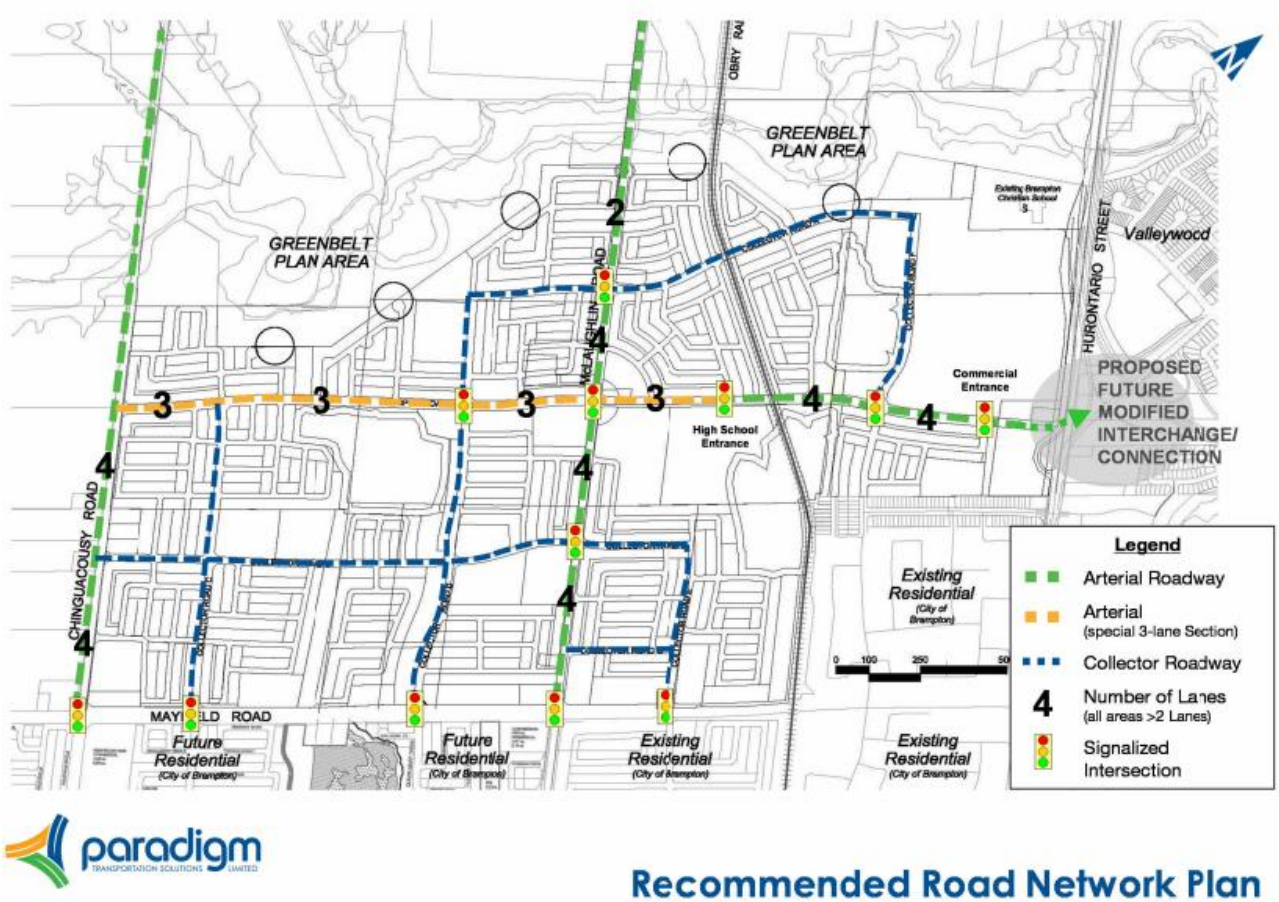


Exhibit 2-6: Mayfield West II Recommended Road Network Plan (2016)

The recommended road network achieves the urban design vision for Mayfield West Phase 2, which is to promote a diverse transportation system supporting urban development and to focus on non-auto modes of travel including public transit, cycling and walking.

2.3.6 Mayfield West Community Design Plan (2016)

The ***Mayfield West Community Design Plan*** (MWCDP) outlines the creation of a unique new village that integrates traditional community planning concepts with modern conventions for natural environment preservation and conservation. As designated in the Official Plan Amendment 226 (OPA 226), Mayfield West Phase 2 currently has planning status. The MWCDP will provide a broader overview for future development potential. Community design guiding principles and supporting principles that this plan will follow as outlined in the MWCDP and is of importance to the DC Update includes:

- Promote walking, cycling and transit opportunities;
- Establishment of roadway hierarchy, as well as urban design function;
- Transit priority for roads designated as part of the transit network;
- Provision for dedicated on-street bike lanes, as part of the overall cycling network; and

- Provision for multi-use paths within boulevards along arterial roads

The proposed road network for Mayfield West can be seen in **Exhibit 2-7**.

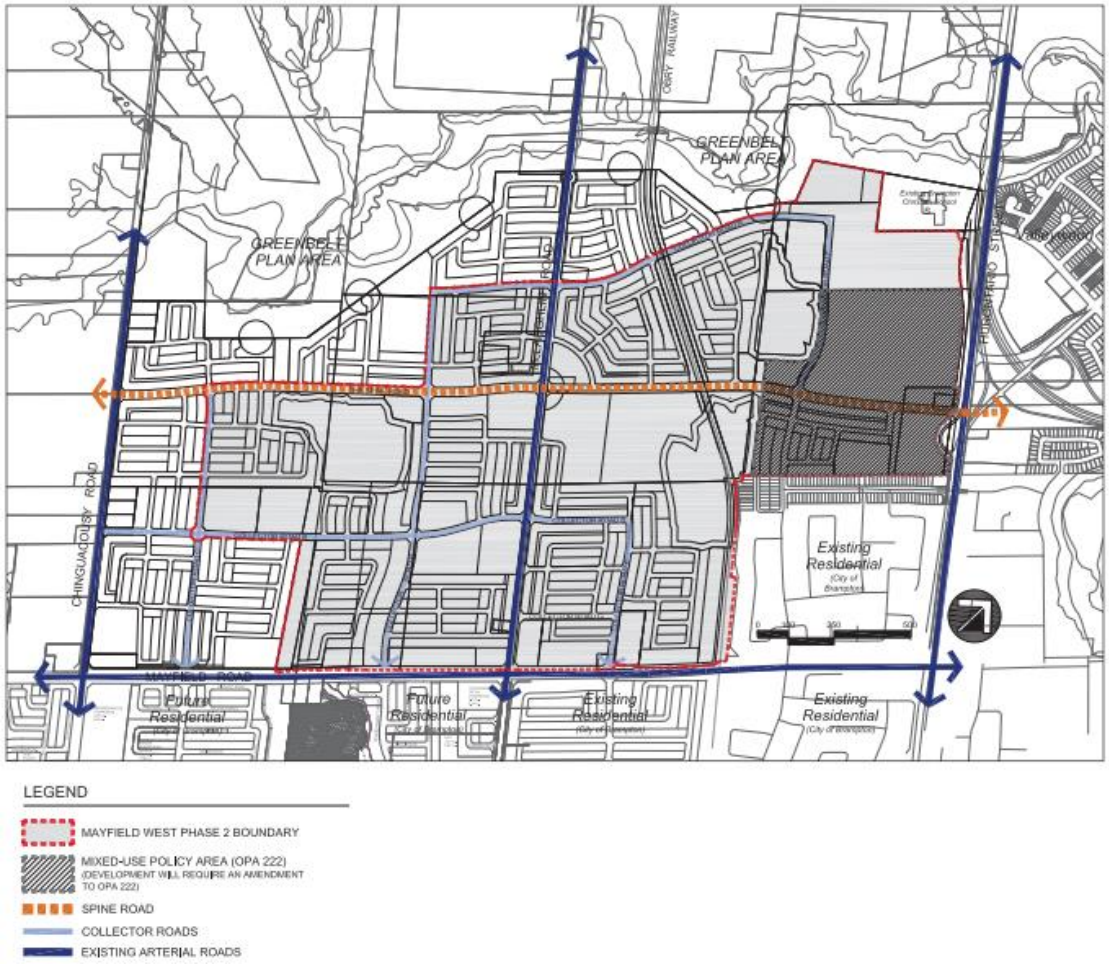


Exhibit 2-7: Mayfield West Proposed Spine Road/Collector Roads

Various transportation network improvements are also planned in accordance to the development of the Mayfield West Community Design Plan, including road widening, grade interchanges, and active transportation connectivity. The timing and scale of growth in this area will have implications for Caledon's transportation network and will be reflected in the DC Update.

2.3.7 Caledon East Community Improvement Plan (2014)

The Caledon East Community Improvement Plan (CECIP) aims to revitalize the community of Caledon East through activities that contribute to economic development, active living, and quality of life, amongst others. Its vision for revitalization and improvement is as follows:

> Caledon East is a picturesque, historic community located in the heart of Caledon. Caledon East's residents enjoy a high quality of life, with exceptional access to walking and cycling trails, natural scenery and a wide variety of recreational amenities. The community's "small-town" main street is vibrant, with a wide variety of shops, restaurants, offices and residences.

Objectives of the CECIP to be considered in the DC Update include the following:

- Encourage property improvements to provide for active modes of transportation, through pedestrian-oriented design, bicycle parking, and other measures as appropriate to the context of the site (3a);
- Design streetscape improvements to be accessible and to be pedestrian-oriented (3d)
- Pursue opportunities to expand the local cycling network and connections to a regional cycling network (3e); and
- Encourage other modes of transportation and transportation demand management, such as carpooling (3f).

2.3.8 Caledon Transit Feasibility Study (in progress)

The Town is currently conducting a transit feasibility study to identify the potential of providing transit service to the Town of Caledon in the near future. A March 2018 Council Work Plan Update revealed possible transit service concepts, including:

- Local and inter-community services for the communities of Caledon East, Bolton, and Mayfield West;
- Connections to external service providers to the City of Brampton, York Region, and Town of Orangeville; and
- Additional services to connect villages such as Palgrave and Alton.

2.3.9 Local Service Policy

The Town of Caledon's Local Service Policy (**Appendix D**) guides the review of the 2019 DC project list. Local services were not included in the DC calculation because they are directly a developer's responsibility and their costs were understood to be borne by the developer.

Services included in the 2019 DC included transportation for automobiles, transit, bikes and pedestrians and include all components needed to achieve a **complete street**, as long as they are located along a major collector as follows:

East-West

- Highpoint Side Road
- Beech Grove Side Road
- Coolihans Side Road Finnerty Side Road
- Escarpment Side Road
- Patterson Sideroad
- The Grange Side Road
- Halls Lake Side Road.
- Old Church Road East of Regional Road 50
- Boston Mills Road / Castlederg Side Road.
- Old School Rd. / Healey Rd.

North-South

- Heritage Rd. / Shaws Creek Rd.
- Creditview Rd. / Main St. (Alton)
- Chinguacousy Rd.
- McLaughlin Rd. / Willoughby Rd.
- Kennedy Rd.
- Heart Lake Rd.
- Horseshoe Hill Rd.
- Bramalea Rd. / St. Andrew's Rd.
- Centreville Creek Rd.
- Humber Station Rd.
- Duffy's Ln.
- Mount Hope Rd.
- Mount Pleasant Rd.
- Caledon King Townline S. / Mount Wolfe Rd.
- Albion Trail
- Caledon King Townline
- Torbram Rd. / Mountainview Rd.
- Innis Lake Rd.

Per the local service policy, costs ineligible for DC funding have been summarized below:

- Minor collectors and associated works (streetlights, AT facilities, traffic control systems, traffic calming, markings, curb extensions, noise walls, structures)
- Local roads and associated works
- Storm sewer systems and drainage works that are required for a specific development, either internal or external to the area to which the plan relates
- Trails and connections for a specific development or external to a development that is required to connect the trails to ensure continuity of the system

2.4 Growth Forecasts

Land use forecasts for population and employment growth used in this study are based on the land use assumptions used in the EMME Peel Model. The 2019 DC update is based on the horizon year of 2031 to maintain a consistent horizon year with the Official Plan. The 2011 Peel Model was used as a base year for analysis with a forecast horizon year of 2031, where land use from the 2031 Peel model was used for the growth forecasts. It was agreed with the Town in June 2018 that the 2019 DC update will be completed using the Town's Official Plan targets of 108,000 persons and 46,000 jobs by 2031, Town-wide.

However, there are approved growth assumptions from Secondary Plan studies that were also considered. A review of growth assumptions from these studies was conducted to identify discrepancies and verify the appropriate assumptions to be used for the modelling component of the DC update. These mainly include:

- The Peel Region Model (the Model) received form the Region – used for the 2019 DC update
- The previous 2014 Caledon Development Charges update;
- The 2017 Caledon TMP study;
- The Mayfield West Secondary Plan; and
- The Bolton TMP

The population and employment assumptions provided with the Model were allocated to policy/settlement areas; data was aggregated by traffic zones as it was not possible to provide a direct comparison for each village and hamlet within the Town due to Model limitations. The zones in the Model and the aggregation are shown in **Exhibit 2-8**

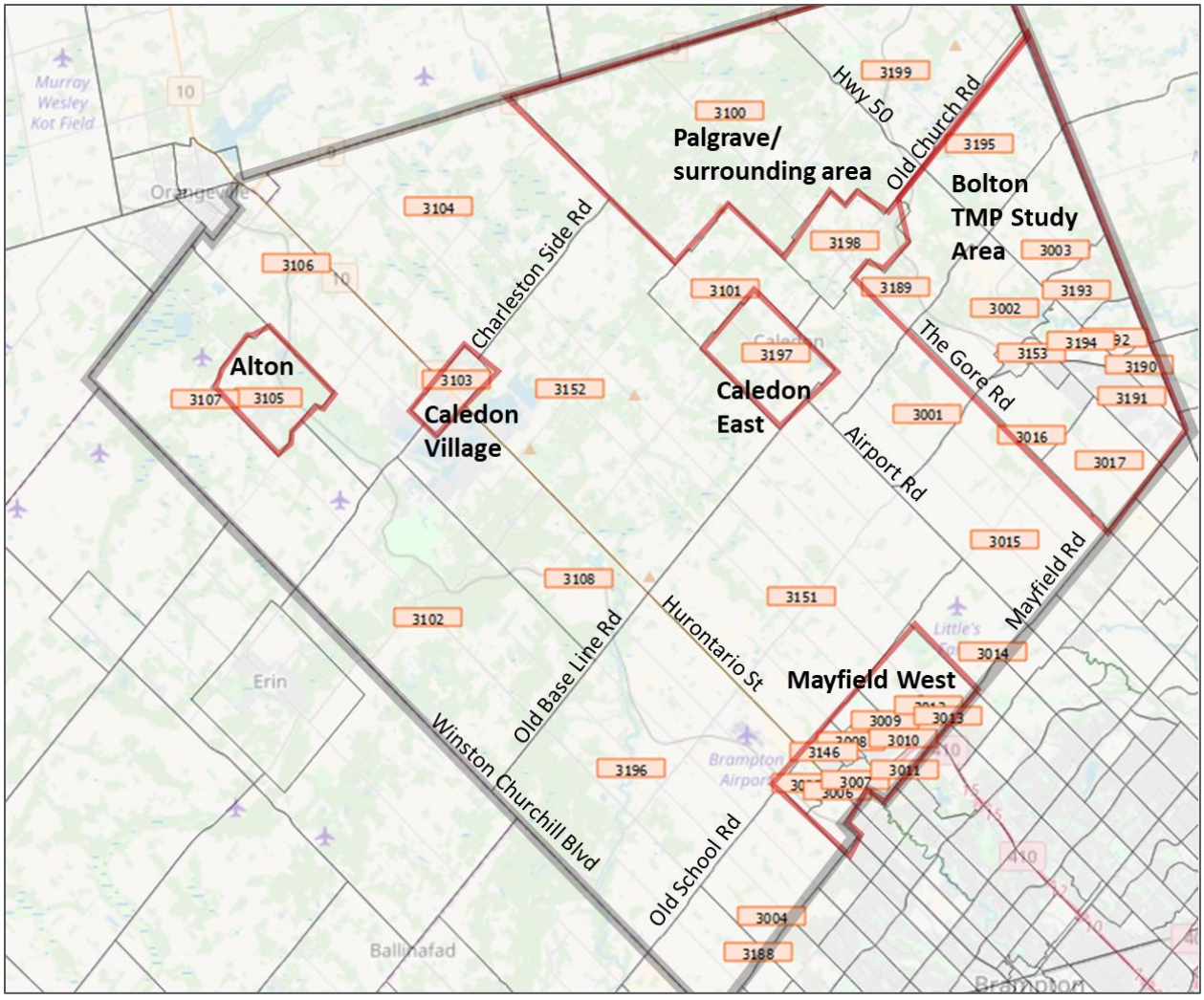


Exhibit 2-8: Peel Region Model Traffic Zone System

A summary of the growth assumptions relative to 2011 is provided in **Table 2-4**. It is noted that a population of 116,000 and employment of 51,000 is denoted in this table, which differs from the 108,000 people and 46,000 jobs noted above. This difference is accounted for primarily in the Bolton area, and following discussion with Town staff, infrastructure required for the population above and beyond the 108,000 people and 46,000 jobs will be considered post-period benefit. Post-period calculations are provided in **Section 4.9.1**.

Table 2-4: Transportation Model Growth Assumptions

Policy / Settlement Area*	Population		Employment	
	2011	2031	2011	2031
Mayfield West	4,770	27,350	1,060	10,830
Bolton TMP Study Area	31,030	45,810	19,230	28,610
Caledon East	3,470	8,710	1,260	1,660
Alton	1,340	1,330	250	230
Caledon Village	1,570	1,680	290	260
Palgrave / surrounding area	5,680	6,700	650	590
Other villages, hamlets, rural	14,990	24,430	5,290	8,790
TOTAL	**62,850**	**116,010**	**28,030**	**50,970**

*Model TAZ boundaries do not match with Village / Hamlet Boundaries; for discussion purposes only

The Town of Caledon is expected to experience an 85% growth in population and an 82% growth in number of jobs from 2011 to 2031, at an average annual growth rate of 3% for each.

3 Project Validation

The process of re-confirming the need for projects identified in prior studies including the TMP study is required to account for any changes to Town, regional or GTA growth projections as well as changes to planned transportation improvements outside of the Town which may influence project needs in Caledon.

Further, project validation was measured relative to Town planning policies for improved connectivity and promotion of sustainable and active travel modes.

The 2019 DC study examined if the projects are eligible for DC recoverable for all projects in order to develop a list of confirmed growth-related projects to be carried forward to the cost estimates phase of the study. DC eligible projects are defined in the Town's local servicing policy and include roads under the Town's jurisdiction and active transportation projects.

Finally, consultation with the Town regarding the status (specifically, the completion) of certain roadworks identified in previous studies as well as the elimination of projects with committed funds as of the 2019 budget also form a part of the validation process.

3.1 Analysis Methodology

In order to validate and confirm the need for the projects identified in the initial project list, a multiple account evaluation framework was applied. The analysis involved travel demand forecasting analysis which evaluated quantitative project benefits relative to a do-nothing scenario using the Peel AM travel demand forecasting model. These quantitative benefits are the impact on auto traffic congestion in Caledon during the AM peak hour in the 2031 Peel Model. The 2031 Do-Nothing model scenario was developed to both have a reasonable amount of detail (e.g. adding residential neighbourhoods that will emerge) and to reflect projects that are marked for completion by 2031 outside of Caledon, including any road projects in Brampton that would have an effect on the evaluation of DC projects for Caledon. The Do-Nothing scenario was compared to a Build scenario that would evaluate a list of potential Caledon DC projects based on their effects on congestion.

The second part of the analysis involved the project validation process, which examined whether the projects meet stated policy objectives in order to develop a list of confirmed growth related projects to be carried forward to the cost estimates phase of the study.

3.1.1 Model Calibration

While the 2011 Peel Region Model was calibrated at a regional level, an additional calibration process for auto volumes (focusing on the Town of Caledon) was undertaken. A link and screenline analysis was conducted to assess the accuracy of traffic volumes compared with observed counts throughout the study area. The source of observed volumes were the 2011 cordon counts available through the University of Toronto Data Management Group.

As a first step, the auto assignment results from the Peel Model (provided by the Region) were compared to those in the Model's calibration documentation and were verified to be similar. Additional screenline stations that were available from cordon counts (but were missing from the

Model's documentation) were included in the analysis. Modelled volumes were compared to observed volumes at the same location to determine how well the modelled volume represents actual conditions. It is important to note that this method only considers traffic at a specific point rather than over a range. As a result, the GEH Statistic was calculated since it is a non-linear model that uses a threshold to determine acceptable modelled volumes versus observed volumes.

For this study, calibration adjustments consisted of localized road network edits and changes in zone connector access points to the road network (based on comparing road network coding with Google Maps 2011 Streetview). These steps improved the accuracy of traffic flows and the remaining locations with a GEH statistic of over 15 had minor post-model volume adjustments made[1].

Detailed calibration tables that accompany this process can be found in **Appendix E1** which includes volume comparison tables and a list of network edits made in the 2011 network to improve calibration results.

The calibration-related network edits and the post-model adjustments made for 2011 were carried forward to be included in the 2031 network scenario coding and evaluation.

3.1.2 Future Road Network Assumptions

There are several studies that influence road network assumptions, including various LRTP/TMPs (City of Brampton, Town of Caledon, Bolton, Mayfield West and Peel Region) and DC studies (Peel 2015, Peel 2018). Additional studies are also relevant here such as the City of Brampton's Capital Program (2014-2023, 2018-2028) and York Region's TMP. All these studies were considered for the development of the 2031 road network scenarios for the modelling component of the DC update.

Building on the 2031 network scenario received with the Peel Model, two 2031 scenarios were developed to assess the impact of the potential 2019 DC update projects:

1) A "Do Nothing" scenario, which includes all completed, approved, or funded projects (by 2031); and
2) A "Build" scenario, which includes all the Do Nothing projects as well as additional planned projects requiring validation for inclusion in the DC update

This approach allows for an analysis that assesses exclusively the impact of the potential 2019 DC update projects. A list of road network assumptions for each of these scenarios, including the studies these assumptions were based on, is included in **Appendix E2.**

3.1.3 Multiple Account Evaluation (MAE) Framework

A multiple account evaluation was developed to determine transportation infrastructure projects required to support growth in the Town to 2031. The framework evaluates each project using three criteria: relevant Official Plan policies, vehicular level-of-service (LOS), and network

[1] These post-model adjustments were capped at 100 vehicles per hour for each location/direction.

connectivity, as illustrated in **Exhibit 3-1**. The multiple accounts are detailed further in the following section.

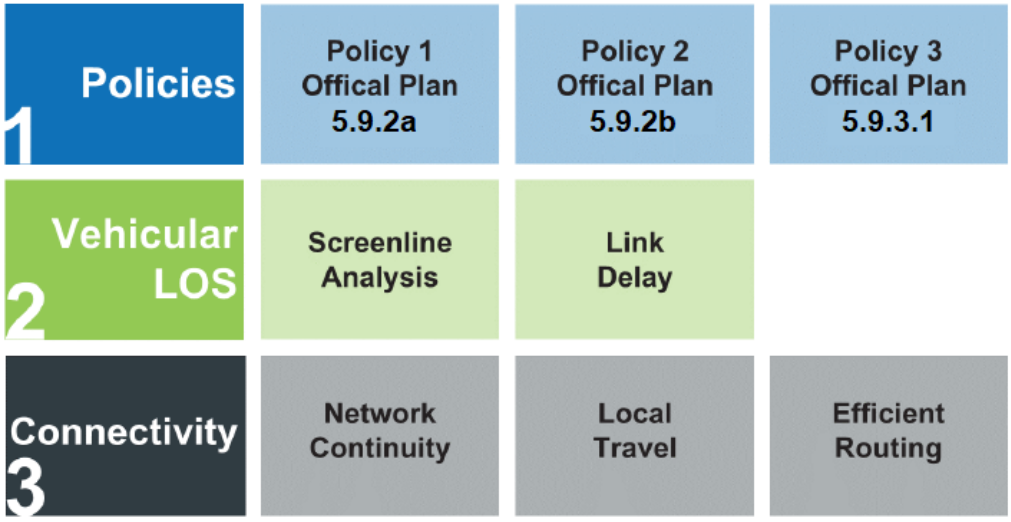


Exhibit 3-1: Multiple Account Evaluation Framework

POLICIES AND PRINCIPLES

There are several policies in effect that should be considered when evaluating the need for transportation infrastructure projects. Taken from the Town's Official Plan, the following policies will be used in the multiple account evaluation process (**Table 3-1**).

Table 3-1: Evaluation Process Policies

Relevant Policy/Principle/Objective	Network Improvement Criteria
Adopt a multi-modal transportation system approach that offers safe, convenient and efficient movement of goods, services and people, including people with disabilities (5.9.2a)	**Does the road network provide direct connections which increase opportunities for active transportation and transit?**
Provide for an adequate network of roads, highways, transit, pedestrian, bicycle and rail links between the Town and adjacent municipalities (Official Plan 5.9.2b)	**Does the road network improve connectivity with adjacent municipalities**
To develop an appropriate transportation network and hierarchy of roads to promote the safe, convenient, economical and efficient movement of people and goods within and through the Town in concert with the Region, Province, Metrolinx, neighbouring municipalities and other appropriate jurisdictions (5.9.3.1)	**Does the road network allow for clear distinctions between road types to enhance safety?**

VEHICULAR LEVEL-OF-SERVICE (LOS)

Vehicular LOS is the second account that will be used in evaluating the transportation infrastructure projects. It is important to understand the level of traffic demand against the available transportation capacity to determine where additional capacity is needed. Two methodologies will be used in considering vehicular LOS: screenline analysis and link delay.

Screenline analysis is a type of analysis used to measure vehicular LOS for a specified area. It uses a volume-to-capacity (V/C) analysis to determine where there is a capacity deficiency in the area. The volume to capacity ratio reflects peak hour traffic demand measured against roadway capacity. A description of the v/c ratios is provided in **Table 3-2.**

Table 3-2: Link V/C Ratios and Operating Conditions

V/C Ratio	Level of Service (LOS)	Operating Condition
Less than 0.85	LOS A-C	Free-flow, very little, to moderate delay
Between 0.85 and 0.99	LOS D-E	Approaching or at capacity, users experience delays and queuing
Greater than 1.00	LOS F	Over capacity, severe delays, and queuing

Link delay describes the overall delay in a specific area, and is calculated by identifying the percentage of vehicle-kilometers travelled (VKT) and vehicle-hours travelled (VHT) that is congested (V/C ratio > 1.00). This illustrates the percentage of kilometers travelled in congestion and the percentage of commute time spent in congestion, respectively. VKT is calculated by multiplying the number of vehicles using a road segment and the length of segment. VHT is calculated by multiplying the number of vehicles using a road segment and the segment travel time.

Link delay in this study was calculated in three ways:

- Area-level: including Mayfield West, Bolton, and the vicinity of the King St re-alignment project (NW of Bolton), to assess the impact of potential 2019 DC update projects in these areas
- Screenlines: surrounding the Mayfield West and Bolton areas to assess the impact of potential 2019 DC update projects on traffic flows entering and leaving these areas
- Town collectors: collector roads that are candidates for upgrades to Major Collectors[2]

These three ways to analyze capacity conditions provide a comprehensive picture of transportation needs in the Town.

CONNECTIVITY

Connectivity is the third account to be used in the multiple account evaluation framework. It assesses transportation infrastructure projects based on its ability to:

- Maximize network continuity between adjacent blocks;
- Provide for local travel within and between Town blocks without the necessity of travelling on arterial streets; and
- Provide for effective routing of transit vehicles, cycling network, and the pedestrian network.

[2] A list of these roads can be found in the **Appendix E3**

3.2 Project Validation

3.2.1 Mayfield West TMP Area

The Mayfield West TMP (MWTMP) provides planning considerations for the Mayfield West Rural Service Centre, bounded approximately by north of Mayfield Road, east of Chinguacousy Road, south of the Etobicoke Creek, and west of Hurontario Street (west of Dixie Rd in the analysis).

The Mayfield West area is expected to grow significantly between 2011 and 2031. Land use assumptions are illustrated in **Table 3-3**.

Table 3-3. Mayfield West Land Use Forecasts

Land Use	2011	2031
Population	4,770	27,350
Employment	1,060	10,830
Total	5,830	38,180

To accommodate the population and employment growth targets within the study area, the following projects were included in the analysis (with further details in **Appendix E2)**:

- A new east-west Spine Road, 2 lanes between Chinguacousy Road and McLaughlin Road and 4 lanes between McLaughlin and east of the railway line
- Widening of McLaughlin Road to 4 lanes from north of Spine Road to Mayfield Road
- Widening of Chinguacousy Road to 4 lanes from Spine Road to Mayfield Road
- Modified interchange at the new arterial road and Hurontario Street/Highway 410 as illustrated in **Exhibit 3-2**.
- A new collector network illustrated in **Exhibit 3-3.**

As specified by Town staff:

- 4- lane extension of Abbotside Way from east of Learmont Avenue to Dixie Road (2 lanes between Heart Lake and Dixie Roads)

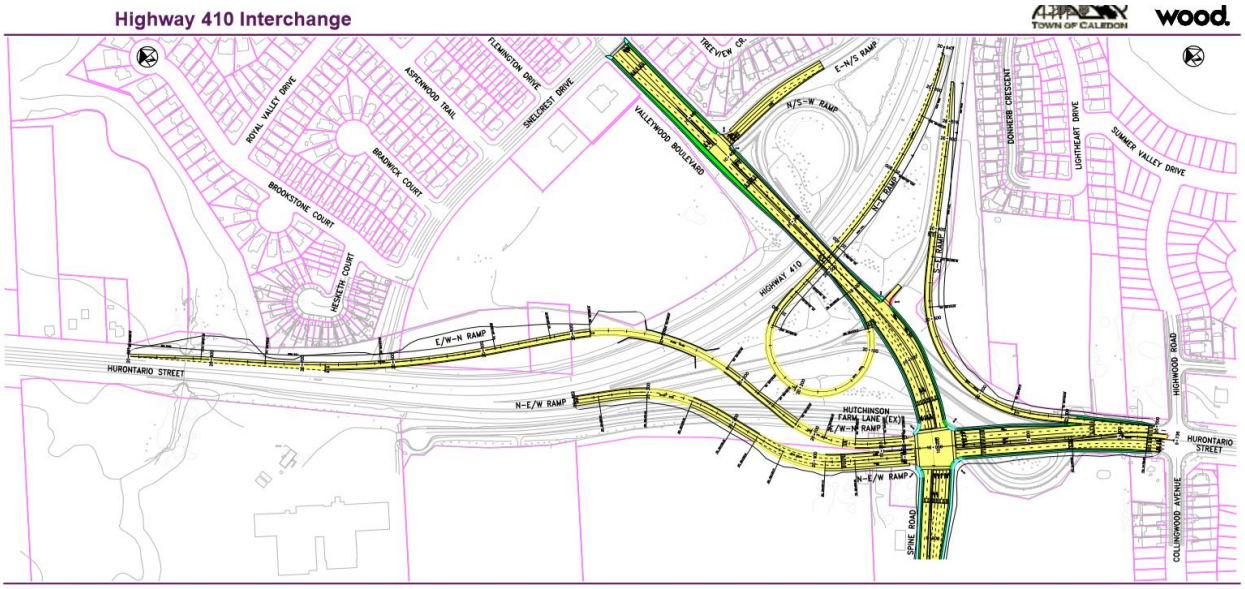


Exhibit 3-2: New Highway 410/Hurontario St Interchange
Source: Mayfield West TMP, December 2015

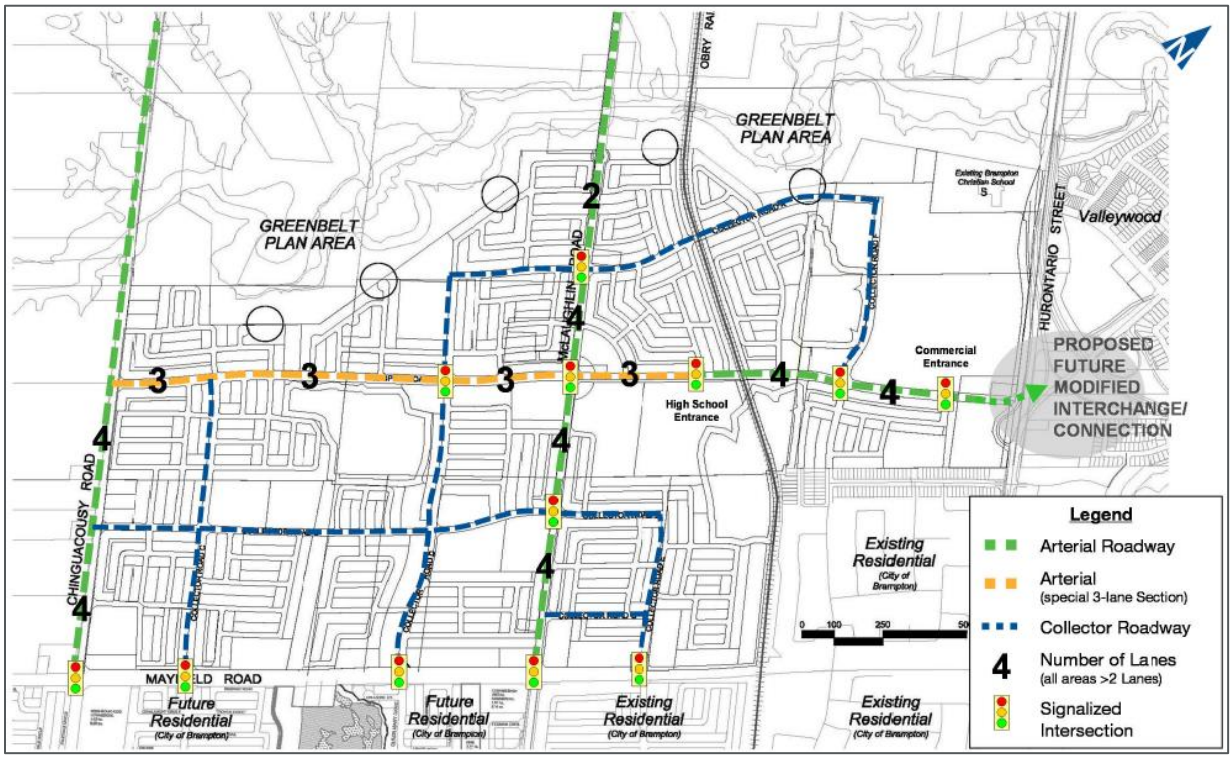


Exhibit 3-3: Mayfield West 2 Recommended Road Network
Source: Mayfield West TMP, December 2015

Analysis

As Mayfield West is considered to be a development area, all of the 2031 DC projects in the Build scenario are assumed to be interdependent and thus were evaluated collectively. The 2031 DC projects in the Build scenario show significant improvement in traffic patterns in the

Mayfield West area. Congestion conditions improve on Mayfield Rd in the EB (peak) direction due to traffic diverting to the new east-west Spine Road as well as the new Abbotside Way extension. Congestion also improves on Kennedy Rd in the SB direction, which is likely due to the widening on McLaughlin and Chinguacousy Roads, providing additional N-S capacity.

There are also significant link delay improvements in the Build scenario compared to the Do Nothing scenario. The proportions of congested VHT and VKT in Mayfield West are reduced by 68% and 64%, respectively.

In terms of screenline capacity, traffic going into and out of Mayfield West does not experience congestion in either scenario, with minor V/C differences between them. However, a few pattern differences emerge. For example, in the Build scenario, the increased connectivity in Mayfield, E of Hurontario, diverts SB traffic away from Heart Lake Rd and onto Dixie Rd. Also, SB traffic tends to use Chinguacousy Rd and McLaughlin Rd more than Hurontario St and Kennedy Rd with the introduction of the collector network and the additional access it provides to the Brampton area.

Finally, the inclusion of the DC projects in the Build scenario support planning policies and improves network connectivity as they provide increased potential for implementing numerous mobility options as well as distinguishing road hierarchy for safe and efficient movement of people and goods

Additionally, an analysis of collector roads within the Mayfield West area shows that Kennedy Rd between Old School Rd and Mayfield Rd experiences LOS of D-E in both scenarios. Therefore, this road section should be considered for an upgrade to Major Collector.

The V/C plots, link delay and screenline tables with screenline V/C's for the two 2031 scenarios can be found in **Appendix E3**.

Evaluation

As summarized in **Table 3-4**, all the DC projects in the Mayfield West study area recommended by the future horizon of 2031. The new links in addition to the local network provides a multi-modal and connected transportation system that will address expected demand from new developments.

Table 3-4. Mayfield West Project Validation Summary

Project Area		Mayfield West TMP Area	
Analysis Year		2031	
Framework		Do Nothing	Build DC Projects
Policies	Policy 1	**No** Do Nothing scenario does not have a transportation network that supports a multi-modal system	**Yes** Creation of a grid network that provides numerous mobility options that supports transit, cycling, and walking
	Policy 2	**No** Do Nothing scenario does not provide local links that support transit, pedestrian, bicycle or rail links to adjacent municipalities	**Yes** Provides additional links within network system with increased opportunities for walking and biking modes
	Policy 3	**No** There are limited distinctions between road types	**Yes** Introduces an appropriate transportation network and hierarchy of roads for safe and efficient movement of people and goods
Capacity Analysis	Volume / Capacity LOS	**No** Significant congestion entering Hwy 410, low LOS along Kennedy Rd	**Yes** Increases access points to more Arterials and Major Collectors form residential blocks and reduces congestion at the Hwy 410 interchange
	Link Delay	Delay spent in congestion (V/C ratio > 1.00): **180 VHT** **5,770 VKT**	Delay spent in congestion (V/C ratio > 1.00): **60 VHT** **2,070 VKT**
Connectivity	Network Connectivity	**No** Only provides connections to nearby Blocks through arterial network	**Yes** Provides four new connections to adjacent blocks
	Local Travel	**No** There is no provision for local travel due to limited internal network	**Yes** Creation of internal network allows for local travel without use of arterial streets
	Efficient Routing	**No** No existing network for efficient routing of transit vehicles, cyclists, or pedestrians	**Yes** Opportunities of implementing transit vehicles, cycling network, and pedestrian network
Result		**SCREEN OUT**	**CARRY FORWARD**

3.2.2 Bolton TMP Area

The Bolton TMP outlines transportation considerations required to support the anticipated growth in the community of Bolton. The study area is roughly bounded by The Gore Road to the west, Caledon King Town Line/Albion Vaughan Road to the east, Old Church Road to the north, and Mayfield Road to the south.

Bolton is expected to experience moderate growth between 2011 and 2031. Land use assumptions are illustrated in **Table 3-5**.

Table 3-5. Bolton Land Use Forecasts

Land Use	2011	2031
Population	31,030	45,810
Employment	19,230	28,610
Total	50,260	74,420

Projects in the Bolton area were analyzed individually, and are further described below. It is to be noted that impacts to the road network described may be a result of multiple projects due to the proximity of some of the projects. The proposed Bolton road improvements can be seen in **Exhibit 3-4.** Full details are provided in **Appendix E2.**

Exhibit 3-4: Proposed Bolton Road Improvements

GEORGE BOLTON PARKWAY EXTENSION

The George Bolton Parkway extension connects Coleraine Drive and Albion Vaughan Road, providing more service to the industrial employment area. This project was recommended based on input from a stakeholder workshop conducted when developing the Bolton TMP expressed concerns for more appropriate routing accommodations for truck traffic generated from local businesses within the community. This includes addressing the current truck traffic through residential areas around Queensgate Boulevard.

Analysis

Analysis from EMME comparing volumes and V/C ratios on adjacent links based on the extension of George Bolton Parkway can be seen in **Appendix E3**. The future improvements scenario shows reduced volume-to-capacity ratios on adjacent links compared to the base scenario, notably between George Bolton Parkway and Mayfield Road on both Albion Vaughan Road and Highway 50. The additional link appears to also divert approximately 175 total vehicles from Queensgate Boulevard. VHT and VKT within the Build scenario are reduced by 57% and 50%, respectively. It is to be noted that the nearby Alboin Vaughan Road widening and Simpson Road extension may have contributed to improved operating conditions.

Evaluation

Extension of George Bolton Parkway is recommended in the 2031 future horizon year based on the multiple account summary illustrated in **Table 3-6**. In addition to improved congestion on nearby links, the extension contributes to the development of a grid network that both connects to adjacent municipalities and provides local travel. The extension of George Bolton Parkway also supports the development of road hierarchy by providing route options for the recommended truck restriction on Queensgate Boulevard outlined in the Bolton TMP.

Table 3-6. George Bolton Parkway Extension Project Validation Summary

Project Area		George Bolton Parkway Extension	
Analysis Year		2031	
Framework		Do Nothing	Build DC Project
Policies	Policy 1	**No** Do Nothing scenario does not have a transportation network that supports a multi-modal system	**Yes** Provides additional link to support potential multi-modal system
	Policy 2	**No** There is no connection to adjacent municipalities	**Yes** The new extension provides access to a neighbouring municipality
	Policy 3	**No** The development of a hierarchy of roads is not promoted in the Do Nothing scenario	**Yes** Supports adjacent transportation network and introduction of truck restricted routes for safer and efficient movement of people and goods
Capacity Analysis	Volume / Capacity LOS	**No** Congestion on George Bolton Parkway east of Coleraine Drive, and adjacent link on Highway 50	**Yes** Improved congestion on Highway 50 and Albion Vaughan Road
	Link Delay	Delay spent in congestion (V/C ratio > 1.00): **250 VHT** **6590 VKT**	Delay spent in congestion (V/C ratio > 1.00): **110 VHT** **3330 VKT**
Connectivity	Network Connectivity	**No** Only provides connections to nearby Blocks through arterial network	**Yes** Provides additional link to adjacent municipalities
	Local Travel	**No** There is no provision for local travel due to limited internal network	**Yes** Provides additional internal link for local travel
	Efficient Routing	**No** No existing network for efficient routing of transit vehicles, cyclists, or pedestrians	**Yes** Supports development of road hierarchy and Bolton TMP recommended Queensgate Boulevard truck diversion by providing additional truck routing options
Result		**SCREEN OUT**	**CARRY FORWARD**

ALBION VAUGHAN ROAD WIDENING

The widening of Albion Vaughan Road from 2 lanes to 4 lanes between King Street and Mayfield Road is expected to accommodate capacity concerns in peak hours. This is due to the diversion of trucks from the community along Highway 50 between Emil Kolb Parkway and Healy Road as recommended in the Bolton TMP.

Analysis

To determine the impact of the road improvement, an EMME analysis was conducted to compare base scenario to the Build scenario. Full results including capacity LOS and link delay can be seen in **Appendix E3**. The base scenario seems to experience significant congestion, with volumes exceeding capacity throughout most of Albion Vaughan Road and the adjacent parallel Highway 50. The Build scenario relieves some of the congestion, with operating deficiencies still existing between Queensgate Boulevard and the George Bolton Parkway extension along both Albion Vaughan Road and Highway 50. Congested VHT and VKT are reduced by 62% and 57%, respectively. As mentioned, the reductions in the Build scenario may also be attributed to the George Bolton Parkway extension and Simpson Road extension projects.

Evaluation

Based on the multiple account summary illustrated in **Table 3-7**, the proposed Albion Vaughan Road widening is recommended by the horizon year of 2031. Capacity deficiencies and link delays on both Albion Vaughan Road and Highway 50 are expected to be improved in the Build scenario. In addition, the Bolton TMP has recommended Albion Vaughan Road to be a truck route to accommodate the truck restriction on Highway 50. The widening will support the expected additional truck traffic on Albion Vaughan Road while promoting safer movement of people and goods in Bolton along both Highway 50 and Albion Vaughan Road.

Table 3-7. Albion Vaughan Road Widening Project Validation Summary

Project Area		Albion Vaughan Road Widening	
Analysis Year		2031	
Framework		Do Nothing	Build DC Project
Policies	Policy 1	**No** Do Nothing scenario does not have a transportation network that supports a multi-modal system	**Yes** Supports multi-modal system in the community on Highway 50 by diverting vehicles (including trucks) onto Albion Vaughan Road
	Policy 2	**Yes** There is some connectivity to adjacent municipalities in the Do Nothing scenario	**Yes** Provides additional capacity and increased opportunities for different modes to connect to adjacent municipalities
	Policy 3	**No** The development of a hierarchy of roads is not promoted in the Do Nothing scenario	**Yes** Supports transportation system to accommodate both capacity concern and increased truck traffic due to truck diversion
Capacity Analysis	Volume/Capacity LOS	**No** Significant congestion throughout Albion Vaughan Road and on Highway 50 between Mayfield Road and King Street	**Yes** Improvements in congestion on Albion Vaughan Road and Highway 50. Congestion still exists on both corridors between Queensgate Boulevard and new George Bolton Parkway extension
	Link Delay	Delay spent in congestion (V/C ratio > 1.00): **240 VHT** **6940 VKT**	Delay spent in congestion (V/C ratio > 1.00): **90 VHT** **2980 VKT**
Connectivity	Network Connectivity	**No** Only provides connections to nearby Blocks through arterial network	**Yes** Provides additional capacity for network continuity between adjacent blocks
	Local Travel	**No** There is no provision for local travel due to limited internal network	**No** There is no improvement in local travel due to the lack of additional links
	Efficient Routing	**No** No existing network for efficient routing of transit vehicles, cyclists, or pedestrians	**Yes** Opportunities of implementing transit vehicles, cycling network, and pedestrian network
Result		**SCREEN OUT**	**CARRY FORWARD**

HIGHWAY 50 (QUEEN STREET) NARROWING

Highway 50 between Hickman Street and King Street has been given consideration to narrowing from 4 lanes to 2 lanes to improve the surrounding pedestrian environment. This is part of the Town's revitalization plan to reclaim Downtown Bolton for the people, with emphasis on reducing through traffic within the area.

Analysis

The EMME analysis results consisting of link delays and volume-to-capacity ratios for narrowing Highway 50 are shown in **Appendix E3**. The base scenario shows some nearby links along King Street at capacity, whereas the improvement scenario shows reduced volumes and links nearing capacity. VHT and VKT reductions are both 71% in the Build scenario. Auto volumes appear to also be diverted from Highway 50 to adjacent parallel streets.

Evaluation

It is recommended that Highway 50 be narrowed to 2 lanes between Hickman Street and King Street as illustrated in the multiple accounts evaluation framework in **Table 3-8**. A key emphasis outlined in the Bolton TMP is the establishment of active transportation facilities where possible, and the narrowing of Queen Street encourages a multi-modal transportation network within the Downtown Bolton area by allowing for more people-focused development.

Table 3-8. Highway 50/Queen Street Narrowing Project Validation Summary

Project Area		Highway 50/Queen Street Narrowing	
Analysis Year		2031	
Framework		Do Nothing	Build DC Project
Policies	Policy 1	**No** Do Nothing scenario does not have a transportation network that supports a multi-modal system	**Yes** Encourages a multi-modal transportation network within the Downtown Bolton area by limiting through vehicle access
	Policy 2	**No** There is no connection to adjacent municipalities	**No** No additional connections to adjacent municipalities are created
	Policy 3	**No** The development of a hierarchy of roads is not promoted in the Do Nothing scenario	**Yes** Promotes the development of hierarchy of roads by limiting through vehicular access
Capacity Analysis	Volume/Capacity LOS	**No** Congestion on nearby links, including King Street east of Highway 50	**Yes** Improved congestion on nearby links. Less vehicles on Highway 50 where the narrowing occurred
	Link Delay	Delay spent in congestion (V/C ratio > 1.00): **90 VHT** **2490 VKT**	Delay spent in congestion (V/C ratio > 1.00): 30 **VHT** **730 VKT**
Connectivity	Network Connectivity	**No** Only provides connections to nearby Blocks through arterial network	**No** Only provides connections to nearby Blocks through arterial network
	Local Travel	**No** There is no provision for local travel due to limited internal network	**No** There is no improvement in local travel due to the lack of additional links
	Efficient Routing	**No** No existing network for efficient routing of transit vehicles, cyclists, or pedestrians	**Yes** Opportunities of implementing transit vehicles, cycling network, and pedestrian network in Downtown Bolton
Result		**SCREEN OUT**	**CARRY FORWARD**

KING STREET REALIGNMENT

An alignment of King Street between The Gore Road and Emil Kolb Parkway is proposed to reduce the need of providing a grade separation at the existing King Street and Canadian Pacific rail line intersection. The site condition of the realigned King Street and rail intersection is also less constrictive for a grade separation if required in the future.

Analysis

EMME analysis with details of link delays and volume-to-capacity ratios can be seen in **Appendix E3**. Congestion exists in both scenarios on Emil Kolb Parkway between Duffy's Lane and King Street; however, the length over which the section is congested is decreased in the Build scenario due to the realignment. As a result, VHT and VKT are reduced by 41% and 53% in the Build scenario, respectively.

Evaluation

As illustrated in the multiple accounts evaluation framework in **Table 3-9**, the King Street realignment is recommended by the 2031 horizon. The improvement reduces delay along Emil Kolb Parkway leading up to King Street. It also reduces the need for a grade separation within the 2031 horizon while also having more favourable site conditions for grade separation in the future.

Table 3-9. King Street Realignment Project Validation Summary

Project Area		King St Realignment	
Analysis Year		2031	
Framework		Do Nothing	Build DC Project
Policies	Policy 1	**No** Do Nothing scenario does not have a transportation network that supports a multi-modal system	**No** Build scenario does not provide additional links to support a multi-modal system
	Policy 2	**No** There is no connection to adjacent municipalities	**No** No additional connections to adjacent municipalities are created
	Policy 3	**No** The development of a hierarchy of roads is not promoted in the Do Nothing scenario	**No** Does not promote the development of hierarchy of roads
Capacity Analysis	Volume / Capacity LOS	**No** Congestion on Emil Kolb Parkway north of King Street	**Yes** Improved congestion on Emil Kolb Parkway between the current and realigned King Street. Congestion still exists on Emil Kolb Parkway north of King Street alignment
	Link Delay	Delay spent in congestion (V/C ratio > 1.00): **50 VHT** **1560 VKT**	Delay spent in congestion (V/C ratio > 1.00): **30 VHT** **730 VKT**
Connectivity	Network Connectivity	**No** Only provides connections to nearby Blocks through arterial network	**No** Only provides connections to nearby Blocks through arterial network
	Local Travel	**No** There is no provision for local travel due to limited internal network	**No** No additional links for local travel
	Efficient Routing	**Yes** Some existing active transportation facilities from Highway 50 to King Street along Emil Knob Parkway	**Yes** Some existing active transportation facilities from Highway 50 to King Street along Emil Knob Parkway
Result		**SCREEN OUT**	**CARRY FORWARD**

A screenline analysis for all of Bolton showed that traffic entering and exiting does not experience congestion. Differences in volume-to-capacity ratios between scenarios are marginal for the most part. Key differences are that the King St realignment and the Queen St road-diet seem to divert SB traffic entering Bolton onto Caledon Town Line from Queen St and King St. Additional road capacity on Hwy 50 also shifts SB traffic entering Brampton away from using Coleraine Dr, Clarkway Dr, and the future Collector A2.

Additionally, an analysis of collector roads within the Bolton area shows that Healey Rd between Humber Station Rd and Queen St experiences LOS of D-E and F in the Build and Do Nothing scenarios, respectively. Therefore, this road section should be considered for an upgrade to Major Collector.

3.2.3 Summary of Analysis Recommendations

Table 3-10 summarizes the validation section outcomes and provides additional information regarding the ultimate inclusion of certain road improvement projects into the 2019 DC study.

Table 3-10: Summary of Analysis Recommendations

Road	Road Improvement	From	To	Relevant Document / Source	Include in the DC (Y/N)	Reason
Spine Road (N of Mayfield)	New road, 2-lane	Chinguacousy Rd	McLaughlin Rd	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	Yes	Recommended by Section 3.2+ MWI Agreement
Spine Road (N of Mayfield)	New road, 4-lane	McLaughlin Rd	Just E of Railway line	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	Yes	Recommended by Section 3.2+ MWI Agreement
McLaughlin Rd	Widening to 4 lanes	N of New Arterial/Spine Road	Mayfield Rd	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	Yes	Recommended by Section 3.2+ MWI Agreement
Chinguacousy Rd	Widening to 4 lanes	New Arterial/Spine Road	Mayfield Rd	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	Yes	Recommended by Section 3.2s + MWI Agreement
Collector network	See blue lines in **Exhibit 3-3**			Mayfield West Phase 2 Secondary Plan TMP	No	Local Service Policy + Town Response
Modified interchange	New Arterial/Spine Road and Hurontario/Hwy 410			Mayfield West Phase 2 Secondary Plan TMP	Yes	Recommended by Section 3.2+ MWII Agreement
Abbotside Way ("Industrial collector")	Extension, 4-lane	E of Learmont Ave	Dixie Rd	Mayfield West Phase 2 Secondary Plan TMP	Yes	Recommended by Section 3.2+ MWI Agreement
George Bolton Pkwy	Extension, 2-lane	Industrial Rd	Highway 50	Caledon TMP + Bolton TMP	Yes	Recommended by Section 3.2
Albion Vaughan Road	Widening to 4 lanes	King St	Mayfield Rd	Caledon TMP + Bolton TMP	Yes	Recommended by Section 3.2
Queen St (Highway 50)	Narrowing to 2-lane	Hickman Street	S of King Street	Bolton TMP	No	Regional Road (DC ineligible)
King Street Realignment	New Road, 2-lane	Emil Kolb Pkwy	King Street	Bolton TMP	No	Regional Road (DC ineligible)

3.2.4 Initial Project List

The 2014 DC project list for transportation improvements provided a starting point for transportation needs. Improvements that have been completed and that no longer require DC funding were removed with Town Staff input.

In addition to carry-over projects and identified infrastructure needs from the 2014 DC study and those recommended in **Section 3.2.3,** the 2019 DC study refined the initial list by removing projects with committed funding as of the 2019 Capital Budget (discussed in **Section 3.2.5**).

Moreover, further refinement included the identification of new infrastructure needs in addition to roadworks. One such example is the establishment of a provisional cost for new midblock pedestrian crossings and traffic calming, done mainly through discussion with the Town (**See Section 4.5.4**).

3.2.5 Capital Project List

The 2019 Capital Program, provided by the Town, identified projects for which financing has already committed. Therefore, these expenditures **were omitted** from the DC program as they have been funded for 2019. The 2019 Capital Project list is shown in **Table 3-11**.

Table 3-11: 2019 Capital Projects with Committed Funding, omitted from the 2019 DC

Details	Road	From	To
14-022	Creditview Road	King St	Mayfield Rd
	Mount Wolfe Rd	1800M N of Old Church Rd	Hwy 9
14-101	MW (1A) Road Construction Kennedy Road		
15-134	Industrial Road	Hwy 50	Albion Vaughan Rd
	Mount Hope Road	Castlederg SRD	Old Church Rd
16-115	Kennedy Road Rehabilitation	King	Boston Mills
		Boston Mills	Old Base
16-116	George Bolton Parkway Extension & Industrial Road Rehabilitation	Hwy 50	Vaughan Caledon Townline
16-117	Heart Lake Road Rehabilitation	N limit OPA	Old School Rd
17-050 Road Design EA	Mountainview Road	Olde Base Line Road	Granite Stones Drive
17-101	Old Church Road	Hwy 50	Mount Hope Rd
	Old Church Road	Mount Hope Rd	Mount Pleasant Rd
	Old School Road	Winston Churchill Blvd	Heritage Rd
	Old School Road	Mississauga Rd	Creditview Rd
	Old School Road	Creditview Rd	Chinguacousy Rd
18-059	Castlederg Side Rd	The Gore Rd	Humber Station Rd
	Castlederg Side Rd	Humber Station Rd	Duffy's Ln
	Old School Rd	McLaughlin Rd	Rail Line RR
	Old School Rd	Rail Line RR	` St
	Old School Rd	Heritage Rd	Mississauga Rd
18-061 Road Engineering Design and	Kennedy Rd	Old School Rd	Bonnieglen Farm Blvd
	Old School Rd	Hurontario St	Kennedy Rd

Details	Road	From	To
Environmental Assessments	Old School Rd	Kennedy Rd	Heart Lake Rd
	Old School Rd	Heart Lake Rd	Dixie Rd
	Dominion St	Forks of the Credit Rd	End
	Queen St W	Mississauga Rd	John St
	Queen St W	James St	Emeline St
	Queen St W	Emeline St	Main St
	Main St	Queen St W	Mary St
	Main St	Mary St	Highpoint Sdrd
19-073 Design And Construction	The Grange Side Rd	Heart Lake Rd	Horseshoe Hill Rd
	The Grange Side Rd	Kennedy Rd	Heart Lake Rd
	The Grange Side Rd	McLaren Rd	McLaughlin Rd
	Heart Lake Rd	Hwy 9	High Point Side Road
	Heart Lake Rd	Highpoint Side Rd	McGregor Dr
	Heart Lake Rd	1.5 km north of Beech Grove / McGregor Dr	Beech Grove Side Rd
	Chinguacousy Rd	Boston Mills Rd	Old Pavilion Rd
	Chinguacousy Rd	Old Pavilion Rd	Budak Trail
	Chinguacousy Rd	Budak Trail	560m South of Budak Trail
	Chinguacousy Rd	Station Rd	730m N of Station Rd
	Chinguacousy Rd	Station Rd	King St
19-074 Design And EA	Old School Rd	Bramalea Rd	Torbram Rd
	Old School Rd	Torbram Rd	Airport Rd
	McLaughlin Rd	Olde Base Line Rd	Boston Mills Rd
	McLaughlin Rd	King St	2100m N of King St
	McLaughlin Rd	980m S of Boston Mills Rd	Boston Mills Rd
	Centreville Creek Rd	Castlederg Side Rd	King St
	Saint Andrews Rd	The Grange Side Rd	Olde Base Line Rd

3.3 Recommended Road Improvement List (2019-2031)

Table 3-12 displays the refined list of projects to be included into the 2019 Caledon DC study. The list has been refined through the review of plans and policies, validation of projects to confirm needs, the removal of projects that have been completed or are funded as of the 2019 Capital Program and through extensive consultation with the Town of Caledon.

Table 3-12: Final Recommended Road Improvement List for Inclusion in the 2019 DC

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
RURAL AREAS				
Innis Lake Road	Mayfield Road	Healey Road	Rural Reconstruction	2014 Caledon DC
Innis Lake Road	Healey Road	King Street W	Rural Reconstruction	2014 Caledon DC
Innis Lake Road	King Street	200m South of Old Church Road	Rural Reconstruction	2014 Caledon DC
Centreville Creek Road	King Street	Castlederg Sideroad	Rural Reconstruction	2014 Caledon DC
Centreville Creek Road	Mayfield Road	King Street	Rural Reconstruction	2014 Caledon DC
Humber Station and Healey Road	-	-	Intersection Improvements: Signalization	Provided by Town
Humber Station Road	Healey Road	Mayfield Road	Urban Reconstruction	2014 Caledon DC
Humber Station Road	2.8 km N of Healey (Belomat Ct)	Healey Road	Rural Reconstruction	2014 Caledon DC
Humber Station Road	King Street	2.8 km N of Healey	Rural Reconstruction	2014 Caledon DC
Humber Station Road	0.4 km N of King St	King Street W	Rural Reconstruction	2014 Caledon DC
Humber Station Road	Castlederg Sideroad	0.4 km N of King St	Rural Reconstruction	2014 Caledon DC
Duffy's Lane	1.9 km N of King St W	Castlederg Sideroad	Rural Reconstruction	2014 Caledon DC
Healey Road	Airport Road	Innis Lake Road	Urban Reconstruction	2014 Caledon DC
Healey Road	Innis Lake Road	Centreville Creek Road	Urban Reconstruction	2014 Caledon DC
Healey Road	Centreville Creek Road	The Gore Road	Urban Reconstruction	2014 Caledon DC
Healey Road	The Gore Road	Humber Station Road	Urban Reconstruction	2014 Caledon DC
Healey Road	Humber Station Road	Coleraine Drive	Urban Reconstruction	2014 Caledon DC
Castlederg Sideroad	Innis Lake Road	Centreville Creek Road	Rural Reconstruction	2014 Caledon DC

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Castlederg Sideroad	Centreville Creek Road	The Gore Road	Rural Reconstruction	2014 Caledon DC
Castlederg Sideroad	Duffy's Lane	Regional Road 50	Rural Reconstruction	2014 Caledon DC
Heritage Road	Mayfield Road	Old School Road	Rural Road Upgrade	2014 Caledon DC
Creditview Road	Mayfield Road	Old School Road	Rural Reconstruction	2014 Caledon DC
Chinguacousy Road	Old School Road	Mayfield Road	Rural Reconstruction	2014 Caledon DC
McLaughlin Road	MW2 Limit	Old School Road	Rural Reconstruction	2014 Caledon DC
Bramalea Road	Mayfield Road	Old School Road	Rural Reconstruction	2014 Caledon DC
Torbram Road	Mayfield Road	Old School Road	Rural Reconstruction	2014 Caledon DC
Heritage Road	Old School Road	0.2 km S of King St	Rural Road Upgrade	2014 Caledon DC
Heritage Road	0.2 km S of King St	King St	Rural Road Upgrade	2014 Caledon DC
Heritage Road	King St	0.7 km N of King St	Rural Road Upgrade	2014 Caledon DC
Creditview Road	Old School Road	King St	Rural Reconstruction	2014 Caledon DC
Creditview Road	Boston Mills Road	Olde Base Line Road	Rural Road Upgrade	2014 Caledon DC
McLaughlin Road	Old School Road	1.1 km S of King St	Rural Reconstruction	2014 Caledon DC
McLaughlin Road	1.1 km S of King St	King St	Rural Reconstruction	2014 Caledon DC
McLaughlin Road	King St	Boston Mills Road	Rural Reconstruction	2014 Caledon DC
McLaughlin Road	Boston Mills Road	Olde Base Line Road	Rural Reconstruction	2014 Caledon DC
Kennedy Road	Old School Road	King St	Rural Reconstruction	2014 Caledon DC
Heart Lake Road	Old School Road	King St	Rural Reconstruction	2014 Caledon DC
Bramalea Road	King St	Old School Road	Rural Reconstruction	2014 Caledon DC
Bramalea Road	King St	Olde Base Line	Rural Reconstruction	2014 Caledon DC
Torbram Road	Old School Road	King Street	Rural Reconstruction	2014 Caledon DC
Torbram Road	King Street	Old Baseline Road	Rural Reconstruction	2014 Caledon DC
Old School Road	Bramalea Road	Torbram Road	Rural Reconstruction	2014 Caledon DC

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Old School Road	Torbram Road	Airport Road	Rural Reconstruction	2014 Caledon DC
Boston Mills Road	Mississauga Road	Creditview Road	Rural Road Upgrade	2014 Caledon DC
Boston Mills Road	Creditview Road	Chinguacousy Road	Rural Road Upgrade	2014 Caledon DC
Boston Mills Road	Chinguacousy Road	McLaughlin Road	Rural Road Upgrade	2014 Caledon DC
Boston Mills Road	McLaughlin Road	Hurontario St	Rural Road Upgrade	2014 Caledon DC
Patterson Sideroad	Airport Road	Innis Lake Road	Rural Reconstruction	2014 Caledon DC
Patterson Sideroad	Innis Lake Road	Centreville Creek Road	Rural Reconstruction	2014 Caledon DC
Patterson Sideroad	Centreville Creek Road	The Gore Road	Rural Reconstruction	2014 Caledon DC
Patterson Sideroad	The Gore Road	1.1 km E	Rural Reconstruction	2014 Caledon DC
Patterson Sideroad	1.1 km E of The Gore Road	Duffy's Lane	Rural Reconstruction	2014 Caledon DC
Patterson Sideroad	Duffy's Lane	Regional Road 50	Rural Reconstruction	2014 Caledon DC
Shaws Creek Road	Charleston Sideroad	Bush Street	Rural Road Upgrade	2014 Caledon DC
Mississauga Road	Forks of Credit Road	1.5km N	Rural Road Upgrade	2014 Caledon DC
Mississauga Road	Cataract Road	1.0km S	Rural Road Upgrade	2014 Caledon DC
Mississauga Road	Charleston Sideroad	Cataract Road	Rural Road Upgrade	2014 Caledon DC
McLaughlin Road	North Limit of Inglewood	The Grange Sideroad	Rural Road Upgrade	2014 Caledon DC
The Grange Sideroad	Winston Churchill Blvd	Shaws Creek Road	Rural Road Upgrade	2014 Caledon DC
The Grange Sideroad	Shaws Creek Road	Mississauga Road	Rural Road Upgrade	2014 Caledon DC
Kennedy Road	0.8km N of Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC
Kennedy Road	Beech Grove Sideroad	Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC
Heart Lake Road	Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC
St. Andrew's Road	Beech Grove Sideroad	Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC
Willoughby Road	Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Willoughby Road	Beech Grove Sideroad	0.4km S of Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC
Willoughby Road	0.4km N of Highpoint Sideroad	Town Limit	Rural Road Upgrade	2014 Caledon DC
Winston Churchill Blvd.	Highpoint Sideroad	Beech Grove Sideroad	Rural Reconstruction	2014 Caledon DC
Winston Churchill Blvd.	1.0km S of E Garafraxa	Highpoint Sideroad	Rural Reconstruction	2014 Caledon DC
Winston Churchill Blvd.	0.4km S E Garafraxa	1.0km S of E Garafraxa	Rural Reconstruction	2014 Caledon DC
Winston Churchill Blvd.	E Garafraxa TL	0.4 km S	Rural Reconstruction	2014 Caledon DC
Shaws Creek Road	Charleston Sideroad	1.6km N Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC
Shaws Creek Road	1.6km N Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC
Shaws Creek Road	Beech Grove Sideroad	Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC
Shaws Creek Road	Highpoint Sideroad	E Garafraxa - Caledon Townline	Rural Road Upgrade	2014 Caledon DC
Main Street	North Limit of Alton / Queen St W	Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC
Main Street	Highpoint Sideroad	E. Garafraxa-Caledon TL	Rural Road Upgrade	2014 Caledon DC
Highpoint Sideroad	Main St	1.0 km E of Main Street	Rural Road Upgrade	2014 Caledon DC
Highpoint Sideroad	1.0 km E of Main Street	Porterfield Road	Rural Road Upgrade	2014 Caledon DC
E. Garafraxa-Caledon Town Line	Winston Churchill Blvd	Shaws Creek Road	Rural Reconstruction	2014 Caledon DC
E. Garafraxa-Caledon Town Line	Shaws Creek Road	Orangeville Town Line	Rural Reconstruction	2014 Caledon DC
St. Andrew's Road	Old Base Line Road	The Grange Sideroad	Rural Reconstruction	2014 Caledon DC
St. Andrew's Road	The Grange Sideroad	1.7km S of Escarpment Sideroad	Rural Road Upgrade	2014 Caledon DC
St. Andrew's Road	1.7km S of Escarpment Sideroad	Escarpment Sideroad	Rural Road Upgrade	2014 Caledon DC
St. Andrew's Road	Escarpment Sideroad	Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Mountainview Road	Olde Base Line Road	1.4km N of Olde base Line Road	Urban Reconstruction	2014 Caledon DC
Mountainview Road	1.4km N of Olde base Line Road	Granite Stone Dr	Urban Reconstruction	2014 Caledon DC
Mountainview Road	Granite Stone Dr	1.1km N of Granite Stone	Rural Road Upgrade	2014 Caledon DC
Mountainview Road	1.1km N of Granite Stone	Escarpment Sideroad	Rural Road Upgrade	2014 Caledon DC
Mountainview Road	Escarpment Sideroad	Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC
The Grange Sideroad	Hurontario St	Kennedy St	Rural Road Upgrade	2014 Caledon DC
The Grange Sideroad	Horseshoe Hill Road	St. Andrews Road	Rural Road Upgrade	2014 Caledon DC
The Grange Sideroad	St Andrews Road	Mountainview Road	Rural Road Upgrade	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - ALTON				
Queen Street W	Mississauga Road	John Street	Urban Reconstruction	2014 Caledon DC
Queen Street W	John Street	James St	Urban Reconstruction	2014 Caledon DC
Queen Street W	James St	Emeline Street	Urban Reconstruction	2014 Caledon DC
Queen Street W	Emeline Street	Main Street	Urban Reconstruction	2014 Caledon DC
Main Street	Queen St	0.8 km N	Urban Reconstruction	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS -BELFOUNTAIN				
Shaws Creek Road	The Grange Sideroad	South Limit of Belfountain	Rural Road Upgrade	2014 Caledon DC
Shaws Creek Road	South Limit of Belfountain	Bush Street	Urban Reconstruction	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - CALEDON VILLAGE				

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Kennedy Road	0.8km S of Charleston Sideroad	Charleston Sideroad	Urban Reconstruction	2014 Caledon DC
Kennedy Road	Charleston Sideroad	0.8km N of Charleston Sideroad	Urban Reconstruction	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - CALEDON EAST VILLAGE				
Innis Lake Road	Patterson SR	1.6 Km N of Old Church Road	Urban Reconstruction	2014 Caledon DC
Innis Lake Road	1.6 Km N of Old Church Road	0.6m N of Old Church Road	Urban Reconstruction	2014 Caledon DC
Innis Lake Road	0.6 Km N of Old Church Road	Old Church	Urban Reconstruction	2014 Caledon DC
Castlederg Sideroad	Airport Road	Innis Lake Road	Rural Reconstruction	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - CHELTENHAM				
Mill Street	Mississauga Road	1.0 km E	Urban Reconstruction	2014 Caledon DC
Mill Street	0.1 km E Mississauga Road	Creditview Road	Urban Reconstruction	2014 Caledon DC
Kennedy Road	Creditview Road	Credit Road	Urban Reconstruction	2014 Caledon DC
Creditview Road	Kennedy Road	King Street	Urban Reconstruction	2014 Caledon DC
Creditview Road	Boston Mills Road	Kennedy Road	Rural Road Upgrade	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - INGLEWOOD				
McLaughlin Road	0.5 km N of Olde Base Line	N. Limit of Inglewood	Urban Reconstruction	2014 Caledon DC
McLaughlin Road	Riverdale Drive	0.5 km North of McColl Drive	Urban Reconstruction	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - BOLTON				
Glasgow Road	Deer Valley Drive	King St W	Urban Reconstruction	2014 Caledon DC
Caledon-King Townline S	Columbia Way	King St E	Rural Reconstruction	2014 Caledon DC
Columbia Way	Mount Hope Road	0.5km E	Urban Reconstruction	2014 Caledon DC
Columbia Way	0.5km E	Caledon-King Town Line S	Rural Reconstruction	2014 Caledon DC
Columbia Way	Mount Hope Road	Highway 50	Urban Reconstruction	Provided by Town
Mount Hope Road	Columbia Way	Guardhouse Drive	Rural Road Upgrade	2014 Caledon DC
Industrial Road	Caledon/King Town Line S	Regional Road No. 50	Urban Reconstruction	2014 Caledon DC
McEwan Drive			Land Acquisition	2014 Caledon DC
Queensgate Blvd	Regional Road 50	Albion /Vaughan Road	Urban Reconstruction	2014 Caledon DC
Dovaston Gate	@ Albion /Vaughan Rd		Intersection Improvements: Signalization	2014 Caledon DC
Mayfield Road	@ Pillsworth Rd		Intersection Improvements: Signalization	2014 Caledon DC
Albion-Vaughan Road	Queensgate Boulevard	Regional Road 50	Urban Reconstruction	2014 Caledon DC
Albion-Vaughan Road	@ CPR Line		Structure	2014 Caledon DC
Albion-Vaughan Road	Queensgate Boulevard	Regional Road 50	Land Acquisition	2014 Caledon DC
Albion-Vaughan Road	King St	Mayfield Road	Widening: 2 to 4 lanes	Caledon TMP + Bolton TMP+ 2014 DC
George Bolton Parkway	Industrial Road	Highway 50	New Construction: 2 lanes	Caledon TMP + Bolton TMP
George Bolton Parkway	Coleraine Drive	Terminus of Road	Widening: 2 to 4 lanes	Planning Application
Healey Road and Simpson Road			Intersection Improvements: Signalization	Provided by Town
Nixon Road and McEwan Drive			Intersection Improvements: Signalization	Provided by Town
Pedestrian Crossings			Pedestrian Crossings	Provided by Town

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - SOUTH ALBION BOLTON EMPLOYMENT LANDS				
North-South Corridor			Urban Reconstruction	2014 Caledon DC
Parr Blvd			Urban Reconstruction	2014 Caledon DC
George Bolton Parkway Extension	Coleraine Drive	500m West of Coleraine	Urban Reconstruction	2014 Caledon DC
McEwan Drive Extension	West of Coleraine Drive		Urban Reconstruction	2014 Caledon DC
Intersection Signalization			Intersection Improvements: Signalization	2014 Caledon DC
McEwan Drive Extension	East of Coleraine Drive		Urban Reconstruction	2014 Caledon DC
Healey Road	Coleraine Drive	Humber Station Road	Urban Reconstruction	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - MAYFIELD WEST				
Kennedy Road	Bonnieglen Farm Blvd	Old School Road 620m	Urban Reconstruction	2014 Caledon DC
Heart Lake Road	Mayfield Road	N. Limit OPA 208	Urban Reconstruction	2014 Caledon DC
Heart Lake Road	N. Limit OPA 208	Old School Road	Urban Reconstruction	2014 Caledon DC
Old School Road	Hurontario Street	Dixie Road	Urban Reconstruction	2014 Caledon DC
Mayfield West Industrial Collector (Abbotside Way)	600m East of Kennedy Road	Dixie Road	Urban Reconstruction	2014 Caledon DC
Main Street	Coll. Village Centre		Streetscaping	2014 Caledon DC
Sidewalks and Streetlighting			Streetscaping	2014 Caledon DC
Dougall Ave / Main St, west of Kennedy and collector road			Intersection Improvements: Signalization	2008 MW1TMP
Dougall Ave / Main St and Learmont Road			Intersection Improvements: Signalization	2008 MW1TMP
Dougall Ave / Main St and Highway 10			Intersection Improvements: Signalization	2008 MW1TMP
Dixie and Abbotside Way			Intersection Improvements: Signalization	2008 MW1TMP

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Highway 10 and Dougall Ave / Main St			Intersection Improvements: Right-turn and left-turn lanes	2008 MW1TMP
Kennedy Rd and Fernbrook intersection			Intersection Improvements: Signalization	2008 MW1TMP
Kennedy Rd and Larson Peak			Intersection Improvements: Signalization	2008 MW1TMP
Kennedy and Dougall Ave			Intersection Improvements: Signalization	2008 MW1TMP
Kennedy Rd and Learmont Ave			Intersection Improvements: Signalization	2008 MW1TMP
Partial Interchange - Kennedy Road to Hwy 410 (Includes Environmental Assessment)			Structure	2014 Caledon DC
Bridge at Highway 410 - Widening to 5 Lanes	Heart Lake Road		Structure	2014 Caledon DC
Chinguacousy Road	Mayfield Road	Spine Road	Urban Reconstruction	2014 Caledon DC
McLaughlin Road	265m North of Spine Road	MW2 Limit	Urban Reconstruction	2014 Caledon DC
McLaughlin Road	Mayfield Road	265m North of Spine Road	Widening: 2 to 4 lanes	MWP2SPT MP
The Spine Road	Chinguacousy	McLaughlin	New Construction: 3 lanes	Caledon TMP + MWP2SPT MP
The Spine Road	McLaughlin	Collector Road F (north leg)	New Construction: 4 lanes	2014 Caledon DC
Modified Interchange	New Arterial/Spine Road and Collector Road F (north leg)	Hurontario/Hwy 410	Structure	MWP2SPT MP
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town
SETTLEMENTS - PALGRAVE				
Pine Avenue	Mount Hope Road	1.3 km W	Rural Reconstruction	2014 Caledon DC
Pine Avenue	Regional Road 50	Birch Avenue	Urban Reconstruction	2014 Caledon DC
Mount Hope Road	1.6 km S	Hunsden Sideroad	Rural Road Upgrade	2014 Caledon DC
Mount Hope Road	Hunsden Sideroad	Pine Avenue	Rural Road Upgrade	2014 Caledon DC

Road	From	To	Improvement Type	Source of Project
ROAD PROJECTS				
Mount Pleasant Road	Caledon/King Town Line S	Castlederg Sideroad	Rural Reconstruction	2014 Caledon DC
Mount Pleasant Road	Castlederg Sideroad	Old Church Road	Rural Reconstruction	2014 Caledon DC
Mount Pleasant Road	Old Church Road	1.4 km N	Rural Reconstruction	2014 Caledon DC
Mount Wolfe Road	Hunsden Sideroad	1.4 km S	Rural Reconstruction	2014 Caledon DC
Mount Wolfe Road	Hwy 9	Hunsden Sideroad	Rural Reconstruction	2014 Caledon DC
Caledon-King Townline N	Halls Lake Sideroad	Hwy 9	Rural Road Upgrade	2014 Caledon DC
Pedestrian Crossings			Pedestrian Crossings	Provided by Town
Traffic Calming			Traffic Calming	Provided by Town

3.4 Active Transportation Projects

Active transportation (AT) recommendations originating from the resources discussed in **Section 2** were compiled and reviewed to determine their eligibility for inclusion into the 2019 DC study. Factors such as the location of a proposed AT facility (growth area or rural), its proximity to private development sites and its relationship with respect to the Local Service Policy, all helped make a case for the inclusion or omission of the AT facility.

Unlike road improvements, active transportation projects do not undergo modelling or a quantitative validation process. Therefore, the ultimate list of active transportation projects is the result of policy decisions as well as municipal priorities. The final list, presented in **Table 3-13** was refined through extensive consultation with the Town and is generally focused on areas of high potential demand, with the Community of Bolton being the focus of improvements.

Table 3-13: Active Transportation Improvements

Road	From	To	Improvement	Source
Station Road	Old Ellwood Drive	King Street	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Landsbridge Street/Saint Farm Drive	Allan Drive (west portion)	Allan Drive (east portion)	Bike Lane	2015 Bolton TMP Figure 50 / Table 38
Wilton Drive	Queen Street/Highway 50	Ellwood Drive	Bike Lane	2015 Bolton TMP Figure 50 / Table 38
Old Ellwood Drive	Coleraine Drive	Off-Road Trail connecting to Mellow Crescent	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
De Rose Avenue	King Street	Road Terminus	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38

Road	From	To	Improvement	Source
Cedargrove Road	Harvest Moon Drive (north portion)	Harvest Moon Drive (south portion)	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Harvest Moon Drive	King Street	Coleraine Road	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Sneath Road	King Street	Pedestrian trail bridge	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Kingsview Drive	Foxchase Drive	Long Wood Drive	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Taylorwood Avenue	Existing Off-Road Trail	Existing Off-Road Trail	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Silvermoon Avenue	Kingsview Drive	Silver Valley Drive	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Silver Valley Drive	Silvermoon Avenue	Road Cul-de-sac	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Evans Ridge	Silver Valley Drive	King Street East	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Holland Drive	Coleraine Drive	Healey Road	Bike Lane	2015 Bolton TMP Figure 50 / Table 38
Old King Road	Bond Street	Albion Vaughan Road	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38
Glasgow Road	Deer Valley Road	Hickman Street	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38

Moreover, paved shoulders were incorporated into the reconstruction and upgrade of rural roads. The provision of paved shoulders is an improvement to active transportation in those areas, especially considering the Town of Caledon's predominantly rural nature where separated facilities may not be warranted.

4 Costing

This section documents the methodology, assumptions and results of the Town's 2019 DC costing exercise for roads and road related infrastructure and helps establish financing requirements for the recommended transportation strategy to 2031.

The costing exercise included extensive consultation with Town staff. The costing principles, rationales and results build upon those used in the 2014 DC study undertaken by the Town.

4.1 Methodology

To produce the total program costs for the 2019 DC Update, costs originated from several sources, including Environmental Study Reports (ESRs) and estimates provided by the Town from the detailed design stage and bid/tendering processes. In cases where costs from these sources were not available, a high-level, pre-engineering costing methodology was applied. This pre-engineering method is described in further detail in the following sections including calculation of costs related to linear roadways as well as those for project specific costs including: active transportation, electrical works, structures and culverts, traffic calming and land acquisition. **Exhibit 4-1** shows an overview of the costing process.

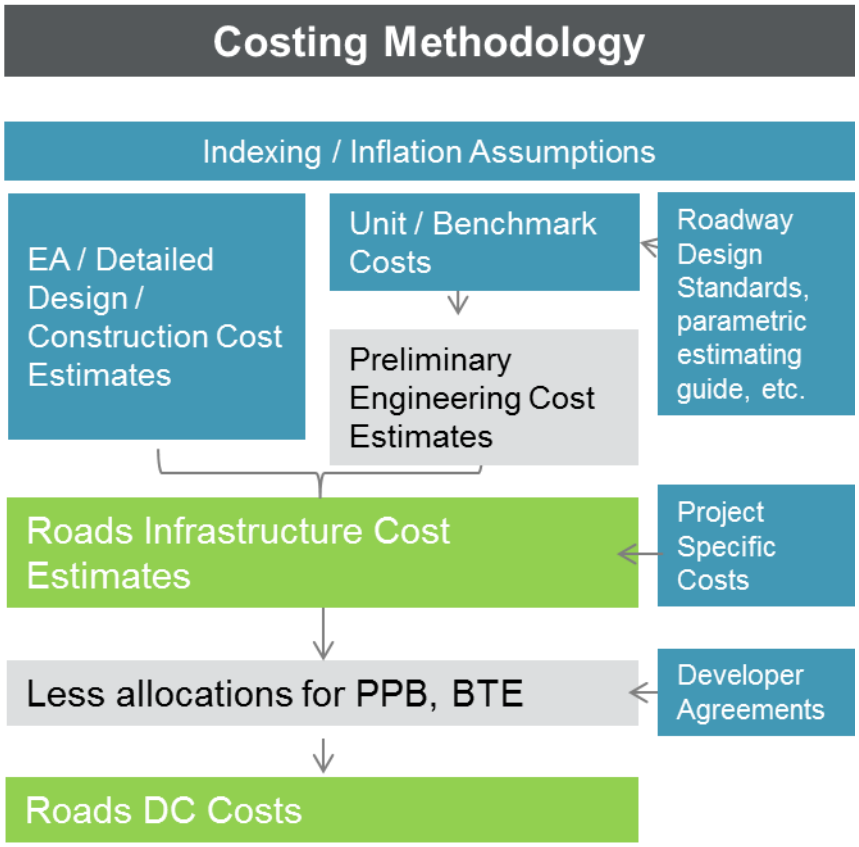


Exhibit 4-1: Costing Methodology

4.2 Project Cost Sources

Not all project costs in the recommended program were developed by HDR. Some projects were advanced enough to have had Environmental Assessments and/or Detailed Designs completed and therefore had detailed cost estimates available for inclusion in the 2019 DC study. Where possible, these estimates were used instead of the independent costing. For other projects, the 2019 capital budget was another source for costs to be incorporated in the DC.

For projects where development agreement had been made, such as Mayfield West, costs were indexed from the Agreement per the Town's directive, as discussed in **Sections 4.2.2** and **4.2.3.**

4.2.1 EA Projects

The EA cost estimate of $30,256,000, prepared by Wood Consultants, was initially used for the Modified Interchange at Spine Road and Hurontario Street / Hwy 410, per direction from the Town. Comments received on March 8th, 2019 from the Mayfield West 2 Landowner Group requested an increase in costs to $35,000,000 to account for costs of moving and/or altering utilities, building removals, design, contract administration, construction inspection and materials testing. As these costs had not been included in the Wood memo, the initial cost was revised to $35,000,000.

4.2.2 Mayfield West I Agreement

In August 2009, the Town entered into an agreement with developers Moscorp III & VII and South Fields I and II Development Inc. that set out the general principles for the financing and construction of public infrastructure works in Mayfield West. The Mayfield West I Development Charge Credit Agreement (DCCA) identified the ultimate transportation network and associated costs required for the completion of Phase 1 of the Mayfield West development. The projects outlined in the DCCA are shown in **Table 4-1**, with rationales explaining their status as part of the 2019 Caledon DC.

Table 4-1: Mayfield West I Agreement Projects

Project #	Project Group	Project Name/Description	Included in the 2019 DC	Reason for inclusion / exclusion
1a	Kennedy Road	Kennedy Road - Mayfield to OPA 208	No	Already constructed (Const. date 2008-2009)
1b	Kennedy Road	Kennedy Road - South Transition	No	Already constructed (Const. date 2008-2009)
1c	Kennedy Road	Kennedy Road - Res. South Collector	No	Already constructed (Const. date 2008-2009)
1d	Kennedy Road	Kennedy Road - Village Centre	No	Already constructed (Const. date 2008-2009)
1e	Kennedy Road	Kennedy Road - Res. Collector North	No	Already constructed (Const. date 2008-2009)
1f	Kennedy Road	Kennedy Road - OPA 208 to Old School	Yes	DC Funding required
2a	Heart Lake Road	Heart Lake Road - Mayfield to north limits of OPA 208	Yes	DC Funding required
3a	Old School Road	Old School Road - Highway 10 to Kennedy Road	Yes	DC Funding required

Project #	Project Group	Project Name/Description	Included in the 2019 DC	Reason for inclusion / exclusion
4a	Industrial Collector	Kennedy to east limit 06-004	Yes	DC Funding required
4b	Industrial Collector	East limit 06-004 to Heart Lake	Yes	DC Funding required
4c	Industrial Collector	Assume Heart Lake to West limit of Gerald Spence Henry lands	Yes	DC Funding required
4d	Industrial Collector	Assume West limit of Gerald Spence Henry lands to Dixie	Yes	DC Funding required
5a	Sidewalk & Street Lights	Highway 10, east side, Main Street to Snelcrest walkway, sidewalk & streetlights	Yes	DC Funding required
5b	Sidewalk & Street Lights	Dixie, west side, Mayfield to north limit of OPA 208, side walk and streetlights	Yes	DC Funding required
5c	Sidewalk & Street Lights	Mayfield, north side, from approx. 600m east of Highway 10 to Dixie, sidewalk	Yes	DC Funding required
6a	Signals	Dougall Ave/ Main St, west of Kennedy and collector road by west school block in MFA and DC	Yes	Identified by the Town for funding
6b	Signals	Dougall Ave / Main St and Learmont Road by east school block in MFA and DC	Yes	Identified by the Town for funding
6c	Signals	Highway 10 and Dougall Ave / Main St in MFA and DC. Require MTO approval	Yes	Identified by the Town for funding
6d	Signals	Abbotside and Dixie in MFA and DC. Requires Regional approval	Yes	Identified by the Town for funding
6e	Signals	Highway 10 and Dougall Ave / Main Street, left and right turn lanes, etc. in MFA	Yes	Identified by the Town for funding
6f	Signals	Kennedy @ Fernbrook intersection. Signals to be installed by Fernbrook	Yes	DC funding required
6g	Signals	Kennedy @ Industrial Collector (Abbotside) in MFA and DC	No	Removed per comments from Town (03-18-2019)
6h	Signals	Kennedy @ Larson Peak	Yes	Identified by the Town for funding
6i	Signals	Kennedy @ Dougall Ave / Main St	Yes	Identified by the Town for funding
6j	Signals	Kennedy @ Learmont	Yes	Identified by the Town for funding
6k	Intersection Improvement	Kennedy @ Street A in Plan 06-003 in MFA and DC	No	Project complete
6l	Signals	Kennedy @ Old School in MFA and DC	No	Project complete
6m	Signals	Heart Lake @ Larson Peak	Yes	The costs of these items are included in the cost for Heart Lake Road between Mayfield Road and North Limit of OPA208 (Project 2a)
6n	Signals	Heart Lake @ Abbotside Way	Yes	
8a	Bridge	Kennedy Road Bridge	No	Already constructed.
8b	Bridge	Heart Lake Road Bridge	Yes	Already constructed. But the widening of the superstructure to 5 lanes was to be included in the 2019 DC study, per the Town's direction.

Per the direction from the Town, the agreement costs were indexed to present value for inclusion in the 2019 DC. An independent costing was not performed for these projects.

4.2.3 Mayfield West II Agreement

In November 2015, the Town and the Mayfield Station Developers Group entered into an agreement for Phase 2 of the Mayfield West development. As with the previous agreement, the Mayfield West II DCCA set out the framework for the financing, timing, construction and parties responsible for the public infrastructure works, namely roads.

The agreement stipulated that the estimates for the capital costs shall be reviewed annually to reflect actual costs of construction and that the parties agree to the review and potential adjustment of costs. In light of these stipulations and given the more current and detailed costing information available, cost estimates for projects in the Mayfield West II originated from several sources, as displayed in **Table 4-2.**

Table 4-2: Mayfield West II Agreement Projects

Project #	Project Name/Description	Included in the 2019 DC	Source of Cost
1a	McLaughlin Road from Mayfield Road to 1.2 km North	Yes	Detailed Cost Estimate from Urban Tech, including utilities and landscaping
1b	McLaughlin Road from MW2 road limit to 264.8m north of Spine Road	Yes	2014 Caledon DC (indexed)
1c	Spine Road from McLaughlin to Collector Road F (as identified in the Transportation Master Plan), including signalization	Yes	Detailed Cost Estimate from Urban Tech, including utilities and landscaping
1d	Spine Road from Collector Road F (as identified in the Transportation Master Plan) to Hurontario, including signalization	Yes	Town Cost Estimate (combined with project 1f)
1e	Spine Road from McLaughlin to Chinguacousy, including signalization	Yes	Detailed Cost Estimate from Urban Tech including utilities and landscaping
1f	Spine Road Connection including signalization	Yes	Town Cost Estimate

4.2.4 Indexing of 2014 Caledon DC Costs

For Mayfield West Phase 1 and 2, where costs were unavailable in the Agreements, the costs from the 2014 Caledon DC study were indexed to present value, per direction from the Town. An independent costing was not undertaken for Mayfield West projects.

4.2.5 Inflation Rate / Indexing

An inflation rate used to adjust all source costs to account for the time value of money was calculated in accordance with the historical average of the Consumer Price Index (CPI), as per Statistics Canada's 2019 Annual Review. **Table 4-3** displays the variation in the CPI over the 5-year period starting in 2014 and shows an average inflation rate of 1.7% per year. For simplicity, an inflation rate of **2%** was used for the 2019 Caledon DC study update.

Table 4-3: Inflation Rate Calculation

Index	Description	Change by Year (%)					Historical Average Change (%)
Consumer Price Index	Measures the increase of the cost of basic products and services that Canadians consume on a daily basis, such as: food, shelter, clothing, healthcare, transportation, alcoholic beverages and tobacco products.	**2014**	**2015**	**2016**	**2017**	**2018**	1.7%
		2.0%	1.1%	1.4%	1.6%	2.3%	

Source: Statistics Canada

4.3 Unit Cost Sources

Construction material unit costs were determined based on contractor bids received by the Town of Caledon in 2017. These average unit costs were integral to accurately price the road improvements and calculate the benchmark costs per unit of length for different project types. The bids provided by the Town were reviewed and include, but are not limited to, the following projects:

- Old Church Road Reconstruction
- Old School Road Resurfacing
- Kennedy Road Reconstruction

Per the suggestion of the Town Engineering Manager, the unit costs are based on averages derived by excluding the lowest and highest proponent costs.

The Town's Engineering Services also provided unit cost information to be used directly for certain construction items in an excel spreadsheet titled *Town of Caledon DC Activity Costs*.

4.3.1 Unit Cost Recommendations

Table 4-4 displays the recommended unit costs for the 2019 DC study. For construction items that had no information available in tenders or had not been provided directly by Town Staff, the 2014 DC costs were indexed or costs from neighbouring municipalities were used.

Table 4-4: Unit Costs (in 2019$)

ID	Construction Item	Unit	Caledon DC ($2019)	Source
1	Sedimentation Control	m	$7.80	Town of Caledon DC Activity Costs Sheet
2	Clearing and Grubbing	m	$26.01	Town of Caledon 2014 DC inflated
3	Asphalt Removal	m^2	$2.71	Bid average (indexed)
4	Excavation	m^3	$27.62	Bid average (indexed)
5	Hot Mix HL4/HL8	tonne	$68.81	Bid average (indexed)
6	Hot Mix HL3	tonne	$73.16	Bid average (indexed)
7	Granular A	tonne	$20.27	Bid average (indexed)
8	Granular B	tonne	$16.34	Bid average (indexed)
9	Concrete Curb & Gutter	m	$103.72	Bid average (indexed)
10	Catchbasin Leads	m	$134.21	Town of Caledon DC Activity Costs Sheet
11	Storm Sewer Pipes	m	$401.53	Bid average (indexed)
12	Manhole & Maintenance Holes	each	$4,693.74	Bid average (indexed)
13	Catchbasins	each	$2,184.84	Bid average (indexed)
14	Pavement Markings and Symbols	m	$2.25	Town of Caledon DC Activity Costs Sheet
15	Concrete for sidewalk	m^2	$69.71	Town of Caledon DC Activity Costs Sheet
16	Subdrain	m	$22.89	Town of Caledon DC Activity Costs Sheet
17	Topsoil	m^2	$8.59	Bid average (indexed)
18	Sod	m^2	$4.18	Bid average (indexed)
19	Signage	m	$26.01	HDR cost based on previous projects

4.3.2 Unit Cost Comparison with Other Studies

The unit costs for the 2019 Caledon DC study were compared with the unit costs used in the 2014 Caledon DC, as well as studies that were recently completed by HDR including the 2017 Innisfil TMP (2017) and the Whitchurch-Stouffville TMP (2016). This exercise was conducted as to validate and verify at a high-level the unit costs seen in Caledon relative to neighbouring jurisdictions, and is for internal use only.

Table 4-5 presents the unit prices derived (as discussed in **Section 4.3.1**) and compares them to the unit prices used in previous studies. The table shows that the average increase in price observed since the 2014 Caledon DC was approximately 28%. Therefore, upward trend in the overall project costs is anticipated. The unit cost analysis also indicated that the unit costs are reasonable but are on the lower end of the spectrum relatively to the studies reviewed. The 2019 DC unit costs were on average 10% lower than the average of those used for the 2014 Caledon DC, 2017 Innisfil TMP and the Whitchurch-Stouffville TMP studies.

Table 4-5: Unit Cost Comparison

ID	Construction Item	Unit	Caledon DC (2019)	Caledon DC (2014)		Change between Caledon 2019 and 2014 DC	Innisfil TMP (2017)		Whitchurch Stouffville TMP (2016)		Average of Previous Studies (indexed)	Change
			Recommended	Average	Indexed		Average	Indexed	Average	Indexed		%
1	Sedimentation Control	m	$7.80	$3.90	$4.31	81%	n/a	n/a	n/a	n/a	n/a	n/a
2	Clearing and Grubbing	m	$26.01	25	$27.60	-6%	n/a	n/a	n/a	n/a	n/a	n/a
3	Asphalt Removal	m^2	$2.71	$5.00	$5.52	-51%	n/a	n/a	n/a	n/a	n/a	n/a
4	Excavation	m^3	$27.62	$16.50	$18.22	52%	$19.77	$20.57	$18.17	$19.28	$19.36	9%
5	Hot Mix HL4/HL8	tonne	$68.81	$61.00	$67.35	2%	$88.89	$92.48	$79.33	$84.18	$81.34	-25%
6	Hot Mix HL3	tonne	$73.16	$63.00	$69.56	5%	$65.01	$67.63	$86.91	$92.23	$76.47	-18%
7	Granular A	tonne	$20.27	$17.50	$19.32	5%	$20.51	$21.33	$37.31	$39.60	$26.75	-35%
8	Granular B	tonne	$16.34	$15.50	$17.11	-5%	$13.84	$14.40	$30.13	$31.98	$21.16	-27%
9	Concrete Curb & Gutter	m	$103.72	$64.00	$70.66	47%	$76.31	$79.39	$49.53	$52.56	$67.54	-5%
10	Catchbasin Leads	m	$134.21	$129.00	$142.43	-6%	$281.54	$292.91	$0.00	$0.00	$145.11	-11%
11	Storm Sewer Pipes	m	$401.53	$255.00	$281.54	43%	$273.18	$284.22	$256.15	$271.83	$279.20	-9%
12	Manhole & Maintenance Holes	each	$4,693.74	$3,850.00	$4,250.71	10%	$7,655.32	$7,964.60	$5,970.21	$6,335.63	$6,183.65	-38%
13	Catchbasins	each	$2,184.84	$1,900.00	$2,097.75	4%	$2,764.24	$2,875.92	$2,094.20	$2,222.38	$2,398.69	-21%
14	Pavement Markings and Symbols	m	$2.25	$2.00	$2.21	2%	$2.00	$2.08	$3.96	$4.20	$2.83	-29%
15	Concrete for sidewalk	m^2	$69.71	$22.00	$24.29	187%	$80.04	$83.27	$60.20	$63.89	$57.15	17%
16	Subdrain	m	$22.89	$12.00	$13.25	73%	n/a	n/a	n/a	n/a	$13.25	66%
				Average Change		**+28%**					**Average Change**	**-10%**

4.4 Roadway Benchmark Costs

Benchmark costs for different project types, including new construction, reconstruction and widening were developed using the unit costs discussed in the previous sections of this report. Benchmark costs are linearly applied to each project according to their section length, thereby producing a base cost for the project.

4.4.1 Design Standards

For construction of linear transportation infrastructure, the costing process was based primarily upon the Town of Caledon's Design Standards and Policies Guidelines (2009). The TAC Geometric Design Guide, the MTO Geometric Standard, and the MTO Parametric Estimating Guide for Structures (2016) were also used to supplement the Town's Design Standards.

Moreover, the Peel Region Public Works Design, Specifications and Procedure Manual (2010) was another supplementary resource reviewed. Finally, consultation with Town staff was essential in understanding the current construction practices as well as confirming the assumptions used in the costing.

4.4.2 Benchmarks and Cost Estimates

Using the design standards and unit costs, the road construction costs were generated on a per kilometer basis. For reconstruction, widening and new construction projects, it was assumed that full reconstruction will be completed for the existing portions of the road. The rural and urban roadway costs included the following items:

- Sedimentation Control
- Clearing and Grubbing
- Items between the road curb lines (Asphalt removal, excavation, asphalt, base and sub base materials)
- Pavement Markings
- Top soil and sod
- 10% for miscellaneous items that may have not been accounted for in the list of construction items.

Rural works accounted for ditching through additional excavation requirements.

Compared to their rural counterparts, urban works incurred the following additional costs:

- Curb and gutter
- Catchbasin leads
- Storm sewer pipes
- Manholes and maintenance holes
- Catchbasins
- Signage
- Sub drains

Sidewalks, illumination and utility costs were added on a project-by-project basis.

The benchmark costs are presented in **Table 4-3**.

Table 4-6: Road Construction Types and Costs

Improvement Type	Road Class	Code	Caledon DC (2019) Roadwork cost ($/km)	Caledon DC (2014) ($/km)	Change
Road Works					
Widening: 2 to 4 lanes (Urban)	Arterial	**W2-4-Uart**	$2,050,327	n/a	n/a
Rural Reconstruction	Collector	**REC-R**	$869,784	$852,500*	+2%
Urban Reconstruction	Collector	**RSS-U**	$1,675,830	$1,488,490*	+13%
Rural Road Upgrade	Local	**R-Std B**	$609,189	$400,460*	+52%
New Construction: 2 lanes (Urban)	Collector	**NC-2LaneU**	$1,652,829	n/a	n/a
New Construction: 4 lanes (Urban)	Major Collector	**NC-4LaneU**	$2,025,025	n/a	n/a

*The 2014 costs are unadjusted (pre-30% engineering and contingency adjustment)

The Rural Road upgrade (R-Std B) experienced a rise in costs since the 2014 DC because, at the time, major construction items were not accounted for such as asphalt removal, full excavation and clearing and grubbing. The consideration of these works account for the cost increase.

Appendix E4 presents the detailed calculations for the costs of every improvement type.

4.5 Project Specific Costs

The benchmark costs presented in **Section 4.4** were used to calculate the basic 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 4-7**.

Table 4-7: Other Infrastructure Costs

Improvement Type	Unit	Code	Roadwork cost ($2019/km)	Source
Active Transportation				
Sidewalk on One Side	$/km	**SW**	$139,600	Based on Town bid document unit costs
Sidewalk on Both Sides	$/km	**SW(2)**	$279,200	Based on Town bid document unit costs
Painted Bike Lanes	$/km	**P-BL**	$56,511	Based on Town bid document unit costs
Signed Bike Route	$/km	**S-BR**	$52,020	Based on Town bid document unit costs
Electrical				
Illumination	$/km	**SL (1)**	$ 130,050.00	Cost from other municipalities
Traffic Signals - New	each	**TS-N**	$ 298,900.00	Town provided cost
Traffic Signals - Modified	each	**TS-M**	$ 149,450.00	Town provided cost
Structures				
Structure (10m x-section)	$/km	**STR-s**	$56,244,024	Parametric Estimation Guide for Structures (2016)
Culvert Replacement	each	**CV**	$159,181	Parametric Estimation Guide for Structures (2016)

4.5.1 Active Transportation

Costs for active transportation were developed using bid unit costs per **Section 4.2**. A standard width of 1.5m was assumed for sidewalks and bike lanes. Sidewalk costs incorporated sub-base (Granular A) material, excavation and installation costs while bike lanes included pavement markings and signage. Signed bike routes only considered signage.

Paved shoulders are acknowledged to provide a benefit for cyclists in rural areas and can, in the context of the Town of Caledon, be considered as active transportation facilities. Paved shoulders were part of the rural road improvement costs, accounted for through the total paved surface, instead of appearing as a standalone additional items.

4.5.2 Electrical Works

Traffic Signal costs (shown in Table 4-7) originated from quotes by the Town of Caledon in 2018. The costs incorporate Peel Region requirements as well as those set by the Accessibility for All Ontarians with Disabilities Act (AODA).

Illumination costs were derived by HDR from neighbouring municipalities.

4.5.3 Structures and Culverts

Structure and culvert costs were based on the MTO Parametric Estimating Guide (2016). This guide examined historical bid price data for tendered capital contracts from 2010 to 2016. The data reflected the average price of the three low bidders, and all bid values were indexed to 2019 present day worth at 2% per year. Because of the high variability of costs for infrastructure projects, the values recommended represent high-level recommendations that can be refined in later stages of the design.

The guide's average costs for bridges was provided per square meter of deck area and per meter length, as displayed in **Table 4-8**. Actual structure costs were developed according to individual projects dimension span and width).

Table 4-8: New Structures Benchmark Cost

New Structure	Units	2019 Caledon DC Cost	2016 MTO Guide Cost	Notes
New Bridges (All Types, average)	per m^2 deck area	$5,624	$5,300	2016 MTO Parametric Guide cost inflated at 2%
Structure (10m x-section)	Per m length	$56,244,024	n/a	Assuming a deck width of 10m

Costs for new structures include the following activities:

- Structure excavation
- Dewatering
- Formwork
- Reinforcing steel
- Beams
- Piling
- Footings
- Falsework
- Parapet wall
- Joints
- Abutments
- Piers
- Access to structure
- Deck
- Waterproofing

Culvert costs were calculated per culvert as shown in **Table 4-9**. It was based on the unit cost in the 2016 MTO Parametric Guide and inflated to 2018 values.

Table 4-9: Culvert Benchmark Cost

Structural Culvert	Units	2019 Caledon DC Cost	2016 MTO Guide Cost	Notes
Precast Box Culverts	m^2	$5,202	$5,000	2016 MTO Parametric Estimating Guide cost inflated at 2% over 2 years
Culverts	each	$159,181	-	2016 MTO Parametric Estimating guide all road widths =10m = span 3m opening assumed

Note: The Parametric Guide (2016) costs for new culverts do not include embedded or other electrical work, dewatering, protection system, temporary flow control, or traffic cont56rol. To account for these, a standard length of 26m was assumed for culverts for all road crossed.

A map (**Exhibit 4-2**) showing the location of culverts was provided by the Town to aid in the costing process.

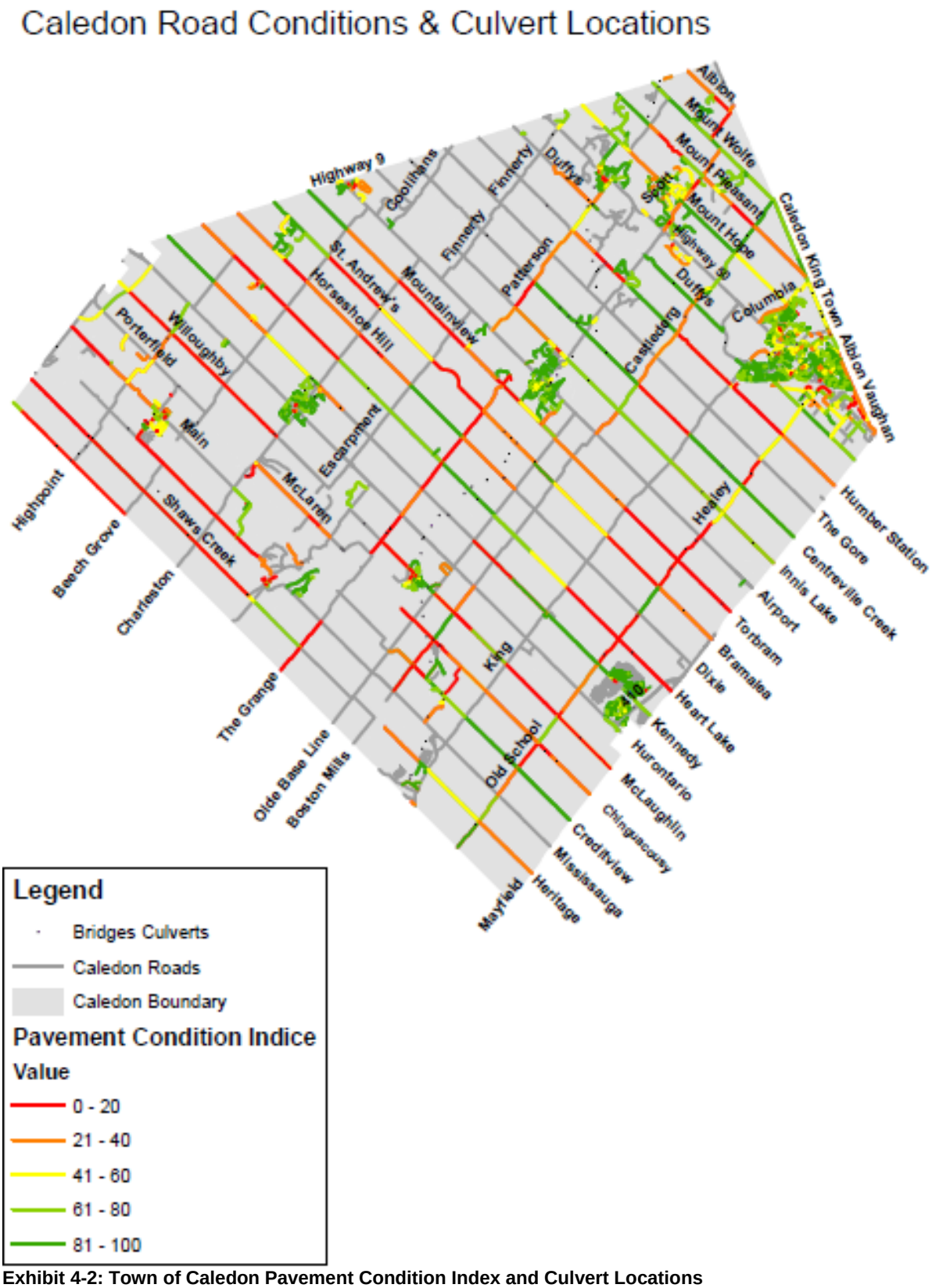


Exhibit 4-2: Town of Caledon Pavement Condition Index and Culvert Locations

4.5.4 Traffic Calming and Pedestrian Crossings

Traffic Calming and Pedestrian Crossings were allocated per direction from the Town using the following rationale:

- Distribute up to $500,000 to Traffic Calming and $500,000 to Pedestrian Crossings (from the original of $300,000 for Belfountain only in the 2014 DC) to the following areas with different weighting:

  A. 50% of the total funds available to the major settlement areas such as Bolton, South Albion Bolton Employment Lands, Mayfield West and Caledon East
  B. 30% of the total funds available to minor settlement areas such as Alton, Belfountain, Caledon Village, Cheltenham, Inglewood, and Palgrave
  C. 20% of the funds available to Rural

4.5.5 Land Acquisition

The costs for land and property required to achieve the ultimate right-of-way (ROW) were extracted from the 2014 Caledon DC study and indexed to present value.

4.6 Adjustment Factors

In the early stages of the planning process, the required construction activity cannot be defined to a high level of accuracy. Challenges in accurately predicting costs arise as a result of unreliable data, intangible construction costs, site-specific considerations and unforeseen factors and project coordination issues. For this reason, it is common practice to account for potential additional costs by applying adjustment factors to each individual project. Adjustment factors used in in the 2019 DC are presented in **Table 4-10**.

Table 4-10: Adjustment Factors

Adjustment	Urban Works	Rural Works	Notes
Traffic Control	2%	0%	Applied to urban and rural road works' subtotal cost only
Utilities	10%	0%	Applied to urban road works' subtotal cost only
EA studies[1]	$100,000 + 8%	0%	Applied onto projects identified by the Town as requiring a Schedule "C" EA study
Engineering / CA [2]	15%	15%	Applied to the final calculated construction costs for each project
Contingency [3]	10%	10%	Applied to the final calculated construction costs for each project

[1] Actual costs to undertake EA studies took precedence where available for individual projects.
[2] Adjustments for Detailed Design and Construction Supervision and Administration
[3] Adjustment for risk and to offset unforeseen expenditures

A 30% adjustment for Contract Administration and Contingency was used in the Town of Caledon's 2014 DC study.

4.7 Benchmark Cost Change

This section compares the adjusted linear benchmark costs used in the 2014 Caledon DC study with the 2019 DC linear benchmark costs once the adjustment factors have been applied. This

analysis is used for the historical Level of Service calculations completed by Watson & Associates Economists and is provided in **Table 4-11** for documentation purposes.

Table 4-11: Adjusted Benchmark Costs Comparison

Improvement Type	2019 Caledon DC	2014 Caledon DC	Change
	Adjusted (25%)	Adjusted (30%)	
Widening: 2 to 4 lanes (Urban)	$2,562,908	n/a	n/a
Rural Reconstruction (REC-R)	$1,087,230	$1,108,250	-2%
Urban Reconstruction (RSS-U)	$2,094,787	$1,935,037	8%
Rural Road Upgrade (R-Std B)*	$761,486	$520,598	46%*

As explained in **Section 4.4.2**, the Rural Road upgrade (R-Std B)* experienced a rise in costs since the 2014 DC because, at the time, major construction items were not accounted for such as asphalt removal, full excavation and clearing and grubbing.

4.8 Total Capital Program

4.8.1 Roads Program Costs Summary

The total capital cost to implement the recommended transportation strategy from 2019 to 2031, inclusive of road widening, new construction, reconstruction, intersection improvements and active transportation improvements, totals approximately $508.6 million (2019$). Urban Reconstruction accounted for the majority of the total DC program at 34% while the rural reconstruction comprised 26% of the total program cost. The distribution by project types is presented in **Table 4-12**.

Table 4-12: Estimated Town of Caledon DC (2019) Costs by Project Type

Category	Summary by Project Type	Total ($2019)	Distribution	
Roads Related	Rural Reconstruction	$133,393,602	26%	**$500,482,000**
	Urban Reconstruction	$173,832,367	34%	
	Rural Road Upgrade	$67,369,664	13%	
	New Construction: 4 lanes	$12,022,676	2%	
	New Construction: 3 lanes	$12,957,573	3%	
	New Construction: 2 lanes	$1,022,242	0%	
	Widening: 2 to 4 lanes	$44,322,148	9%	
	Structure	$50,916,348	10%	
	Intersection Improvements: Signalization	$4,645,416	1%	
Active Transportation*	Bike Lanes	$365,205	0%	**$1,428,000**
	Pedestrian Crossings	$476,974	0%	
	Signed-only Bike Route	$585,875	0%	
Others	Traffic Calming	$476,974	0%	**$6,654,000**
	Streetscaping	$3,102,372	1%	
	Land Acquisition	$3,075,139	1%	
	Total	**$508,564,574**	**100%**	

*Note: Paved shoulders are rolled into the associated roadworks costs and therefore don't appear independently as active transportation related costs in this table

Table 4-13 compares the estimated costs and distribution of the 2019 Caledon DC program with the 2014 Caledon DC program. After accounting for the Post-Period deductions (discussed in **Section 4.9.1)**, the 2019 DC program totals $499 million and has increased 14% since the 2014 DC. Mayfield West and Rural Areas still comprise the largest proportions of the total program costs.

Table 4-13: Estimated Town of Caledon DC (2019) Costs by Project Location

Summary by Location	Total ($2019)	Distribution (2019)	2014 DC Total	Distribution (2014)
Rural Areas	$219,193,459	43%	$214,851,100	49%
Mayfield West	$129,287,716	25%	$78,218,953	18%
Bolton	$66,908,401	13%	$71,791,324	16%
Palgrave	$16,425,287	3%	$20,932,213	5%
South Albion	$24,678,907	5%	$15,786,816	4%
Cheltenham	$17,049,091	3%	$13,066,952	3%
Caledon East	$11,431,018	2%	$8,711,198	2%
Inglewood	$8,193,203	2%	$4,837,600	1%
Belfountain	$5,081,270	1%	$3,769,744	1%
Alton	$5,469,887	1%	$3,289,568	1%
Caledon Village	$4,846,335	1%	$3,096,064	1%
Total	**$508,564,574**	100%	**$438,351,532**	100%
Post-Period Benefit (PPB)	**$9,549,848**			
Total (Less PPB)	**$499,014,726**			
Total Program Change (2014 DC to 2019 DC)	**+14%**			

The ultimate list of capital projects and their costs for the 2019 Caledon DC is provided under **Appendix E5**. The cost allocation, including post-period and growth vs. non-growth cost shares are discussed in the following sections.

4.9 Cost Allocation

Allocation of costs within the DC period and post-period, and between growth and non-growth are essential in establishing the DC eligible costs to implement Town's long-term transportation program.

4.9.1 Post-Period Allocation

As noted in **Section 2.4**, the transportation modelling which confirmed the need for infrastructure improvements was based on growth forecasts which exceed the Official Plan forecasts. Based on a review of area-specific growth assumptions in the Caledon TMP and Bolton TMP relative to the Official Plan, it is noted that the discrepancies appear to occur primarily in the existing Bolton urban area and the Bolton urban expansion area.

Based on this, it is recommended that a post-period deduction be applied to projects identified in the Bolton TMP, based on the difference in incremental growth in people and jobs in the Bolton Area between the Bolton TMP growth assumptions (which are consistent with the transportation model), and the Official Plan growth assumptions. The estimated difference in

incremental growth, and recommended post-period benefit allocations are summarized in **Table 4-14**.

Table 4-14: Recommended Post-Period Benefit Allocation

Bolton Growth Assumptions	People	Jobs	
2019 - ESTIMATE*	35,000	24,000	
2031 - BOLTON TMP	45,253	32,713	
2031 - OP	39,900	28,290	
	People	**Jobs**	**People + Jobs**
Incremental growth from 2019 - Bolton TMP	10,253	8,713	18,966
Incremental growth from 2019 - OP	4,900	4,290	9,190
% Within DC Period			**48%**
% Allocation to Post-Period Benefit			**52%**

*2019 People and Jobs within the Bolton and Bolton Expansion Areas estimated based on Bolton TMP growth assumptions between 2011 and 2021

The recommended deduction for post-period benefit will only be applied to projects identified in the Bolton TMP based upon transportation modelling, which include road widenings and new roads. This ultimately results in deductions to two projects:

- Albion-Vaughan Road widening form 2-4 lanes from Queensgate Boulevard to Highway 50
- George Bolton Parkway new construction from Industrial Road to Highway 50

These allocations are reflected in the list of capital projects in **Appendix E5**.

4.9.2 Growth and Non-Growth Cost Sharing

Out of the infrastructure needs identified within the period of this DC update, certain improvements will benefit current residents and would comprise the *non-growth* component of the DC. The improvements required to accommodate higher volumes of traffic and increased demand on the existing infrastructure directly attributable to new developments are eligible for funding through Development Charges. The shares of costs attributable to growth and non-growth (benefit-to-existing) were based on the consultant team's knowledge of industry standards, input from Town Staff and on the 2014 Caledon DC study. **Table 4-15** outlines the percentage allocations as well as the methodology and rationale supporting the cost-sharing recommendations.

Table 4-15: 209 Caledon DC Cost Allocations

Improvement Type	Rationale	Benefit to Existing	Benefit to Growth	Area Application
Rural Roads (Reconstruction and Upgrades)	Reconstruction to support growth where Pavement Condition Index (PCI) is currently acceptable (i.e.: 41 and over): Apply the ratio of the cost to maintain to the cost of reconstruction (BTE = 20%)	20%	80%	Town-wide

Improvement Type	Rationale	Benefit to Existing	Benefit to Growth	Area Application
	Reconstruction to support growth where the PCI is poor (0-40): Apply ratio of existing traffic to future traffic to estimate BTE.	varies according to traffic volumes	varies according to traffic volumes	Town-wide
Urban Roads (Reconstruction)	Locations with significant population and employment increase have their infrastructure needs driven by growth and were allocated up to 10% BTE.	10%	90%	High Growth Areas: Mayfield West, Caledon East and Bolton
	Locations with lower population and employment increase primarily benefit the existing population. The assigned BTG of 25% is approximate to the proportion of growth in Town-wide VKT in low-growth areas.	75%	25%	Low Growth Areas (Rural areas and settlements not identified as High Growth)
New construction	No deduction understanding that the need for new construction is entirely driven by the need to accommodate new growth.	0%	100%	Town-wide
Widening	No deduction understanding that the need for road widening and additional capacity is entirely driven by the need to accommodate new growth.	0%	100%	Town-wide
Intersection Improvement, Signalization	90% of the cost is allocated to growth understanding that the need for additional signalization is required to control increased traffic volumes at intersections. We acknowledge that the existing community will benefit from signal installation in certain locations and this is reflected in a 10% allocation to existing.	10%	90%	Town-wide
Active Transportation (Sidewalks, Bike Lanes, Signed-only bike route…)	Locations with significant population and employment increase have their infrastructure needs driven by growth and will be allocated up to 50% BTE, recognizing that the existing population may equally benefit from AT improvements.	50%	50%	High Growth Areas: Mayfield West, Caledon East and Bolton
	Locations with lower population and employment increase primarily benefit the existing population. The 75-25 split was suggested by the Town's Active Transportation team.	75%	25%	Low Growth Areas
Pedestrian Crossings, Traffic Calming	The addition of pedestrian crossings and traffic calming measures are attributed mostly to growth as they are related to increasing population and traffic. These facilities improve existing standards and are acknowledged to serve a growing community.	10%	90%	Town-wide
Studies	Studies required to 100% support growth.	0%	100%	Town-wide

Where applicable, cost sharing percentages set in development charge credit agreements (DCCA) take precedence to the values in the table above. The cost shares agreed upon in the Mayfield West I and II DCCA have been assumed binding and were applied accordingly to project costs in the 2019 DC.

4.9.3 DC Eligible Costs

Approximately 64.5% of the capital improvement cost is eligible for cost recovery through the DC mechanisms while 32% of expenditures could be financed from the residential tax base. The remaining 3.5% are to be recovered through financial impact mitigation, reserved for the Mayfield West area. A summary of the cost splits by benefit-to-existing (BTE) and benefit-to-growth (BTG) is provided in **Table 4-16**.

Table 4-16: Benefit to Existing and Benefit to Growth

Financing	Total ($2019)	Distribution
Town of Caledon (BTE)	$159,709,737	32.0%
Benefit to Growth (BTG)	$322,030,631	64.5%
Fiscal Impact Mitigation	$17,274,358	3.5%
Total	**$499,014,726**	**100%**

4.9.4 Area Specific DCs

Caledon is a vast region with pockets of concentrated settlements. It is therefore prudent to study whether projects should be funded under an area-specific DC model or on a uniform basis. To determine which approach to take, two representative projects were analyzed in two settlement areas to identify whether the benefits of these projects accrue more to the commuters in the area or to others.

A select zone analysis in the EMME model was done for the following projects and areas:

- Project 1: McLaughlin Widening to 4 lanes
- Project 2: Albion-Vaughan Widening to 4 lanes
- Area 1: Mayfield West
- Area 2: Bolton

Two separate copies of the 2031 Build scenario were made, one for each of the Select Zone analyses. The stretch of McLaughlin Road that is to be widened (north of Spine Rd) was tagged and a select-link assignment process in EMME was undertaken, that recorded the origin zone and destination zones for 2031 AM peak hour commuters that utilize this road section. The same was done for the Albion-Vaughan stretch from Mayfield to King St.

The tables below show the results for each project. They list the number of trips that start (rows) and end (columns) in each area, where *External* refers to areas not in Mayfield West for Project 1 or not in Bolton for Project 2. For McLaughlin widening (Project 1), there are no internal Mayfield West trips that utilize the widened road. This is the case for Project 2 as well.

	Project 1 - # of Trips		
O / D	**Mayfield West**	**External**	**Total**
MW	-	857	857
External	662	3,134	3,796
Total	662	3,991	4,653

	Project 1 - # of Trips		
O / D	**Mayfield West**	**External**	**Total**
MW	0%	18%	18%
External	14%	67%	82%
Total	14%	86%	100%

	Project 2 - # of Trips		
O / D	**Bolton**	**External**	**Total**
Bolton	1	4,156	4,157
External	6,283	34,005	40,288
Total	6,284	38,161	44,445

	Project 2 - # of Trips		
O / D	**Bolton**	**External**	**Total**
Bolton	0%	9%	9%
External	14%	77%	91%
Total	14%	86%	100%

In both cases, the benefits of the widening's accrue to through travelers, those whose trips start and end outside of the areas of these projects. The proportion is significant, two thirds of McLaughlin road users and over three quarters of Albion-Vaughn road users are through travelers.

This test illustrates that the funding distribution model should reflect the uniform benefits to the entire Town rather than to each project area. In light of these findings, area-specific DCs for Mayfield West or Bolton are difficult to justify, especially given the nature of the improvements identified in those areas.

Appendix E1 –

Model Calibration

Table D-1: Screenline Calibration – Pre-adjustment

Screenline	Station Name	Station	Modelled	Counts	GEH	Station Name	Station	Modelled	Counts	GEH
	Eastbound					Westbound				
E of Winston Churchill	Hwy 24	100E	102	170	6	Hwy 24	100W	101	126	2
	Bush St	94E	7	169	17	Bush St	94W	14	39	5
	Mayfield Rd	65E	526	281	12	Mayfield Rd	65W	604	706	4
E of Winston Churchill			**635**	**620**	**1**			**719**	**871**	**5**
E of Hurontario	Mayfield Rd	69E	893	634	9	Mayfield Rd	69W	508	386	6
E of Humber Station	King St	224E	251	291	2	King St	224W	525	381	7
Total Internal Stations			**1,144**	**925**	**7**			**1,033**	**767**	**9**
W of Peel/York Boundary	Hwy 9	210E	332	491	8	Hwy 9	210W	130	272	10
	Reg Rd 9 (King St)	96E	579	294	14	Reg Rd 9 (King St)	96W	281	279	0
	Mayfield Rd	80E	446	451	0	Mayfield Rd	80W	497	386	5
Total W of Peel/York Boundary			**1,357**	**1,236**	**3**			**908**	**937**	**1**

Table D-1: Screenline Calibration – Pre-adjustment (continued)

Screenline	Station Name	Station	Modelled	Counts	GEH	Station Name	Station	Modelled	Counts	GEH
	Southbound					Northbound				
S of Mayfield	Winston Churchill	170S	20	93	10	Winston Churchill	170N	3	64	11
	Heritage Rd*	171N	394	243	8	Heritage Rd*	171S	74	39	5
	Mississauga Rd	172S	290	361	4	Mississauga Rd	172N	356	81	19
	Creditview Rd	173S	5	68	10	Creditview Rd	173N	45	39	1
	Chinguacousy Rd	174S	88	115	3	Chinguacousy Rd	174N	196	63	12
	McLaughlin Rd	175S	207	351	9	McLaughlin Rd	175N	391	185	12
	Hurontario	176S	394	471	4	Hurontario	176N	666	381	12
	Kennedy Rd	177S	91	181	8	Kennedy Rd	177N	110	120	1
	Heart Lake Rd	178S	450	120	20	Heart Lake Rd	178N	29	56	4
	Dixie Rd	151S	279	433	8	Dixie Rd	151N	340	79	18
	Bramalea Rd	179S	69	241	14	Bramalea Rd	179N	63	248	15
	Torbram Rd	180S	165	334	11	Torbram Rd	180N	219	136	6
	Airport Rd	181S	512	707	8	Airport Rd	181N	296	264	2
	Goreway Dr	182S	128	222	7	Goreway Dr	182N	74	110	4
	McVean Dr	169S	339	41	22	McVean Dr	169N	59	15	7
	Gore Rd	184S	459	230	12	Gore Rd	184N	182	68	10
	Clarkway Dr	185S	559	59	28	Clarkway Dr	185N	199	13	18
	Coleraine Dr	186S	582	313	13	Coleraine Dr	186N	530	219	16
	Hwy 50	187S	977	1,433	13	Hwy 50	187N	814	779	1
Total S of Mayfield Rd			**6,008**	**6,016**	**0**			**4,646**	**2,959**	**27**
N of Columbia Way	Hwy 50	222S	272	551	14	Hwy50	222N	185	190	0
N of Albion Townline Rd	Hwy 50	220S	667	1034	13	Hwy 50	220N	809	773	1
Total Internal Stations			**939**	**1,585**	**18**			**994**	**963**	**1**

Note: Heritage Rd Cordon Counts (Station 171) directions were reversed, as the count may have had directions reversed in error (based on observed patterns at other locations)

Table D-2: Screenline Calibration – Post-adjustment (adjustments applied only to numbers in red text)

Screenline	Station Name	Station	Modelled	Counts	GEH	Station Name	Station	Modelled	Counts	GEH
	Eastbound					Westbound				
E of Winston Churchill	Hwy 24	100E	102	170	6	Hwy 24	100W	101	126	2
	Bush St	94E	**107**	169	5	Bush St	94W	14	39	5
	Mayfield Rd	65E	**426**	281	8	Mayfield Rd	65W	604	706	4
Total E of Winston Churchill			**635**	**620**	**1**			**719**	**871**	**5**
E of Hurontario	Mayfield Rd	69E	893	634	9	Mayfield Rd	69W	508	386	6
E of Humber Station	King St	224E	251	291	2	King St	224W	525	381	7
Total Internal Stations			**1,144**	**925**	**7**			**1,033**	**767**	**9**
W of Peel/York Boundary	Hwy 9	210E	332	491	8	Hwy 9	210W	**230**	272	3
	Reg Rd 9 (King St)	96E	**479**	294	9	Reg Rd 9 (King St)	96W	281	279	0
	Mayfield Rd	80E	446	451	0	Mayfield Rd	80W	497	386	5
Total W of Peel/York Boundary			**1,257**	**1,236**	**1**			**1,008**	**937**	**2**

Table D-2: Screenline Calibration; Post-adjustment (continued)

Screenline	Station Name	Station	Modelled	Counts	GEH	Station Name	Station	Modelled	Counts	GEH
	Southbound					Northbound				
S of Mayfield	Winston Churchill	170S	20	93	10	Winston Churchill	170N	64	64	0
	Heritage Rd	171N	394	243	8	Heritage Rd	171S	74	39	5
	Mississauga Rd	172S	290	361	4	Mississauga Rd	172N	256	81	13
	Creditview Rd	173S	68	68	0	Creditview Rd	173N	45	39	1
	Chinguacousy Rd	174S	88	115	3	Chinguacousy Rd	174N	96	63	4
	McLaughlin Rd	175S	207	351	9	McLaughlin Rd	175N	291	185	7
	Hurontario	176S	394	471	4	Hurontario	176N	566	381	9
	Kennedy Rd	177S	91	181	8	Kennedy Rd	177N	110	120	1
	Heart Lake Rd	178S	350	120	15	Heart Lake Rd	178N	29	56	4
	Dixie Rd	151S	279	433	8	Dixie Rd	151N	240	79	13
	Bramalea Rd	179S	169	241	5	Bramalea Rd	179N	163	248	6
	Torbram Rd	180S	265	334	4	Torbram Rd	180N	219	136	6
	Airport Rd	181S	512	707	8	Airport Rd	181N	296	264	2
	Goreway Dr	182S	128	222	7	Goreway Dr	182N	74	110	4
	McVean Dr	169S	239	41	17	McVean Dr	169N	59	15	7
	Gore Rd	184S	359	230	8	Gore Rd	184N	82	68	2
	Clarkway Dr	185S	459	59	25	Clarkway Dr	185N	99	13	11
	Coleraine Dr	186S	482	313	8	Coleraine Dr	186N	430	219	12
	Hwy 50	187S	1,077	1,433	10	Hwy 50	187N	814	779	1
Total S of Mayfield			**5,871**	**6,016**	**2**			**4,007**	**2,959**	**18**
N of Columbia Way	Hwy 50	222S	372	551	8	Hwy50	222N	185	190	0
N of Albion Townline Rd	Hwy 50	220S	767	1034	9	Hwy 50	220N	809	773	1
Total Internal Stations			**1,139**	**1,585**	**12**			**994**	**963**	**1**

Table D-3: Summary of Post-Model Calibration Adjustments (Applied to 2011 and Carried Over to Both 2031 scenarios)

Screenline	Station Name	Station	Adjustments	Station Name	Station	Adjustments
	Eastbound			Westbound		
E of Winston Churchill	Hwy 24	100E		Hwy 24	100W	-
	Bush St	94E	+100	Bush St	94W	-
	Mayfield Rd	65E	-100	Mayfield Rd	65W	-
E of Hurontario	Mayfield Rd	69E		Mayfield Rd	69W	-
E of Humber Station	King St	224E		King St	224W	-
W of Peel/York Boundary	Hwy 9	210E		Hwy 9	210W	+100
	Reg Rd 9 (King St)	96E	-100	Reg Rd 9 (King St)	96W	-
	Mayfield Rd	80E		Mayfield Rd	80W	-
Screenline	**Station Name**	**Station**	**Adjustments**	**Station Name**	**Station**	**Adjustments**
	Southbound			Northbound		
S of Mayfield	Winston Churchill	170S		Winston Churchill	170N	+61
	Heritage Rd	171N		Heritage Rd	171S	-
	Mississauga Rd	172S		Mississauga Rd	172N	-100
	Creditview Rd	173S	+63	Creditview Rd	173N	-
	Chinguacousy Rd	174S		Chinguacousy Rd	174N	-100
	McLaughlin Rd	175S		McLaughlin Rd	175N	-100
	Hurontario	176S		Hurontario	176N	-100
	Kennedy Rd	177S		Kennedy Rd	177N	-
	Heart Lake Rd	178S	-100	Heart Lake Rd	178N	-
	Dixie Rd	151S		Dixie Rd	151N	-100
	Bramalea Rd	179S	+100	Bramalea Rd	179N	+100
	Torbram Rd	180S	+100	Torbram Rd	180N	-
	Airport Rd	181S		Airport Rd	181N	-
	Goreway Dr	182S		Goreway Dr	182N	-
	McVean Dr	169S	-100	McVean Dr	169N	-
	Gore Rd	184S	-100	Gore Rd	184N	-100
	Clarkway Dr	185S	-100	Clarkway Dr	185N	-100
	Coleraine Dr	186S	-100	Coleraine Dr	186N	-100
	Hwy 50	187S	+100	Hwy 50	187N	-
N of Columbia Way	Hwy 50	222S	+100	Hwy50	222N	-
N of Albion Townline Rd	Hwy 50	220S	+100	Hwy 50	220N	-

Table D-4: 2011 Peel Model Network Edits (calibration adjustments)

Network	Road	From	To	Change
2011 HDR Edits	Connector	Bush St/Winston Churchill		Move away from intersection
	Connector	Hurontario/Mayfield		Review connectors for zone 3381, move away from intersection, to E of Colonel Bertram
	Connector	Hwy 50/Queensgate		Connect Zone 3192 to Hwy 50 and Queensgate Blvd
	Chinguacousy Rd	Mayfield Rd	Wanless Dr	Reduce speed to 70 from 80 as per 2011 Google Streetview
	McLaughlin Rd	Mayfield Rd	Wanless Dr	Increase speed to 70 from 60, in 2011 most of that section was 70 with one stretch with a speed of 60 in the middle, as per 2011 Google Streetview
	Connector	Bramalea/Mayfield		Connect zone 3440 to Bramalea Rd
	Torbram Rd	Countryside Rd	Mayfield Rd	Increase speed to 70 from 60, in 2011 speed was 70 according to 2011 Google Streetview
	Clarkway Dr	Countryside Rd	Mayfield Rd	Reduce speed to 70 form 80 as per Streetview
	Coleraine Rd	Countryside Rd	Mayfield Rd	Reduce speed to 70 form 80 as per Streetview
	Connector	McVean Dr		Connect zone 3387 to McVean Dr to increase congestion and discourage traffic from north

Appendix E2 –

2031 Road Network Assumptions

Road	Change Type	From	To	Relevant Document/Source	Timeline	In 2031 network?	Caledon DC Approach / Action
Existing (new compared to 2011 Model)							
Emil Kolb Pkwy	Present	Hwy 50	Duffy's Lane	Existing (new compared to 2011 network)		Yes	
County Road 109	Present	Hwy 10	County Rd 23	Existing (new compared to 2011 network)		Yes	
MTO							
Hwy 427	Extension	Major Mackenzie Dr	Highway 7	MTO	2021	Yes	
Highway 427	Extension to GTA West	Major Mackenzie Dr	GTA West Corridor	MTO	2031	No	**Transportation needs to be tested with and without GTA West**
GTA West Corridor	New Freeway	401 / 407 Interchange	Hwy 400	MTO	2031	No	**Transportation needs to be tested with and without GTA West**
GTA West Corridor/Hwy 427 Interchange	New Freeway Interchange	At Hwy 427		MTO	2031	No	**Transportation needs to be tested with and without GTA West**
GTA West Corridor/Coleraine Dr Interchange	New Freeway Interchange	At Coleraine Drive		MTO	2031	No	**Transportation needs to be tested with and without GTA West**
Arterial A2	New Road, 6-lane	Mayfield	Hwy 50	Brampton TMP + Bolton TMP	2021	Yes	
Peel Region							
Airport Rd	Widening to 5 lanes	King St	Olde Base Line	Peel 2015 DC	2031	Yes	
Airport Rd	Widening to 5 lanes	Caledon East	N of Mayfield Rd	Peel 2015 DC	2021	Yes	
New road	New Road, 4-lane	Heritage Dr	Embleton Rd	Peel 2015 DC	2031	Yes	
Airport Rd	Widening to 5 lanes	1 km N of Mayfield Rd	King Street	Peel 2018 DC	2020	Yes	
Airport Rd	Widening to 6 lanes	Countryside Dr	Braydon Blvd/Stonecrest Dr	Peel 2018 DC	2025	Yes	
Bovaird Dr	Widening to 6 lanes	Worthington Ave	North/South Freeway (1 km W of Mississauga)	Peel 2018 DC	2031	Yes	
Bovaird Dr	Widening to 4 lanes	North/South Freeway (1 km W of Mississauga)	1.45 km W of Heritage Rd	Peel 2018 DC	2023	Yes	
Derry Rd	Widening to 6 lanes	Millcreek Dr	West leg of Copenhagen Rd	Peel 2018 DC	2028	Yes	
Dixie Rd	Widening to 5 lanes	Mayfield Rd	2km N of Mayfield Rd	Peel 2018 DC	2020	No, part of it is 2 lanes	Recommend adding this widening in 2031 Do Nothing scenario
Dixie Rd	Widening to 4 lanes	Mayfield Rd	Countryside Dr	Peel 2018 DC	2020	Yes	
Dixie Rd	Widening to 6 lanes	Countryside Dr	Queen St	Peel 2018 DC	2022	Yes	
Dixie Rd	Widening to 6 lanes	Kendall Rd	Blundell Rd	Peel 2018 DC	2018	Yes	
Dixie Rd	Widening to 6 lanes	Steeles Ave	Clark Blvd	Peel 2018 DC	2018	Yes	
Highway 50	Widening to 7 lanes	Castlemore Rd	Mayfield Rd	Peel 2018 DC	2019	Yes, 6 lanes	
Mayfield Road	Widening to 4 lanes	Highway 50	Clarkway Dr	Peel 2018 DC	2031	Yes	
Mayfield Road	Widening to 6 lanes	Airport Rd	Clarkway Dr	Peel 2018 DC	2029	Yes	
Mayfield Road	Widening to 6 lanes	Bramalea Rd	Airport Rd	Peel 2018 DC	2026	Yes	
Mayfield Road	Widening to 6 lanes	Bramalea Rd	Dixie Rd	Peel 2018 DC	2025	Yes	
Mayfield Road	Widening to 6 lanes	Heart Lake Rd	Hurontario St	Peel 2018 DC	2021	Yes	
Mayfield Road	Widening to 6 lanes	Hurontario St	Chinguacousy Rd	Peel 2018 DC	2029	Yes	
Mayfield Road	Widening to 6 lanes	Chinguacousy Rd	1.5 km W of Mississauga Rd	Peel 2018 DC	2031	No, coded 4-lane W of Mississauga	Recommend adding this widening in 2031 Do Nothing scenario
Mayfield Road	Widening to 4 lanes	1.5 km W of Mississauga Rd	Winston Churchill Blvd	Peel 2018 DC	2023	Yes	
Mavis Rd	Widening to 6 lanes	Hwy 401	Hwy 407	Peel 2018 DC	2019	Yes	
Mississauga Rd	Widening to 6 lanes	Financial Dr	Sandalwood Pkwy	Peel 2018 DC	2027	No, coded 4-lane just S of Sandalwood	No action - we assume this would not significantly impact Caledon's needs

Road	Change Type	From	To	Relevant Document/Source	Timeline	In 2031 network?	Caledon DC Approach / Action
Peel Region							
North/South Arterial (1 km W of Mississauga Rd)	New road, 6-lane	Bramwest Pkwy	Sandalwood Pkwy	Peel 2018 DC	2024	No	No action - we assume this would not significantly impact Caledon's needs
Old Church Rd	Widening to 4 lanes	Innis Lake Rd	Marilyn St	Peel 2018 DC	2016	Yes	
Queen St	Widening to 4 lanes	Chinguacousy Rd	Mississauga Rd	Peel 2018 DC	2016	Yes	
Steeles Ave	Widening to 6 lanes	Chinguacousy Rd	Winston Churchill Blvd	Peel 2018 DC	2021	Yes	
The Gore Rd	Widening to 6 lanes	Castlemore Rd	Countryside Dr	Peel 2018 DC	2028	No	Recommend adding this widening in 2031 Do Nothing scenario
The Gore Rd	Widening to 4 lanes	Eastbrook Way	Castlemore	Peel 2018 DC	2018	Yes	
The Gore Rd	Widening to 4 lanes	Queen St	Hwy 50	Peel 2018 DC	2016	Yes	
Winston Churchill Blvd	Widening to 6 lanes w/ 7 lanes Steeles to 2 km S of Embleton	S Brampton boundary	Embleton Rd	Peel 2018 DC	2030	No, coded as 6-lane	No action - we assume this would not significantly impact Caledon's needs
Winston Churchill Blvd	Widening to 4 lanes	Embleton Rd	"Potential GTA bypass"	Peel 2018 DC	2019	No	No action - we assume this would not significantly impact Caledon's needs
Winston Churchill Blvd	Widening to 6 lanes	North Sheridan Way	Dundas St	Peel 2018 DC	2029	Yes	
Winston Churchill Blvd	Widening to 4 lanes	N of Bovaird Dr	Mayfield Rd	Peel LRTP 2012	2012	No	No action - we assume this would not significantly impact Caledon's needs
The Gore Rd	Widening to 4 lanes	Mayfield Rd	Countryside Dr	Peel LRTP 2012	2012	Yes	
Caledon							
Simpson Road	Extension, 2-lane	George Bolton Pkwy	Mayfield Rd	Caledon TMP + Bolton TMP	2021	No	Caledon DC to confirm need
Albion Vaughan Road	Widening to 4 lanes	King St	Mayfield Rd	Caledon TMP + Bolton TMP	2031	No	Caledon DC to confirm need
George Bolton Pkwy	Extension, 2-lane	Industrial Rd	Highway 50	Caledon TMP + Bolton TMP	2031	No	Caledon DC to confirm need
Spine Road (N of Mayfield)	New road, 2-lane	Chinguacousy Rd	McLaughlin Rd	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	2031	No	Caledon DC to confirm need
Spine Road (N of Mayfield)	New road, 4-lane	McLaughin Rd	Just E of Railway line	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	2031	No	Caledon DC to confirm need
McLaughlin Rd	Widening to 4 lanes	N of New Arterial/Spine Road	Mayfield Rd	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	2031	No	Caledon DC to confirm need
Chinguacousy Rd	Widening to 4 lanes	NewArterial/Spine Road	Mayfield Rd	Caledon TMP + Mayfield West Phase 2 Secondary Plan TMP	2031	No	Caledon DC to confirm need
Collector network	West of Hwy 10			Mayfield West Phase 2 Secondary Plan TMP	2031	No	Caledon DC to confirm need
Newhouse Blvd	Extension, 2-lane	N of Dougall Ave	Kennedy Rd	Response from Town staff	2031	No	Recommend adding this widening in 2031 Do Nothing scenario
Dotchson	New Road, 2-lane	Kennedy Rd/Learmont Ave	Dougall Ave	Response from Town staff	2031	No	Recommend adding this widening in 2031 Do Nothing scenario
Bonnieglen Farm Blvd	Extension, 2-lane	Larson Peak Rd	Abbotside Wy	Response from Town staff	2031	No	Recommend adding this widening in 2031 Do Nothing scenario
Abbottside Wy ("Industrial collector")	Extension, 4-lane	E of Learmont Ave	Dixie Rd	Response from Town staff	2031	No	Caledon DC to confirm need
Dougall Ave	Extension, 2-lane	W of Newhouse Blvd	Hwy 10	Response from Town staff	2031	No	Potential inclusion as a sensitivity scenario
Larson Peak Rd	Extension, 2-lane	Bonnieglen Farm Blvd	Heart Lake Rd	Response from Town staff	2031	No	Potential inclusion as a sensitivity scenario
Modified interchange	New Arterial/Spine Road and Hurontario/Hwy 410			Mayfield West Phase 2 Secondary Plan TMP	2031	No	Caledon DC to confirm need
Queen St (Highway 50)	Narrowing to 2-lane	Hickman Street	S of King Street	Bolton TMP	2021	No, coded as 4-lane N of King St	Caledon DC to confirm need
Coleraine Drive	Widening to 4 lanes	Arterial Corridor A2	Mayfield Road	Bolton TMP	2021	Yes	Brampton improvement - OK for base network
Highway 50	Widening to 7 lanes from 5 lanes	Castlemore Rd	Mayfield Rd	Bolton TMP + Peel 2015 DC	2031	No	Recommend adding this widening in 2031 Do Nothing scenario
Mayfield Road	Widening to 6 lanes	Humber Station Rd	Airport Rd	Bolton TMP	2031	Yes	Peel improvement - OK for base network
King Street Realignment	New Road, 2-lane	Emil Kolb Pkwy	King Street	Bolton TMP	2031	No	Caledon DC to confirm need

Road	Change Type	From	To	Relevant Document/Source	Timeline	In 2031 network?	Caledon DC Approach / Action
Brampton							
Chinguacousy Rd	Widening to 4 lanes	Wanless	Mayfield Rd	City of Brampton Capital Program 2018-2028	2020	Yes	
Bramalea Rd	Widening to 6 lanes	S Brampton boundary	Bovaird Dr	City of Brampton Capital Program 2018-2028	2028	Yes	
Bramwest Pkwy	New Road, 6-lane	Hwy 407	Financial Dr	City of Brampton Capital Program 2018-2028	2028	Yes	
Bramwest Pkwy	New road, 4-lane	Heritage Rd	Hwy 407	City of Brampton Capital Program 2018-2028	2024	No, coded as 6-lane	No action - we assume this would not significantly impact Caledon's needs
Castlemore Rd	Widening to 6 lanes	Hwy 50	Goreway Dr	City of Brampton Capital Program 2018-2028	2025	Yes	
Clark Blvd	Widening to 6 lanes	Dixie Rd	Rutherford Rd	City of Brampton Capital Program 2018-2028	2028	Yes	
Clarkway Dr	Widening to 4 lanes	Castlemore Rd	0.2 km N of Castlemore / New East-West Rd	City of Brampton Capital Program 2018-2028	2024	Yes	
Clarkway Dr	2-lane road	0.2 km N of Castlemore / New East-West Rd	Mayfield Rd	City of Brampton Capital Program 2018-2028	2024	Yes	
Cottrelle Blvd	Extension, 4-lane	Goreway Rd	Humberwest Pkwy	City of Brampton Capital Program 2018-2028	2020	Yes	
Countryside Dr	Widening to 4 lanes	Hwy 50	The Gore Rd	City of Brampton Capital Program 2018-2028	2026	Yes	
Eastern Ave	Widening to 4 lanes	Rutherford Rd	Kennedy Rd	City of Brampton Capital Program 2018-2028	2027	No	No action - we assume this would not significantly impact Caledon's needs
Financial Dr	Extension, 4-lane	Heritage Rd	Winston Churchill Blvd	City of Brampton Capital Program 2018-2028	2024	Yes	
Goreway Dr	Widening to 4 lanes	Humberwest Pkwy	Mayfield Rd	City of Brampton Capital Program 2018-2028	2023	Yes	
Goreway Dr	Widening to 4 lanes	South boundary	Steeles Ave	City of Brampton Capital Program 2018-2028	2023	Yes	
Heritage Rd	Widening to 4 lanes	Steeles Ave	New Road A, N of Queen St	City of Brampton Capital Program 2018-2028	2028	Yes	
Intermodal	Widening to 4 lanes	Railway tracks	Airport Rd	City of Brampton Capital Program 2018-2028	2021	Yes	
Lagerfield	Widening to 4 lanes	Mississauga Rd	James Potter Rd	City of Brampton Capital Program 2018-2028	2028	Yes	
Main Street	Narrowing to 2-lane	GO tracks	Wellington St	City of Brampton Capital Program 2018-2028	2018	Yes	
Queen St	Narrowing to 2-lane	Elizabeth St	GO tracks	City of Brampton Capital Program 2018-2028	2018	No	No action - we assume this would not significantly impact Caledon's needs
McLaughlin Rd	Widening to 4 lanes	Wanless	Mayfield Rd	City of Brampton Capital Program 2018-2028	2019	Yes	
McVean Dr	Widening to 4 lanes	Castlemore Rd	Mayfield Rd	City of Brampton Capital Program 2018-2028	2025	Yes	
New North-South Rd (Arterial A2)	New Road, 6-lane	Hwy 50	Mayfiled Rd	City of Brampton Capital Program 2018-2028	2025	Yes	
Orenda Rd	Widening to 4 lanes	Bramalea Rd	Dixie Rd	City of Brampton Capital Program 2018-2028	2027	No	No action - we assume this would not significantly impact Caledon's needs
Sandalwood Pkwy	Widening to 6 lanes	McLaughlin Rd	Heart Lake Rd	City of Brampton Capital Program 2018-2028	2026	Yes	
Sandalwood Pkwy/Humberwest Pkwy	Widening to 6 lanes	Dixie Rd	Goreway Dr	City of Brampton Capital Program 2018-2028	2026	Yes	
Torbram Rd	Widening to 6 lanes	S Brampton boundary	Countryside Dr	City of Brampton Capital Program 2018-2028	2027	Yes	
Wanless	Widening to 4 lanes	Winston Churchill	Mississauga Rd	City of Brampton Capital Program 2018-2028	2026	Yes	
Williams Pkwy	Widening to 6 lanes	Automatic Rd	McLaughlin Rd	City of Brampton Capital Program 2018-2028	2028	Yes	
E-W Spine Road (N of Wanless)	New Road, 3-lane	McLaughlin	Sandalwood Pkwy	City of Brampton Capital Program 2014-2023	2023	No, coded as 4-lane	Recommend adding this widening in 2031 Do Nothing scenario
Countryvillage Collector	New Road, 6-lane	Countryside Dr	Dixie Rd	City of Brampton Capital Program 2014-2023	2023	No, coded as 2-lane or 4-lane	Recommend adding this widening in 2031 Do Nothing scenario
Heritage Rd	Widening to 4 lanes	Wanless Dr	Steeles Ave	Brampton TMP	2031	Yes	
New Road A (E of Heritage Dr)	New Road + widening, 4-lane	Steeles Ave	Winston Churchill Blvd	Brampton TMP	2021	Yes	
Sandalwood Pkwy	Extension, 4-lane	Mississauga Rd	Heritage Rd	Brampton TMP	2031	Yes	
Williams Pkwy	Extension, 4-lane	Mississauga Rd	Heritage Rd	Brampton TMP	2021	Yes	

Road	Change Type	From	To	Relevant Document/Source	Timeline	In 2031 network?	Caledon DC Approach / Action
York Region							
Highway 50	Widening to 6 lanes	Albion-Vaughan Rd	Rutherford Rd	York Region TMP	2026	Yes	
Major Mackenzie Dr	Widening to 6 lanes	Jane St	Highway 50	York Region TMP	2021	Yes	
Rutherford Rd	Widening to 6 lanes	Weston Rd	Highway 50	York Region TMP	2031	Yes	
Highway 27	Widening to 4 lanes	King Rd	Major Mackenzie Dr	York Region TMP	2026	No, there is a small 2-lane section	No action - we assume this would not significantly impact Caledon's needs
King Rd	Widening to 4 lanes	Highway 27	Caledon-King Townline	York Region TMP	2041	Yes	
Weston Rd	Widening to 4 lanes	King Rd	Teston Rd	York Region TMP	2031	No, there is a small 2-lane section	No action - we assume this would not significantly impact Caledon's needs

Appendix E3 –

2031 Capacity Analysis

Figure F-1. Mayfield West - 2031 Do Nothing and Build

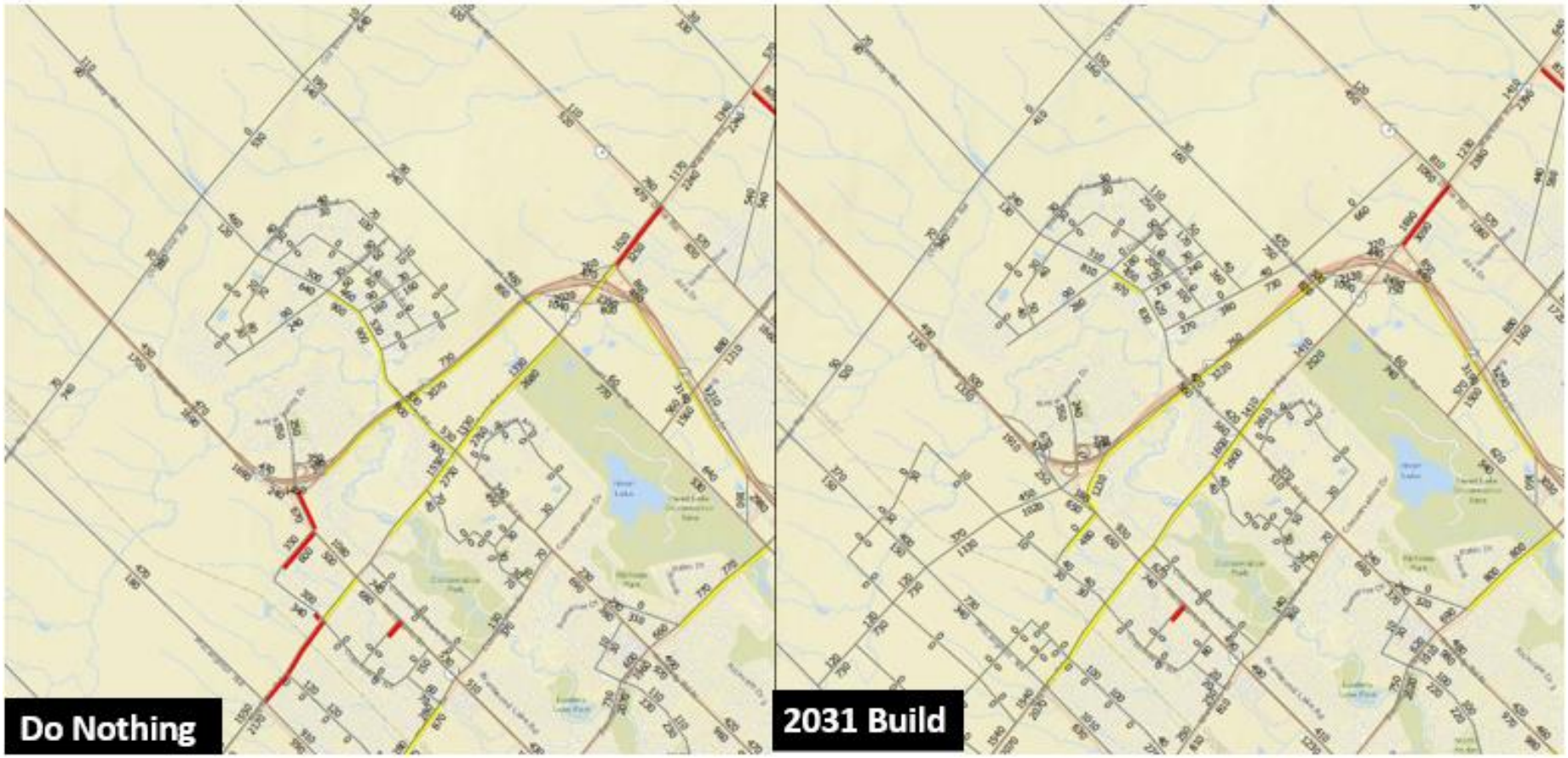


Figure F-2. Simpson Road Extension V/C - 2031 Do Nothing and Build

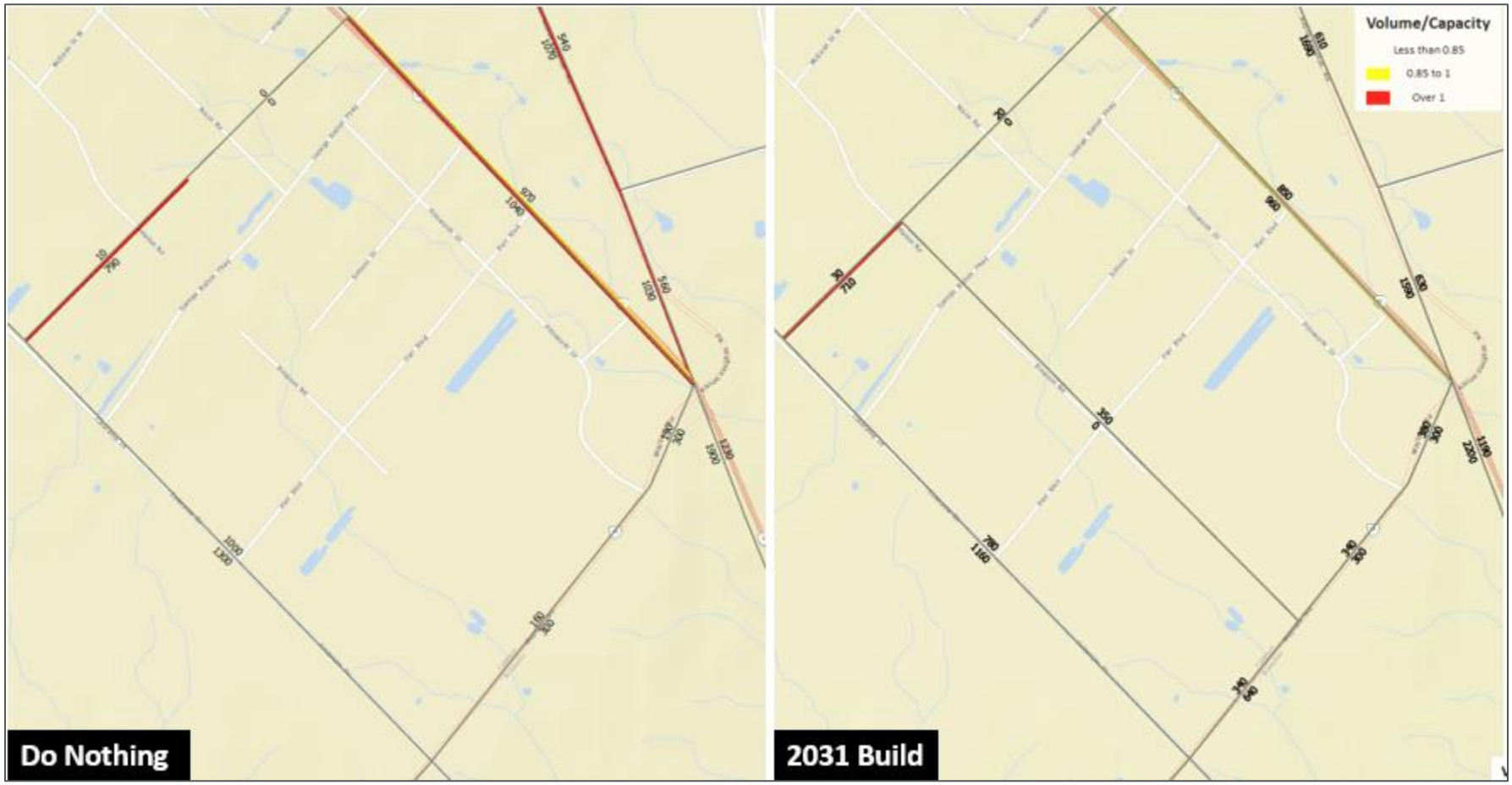


Figure F-3. George Bolton Parkway Extension V/C - 2031 Do Nothing and Build

Figure F-4. Albion Vaughan Road Widening V/C - 2031 Do Nothing and Build

Figure F-5. Highway 50 V/C - 2031 Do Nothing and Build

Figure F-6. King Street Realignment V/C - 2031 Do Nothing and Build

Table F-1: Link Delay Area analysis

	2031 Do Nothing						2031 Build						% Difference VHT - Build vs. Do Nothing	% Difference VKT - Build vs. Do Nothing
Areas	VHT	VKT	Congested VHT	Congested VKT	% Congested VHT	% Congested VKT	VHT	VKT	Congested VHT	Congested VKT	% Congested VHT	% Congested VKT		
Mayfield West	1,097	65,033	174.67	5,764	16%	9%	1,117	68,828	55.16	2,061	5%	3%	-68%	-64%
Simpson Road Extension	156	8,024	27.16	538	17%	7%	135	7,976	14.42	347	11%	4%	-47%	-35%
George Bolton Parkway Extension	490	20,656	243.37	6,587	50%	32%	459	22,740	104.41	3,325.07	23%	15%	-57%	-50%
Albion Vaughan Road Widening	490	19,302	237.55	6,937	48%	36%	486	22,570	89.99	2,978	19%	13%	-62%	-57%
Highway 50 Narrowing	197	8,681	85.35	2,485	43%	29%	169	8,124	24.77	726.92	15%	9%	-71%	-71%
King St Realignment	218	13,936	41.87	1,560	19%	11%	168	11,042	24.77	727	15%	7%	-41%	-53%

Table F-2: Mayfield West screenline V/C

Areas Screenlines	2031 Do Nothing						2031 Build						V/C Difference NB/WB	V/C Difference SB/EB
	NB/WB Capacity	SB/EB Capacity	NB/WB Volume	SB/EB Volume	NB/WB V/C	SB/EB V/C	NB/WB Capacity	SB/EB Capacity	NB/WB Volume	SB/EB Volume	NB/WB V/C	SB/EB V/C		
N of Old School Rd														
Chinguacousy Rd	1,000	1,000	112	46	0.11	0.05	1,000	1,000	203	158	0.20	0.16	0.09	0.11
McLaughlin Rd	1,000	1,000	300	198	0.30	0.20	1,000	1,000	188	213	0.19	0.21	-0.11	0.02
Hurontario St	2,200	2,200	428	1208	0.19	0.55	2,200	2,200	453	1070	0.21	0.49	0.01	-0.06
Kennedy Rd	1,000	1,000	111	90	0.11	0.09	1,000	1,000	70	81	0.07	0.08	-0.04	-0.01
Hearl Lake Rd	1,000	1,000	70	129	0.07	0.13	1,000	1,000	85	157	0.09	0.16	0.02	0.03
Dixie Rd	1,000	1,000	98	461	0.10	0.46	1,000	1,000	98	446	0.10	0.45	0.00	-0.02
Total	7,200	7,200	1,119	2,132	0.16	0.30	7,200	7,200	1,097	2,125	0.15	0.30	0.00	0.00
W of Chinguacousy Rd														
Old School Rd	1,000	1,000	90	139	0.09	0.14	1,000	1,000	65	184	0.07	0.18	-0.03	0.05
Mayfield Rd	3,000	3,000	1,561	1,767	0.52	0.59	3,000	3,000	1,603	1,844	0.53	0.61	0.01	0.03
Total	4,000	4,000	1,651	1,906	0.41	0.48	4,000	4,000	1,668	2,028	0.42	0.51	0.00	0.03
E of Dixie Rd														
Old School Rd	1,000	1,000	9	582	0.01	0.58	1,000	1,000	8	499	0.01	0.50	0.00	-0.08
Mayfield Rd	3,000	3,000	1,204	2,222	0.40	0.74	3,000	3,000	1,218	2,361	0.41	0.79	0.00	0.05
Total	4,000	4,000	1,213	2,804	0.30	0.70	4,000	4,000	1,226	2,860	0.31	0.72	0.00	0.01
S of Mayfield Rd														
Chinguacousy Rd	1,800	1,800	346	296	0.19	0.16	1,800	1,800	487	294	0.27	0.16	0.08	0.00
McLaughlin Rd	2,200	2,200	904	591	0.41	0.27	2,200	2,200	995	638	0.45	0.29	0.04	0.02
Hurontario St	1,800	1,800	725	655	0.40	0.36	1,800	1,800	634	718	0.35	0.40	-0.05	0.04
Kennedy Rd	2,200	2,200	326	487	0.15	0.22	2,200	2,200	364	512	0.17	0.23	0.02	0.01
Hearl Lake Rd	1,000	1,000	59	797	0.06	0.80	1,000	1,000	57	720	0.06	0.72	0.00	-0.08
Hwy 410	3,600	3,600	1,287	3,134	0.36	0.87	3,600	3,600	1,282	3,167	0.36	0.88	0.00	0.01
Dixie Rd	2,000	2,000	561	831	0.28	0.42	2,000	2,000	571	1,105	0.29	0.55	0.00	0.14
Total	14,600	14,600	4,208	6,791	0.29	0.47	14,600	14,600	4,390	7,154	0.30	0.49	0.01	0.02

Table F-3: Bolton screenline V/C

	2031 Do Nothing						2031 Build						V/C Difference NB/WB	V/C Difference SB/EB
Areas Screenlines	NB/WB Capacity	SB/EB Capacity	NB/WB Volume	SB/EB Volume	NB/WB V/C	SB/EB V/C	NB/WB Capacity	SB/EB Capacity	NB/WB Volume	SB/EB Volume	NB/WB V/C	SB/EB V/C		
N of King St														
King St (N of Harvest Moon)	1,000	1,000	375	818	0.38	0.82	1,000	1,000	195	669	0.20	0.67	-0.18	-0.15
Queen St	700	700	77	400	0.11	0.57	700	700	95	292	0.14	0.42	0.03	-0.15
Mt Hope Rd	1,000	1,000	60	119	0.06	0.12	1,000	1,000	49	121	0.05	0.12	-0.01	0.00
Caledon Town Line S	900	1,000	66	476	0.07	0.48	900	1,000	62	609	0.07	0.61	0.00	0.13
Total	5,500	5,600	578	1,813	0.11	0.32	5,500	5,600	401	1,691	0.07	0.30	-0.03	-0.02
W of Humber Station														
Healey Rd	1,000	1,000	44	504	0.04	0.50	1,000	1,000	89	541	0.09	0.54	0.05	0.04
Mayfield Rd	3,000	3,000	797	2,264	0.27	0.75	3,000	3,000	975	2,287	0.33	0.76	0.06	0.01
Total	4,000	4,000	841	2,768	0.21	0.69	4,000	4,000	1,064	2,828	0.27	0.71	0.06	0.02
E of Albion-Vaughan Rd														
King Rd	1,400	1,400	719	796	0.51	0.57	1,400	1,400	874	700	0.62	0.50	0.11	-0.07
Kirby Rd	700	700	45	102	0.06	0.15	700	700	25	144	0.04	0.21	-0.03	0.06
Total	2,100	2,100	764	898	0.36	0.43	2,100	2,100	899	844	0.43	0.40	0.06	-0.03
S of Mayfield Rd														
Clarkway Dr	2,000	2,000	307	722	0.15	0.36	2,000	2,000	291	692	0.15	0.35	-0.01	-0.02
Collector A2	2,700	2,700	81	1,379	0.03	0.51	2,700	2,700	78	1,326	0.03	0.49	0.00	-0.02
Coleraine Dr	2,000	2,000	594	1,228	0.30	0.61	2,000	2,000	693	1,183	0.35	0.59	0.05	-0.02
Hwy 50	3,060	3,060	1,233	1,804	0.40	0.59	3,060	3,060	1,193	2,101	0.39	0.69	-0.01	0.10
Total	15,460	15,460	2,215	5,133	0.14	0.33	16,180	16,180	2,255	5,302	0.14	0.33	0.00	0.00

Table F-4: Collector Roads Analyzed for Potential Upgrade to Major Collector

Collectors	
North-south	**East-west**
Heritage Rd / Shaws Creek Rd	Highpoint Side Rd
Creditview Rd / Main St (Alton)	Beech Grove Side Rd
Chinguacousy Rd	Coolihans Side Rd
McLaughlin Rd / Willoughby Rd	Finnerty Side Rd
Kennedy Rd	Escarpment Side Rd
Kennedy Rd	Patterson Side Rd
Heart Lake Rd	The Grange Side Rd
Heart Lake Rd	Halls Lake Side Rd
Horseshoe Hill Rd (N of Dixie Rd)	Old Church Rd east of RR50
Bramalea Rd / St. Andrew's Rd	Boston Mills Rd / Castlederg Side Rd
Torbram Rd / Mountainview Rd	Old School Rd / Healey Rd
Innis Lake Rd	
Centreville Creek Rd	
Humber Station Rd	
Duffy's Ln	
Mount Hope Rd	
Mount Pleasant Rd	
Caledon King Townline S / Mount Wolfe Rd	
Albion Trail	
Caledon King Townline	

Figure F-7: Major Collector candidates only - 2031 Do Nothing

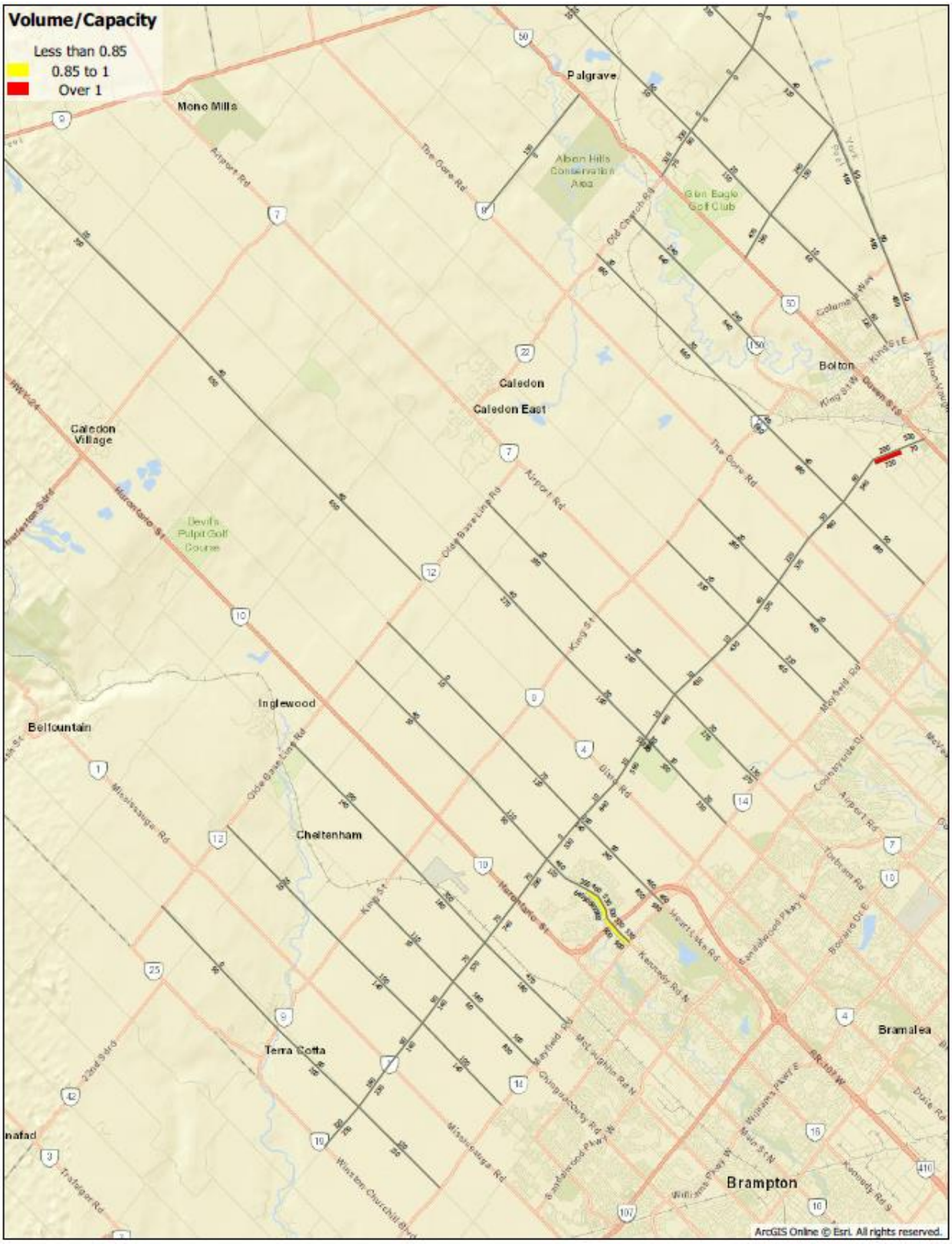
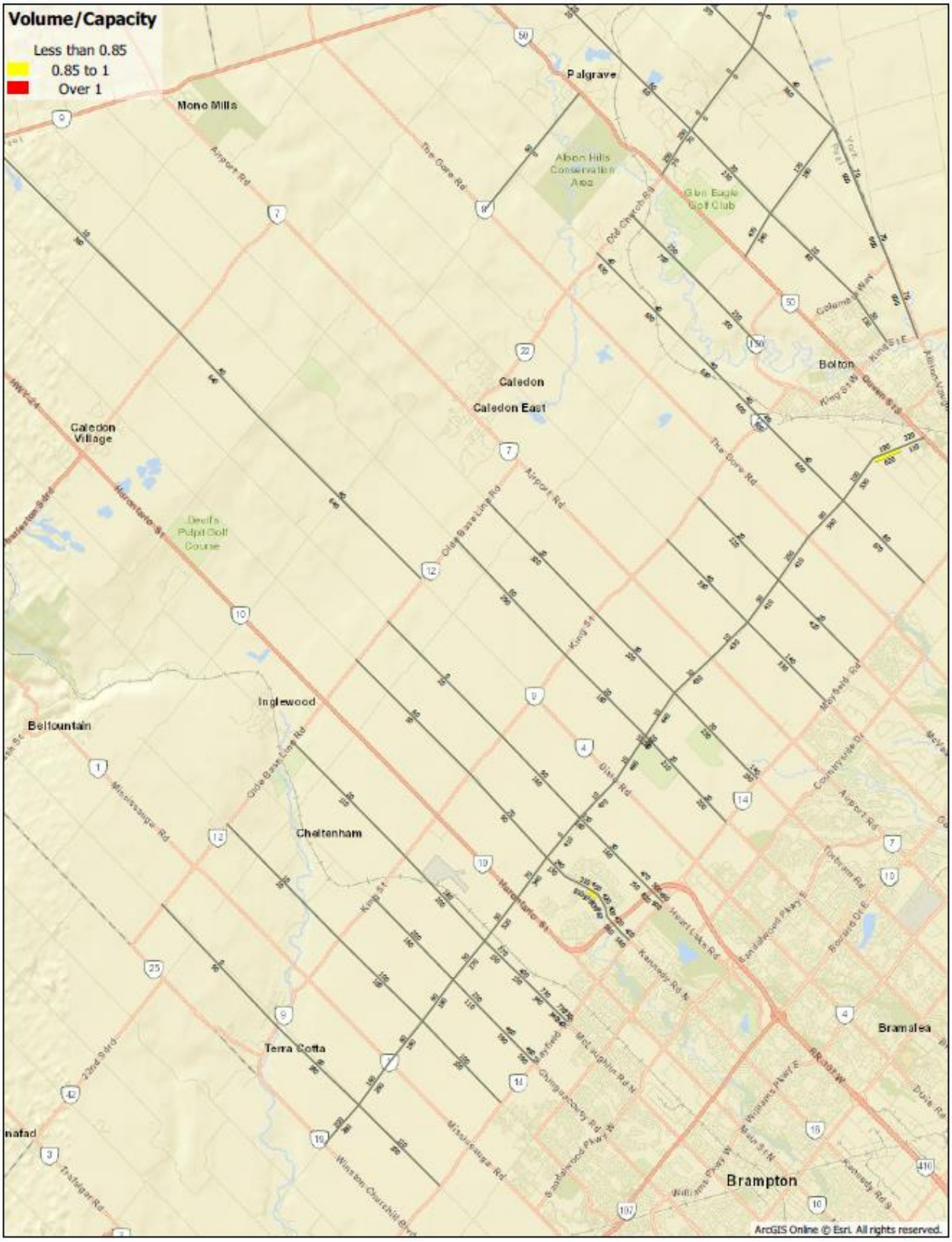


Figure F-8: Major Collector candidates only - 2031 Build



Appendix E4 –

Benchmark Cost Calculations

				R-Std B	
IMPROVEMENT TYPE:	**Rural Road Upgrade with Minor Base Improvements**				**Comments**
ROAD CLASS:				Std B (Rural)	
ROW Width (m):				22	
Road Length (m):				1000	
Number of Additional Lanes:				2.00	
Lane Width (m):				3.5	
				0	Assumptions
CROSS-SECTION:				0	
Cross-Section (Rural/Urban):				Rural	
Paved Road Width (m):				10m	based on roadway detail drawing
Asphalt Top Course Depth (m)				0.040m	
Asphalt Bottom Course Depth (m)				0.090m	
Upper Granular Depth (m) A				0.225m	
Lower Granular Depth (m) B				0.000m	
Paved Shoulder Width (m):				0.00m	3m total width on both sides included in paved road (E12)
Granular Shoulder Width (m):				0.60m	(as discussed on 20/11/2018)
Curb and Gutter (side or sides)				0 side/s	
Asphalt pad (m)				0.00m	
Sidewalk Width (m):				0.00m	Costed separately
Bikepath & Sidewalk (1 or 2 sides)				0 side/s	
Bike Path Width (m):				0.00m	
Manhole-Catchbasins spacing (m)				0.0m	
Manhole spacing (m)				0.0m	
ROAD WORKS & ROAD RELATED STORM SEWER WORK					
ITEM	**UNIT**	**UNIT PRICE**	**QUANTITY**	**TOTAL**	Calculations
Sedimentation Control	m	$7.80	2,000	$15,606	
Clearing and Grubbing	m	$26.01	1,000	$26,010	
Asphalt Removal	m2	$2.71	8,500	$23,001	existing pavement (8.5)*1000
Excavation	m^3	$27.62	3,763	$103,947	total thickness of asphalt,granulars x ROW x length of road(1000m)*1.2 (ditching)
Ditching	m^4	$27.62	753	$20,789	
Hot Mix HL3	tonne	$73.16	912	$66,722	depth of HL-3 x width of road x length of road (1000m) x density(2.28)
Hot Mix HL4/HL8	tonne	$68.81	2,205	$151,734	depth of HL-4 x width of road x length of road (1000m) x density(2.45)
Granular A	tonne	$20.27	5,724	$116,012	depth of Granular A x width of road x length of road (1000m) x density(2.4)
Granular B	tonne	$16.34	0	$0	depth of Granular B x width of road x length of road (1000m) x density(2)
Concrete Curb & Gutter	m	$103.72	0	$0	length of road(1000m) x both sides(2)
Catchbasin Leads	m	$134.21		$0	length of road(1000m) / spacing x lead of each catchbasin to manhole(3.5m)x2
Storm Sewer Pipes	m	$401.53		$0	
Manhole & Maintenance Holes	each	$4,693.74		$0	length of road(1000m) x spacing(100m)
Catchbasins	each	$2,184.84		$0	length of road(1000m) x spacing(60m)x2
Stormceptors (all sizes)	km	#N/A		-	
Pavement Markings and Symbols	m	$2.25	1,000	$2,246	
Signage	m	$26,010.00		$0	removed (email 19/11/2018)
Concrete Sidewalk	m^2	$69.71	0	$0	Sidewalks costed separately
Street Lighting	$/km	#N/A	0	-	
Topsoil	m2	$8.59	600.00	$5,155	6m total (3m on each side assumed, consistent with previous DC)
Sod	m2	$4.18	5,400.00	$22,585	6m total (3m on each side assumed, consistent with previous DC)
Subdrain	$/m	$22.89		$0	
			Subtotal:	$553,808	
		Miscellaneous construction items	**10.0%**	$55,381	
			Total:	**$609,189/km**	

				REC-R	
IMPROVEMENT TYPE:				**Rural Reconstruction**	**Comments**
ROAD CLASS:				Collector (Rural)	
ROW Width (m):				22-26	24
Road Length (m):				1000	
Number of Additional Lanes:				2.00	
Lane Width (m):				3.75	
					Assumptions
CROSS-SECTION:					
Cross-Section (Rural/Urban):				Rural	
Paved Road Width (m):				**10.00m**	increased to 10m per conversation with Town (11/19/2018)
Asphalt Top Course Depth (m)				0.040m	
Asphalt Bottom Course Depth (m)				0.090m	
Upper Granular Depth (m) A				0.150m	
Lower Granular Depth (m) B				0.450m	
Paved Shoulder Width (m):				0.00m	3m total width on both sides included in paved road (E12)
Granular Shoulder Width (m):				0.60m	total width on both sides
Curb and Gutter (side or sides)				0 side/s	
Asphalt pad (m)				0.00m	
Sidewalk Width (m):				0.00m	
Bikepath & Sidewalk (1 or 2 sides)				0 side/s	
Bike Path Width (m):				0.00m	
Manhole-Catchbasins spacing (m)				0.0m	
Manhole spacing (m)				0.0m	
ROAD WORKS & ROAD RELATED STORM SEWER WORK					
ITEM	**UNIT**	**UNIT PRICE**	**QUANTITY**	**TOTAL**	Calculations
Sedimentation Control	m	$7.80	2,000	$15,606	
Clearing and Grubbing	m	$26.01	1,000	$26,010	
Asphalt Removal	m2	$2.71	7,300	$19,754	existing pavement width (7.3m) * length
Excavation	m^3	$27.62	7,738	$213,751	total thickness of asphalt,granulars x (paved road+shoulders) x length of road(1000m) *1.2 (to account for ditches/cut and fill)
Ditching	m^3	$27.62	1,548	$42,750	20% of excavation quantity
Hot Mix HL3	tonne	$73.16	912	$66,722	depth of HL-3 x width of road x length of road (1000m) x density(2.28)
Hot Mix HL4/HL8	tonne	$68.81	2,205	$151,734	depth of HL-4 x width of road x length of road (1000m) x density(2.45)
Granular A	tonne	$20.27	3,816	$77,341	depth of Granular A x width of road + gran shoulder x length of road (1000m) x density(2.4)
Granular B	tonne	$16.34	9,000	$147,058	depth of Granular B x width of road (not including gran shoulder) x length of road (1000m) x density(2)
Concrete Curb & Gutter	m	$103.72		$0	length of road(1000m) x both sides(2)
Catchbasin Leads	m	$134.21		$0	length of road(1000m) / spacing x lead of each catchbasin to manhole(3.5m)x2
Storm Sewer Pipes	m	$401.53		$0	
Manhole & Maintenance Holes	each	$4,693.74		$0	length of road(1000m) x spacing(100m)
Catchbasins	each	$2,184.84		$0	length of road(1000m) x spacing(60m)x2
Stormceptors (all sizes)	km	#N/A		-	
Pavement Markings and Symbols	m	$2.25	1,000	$2,246	
Signage	m	$26,010.00	0	$0	removed for rural (email 19/11/2018)
Concrete Sidewalk	m^2	$69.71		$0	
Street Lighting	$/km	#N/A		-	
Topsoil	m2	$8.59	600.00	$5,155	6m total (3m on each side assumed, consistent with previous DC)
Sod	m2	$4.18	5,400.00	$22,585	6m total (3m on each side assumed, consistent with previous DC)
			Subtotal:	$790,713	
		Miscellaneous construction items	**10.0%**	$79,071	
			Total:	**$869,784/km**	

				Shave-N-Pave	
IMPROVEMENT TYPE:					**Comments**
ROAD CLASS:					
ROW Width (m):				22-26	24
Road Length (m):				1000	
Number of Additional Lanes:				2.00	
Lane Width (m):				3.75	
					Assumptions
CROSS-SECTION:					
Cross-Section (Rural/Urban):				Rural	
Paved Road Width (m):				**7.30m**	
Asphalt Top Course Depth (m)				0.040m	
Asphalt Bottom Course Depth (m)				0.090m	
Upper Granular Depth (m) A				0.150m	
Lower Granular Depth (m) B				0.450m	
Paved Shoulder Width (m):				3.00m	total width on both sides
Granular Shoulder Width (m):				1.00m	total width on both sides
Curb and Gutter (side or sides)				0 side/s	
Asphalt pad (m)				0.00m	
Sidewalk Width (m):				0.00m	
Bikepath & Sidewalk (1 or 2 sides)				0 side/s	
Bike Path Width (m):				0.00m	
Manhole-Catchbasins spacing (m)				0.0m	
Manhole spacing (m)				0.0m	
ROAD WORKS & ROAD RELATED STORM SEWER WORK					
ITEM	**UNIT**	**UNIT PRICE**	**QUANTITY**	**TOTAL**	Calculations
Sedimentation Control	m	$7.80	2,000	$15,606	
Clearing and Grubbing	m	$26.01	1,000	$26,010	
Asphalt Removal	m2	$2.71	7,300	$19,754	existing pavement width (7.3m) * length
Excavation	m^3	$27.62	0	$0	none as Shave and pave
Hot Mix HL3	tonne	$73.16	939	$68,724	depth of HL-3 x width of road x length of road (1000m) x density(2.28)
Hot Mix HL4/HL8	tonne	$68.81	2,271	$156,286	depth of HL-4 x width of road x length of road (1000m) x density(2.45)
Granular A	tonne	$20.27	0	$0	none as Shave and pave
Granular B	tonne	$16.34	0	$0	none as Shave and pave
Concrete Curb & Gutter	m	$103.72		$0	length of road(1000m) x both sides(2)
Catchbasin Leads	m	$134.21		$0	length of road(1000m) / spacing x lead of each catchbasin to manhole(3.5m)x2
Storm Sewer Pipes	m	$401.53		$0	
Manhole & Maintenance Holes	each	$4,693.74		$0	length of road(1000m) x spacing(100m)
Catchbasins	each	$2,184.84		$0	length of road(1000m) x spacing(60m)x2
Stormceptors (all sizes)	km	#N/A		-	
Pavement Markings and Symbols	m	$2.25	1,000	$2,246	
Signage	m	$26,010.00	0	$0	
Concrete Sidewalk	m^2	$69.71		$0	
Street Lighting	$/km	#N/A		-	
Topsoil	m2	$8.59	600.00		
Sod	m2	$4.18	5,400.00		
			Subtotal:	$288,626	
		Miscellaneous construction items	**10.0%**	$28,863	
			Total:	**$317,488/km**	

RSS-U

IMPROVEMENT TYPE:	rs, 2 lanes, 9.8 metre pavement width gutter to gutter	Comments
ROAD CLASS:	Major Collector (Urban)	
ROW Width (m):	26m	26
Road Length (m):	1000	
Number of Additional Lanes:	2.00	
Lane Width (m):	3.5	
		Assumptions
CROSS-SECTION:		
Cross-Section (Rural/Urban):	Urban	
Paved Road Width (m):	**9.80m**	
Asphalt Top Course Depth (m)	0.040m	
Asphalt Bottom Course Depth (m)	0.090m	
Upper Granular Depth (m) A	0.150m	
Lower Granular Depth (m) B	0.450m	
Paved Shoulder Width (m):	0.00m	
Granular Shoulder Width (m):	0.00m	
Curb and Gutter (side or sides)	2 side/s	
Asphalt pad (m)	0.00m	
Sidewalk Width (m):	1.50m	AT facilities costed separately
Sidewalk (1 or 2 sides)	2 side/s	
Bike Path Width (m):	1.50m	AT facilities costed separately
Manhole-Catchbasins spacing (m)	70.0m	
Manhole spacing (m)	120.0m	

ROAD WORKS & ROAD RELATED STORM SEWER WORK

ITEM	UNIT	UNIT PRICE	QUANTITY	TOTAL	Calculations
Sedimentation Control	m	$7.80	2,000	$15,606	1m silt fence on each side required
Clearing and Grubbing	m	$26.01	1,000	$26,010	
Asphalt Removal	m2	$2.71	8,500	$23,001	Existing 8.5 m asphalt (per last DC)
Excavation	m^3	$27.62	7,154	$197,619	total thickness of asphalt,granulars x paved roadway x length of road(1000m)
Hot Mix HL3	tonne	$73.16	894	$65,388	depth of HL-3 x width of road x length of road (1000m) x density(2.28)
Hot Mix HL4/HL8	tonne	$68.81	2,161	$148,700	depth of HL-4 x width of road x length of road (1000m) x density(2.45)
Granular A	tonne	$20.27	3,816	$77,341	depth of Granular A x width of road x length of road (1000m) x density(2.4)
Granular B	tonne	$16.34	8,820	$144,117	depth of Granular B x width of road x length of road (1000m) x density(2)
Concrete Curb & Gutter	m	$103.72	2,000	$207,441	length of road(1000m) x both sides(2)
Catchbasin Leads	m	$134.21	100	$13,421	length of road(1000m) / spacing x lead of each catchbasin to manhole(3.5m)x2
Storm Sewer Pipes	m	$401.53	1,000	$401,526	
Manhole & Maintenance Holes	each	$4,693.74	8	$39,115	length of road(1000m) / spacing(120m)
Catchbasins	each	$2,184.84	29	$62,424	length of road(1000m) / spacing(60m)x2
Stormceptors (all sizes)	km	#N/A	1	-	none assumed
Pavement Markings and Symbols	m	$2.25	1,000	$2,246	
Signage	km	$26,010.00	1.00	$26,010	
Concrete Sidewalk	m^2	$69.71	0	$0	Sidewalks costed separately
Street Lighting	$/km	#N/A	0	-	costed separately
Topsoil	m2	$8.59	600.00	$5,155	6m total (3m on each side assumed, consistent with previous DC)
Sod	m2	$4.18	5,400.00	$22,585	6m total (3m on each side assumed, consistent with previous DC)
Subdrain	$/m	$22.89	2,000.00	$45,778	2 (each side)
			Subtotal:	$1,523,482	
		Miscellaneous construction items	**10.0%**	$152,348	
			Total:	**$1,675,830/km**	

				W2-4-UArt	
IMPROVEMENT TYPE:				**W2-4-Uart**	**Comments**
ROAD CLASS:				Arterial (Urban)	
ROW Width (m):				30	
Road Length (m):				1000	
Number of Lanes:				4.00	
Lane Width (m):				3.5	
					Assumptions
CROSS-SECTION:				0	
Cross-Section (Rural/Urban):				Urban	
New Paved Road Width (m):				**15.00m**	based on roadway detail drawing
Asphalt Top Course Depth (m)				0.040m	
Asphalt Bottom Course Depth (m)				0.090m	
Upper Granular Depth (m) A				0.150m	
Lower Granular Depth (m) B				0.450m	
Paved Shoulder Width (m):				0.00m	
Granular Shoulder Width (m):				0.00m	
Curb and Gutter (side or sides)				2 side/s	
Asphalt pad (m)				0.00m	
Sidewalk Width (m):				0.00m	sidewalks costed separately
Bikepath & Sidewalk (1 or 2 sides)				2 side/s	
Bike Path Width (m):				1.50m	bike path also costed separately
Manhole-Catchbasins spacing (m)				70.0m	
Manhole spacing (m)				120.0m	
ROAD WORKS & ROAD RELATED STORM SEWER WORK					
ITEM	**UNIT**	**UNIT PRICE**	**QUANTITY**	**TOTAL**	Calculations
Sedimentation Control	m	$7.80	2,000	$15,606	1m silt fence on each side required
Clearing and Grubbing	m	$26.01	1,000	$26,010	
Asphalt Removal	m2	$2.71	8,500	$23,001	existing road (8.5m)*length(1000)
Excavation	m^3	$27.62	10,950	$302,477	total thickness of asphalt,granulars x paved road x length of road(1000m)
Hot Mix HL3	tonne	$73.16	1,368	$100,083	depth of HL-3 x width of road x length of road (1000m) x density(2.45)
Hot Mix HL4/HL8	tonne	$68.81	3,308	$227,601	depth of HL-4 x width of road x length of road (1000m) x density(2.45)
Granular A	tonne	$20.27	5,400	$109,445	depth of Granular A x width of road x length of road (1000m) x density(2.4)
Granular B	tonne	$16.34	13,500	$220,588	depth of Granular B x width of road x length of road (1000m) x density(2)
Concrete Curb & Gutter	m	$103.72	2,000	$207,441	length of road(1000m) x both sides(2)
Catchbasin Leads	m	$134.21	200	$26,842	length of road(1000m) / spacing x lead of each catchbasin to manhole(3.5m)x2
Storm Sewer Pipes	m	$401.53	1,000	$401,526	
Manhole & Maintenance Holes	each	$4,693.74	8	$39,115	length of road(1000m) x spacing(100m)
Catchbasins	each	$2,184.84	29	$62,424	length of road(1000m) x spacing(60m)x2
Stormceptors	km	#N/A	1	-	
Pavement Markings and Symbols	m	$2.25	1,000	$2,246	
Signage	m	$26,010.00	1.00	$26,010	
Concrete Sidewalk	m^2	$69.71	0	$0	Sidewalks costed separately
Street Lighting	$/km	#N/A	0	-	costed separately
Topsoil	$/m2	$8.59	600.00	$5,155	6m total (3m on each side assumed, consistent with previous DC)
Sod	$/m2	$4.18	5,400.00	$22,585	6m total (3m on each side assumed, consistent with previous DC)
Subdrain	$/m	$22.89	2,000.00	$45,778	
			Subtotal:	$1,863,933	
		Miscellaneous construction items	**10.0%**	$186,393	
			Total:	**$2,050,327/km**	

				NC-4LaneU	
IMPROVEMENT TYPE:				**NC-4LaneU**	**Comments**
ROAD CLASS:				Arterial (Urban)	
ROW Width (m):				30	
Road Length (m):				1000	
Number of Lanes:				4.00	
Lane Width (m):				3.5	
					Assumptions
CROSS-SECTION:				0	
Cross-Section (Rural/Urban):				Urban	
New Paved Road Width (m):				**15.00m**	based on roadway detail drawing
Asphalt Top Course Depth (m)				0.040m	
Asphalt Bottom Course Depth (m)				0.090m	
Upper Granular Depth (m) A				0.150m	
Lower Granular Depth (m) B				0.450m	
Paved Shoulder Width (m):				0.00m	
Granular Shoulder Width (m):				0.00m	
Curb and Gutter (side or sides)				2 side/s	
Asphalt pad (m)				0.00m	
Sidewalk Width (m):				0.00m	sidewalks costed separately
Bikepath & Sidewalk (1 or 2 sides)				2 side/s	
Bike Path Width (m):				1.50m	bike path also costed separately
Manhole-Catchbasins spacing (m)				70.0m	
Manhole spacing (m)				120.0m	
ROAD WORKS & ROAD RELATED STORM SEWER WORK					
ITEM	**UNIT**	**UNIT PRICE**	**QUANTITY**	**TOTAL**	Calculations
Sedimentation Control	m	$7.80	2,000	$15,606	1m silt fence on each side required
Clearing and Grubbing	m	$26.01	1,000	$26,010	
Asphalt Removal	m2	$2.71	0	$0	
Excavation	m^3	$27.62	10,950	$302,477	total thickness of asphalt,granulars x paved road x length of road(1000m)
Hot Mix HL3	tonne	$73.16	1,368	$100,083	depth of HL-3 x width of road x length of road (1000m) x density(2.45)
Hot Mix HL4/HL8	tonne	$68.81	3,308	$227,601	depth of HL-4 x width of road x length of road (1000m) x density(2.45)
Granular A	tonne	$20.27	5,400	$109,445	depth of Granular A x width of road x length of road (1000m) x density(2.4)
Granular B	tonne	$16.34	13,500	$220,588	depth of Granular B x width of road x length of road (1000m) x density(2)
Concrete Curb & Gutter	m	$103.72	2,000	$207,441	length of road(1000m) x both sides(2)
Catchbasin Leads	m	$134.21	200	$26,842	length of road(1000m) / spacing x lead of each catchbasin to manhole(3.5m)x2
Storm Sewer Pipes	m	$401.53	1,000	$401,526	
Manhole & Maintenance Holes	each	$4,693.74	8	$39,115	length of road(1000m) x spacing(100m)
Catchbasins	each	$2,184.84	29	$62,424	length of road(1000m) x spacing(60m)x2
Stormceptors	km	#N/A	1	-	
Pavement Markings and Symbols	m	$2.25	1,000	$2,246	
Signage	m	$26,010.00	1.00	$26,010	
Concrete Sidewalk	m^2	$69.71	0	$0	Sidewalks costed separately
Street Lighting	$/km	#N/A	0	-	costed separately
Topsoil	$/m2	$8.59	600.00	$5,155	6m total (3m on each side assumed, consistent with previous DC)
Sod	$/m2	$4.18	5,400.00	$22,585	6m total (3m on each side assumed, consistent with previous DC)
Subdrain	$/m	$22.89	2,000.00	$45,778	
			Subtotal:	$1,840,932	
		Miscellaneous construction items	**10.0%**	$184,093	
			Total:	**$2,025,025/km**	

Appendix E5 –

Town of Caledon 2019 DC Transportation Program List

Town of Caledon DC study
Version: March 19, 2019
HDR

Structure	
Driving	**Cycling**
Walking	**Intersection Improvements**

PPB
48.00%

Road	From	To	Improvement Type	Source of Project	Project Location	Total cost	Total cost (less PPB)	BTE %	BTE ($)	BTG ($)	Fiscal Impact Mitigation
ROAD PROJECTS											
RURAL AREAS											
Innis Lake Road	Mayfield Road	Healey Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,525,902	$3,525,902	20%	$705,180	$2,820,721	
Innis Lake Road	Healey Road	King Street W	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,636,799	$3,636,799	20%	$727,360	$2,909,439	
Innis Lake Road	King Street	200m South of Old Church	Rural Reconstruction	2014 Caledon DC	Rural Areas	$6,986,543	$6,986,543	20%	$1,397,309	$5,589,234	
Centreville Creek Road	King Street	Castlederg Sideroad	Rural Reconstruction	2014 Caledon DC	Rural Areas	$2,927,694	$2,927,694	58%	$1,687,146	$1,240,548	
Centreville Creek Road	Mayfield Road	King Street	Rural Reconstruction	2014 Caledon DC	Rural Areas	$6,963,725	$6,963,725	20%	$1,392,745	$5,570,980	
Humber Station and Healey Road			Intersection Improvements:	Provided by Town	Rural Areas	$298,900	$298,900	10%	$29,890	$269,010	
Humber Station Road	Healey Road	Mayfield Road	Urban Reconstruction	2014 Caledon DC	Rural Areas	$9,200,922	$9,200,922	75%	$6,900,691	$2,300,230	
Humber Station Road	2.8 km N of Healey (Belomat	Healey Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,105,130	$3,105,130	97%	$3,016,412	$88,718	
Humber Station Road	King Street	2.8 km N of Healey	Rural Reconstruction	2014 Caledon DC	Rural Areas	$319,385	$319,385	97%	$310,260	$9,125	
Humber Station Road	0.4 km N of King St	King Street W	Rural Reconstruction	2014 Caledon DC	Rural Areas	$443,590	$443,590	88%	$392,159	$51,431	
Humber Station Road	Castlederg Sideroad	0.4 km N of King St	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,785,450	$1,785,450	88%	$1,578,441	$207,009	
Duffy's Lane	1.9 km N of King St W	Castlederg Sideroad	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,984,426	$1,984,426	20%	$396,885	$1,587,541	
Healey Road	Airport Road	Innis Lake Road	Urban Reconstruction	2014 Caledon DC	Rural Areas	$4,360,430	$4,360,430	75%	$3,270,323	$1,090,108	
Healey Road	Innis Lake Road	Centreville Creek Road	Urban Reconstruction	2014 Caledon DC	Rural Areas	$4,360,430	$4,360,430	75%	$3,270,323	$1,090,108	
Healey Road	Centreville Creek Road	The Gore Road	Urban Reconstruction	2014 Caledon DC	Rural Areas	$4,559,407	$4,559,407	75%	$3,419,555	$1,139,852	
Healey Road	The Gore Road	Humber Station Road	Urban Reconstruction	2014 Caledon DC	Rural Areas	$4,459,325	$4,459,325	75%	$3,344,494	$1,114,831	
Healey Road	Humber Station Road	Coleraine Drive	Urban Reconstruction	2014 Caledon DC	Rural Areas	$4,459,325	$4,459,325	75%	$3,344,494	$1,114,831	
Castlederg Sideroad	Innis Lake Road	Centreville Creek Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,552,565	$1,552,565	20%	$310,513	$1,242,052	
Castlederg Sideroad	Centreville Creek Road	The Gore Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,552,565	$1,552,565	51%	$794,336	$758,229	
Castlederg Sideroad	Duffy's Lane	Regional Road 50	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,086,157	$1,086,157	20%	$217,231	$868,925	
Heritage Road	Mayfield Road	Old School Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,332,227	$1,332,227	20%	$266,445	$1,065,781	
Creditview Road	Mayfield Road	Old School Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,326,925	$3,326,925	20%	$665,385	$2,661,540	
Chinguacousy Road	Old School Road	Mayfield Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$564,299	$564,299	13%	$75,240	$489,059	
McLaughlin Road	MW2 Limit	Old School Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$2,195,132	$2,195,132	40%	$884,605	$1,310,526	
Bramalea Road	Mayfield Road	Old School Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,636,799	$3,636,799	20%	$727,360	$2,909,439	
Torbram Road	Mayfield Road	Old School Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,747,697	$3,747,697	43%	$1,624,002	$2,123,695	
Heritage Road	Old School Road	0.2 km S of King St	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,174,805	$2,174,805	20%	$434,961	$1,739,844	
Heritage Road	0.2 km S of King St	King St	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$155,343	$155,343	20%	$31,069	$124,275	
Heritage Road	King St	0.7 km N of King St	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$543,701	$543,701	50%	$271,851	$271,851	
Creditview Road	Old School Road	King St	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,437,823	$3,437,823	20%	$687,565	$2,750,258	
Creditview Road	Boston Mills Road	Olde Base Line Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$932,059	$932,059	100%	$932,059	$0	
McLaughlin Road	Old School Road	1.1 km S of King St	Rural Reconstruction	2014 Caledon DC	Rural Areas	$2,217,950	$2,217,950	60%	$1,330,770	$887,180	
McLaughlin Road	1.1 km S of King St	King St	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,219,873	$1,219,873	60%	$731,924	$487,949	
McLaughlin Road	King St	Boston Mills Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,010,162	$3,010,162	20%	$602,032	$2,408,129	
McLaughlin Road	Boston Mills Road	Olde Base Line Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,088,610	$1,088,610	39%	$429,278	$659,333	
Kennedy Road	Old School Road	King St	Rural Reconstruction	2014 Caledon DC	Rural Areas	$2,994,233	$2,994,233	20%	$598,847	$2,395,386	
Heart Lake Road	Old School Road	King St	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,437,823	$3,437,823	80%	$2,750,258	$687,565	
Bramalea Road	King St	Old School Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,437,823	$3,437,823	25%	$859,456	$2,578,367	
Bramalea Road	King St	Olde Base Line	Rural Reconstruction	2014 Caledon DC	Rural Areas	$4,657,695	$4,657,695	20%	$931,539	$3,726,156	
Torbram Road	Old School Road	King Street	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,548,720	$3,548,720	45%	$1,590,806	$1,957,915	
Torbram Road	King Street	Old Baseline Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$4,856,672	$4,856,672	66%	$3,191,527	$1,665,145	
Old School Road	Bramalea Road	Torbram Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,541,357	$1,541,357	22%	$335,078	$1,206,279	
Old School Road	Torbram Road	Airport Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,716,456	$1,716,456	23%	$390,104	$1,326,352	
Boston Mills Road	Mississauga Road	Creditview Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	80%	$869,922	$217,481	
Boston Mills Road	Creditview Road	Chinguacousy Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,286,379	$1,286,379	100%	$1,286,379	$0	
Boston Mills Road	Chinguacousy Road	McLaughlin Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	20%	$217,481	$869,922	
Boston Mills Road	McLaughlin Road	Hurontario St	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	8%	$88,168	$999,235	
Patterson Sideroad	Airport Road	Innis Lake Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,552,565	$1,552,565	54%	$841,752	$710,813	
Patterson Sideroad	Innis Lake Road	Centreville Creek Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,552,565	$1,552,565	51%	$794,336	$758,229	
Patterson Sideroad	Centreville Creek Road	The Gore Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,552,565	$1,552,565	51%	$794,336	$758,229	
Patterson Sideroad	The Gore Road	1.1 km E	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,219,873	$1,219,873	29%	$348,535	$871,338	
Patterson Sideroad	1.1 km E of The Gore Road	Duffy's Lane	Rural Reconstruction	2014 Caledon DC	Rural Areas	$2,283,211	$2,283,211	20%	$456,642	$1,826,569	

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Structure
Driving **Cycling**
Walking **Intersection Improvements**

48.00%

Road	From	To	Improvement Type	Source of Project	Project Location	Total cost	Total cost (less PPB)	BTE %	BTE ($)	BTG ($)	Fiscal Impact Mitigation
Patterson Sideroad	Duffy's Lane	Regional Road 50	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,751,542	$1,751,542	20%	$350,308	$1,401,233	
Shaws Creek Road	Charleston Sideroad	Bush Street	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,529,125	$2,529,125	75%	$1,896,844	$632,281	
Mississauga Road	Forks of Credit Road	1.5km N	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,165,074	$1,165,074	100%	$1,165,074	$0	
Mississauga Road	Cataract Road	1.0km S	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$776,716	$776,716	100%	$776,716	$0	
Mississauga Road	Charleston Sideroad	Cataract Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$932,059	$932,059	100%	$932,059	$0	
McLaughlin Road	North Limit of Inglewood	The Grange Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,631,104	$1,631,104	73%	$1,191,961	$439,143	
The Grange Sideroad	Winston Churchill Blvd	Shaws Creek Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	68%	$744,012	$343,390	
The Grange Sideroad	Shaws Creek Road	Mississauga Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	100%	$1,087,403	$0	
Kennedy Road	0.8km N of Charleston	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,941,791	$1,941,791	20%	$388,358	$1,553,432	
Kennedy Road	Beech Grove Sideroad	Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,407,820	$2,407,820	72%	$1,742,974	$664,846	
Heart Lake Road	Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,330,149	$2,330,149	72%	$1,686,749	$643,399	
St. Andrew's Road	Beech Grove Sideroad	Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,407,820	$2,407,820	92%	$2,217,729	$190,091	
Willoughby Road	Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,529,125	$2,529,125	74%	$1,870,860	$658,265	
Willoughby Road	Beech Grove Sideroad	0.4km S of Highpoint	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,097,134	$2,097,134	74%	$1,551,304	$545,829	
Willoughby Road	0.4km N of Highpoint Sideroad	Town Limit	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,995,155	$2,995,155	74%	$2,220,185	$774,970	
Winston Churchill Blvd.	Highpoint Sideroad	Beech Grove Sideroad	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,437,823	$3,437,823	59%	$2,022,249	$1,415,574	
Winston Churchill Blvd.	1.0km S of E Garafraxa	Highpoint Sideroad	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,281,288	$3,281,288	59%	$1,930,170	$1,351,119	
Winston Churchill Blvd.	0.4km S E Garafraxa	1.0km S of E Garafraxa	Rural Reconstruction	2014 Caledon DC	Rural Areas	$665,385	$665,385	20%	$133,077	$532,308	
Winston Churchill Blvd.	E Garafraxa TL	0.4 km S	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,437,823	$3,437,823	20%	$687,565	$2,750,258	
Shaws Creek Road	Charleston Sideroad	1.6km N Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,441,722	$1,441,722	62%	$889,573	$552,149	
Shaws Creek Road	1.6km N Charleston Sideroad	Beech Grove Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,242,746	$1,242,746	62%	$766,801	$475,945	
Shaws Creek Road	Beech Grove Sideroad	Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,407,820	$2,407,820	59%	$1,416,365	$991,455	
Shaws Creek Road	Highpoint Sideroad	E Garafraxa -Caledon	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$3,116,460	$3,116,460	59%	$1,833,212	$1,283,248	
Main Street	North Limit of Alton / Queen St	Highpoint Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,220,926	$1,220,926	92%	$1,119,182	$101,744	
Main Street	Highpoint Sideroad	E. Garafraxa- Caledon TL	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,485,492	$2,485,492	93%	$2,319,792	$165,699	
Highpoint Sideroad	Main St	1.0 km E of Main Street	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$776,716	$776,716	20%	$155,343	$621,373	
Highpoint Sideroad	1.0 km E of Main Street	Porterfield Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$543,701	$543,701	20%	$108,740	$434,961	
E. Garafraxa-Caledon Town Line	Winston Churchill Blvd	Shaws Creek Road	Rural Reconstruction	2014 Caledon DC	Rural Areas	$1,441,668	$1,441,668	20%	$288,334	$1,153,334	
E. Garafraxa-Caledon Town Line	Shaws Creek Road	Orangeville Town Line	Rural Reconstruction	2014 Caledon DC	Rural Areas	$2,749,619	$2,749,619	20%	$549,924	$2,199,695	
St. Andrew's Road	Old Base Line Road	The Grange Sideroad	Rural Reconstruction	2014 Caledon DC	Rural Areas	$3,725,681	$3,725,681	68%	$2,537,783	$1,187,898	
St. Andrew's Road	The Grange Sideroad	1.7km S of Escarpment Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,165,074	$1,165,074	68%	$793,601	$371,473	
St. Andrew's Road	1.7km S of Escarpment Sideroad	Escarpment Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,320,418	$1,320,418	68%	$899,415	$421,003	
St. Andrew's Road	Escarpment Sideroad	Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,606,797	$2,606,797	20%	$521,359	$2,085,437	
Mountainview Road	Olde Base Line Road	1.4km N of Olde base Line	Urban Reconstruction	2014 Caledon DC	Rural Areas	$4,085,445	$4,085,445	75%	$3,064,084	$1,021,361	
Mountainview Road	1.4km N of Olde base Line	Granite Stone Dr	Urban Reconstruction	2014 Caledon DC	Rural Areas	$6,657,397.16	$6,657,397.16	75%	$4,993,048	$1,664,349	
Mountainview Road	Granite Stone Dr	1.1km N of Granite Stone	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$854,388	$854,388	52%	$443,016	$411,372	
Mountainview Road	1.1km N of Granite Stone	Escarpment Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	57%	$624,678	$462,725	
Mountainview Road	Escarpment Sideroad	Charleston Sideroad	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$2,407,820	$2,407,820	57%	$1,383,216	$1,024,604	
The Grange Sideroad	Hurontario St	Kennedy St	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	44%	$478,457	$608,946	
The Grange Sideroad	Horseshoe Hill Road	St. Andrews Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	57%	$616,195	$471,208	
The Grange Sideroad	St Andrews Road	Mountainview Road	Rural Road Upgrade	2014 Caledon DC	Rural Areas	$1,087,403	$1,087,403	79%	$860,184	$227,218	
Pedestrian Crossings			**Pedestrian Crossings**	**Provided by Town**	Rural Areas	**$25,000**	**$25,000**	10%	$2,500	$22,500	
Traffic Calming			**Traffic Calming**	**Provided by Town**	Rural Areas	**$25,000**	**$25,000**	10%	$2,500	$22,500	
SETTLEMENTS - ALTON											
Queen Street W	Mississauga Road	John Street	Urban Reconstruction	2014 Caledon DC	Alton	$1,778,697	$1,778,697	75%	$1,334,023	$444,674	
Queen Street W	John Street	James St	Urban Reconstruction	2014 Caledon DC	Alton	$571,545	$571,545	75%	$428,659	$142,886	
Queen Street W	James St	Emeline Street	Urban Reconstruction	2014 Caledon DC	Alton	$296,450	$296,450	75%	$222,337	$74,112	
Queen Street W	Emeline Street	Main Street	Urban Reconstruction	2014 Caledon DC	Alton	$2,176,650	$2,176,650	75%	$1,632,488	$544,163	
Main Street	Queen St	0.8 km N	Urban Reconstruction	2014 Caledon DC	Alton	$571,545	$571,545	75%	$428,659	$142,886	
Pedestrian Crossings			**Pedestrian Crossings**	**Provided by Town**	Alton	**$37,500**	**$37,500**	10%	$3,750	$33,750	
Traffic Calming			**Traffic Calming**	**Provided by Town**	Alton	**$37,500**	**$37,500**	10%	$3,750	$33,750	
SETTLEMENTS - BELFOUNTAIN											
Shaws Creek Road	The Grange Sideroad	South Limit of Belfountain	Rural Road Upgrade	2014 Caledon DC	Belfountain	$1,553,432	$1,553,432	20%	$310,686	$1,242,746	
Shaws Creek Road	South Limit of Belfountain	Bush Street	Urban Reconstruction	2014 Caledon DC	Belfountain	$3,452,838	$3,452,838	75%	$2,589,628	$863,209	
Pedestrian Crossings			**Pedestrian Crossings**	**Provided by Town**	Belfountain	**$37,500**	**$37,500**	10%	$3,750	$33,750	
Traffic Calming			**Traffic Calming**	**Provided by Town**	Belfountain	**$37,500**	**$37,500**	10%	$3,750	$33,750	
SETTLEMENTS - CALEDON VILLAGE											
Kennedy Road	0.8km S of Charleston Sideroad	Charleston Sideroad	Urban Reconstruction	2014 Caledon DC	Caledon Village	$2,286,179	$2,286,179	75%	$1,714,635	$571,545	

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Structure	
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48.00%

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Kennedy Road	Charleston Sideroad	0.8km N of Charleston	Urban Reconstruction	2014 Caledon DC	Caledon Village	$2,485,156	$2,485,156	75%	$1,863,867	$621,289	
Pedestrian Crossings			Pedestrian Crossings	Provided by Town	Caledon Village	$37,500	$37,500	10%	$3,750	$33,750	
Traffic Calming			Traffic Calming	Provided by Town	Caledon Village	$37,500	$37,500	10%	$3,750	$33,750	
SETTLEMENTS - CALEDON EAST VILLAGE											
Innis Lake Road	Patterson SR	1.6 Km N of Old Church Road	Urban Reconstruction	2014 Caledon DC	Caledon East	$4,662,961	$4,662,961	10%	$466,296	$4,196,665	
Innis Lake Road	1.6 Km N of Old Church Road	0.6m N of Old Church Road	Urban Reconstruction	2014 Caledon DC	Caledon East	$3,150,307	$3,150,307	10%	$315,031	$2,835,277	
Innis Lake Road	0.6 Km N of Old Church Road	Old Church	Urban Reconstruction	2014 Caledon DC	Caledon East	$1,940,184	$1,940,184	10%	$194,018	$1,746,166	
Castlederg Sideroad	Airport Road	Innis Lake Road	Rural Reconstruction	2014 Caledon DC	Caledon East	$1,552,565	$1,552,565	54%	$841,752	$710,813	
Pedestrian Crossings			Pedestrian Crossings	Provided by Town	Caledon East	$62,500	$62,500	10%	$6,250	$56,250	
Traffic Calming			Traffic Calming	Provided by Town	Caledon East	$62,500	$62,500	10%	$6,250	$56,250	
SETTLEMENTS - CHELTENHAM											
Mill Street	Mississauga Road	1.0 km E	Urban Reconstruction	2014 Caledon DC	Cheltenham	$3,349,284	$3,349,284	75%	$2,511,963	$837,321	
Mill Street	0.1 km E Mississuaga Road	Creditview Road	Urban Reconstruction	2014 Caledon DC	Cheltenham	$2,338,137	$2,338,137	75%	$1,753,603	$584,534	
Kennedy Road	Creditview Road	Credit Road	Urban Reconstruction	2014 Caledon DC	Cheltenham	$2,242,715	$2,242,715	75%	$1,682,036	$560,679	
Creditview Road	Kennedy Road	King Street	Urban Reconstruction	2014 Caledon DC	Cheltenham	$8,500,253	$8,500,253	75%	$6,375,190	$2,125,063	
Creditview Road	Boston Mills Road	Kennedy Road	Rural Road Upgrade	2014 Caledon DC	Cheltenham	$543,701	$543,701	100%	$543,701	$0	
Pedestrian Crossings			Pedestrian Crossings	Provided by Town	Cheltenham	$37,500	$37,500	10%	$3,750	$33,750	
Traffic Calming			Traffic Calming	Provided by Town	Cheltenham	$37,500	$37,500	10%	$3,750	$33,750	
SETTLEMENTS - INGLEWOOD											
McLaughlin Road	0.5 km N of Olde Base Line	N. Limit of Inglewood	Urban Reconstruction	2014 Caledon DC	Inglewood	$4,967,896	$4,967,896	75%	$3,725,922	$1,241,974	
McLaughlin Road	Riverdale	0.5 km North of McCoull	Urban Reconstruction	2014 Caledon DC	Inglewood	$3,150,307	$3,150,307	75%	$2,362,730	$787,577	
Pedestrian Crossings			Pedestrian Crossings	Provided by Town	Inglewood	$37,500	$37,500	10%	$3,750	$33,750	
Traffic Calming			Traffic Calming	Provided by Town	Inglewood	$37,500	$37,500	10%	$3,750	$33,750	
SETTLEMENTS - BOLTON											
Glasgow Road	Deer Valley Drive	King St W	Urban Reconstruction	2014 Caledon DC	Bolton	$3,414,309	$3,414,309	10%	$341,431	$3,072,878	
Caledon-King Townline S	Columbia Way	King St E	Rural Reconstruction	2014 Caledon DC	Bolton	$3,545,525	$3,545,525	20%	$709,105	$2,836,420	
Columbia Way	Mount Hope Road	0.5km E	Urban Reconstruction	2014 Caledon DC	Bolton	$1,670,166	$1,670,166	10%	$167,017	$1,503,150	
Columbia Way	0.5km E	Caledon-King Town Line S	Rural Reconstruction	2014 Caledon DC	Bolton	$939,200	$939,200	20%	$187,840	$751,360	
Columbia Way	Mount Hope Road	Highway 50	Urban Reconstruction	Provided by Town	Bolton	$4,959,475	$4,959,475	10%	$495,947	$4,463,527	
Mount Hope Road	Columbia Way	Guardhouse Drive	Rural Road Upgrade	2014 Caledon DC	Bolton	$310,686	$310,686	20%	$62,137	$248,549	
Industrial Road	Caledon/King Town Line S	Regional Road No. 50	Urban Reconstruction	2014 Caledon DC	Bolton	$3,760,990	$3,760,990	10%	$376,099	$3,384,891	
McEwan Drive			Land Acquisition	2014 Caledon DC	Bolton	$809,247	$809,247	0%	$0	$809,247	
Queensgate Blvd	Regional Road 50	Albion /Vaughan Road	Urban Reconstruction	2014 Caledon DC	Bolton	$3,970,556	$3,970,556	10%	$397,056	$3,573,501	
Dovaston St (Daisy Meadow Lane)	@ Albion /Vaughan Rd		Intersection Improvements: Sig	2014 Caledon DC	Bolton	$298,900	$298,900	10%	$29,890	$269,010	
Mayfield Road	@ Pillsworth (Nixon Rd)		Intersection Improvements: Sig	2014 Caledon DC	Bolton	$298,900	$298,900	10%	$29,890	$269,010	
Albion-Vaughan Road	Queensgate Boulevard	Regional Road 50	Urban Reconstruction	2014 Caledon DC	Bolton	$10,713,575	$10,713,575	10%	$1,071,358	$9,642,218	
Albion-Vaughan Road	@ CPR Line		Structure	2014 Caledon DC	Bolton	$4,765,132	$4,765,132	0%	$0	$4,765,132	
Albion-Vaughan Road	Queensgate Boulevard	Regional Road 50	Land Acquisition	2014 Caledon DC	Bolton	$2,265,892	$2,265,892	0%	$0	$2,265,892	
Albion-Vaughan Road	King St	Mayfield Road	Widening: 2 to 4 lanes	Caledon TMP + Bolton TMP+ 2014 DC	Bolton	$17,342,851	$8,324,568.66	0%	$0	$8,324,569	
George Bolton Parkway	Industrial Road	Highway 50	New Construction: 2 lanes	Caledon TMP + Bolton TMP	Bolton	$1,022,242	$490,675.97	0%	$0	$490,676	
George Bolton Parkway	Coleraine Drive	Terminus of Road	Widening: 2 to 4 lanes	Added by the Town	Bolton	$5,146,873	$5,146,873	0%	$0	$5,146,873	
Healey Road and Simpson Road			Intersection Improvements:	Added by the Town	Bolton	$298,900	$298,900	10%	$29,890	$269,010	
Nixon Road and McEwan Drive			Intersection Improvements:	Added by the Town	Bolton	$298,900	$298,900	10%	$29,890	$269,010	
Pedestrian Crossings			Pedestrian Crossings	Provided by Town	Bolton	$62,500	$62,500	10%	$6,250	$56,250	
Traffic Calming			Traffic Calming	Provided by Town	Bolton	$62,500	$62,500	10%	$6,250	$56,250	
SETTLEMENTS - SOUTH ALBION BOLTON EMPLOYMENT LANDS											
North-South Corridor			Urban Reconstruction	2014 Caledon DC	South Albion	$12,831,290	$12,831,290	10%	$1,283,129	$11,548,161	
Parr Blvd			Urban Reconstruction	2014 Caledon DC	South Albion	$1,940,184	$1,940,184	10%	$194,018	$1,746,166	
George Bolton Parkway Extension	Coleraine Drive	500m West of Coleraine	Urban Reconstruction	2014 Caledon DC	South Albion	$1,637,654	$1,637,654	10%	$163,765	$1,473,888	
McEwan Drive Extension	West of Coleraine Drive		Urban Reconstruction	2014 Caledon DC	South Albion	$1,940,184	$1,940,184	10%	$194,018	$1,746,166	
Intersection Signalization			Intersection Improvements:	2014 Caledon DC	South Albion	$597,800	$597,800	10%	$59,780	$538,020	
McEwan Drive Extension	East of Colleraine Drive		Urban Reconstruction	2014 Caledon DC	South Albion	$1,714,635	$1,714,635	10%	$171,463	$1,543,171	
Healey Road	Coleraine Drive	Humber Station Road	Urban Reconstruction	2014 Caledon DC	South Albion	$3,942,160	$3,942,160	10%	$394,216	$3,547,944	
Pedestrian Crossings			Pedestrian Crossings	Provided by Town	South Albion	$37,500	$37,500	10%	$3,750	$33,750	
Traffic Calming			Traffic Calming	Provided by Town	South Albion	$37,500	$37,500	10%	$3,750	$33,750	
SETTLEMENTS - MAYFIELD WEST											
Kennedy Road	Bonnieglen Farm Blvd	Old School Road 620m	Urban Reconstruction	2014 Caledon DC	Mayfield West	$1,975,314	$1,975,314	5%	[redacted]	$1,876,548	$98,766
Heart Lake Road	Mayfield Road	N. Limit OPA 208	Urban Reconstruction	2014 Caledon DC	Mayfield West	$11,715,623	$11,715,623	5%		$11,129,842	$585,781
Heart Lake Road	N. Limit OPA 208	Old School Road	Urban Reconstruction	2014 Caledon DC + Capital Projects	Mayfield West	$3,030,024	$3,030,024	5%		$2,878,523	$151,501
Old School Road	Hurontario Street	Dixie Road	Urban Reconstruction	2014 Caledon DC	Mayfield West	$8,786,762	$8,786,762	10%		$7,908,086	$878,676

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Mayfield West Industrial Collector (Abbotside Way)	600m East of Kennedy Road	Dixie Road	Urban Reconstruction	2014 Caledon DC	Mayfield West	$2,053,145	$2,053,145	0%		$2,053,145	$0
Main Street	Coll. Village Centre		Streetscaping	2014 Caledon DC	Mayfield West	$479,457	$479,457	5%		$455,484	$23,973
Sidewalks and StreetLighting			Streetscaping	2014 Caledon DC	Mayfield West	$2,622,915	$2,622,915	20%		$2,098,332	$524,583
Dougall Ave / Main Street, west of			**Intersection Improvements:**	**Mayfield West 1 Agreement (6a)**	Mayfield West	$265,740	$265,740	0%		$265,740	$0
Main Street/Dougall Ave and			**Intersection Improvements:**	**Mayfield West 1 Agreement (6b)**	Mayfield West	$265,740	$265,740	0%		$265,740	$0
Dougall Ave/Main St and Highway			**Intersection Improvements:**	**Mayfield West 1 Agreement (6c)**	Mayfield West	$280,148	$280,148	0%		$280,148	$0
Dixie and Abbotside way			**Intersection Improvements:**	**Mayfield West 1 Agreement (6d)**	Mayfield West	$265,740	$265,740	0%		$265,740	$0
Highway 10 and Main Street, left			**Intersection Improvements:**	**Mayfield West 1 Agreement (6e)**	Mayfield West	$280,148	$280,148	0%		$280,148	$0
Kennedy @ Fernbrook intersection.			**Intersection Improvements:**	**Mayfield West 1 Agreement (6f)**	Mayfield West	$298,900	$298,900	0%		$298,900	$0
Kennedy and Larson peak			**Intersection Improvements:**	**Mayfield West 1 Agreement (6h)**	Mayfield West	$298,900	$298,900	0%		$298,900	$0
Kennedy and Dougall Ave.			**Intersection Improvements:**	**Mayfield West 1 Agreement (6i)**	Mayfield West	$298,900	$298,900	0%		$298,900	$0
Kennedy and Learmont			**Intersection Improvements:**	**Mayfield West 1 Agreement (6j)**	Mayfield West	$298,900	$298,900	0%		$298,900	$0
Partial Interchange - Kennedy Road to Hwy 410 (Includes Environmental Assessment)			Structure	2014 Caledon DC	Mayfield West	$8,059,790	$8,059,790	0%		$8,059,790	$0
Bridge at Highway 410 - Widening to 5 Lanes	Heart Lake Road		Structure	2014 Caledon DC	Mayfield West	$3,091,426	$3,091,426	0%		$3,091,426	$0
Chinguacousy Road	Mayfield Road	Spine Road	Urban Reconstruction	2014 Caledon DC	Mayfield West	$2,029,618	$2,029,618	5%		$1,928,138	$101,481
Mclaughlin Road	265m North of Spine Road	MW2 Limit	Urban Reconstruction	2014 Caledon DC	Mayfield West	$952,853	$952,853	5%		$905,210	$47,643
McLaughlin Road	Mayfield Road	265m North of Spine Road	Widening: 2 to 4 lanes	MWP2SPTMP	Mayfield West	$21,832,423	$21,832,423	60%		$8,732,969	$13,099,454
The Spine Road	Chinguacousy	McLaughlin	New Construction: 3 lanes	Caledon TMP + MWP2SPTMP	Mayfield West	$12,957,573	$12,957,573	0%		$12,957,573	$0
The Spine Road	Mclaughlin	Collector Road F (north leg)	New Construction: 4 lanes	2014 Caledon DC	Mayfield West	$12,022,676	$12,022,676	0%		$12,022,676	$0
Modified Interchange	New Arterial/Spine Road and	Hurontairo/Hwy 410	Structure	MWP2SPTMP	Mayfield West	$35,000,000	$35,000,000	5%		$33,250,000	$1,750,000
Pedestrian Crossings			**Pedestrian Crossings**	**Provided by Town**	Mayfield West	**$62,500**	**$62,500**	10%		$56,250	$6,250
Traffic Calming			**Traffic Calming**	**Provided by Town**	Mayfield West	**$62,500**	**$62,500**	10%		$56,250	$6,250
SETTLEMENTS - PALGRAVE								**(BTE for MW paid for through FIM)**			**$ 17,274,357.59**
Pine Avenue	Mount Hope Road	1.3 km W	Rural Reconstruction	2014 Caledon DC	Palgrave	$1,441,668	$1,441,668	20%	$288,334	$1,153,334	
Pine Avenue	Regional Road 50	Birch Avenue	Urban Reconstruction	2014 Caledon DC	Palgrave	$730,061	$730,061	75%	$547,546	$182,515	
Mount Hope Road	1.6 km S	Hundsen Sideroad	Rural Road Upgrade	2014 Caledon DC	Palgrave	$1,242,746	$1,242,746	85%	$1,051,554	$191,192	
Mount Hope Road	Hundsen Sideroad	Pine Avenue	Rural Road Upgrade	2014 Caledon DC	Palgrave	$543,701	$543,701	20%	$108,740	$434,961	
Mount Pleasant Road	Caledon/King Town Line S	Castlederg Sideroad	Rural Reconstruction	2014 Caledon DC	Palgrave	$3,216,028	$3,216,028	78%	$2,514,349	$701,679	
Mount Pleasant Road	Castlederg Sideroad	Old Church Road	Rural Reconstruction	2014 Caledon DC	Palgrave	$3,437,823	$3,437,823	58%	$2,005,397	$1,432,426	
Mount Pleasant Road	Old Church Road	1.4 km N	Rural Reconstruction	2014 Caledon DC	Palgrave	$1,552,565	$1,552,565	20%	$310,513	$1,242,052	
Mount Wolfe Road	Hundsen Sideroad	1.4 km S	Rural Reconstruction	2014 Caledon DC	Palgrave	$1,552,565	$1,552,565	20%	$310,513	$1,242,052	
Mount Wolfe Road	Hwy 9	Hundsen Sideroad	Rural Reconstruction	2014 Caledon DC	Palgrave	$998,078	$998,078	20%	$199,616	$798,462	
Caledon-King Townline N	Halls Lake Sideroad	Hwy 9	Rural Road Upgrade	2014 Caledon DC	Palgrave	$1,631,104	$1,631,104	20%	$326,221	$1,304,883	
Pedestrian Crossings			**Pedestrian Crossings**	**Provided by Town**	Palgrave	**$39,474**	**$39,474**	10%	$3,947	$35,527	
Traffic Calming			**Traffic Calming**	**Provided by Town**	Palgrave	**$39,474**	**$39,474**	10%	$3,947	$35,527	
ACTIVE TRANSPORTATION PROJECTS											
Station Road	Old Ellwood Drive	King Street	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$42,266	$42,266	50%	$21,133	$21,133	
Landsbridge Street/Saint Farm Drive	Allan Drive (west portion)	Allan Drive (east portion)	Bike Lane	2015 Bolton TMP Figure 50 / Table 38	Bolton	$207,679	$207,679	50%	$103,840	$103,840	
Wilton Drive	Queen Street/Highway 50	Ellwood Drive	Bike Lane	2015 Bolton TMP Figure 50 / Table 38	Bolton	$65,695	$65,695	50%	$32,847	$32,847	
Old Ellewood Drive	Coleraine Drive	Off-Road Trail connecting to	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$121,597	$121,597	50%	$60,798	$60,798	
DeRose Avenue	King Street	Road Terminus	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$19,508	$19,508	50%	$9,754	$9,754	
Cedargrove Road	Harvest Moon Drive (north portion)	Harvest Moon Drive (south portion)	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$59,173	$59,173	50%	$29,586	$29,586	
Harvest Moon Drive	King Street	Coleraine Road	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$82,582	$82,582	50%	$41,291	$41,291	
Sneath Road	King Street	Pedestrian trail bridge	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$13,655	$13,655	50%	$6,828	$6,828	
Kingsview Drive	Foxchase Drive	Long Wood Drive	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$65,025	$65,025	50%	$32,513	$32,513	
Taylorwood Avenue	Existing Off-Road Trail	Existing Off-Road Trail	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$6,503	$6,503	50%	$3,251	$3,251	
Silvermoon Avenue	Kingsview Drive	Silver Valley Drive	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$13,005	$13,005	50%	$6,503	$6,503	
Silver Valley Drive	Silvermoon Avenue	Road Cul-de-sac	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$30,562	$30,562	50%	$15,281	$15,281	
Evans Ridge	Silver Valley Drive	King Street East	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$16,256	$16,256	50%	$8,128	$8,128	
Holland Drive	Coleraine Drive	Healey Road	Bike Lane	2015 Bolton TMP Figure 50 / Table 38	Bolton	$91,831	$91,831	50%	$45,916	$45,916	
Old King Road	Bond Street	Albion Vaughan Road	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$63,725	$63,725	50%	$31,862	$31,862	
Glasgow Road	Deer Valley Road	Hickman Street	Signed-Only Bike Route	2015 Bolton TMP Figure 50 / Table 38	Bolton	$52,020	$52,020	50%	$26,010	$26,010	
TOTAL						**$508,564,574**	**$499,014,726**		**$159,709,737**	**$322,030,631**	**$17,274,358**
TOTAL TRANSPORTATION											

Appendix F
Proposed D.C. By-law

THE CORPORATION OF THE TOWN OF CALEDON

BY-LAW NO. 2019-31

A by-law to impose and provide for the payment of development charges for municipal services in the Town of Caledon

WHEREAS the Town of Caledon will experience growth through development and re-development;

AND WHEREAS the *Development Charges Act, 1997* provides that the council of a municipality may by by-law impose development charges against land to pay for increased capital costs required because of the increased need for services arising from development in the area to which the by-law applies;

AND WHEREAS Council desires to ensure that the capital cost of meeting growth-related demands for, or burden on, municipal services does not place an undue financial burden on the Town of Caledon or its taxpayers;

AND WHEREAS at the direction of the Council of The Corporation of the Town of Caledon, Watson & Associates Economists Ltd. has prepared a development charge background study entitled *Town of Caledon 2019 Development Charge Background Study dated 22 March 2019;*

AND WHEREAS extracts of the draft *Town of Caledon 2019 Development Charge Background Study* were reviewed with representatives of the development community at a meeting held on February 27, 2019;

AND WHEREAS notice of a public meeting was given March 21 and 28, 2019 as required by the *Development Charges Act, 1997* and in accordance with Ontario Regulation 82/98;

AND WHEREAS the Council of The Corporation of the Town of Caledon made the *Town of Caledon 2019 Development Charge Background Study dated 22 March 2019* and a proposed by-law available to the public as of 22 March 2019 as required by the *Development Charges Act, 1997*;

AND WHEREAS the Council of The Corporation of the Town of Caledon held a public meeting on 23 April 2019 at which all persons in attendance were provided with an opportunity to make representations relating to this proposed by-law as required by *the Development Charges Act, 1997*;

AND WHEREAS, by resolution adopted on 21 May 2019, the Council of The Corporation of the Town of Caledon:

(a) adopted the *Town of Caledon 2019 Development Charge Background Study*;

(b) determined that it was not necessary to hold any further public meetings with respect to this by-law;

(c) expressed its intention to ensure that the increased need for services arising from development in the area to which this by-law applies will be met.

NOW THEREFORE the Council of The Corporation of the Town of Caledon enacts as follows:

Definitions

1. (1) In this by-law, the following terms shall have the meanings indicated:

"accessory", where used to describe a building, structure or use, means a building, structure or use that is subordinate, incidental and exclusively devoted to a principal building,

structure or use and that is located on the same land as such principal building, structure or use

“Act” means the *Development Charges Act, 1997*, S.O. 1997, c.27

“agricultural building or structure” means a building or structure, including a greenhouse, that is used for the purposes of or in conjunction with animal husbandry, the growing of crops including grains and fruit, cultivation, propagation, harvesting, composting, drying, trimming, milling or storage of cannabis, market gardening, horticulture or any other use that is customarily associated with a farming operation of a bona fide farmer but does not include a building, structure or greenhouse or part thereof solely designed, used or intended to be used for processing, hydroponics, production or sale of cannabis

“agricultural tourism building or structure” means a building or structure or part of a building or structure located on a working farm of a bona fide farmer for the purpose of providing enjoyment, education or active involvement in the activities of the farm where the principal activity on the property remains as a farm and where products used in the activity are produced on the property and/or are related to farming. The building or structure may be related to activities such as a hay or corn maze; farm related petting zoo; hay rides and sleigh, buggy or carriage rides; farm tours; processing demonstrations; pick-your-own produce; a farm theme playground for children; farm markets; farm produce stands, and farmhouse dining rooms but shall not include space used for banquets or weddings

“apartment dwelling” means a dwelling unit in a building containing seven or more dwelling units where the dwelling units are connected by an interior corridor and shall include stacked townhomes

“back-to-back townhome” means a building that has three or more dwelling units, joined by common side and rear walls above grade, and where no dwelling unit is entirely or partially above another.

“bed and breakfast establishment” means a single detached dwelling or part of a single detached dwelling in which guest rooms are provided for hire or pay, with or without meals, for the traveling or vacationing public, but does not include a hotel or motel

“bona fide farmer” means an individual currently actively engaged in a farm operation with a valid Farm Business Registration number in the Town of Caledon

“building or structure” means a building or structure occupying an area greater than 10 square metres consisting of a wall, roof and floor or any of them or a structural system serving the function thereof, including an air supported structure, or mezzanine

“cannabis” means:

(a) a cannabis plant that belongs to the genus cannabis;

(b) any part of a cannabis plant, including the phytocannabinoids produced by, or found in, such a plant, regardless of whether that part has been processed or not;

(c) any substance or mixture of substances that contains or has on it any part of such a plant;

(d) any substance that is identical to any phytocannabinoid produced by, or found in, such a plant, regardless of how the substance was obtained; and

(e) where a licence, permit or authorization has been issued under applicable federal law; and

“commercial building” means a non-residential building other than an agricultural building, an industrial building or an institutional building

“completed” when used with respect to the construction of a green commercial or industrial building, means that the Town’s Chief Building Official or his or her designate is satisfied that such building complies with the applicable building, fire and mechanical requirements of the Ontario Building Code

“country inn” means premises in which temporary lodging or sleeping accommodation are provided to the public and may include accessory services such as a restaurant, meeting facilities, recreation facilities, banquet facilities and staff accommodations. The Premises shall contain a minimum of four (4) and a maximum of twenty-nine (29) guest rooms.

“development” means the construction, erection or placing of one or more buildings or structures on land and/or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof, and includes redevelopment

“development charge” means a development charge imposed pursuant to this by-law

“duplex dwelling” means a dwelling unit in a building divided horizontally into two dwelling units each of which has a separate entrance

“dwelling unit” means a room or suite of rooms used or designed or intended for use by one or more persons living together in which culinary and sanitary facilities are provided for the exclusive use of such person or persons

“farm based home industry building ” means an accessory building to a single detached dwelling where a small-scale use is located, which is operated by a bona fide farmer, which is located on and is subordinate or incidental to a permitted farm operation; which is associated with limited retailing of products created in whole or in part in the accessory building performed by one or more residents of the farm property and may include a carpentry shop; a craft shop; a metal working shop; a repair shop; a farm equipment repair shop; a farm tractor repair shop; a plumbing shop; an electrical shop; a welding shop ; a woodworking shop; a blacksmith, a building for the indoor storage of school buses, boats, snowmobiles, or similar uses, but shall not include a motor repair shop or vehicle paint shop or space for the provision of banquet or wedding facilities

“farm help” means full-time, all-year round employee(s) of a bona fide farmer on an agricultural property

“farm winery” and “farm cidery” means buildings or structures used by a bona fide farmer for the processing of juice, grapes, fruit or honey in the production of wines or ciders, including the fermentation, production, bottling, aging or storage of such products as a secondary use to a farm operation. The winery or cidery may include a laboratory, administrative office, hospitality room and retail outlet related to the production of wines or ciders, as applicable, and, if required, must be licensed or authorized under the appropriate legislation

“garden suite” means a one-storey, free standing, temporary and portable residential structure, with a single dwelling unit containing kitchen and bathroom facilities, which is designed for year round occupancy and is accessory to a single-detached dwelling, but excludes a trailer

“grade” means the average level of finished ground adjoining a building or structure at all of its exterior walls

“green commercial or industrial building” means a commercial or industrial building that is Leadership in Energy and Environmental Design (LEED) certified or a commercial or industrial building where one of the following applies:

(a) twenty-five (25%) percent of the total amount of energy required for full operation of such building, including all equipment and machinery therein, is provided by a solar hot water system;

(b) ten (10%) percent of the total amount of energy required for full operation of such building, including all equipment and machinery therein, is provided by transpired solar collectors;

(c) five (5%) percent of the total amount of energy required for full operation of such building, including all equipment and machinery therein, is provided by a solar photovoltaic system;

“greenhouse” means a building or structure, enclosed by glass or plastic used for the agricultural growing of fruits, vegetables, shrubs, trees, flowers or plants

“guest room” means temporary overnight accommodation for the traveling public

“gross floor area” means the total floor area, measured between the outside of exterior walls or between the outside of exterior walls and the centre line of party walls dividing the building from another building, of all floors above the average level of finished ground adjoining the building at its exterior walls, as defined in Ontario Regulation 82/98, s. 1 (1)

“industrial building” means a building used for or in connection with:

(a) manufacturing, producing, processing, storing or distributing something;

(b) research or development in connection with manufacturing, producing or processing something;

(c) retail sales by a manufacturer, producer or processor of something they manufactured,

produced or processed, if the retail sales are at the site where the manufacturing, production or processing takes place; or,

(d) office or administrative purposes, if they are,

(i) carried out with respect to manufacturing, producing, processing, storage or distributing of something; and,

(ii) in or attached to the building or structure used for that manufacturing, producing, processing, storage or distribution

(e) the processing, testing, alteration, destruction, production, packaging, shipment or distribution of cannabis where a licence, permit or authorization has been issued under applicable federal law, but does not include a building, structure or greenhouse or part thereof solely designed, used or intended to be used for sale of cannabis

(f) the definition of industrial building shall not include a building where the main business of the owner is the rental or lease of space for self-storage to one or more third parties nor a building whose primary business is to be a retail establishment

“institutional use” means the use of land, buildings, or structures, or a portion thereof, for a public or non-profit purpose, including a religious, charitable, educational, health or welfare purpose, and without limiting the generality of the foregoing, may include such uses as schools, hospitals, places of worship, recreation facilities, community centres and government buildings

“life lease” means a property that is a form of housing tenure in which individuals purchase the right to occupy a residential unit for a specified period of time (i.e., for their lifetime, or, a defined term)

“Life Lease Housing” means housing owned and operated by a not-for-profit organization or charity, contained within a retirement community, that offers Life Lease interests to persons aged 65 or older

“local board” means a local board as defined in the Municipal Act, 2001 other than a board defined in subsection 1(1) of the Education Act;

“mixed use” means land, buildings or structures used or designed or intended to be used for a combination of residential uses and non-residential

“non-residential” means used or designed or intended to be used other than for residential purposes

“on-farm diversified use building or structure” means a building or structure, including a greenhouse, secondary to the principal agricultural use of the property by a bona fide farmer, including home occupations, farm-based home industries, and uses that involve the production and sale of value-added agricultural products and excludes;

a) uses that involve lease of commercial/industrial space;

b) the provision of banquet or wedding facilities; and

c) the processing, testing, alteration, destruction, production, packaging, shipment, distribution or sale of cannabis

“on-farm wedding venue” means a building or structure located on an agricultural property that is owned by a bona fide farmer who operates a seasonal wedding business using the building or structure that is a secondary use on the property incidental to the primary use of the property as a farm.

“outbuilding” means a building or structure, that is a maximum of 92.903 square meters (or 1,000 square feet), that is accessory to a primary or main non-residential building or mixed use building, that is located on the same land as such primary or main nonresidential building and that is used for a storage purpose that is accessory to the primary or main use on such land, such as the storage of equipment used to maintain such land or the buildings and structures thereon or the storage of equipment that is ordinarily used for the purposes of the primary or main use on such land, but shall not include a building used for the storage of inventory nor include a building or structure used in banquets or wedding facilities. The maximum area does not apply to golf course buildings or structures.

“protracted”, in relation to a temporary building or structure, means the existence of such temporary building or structure for a continuous period of more than eight months

“redevelopment” means the construction, erection or placing of one or more buildings or structures on land where all or part of a building or structure on such land has been or is to be demolished, or changing the use of a building or structure from residential to non-residential or from non-residential to residential

“Regulation” means Ontario Regulation 82/98, as amended

“residential” means used or designed or intended to be used as a home or residence of one or more persons

“retail” means the use or intended use of land, buildings or portions thereof for the purpose of offering foods, wares, merchandise, substances, articles or things for sale directly to the public or providing services or entertainment to the public. Retail includes, but is not limited to:

(a) the use or intended use of land, buildings or portions thereof for the rental of wares, merchandise, substances, articles or things;

(b) offices and storage used or intended to be used in connection with, related to or ancillary to a retail use; or

conventional restaurants; fast food restaurants; concert halls/theatres/cinemas/movie houses/drive-in theatres; automotive fuel stations with or without service facilities; specialty automotive shops/auto repairs/collision services/care or truck washes; auto dealerships; shopping centres and plazas, including more than two attached

stores under one ownership; department/discount stores; banks and similar financial institutions, including credit unions; warehouse clubs and retail warehouses.Retirement community” means a housing project consisting of ground-related dwelling units in single family, semi-detached, or multiple dwelling and other amenities, all of which are designed, marketed, developed and constructed to provide accommodation for and to meet the needs of persons aged 65 and older

“secondary dwelling on an agricultural property” means a temporary and portable residential structure, containing a single dwelling unit with kitchen and bathroom facilities, designed for year-round occupancy by farm help

“semi-detached dwelling” means a dwelling unit in a building divided vertically into two dwelling units each of which has a separate entrance

“service” means a service described in this by-law or in an agreement made under section 44 of the Act

“single-detached dwelling” means a dwelling unit in a completely detached building containing only one dwelling unit

“small apartment” means a dwelling unit of less than 70 square metres in size

"special care/special needs facility" means a building intended for residential use containing more than three dwelling units, which units have a common enclosed entrance from street level, where the occupants have the right to use in common halls, stairs, yards, common rooms and accessory buildings, which units may or may not have exclusive sanitary and/or culinary facilities and are designed to accommodate individuals with special needs, including independent long-term living arrangements, where support for services such as meal preparation, grocery shopping, laundry, housekeeping, nursing, respite care and attendant services are provided at various levels, and includes retirement homes and nursing homes

“stacked townhome” means a building containing two or more dwelling units where each dwelling unit is separated horizontally from another dwelling unit by a common wall.

“structure” means anything constructed or erected and requiring location on or in the ground or attached to something having location on or in the ground

“temporary building or structure” means a building or structure that is constructed, erected or placed on land for a continuous period of not more than eight months, or an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof for a period of not more than eight months

“total floor area” means the total of the areas of the floors in a building or structure, whether at, above or below grade, measured between the exterior faces of the exterior walls of the building or structure or from the centre line of a common wall separating two uses, or from the outside edge of a floor where the outside edge of the floor does not meet an exterior or common wall, and:

(a) includes space occupied by interior walls and partitions;

(b) includes, below grade, only the floor area that is used for commercial or industrial purposes;

(c) includes the floor area of a mezzanine;

(d) where a building or structure does not have any walls, the total floor area shall be the total area of the land directly beneath the roof of the building or structure and the total areas of the floors in the building or structure;

(e) excludes any parts of the building or structure used for mechanical equipment related to the operation or maintenance of the building or structure, stairwells, elevators, washrooms, and the parking and loading of vehicles; and

(f) excludes any additional square footage created by the area of any self-contained structural shelf and rack storage facility permitted by the *Building Code Act* but includes the floor area of the base

"Town" means The Corporation of the Town of Caledon.

(2) All words defined in the Act or the Regulation have the same meaning in this by-law as they have in the Act or Regulation unless they are defined otherwise in this by-law.

(3) All references to the provisions of any statute or regulation or to the Ontario Building Code contained in this by-law shall also refer to the same or similar provisions in the statute or regulation or code as amended, replaced, revised or consolidated from time to time.

Affected Land

2. (1) Subject to subsections 2 and 3 of this section, this by-law applies to all land in the Town of Caledon, whether or not such land is exempt from taxation under section 3 of the *Assessment Act*.

(2) For the period May 29, 2019 to May 28, 2021, this by-law shall not apply to land proposed for development within

(a) the Bolton Business Improvement Area as outlined in By-law No. 80-72, as has been or may be amended; or

(b) the Caledon East Commercial Core Area as outlined on Schedule D of the Town of Caledon Official Plan.

(3) As of May 29, 2021, this by-law shall not apply to land proposed for non-residential development within

(a) The Bolton Business Improvement Area as outlined By0law No. 80-72, as has been or may be amended; or

(b) the Caledon East Commercial Core Area as outlined on Schedule D of the Town of Caledon Official Plan.

(4) This by-law shall not apply to land that is owned by and used for the purposes of

(a) a board as defined in subsection 1(1) of the *Education Act*;

(b) a college established under the *Ontario Colleges of Applied Arts and Technology Act, 2002* or a university as defined in section 171.1 of the *Education Act*, that is exempt from taxation under the enabling legislation and are used for the purposed set out under such enabling legislation;

(c) a hospital as defined in section 1 of the *Public Hospitals Act*;

(d) the Ontario Provincial Police;

(e) the Town or any local board thereof;

(f) The Regional Municipality of Peel or any local board thereof; or,

(g) any other municipality or local board thereof.

Imposition of Development Charges

3. (1) Subject to subsections 2 and 3 of this section, development charges shall be imposed against land that is to be developed if the development requires:

(a) the passing of a zoning by-law or of an amendment to a zoning by-law under section 34 of the *Planning Act*;

(b) the approval of a minor variance under section 45 of the *Planning Act;*

(c) a conveyance of land to which a by-law passed under subsection 50(7) of the *Planning Act* applies;

(d) the approval of a plan of subdivision under section 51 of the *Planning Act*;

(e) a consent under section 53 of the *Planning Act*;

(f) the approval of a description under section 50 of the *Condominium Act*; or,

(g) the issuing of a building permit under the *Building Code Act* in relation to a building or structure.

(2) Only one development charge shall be imposed against land to which this by-law applies even though two or more of the actions described in subsection 1 of this section are required for such land to be developed.

(3) Notwithstanding subsection 2 of this section, if two or more of the actions described in subsection 1 of this section occur at different times, additional development charges shall be imposed in accordance with this by-law in respect of any additional development permitted by the subsequent action.

Description of Services

4. (1) Development charges shall be imposed in accordance with this by-law in respect of the following services based on the allocations with respect to residential and non-residential development as contained in Schedules A and C:

a) Services Related to a Highway

b) Operations

c) Fire Protection Services

d) Parkland and Trail Development

e) Indoor Recreation Facilities

f) Library Services

g) Development Related Studies

h) Animal Control

i) Provincial Offences Act

(2) The development charges applicable to a development, as determined in accordance with this by-law, shall apply without regard to the services required for or to be used by such development.

(3) Parkland and Trail Development and Indoor Recreation Facilities will be grouped into a single service (category) in relation to reserve funds and service levels.

Calculation of Development Charges

5. (1) The development charges applicable to a development shall be calculated as follows:

(a) in the case of residential development, or the residential portion of a mixed use development, the development charges shall be based upon the number of dwelling units included in such development; or,

(b) in the case of non-residential development, or the non-residential portion of a mixed use development, the development charges shall be based upon the total floor area included in such development.

(2) The development charges described in Schedule A to this by-law shall be imposed against land that is to be developed for residential uses, including dwelling units accessory to a non-residential use, and, in the case of a mixed use building or structure, on the residential portion of the mixed use building or structure, according to the type of residential development.

(3) The development charges described in Schedule A to this by-law shall be imposed against land that is to be developed for non-residential uses and, in the case of a mixed use building or structure, on the non-

residential portion of the mixed use building or structure, according to the type of non-residential development.

(4) The development charges prescribed in Schedule A to this by-law, for apartments 70 s.m. or smaller, shall be imposed on all dwelling units in single detached dwellings, semidetached dwellings and multiple-dwellings, constructed in a retirement community that offers Life Lease Housing. Notwithstanding any other provision of this by-law, the small apartment rate will apply to retirement communities offering Life Lease Housing provided that the property owner enters into a written agreement with the Town, which is registered on title, at the owner's sole costs, that for a period of five years following the occupancy permit date, development charges calculated in accordance with this by-law shall be immediately payable if the Life Lease interests are not occupied by persons aged 65 or older.

(5) Special Care/Special Needs facilities as defined in this by-law shall pay a development charge at the small apartment rate on a per unit basis.

(6) Back to Back Townhomes as defined in this by-law shall pay a development charge at the Other residential rate.

(7) Stacked Townhomes as defined in this by-law as defined in this by-law shall pay a development charge at the apartments larger than 70 square metre rate.

Residential Intensification

6. (1) This by-law shall not apply with respect to any of the actions described in subsection 1 of section 3 of this by-law if the only effect of such action is to:

(a) permit the enlargement of an existing dwelling unit;

(b) permit the creation of one or two additional dwelling units in an existing single-detached dwelling, provided that the total gross floor area of the additional dwelling unit or the additional dwelling units is not greater than the gross floor area of the dwelling unit in the existing single-detached dwelling;

(c) permit the creation of one additional dwelling unit in an existing semi-detached or row dwelling, provided that the gross floor area of the additional dwelling unit is not greater than the gross floor area of the dwelling unit in the existing semi-detached or row dwelling; or

(d) permit the creation of one additional dwelling unit in any other existing residential building, provided that the gross floor area of the additional dwelling unit is not greater than the gross floor area of the smallest dwelling unit in the existing residential building.

(2) For the purposes of 6(1) above, the additional dwelling unit created cannot be conveyed as a separate parcel from the primary dwelling unit.

(3) If an additional dwelling unit as described in 6(1) is subsequently conveyed as a separate parcel from the primary dwelling unit, development charges shall be calculated and be payable immediately upon conveyance.

(4) Notwithstanding any other provision of this by-law, for the purpose of subsection 1 of this section, the terms “single-detached dwelling”, “semi-detached dwelling”, “row dwelling” and “gross floor area” shall have the meanings provided for them in the Regulation.

Industrial Expansion

7. (1) Notwithstanding any other provision of this by-law, if a development includes the enlargement of the gross floor area of an existing original industrial building, the amount of the development charge applicable to such development shall be determined as follows:

(a) if the gross floor area is enlarged by fifty percent or less, cumulatively from the original building floor area, the amount of the development charge in respect of the enlargement shall be zero; or,

(b) if the gross floor area is enlarged by more than fifty percent cumulatively from the original building floor area, the amount of the development charge in respect of the enlargement shall be calculated on the amount by which the proposed enlargement exceeds fifty percent of the gross floor area of the industrial building before any enlargement.

(2) Notwithstanding any other provision of this by-law, for the purpose of subsections 1 and 5 of this section, the terms “existing industrial building” and “gross floor area” shall have the meanings provided for them in the Regulation.

(3) For the purpose of interpreting the definition of “existing industrial building” in the Regulation, regard shall be had for the classification of the land on which the existing industrial building is located under the *Assessment Act* and in particular:

(a) whether the land is within a tax class such that taxes on the land are payable at the industrial tax rate; and,

(b) whether more than fifty percent of the gross floor area of the existing industrial building has an industrial property code for assessment purposes

(4) For the purpose of applying subsection 1 of this section, the gross floor area of an existing industrial building shall be calculated as it was prior to the first enlargement of such existing industrial building for which an exemption under subsection 1 of this section applies.

(5) Notwithstanding any other provision of this by-law, development charges shall not be imposed with respect to the construction or erection of a building that is accessory to, and not more than fifty percent of the gross floor area of an existing industrial building or

the construction or erection of buildings that are accessory to, and, in total, not more than fifty percent of the gross floor area of an existing industrial building, provided that, prior to a building permit or building permits being issued for such building or buildings, the owner or owners of the land on which such building or buildings are to be constructed or erected enter into a written agreement with the Town which has the effect of counting the floor area of such building or buildings against the exemption provided for in subsection 1 of this section.

Redevelopment

8. (1) Despite any other provision of the By-law, where one or more existing dwelling units are demolished and satisfactory evidence of the demolition and the number of dwelling units demolished has been provided to the Town's Treasurer or their designate, a credit against development charges otherwise payable pursuant to this By-law for redevelopment of the lands for residential purposes, in an amount equal to the development charge payable pursuant to this By-law for the same number of dwelling units, shall be applicable where the redevelopment has occurred:

(a) Within 10 years from the date that the necessary demolition approval was obtained with document proof or the date of the passing of this By-Law thereof; and

(b) On the same lot or block on which the demolished dwelling units(s) were originally located; and

(c) In case where, demolition credit crosses over a divided lot, the property owner must direct in writing to which lot the credit should be applied.

(2) Despite any other provision of this By-law, where an existing non-residential use building or structure, or part thereof is demolished, and satisfactory evidence of the demolition and the total floor area of the building or structure, or part thereof demolished has been provided to the Town's Treasurer or their designate, a credit against development charges otherwise payable with respect to the redevelopment of the non-residential use shall be applicable, in an amount equal to the development charge payable pursuant to this By-law for the total floor area and such credit or partial credit shall be applicable where the redevelopment has occurred:

(a) Within 15 years from the date that the necessary demolition approval was obtained with document proof or the date of the passing of this By-law thereof; and

(b) On the same lot or block on which the demolished dwelling building or structure, or part thereof, was originally located; and

(c) In case where, demolition credit crosses over a divided lot, the property owner must direct in writing to which lot the credit should be applied.

(3) Despite any other provision of the By-law, where an existing non-residential use building or structure, or

part thereof is demolished, and satisfactory evidence of the demolition and the total floor area of the building or structure, or part thereof demolished has been provided to the Town's Treasurer or their designate, a credit against development charges otherwise payable with respect to the redevelopment of the residential use shall be applicable, in an amount equal to the development charge payable pursuant to this By-law for the total floor area and such credit or partial credit shall be applicable where the redevelopment has occurred:

(a) Within 15 years from the date that the necessary demolition approval was obtained with document proof or the date of the passing of this By-law thereof; and

(b) On the same lot or block on which the demolished dwelling building or structure, or part thereof, was originally located; and

(c) In case where, demolition credit crosses over a divided lot, the property owner must direct in writing to which lot the credit should be applied.

(4) Despite any other provision of the By-law, where an existing residential use building or structure, or part thereof is demolished, and satisfactory evidence of the demolition and the number of units demolished has been provided to the Town's Treasurer or their designate, a credit against development charges otherwise payable with respect to the redevelopment of the non-residential use shall be applicable, in an amount equal to the development charge payable pursuant to this By-law for the total floor area and such credit or partial credit shall be applicable where the redevelopment has occurred in an amount equal to the development charge payable pursuant to this By-law for the same number of dwelling units for each component of the DC charge:

(a) Within 10 years from the date that the necessary demolition approval was obtained with document proof or the date of the passing of this By-law thereof; and

(b) On the same lot or block on which the demolished building or structure, or part thereof, were originally located; and

(c) In case where, demolition credit crosses over a divided lot, the property owner must direct in writing to which lot the credit should be applied.

(5) Where there is a redevelopment that includes a change of use of all or part of a non-residential building or structure to residential or other non-residential use, a reduction against the development charge otherwise payable pursuant to the By-law will be allowed. The amount of the reduction will be equal to the amount calculated by multiplying the applicable non-residential development charge payable by the total floor area that has been demolished or converted to residential or other non-residential use. Such credit or partial credit shall be applicable where on the issuance of a building permit permitting the change of use.

(6) Where there is a redevelopment that includes a change of use of all or part of a residential building or structure to a non-residential use, a reduction against the development charge otherwise payable pursuant to the By-Law will be allowed. The amount of the reduction will be equal to the amount of the development charge under the service categories: Services Related to a Highway, Operations, Fire Protection Services, Parkland and Trail Development, Indoor Recreation Facilities, Library Services, Development Related Studies and Provincial Offences Act, for the number and type of units being converted to non-residential use. Such credit or partial credit shall be applicable where on the issuance of a building permit permitting the change of use.

(7) Despite any other provisions in this By-law, whenever a reduction is allowed against a development charge otherwise payable pursuant to the By-law and the amount of such reduction exceeds the amount of the development charge otherwise payable to this By-law, no further reductions shall be allowed against any other development charges payable and no refund shall be payable.

(8) Notwithstanding subsections (1) to (7) inclusive, if lands, building(s) and/or structure(s) of the subject development was previously exempt, no reduction against development charges will be allowed.

(9) In the case of the structure being razed by fire, the date of the fire will be considered the demolition date for the administration of the above.

(10) As a transitional provision, for demolitions or structures razed by fire occurring before the effective date of this by-law but after November 6, 1991, the effective date of the demolition or fire shall be the effective date of this by-law for the purposes of administering this section.

(11) Redevelopment credits shall not be transferable to other lands except in the case of where the demolition credit crosses over a divided lot as outlined in this section.

<u>Green Commercial and Industrial Buildings</u>

9. (1) Upon application being made for a building permit for the construction of a commercial or industrial building that is intended to be a green commercial or industrial building a professional architect or engineer shall certify to the Town in writing that such commercial or industrial building is intended to be a green commercial or industrial building.

(2) If a professional architect or engineer has certified that a commercial or industrial building is intended to be a green commercial or industrial building, prior to the issuance of a building permit therefor:

(a) non-residential development charges, discounted in accordance with Schedule B attached hereto, shall be paid to the Town with respect to such commercial or industrial building; and

(b) an irrevocable letter of credit issued by a Canadian chartered bank, in a form satisfactory to the Town, in the amount of the discount referred to in paragraph (a) of this subsection shall be deposited with the Town.

(3) If, within three (3) years after the construction of a commercial or industrial building that is intended to be a green commercial or industrial building has been completed:

(a) an independent consultant who is recognized by the Canada Green Building Council certifies to the Town in writing, with all of the supporting information required by the Town, that such commercial or industrial building meets LEED Certified, LEED Silver, LEED Gold or LEED Platinum, as the case may be; or,

(b) a professional architect or engineer certifies to the Town in writing that such commercial or industrial building otherwise meets the requirements of a green commercial or industrial building; the Town shall release the letter of credit referred to in paragraph (b) of subsection (2) of this section.

(4) If, within three (3) years after the construction of a commercial or industrial building that is intended to be a green commercial or industrial building has been completed:

(a) an independent consultant who is recognized by the Canada Green Building Council has not certified to the Town in writing, with all of the supporting information required by the Town, that such commercial or industrial building meets LEED Certified, LEED Silver, LEED Gold or LEED Platinum, as the case may be; or,

(b) a professional architect or engineer has not certified to the Town in writing that such commercial or industrial building otherwise meets the requirements of a green commercial or industrial building; then:

(c) non-residential development charges, without any discount therefrom, shall be applicable to such commercial or industrial building;

(d) the amount of the discount referred to in paragraph (a) of subsection (2) of this section shall immediately become payable to the Town; and,

(e) if the amount of the discount referred to in paragraph (a) of subsection (2) of this section is not paid to the Town within thirty (30) days after the expiry of such three (3) year period, the Town shall be entitled to draw upon the letter of credit referred to in paragraph (b) of subsection (2) of this section and to use the proceeds thereof to collect such amount.

(5) Unless otherwise authorized by the Council of the Town, if the total amount of the discount applications referred to in paragraph (a) of subsection (2) of this

section with respect to all commercial and industrial buildings where a professional architect or engineer has certified to the Town that such commercial or industrial building is intended to be a green commercial or industrial building reaches more than two hundred and fifty thousand ($250,000.00) dollars in any year, this section shall not apply to any commercial or industrial building for the rest of that year.

Temporary Buildings or Structures

10. (1) Notwithstanding any other provision of the by-law, development charges shall not be imposed under this bylaw in respect of the construction or erection of a temporary building or structure so long as its status as a temporary building or structure is maintained in accordance with the provisions of this by-law.

(2) Upon application being made for the issuance of a building permit for the construction or erection of a temporary building or structure to which, but for subsection 1 of this section, development charges apply, the Town may require the owner or owners of the land on which such temporary building or structure is to be constructed or erected to either:

(a) pay for development charges on the proposed temporary building for which the owner or owners may apply for a refund no later than one month following the time period defined in this by-law for temporary buildings or structures; or

(b) enter into an agreement with the Town pursuant to section 27 of the Act and submit security, satisfactory to the Town, to be realized upon in the event that the temporary building or structure becomes protracted and development charges thereby become payable.

(3) In the event that a temporary building or structure becomes protracted, it shall be deemed not to be, nor ever to have been a temporary building or structure and, subject to any agreement made pursuant to section 27 of the Act, development charges under this by-law shall become payable forthwith.

Exemptions

11. (1) Notwithstanding any other provision of this by-law, Development charges shall not apply to:

(a) a country inn,

(b) a building or structure used for the purpose of agricultural tourism,

(c) a farm based home industry,

(d) a farm cidery,

(e) a farm winery,

(f) a garden suite,

(g) a non-residential agricultural building or structure,

(h) an outbuilding,

(i) an on-farm diversified use building or structure,

(j) a secondary dwelling on an agricultural property, used as housing for farm help, in accordance with subsection 11 (4)

(k) an on-farm wedding venue provided that the following criteria are met:

(i) it is located on an agricultural property as a secondary use

(ii) it is owned by a bona fide farmer; and

(iii) it operates as a wedding venue no more than 30 calendar days per year

(2) a development charge, calculated in accordance with this by-law, shall be immediately payable if the building or structure being the subject of the exemption under (1) is converted to a use that is not exempt under this by-law; in the case of a secondary dwelling on an agricultural property, if at any time following the occupancy permit date, a development charge, calculated in accordance with this by-law, shall be immediately payable if it is converted to a use that is not exempt under this by-law.

(3) Notwithstanding any other provision of this by-law, development charges shall not apply to a bed and breakfast establishment subject to the following:

In the event that the construction of a single detached dwelling for use as a bed and breakfast establishment results in the imposition of, and payment of, development charges in accordance with this by-law, the Town may provide a refund of the Town development charges as imposed and paid where there is compliance with the following conditions.

(a) A full refund may be provided where the dwelling has been actively and continuously used for the purpose of a bed and breakfast establishment for a period of ten (10) years from the date of the payment of the development charges.

(b) An application for refund shall be made, in writing, by the owner of the dwelling containing the bed and breakfast establishment on or before 31 March annually for a maximum period of ten years, commencing in the first calendar year after the date of payment of the development charges.

(c) The refund is payable to the owner of the dwelling containing the bed and breakfast establishment at the time the refund is calculated.

(d) Upon application for the refund, the Town may review the application to determine whether the

application meets the conditions of this by-law, and may

(i) refund to the owner of the dwelling 1/10th of the amount of the paid development charges if the dwelling has been actively and continuously used throughout the previous year as a bed and breakfast establishment, or

(ii) refund to the owner of the dwelling a proportionate share of the 1/10th of the amount of the paid development charges, calculated on a monthly basis, if the dwelling has not been actively and continuously used throughout the previous year as a bed and breakfast establishment, and

(iii) retain the balance, if any, of the paid development charges for each year during which the dwelling was not yet been used as a bed and breakfast establishment.

(e) The applicant for the refund, and the owner of the dwelling, if the owner is a different entity or person than the applicant, shall, at the time of the application for the refund, grant permission in writing to the Town, its agents, employees and inspectors to enter the dwelling at any time during the ten years, upon reasonable notice, to determine whether the dwelling is used for the purpose of a bed and breakfast establishment.

(f) The current owner of the dwelling shall advise any purchaser of the dwelling of the refund available pursuant to the provisions of this by-law.

(g) The owner of the dwelling who is making the application for the refund shall provide all information requested by the Town to verify that the owner is entitled to a refund pursuant to the provisions of this by-law.

(h) In making the application, the owner of the dwelling shall complete the form prepared for the purpose by the Town.

(i) No interest or indexing is payable in respect to the refund of the Town paid development charges.

(j) The entire application for refund, including future applications available in the remaining ten year period, shall be deemed abandoned in any or all of the following circumstances in any year that

(i) the owner of the dwelling containing the bed and breakfast establishment fails to make an application for the refund within the time required by this by-law,

(ii) the Town makes a payment to the owner of the dwelling containing the bed

and breakfast establishment in accordance with section 11 (2) (d) ii and the use of the dwelling as a bed and breakfast establishment ceased in the previous year, or

(iii) the operator of the bed and breakfast establishment has declared bankruptcy.

(k) The seasonal operation of a dwelling as a bed and breakfast establishment, where the establishment does not operate for a maximum of 5 months during the year, shall not be deemed to be an abandonment or cessation of the use of the dwelling as a bed and breakfast establishment for the purpose of section 11 (2) (j)

(4) At the Town's discretion, the Town may require that the owner of a property entitled to any exemption in Part 11 of this by-law to enter into an agreement and submit, maintain, and if required supplement a non-revocable letter of credit, or other form of security, in an amount and upon terms satisfactory to the Treasurer, to be realized upon by the Town in the event that the building or structure is later determined by the Town to have a use that attracts development charges.

(a) Securities shall be held by the Town for a period not to exceed 36 months from the date that a building permit is issued with respect to the development.

(b) If the Town determines that an exemption does not apply to a property once it is constructed and occupied, development charges shall be calculated and immediately payable and posted securities realized on.

(c) If the development charges calculated are higher than the securities available, any excess will be added to the property tax roll and collected in the same manner as property taxes.

(5) Notwithstanding any other provision of this by-law, the Council of the Town may, by resolution, provide for a grant in lieu of payment of development charges in whole or in part with respect to land to be developed for an institutional use.

(6) The exemption as set out in subsection 11 (1) (j) will only apply to new secondary dwellings that have not paid development charges, or obtained a building permit as of the date that this by-law comes into force and effect, and upon removal, will not be entitled to a demolition/redevelopment credit under section 8. If a severance is granted by the Town creating a separate lot where the secondary dwelling for farm help rests, a development charge, calculated in accordance with this by-law at the time of severance, shall be immediately payable.

(7) A building or structure, as set out in subsection 11 (1) or subsection 2 (2), that is eligible for an exemption or partial exemption from the payment of development charges pursuant to this by-law, shall have the

amount of any exemption or partial exemption deducted from the amount eligible for any grants under the Town's Community Improvement Plan, in respect of the same development.

(8) A building or structure, as set out in subsection 11 (1) or subsection 2 (2), that is eligible for an exemption or partial exemption from the payment of development charges pursuant to this by-law, shall have the amount of any exemption or partial exemption reduced by the amount of any Town Community Improvement Plan grant received, in respect of the same development.

Indexing

12. The development charges described in Schedule A to this by-law shall be adjusted without amendment to this by-law on February 1st and August 1st in each year, commencing on 1 August, 2019, in accordance with the Statistics Canada Quarterly Construction Price Statistics (catalogue number 62-007) with the base index value being that in effect on 1 February 2019.

Payment of Development Charges

13. (1) Development charges, adjusted in accordance with Section 12 of this by- law to the date of payment, shall be payable:

(a) in regard to development charges imposed under subsection 2 of section 5 of this by-law, with respect to each dwelling unit in a building or structure for which a building permit is issued, on the date that the building permit is issued; and,

(b) in regard to development charges imposed under subsection 3 of section 5 of this by-law, with respect to a building or structure for which a building permit is issued, on the date that the building permit is issued.

(2) In the alternative to payment by the means provided in subsection 1 of this section, the Town may, by an agreement made under section 38 of the Act with the owner or owners of land that is to be developed, accept the provision of services in full or partial satisfaction of development charges otherwise payable by such owner or owners, provided that:

(a) if the Town and such owner or owners cannot agree as to the reasonable cost of providing the services, the dispute shall be referred to the Council of the Town and its decision shall be final and binding; and,

(b) if the reasonable cost of providing the services exceeds the amount of the development charge for the service to which the work relates:

(i) the excess amount shall not be credited against the development charge for any other service, unless the Town has so agreed in an agreement made under section 39 of the Act; and,

(ii) in no event shall the Town be required to make a cash payment to such owner or owners.

(3) Nothing in this by-law shall prevent the Council of the Town from requiring, as a condition of any approval under the *Planning Act*, that the owner or owners of land install such local services as the Council of the Town may require in accordance with the policies of the Town with respect to local services.

(4) The Town may require the owner or owners of land that is to be developed to enter into an agreement, including the provision of security for the obligations of such owner or owners under the agreement, pursuant to section 27 of the *Development Charges Act* providing for all or part of a development charge to be paid before or after it otherwise would be payable, and the terms of such agreement shall prevail over the provisions of this by-law.

Unpaid Development Charges

14. (1) If a development charge or any part thereof remains unpaid after it is payable, the amount unpaid shall be added to the tax roll and shall be collected in the same manner as taxes.

(2) If any unpaid development charges are collected as taxes in accordance with subsection 1 of this section, the monies so collected shall be credited to the appropriate development charges reserve fund.

Effective Date

15. This by-law shall come into force and effect on May 29, 2019.

Repeal

16. By-law No. 2014-054, as amended, shall be and is hereby repealed effective on the date that this by-law comes into force and effect.

Expiry Date

17. This by-law shall expire five years from the date that it comes into force and effect, unless it is repealed at an earlier date by a subsequent by-law.

Onus

18. The onus is on the owner or the applicant to produce evidence to the satisfaction of the Town which establishes that the owner or applicant is entitled to any exemption from the payment of development charges claimed, reduction in the payment of or refund of development charges claimed under this by-law.

Refunds

19. Where all or part of a development charge paid is refunded due to a cancellation or revocation of a building permit, or where it is subsequently determined by the Town that there was an error in the calculation of the amount of such payment that there was an overpayment of development charges, the Treasurer is authorized to refund to the payor the amount of overpayment without interest. The Treasurer

is authorized to pay such refund from the applicable development charge reserve fund or funds.

Registration

20. A certified copy of this by-law may be registered in the by-law register in the Peel Land Registry Office and/or against the title to any land to which this by-law applies.

Transition

21. The rates in Schedule A of this by-law are effective June 25, 2019 onwards. The rates in Schedule C of this by-law are effective for the period May 29, 2019 to June 24, 2019, inclusive.

Severability

22. In the event that any provision of this by-law is found by a court of competent jurisdiction to be invalid, such provision shall be deemed to be severed, and the remaining provisions of this by-law shall remain in full force and effect.

Headings

23. The headings inserted in this by-law are for convenience of reference only and shall not affect the interpretation of this by-law.

Schedules

24. Schedules A, B and C attached to this by-law shall be deemed to be a part of this by-law.

Short Title

25. This by-law may be referred to as the *2019 Town Wide Development Charges By-law*

Enactment

This By-law shall come into full force and effect on May 29, 2019.

Enacted by the Town of Caledon Council this 28th day of May, 2019

_____
Allan Thompson, Mayor

_____
Carey Herd, Clerk

SCHEDULE A

BY-LAW 2019-31

SCHEDULE A
SCHEDULE OF DEVELOPMENT CHARGES (effective June 25, 2019)

Service	RESIDENTIAL				NON-RESIDENTIAL
	Single and Semi-Detached Dwelling	Apartments Larger than 70 s.m.	Apartments 70 s.m. or Smaller	Other Residential Dwellings	(per sq.m. of Total Floor Area)
Municipal Wide Services:					
Services Related to a Highway	15,194	8,828	5,181	11,567	41.76
Operations	1,499	871	511	1,141	4.09
Fire Protection Services	1,248	725	426	950	3.44
Parkland and Trail Development	1,848	1,074	630	1,407	0.54
Indoor Recreation Facilities	8,206	4,768	2,798	6,247	2.37
Library Services	852	495	291	649	0.22
Development Related Studies	798	464	272	608	2.26
Animal Control	85	49	29	65	0.00
Provincial Offences Act	197	114	67	150	0.54
Total Municipal Wide Services	**29,927**	**17,388**	**10,205**	**22,784**	**55.22**

SCHEDULE B
BY-LAW 2019-31

DEVELOPMENT CHARGE DISCOUNT APPLICABLE TO QUALIFYING COMMERCIAL AND INDUSTRIAL BUILDINGS

DISCOUNT AS A PERCENTAGE OF NON-RESIDENTIAL DEVELOPMENT CHARGE (Subject to annual dollar maximum in the by-law)	INCLUSIONS	GREEN MEASURE
5.0% for any inclusion or any combination of inclusions	Solar hot water system that provides for a minimum of 25% of the building's energy needs	Green Technologies
	Transpired solar collectors that provides for a minimum of 10% of the building's energy needs	
	Solar photovoltaic system that provides for a minimum of 5% of the building's energy needs	
20.0%	Certified and registered with the Green Building Council of Canada as meeting the current and applicable LEED Canada Rating Systems such as new construction, commercial interiors, core and shell	LEED Certified
22.5%		LEED Silver
25.0%		LEED Gold
27.5%		LEED Platinum

SCHEDULE C

BY-LAW 2019-31

SCHEDULE OF DEVELOPMENT CHARGES (effective May 29, 2019 - June 24, 2019)

Service	RESIDENTIAL				NON-RESIDENTIAL
	Single and Semi-Detached Dwelling	Apartments Larger than 70 s.m.	Apartments 70 s.m. or Smaller	Other Residential Dwellings	(per sq.m. of Total Floor Area)
Municipal Wide Services:					
Services Related to a Highway	13,895	8,828	5,181	11,567	30.42
Operations	1,104	871	511	1,089	2.00
Fire Protection Services	1,200	725	426	950	3.44
Parkland and Trail Development	1,848	1,074	630	1,407	0.54
Indoor Recreation Facilities	6,209	4,768	2,798	5,397	1.64
Library Services	852	495	291	649	0.22
Development Related Studies	798	464	272	608	2.26
Animal Control	52	49	29	44	0.00
Provincial Offences Act	130	114	67	109	0.37
Total Municipal Wide Services	**26,088**	**17,388**	**10,205**	**21,820**	**40.89**