



# Final Development Charges Background Study, 2019

City of Kingston

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## List of Acronyms and Abbreviations

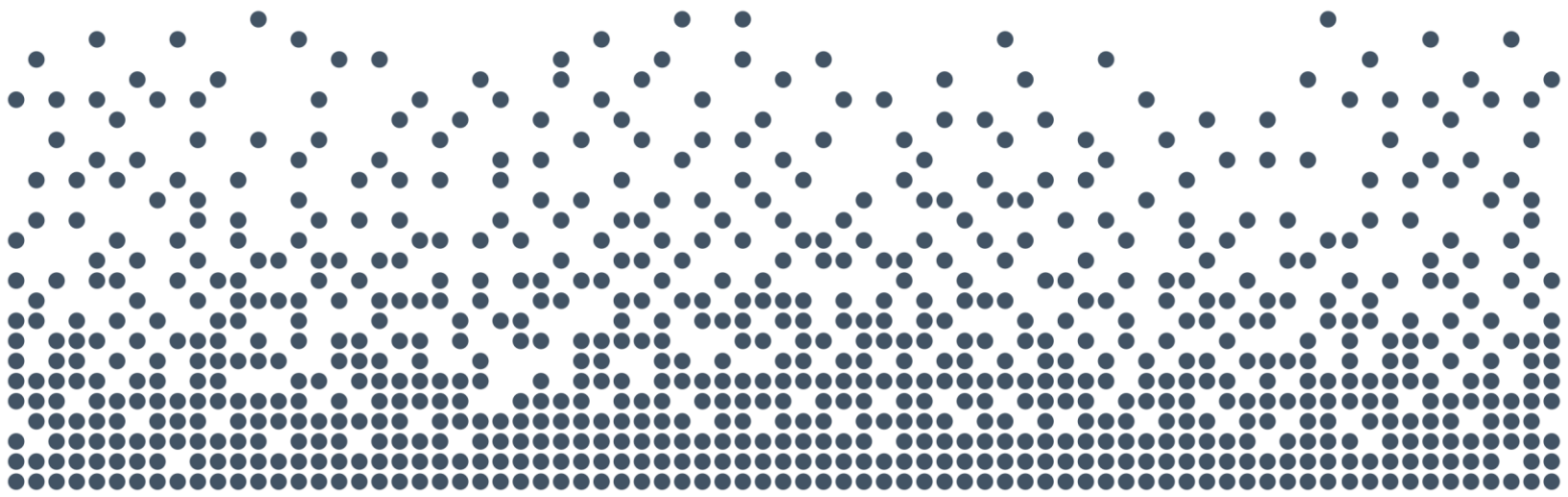
<b>Acronym</b>	<b>Full Description of Acronym</b>
ATMP	Active Transportation Master Plan
A.M.P.	Asset Management Plan
CWD	Cataraqui Woods Drive
D.C.	Development charge
D.C.A.	Development Charges Act, 1997, as amended
EA	Environmental Assessment
F.I.R.	Financial Information Return
G.F.A.	Gross floor area
JCB	John Counter Boulevard
KTMP	Kingston Transportation Master Plan
L.O.S.	Level of Service
L.P.A.T.	Local Planning Appeal Tribunal
Linm	Linear Metre
NETS	North End Trunk Sewer
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
PBW	Public Works
P.O.A.	Provincial Offences Act
P.P.U.	Persons per unit



## List of Acronyms and Abbreviations (Cont'd)

PS	Pumping Station
S.D.E.	Single detached equivalent
S.D.U.	Single detached unit
SJAM	Sir John A Macdonald Boulevard
s.s.	Subsection
S.W.M.	Stormwater management
sq.ft.	square foot
sq.m	square metre
TRN	Transit
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant





# 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, 1997, (D.C.A.) (s.10)* and, accordingly, recommends new Development Charges (D.C.s) and policies for the City of Kingston (City).

Watson & Associates Economists Ltd. (Watson) was retained by the City, to undertake the D.C. study process in 2018. Watson worked with the City's D.C. Steering Committee and senior staff in preparing the D.C. analysis and policy recommendations specific to this background study. Furthermore, a D.C. Focus Group consisting of members of the development industry and economic development was formed to review the study methodology, calculation of the charges, implementation policies, and the draft background study.

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 City's D.C. background study, as summarized in Chapter 4. It also addresses the requirement for "rules" (contained in Chapter 7) and the proposed by-law to be made available as part of the approval process (included as Appendix F).

In addition, the report is designed to set out the City's current D.C. (and Impost Fee) policies (Chapter 2) and the policies underlying the proposed by-law, to make the exercise understandable to those who are involved. Finally, the 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

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The public meeting required under Section 12 of the D.C.A., has been scheduled for July 9, 2019. Its purpose is to present the study and draft D.C. by-law to the public and to solicit public input. The meeting is also being held to answer any questions regarding the study's purpose, methodology and the proposed modifications to the City's D.C.s.

In accordance with the legislation, the background study and proposed D.C. by-law will be available for public review at least 60 days prior to by-law passage.

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 report and Council consideration of the by-law subsequent to the public meeting.

Figure 1-1 outlines the proposed schedule to be followed with respect to the D.C. by-law adoption process.

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

Process Steps	Dates
1. Project initiation meetings with D.C. Steering Committee	December 17, 2018
2. Data collection and staff interviews	January – May, 2019
3. Public Open House Number 1 – 2019 D.C. Background Study & By-Law Development	February 7, 2019
4. Methodology Policy Review Paper review with D.C. Steering Committee (Meeting Number 2)	February 7, 2019
5. Focus Group Meeting Number 1 – Development Charge Methodology	March 20, 2019



Process Steps	Dates
6. Discussion of Preliminary D.C. Calculations with D.C. Steering Committee (Meeting Number 3)	April 17, 2019
7. D.C. Implementation Policy Review Paper review with D.C. Steering Committee (Meeting Number 4)	May 9, 2019
8. Focus Group Meeting Number 2 – Preliminary D.C. Calculations	May 10, 2019
9. Focus Group Meeting Number 3 – Review D.C. implementation policies	May 23, 2019
10. Public Open House Number 2 – Draft D.C. Calculations and D.C. By-Law Policies	May 29, 2019
11. Draft D.C. background study and by-law review with D.C. Steering Committee (Meeting Number 5)	June 7, 2019
12. D.C. background study and proposed D.C. by-law available to public	June 13, 2019
13. Statutory notice of Public Meeting advertisement placed in newspaper(s)	20 days prior to public meeting
14. Focus Group Meeting Number 4 – Review of D.C. Background Study	June 27, 2019
15. Public Meeting of Council	July 9, 2019
16. Council considers adoption of D.C. background study and passage of by-law (1 <sup>st</sup> and 2 <sup>nd</sup> Reading)	August 13, 2019
17. Council considers adoption of D.C. background study and passage of by-law (3 <sup>rd</sup> Reading)	September 3, 2019



Process Steps	Dates
18. Newspaper notice given of by-law passage	By 20 days after passage
19. Last day for by-law appeal	40 days after passage
20. City makes available D.C. pamphlet	by 60 days after in force date

### **1.3 Proposed Changes to the D.C.A.: Bill 108 – An Act to amend Various Statutes with Respect to Housing, Other Development, and Various Matters**

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On May 2, 2019, the Province introduced Bill 108 which proposes changes to the D.C.A. The Bill has been introduced as part of the Province's *"More Homes, More Choice: Ontario's Housing Supply Action Plan"*. The Bill received royal assent on June 6, 2019.

While having received royal assent, many of the changes to the D.C.A. do not come into effect until proclamation by the Lieutenant Governor. However, transitional provisions with respect to soft services are in effect as of the date of royal assent. The transitional provisions for soft services (i.e. services no longer eligible to be included in D.C. by-law once s.s. 2(4) of the Act is proclaimed) under an existing D.C. bylaw can remain in effect, even if the by-law expires, until the earlier of the prescribed date, the date a Community Benefits By-law is passed, or when the by-law is repealed. Moreover, as the new s.s. 2(4) is not yet in effect, municipalities are still permitted to pass a D.C. by-law based on the services currently eligible under the D.C.A., until the new section is proclaimed. A summary of the changes to the D.C.A. to take effect upon proclamation by the Lieutenant Governor is provided below:

**Changes to Eligible Services** – the Bill will remove "Soft Services" from the D.C.A. These services will be considered as part of a new Community Benefit Charge



(discussed below) imposed under the authority of the *Planning Act*. Once the new s.s. 2(4) is proclaimed, eligible services under the D.C.A. include:

- Water supply services, including distribution and treatment services;
- Wastewater services, including sewers and treatment services;
- Storm water drainage and control services;
- Services related to a highway as defined in subsection 1 (1) of *the Municipal Act, 2001* or subsection 3 (1) of *the City of Toronto Act, 2006*, as the case may be;
- Electrical power services;
- Policing services;
- Ambulance services;
- Fire protection services;
- Toronto-York subway extension, as defined in subsection 5.1 (1);
- Transit services other than the Toronto-York subway extension;
- Waste diversion services; and
- Other services as prescribed.

**Waste Diversion and Ambulance** – the Bill will remove the mandatory 10% deduction for these services.

**Annual Installments** – the Bill proposes that Rental Housing, and Commercial/Industrial/Institutional developments pay D.C.s in six equal annual payments commencing the earlier of the date of issuance of a building permit or occupancy. Non-profit housing developments, will pay D.C.s in 21 equal annual payments. Interest may be charged on the installments, at a prescribed rate, and any unpaid amounts may be added to the property and collected as taxes.

**When D.C. Amount is Determined** – the Bill proposes that the D.C. amount for all developments proceeding by Site Plan or requiring a Zoning By-law Amendment, shall be determined based on the D.C. charge in effect on the day of the application for Site Plan or Zoning By-law Amendment. If the development is not proceeding via these planning approvals then the amount is determined the earlier of the date of issuance of a building permit or occupancy.

**Soft Services to be Included in a new Community Benefit Charge under the Planning Act** – it is proposed that a municipality may by by-law impose community benefits charges against land to pay for the capital costs of facilities, services and



matters required because of development or redevelopment in the area to which the by-law applies. These services may not include services authorized by the D.C.A. Various provisions are provided as follows:

- Before passing a community benefits charge by-law, the municipality shall prepare a community benefits charge strategy that, (a) identifies the facilities, services and matters that will be funded with community benefits charges and (b) complies with any prescribed requirements;
- The amount of a community benefits charge payable shall not exceed an amount equal to the prescribed percentage of the value of the land as of the valuation date;
- The valuation date is the day before building permit issuance;
- Valuations will be based on appraised value of land. Various requirements are set out in this regard;
- All money received by the municipality under a community benefits charge by-law shall be paid into a special account;
- In each calendar year, a municipality shall spend or allocate at least 60 percent of the monies that are in the special account at the beginning of the year;
- Requirements for annual reporting shall be prescribed; and
- Transitional provisions are set out regarding the D.C. reserve funds and D.C. credits.





# Chapter 2

## City of Kingston Current D.C. and Impost Fee Policy



## 2. City of Kingston Current D.C. and Impost Fee Policy

### 2.1 By-law Enactment

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The City passed D.C. By-law 2014-135 and Impost Fee By-law 2009-138 as amended by By-law 2014-136 on September 9, 2014 under the statutory authority of the D.C.A. and *Municipal Act*, respectively.

### 2.2 Services Covered

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D.C. By-law 2014-135 imposes charges for the following services:

#### Municipal-wide Services

- Protection Service
- Roads and Related Service
- Parks and Recreation Service
- Library Service
- Transit
- Affordable Housing
- Administration Service

Impost fee By-law 2009-138, as amended, imposes charges for the following services:

#### Urban Serviced Area Services

- Wastewater Services; and
- Water Services.

Table 2-1 provides the charges for residential and non-residential development types as well as the breakdown of the charges by service as of January 1, 2019.



**Table 2-1  
Schedule of D.C.s and Impost Fees by Service**

Service	Residential					Non-Residential (per sq.ft. of Gross Floor Area)		
	Single & Semi Detached	Apartments		Other Multiple Dwellings		Industrial	Non-Industrial	Long Term Care Nursing Homes
		2 + Bedrooms	Bachelor and 1 Bedroom	2 + Bedrooms	Dwelling <750 sq.ft. with 1 Bedroom			
<b>City-Wide (D.C.s)</b>								
Roads & Related	8,156	5,218	3,621	6,246	2,852	2.58	5.25	5.25
Protection Services	589	378	262	452	206	0.18	0.37	0.37
Transit	381	244	169	291	133	0.11	0.24	0.24
Parks & Recreation	2,119	1,356	941	1,623	741	0.12	0.12	0.12
Library Services	613	392	272	469	214	0.03	0.03	0.03
Administration - Studies	95	61	43	73	34	0.03	0.06	0.06
Affordable Housing	74	47	33	57	26	-	-	-
<b>Total City-Wide Development Charges</b>	<b>12,027</b>	<b>7,696</b>	<b>5,340</b>	<b>9,211</b>	<b>4,206</b>	<b>3.05</b>	<b>6.07</b>	<b>6.07</b>
<b>Urban Area (Impost Fees)</b>								
Sanitary (Wastewater)	6,818	4,363	3,028	5,220	3,028	3.61	8.86	6.20
Water Works	3,516	2,250	1,561	2,692	1,561	1.99	4.63	3.25
<b>Total Urban Area Impost Fees</b>	<b>10,334</b>	<b>6,613</b>	<b>4,589</b>	<b>7,912</b>	<b>4,589</b>	<b>5.60</b>	<b>13.50</b>	<b>9.45</b>
<b>Grand Total (Rural Area)</b>	<b>12,027</b>	<b>7,696</b>	<b>5,340</b>	<b>9,211</b>	<b>4,206</b>	<b>3.05</b>	<b>6.07</b>	<b>6.07</b>
<b>Grand Total (Urban Area)</b>	<b>22,361</b>	<b>14,309</b>	<b>9,929</b>	<b>17,123</b>	<b>8,795</b>	<b>8.65</b>	<b>19.57</b>	<b>15.52</b>

## 2.3 Timing of D.C. Calculation and Payment

D.C.s and Impost Fees are payable at the time the first building permit is issued. Impost Fees are payable upon connection to the water or wastewater system if a building permit is not applicable.

## 2.4 Indexing

The City's D.C.s are indexed on January 1 of each year, based on the percentage change recorded in the most recent Statistics Canada Non-Residential Building Construction Price Index.

## 2.5 Redevelopment Allowance

As a result of the redevelopment of land, a credit against D.C.s or Impost Fees where a residential, non-residential or mixed-use building or structure was occupied within five years prior to the issuance of a building permit for redevelopment of the lands; and a demolition permit has been issued within five years prior to the issuance of a building permit for redevelopment of the lands. As the credit is calculated by multiplying the



applicable charge under the by-law(s) by the demolished or converted dwelling units or gross floor area (G.F.A.), credits are not provided for exempt types of development.

## 2.6 Exemptions

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The following non-statutory exemptions from the payment of D.C.s and Impost Fees are provided under the City's D.C. and Impost Fee By-laws:

- Industrial development. Whereby, an approved use must continue for a three (3) year period subsequent to the issuance of an occupancy permit;
- Lands designated as part of a Community Improvement Area through a Community Improvement Plan By-law may be exempt;
- Purpose built second residential units in new single detached, semi-detached or row dwellings, provided the second residential unit meets Zoning By-Law and Official Plan requirements;
- A place of worship classified as exempt from taxation under Section 3 of the *Assessment Act*;
- Agricultural use structures;
- A canopy;
- A seasonal air supported structure, except any portion of the structure that is permanent;
- A seasonal structure;
- Temporary buildings or structures, which are accessory to or ancillary to a permitted use on the property; and
- A temporary venue.



# Chapter 3

## Anticipated Development in the City of Kingston



## 3. Anticipated Development in the City of Kingston

### 3.1 Requirement of the Act

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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 subsection 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 City will be required to provide services, over a 10-year (2019 to 2029) and a longer term (2019 to 2046) time horizon.

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

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In compiling the growth forecast, the following specific information sources were consulted to assess the residential and non-residential development potential for the City over the long-term forecast period, including:

- City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046, Final Report, March 5, 2019, Watson & Associates Economists Ltd.;
- City of Kingston Water and Wastewater Master Plan Growth Scenario Report, January 30, 2017 by Utilities Kingston;
- Available Statistics Canada demographic and Census data regarding population, housing, labour force and employment trends; and
- Correspondence with the City of Kingston Planning, Building and Licensing Services Dept.

### 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 City 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 Schedule 1, the City’s Census population is anticipated to reach approximately 134,330 by 2029 and 141,850 by 2046, resulting in an increase of approximately 8,180 and 15,700 persons, respectively, over the 10-year and long-term forecast periods<sup>123</sup>. Provided below is a summary of the key assumptions and findings regarding the City of Kingston D.C. growth forecast update.

1. Housing Unit Mix (Appendix A – Schedules 1, 2, 6, and 7)

- The 2019 to 2046 household growth forecast is comprised of a unit mix of 35% low density (single detached and semi-detached), 12% medium density (multiples except apartments) and 53% high density (bachelor, 1-bedroom and 2-bedroom apartments).

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

- Schedule 2 summarizes the percentage of total housing growth<sup>4</sup> for City of Kingston by urban and rural area, which is summarized below.

<b>Development Location</b>	<b>Percentage Housing Growth, 2019-2046</b>
Urban	97%
Rural	3%
<b>City of Kingston</b>	<b>100%</b>

<sup>1</sup> The population figures used in the calculation of the 2019 D.C. exclude the net Census undercount, which is estimated at approximately 3.1%.

<sup>2</sup> Census population figures include institutional population. Statistics Canada defines an institutional resident as a person who lives in an institutional collective dwelling, such as a hospital, a nursing home or a prison. This includes residents under care or custody (e.g. patients or inmates) or employee residents and family members living with them, if any.

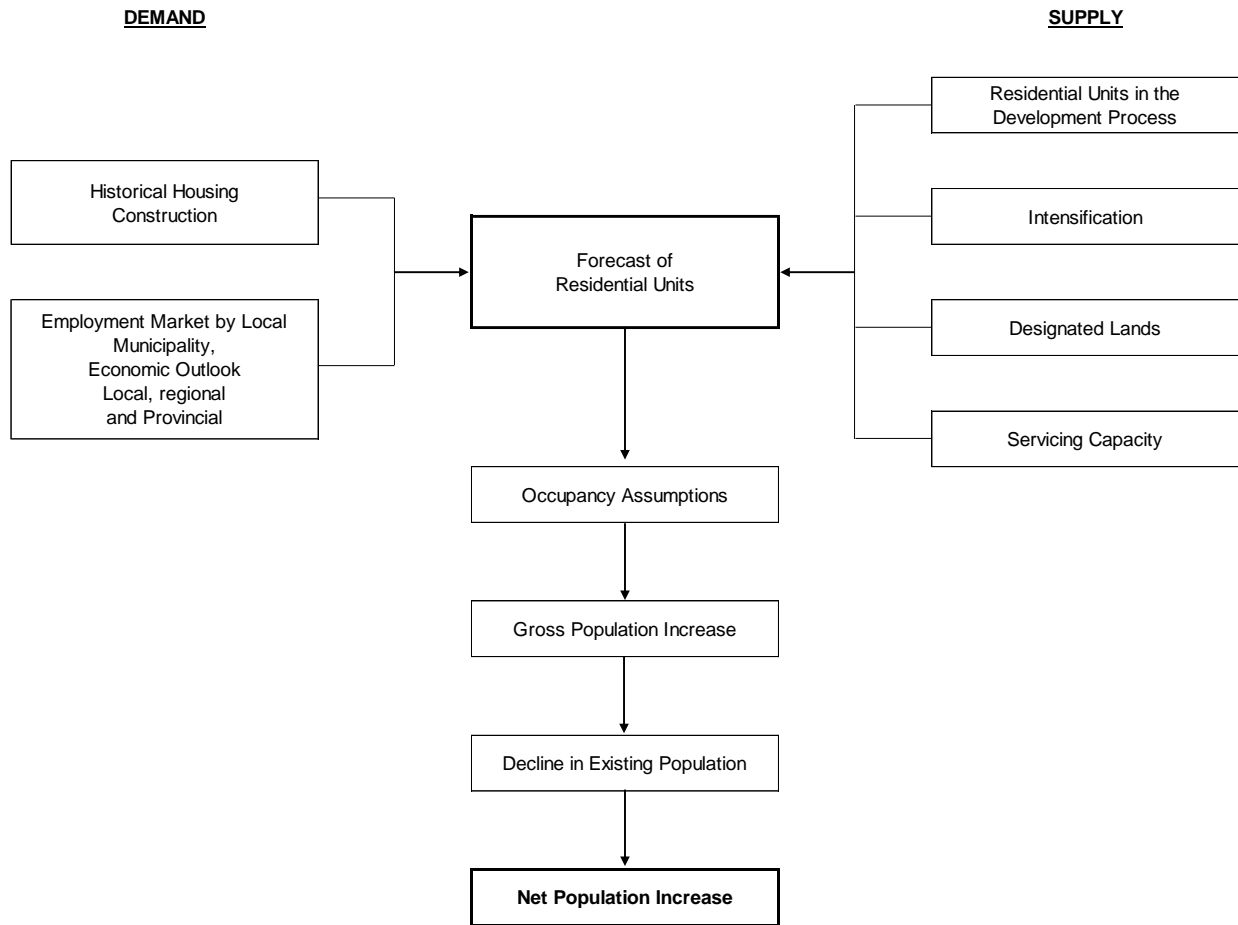
<sup>3</sup> The City’s population including off-campus students not captured by the Statistics Canada Census is forecast to reach approximately 166,400 by 2046. This represents an increase of approximately 22,340 persons between 2019 and 2046.

<sup>4</sup> Including off-campus student housing.





Figure 3-1  
Population and Household Projection Model





**Table 3-1  
City of Kingston  
Residential Growth Forecast Summary**

Year	Population (Including Census Undercount) <sup>1</sup>	Excluding Census Undercount						Housing Units								Person Per Unit (P.P.U.): without undercount	Permanent and Student Person Per Unit (P.P.U.)
		Population	Institutional Population	Population Excluding Institutional Population	Student Population	Off-Campus Student Population <sup>2</sup>	Total Population and Off-Campus Student Population	Singles & Semi-Detached	Multiple Dwellings <sup>3</sup>	Apartments <sup>4</sup>	Other	Total Households	Off-Campus Student Households	Total Households Including Off-Campus Student Housing			
<i>Mid-2016</i>	127,686	123,798	3,578	120,220	23,580	16,700	140,498	30,690	5,650	16,875	295	53,510	4,050	57,560	2,314	2,441	
Forecast	<i>Mid-2019</i>	130,160	126,148	3,646	122,502	25,175	17,917	144,065	31,328	5,929	17,684	295	55,236	4,568	59,804	2,284	2,409
	<i>Mid-2024</i>	134,392	130,301	3,766	126,535	27,257	19,499	149,800	32,100	6,175	18,595	295	57,165	5,241	62,406	2,279	2,400
	<i>Mid-2029</i>	138,550	134,332	3,882	130,449	29,032	20,840	155,172	32,910	6,450	19,761	295	59,415	5,812	65,227	2,261	2,379
	<i>Mid-2034</i>	142,176	137,848	3,984	133,864	30,528	21,962	159,810	33,540	6,679	20,810	295	61,324	6,289	67,613	2,248	2,364
	<i>Mid-2046</i>	146,299	141,845	4,100	137,746	33,983	24,556	166,401	34,333	6,964	22,314	295	63,906	7,393	71,299	2,220	2,334
Incremental	<b>Mid-2016 to Mid-2019</b>	2,475	2,350	68	2,282	1,595	1,217	3,567	638	279	809	0	1,726	518	2,244		
	<b>Mid-2019 to Mid-2024</b>	4,232	4,152	120	4,032	2,082	1,582	5,734	772	246	911	0	1,929	673	2,602		
	<b>Mid-2019 to Mid-2029</b>	8,389	8,183	237	7,947	3,857	2,923	11,106	1,582	521	2,077	0	4,179	1,244	5,423		
	<b>Mid-2019 to Mid-2034</b>	12,016	11,700	338	11,362	5,352	4,044	15,744	2,212	750	3,126	0	6,088	1,721	7,809		
	<b>Mid-2019 to Mid-2046</b>	16,139	15,697	454	15,243	8,808	6,639	22,336	3,005	1,035	4,630	0	8,670	2,825	11,495		

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Census undercount estimated at approximately 3.1%. Note: Population including the undercount has been rounded.

<sup>2</sup> Represents off campus student population not captured by Statistics Canada Census. In the City of Kingston Population, Housing and Employment Growth Forecast, approximately 71% of the student population not captured by Statistics Canada Census are anticipated to live off-campus.

<sup>3</sup> Includes townhouses and apartments in duplexes.

<sup>4</sup> Includes bachelor, 1 bedroom and 2 bedroom+ apartments.



### 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 utilize a longer planning period.

### 4. Population in New Housing Units (Appendix A – Schedules 2 through 5)

- The number of total housing units to be constructed in City of Kingston during the short- and long-term periods is presented on Table 3-1. Over the 10-year forecast period, the City is anticipated to average approximately 542 total new housing units per year. Over the longer-term forecast period, Kingston is anticipated to average 425 new housing units per year<sup>1</sup>.
- Population in new units is derived from Schedules 3, 4, and 5, which incorporates historical development activity, anticipated housing units (see unit mix discussion) and average persons per unit by dwelling type for new units.
- Schedule 7 summarizes 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 density types has been downwardly adjusted to account for the P.P.U. trends which have been recently experienced in both new and older units, largely due to the aging of the population. Adjusted 25-year average P.P.U.s by dwelling type are as follows:
  - Low density: 2.768
  - Medium density: 2.167
  - High density: 1.575
  - Off-campus student housing: 2.350<sup>2</sup>

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<sup>1</sup> Includes new off-campus student housing.

<sup>2</sup> City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046, Final Report, March 5, 2019, Watson & Associates Economists Ltd.



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

- Existing households as of 2019 are based on the 2016 Census households, plus estimated residential units constructed between 2017 and 2018 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 10-year and longer-term forecast period is estimated at approximately 830 and 2,610, respectively.

## 6. Employment (Appendix A – Schedules 9a, 9b, 9c, 9d, 10 and 11)

- Schedule 9a summarizes the City of Kingston employment forecast in terms of employment activity rates, which is defined as the number of jobs in a municipality divided by the number of residents. Major employment sectors include primary, industrial, commercial/population-related, institutional, and work at home, which are considered individually below.
- 2016 employment data (place of work) for the City of Kingston is outlined in Schedule 9b. The 2016 employment base is comprised of the following sectors:
  - 190 primary (<1%);
  - 3,480 work at home employment (5%);
  - 9,393 industrial (13%);
  - 25,848 commercial/population related (37%); and
  - 30,420 institutional (44%).
- 2016 employment by usual place of work, including work at home, is estimated at 69,330. An additional 5,460 employees have been identified for the City in 2016 that have no fixed place of work (N.F.P.O.W.).<sup>1</sup> The

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<sup>1</sup> 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.



2016 employment base, including N.F.P.O.W., totals approximately 74,790.

- Total employment, including work at home and N.F.P.O.W., for Kingston is anticipated to reach approximately 79,705 by 2029 and 85,660 by 2046. This represents an employment increase of approximately 3,830 over the 10-year forecast period and 9,790 over the longer-term forecast period.
- Schedule 9c, 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 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 G.F.A. calculation.
- Total employment for the City of Kingston (excluding work at home and N.F.P.O.W. employment) is anticipated to reach 69,480 by 2029 and approximately 74,360 by 2046. This represents an employment increase of approximately 2,870 and 7,750 over the 10-year and longer-term forecast periods, respectively.

#### 7. Non-Residential Sq.ft. Estimates G.F.A. (Appendix A – Schedule 9c)

- Square footage estimates are calculated in Schedule 9c based on the following employee density assumptions:
  - 1,300 sq.ft. per employee for industrial;
  - 550 sq.ft. per employee for commercial/population-related; and
  - 700 sq.ft. per employee for institutional employment.
- City-wide non-residential G.F.A. is anticipated to increase by approximately 2.34 million sq.ft. over the 10-year forecast period and approximately 6.1 million sq.ft. over the longer-term forecast period.
- Over the longer-term forecast period the non-residential G.F.A. forecast has been allocated by sector as follows:
  - industrial – 38%;



- commercial/population-related – 23%; and
- institutional – 39%.
- The percentage of forecast employment growth between 2019 and 2046 by development location is summarized below.

<b>Development Location</b>	<b>Percentage Employment Growth, 2019-2046</b>
Urban	98%
Rural	2%
<b>City of Kingston</b>	<b>100%</b>



# Chapter 4

## The Approach to the Calculation of the Charge





## 4. The Approach to the Calculation of the Charge

### 4.1 Introduction

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This chapter addresses the requirements of s.s.5(1) of the D.C.A. 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

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

A number of these services are defined in s.s.2(4) of the D.C.A. as being ineligible for inclusion in D.C.s. These are shown as “ineligible” on Table 4-1. 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 potentially eligible for inclusion in the City’s D.C. are indicated with a “Yes.”

The City’s 2019 D.C. Background Study considers the use of D.C.s for all services for which the City plans to incur capital costs related to new servicing capacity expansion. As such, the use of Impost Fees for water and wastewater services will be replaced with D.C.s under the authority and methodology of the D.C.A.

### 4.3 Increase in the Need for Service

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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, which requires that City Council indicate that it intends to ensure that such an increase in need will be met, suggests that a project-specific expression of need would be most appropriate.



Figure 4-1  
The Process of Calculating a Development Charge under the Act  
that must be followed

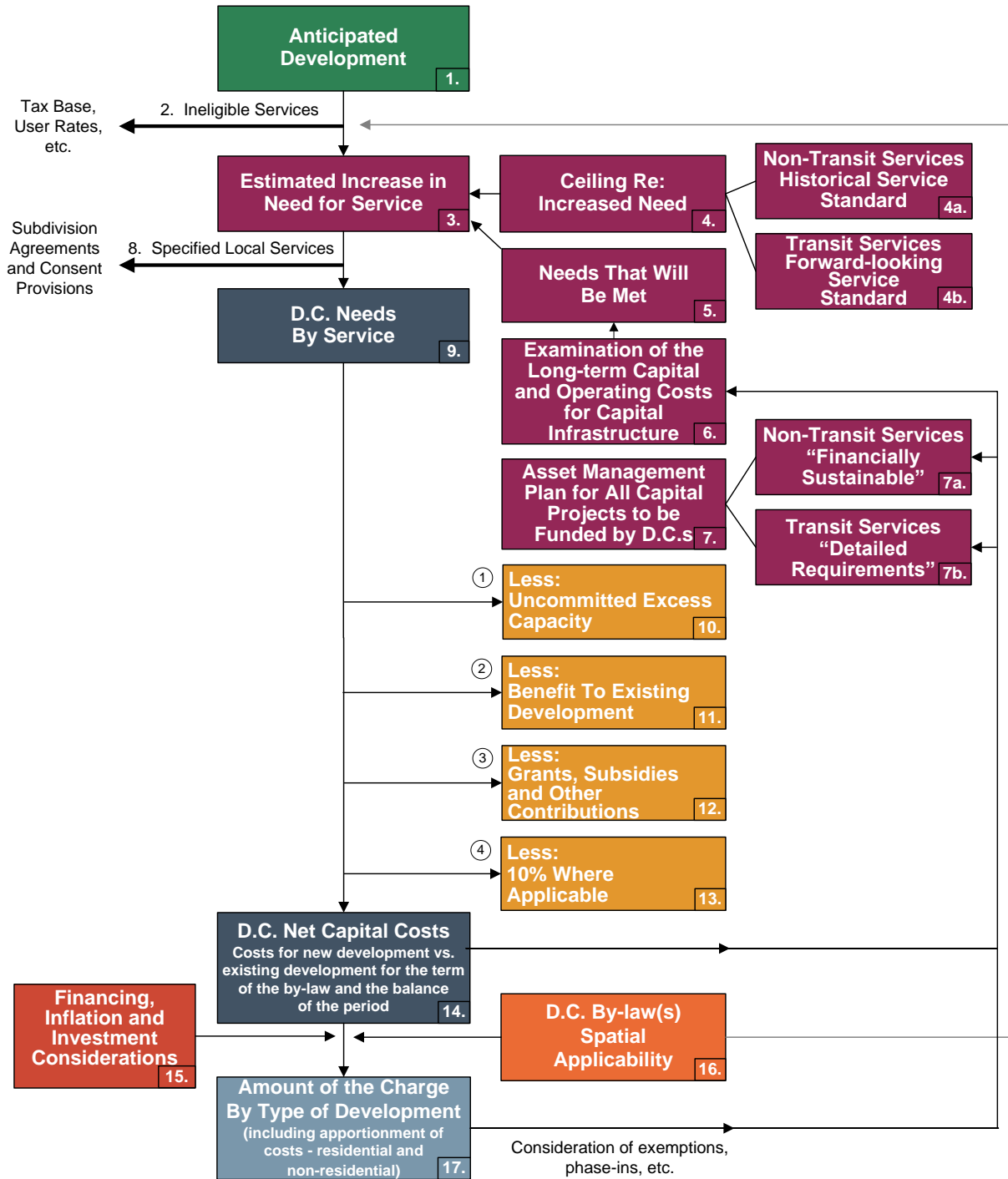




Table 4-1  
Categories of Municipal Services to be Addressed as Part of the Calculation

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 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	Yes	2.1 Transit vehicles <sup>1</sup> & facilities	100
	Yes	2.2 Other transit infrastructure	100
	No	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 <sup>1</sup>	100
	n/a	2.7 Ferries	90
	No	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 <sup>1</sup>	100
	Yes	4.3 Small equipment and gear	100

<sup>1</sup>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 <sup>1</sup> 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 <sup>1</sup>	90
7. Library Services	Yes	7.1 Public library space (incl. furniture and equipment)	90
	Yes	7.2 Library vehicles <sup>1</sup>	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	Yes	10.1 Treatment plants	100
	Yes	10.2 Sewage trunks	100
	No	10.3 Local systems	0
	Yes	10.4 Vehicles and equipment <sup>1</sup>	100

<sup>1</sup>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	Yes	11.1 Treatment plants	100
	Yes	11.2 Distribution systems	100
	No	11.3 Local systems	0
	Yes	11.4 Vehicles and equipment <sup>1</sup>	100
12. Waste Management Services	Ineligible	12.1 Landfill collection, transfer vehicles and equipment	0
	Ineligible	12.2 Landfills and other disposal facilities	0
	Yes	12.3 Waste diversion facilities	90
	Yes	12.4 Waste diversion vehicles and equipment <sup>1</sup>	90
13. Police Services	Yes	13.1 Police detachments	100
	Yes	13.2 Police rolling stock <sup>1</sup>	100
	Yes	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 <sup>1</sup>	90
15. Child Care	n/a	15.1 Child care space	90
	n/a	15.2 Vehicles <sup>1</sup>	90
16. Health	n/a	16.1 Health department space	90
	n/a	16.2 Health department vehicles <sup>1</sup>	90
17. Social Housing	Yes	17.1 Social Housing space	90
18. Provincial Offences Act (P.O.A.)	No	18.1 P.O.A. space	90
19. Social Services	No	19.1 Social service space	90
20. Ambulance	No	20.1 Ambulance station space	90
	No	20.2 Vehicles <sup>1</sup>	90
21. Hospital Provision	Ineligible	21.1 Hospital capital contributions	0

<sup>1</sup>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	22.1 Office space	0
	Ineligible	22.2 Office furniture	0
	Ineligible	22.3 Computer equipment	0
23. Other Services	Yes	23.1 Studies in connection with acquiring buildings, rolling stock, materials and equipment, and improving land <sup>2</sup> and facilities, including the D.C. background study cost 23.2 Interest on money borrowed to pay for growth-related capital	0-100
	Yes		0-100

<sup>1</sup>with a 7+ year life time

<sup>2</sup>same percentage as service component to which it pertains

Eligibility for Inclusion in the D.C. Calculation	Description
Yes	Municipality 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

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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 City's Local Service Policy is included in Appendix E.

## 4.5 Capital Forecast

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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:

- a) costs to acquire land or an interest therein (including a leasehold interest);
- b) costs to improve land;
- c) costs to acquire, lease, construct or improve buildings and structures;
- d) 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;
- e) interest on money borrowed to pay for the above-referenced costs;
- f) costs to undertake studies in connection with the above-referenced matters; and
- g) costs of the D.C. background study.

In order for an increase in need for service to be included in the D.C. calculation, 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 City's approved and proposed capital budgets and master servicing/needs studies.

## 4.6 Treatment of Credits

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Section 8, paragraph 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." Subsection 17, paragraph 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 City has no outstanding D.C. credit obligations.

## 4.7 Eligible and Committed Excess Capacity

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Section 66 of the D.C.A., 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.

## 4.8 Existing Reserve Funds

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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 City's uncommitted D.C. Reserve Fund Balance by service as projected for September 3, 2019 is presented in the table below. These balances have been applied against future spending requirements for all D.C. services.

Table 4-1  
D.C. Reserve Fund Balances (projected at September 3, 2019)

Service	Total
Roads Services	8,640,541
Transit	(2,676,392)
Public Works	614,298
Fire Services	(676,312)
Police Services	117,896
Parks and Recreation Services	2,240,223
Library Services	518,149
Administration Studies	127,365
Affordable Housing	(74,242)
Waste Diversion	-
Wastewater Services	21,504,538
Water Services	15,902,720
<b>Total</b>	<b>46,238,785</b>

Note: Amounts in brackets are deficit balances.

## 4.9 Deductions

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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
- 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 4.3 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 City 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.

With respect to transit services, the changes to the Act as a result of Bill 73 have provided for an alternative method for calculating the services standard ceiling. Transit services must now utilize a forward-looking service standard analysis, described later in this section.

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 City’s “excess capacity,” other than excess capacity which is “committed.”

“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**

Section 5(1)6 of the D.C.A. provides that, “The increase in the need for service must be reduced by the extent to which an increase in service to meet the increased need would benefit existing development.” The general guidelines used to consider benefit to existing development included the following:

- the repair or unexpanded replacement of existing assets that are in need of repair;
- an increase in average service level of quantity or quality (compare water as an example);
- the elimination of a chronic servicing problem not created by growth; and
- providing services where none previously existed (generally considered for water or wastewater services).

This step involves a further reduction in the need, by the extent to which such an increase in service would benefit existing development. The level of services cap in 4.4 is related but is not the identical requirement. Sanitary, storm and water trunks are highly localized to growth areas and can be more readily allocated in this regard than other services such as services related to a highway, 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 City-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 (including direct developer contributions required due to the local service policy) 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). That is, some grants and contributions may not specifically be applicable to growth or where Council targets fundraising as a measure to offset impacts on taxes. 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 to which the 10% reduction does apply include services such as parks and recreation, libraries, childcare/social services, the Provincial Offences Act, ambulance, homes for the aged, and health.

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 costs sheets in Chapter 5.



## **4.10 Municipal-Wide vs. Area Rating**

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This step involves determining whether all of the subject costs are to be recovered on a uniform municipal-wide basis or whether some or all are to be recovered on an area-specific basis. Under the D.C.A., it is now mandatory to “consider” area-rating of services (providing charges for specific areas and services), however, it is not mandatory to implement area-rating. Further discussion is provided in section 7.3.8.

## **4.11 Allocation of Development**

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This step involves relating the costs involved to anticipated development for each period under consideration and using allocations between residential and non-residential development and between one type of development and another, to arrive at a schedule of charges.



# Chapter 5

## D.C.-Eligible Cost Analysis by Service



## 5. D.C.-Eligible Cost Analysis by Service

This chapter outlines the basis for calculating eligible costs for the D.C.s to be applied on a uniform basis. In each case, the required calculation process set out in s.5(1) paragraphs 2 to 8 in the D.C.A. 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.

### 5.1 Service Levels and 10-Year Capital Costs for City-Wide D.C. Calculation

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This section evaluates the development-related capital requirements for all of the City-wide services assessed over a 10-year planning period. 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.

#### 5.1.1 Fire Services

The City currently has ten fire stations and associated training centre and storage facilities. In total these fire facilities supply approximately 121,100 sq.ft. of building space, providing a per capita average level of service of \$181.

The fire department also has a current inventory of vehicles and equipment totalling 79 items. These items include tanker, pumper, aerial, and platform trucks, as well as other support vehicles. The replacement value of these vehicles is \$29.2 million and provides a historical average level of service of \$228 per capita.

The City also currently maintains 316 sets of fire fighter equipment. The total replacement value of the fire equipment and gear is \$4.7 million and the City has a calculated average level of service of \$35 per capita. In aggregate, based on the average level of service provided, the maximum D.C. eligible amount that could be included in the calculation of the charge for Fire Services is \$4.8 million.





Based on the needs identified in the City's 2014 D.C. Background Study and 15-year capital budget, the City is anticipating expanding two fire stations and a fire maintenance facility through relocation or replacement, as well as the requirement for equipment for two additional fire fighters.

The gross capital costs for the capital program discussed above are \$12.5 million. A benefit to existing deduction of \$10.8 million has been made to reflect the replacement of existing facility space in the expansion of facilities. Incorporating an uncommitted reserve fund deficit of \$0.7 million, a total of \$2.4 million in growth-related Fire Services needs have been included in the calculation of the D.C.

The allocation of net growth-related costs for Fire Services between residential and non-residential development is 79% residential and 21% non-residential based on the relationship of incremental population and employment growth over the 10-year period.

### **5.1.2 Police Services**

Police Services are provided through the provision of facility space, police vehicles, and equipment. Approximately 125,900 sq.ft. of facility space is provided through the Police Headquarters and Storage Facility resulting in an average level of service of \$329 per capita. In addition, the 123 police vehicles and equipment for 207 police officers produces an average historical investment of \$57 per capita. The total average level of service (\$386 per capita) results in a maximum amount that could be included in the calculation of the charge of \$4.2 million.

Committed excess capacity at 700 Division Street, eight additional police vehicles, and equipment for 14 additional officers will be required to meet the increase in need for service over the 10-year forecast period. These needs, which total \$1.4 million in gross capital costs, have been fully attributed to new development over the forecast period. After deducting the uncommitted D.C. reserve fund balance of \$118,000, \$1.3 million has been included in the calculation of the charge.

The net growth related costs have been allocated to residential and non-residential development based on the forecast population and employment growth over the 10-year period (i.e. 79% residential and 21% non-residential).



### **5.1.3 Public Works Services**

The City currently operates 17 public works facilities including storage buildings, grages, and the public works operating centre. The total service space is 138,854 square feet. The City also maintains a corporate fleet of 241 vehicles and equipment in service. The City's level of service over the historical 10-year period (2009-2018) averages \$333/capita. This level of investment provides a maximum eligible level of service for public works of \$3.6 million to accommodate future development.

Based on the City's public works needs for the next 10 years, additional facility space, valued at \$2 million at the West Yard is projected for future development. It is also anticipated that an additional \$4.1 million in capital would be required to address additional fleet needs over the period. The total gross capital costs are estimated at \$6.1 million. Approximately \$1.4 million has been deducted as benefit to existing development to reflect the replacement of existing facility space. Further deductions of \$456,000 for the benefit to development beyond the 10-year forecast period have also been made. Consistent with the requirements of the D.C.A., a 10% deduction has been made for the parks and sportsfields needs, while no deduction had been made for the remaining needs as these will service exclusively roads and related public works. After deducting a further \$614,000 for the uncommitted D.C. reserve fund balance, net D.C. recoverable costs of \$3.6 million have been incorporated in the calculation of the charge

The net growth-related costs have been allocated 79% residential and 21% non-residential based on the incremental growth in population to employment, for the 10-year forecast period.

### **5.1.4 Transit Services**

Ontario Regulation 82/98 sets forth the requirements for transit services and the available capacity of capital costs to provide for the increase in need. Subsection 8(2) of the regulation states that for transit services the background study shall set out:

1. "The calculations that were used to prepare the estimate for the planned level of service for the transit services, as mentioned in subsection 5.2 (3) of the Act.
2. An identification of the portion of the total estimated capital cost relating to the transit services that would benefit,



- i. the anticipated development over the 10-year period immediately following the preparation of the background study, or
  - ii. the anticipated development after the 10-year period immediately following the preparation of the background study.
3. An identification of the anticipated excess capacity that would exist at the end of the 10-year period immediately following the preparation of the background study.
4. An assessment of ridership forecasts for all modes of transit services proposed to be funded by the D.C. over the 10-year period immediately following the preparation of the background study, categorized by development types, and whether the forecasted ridership will be from existing or planned development.
5. An assessment of the ridership capacity for all modes of transit services proposed to be funded by the D.C. over the 10-year period immediately following the preparation of the background study.”

The 2015 Kingston Transportation Master Plan (KTMP) identified a planned level of service for transit in terms of the target transportation mode share to be met through transit services. The KTMP identified that the transit mode share would increase to a target level of 9% of weekday afternoon peak trips by 2034 (or a population excl. census undercount of 148,010). Moreover, subsequent to the preparation of the KTMP, Council adopted an aspirational mode share target for public transit of 15%. The City then prepared a Kingston Transit Business Plan (2017-2021) providing recommendations to support reaching the 15% mode share target.

It is important to note that the City has identified that it would require 25 additional buses to meet the 9% mode share target and 75 additional buses to achieve a mode share of 15% by 2034, based on ridership forecast, headway and available bus capacity during the PM peak period. The anticipated capital needs that have been included in the calculation of the D.C. are those included in the City's 15-year capital plan. The budgeted expansion to the transit fleet provides for 15 new buses over the 15-year period. This increase in service would place the City within the 9% target mode share for weekday afternoon peak trips and planned level of service.



The planned level of service includes non-infrastructure solutions such as expanded hours of operation and updated fare strategies and implementation of additional routes (including additional express routes and route enhancements). Infrastructure solutions to meet the planned level of service include increasing the number of transit vehicles, facility expansions, additional park & ride facilities, and transit priority measures.

Table 5-1 summarizes the annual ridership forecast (weekday afternoon peak period) over the 2019-2029 period to achieve a 9% mode share at the population threshold of 148,010. The current ridership of 7,012 is forecast to increase to 10,367 to achieve the target 9% mode share by 2034 under the KTMP. Revised to reflect the 2046 D.C. projections and interpolated for the 10-year eligible D.C. forecast period for transit services, by 2029, it is anticipated that weekday afternoon peak ridership would increase to 8,376. This equates to 1,364 incremental PM peak period transit trips over the 10-year forecast period. Recognizing the majority of these trips would be as a result of existing constituents changing their mode preference, approximately 510 of the incremental trip (or 37.4%) is attributed to new development occurring over the period.

Table 5-1  
Ridership Forecast

	Current	Estimate	2019 D.C.	KTMP Target	Incremental
	2019	2029	2046	2034	2019-2029
<b>Total Trips</b>					
PM Peak Period	103,118	109,839	113,269	118,192	6,722
<b>Population</b>					
Excl. Census Undercount	126,148	134,371	141,845	148,010	8,223
<b>Mode Share</b>					
Public Transit	6.8%	7.6%	8.4%	9.0%	0.8%
<b>Transit Ridership (PM Peak Hour)</b>					
From Existing	7,012	7,865	8,641	9,281	853
From New Development	-	510	974	1,357	510
<b>Total</b>	<b>7,012</b>	<b>8,376</b>	<b>9,615</b>	<b>10,637</b>	<b>1,364</b>
New Development Share of Incremental Trips					37.4%

Total gross capital costs of \$23.4 million have been estimated for future capital needs to meet the planned level of service. Approximately, \$15.2 million has been deducted for anticipated grant funding towards these needs, resulting in a net capital cost of \$8.2 million for the period. Based on the foregoing, \$5.1 million has been deducted for the benefit to existing development, and a further \$94,000 has been deducted for the



benefits to growth beyond the 10-year forecast period for the John Counter facility expansion.

Furthermore, the City transit service D.C. uncommitted reserve fund balance is overdrawn by approximately \$2.7 million, which has been added to the calculation of the charge. As a result, approximately \$5.7 million has been identified as D.C. recoverable capital costs attributable to development over the forecast period. Based on the relationship of incremental population to employment growth, these costs have been allocated 79% to residential development, and 21% to non-residential.

### **5.1.5 Parks and Recreation Services**

The City currently maintains approximately 1,129 acres of developed parkland and 49 kms of trails and pathways. Furthermore, the City also maintains approximately 26,400 sq.ft. of outdoor park buildings. In addition, Parks and Recreation Services are also provided through the provision of 478,500 sq.ft. of indoor recreation facility space. The average invested level of service over the 2009-2018 period is \$2,802 per capita. The maximum D.C. eligible amount for Parks and Recreation Services over the 10-year forecast period that could be included in the calculation is \$30.4 million based on the established level of service standard.

The 10-year capital needs for Parks and Recreation Services to accommodate growth have a total gross capital cost of approximately \$14.5 million. These capital needs include development of neighborhood parks, community parks, multi-use trails, and committed excess capacity at the INVISTA Centre. Approximately \$661,000 has been deducted reflecting the benefit to existing development, while a further \$1.4 million has been deducted for the statutory 10% deduction.

The existing D.C. reserve fund balance of \$2.2 million for Parks and Recreation Services has been deducted from the D.C. recoverable capital costs. This recognizes funds collected from previous development to meet part of the anticipated service needs. The resultant net growth-related capital costs for inclusion in the D.C. calculation total \$10.2 million.

As the predominant users of parks and recreation services tend to be residents of the City, the forecast growth-related costs have been allocated 95% to residential development and 5% to non-residential development.



### **5.1.6 Library Services**

Library services are provided by the City through the provision of 112,200 sq.ft. of facility space and approximately 366,000 library collection material items. The average level of service provided over the historical 10-year period based on this inventory is \$436 per capita. When applied to the anticipated development over the forecast period, the per capita level of service produces a maximum D.C. eligible amount for Library Services of \$4.7 million.

The gross capital costs for Library Services included in the D.C. calculation for the 10-year forecast period total \$9.1 million. The capital cost estimates include additional collection materials, an expansion of the Kingston East Library, and a conversion of space at the Isabel Turner Branch Library. A total deduction of \$1.0 million in capital costs has been provided reflecting the benefits to development beyond the 10-year forecast period. Recognizing the benefit to existing development of the current facility space being replaced, a further \$3.0 million has also been deducted. After deducting \$0.5 million for the statutory 10% deduction, and approximately \$518,000 for the uncommitted D.C. reserve fund balances, the net D.C. recoverable costs included in the calculation of the charge totals \$4.1 million.

Similar to Parks and Recreation Services, the predominant users of library services tend to be residents of the City, and as such the forecast growth-related costs have been allocated 95% to residential development and 5% to non-residential development.

### **5.1.7 Affordable Housing**

The City currently provides 2,514 housing units, comprised of 2,070 rent-geared-to-income units and 444 affordable housing units. The City's level of service over the historical 10-year period (2009-2018) averages approximately \$1,641/capita. In total the maximum D.C.-eligible amount for affordable housing is \$17.8 million based on the established level of service standards.

To provide additional affordable housing units consistent with the City's Housing and Homelessness Plan and Council's direction, \$4 million in capital needs have been identified in capital subsidy programs, and an additional \$18 million for additional affordable units. The gross capital cost for the program totals \$22 million of which \$4 million has been deducted reflective of anticipated grants towards the additional units. Reflecting the benefit to the existing population from the increased affordable housing



supply, approximately \$16.4 million is deducted. As a result, net growth-related capital costs for inclusion in the calculation are \$1.5 million, after applying the 10% statutory deduction and existing reserve fund deficit are applied.

The net growth-related costs have been allocated 100% residential based on service demands.

### **5.1.8 Waste Diversion Services**

The City provides a total of 38,600 sq.ft. of eligible facility space at the Solid Waste Garage Building and Kingston Area Recycling Centre Building. The facility space related to landfill and incineration services have been excluded from the historical level of service calculations, as these services are ineligible services under the D.C.A. Moreover, 16.5 equivalent vehicles have been identified reflecting the share of solid waste fleet that supports Waste Diversion Services. In total, this capital investment results in a 10-year historical average level of service of \$58 per capita. Applying this historical average level of service to the anticipated development over the 10-year forecast period, the City would be eligible to collect a maximum of \$632,000 from D.C.s for Waste Diversion Services.

Based on the projected growth over the 10-year forecast period, the City has identified a provision for the capital-related contract costs with a total gross cost of \$138,000. Furthermore, two additional garbage trucks and additional vehicle bays have been identified to meet the increase in need for service. In total the gross capital costs identified are \$907,000. After deducting \$539,000 reflective of the non-waste diversion share of the anticipated needs (ineligible under the D.C.A.) and \$37,000 for the statutory 10% deduction, the net D.C. recoverable costs included in the calculation of the charge total \$332,000

The D.C. eligible capital costs have been allocated 79% to residential development and 21% to non-residential development, based on the anticipated population and employment over the forecast period.

### **5.1.9 Administration Studies**

The City has made provision for the inclusion of new studies undertaken to facilitate this D.C. process, as well as other studies which benefit growth (in whole or in part). The list of studies includes future D.C. background studies, as well as Official Plan Reviews,



Population Model Updates, Commercial Land Use Inventory Studies, Industrial Land Use Strategies, and Secondary Planning Studies, among others.

The cost of these studies totals \$2.7 million. Approximately, \$1.1 million is deducted as a benefit to existing development. A further \$161,000 has been deducted from the capital costs reflective of the mandatory 10% deduction for soft services. Deducting \$94,000 for existing reserve fund balances collected towards these needs, a net capital cost of \$1.3 million has been included in the calculation of the D.C.

These costs have been allocated 79% residential and 21% non-residential based on the incremental growth in population to employment for the 10-year forecast period.

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

Prj .No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development	Total	Residential Share 79%	Non-Residential Share 21%
1	Replacement of Fire Maintenance Facility	2020	4,000,000		4,000,000	-	3,043,066	956,934	755,978	200,956
2	Station #5 Oversizing (as part of relocation)	2022	4,500,000		4,500,000	-	4,056,353	443,647	350,481	93,166
3	Station #10 Oversizing (as part of relocation)	2025	4,000,000		4,000,000	-	3,687,895	312,105	246,563	65,542
4	Equipment for 2 additional firefighters	2019-2028	30,000		30,000	-	-	30,000	23,700	6,300
			-		-	-	-	-	-	-
	Reserve Fund Adjustment		-		-	-	-	676,312	534,286	142,025
			-		-	-	-	-	-	-
			-		-	-	-	-	-	-
			-		-	-	-	-	-	-
	<b>Total</b>		<b>12,530,000</b>	<b>-</b>	<b>12,530,000</b>	<b>-</b>	<b>10,787,314</b>	<b>2,418,997</b>	<b>1,911,008</b>	<b>507,989</b>



### Infrastructure Costs Covered in the D.C. Calculation – Police Services

Prj .No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development	Total	Residential Share 79%	Non-Residential Share 21%
1	700 Division Street (Excess Capacity)	2019-2028	1,035,882		1,035,882	-	-	1,035,882	818,347	217,535
2	Additional Police Vehicles (8)	2019-2028	295,800		295,800	-	-	295,800	233,682	62,118
3	Outfitting for 14 Additional Police Officers	2019-2028	84,000		84,000	-	-	84,000	66,360	17,640
			-		-	-	-	-	-	-
	Reserve Fund Adjustment		-					(117,896)	(93,138)	(24,758)
			-		-	-	-	-	-	-
	<b>Total</b>		<b>1,415,682</b>	<b>-</b>	<b>1,415,682</b>	<b>-</b>	<b>-</b>	<b>1,297,786</b>	<b>1,025,251</b>	<b>272,535</b>



## Infrastructure Costs Covered in the D.C. Calculation – Public Works Services

Prj .No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)*	Total	Residential Share 79%	Non-Residential Share 21%
					-							
1	West Yard Facility	2019	2,000,000		2,000,000	57,629	1,405,203	537,168		537,168	424,363	112,805
2	PBW - Equipment - Roads	2019-2028	2,545,000		2,545,000	246,580	-	2,298,420		2,298,420	1,815,752	482,668
3	PBW - Equipment - Sidewalks	2019-2028	1,080,000		1,080,000	104,639	-	975,361		975,361	770,535	204,826
4	PBW - Equipment - Parks & Sportsfields	2019-2028	540,000		540,000	47,088	-	492,912	49,291	443,621	350,461	93,160
			-		-	-	-	-		-	-	-
	Reserve Fund Adjustment		-		-	-	-	(614,298)		(614,298)	(485,295)	(129,003)
			-		-	-	-	-		-	-	-
	<b>Total</b>		<b>6,165,000</b>	<b>-</b>	<b>6,165,000</b>	<b>455,936</b>	<b>1,405,203</b>	<b>3,689,563</b>	<b>49,291</b>	<b>3,640,272</b>	<b>2,875,815</b>	<b>764,457</b>

\* 5% has been deducted from the Public Works Garage & Fleet Maintenance, as both soft and hard service departments will be serviced from this facility.

No statutory deduction has been applied to the Second Storage Facility, as this facility will service exclusively public works vehicles, to which the statutory deduction does not apply.



## Infrastructure Costs Covered in the D.C. Calculation – Transit Services

Prj.No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development	Total	Residential Share 79%	Non-Residential Share 21%
					-	-	-	-	-	-
1	Buses (15)	2020-2028	10,501,632	8,039,750	2,461,882	-	1,540,570	921,312	727,837	193,476
2	Access Buses (5)	2019-2028	490,000		490,000	-	306,627	183,373	144,865	38,508
3	Bust Stops/Shelters	2019-2028	2,000,000	1,319,400	680,600	-	425,898	254,702	201,214	53,487
4	TRN - 1181/1183 John Counter - Expansion	2021-2027	8,000,000	5,864,000	2,136,000	94,042	1,336,643	705,315	557,199	148,116
5	TRN - Park & Ride Facilities	2020-2026	450,000		450,000	-	281,596	168,404	133,039	35,365
6	TRN - 5 Year Transit Plan & Organizational Review	2021-2026	120,000		120,000	-	75,092	44,908	35,477	9,431
7	Transit Priority Measures (within roadway)	2019-2028	1,815,000		1,815,000	-	1,135,771	679,229	536,591	142,638
			-		-	-	-	-	-	-
	Reserve Fund Adjustment							2,676,392	2,114,350	562,042
	<b>Total</b>		<b>23,376,632</b>	<b>15,223,150</b>	<b>8,153,482</b>	<b>94,042</b>	<b>5,102,197</b>	<b>5,633,635</b>	<b>4,450,572</b>	<b>1,183,063</b>



## Infrastructure Costs Covered in the D.C. Calculation – Parks and Recreation Services

Prj.No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
<b>Future Neighbourhood Parks</b>												
<u>Woodhaven Secondary Plan Community (Cat. West)</u>												
1	South East Park	2022	175,000		175,000	-	8,750	166,250	16,625	149,625	142,144	7,481
2	Northwest Park	2021	215,000		215,000	-	10,750	204,250	20,425	183,825	174,634	9,191
3	Skyline/Walmart Linear Park (Growth Related Component Only)	2023	105,000		105,000	-	5,250	99,750	9,975	89,775	85,286	4,489
4	Lyndenwood Phase 5 (Caraco Homes - Cat North)	2020	265,000		265,000	-	13,250	251,750	25,175	226,575	215,246	11,329
5	Midland Park Phase 4 (Greene Homes)	2019	245,000		245,000	-	12,250	232,750	23,275	209,475	199,001	10,474
6	Woodhaven Gas Easement Linear Park	2021	420,000		420,000	-	21,000	399,000	39,900	359,100	341,145	17,955
7	Graceland (Bayridge Dr./Bath Rd.)	2022	115,000		115,000	-	5,750	109,250	10,925	98,325	93,409	4,916
8	Creekside Valley Park A - South Valley Edge Park	2022	305,000		305,000	-	15,250	289,750	28,975	260,775	247,736	13,039
9	Cat. North Northeast Park (Sands Property)	2022	325,000		325,000	-	16,250	308,750	30,875	277,875	263,981	13,894
10	Frontenac St. Parkette, 575 Princess St (0.04 acres)	2023	5,000		5,000	-	250	4,750	475	4,275	4,061	214
11	700 Gardiners Rd Neighbourhood Park PH2 (1.38 ac)	2025	171,000		171,000	-	8,550	162,450	16,245	146,205	138,895	7,310
12	Isle of Man Rd Neighbourhood Park (3.5 ac)	2025	433,000		433,000	-	21,650	411,350	41,135	370,215	351,704	18,511
13	Isle of Man Lane Neighbourhood Park (0.45 ac)	2026	56,000		56,000	-	2,800	53,200	5,320	47,880	45,486	2,394
14	Pittsburgh Quarry Park NP (Tamarack/Zakos) (2.1 acres)	2024	260,000		260,000	-	13,000	247,000	24,700	222,300	211,185	11,115
15	Chattham St. Parkette (0.06 acres)	2028	250,000		250,000	-	12,500	237,500	23,750	213,750	203,063	10,688
<b>Future Community Parks</b>												
16	Bert Meunier Common West - Augusta Common West	2020	415,000		415,000	-	20,750	394,250	39,425	354,825	337,084	17,741
17	Riverview Regalia Park (residual to trail)	2020	525,000		525,000	-	26,250	498,750	49,875	448,875	426,431	22,444
18	Creekside Valley Park B - Westbrook Community Park Expansion	2022	625,000		625,000	-	31,250	593,750	59,375	534,375	507,656	26,719
19	Purdy Mills - North Park	2023	495,000		495,000	-	24,750	470,250	47,025	423,225	402,064	21,161
<u>Woodhaven Secondary Plan Community (Cat. West)</u>												
20	Community Park Design (Tamarack West 2)	2021	286,700		286,700	-	14,335	272,365	27,237	245,129	232,872	12,256
21	Community Park (Tamarack West 2)	2022-2023	2,840,000		2,840,000	-	142,000	2,698,000	269,800	2,428,200	2,306,790	121,410
22	Terra Verde Way Park (Centennial Dr./Catarauqui Woods Dr. Park - Taylor Lands)	2022	246,500		246,500	-	12,325	234,175	23,418	210,758	200,220	10,538
23	Davis Tannery Park	2023	530,000		530,000	-	26,500	503,500	50,350	453,150	430,493	22,658
24	Purdy Mills - South Community Park (3.81 acres)	2019-2028	895,000		895,000	-	44,750	850,250	85,025	765,225	726,964	38,261
25	671 Brock Street	2025	600,000		600,000	-	30,000	570,000	57,000	513,000	487,350	25,650
26	2880 Princess St. Martins Storage Community Park (Woodhaven - Martin Lands (3.36 acres)	2028	789,000		789,000	-	39,450	749,550	74,955	674,595	640,865	33,730



## Infrastructure Costs Covered in the D.C. Calculation – Parks and Recreation Services (Cont'd)

Prj.No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
<b>Future Trails</b>												
<u>Greenwood West Woodland Trail</u>												
27	North	2020	165,000		165,000	-	8,250	156,750	15,675	141,075	134,021	7,054
28	Center	2021	295,000		295,000	-	14,750	280,250	28,025	252,225	239,614	12,611
29	Woodhaven Hydro Corridor	2023	325,000		325,000	-	16,250	308,750	30,875	277,875	263,981	13,894
30	Development Drive to Bath Rd. Pathway paved.	2022	126,000		126,000	-	6,300	119,700	11,970	107,730	102,344	5,387
<u>Collins Creek Bufferland Trail</u>												
31	North (960 linm)	2024	336,000		336,000	-	16,800	319,200	31,920	287,280	272,916	14,364
32	South (1020 linm)	2024	375,000		375,000	-	18,750	356,250	35,625	320,625	304,594	16,031
<b>Indoor Recreation Facilities</b>												
33	INVISTA Centre Ice Pad Excess Capacity (D.C. share only)	2019-2028	1,242,356		1,242,356	-	-	1,242,356	124,236	1,118,120	1,062,214	55,906
	Reserve Fund Adjustment		-		-	-	-	(2,240,223)		(2,240,223)	(2,128,212)	(112,011)
	<b>Total</b>		<b>14,456,556</b>	<b>-</b>	<b>14,456,556</b>	<b>-</b>	<b>660,710</b>	<b>11,555,623</b>	<b>1,379,585</b>	<b>10,176,038</b>	<b>9,667,236</b>	<b>508,802</b>



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

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
	2019-2028										95%	5%
1	Additional Library Materials	2019-2028	2,222,806		2,222,806	-	-	2,222,806	222,281	2,000,526	1,900,499	100,026
2	Kingston East Library Expansion	2023-2025	5,435,000		5,435,000		2,717,500	2,717,500	271,750	2,445,750	2,323,463	122,288
3	Isabel Turner Branch Library - Storage Space Renovation	2019-2028	1,457,000		1,457,000	993,847	303,998	159,155	15,916	143,240	136,078	7,162
			-		-	-	-	-	-	-	-	-
	Reserve Fund Adjustment		-		-	-	-	(518,149)		(518,149)	(492,241)	(25,907)
	<b>Total</b>		<b>9,114,806</b>	<b>-</b>	<b>9,114,806</b>	<b>993,847</b>	<b>3,021,498</b>	<b>4,581,313</b>	<b>509,946</b>	<b>4,071,366</b>	<b>3,867,798</b>	<b>203,568</b>



### Infrastructure Costs Covered in the D.C. Calculation – Affordable Housing

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											100%	0%
1	Affordable Housing - Capital Subsidy	2019-2022	4,000,000		4,000,000	-	3,643,237	356,763	35,676	321,087	321,087	-
2	Additional Units	2019-2028	18,000,000	4,000,000	14,000,000	-	12,751,328	1,248,672	124,867	1,123,804	1,123,804	-
					-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
	Reserve Fund Adjustment		-		-	-	-	74,242		74,242	74,242	-
			-		-	-	-	-	-	-	-	-
	<b>Total</b>		<b>22,000,000</b>	<b>4,000,000</b>	<b>18,000,000</b>	<b>-</b>	<b>16,394,565</b>	<b>1,679,676</b>	<b>160,543</b>	<b>1,519,133</b>	<b>1,519,133</b>	<b>-</b>





## Infrastructure Costs Covered in the D.C. Calculation – Waste Diversion Services

Prj .No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:			Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Other Deductions	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 79%	Non-Residential Share 21%
1	Garbage truck (rear load dual)	2019	263,000		263,000	-	184,100	-	78,900	7,890	71,010	56,098	14,912
2	Garbage truck (rear load dual)	2026	263,000		263,000	-	184,100	-	78,900	7,890	71,010	56,098	14,912
3	Additional Vehicle Bays - Creekford Road	2021-2023	243,468		243,468	-	170,428	-	73,040	7,304	65,736	51,932	13,805
4	Recycling Contract	2019-2028	137,910		137,910	-		-	137,910	13,791	124,119	98,054	26,065
	<b>Total</b>		<b>907,378</b>	<b>-</b>	<b>907,378</b>	<b>-</b>	<b>538,628</b>	<b>-</b>	<b>368,750</b>	<b>36,875</b>	<b>331,875</b>	<b>262,182</b>	<b>69,694</b>



## Infrastructure Costs Covered in the D.C. Calculation – Administration Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non- Residential Share
	2019-2028										79%	21%
1	Development Charge Study Updates	2023	115,000		115,000	-	-	115,000	11,500	103,500	81,765	21,735
1	Development Charge Study Updates	2028	115,000		115,000	-	-	115,000	11,500	103,500	81,765	21,735
2	Official Plan Five Year Review	2023	250,000		250,000	-	125,000	125,000	12,500	112,500	88,875	23,625
4	Official Plan Five Year Review	2028	250,000		250,000	-	125,000	125,000	12,500	112,500	88,875	23,625
4	Natural Heritage Update	2024	250,000		250,000	-	125,000	125,000	12,500	112,500	88,875	23,625
6	Population Model Update	2022	140,000		140,000	-	70,000	70,000	7,000	63,000	49,770	13,230
7	Population Model Update	2027	140,000		140,000	-	70,000	70,000	7,000	63,000	49,770	13,230
7	Commercial Land Use Inventory	2022	200,000		200,000	-	100,000	100,000	10,000	90,000	71,100	18,900
8	Commercial Land Use Inventory	2027	200,000		200,000	-	100,000	100,000	10,000	90,000	71,100	18,900
9	Industrial Land Use Strategy	2022	150,000		150,000	-	75,000	75,000	7,500	67,500	53,325	14,175
10	Industrial Land Use Strategy	2027	150,000		150,000	-	75,000	75,000	7,500	67,500	53,325	14,175
11	Urban Growth Strategy	2021	150,000		150,000	-	-	150,000	15,000	135,000	106,650	28,350
12	Urban Growth Strategy	2026	150,000		150,000	-	-	150,000	15,000	135,000	106,650	28,350
13	Secondary Planning Studies	2019-2028	336,600		336,600	-	168,300	168,300	16,830	151,470	119,661	31,809
14	Archeology Study	2019-2028	100,000		100,000	-	50,000	50,000	5,000	45,000	35,550	9,450
	Reserve Fund Adjustment							(127,365)		(127,365)	(100,618)	(26,747)
	<b>Total</b>		<b>2,696,600</b>	<b>-</b>	<b>2,696,600</b>	<b>-</b>	<b>1,083,300</b>	<b>1,485,935</b>	<b>161,330</b>	<b>1,324,605</b>	<b>1,046,438</b>	<b>278,167</b>



## 5.2 Service Levels and 27-Year Capital Costs for City-Wide D.C. Calculation

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This section evaluates the development-related capital requirements for City-wide services assessed over a 27-year planning period. 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 Roads Services

The City has a current inventory of 616 km of arterial and collector roads producing an average level of service over the 2009-2018 period of \$14,471 per capita. When applied to the anticipated growth over the forecast period (i.e. 21,882 population) the maximum amount that could be included in the calculation of the charge to meet the increase in need for service is \$322.5 million.

The capital program has been designed based on the City’s 2015 KTMP and Active Transportation Master Plan. Similar to Transit Services, City Council approved a greater target mode share for active transportation modes (20%) in the Active Transportation Master Plan than originally identified in the 2015 KTMP (17%). To reflect this more recent expression of Council, the capital program has been refined in discussion with City staff to reflect the higher active transportation target mode share.

The anticipated capital needs related to roads include road improvements/construction, road widening, and intersection improvements, as well as active transportation needs to achieve the Active Transportation Master Plan target mode share identified by Council. The total capital plan for the 27-year forecast period approximates \$402 million in gross capital costs. Of these costs, \$154 million has been deducted reflecting anticipated grants funding towards these needs, resulting in a net capital cost of \$247.9 million for the period. Approximately, \$47.3 million has been deducted as a benefit to development beyond the forecast period, including \$15.1 million in growth related roads needs that have been deferred as a result of the higher investment in active transportation needs over the period, reflective of the change in targeted mode share. Additionally, \$111.9 million has been deducted as benefit to existing development and



\$8.6 million has been deducted for existing uncommitted Roads Services D.C. reserve fund balances. In total, approximately \$80.2 million in D.C. recoverable costs have been included in the calculation of the charge.

D.C. recoverable capital costs for Roads Services have been allocated between future residential and non-residential development based on the relationship of incremental population and employment growth over the 27-year forecast period (i.e. 74% residential and 26% non-residential).

In addition to the capital program identified for the 2019-2046 period, the City has previously completed D.C. eligible projects for which there was a benefit to development beyond the planning period (i.e. post period benefit). While the unfunded share of these projects remain D.C. eligible costs that could be included for funding in future D.C. by-laws, they have not been included for cost recovery from the next increment of growth to 2046. Table 5-2 identifies these projects and the respective growth-related costs that are being tracked for future D.C. by-law cost recovery.

Table 5-2  
Post Period Benefit Share of Prior Completed Projects

Description	Total
15 Grenadier Dr East King CC	130,069
JCB-Reconstruction Phase 4	629,000
JCB Pre Load	2,220,000
Hwy 15 widening - 2 to 4 lanes	1,127,897
City-wide Intersect'n-Corridor	10,876
City-wide Intersect'n-Corridor	57,631
Transit Priority Measures	41,944
Centennial Dr-2 Lane Road	840,441
CWD 2 Lane Rd East of Sydenham	184,775
Cycling-Bike Plan	35,898
City-wide Intersect'n-Corridor	74,728
Transit Priority Measures	20,171
City-wide Intersect'n-Corridor	107,485
ENG-Unity Road Traffic Signal Installation	14,769
ENG-JCB Widening-Sir John A MacDonald to Princess	215,693
<b>Total</b>	<b>5,711,377</b>



## Infrastructure Costs Covered in the D.C. Calculation – Roads Services

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:		Less:		Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions	Net Capital Cost	Post Period Benefit	Benefit to Existing Development	Total	Residential Share 74%	Non-Residential Share 26%
	2019-2046									
1	John Counter Blvd widening from 2 to 4 lanes + bridge over CN. (Sir John A to Princess)	2019-2021	32,280,800	4,000,000	28,280,800	4,185,558	12,047,621	12,047,621	8,915,239	3,132,381
	Active Transportation	2019-2021	8,070,200	1,000,000	7,070,200	1,046,390	3,011,905	3,011,905	2,228,810	783,095
2	3rd Crossing new construction of a 2 lane bridge - Elliott Ave. and Gore Rd.									
	Phase 2 - Design/Construction	2022	144,000,000	96,000,000	48,000,000	7,104,000	20,448,000	20,448,000	15,131,520	5,316,480
	Active Transportation	2022	36,000,000	24,000,000	12,000,000	1,776,000	5,112,000	5,112,000	3,782,880	1,329,120
3	NKT 2-lane roadway connection - Railway to JCB									
	Phase 1 - Land/EA Update		1,500,000		1,500,000	1,200,000	300,000	-	-	-
	Phase 2 - Design/Construction		5,361,768		5,361,768	4,289,414	1,072,354	-	-	-
	Active Transportation		1,340,442		1,340,442	1,072,354	268,088	-	-	-
4	John Counter Blvd widening (2-4 lanes Division Street to mid-block)									
	Phase 1 - EA		156,587		156,587	140,928	15,659	-	-	-
	Phase 2 - Design/Construction		3,487,804		3,487,804	3,139,024	348,780	-	-	-
	Active Transportation		871,951		871,951	784,756	87,195	-	-	-
5	Leroy Grant new construction of a 2 lane road - Elliott Ave. to Concession St.									
	Phase 1 - EA		293,084		293,084	263,776	29,308	-	-	-
	Phase 2 - Design/Construction		6,558,383		6,558,383	5,902,545	655,838	-	-	-
	Active Transportation		1,639,596		1,639,596	1,475,636	163,960	-	-	-
6	Highway 15 widening from 2 to 4 lanes (Highway 2 to Gore Road)									
	Phase 1 - EA/Design/Land	2024	732,860		732,860	108,463	73,286	551,111	407,822	143,289
	Phase 2 - Construction	2024	10,454,720		10,454,720	1,547,299	1,045,472	7,861,949	5,817,843	2,044,107
	Active Transportation	2024	2,613,680		2,613,680	386,825	261,368	1,965,487	1,454,461	511,027
7	CWD - new 2 lane road (Sydenham to 560 m east)									
	Phase 1 - EA/Land	2020	1,376,000		1,376,000	203,648	-	1,172,352	867,540	304,812
	Phase 2 - Design/Construction	2022	3,279,191		3,279,191	485,320	-	2,793,871	2,067,465	726,406
8	City-wide Intersection/Corridor Improvements	2019-2035	33,825,000	12,346,125	21,478,875	3,178,874	7,339,563	10,960,439	8,110,725	2,849,714
	City-wide Intersection/Corridor Improvements	2036-2046	17,600,000		17,600,000	2,604,800	6,014,109	8,981,091	6,646,007	2,335,084



## Infrastructure Costs Covered in the D.C. Calculation – Roads Services (Cont'd)

Prj .No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development	Total	Residential Share 74%	Non-Residential Share 26%
	2019-2046									
9	Transportation Master Plan, Transportation Model Update, and Household Survey	2020	362,000.00		362,000	53,576	90,500	217,924	161,264	56,660
	Transportation Master Plan, Transportation Model Update, and Household Survey	2025	362,000.00		362,000	53,576	90,500	217,924	161,264	56,660
	Transportation Master Plan, Transportation Model Update, and Household Survey	2030	362,000.00		362,000	53,576	90,500	217,924	161,264	56,660
	Transportation Master Plan, Transportation Model Update, and Household Survey	2035	362,000.00		362,000	53,576	90,500	217,924	161,264	56,660
	Transportation Master Plan, Transportation Model Update, and Household Survey	2040	362,000.00		362,000	53,576	90,500	217,924	161,264	56,660
	Transportation Master Plan, Transportation Model Update, and Household Survey	2045	362,000.00		362,000	53,576	90,500	217,924	161,264	56,660
10	TRP - City-wide Routes ATMP Infrastructure	2019-2046	43,229,700	9,636,000	33,593,700	2,857,907	24,842,719	5,893,073	4,360,874	1,532,199
11	TRP - Neighbourhood Routes ATMP Infrastructure	2019-2046	20,793,600	7,199,260	13,594,340	1,156,507	10,053,087	2,384,746	1,764,712	620,034
12	Active Transportation - Pathways and Trails	2019-2046	24,534,000		24,534,000	2,087,174	18,143,023	4,303,803	3,184,814	1,118,989
	Reserve Fund Adjustment							(8,640,541)	(6,394,000)	(2,246,541)
	<b>Total</b>		<b>402,171,367</b>	<b>154,181,385</b>	<b>247,989,982</b>	<b>47,318,654</b>	<b>111,876,336</b>	<b>80,154,452</b>	<b>59,314,294</b>	<b>20,840,157</b>



## **5.3 27-Year Capital Costs for Urban Serviced Area D.C. Calculation**

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This section evaluates the development-related capital requirements for the services assessed over a 27-year planning period in the urban service area only. The infrastructure cost calculation sheet presented herein determines the potential D.C. recoverable cost. The capital costs estimates included in the Water and Wastewater capital programs have been derived from the 2017 Water and Wastewater Master Plan, and updates provided by Utilities Kingston staff.

### **5.3.1 Wastewater Services**

The anticipated capital needs that have been identified for Wastewater Services to meet the needs of development over the forecast period include wastewater trunks, wastewater treatment upgrades (including financing and unfunded costs of completed projects), pumping stations, forcemain upgrades, and future water and wastewater master plan costs. The total gross capital costs for the identified needs are \$164.2 million. Approximately, \$22.4 million has been deducted as a benefit to development beyond the forecast period to 2046. Additionally, \$40.1 million has been deducted as a benefit to existing development. After deducting the uncommitted Impost Fee reserve fund balances of \$21.5 million, the net D.C. recoverable costs included in the calculation of the charge total \$80.2 million.

The cost allocation between residential (58%) and non-residential (42%) development has been calculated based on residential flow assumptions of 350 m<sup>3</sup>/person/day and non-residential flow assumptions of 40 employees per hectare and 28 m<sup>3</sup>/ha/day.

### **5.3.2 Water Services**

The anticipated capital needs that have been identified for Water Services include the outstanding principal and interest costs of the Point Pleasant Water Treatment Plant, major watermains, and future water and wastewater master plan costs. The total gross capital costs for the identified needs are \$73.5 million. Approximately, \$11.7 million has been deducted from the gross capital costs as a benefit to development beyond the 2046 forecast horizon. An additional \$22.2 million has been deducted as a benefit to existing development and uncommitted Impost Fee reserve fund balances of \$15.9



million have also been applied. In total, the net D.C. recoverable costs included in the calculation of the charge are \$23.6 million.

The cost allocation between residential (58%) and non-residential (42%) development has been calculated based on residential flow assumptions of 350 m<sup>3</sup>/person/day and non-residential flow assumptions of 40 employees per hectare and 28 m<sup>3</sup>/ha/day.





## Infrastructure Costs Covered in the D.C. Calculation – Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development  2019-Buildout	Timing (year)	Gross Capital Cost Estimate (2019\$)	Grants, Subsidies and Other Contributions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
						Post Period Benefit	Benefit to Existing Development	Total	Residential Share 58%	Non-Residential Share 42%
<b>Wastewater Trunks</b>										
1	Westbrook PS - Flow Redirect	2021	420,000		420,000	-	-	420,000	243,600	176,400
2	Hwy 15 Trunk Sewer & FM Upsize	2029	3,500,000		3,500,000	2,100,000	1,400,000	-	-	-
3	North West Collector between Lincoln Dr. to Pembridge Cres.	2030	3,000,000		3,000,000	-	-	3,000,000	1,740,000	1,260,000
4	Augusta (Atkinson to Cat Woods Dr.)	2019-2020	300,000		300,000	-	-	300,000	174,000	126,000
5	NETS Phase 1 (Parkway @ Princess to East of JCB)	2019	4,450,000		4,450,000	-	2,670,000	1,780,000	1,032,400	747,600
6	NETS Phase 2 (Queen Mary @ Greenview to Sherwood Cr)	2019	2,600,000		2,600,000	-	1,560,000	1,040,000	603,200	436,800
7	NETS Phase 3 (JCB to Dalton PS)	2036	8,650,000		8,650,000	3,460,000	5,190,000	-	-	-
8	Princess St Collector Phase 1 (Parkway to Portsmouth)	2020	2,713,000		2,713,000	-	1,085,200	1,627,800	944,124	683,676
9	Princess St Collector Phase 2 (Portsmouth to Best Western)	2024	1,840,000		1,840,000	-	736,000	1,104,000	640,320	463,680
10	Princess St Collector Phase 3 (Best Western to Mooallim)	2036	3,000,000		3,000,000	1,800,000	1,200,000	-	-	-
11	Alfred Street & Elm Street	2019	726,845		726,845	-	-	726,845	421,570	305,275
<b>WW Treatment</b>										
12	Cataraqui Bay WWTP Phase 2	2027	11,000,000		11,000,000	9,427,000	-	1,573,000	912,340	660,660
13	Cataraqui Bay WWTP Phase 1 - Future Costs	2020	41,464,453		41,464,453	-	16,585,781	24,878,672	14,429,630	10,449,042
14	Cataraqui Bay WWTP Phase 1 - Prior Costs (Principal & Interest)	2020	39,439,443		39,439,443	-	-	39,439,443	22,874,877	16,564,566
15	Ravensview Oversizing (Principal & Interest)	2019-2040	14,710,226		14,710,226	5,589,886	-	9,120,340	5,289,797	3,830,543
16	Water and Wastewater Master Plan	2022	525,000		525,000	-	-	525,000	304,500	220,500
17	Water and Wastewater Master Plan	2027	525,000		525,000	-	-	525,000	304,500	220,500
18	Water and Wastewater Master Plan	2032	525,000		525,000	-	-	525,000	304,500	220,500
19	Water and Wastewater Master Plan	2037	525,000		525,000	-	-	525,000	304,500	220,500
20	Water and Wastewater Master Plan	2042	525,000		525,000	-	-	525,000	304,500	220,500
<b>Pumping Stations</b>										
21	Taggart/Axion Pumping Station	2020-2021	2,800,000		2,800,000	-	-	2,800,000	1,624,000	1,176,000
22	Portsmouth	2021-2022	2,800,000		2,800,000	-	700,000	2,100,000	1,218,000	882,000
23	Days Road	2019	18,000,000		18,000,000	-	9,000,000	9,000,000	5,220,000	3,780,000
<b>Forcemains</b>										
24	Hillview PS - Forcemain Upsize	2021	200,000		200,000	-	-	200,000	116,000	84,000
	Reserve Fund Adjustment				-	-	-	(21,504,538)	(12,472,632)	(9,031,906)
	<b>Total</b>		<b>164,238,966</b>	<b>-</b>	<b>164,238,966</b>	<b>22,376,886</b>	<b>40,126,981</b>	<b>80,230,561</b>	<b>46,533,725</b>	<b>33,696,836</b>



## Infrastructure Costs Covered in the D.C. Calculation – Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development  2019-Buildout	Timing (year)	Gross Capital Cost Estimate (2019\$)	Less:	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
				Grants, Subsidies and Other Contributions		Post Period Benefit	Benefit to Existing Development	Total	Residential Share 58%	Non-Residential Share 42%
1	<b>Water Treatment</b> Point Pleasant WTP		-							
	Point Peasant WTP Principal & Interest (Growth Share Only)	2019-2040	1,936,133		1,936,133	-	-	1,936,133	1,122,957	813,176
	Point Peasant WTP Principal & Interest (Growth Share Only)	2019-2046	27,401,394		27,401,394	-	-	27,401,394	15,892,809	11,508,586
2	Water and Wastewater Master Plan	2022	525,000		525,000	-	-	525,000	304,500	220,500
3	Water and Wastewater Master Plan	2027	525,000		525,000	-	-	525,000	304,500	220,500
4	Water and Wastewater Master Plan	2032	525,000		525,000	-	-	525,000	304,500	220,500
5	Water and Wastewater Master Plan	2037	525,000		525,000	-	-	525,000	304,500	220,500
6	Water and Wastewater Master Plan	2042	525,000		525,000	-	-	525,000	304,500	220,500
	<b>Major Watermains</b>				-	-	-	-	-	-
7	Augusta - Atkinson to Cat. Woods Dr.	2021	285,000		285,000	-	-	285,000	165,300	119,700
8	Creekford - Bayridge to Westbrook/Ottawa St. (EA)	2025	1,200,000		1,200,000	480,000	720,000	-	-	-
9	Creekford - Bayridge to Westbrook/Ottawa St.	2027	9,600,000		9,600,000	3,840,000	5,760,000	-	-	-
10	John Counter Blvd - Portsmouth to Princess St	2019	2,700,000		2,700,000	-	1,350,000	1,350,000	783,000	567,000
11	Front Road/King St. (Sand Bay Lane to SJAM/Union St)	2020	19,940,000		19,940,000	5,982,000	9,970,000	3,988,000	2,313,040	1,674,960
12	Gatwick Ave	2020	400,000		400,000	-	-	400,000	232,000	168,000
13	Hwy 15 Trunk Watermain: Hwy 2 to Gore Rd	2021	3,900,000		3,900,000	-	2,340,000	1,560,000	904,800	655,200
14	Gardiners Rd - Watermain Upsizing (North leg of O'Connor Dr	2021	3,500,000		3,500,000	1,400,000	2,100,000	-	-	-
	Reserve Fund Adjustment							(15,902,720)	(9,223,578)	(6,679,143)
	<b>Total</b>		<b>73,487,527</b>	<b>-</b>	<b>73,487,527</b>	<b>11,702,000</b>	<b>22,240,000</b>	<b>23,642,807</b>	<b>13,712,828</b>	<b>9,929,979</b>



# Chapter 6

## D.C. Calculation



## 6. D.C. Calculation

The calculation of the maximum D.C.s that could be imposed by Council have been undertaken using a cash-flow approach for the growth-related capital costs identified in Chapter 5. Table 6-1 presents the D.C. calculation for Water and Wastewater Services imposed in the urban serviced area over the 27-year period to 2046. Table 6-2 presents the D.C. calculation for Roads Services imposed over 27-year period City-wide. Finally, Table 6-3 presents the calculations for City-wide services imposed over the 10-year period to 2029 (i.e. Fire Services, Police Services, Public Works, Transit Services, Parks and Recreation Services, Library Services, Administration Studies, Affordable Housing, and Waste Diversion Services).

The calculation for residential development is generated on a per capita basis and is based upon five forms of housing types (single and semi-detached, apartments 2+ bedrooms, apartment's bachelor and 1 bedroom, multiples 2+ bedrooms, and multiples <750 sq.ft. with 1 bedroom). The non-residential D.C. has been calculated on a per sq.ft. of G.F.A. basis for industrial and non-industrial (i.e. commercial and institutional) types of development.

With respect to non-residential development, the total costs in the differentiated charge (i.e. industrial and non-industrial) allocated to non-residential development based on need for service, have been divided by the anticipated development by type over the planning period to calculate a cost per sq.ft of G.F.A.

The cash-flow calculations of the maximum D.C.s that could be imposed by Council have been undertaken to account for the timing of revenues and expenditures and the resultant financing needs. The cash-flow calculations have been undertaken by service for each forecast development type, i.e. residential, industrial, and non-industrial development. D.C. cash flow calculation tables are provided in Appendix C and have been undertaken to account for 2.5% earnings on D.C. reserve fund balances and 5.25% interest charged for reserve fund borrowing.

Table 6-4 summarizes the recommended schedule of charges, reflecting the maximum D.C.s by residential dwelling type, and per sq.ft. of G.F.A. for industrial and non-industrial development types. Table 6-5 compares the City's existing charges (D.C. and Impost Fees) to the charges proposed herein (Table 6-4), for a single detached



residential dwelling unit (S.D.U.), and per sq.ft. of G.F.A. for industrial and non-industrial development.

The calculated charges for new development within the urban serviced area of the City are \$21,356 for a single detached residential dwelling unit. The calculated charges are 4.5% lower than the City's current D.C.s for the same type of residential dwelling unit. Similarly, the proposed charges for all residential dwellings unit types would be decreasing, with differences in the magnitude of the decrease reflective of changes in dwelling unit occupancy exhibited between the 2011 and 2016 Census periods.

The calculated non-residential D.C.s for new development within the urban serviced area are \$8.06 per sq.ft. of G.F.A. for industrial development, representing a 6.8% decrease compared to current charges. The proposed charge for non-industrial development types of non-residential development (i.e. commercial and institutional) totals \$16.93 per sq.ft. of G.F.A., representing a 13.5% decrease compared to current charges.

Table 6-1  
City of Kingston Calculation of Development Charges  
within the Urban Serviced Area  
2019-2046

SERVICE	2019\$ D.C.-Eligible Cost			2019\$ D.C.-Eligible Cost		
	Residential	Non-Residential (Industrial)	Non-Residential (Non-Industrial)	S.D.U.	Industrial per sq.ft.	Non-Industrial per sq.ft.
	\$	\$	\$	\$	\$	\$
1. Wastewater Services	46,533,725	7,440,021	26,256,815	5,907	3.68	7.90
2. Water Services	13,712,828	2,192,468	7,737,511	1,634	1.01	2.06
<b>TOTAL</b>	<b>\$60,246,553</b>	<b>\$9,632,489</b>	<b>\$33,994,325</b>	<b>\$7,541</b>	<b>\$4.70</b>	<b>\$9.97</b>
Financing Costs	\$3,859,443	\$643,492	\$3,619,130			
D.C.-Eligible Capital Cost	\$64,105,997	\$10,275,981	\$37,613,456			
27-Year Gross Population/GFA Growth (sq.ft.)	23,530	2,186,600	3,771,500			
<b>Cost Per Capita/Non-Residential GFA (sq.ft.)</b>	<b>\$2,724.44</b>	<b>\$4.70</b>	<b>\$9.97</b>			
<b>By Residential Unit Type</b>	<b>P.P.U.</b>					
Single and Semi-Detached Dwelling	2.768	\$7,541				
Apartments - 2 Bedrooms +	1.839	\$5,010				
Apartments - Bachelor and 1 Bedroom	1.125	\$3,065				
Other Multiples - 2 Bedrooms +	2.167	\$5,904				
Other Multiples - <750 ft2 with 1 Bedroom	1.125	\$3,065				



**Table 6-2**  
**City of Kingston Calculation of Development Charges**  
**for City-Wide Services**  
**2019-2046**

SERVICE	2019\$ D.C.-Eligible Cost			2019\$ D.C.-Eligible Cost		
	Residential	Non-Residential (Industrial)	Non-Residential (Non-Industrial)	S.D.U.	Industrial per sq.ft.	Non-Industrial per sq.ft.
	\$	\$	\$	\$	\$	\$
3. Roads Services	59,314,294	4,757,548	16,082,610	7,049	2.19	4.69
<b>TOTAL</b>	<b>\$59,314,294</b>	<b>\$4,757,548</b>	<b>\$16,082,610</b>	<b>\$7,049</b>	<b>\$2.19</b>	<b>\$4.69</b>
Financing Costs	\$3,052,860	\$276,887	\$1,709,141			
D.C.-Eligible Capital Cost	\$62,367,154	\$5,034,435	\$17,791,750			
27-Year Gross Population/GFA Growth (sq.ft.)	24,491	2,299,700	3,795,700			
<b>Cost Per Capita/Non-Residential GFA (sq.ft.)</b>	<b>\$2,546.53</b>	<b>\$2.19</b>	<b>\$4.69</b>			
<b>By Residential Unit Type</b>	<b>P.P.U.</b>					
Single and Semi-Detached Dwelling	2.768	\$7,049				
Apartments - 2 Bedrooms +	1.839	\$4,683				
Apartments - Bachelor and 1 Bedroom	1.125	\$2,865				
Other Multiples - 2 Bedrooms +	2.167	\$5,518				
Other Multiples - <750 ft2 with 1 Bedroom	1.125	\$2,865				

**Table 6-3**  
**City of Kingston Calculation of Development Charges**  
**for City-Wide Services**  
**2019-2028**

SERVICE	2019\$ D.C.-Eligible Cost			2019\$ D.C.-Eligible Cost		
	Residential	Non-Residential (Industrial)	Non-Residential (Non-Industrial)	S.D.U.	Industrial per sq.ft.	Non-Industrial per sq.ft.
	\$	\$	\$	\$	\$	\$
4. Fire Services	1,911,008	145,039	362,951	512	0.15	0.33
5. Police Services	1,025,251	77,813	194,722	256	0.08	0.16
6. Public Works	2,875,815	174,516	589,941	719	0.17	0.50
7. Transit Services	4,450,572	337,783	845,281	1,182	0.35	0.76
8. Parks and Recreation Services	9,667,236	233,459	275,343	2,404	0.23	0.23
9. Library Services	3,867,798	93,405	110,163	975	0.09	0.09
10. Administration Studies	1,046,438	79,421	198,746	262	0.08	0.17
11. Affordable Housing	1,519,133			389	-	-
12. Waste Diversion Services	262,182	19,899	49,795	67	0.02	0.04
<b>TOTAL</b>	<b>\$26,625,432</b>	<b>\$1,161,334</b>	<b>\$2,626,942</b>	<b>\$6,766</b>	<b>\$1.18</b>	<b>\$2.28</b>
Financing Costs	\$1,972,389	\$97,713	\$269,274			
D.C.-Eligible Capital Cost	\$28,597,821	\$1,259,047	\$2,896,216			
10-Year Gross Population/GFA Growth (sq.ft.)	11,700	1,066,000	1,269,900			
<b>Cost Per Capita/Non-Residential GFA (sq.ft.)</b>	<b>\$2,444.26</b>	<b>\$1.18</b>	<b>\$2.28</b>			
<b>By Residential Unit Type</b>	<b>P.P.U.</b>					
Single and Semi-Detached Dwelling	2.768	\$6,766				
Apartments - 2 Bedrooms +	1.839	\$4,495				
Apartments - Bachelor and 1 Bedroom	1.125	\$2,750				
Other Multiples - 2 Bedrooms +	2.167	\$5,297				
Other Multiples - <750 ft2 with 1 Bedroom	1.125	\$2,750				



**Table 6-4  
City of Kingston  
Proposed Schedule of Development Charges**

Service	RESIDENTIAL					NON-RESIDENTIAL	
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples - 2 Bedrooms +	Other Multiples - <750 ft <sup>2</sup> with 1 Bedroom	Industrial (per sq.ft. of Gross Floor Area)	Non-Industrial (per sq.ft. of Gross Floor Area)
<b>Municipal Wide Services:</b>							
Roads Services	7,049	4,683	2,865	5,519	2,865	2.19	4.69
Public Works	719	477	292	563	292	0.17	0.50
Fire Services	512	340	208	401	208	0.15	0.33
Police Services	256	170	104	200	104	0.08	0.16
Transit Services	1,182	785	480	925	480	0.35	0.76
Parks and Recreation Services	2,404	1,597	977	1,882	977	0.23	0.23
Library Services	975	648	396	763	396	0.09	0.09
Administration Studies	262	174	107	205	107	0.08	0.17
Affordable Housing	389	258	158	305	158	-	-
Waste Diversion Services	67	44	27	52	27	0.02	0.04
<b>Total Municipal Wide Services</b>	<b>13,815</b>	<b>9,176</b>	<b>5,614</b>	<b>10,815</b>	<b>5,614</b>	<b>3.36</b>	<b>6.96</b>
<b>Urban Services</b>							
Wastewater Services	5,907	3,925	2,401	4,625	2,401	3.68	7.90
Water Services	1,634	1,086	664	1,279	664	1.01	2.06
<b>Total Urban Services</b>	<b>7,541</b>	<b>5,010</b>	<b>3,065</b>	<b>5,904</b>	<b>3,065</b>	<b>4.70</b>	<b>9.97</b>
<b>GRAND TOTAL RURAL AREA</b>	<b>13,815</b>	<b>9,176</b>	<b>5,614</b>	<b>10,815</b>	<b>5,614</b>	<b>3.36</b>	<b>6.96</b>
<b>GRAND TOTAL URBAN AREA</b>	<b>21,356</b>	<b>14,186</b>	<b>8,679</b>	<b>16,719</b>	<b>8,679</b>	<b>8.06</b>	<b>16.93</b>

**Table 6-5  
City of Kingston  
Comparison of Current Development Charges and Impost Fees  
and Proposed Development Charges**

Service	Residential (Single Detached)		Industrial (per sq.ft.)		Non-Industrial (per sq.ft.)	
	Residential (Single Detached)		Industrial (per sq.ft.)		Non-Industrial (per sq.ft.)	
	Current	Calculated	Current	Calculated	Current	Calculated
<b>Municipal Wide Services:</b>						
Roads Services	7,623	7,049	2.40	2.19	4.89	4.69
Public Works	533	719	0.18	0.17	0.37	0.50
Fire Services	351	512	0.11	0.15	0.23	0.33
Police Services	237	256	0.07	0.08	0.14	0.16
Transit Services	381	1,182	0.11	0.35	0.24	0.76
Parks and Recreation Services	2,119	2,404	0.12	0.23	0.12	0.23
Library Services	613	975	0.03	0.09	0.03	0.09
Administration Studies	95	262	0.03	0.08	0.06	0.17
Affordable Housing	74	389	-	-	-	-
Waste Diversion Services	-	67		0.02		0.04
<b>Total Municipal Wide Services</b>	<b>12,027</b>	<b>13,815</b>	<b>3.05</b>	<b>3.36</b>	<b>6.07</b>	<b>6.96</b>
<b>Area Specific Services:</b>						
Wastewater Services	6,818	5,907	3.61	3.68	8.86	7.90
Water Services	3,516	1,634	1.99	1.01	4.63	2.06
<b>Total Area Specific Services</b>	<b>10,334</b>	<b>7,541</b>	<b>5.60</b>	<b>4.70</b>	<b>13.50</b>	<b>9.97</b>
<b>Grand Total - Urban Area</b>	<b>22,361</b>	<b>21,356</b>	<b>8.65</b>	<b>8.06</b>	<b>19.57</b>	<b>16.93</b>



# 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

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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 the section 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; and
- 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.

With respect to “the rules,” Section 6 states that a D.C. by-law must expressly address the matters referred to above re s.s.5(1) paragraphs 9 and 10, as well as how the rules apply to the redevelopment of land.

The rules provided are based on the recommendations of the City’s D.C. Steering Committee.



## 7.2 D.C. By-law Structure

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It is recommended that:

- water and wastewater services be imposed on an area-specific basis in the urban serviced areas of the City;
- the City uses a uniform City-wide D.C. calculation for all other services; and
- one municipal D.C. by-law be used for all services.

## 7.3 D.C. By-law Rules

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The following subsections set out the recommended rules governing the calculation, payment, and collection of D.C.s in accordance with Section 6 of the D.C.A.

**It is recommended that the following sections provide the basis for the D.C.s:**

### ***7.3.1 Payment in any Particular Case***

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

1. the passing of a zoning by-law or of an amendment to a zoning by-law under section 34 of the *Planning Act*;
2. the approval of a minor variance under section 45 of the *Planning Act*;
3. a conveyance of land to which a by-law passed under section 50(7) of the *Planning Act* applies;
4. the approval of a plan of subdivision under section 51 of the *Planning Act*;
5. a consent under section 53 of the *Planning Act*;
6. the approval of a description under section 50 of the *Condominium Act*; or
7. 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 G.F.A. G.F.A. is defined as:

- 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, or between the centre lines of party walls, of all floors above grade.
- 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.

### **7.3.3 Application to Redevelopment of Land (Demolition and Conversion)**

If a development involves the demolition of 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:

- 1) 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
- 2) the gross floor area of the building demolished/converted multiplied by the current industrial/non-industrial D.C. in place at the time the D.C. is payable.

The 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 5 years prior to the issuance of a building permit. The credit can, in no case, exceed the amount of D.C. that would otherwise be payable.

No credit shall be given with respect to the redevelopment, conversions, demolition, or change of use of a building or structure or part thereof where the existing building or structure or part thereof would have been exempt from D.C.s in accordance with the active by-law.



### **7.3.4 Exemptions (full or partial)**

#### a) Statutory exemptions

- industrial building additions of up to and including 50% of the existing gross floor area (defined in O.Reg. 82/98, s.1) of the building; for industrial building additions which exceed 50% of the existing gross floor area, only the portion of the addition in excess of 50% is subject to D.C.s (s.4(3)) of the D.C.A.;
- buildings or structures owned by and used for the purposes of any municipality, local board or Board of Education (s.3);
- residential development that results only in 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).

#### b) Non-statutory exemptions

- Industrial development, where an approved use must continue for three (3) year period subsequent to the issuance of an occupancy permit;
- Lands designated as part of a Community Improvement Area through a Community Improvement Plan By-law may be exempt;
- Purpose built second residential units in new single detached, semi-detached or row dwellings, provided the second residential unit meets Zoning By-Law and Official Plan requirements;
- A place of worship classified as exempt from taxation under Section 3 of the Assessment Act;
- Agricultural use structures;
- A seasonal air supported structure, except any portion of the structure that is permanent;
- A seasonal structure;
- Temporary buildings or structures, which are accessory to or ancillary to a permitted use on the property; and
- A temporary venue.

An additional non-statutory exemption is being proposed in the draft bylaw, for second residential units in a detached structure established on existing



lots where a principal residential dwelling has already been established. This is being provided to further affordability and to be consistent with the other statutory exemptions for additional units within an existing building and structure, as well as the City's non-statutory exemption for purpose built second residential dwelling units.

### **7.3.5 Phasing in**

No provisions for phasing in the D.C. are provided in the D.C. by-law.

### **7.3.6 Timing of Collection**

A D.C. that is applicable under Section 5 of the D.C.A. shall be calculated and payable:

- where a permit is required under the *Building Code Act* in relation to a building or structure, the owner shall pay the D.C. prior to the issuance of a permit or prior to the commencement of development or redevelopment as the case may be; and
- despite the above, Council, from time to time and at any time, may enter into agreements providing for all or any part of a D.C. to be paid before or after it would otherwise be payable.

### **7.3.7 Indexing**

All D.C.s will be subject to mandatory indexing annually on January 1<sup>st</sup> of each year, based on the most recent year over year change in the second quarter index in accordance with provisions under the D.C.A. This represents a change from the City's current policy of determining the annual indexing based on the year over year change in the third quarter index. This change was made in response to feedback from the D.C. Focus Group to allow for greater notice of the increase in the charge prior to the increase taking effect.

### **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. 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 City-wide D.C. approach is based, in part, on the following:

- The ten-year service level from all applicable services across the City 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 City, potentially resulting in D.C. revenue shortfalls and impacts on property taxes and user rates.
- City-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 City.
- Attempting to impose an area-specific D.C. potentially causes equity issues in transitioning from a City-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 City. Whereas, another part of the municipality that has experienced significant growth which required substantial capital investments, benefitted from the capital



investments being financed by City-wide D.C.s. The implementation of area specific D.C.s could result in varying D.C.s across the City, which may impact the ability to attract investment into parts of the community.

- Services are generally available across the City, used often by all residents and are not restricted to one specific geographic area. The use of a City-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 City-wide property tax rates, etc.).

Based on the foregoing and discussions with City 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 City-wide D.C.s for all services other than Water and Wastewater Services. For Water and Wastewater Services, maintaining the uniform charge across the urban service area is being recommended.

## **7.4 Other D.C. By-law Provisions**

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### ***7.4.1 Categories of Services for Reserve Fund and Credit Purposes***

It is recommended that the City's D.C. collections be contributed into 10 separate reserve funds, including:

- Roads Services (Roads and Public Works);
- Protection Services (Fire Services and Police Services);
- Transit Services;
- Parks and Recreation Services;
- Library Services;
- Administration Studies;
- Affordable Housing;
- Waste Diversion Services;
- Wastewater Services; and
- Water Services.



### **7.4.2 By-law In-force Date**

The proposed by-law under D.C.A., 1997 will come into force on the day 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).

## **7.5 Other Recommendations**

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**It is recommended that Council:**

“Approve the capital project listing set out in Chapter 5 of the Final D.C. Background Study dated July 26, 2019, subject to further annual review during the capital budget process;”

“Approve the D.C. Background Study dated July 26, 2019”

“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

### 8.1 Introduction

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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,**

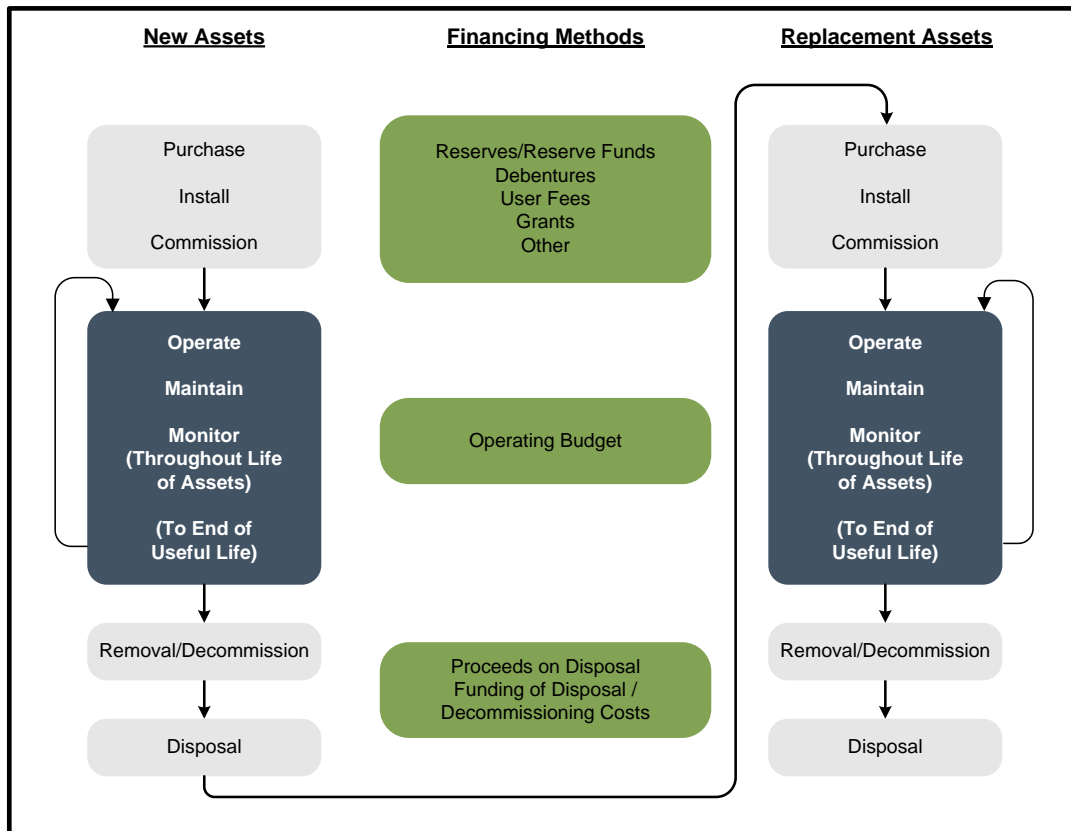
- a) deal with all assets whose capital costs are proposed to be funded under the development charge by-law;**
- b) demonstrate that all the assets mentioned in clause (a) are financially sustainable over their full life cycle;**
- c) contain any other information that is prescribed; and**
- d) be prepared 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 City and Utilities Kingston have undertaken A.M.P's as of 2016, however, the plans do not address all assets proposed to be funded by the D.C. by-law and do not address all 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. Due to the detailed requirements for transit in the regulations, the A.M.P. requirements for this D.C.



background study have been addressed separately for non-transit municipal services and transit services.

## 8.2 Non-Transit Services

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In recognition to the schematic in Section 8.1, 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 has 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 City 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 \$72.7 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 \$44.9 million. This amount, totalled with the existing operating revenues of \$513.7 million, provides annual revenues of \$558.6 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  
City of Kingston  
Asset Management – Future Expenditures and Associated Revenues (2019\$)

	2046 (Total)
<b>Expenditures (Annualized)</b>	
Annual Debt Payment on Non-Growth Related Capital <sup>1</sup> (2014 D.C. and 2016 updates)	\$25,305,528
Annual Debt Payment on Post Period Capital <sup>2</sup>	\$13,554,804
Annual Lifecycle	\$21,944,205
<b>Incremental Operating Costs (for D.C. Services)</b>	\$25,479,584
<b>Total Expenditures</b>	<b>\$72,729,316</b>
<b>Revenue (Annualized)</b>	
Total Existing Revenue <sup>3</sup>	\$513,659,075
Incremental Tax and Non-Tax Revenue (User Fees, Fines, Licences, etc.)	\$44,923,708
<b>Total Revenues</b>	<b>\$558,582,783</b>

<sup>1</sup> Non-Growth Related component of Projects including 10% mandatory deduction on soft services

<sup>2</sup> Interim Debt Financing for Post Period Benefit

<sup>3</sup> As per Sch. 10 of F.I.R.

## 8.3 Transit Services

In regard to the D.C.A. requirements for asset management for transit services, Ontario Regulation 82/98 (as amended) provides the following:

“8(3) If a council of a municipality proposes to impose a development charge in respect of transit services, the asset management plan referred to in subsection 10 (2) (c.2) of the Act shall include the following in respect of those services”

Provided in Table 8-2 are the individual items prescribed by subsection 8(3) of the Regulation (as amended), which are addressed in the following sections.



Table 8-2  
Transit Services D.C. Background Study A.M.P. Requirements

<b>Ontario Regulation 82/98, as amended subsection 8(3) Requirements</b>
<p>1. A section that sets out the state of local infrastructure and that sets out,</p> <ul style="list-style-type: none"><li>i. the types of assets and their quantity or extent,</li><li>ii. the financial accounting valuation and replacement cost valuation for all assets,</li><li>iii. the asset age distribution and asset age as a proportion of expected useful life for all assets, and</li><li>iv. the asset condition based on standard engineering practices for all assets.</li></ul>
<p>2. A section that sets out the proposed level of service and that,</p> <ul style="list-style-type: none"><li>i. defines the proposed level of service through timeframes and performance measures,</li><li>ii. discusses any external trends or issues that may affect the proposed level of service or the municipality's ability to meet it, and</li><li>iii. shows current performance relative to the targets set out.</li></ul>
<p>3. An asset management strategy that,</p> <ul style="list-style-type: none"><li>i. sets out planned actions that will enable the assets to provide the proposed level of service in a sustainable way, while managing risk, at the lowest life cycle cost,</li><li>ii. is based on an assessment of potential options to achieve the proposed level of service, which assessment compares,<ul style="list-style-type: none"><li>A. life cycle costs,</li><li>B. all other relevant direct and indirect costs and benefits, and</li><li>C. the risks associated with the potential options,</li></ul></li><li>iii. contains a summary of, in relation to achieving the proposed level of service, (not defined clearly)<ul style="list-style-type: none"><li>A. non-infrastructure solutions,</li><li>B. maintenance activities,</li><li>C. renewal and rehabilitation activities,</li><li>D. replacement activities,</li><li>E. disposal activities, and</li><li>F. expansion activities,</li></ul></li><li>iv. discusses the procurement measures that are intended to achieve the proposed level of service, and</li><li>v. includes an overview of the risks associated with the strategy and any actions that will be taken in response to those risks.</li></ul>
<p>4. A financial strategy that,</p> <ul style="list-style-type: none"><li>i. shows the yearly expenditure forecasts that are proposed to achieve the proposed level of service, categorized by,<ul style="list-style-type: none"><li>A. non-infrastructure solutions,</li><li>B. maintenance activities,</li><li>C. renewal and rehabilitation activities,</li><li>D. replacement activities,</li><li>E. disposal activities, and</li><li>F. expansion activities,</li></ul></li><li>ii. provides actual expenditures in respect of the categories set out in sub-subparagraphs i A to F from the previous two years, if available, for comparison purposes,</li><li>iii. gives a breakdown of yearly revenues by source,</li><li>iv. discusses key assumptions and alternative scenarios where appropriate, (see associated text) and</li><li>v. identifies any funding shortfall relative to financial requirements that cannot be eliminated by revising service levels, asset management or financing strategies, and discusses the impact of the shortfall and how the impact will be managed.</li></ul>

### **8.3.1 State of Local Infrastructure**

To present an overall state of the infrastructure for transit assets (both Kingston Transit and Kingston Access Service), asset inventory, asset valuation, and age have been summarized from information provided by City staff.



The transit assets included in this A.M.P. include buildings, computers, equipment, fleet, furniture (shelters), land improvements (bus pads, rest areas and sidewalks), and machinery. Provided in Table 8-3 is a high-level summary of the transit assets, useful life estimates, age, and 2019\$ replacement costs. In total, transit assets within the City have a replacement value of \$73.5 million.

**Table 8-3  
Asset Inventory and Valuation**

Description	Inventory	Useful Life	Age	Total Replacement Costs
<u>Kingston Transit</u>				
Buildings	2	40.0	16.0	14,598,236
Computer & Systems	3	10.0	4.0	1,767,831
Equipment	15	12.0	4.7	2,910,297
Fleet	114	12.0	6.8	46,007,726
Furniture & Fixtures	234	19.8	14.9	2,373,128
Land Improvements	5	50.0	3.8	2,836,964
Machinery	1	30.0	4.0	197,149
<u>Kingston Access Services</u>				
Fleet	14	7.0	3.7	2,760,424
<b>Total</b>	<b>388</b>	<b>17.2</b>	<b>11.5</b>	<b>73,451,755</b>

Asset age and useful life has been compiled from data received from the City. In aggregate, transit assets have a weighted average useful life of 17.2 years and are 11.5 years old. Summarized in Table 8-4 is the distribution of total asset replacement value by the percentage of estimated useful life consumed. Based on the distribution of replacement value, 51% of the transit assets have consumed greater than 50% of their respective useful lives, with 33% being relatively new assets (less than 25% of useful life consumed). This distribution is reflective of the City's routine replacement of assets in recent investments in transit infrastructure.



Table 8-4  
Distribution of Asset Value by Percentage of Useful Life Consumed

Description	Percentage of Useful Life Consumed			
	0-25%	25%-50%	50%-75%	75%-100%
Total Asset Replacement Value	24,136,731	11,814,328	18,271,432	19,229,263
% of Total Asset Replacement Value	33%	16%	25%	26%

The City maintains a regular replacement schedule of transit vehicles as required on a condition basis or to meet with changes in regulations.

### **8.3.2 Expected Levels of Service**

A level of service (L.O.S.) analysis gives the City an opportunity to document the L.O.S. that is currently being provided and compare it to the L.O.S. that is expected. This can be done through a review of current practices and procedures, an examination of trends or issues facing the City, or through an analysis of performance measures and targets that staff can use to measure performance.

Expected L.O.S. can be impacted by a number of factors, including:

1. Legislative requirements;
2. Strategic planning goals and objectives;
3. Resident expectations;
4. Council or City staff expectations; and
5. Financial or resource constraints.

The previous task of determining the state of the City's asset infrastructure establishes the asset inventory and condition, to guide the refinement and upkeep of asset infrastructure. It is important to document an expected L.O.S. that is realistic to the City. It is common to strive for the highest L.O.S., however these service levels usually come at a cost. It is also helpful to consider the risk associated with a certain L.O.S. Therefore, expected L.O.S. should be determined in a way that balances both level of investment and associated risk to the City.

The KTMP measures the planned level of service in terms of the target weekday afternoon peak period mode share for public transit. This target was set at 9%. This target mode share, or expected level of service was then modified by Council to an





aspirational target of 15%. As summarized in Table 5-1, the current mode share for public transit is 6.8%. The current and 9% target mode share equates to transit ridership of 7,012 and 10,637 respectively.

### **8.3.3 Asset Management Strategy**

The asset management strategy provides the recommended course of actions required to deliver the expected L.O.S. discussed in the previous section in a sustainable fashion. The course of actions, when combined together, form a long-term operating and capital forecast that includes:

- a) Non-infrastructure solutions: reduce costs and/or extend expected useful life estimates;
- b) Maintenance activities: regularly scheduled activities to maintain existing useful life levels, or repairs needed due to unplanned events;
- c) Renewal/Rehabilitation: significant repairs or maintenance planned to increase the useful life of assets;
- d) Replacement/Disposal: complete disposal and replacement of assets, when renewal or rehabilitation is no longer an option; and
- e) Expansion: given planned growth as outlined in Chapter 3.

The planned level of service includes non-infrastructure solutions such as expanded hours of operation and updated fare strategies and implementation of additional routes (including additional express routes and route enhancements). Infrastructure solutions to meet the planned level of service include increasing the number of transit vehicles, facility expansions, additional Park & Ride facilities, and Transit Priority Measures. This planned level of service will result in both operating and capital budget impacts over the forecast period. This has to be taken into consideration with the objective of increasing ridership while mitigating risk.

The Kingston Transit 5-Year Business Plan (2017-2021) recommended the following service improvements and fare strategies to move towards the planned level of service:

1. Service Improvements
  - Expanded Hours of Operation
  - Express routes and route enhancements/improvements



- New Routes
2. Fare Strategies
- Age categories – expansion of child and youth categories
  - Fare Rates modifications
  - Other programs (e.g. Transit Employment Program)

The City has already implemented some of these measures and will further move towards the planned level of service through the purchase of 15 additional transit buses and 5 Kingston Access Services buses over the 10-year period.

Table 8-5 presents the annual lifecycle costs for the transit service assets based on the recommended actions described above. A fundamental approach to calculating the cost of using a capital asset and for the provision of the revenue required when the time comes to retire and replace it is the “sinking fund method”. This method first estimates the future value of the asset at the time of replacement, by inflating the current value of the asset at an assumed annual capital inflation rate. A calculation is then performed to determine annual contributions which, when invested in a reserve fund, will grow with interest to a balance equal to the future replacement cost. The contributions are calculated such that they also increase annually with inflation.

Table 8-5  
Annual Lifecycle Cost

Description	Annual Lifecycle Cost
Buses (15)	113,076
Access Buses (5)	22,510
Bust Stops/Shelters	13,760
TRN - 1181/1183 John Counter - Expansion	43,169
TRN - Park & Ride Facilities	9,093
Transit Priority Measures (within roadway)	36,680
<b>Total</b>	<b>238,288</b>

It is recommended that the City continue to purchase buses through the Transit Procurement Initiative (facilitated by Metrolinx), in which the objective is to:



- Reduce the unit cost of goods and services by consolidating municipal transit bus orders to achieve the volumes required to attain the economies of scale;
- Avoid costs by standardizing the Request for Proposals documents including terms and conditions;
- Avoid costs and reduce time associated with the procurement process of goods and services allowing transit systems to focus on core competency;
- Improve by buying power and delivery schedules for transit systems;
- Reduce uncertainty for manufacturers through longer production runs, predictability, and performance-based.

### **8.3.4 Financing Strategy**

The financing strategy outlines the suggested financial approach to fund the recommended asset management strategy outlined in Section 8.3.3. This forecast expands on the City's operating and capital budget forecast to 2021 contained within the City's Kingston Transit 5-Year Business Plan (2017-2021). The financial forecast within this section of the asset management plan includes:

1. Annual expenditure forecasts broken down by:
  - Maintenance/non-infrastructure solutions;
  - Renewal/rehabilitation activities;
  - Replacement/disposal activities; and
  - Expansion activities.
2. A breakdown of annual funding/revenue by source.

A summary of the replacement/disposal and expansionary capital needs over the 10-year forecast period are presented in Table 8-6.



Table 8-6  
Replacement/Disposal and Expansionary Capital

Description	Total
<b>Replacement / Disposal</b>	
<u>Kingston Transit Capital</u>	
Replacements - Full Size Buses	31,495,218
Bus Refurbishments	3,381,533
Replacements - Transit Shuttle	882,563
Technology - Signal Prioritization	500,000
Technology - Other	1,100,000
Bus Stops/Shelters	2,000,000
Buildings-Transit	1,100,000
Equipment	4,037,779
<u>Kingston Access Services Capital</u>	
Replacement of KAS Vehicles	3,528,000
Purchase Supervisory Vehicle	80,000
Computer Upgrade	58,000
Replacement of Server	23,000
<b>Replacement / Disposal Total</b>	<b>48,186,093</b>
<b>Expansion Activities</b>	
<u>Kingston Transit Capital</u>	
Buses (15)	10,501,632
Bust Stops/Shelters	2,000,000
TRN - 1181/1183 John Counter - Expansion	8,000,000
TRN - Park & Ride Facilities	450,000
TRN - 5 Year Transit Plan & Organizational Review	120,000
Transit Priority Measures (within roadway)	1,815,000
<u>Kingston Access Services Capital</u>	
New KAS Vehicles	490,000
<b>Expansion Total</b>	<b>23,376,632</b>
<b>Total</b>	<b>71,562,725</b>

The financing strategy forecast, presented in Table 8-7, assumes that all non-D.C.-eligible costs, not proposed to be funded through ICIP grants (i.e. replacement capital and non-growth capital) will be debt funded.



Kingston Transit passenger revenues have been forecast such that the relationship of fare revenue to ridership is maintained. Advertising and Other Revenue is forecast to continue to increase at 2% annually as per the Kingston Transit 5-Year Business Plan forecast. Kingston Access Bus expenditures are presented net of revenues, and as such net expenditures have been forecast at the same rate as Kingston Transit Services. Furthermore, gas tax revenues are forecast to remain constant consistent with the recommendations of the 5-year business plan and grant funding (ICIP) has been included where anticipated.

Tax based support is forecast to increase by 33% over the forecast period from \$17.1 million in 2019 to \$22.7 million in 2028. This increase is driven primarily by the capital infrastructure cost to renew and expand transit assets to provide the planned level of service over the forecast period.



**Table 8-7  
Financing Strategy**

Expenditure Forecast										
Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Maintenance / Non-Infrastructure Solutions</b>										
<u>Kingston Transit</u> <sup>1,2</sup>										
Salaries and Wages	15,247,307	16,241,513	17,418,410	17,418,410	17,418,410	17,418,410	17,418,410	17,418,410	17,418,410	17,418,410
Fleet Costs	8,252,363	8,657,475	9,148,424	9,148,424	9,148,424	9,148,424	9,148,424	9,148,424	9,148,424	9,148,424
Services, Supplies, and Other Costs	843,506	883,325	923,340	923,340	923,340	923,340	923,340	923,340	923,340	923,340
Kingston Access Services <sup>3</sup>	3,117,338	3,320,605	3,561,224	3,561,224	3,561,224	3,561,224	3,561,224	3,561,224	3,561,224	3,561,224
<b>Replacement / Disposal</b>										
<u>Debt Funded</u>										
Kingston Transit Capital		92,002	285,270	579,663	861,968	1,168,333	1,498,501	1,968,933	2,326,908	2,758,441
Kingston Access Services Capital		17,661	38,347	66,913	87,600	115,181	143,607	172,807	200,388	231,980
<b>Expansion Activities</b>										
<u>D.C. Funded</u>										
Kingston Transit Capital	90,515	321,426	798,141	150,215	204,620	150,215	150,215	226,382	537,576	150,215
Kingston Access Services Capital	35,544	35,544	-	35,544	-	-	35,544	-	-	35,544
<u>Grant Funded</u>										
Kingston Transit Capital	131,940	1,721,193	5,751,647	669,481	669,481	669,481	669,481	669,481	3,601,481	669,481
Kingston Access Services Capital										
<u>Debt Funded</u>										
Kingston Transit Capital		11,191	50,929	149,606	168,178	193,476	212,047	230,619	258,607	325,069
Kingston Access Services Capital		4,394	8,789	8,789	13,183	13,183	13,183	17,578	17,578	17,578
<b>Total</b>	<b>27,718,513</b>	<b>31,306,329</b>	<b>37,984,521</b>	<b>32,711,610</b>	<b>33,056,428</b>	<b>33,361,268</b>	<b>33,773,977</b>	<b>34,337,198</b>	<b>37,993,936</b>	<b>35,239,707</b>

1. 2019-2021 costs from Kingston Transit 5-Year Business Plan

2. Kingston Transit Maintenance / Non-Infrastructure expenditures held constant between 2021-2028 as Kingston 5-Year Business Plan identified a greater amount of capital expansion than included in the 10-year D.C. forecast

3. 2019 Net Operating budget forecast to increase at same rate as Kingston Transit expenditures based on ridership increase

Revenue Forecast										
Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Operating</b>										
Passenger Revenue	7,296,681	7,608,941	7,817,531	7,904,789	7,992,048	8,079,306	8,166,565	8,253,823	8,341,081	8,428,340
Advertising and Other Revenue	902,050	921,678	941,698	962,153	983,052	1,004,405	1,026,222	1,048,513	1,071,288	1,094,558
Provincial Gas Tax	2,147,580	2,147,580	2,147,580	2,147,580	2,147,580	2,147,580	2,147,580	2,147,580	2,147,580	2,147,580
<b>Capital</b>										
D.C. Revenue	126,059	356,970	798,141	185,760	204,620	150,215	185,760	226,382	537,576	185,760
ICIP Grant Funding	131,940	1,721,193	5,751,647	669,481	669,481	669,481	669,481	669,481	3,601,481	669,481
<b>Municipal Contribution</b>										
	17,114,203	18,549,967	20,527,923	20,841,847	21,059,647	21,310,279	21,578,369	21,991,419	22,294,930	22,713,989
<b>Total</b>	<b>27,718,513</b>	<b>31,306,329</b>	<b>37,984,521</b>	<b>32,711,610</b>	<b>33,056,428</b>	<b>33,361,268</b>	<b>33,773,977</b>	<b>34,337,198</b>	<b>37,993,936</b>	<b>35,239,707</b>



# Chapter 9

## By-Law Implementation



## 9. By-law Implementation

### 9.1 Public Consultation Process

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#### **9.1.1 Introduction**

This chapter addresses the mandatory, formal public consultation process (Section 9.1.2), as well as the optional, informal consultation process (Section 9.1.3). The latter is designed to seek the co-operation and participation of those involved, in order to produce the most suitable policy. Section 9.1.4 addresses the anticipated impact of the D.C. on development from a generic viewpoint.

#### **9.1.2 Public Meeting of Council**

Section 12 of the D.C.A. 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, Council must determine whether a further meeting (under this section) is necessary (i.e. if the proposed by-law which is proposed for adoption has been changed in any respect, 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 regarding additional public meetings, 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.)).

#### **9.1.3 Other Consultation Activity**

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





1. The first grouping is 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 City 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.
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 City D.C. policy. Their primary concern is frequently with the quantum of the charge, gross floor area exclusions such as basements, mechanical or indoor parking areas, or exemptions and phase-in or capping provisions in order to moderate the impact.

## **9.2 Anticipated Impact of the Charge on Development**

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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 City 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

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### 9.3.1 Introduction

Once the City 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 sections which follow overview the requirements in each case.

### 9.3.2 Notice of Passage

In accordance with s.13 of the D.C.A., when a D.C. by-law is passed, the City 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 no 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.

### 9.3.3 By-law Pamphlet

In addition to the "notice" information, the City 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 City must give one copy of the most recent pamphlet without charge, to any person who requests one.

### **9.3.4 Appeals**

Sections 13 to 19 of the D.C.A. set out the requirements relative to making and processing a D.C. by-law appeal and 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 City 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.

The City is carrying out a public consultation process, in order to address the issues that come forward as part of that process, thereby avoiding or reducing the need for an appeal to be made.

### **9.3.5 Complaints**

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

- the amount of the charge was incorrectly determined;
- the reduction 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. 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 City Council to the L.P.A.T.



### **9.3.6 Credits**

Sections 38 to 41 of the D.C.A. set out a number of credit requirements, which apply where a City 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 City agrees to expand the credit to other services for which a D.C. is payable.

### **9.3.7 Front-Ending Agreements**

The City 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 City 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. (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 City assesses whether this mechanism is appropriate for its use, as part of funding projects prior to City funds being available.

### **9.3.8 Severance and Subdivision Agreement Conditions**

Section 59 of the D.C.A. 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;” and
- “local services to be installed or paid for by the owner as a condition of approval under section 53 of the Planning Act.”

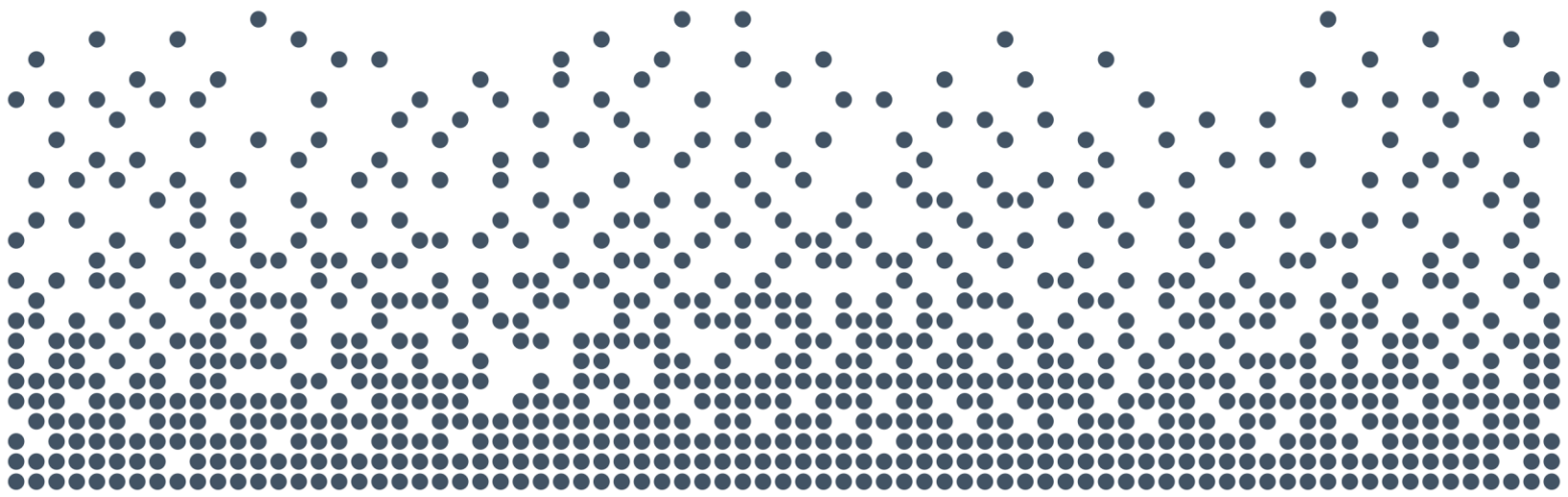


It is also noted that s.s.59(4) of the D.C.A. requires that the municipal approval authority for a draft plan of subdivision under s.s.51(31) of the Planning Act, use its power to impose conditions to ensure that the first purchaser of newly subdivided land is informed of all the D.C.s related to the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

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

If the City 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 City of Kingston Residential Growth Forecast Summary

	Year	Population (Including Census Undercount) <sup>1</sup>	Excluding Census Undercount					Housing Units							Person Per Unit (P.P.U.); without undercount	Permanent and Student Person Per Unit (P.P.U.)	
			Population	Institutional Population	Population Excluding Institutional Population	Student Population	Off-Campus Student Population <sup>2</sup>	Total Population and Off-Campus Student Population	Singles & Semi-Detached	Multiple Dwellings <sup>3</sup>	Apartments <sup>4</sup>	Other	Total Households	Off-Campus Student Households			Total Households Including Off-Campus Student Housing
	<i>Mid-2016</i>	127,686	123,798	3,578	120,220	23,580	16,700	140,498	30,690	5,650	16,875	295	53,510	4,050	57,560	2,314	2,441
Forecast	<i>Mid-2019</i>	130,160	126,148	3,646	122,502	25,175	17,917	144,065	31,328	5,929	17,684	295	55,236	4,568	59,804	2,284	2,409
	<i>Mid-2024</i>	134,392	130,301	3,766	126,535	27,257	19,499	149,800	32,100	6,175	18,595	295	57,165	5,241	62,406	2,279	2,400
	<i>Mid-2029</i>	138,550	134,332	3,882	130,449	29,032	20,840	155,172	32,910	6,450	19,761	295	59,415	5,812	65,227	2,261	2,379
	<i>Mid-2034</i>	142,176	137,848	3,984	133,864	30,528	21,962	159,810	33,540	6,679	20,810	295	61,324	6,289	67,613	2,248	2,364
	<i>Mid-2046</i>	146,299	141,845	4,100	137,746	33,983	24,556	166,401	34,333	6,964	22,314	295	63,906	7,393	71,299	2,220	2,334
Incremental	<b>Mid-2016 to Mid-2019</b>	2,475	2,350	68	2,282	1,595	1,217	3,567	638	279	809	0	1,726	518	2,244		
	<b>Mid-2019 to Mid-2024</b>	4,232	4,152	120	4,032	2,082	1,582	5,734	772	246	911	0	1,929	673	2,602		
	<b>Mid-2019 to Mid-2029</b>	8,389	8,183	237	7,947	3,857	2,923	11,106	1,582	521	2,077	0	4,179	1,244	5,423		
	<b>Mid-2019 to Mid-2034</b>	12,016	11,700	338	11,362	5,352	4,044	15,744	2,212	750	3,126	0	6,088	1,721	7,809		
	<b>Mid-2019 to Mid-2046</b>	16,139	15,697	454	15,243	8,808	6,639	22,336	3,005	1,035	4,630	0	8,670	2,825	11,495		

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Census undercount estimated at approximately 3.1%. Note: Population including the undercount has been rounded.

<sup>2</sup> Represents off campus student population not captured by Statistics Canada Census. In the City of Kingston Population, Housing and Employment Growth Forecast, approximately 71% of the student population not captured by Statistics Canada Census are anticipated to live off-campus.

<sup>3</sup> Includes townhouses and apartments in duplexes.

<sup>4</sup> Includes bachelor, 1 bedroom and 2 bedroom+ apartments.





**Schedule 2**  
**City of Kingston**  
**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 <sup>1</sup>	Apartments <sup>2</sup>	Total Households	Off-Campus Student Housing	Total Residential Units (Including Off-Campus Housing)	Gross Permanent Population In New Units <sup>3</sup>	Permanent Population In Existing Unit Households	Permanent Net Population Increase, Excluding Institutional	Institutional Population	Student Population	Net Population Increase (includes Institutional)
Urban <sup>4</sup>	2019 - 2024	695	246	911	1,852	673	2,525	3,891	-65	3,826	120	1,582	5,528
	2019 - 2029	1,415	521	2,077	4,012	1,244	5,256	8,314	-753	7,561	237	2,923	10,721
	2019 - 2034	1,968	750	3,126	5,844	1,721	7,565	11,995	-1,187	10,808	338	4,044	15,191
	2019 - 2046	2,658	1,035	4,630	8,323	2,825	11,148	16,891	-2,368	14,523	454	6,639	21,616
Rural <sup>4</sup>	2019 - 2024	77	-	-	77	-	77	213	-7	206	-	-	206
	2019 - 2029	167	-	-	167	-	167	462	-76	386	-	-	386
	2019 - 2034	244	-	-	244	-	244	675	-121	554	-	-	554
	2019 - 2046	347	-	-	347	-	347	961	-241	720	-	-	720
City of Kingston	2019 - 2024	772	246	911	1,929	673	2,602	4,104	-72	4,033	120	1,582	5,735
	2019 - 2029	1,582	521	2,077	4,179	1,244	5,423	8,777	-829	7,948	237	2,923	11,107
	2019 - 2034	2,212	750	3,126	6,088	1,721	7,809	12,670	-1,308	11,363	338	4,044	15,745
	2019 - 2046	3,005	1,035	4,630	8,670	2,825	11,495	17,852	-2,609	15,243	454	6,639	22,335

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Includes townhouses and apartments in duplexes.

<sup>2</sup> Includes accessory apartments, bachelor, 1-bedroom and 2-bedroom+ apartments.

<sup>3</sup> Gross population represents the population derived from new housing units unadjusted for population decline in existing households over the respective forecast period.

<sup>4</sup> Allocations derived from the City of Kingston Water and Wastewater Master Plan Growth Scenario Report, January 30, 2017 by Utilities Kingston

Note: Figures may not add up precisely due to rounding.



Schedule 3  
City of Kingston  
Current Year Growth Forecast  
Mid 2016 to Mid 2019

		Population
Mid-2016 Population (1)		140,498
Occupants of New Housing Units, Mid-2016 to Mid-2019	<i>Units (2)</i>	1,726
	<i>multiplied by P.P.U. (3)</i>	2,289
	<i>gross population increase (4)</i>	3,951
Occupants of New Off-Campus Student Units, Mid-2016 to Mid-2019	<i>Units (2)</i>	518
	<i>multiplied by P.P.U. (3)</i>	2,350
	<i>gross population increase (4)</i>	1,216
Institutional Population Growth Mid-2016 to Mid-2019		68
Decline in Housing Unit Occupancy, Mid-2016 to Mid-2019	<i>Units (5)</i>	53,510
	<i>multiplied by P.P.U. decline rate (6)</i>	-0.031
	<i>total decline in population</i>	-1,668
Population Estimate to Mid-2019		144,065
<i>Net Population Increase, Mid-2016 to Mid-2019</i>		3,567

(1) 2016 population based on Statistics Canada Census unadjusted for Census undercount. Population figure includes students.

(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 <sup>1</sup> (P.P.U.)	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	3.037	37%	1.123
<i>Multiples (7)</i>	2.377	16%	0.384
<i>Apartments (8)</i>	1.668	47%	0.782
Total		100%	2.289
<i>Off-Campus Student Housing (9)</i>	2.35	100%	2.350

<sup>1</sup> Based on 2016 Census custom database

<sup>2</sup> Based on building permit/completion activity

(4) Gross population represents the population derived from new housing units unadjusted for population decline in existing households over the respective forecast period.

(5) 2016 households taken from Statistics Canada Census.

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

(7) Includes townhouses and apartments in duplexes.

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

(9) Off-Campus student housing P.P.U. based on the City of Kingston Population, Housing and Employment Forecast Study.



**Schedule 4a  
City of Kingston  
5-Year Growth Forecast  
Mid 2019 to Mid 2024**

		Population
Mid-2019 Population (1)		144,065
Occupants of New Housing Units, Mid-2019 to Mid-2024	<i>Units (2)</i>	1,929
	<i>multiplied by P.P.U. (3)</i>	2.128
	<i>gross population increase (4)</i>	4,104
Occupants of New Off-Campus Student Units, Mid-2019 to Mid-2024	<i>Units (2)</i>	673
	<i>multiplied by P.P.U. (3)</i>	2.350
	<i>gross population increase (4)</i>	1,582
Institutional Population Growth Mid-2019 to Mid-2024		120
Decline in Housing Unit Occupancy, Mid-2019 to Mid-2024	<i>Units (5)</i>	55,236
	<i>multiplied by P.P.U. decline rate (6)</i>	-0.001
	<i>total decline in population</i>	-72
Population Estimate to Mid-2024		149,800
<i>Net Population Increase, Mid-2019 to Mid-2024</i>		5,734

(1) Mid-2019 based on:

2016 Population (140,498) + Mid-2016 to Mid-2019 estimated housing units to beginning of forecast period (1,726 x 2.289 = 3,951) + (518 x 2.35 = 1,216) + (68) + (53,510 x -0.031 = -1,668) = 144,065

(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 <sup>1</sup>	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	2.768	40%	1.107
<i>Multiples (7)</i>	2.167	13%	0.276
<i>Apartments (8)</i>	<i>one bedroom or less</i> 1.125	47%	0.744
	<i>two bedrooms</i> 1.839		
<b>Total</b>		100%	2.128
<i>Off-Campus Student Housing (9)</i>	2.350	100%	2.350

<sup>1</sup> Persons per unit based on adjusted Statistics Canada Custom 2016 Census database.

<sup>2</sup> Forecast unit mix based upon historical trends and housing units in the development process.

(4) Gross population represents the population derived from new housing units unadjusted for population decline in existing households over the respective forecast period.

(5) Mid-2019 households based upon 53,510 (2016 Census) + 1,726 (Mid-2016 to Mid-2019 unit estimate) = 55,236

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

(7) Includes townhouses and apartments in duplexes.

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

(9) Off-Campus student housing P.P.U. based on the City of Kingston Population, Housing and Employment Forecast Study.



**Schedule 4b  
City of Kingston  
10-Year Growth Forecast  
Mid 2019 to Mid 2029**

		Population
Mid-2019 Population (1)		144,065
Occupants of New Housing Units, Mid-2019 to Mid-2029	<i>Units (2)</i>	4,179
	<i>multiplied by P.P.U. (3)</i>	2.100
	<i>gross population increase (4)</i>	8,777
Occupants of New Off-Campus Student Units, Mid-2019 to Mid-2029	<i>Units (2)</i>	1,244
	<i>multiplied by P.P.U. (3)</i>	2.350
	<i>gross population increase (4)</i>	2,922
Institutional Population Growth Mid-2019 to Mid-2029		237
Decline in Housing Unit Occupancy, Mid-2019 to Mid-2029	<i>Units (5)</i>	55,236
	<i>multiplied by P.P.U. decline rate (6)</i>	-0.015
	<i>total decline in population</i>	-829
Population Estimate to Mid-2029		155,172
<i>Net Population Increase, Mid-2019 to Mid-2029</i>		11,106

(1) Mid-2019 Population (1) based on:

2016 Population (140,498) + Mid-2016 to Mid-2019 estimated housing units to beginning of forecast period (1,726 x 2.289 = 3,951) + (518 x 2.35 = 1,216) + (68) + (53,510 x -0.031 = -1,668) = 144,065

(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 <sup>1</sup>	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	2.768	38%	1.048
<i>Multiples (7)</i>	2.167	12%	0.270
<i>Apartments (8)</i>	<i>one bedroom or less</i> 1.125	50%	0.782
	<i>two bedrooms</i> 1.839		
<b>Total</b>		100%	2.100
<i>Off-Campus Student Housing (9)</i>	2.350	100%	2.350

<sup>1</sup> Persons per unit based on adjusted Statistics Canada Custom 2016 Census database.

<sup>2</sup> Forecast unit mix based upon historical trends and housing units in the development process.

(4) Gross population represents the population derived from new housing units unadjusted for population decline in existing households over the respective forecast period.

(5) Mid-2019 households based upon 53,510 (2016 Census) + 1,726 (Mid-2016 to Mid-2019 unit estimate) = 55,236

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

(7) Includes townhouses and apartments in duplexes.

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

(9) Off-Campus student housing P.P.U. based on the City of Kingston Population, Housing and Employment Forecast Study.



Schedule 4c  
City of Kingston  
Long Term Growth Forecast  
Mid 2019 to Mid 2034

		Population
Mid-2019 Population (1)		144,065
Occupants of New Housing Units, Mid-2019 to Mid-2034	<i>Units (2)</i>	6,088
	<i>multiplied by P.P.U. (3)</i>	2,081
	<i>gross population increase (4)</i>	12,670
		12,670
Occupants of New Off-Campus Student Units, Mid-2019 to Mid-2034	<i>Units (2)</i>	1,721
	<i>multiplied by P.P.U. (3)</i>	2,350
	<i>gross population increase (4)</i>	4,044
		4,044
Institutional Population Growth Mid-2019 to Mid-2034		
		338
Decline in Housing Unit Occupancy, Mid-2019 to Mid-2034	<i>Units (5)</i>	55,236
	<i>multiplied by P.P.U. decline rate (6)</i>	-0.024
	<i>total decline in population</i>	-1,308
		-1,308
Population Estimate to Mid-2034		159,810
<i>Net Population Increase, Mid-2019 to Mid-2034</i>		<i>15,744</i>

(1) Mid-2019 Population (1) based on:

2016 Population (140,498) + Mid-2016 to Mid-2019 estimated housing units to beginning of forecast period (1,726 x 2.289 = 3,951) + (518 x 2.35 = 1,216) + (68) + (53,510 x -0.031 = -1,668) = 144,065

(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 <sup>1</sup>	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	2.768	36%	1.006
<i>Multiples (7)</i>	2.167	12%	0.267
<i>Apartments (8)</i>		51%	0.809
	<i>one bedroom or less</i>	1.125	
	<i>two bedrooms</i>	1.839	
<b>Total</b>		100%	2.081
<i>Off-Campus Student Housing (9)</i>	2.350	100%	2.350

<sup>1</sup> Persons per unit based on Statistics Canada Custom 2016 Census database.

<sup>2</sup> Forecast unit mix based upon historical trends and housing units in the development process.

(4) Gross population represents the population derived from new housing units unadjusted for population decline in existing households over the respective forecast period.

(5) Mid-2019 households based upon 53,510 (2016 Census) + 1,726 (Mid-2016 to Mid-2019 unit estimate) = 55,236

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

(7) Includes townhouses and apartments in duplexes.

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

(9) Off-Campus student housing P.P.U. based on the City of Kingston Population, Housing and Employment Forecast Study.



Schedule 5  
City of Kingston  
Long Term Growth Forecast  
Mid 2019 to Mid 2046

		Population
Mid-2019 Population (1)		144,065
Occupants of New Housing Units, Mid-2019 to Mid-2046	<i>Units (2)</i>	8,670
	<i>multiplied by P.P.U. (3)</i>	2,059
	<i>gross population increase (4)</i>	17,852
Occupants of New Off-Campus Student Units, Mid-2019 to Mid-2046	<i>Units (2)</i>	2,825
	<i>multiplied by P.P.U. (3)</i>	2,350
	<i>gross population increase (4)</i>	6,639
Institutional Population Growth Mid-2019 to Mid-2046		454
Decline in Housing Unit Occupancy, Mid-2019 to Mid-2046	<i>Units (5)</i>	55,236
	<i>multiplied by P.P.U. decline rate (6)</i>	-0,047
	<i>total decline in population</i>	-2,609
Population Estimate to Mid-2046		166,401
<i>Net Population Increase, Mid-2019 to Mid-2046</i>		22,336

(1) Mid-2019 Population (1) based on:

2016 Population (140,498) + Mid-2016 to Mid-2019 estimated housing units to beginning of forecast period (1,726 x 2.289 = 3,951) + (518 x 2.35 = 1,216) + (68) + (53,510 x -0.031 = -1,668) = 144,065

(2) Mid-2019 Population (1) based on:

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

Structural Type	Persons Per Unit <sup>1</sup>	% Distribution of Estimated Units <sup>2</sup>	Weighted Persons Per Unit Average
<i>Singles &amp; Semi Detached</i>	2.768	35%	0.960
<i>Multiples (7)</i>	2.167	12%	0.259
<i>Apartments (8)</i>	1.575	53%	0.841
	<i>one bedroom or less</i> 1.125		
	<i>two bedrooms</i> 1.839		
Total		100%	2.059
<i>Off-Campus Student Housing (9)</i>	2.350	100%	2.350

<sup>1</sup> Persons per unit based on Statistics Canada Custom 2016 Census database.

<sup>2</sup> Forecast unit mix based upon historical trends and housing units in the development process.

(4) Gross population represents the population derived from new housing units unadjusted for population decline in existing households over the respective forecast period.

(5) Mid-2019 households based upon 53,510 (2016 Census) + 1,726 (Mid-2016 to Mid-2019 unit estimate) = 55,236

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

(7) Includes townhouses and apartments in duplexes.

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

(9) Off-Campus student housing P.P.U. based on the City of Kingston Population, Housing and Employment Forecast Study.



Schedule 6  
City of Kingston  
Historical Residential Building Permits  
Years 2008 to 2017

Year	Residential Building Permits			
	Singles & Semi Detached	Multiples <sup>1</sup>	Apartments <sup>2</sup>	Total
2008	442	29	43	514
2009	334	41	294	669
2010	373	37	134	544
2011	340	80	246	666
2012	243	57	324	624
Sub-total	1,732	244	1,041	3,017
<b>Average (2008 - 2012)</b>	<b>346</b>	<b>49</b>	<b>208</b>	<b>603</b>
% Breakdown	57.4%	8.1%	34.5%	100.0%
2013	208	88	469	765
2014	219	73	186	478
2015	176	32	310	518
2016	185	73	181	439
2017	253	83	406	742
Sub-total	1,041	349	1,552	2,942
<b>Average (2013 - 2017)</b>	<b>208</b>	<b>70</b>	<b>310</b>	<b>588</b>
% Breakdown	35.4%	11.9%	52.8%	100.0%
2008 - 2017				
Total	2,773	593	2,593	5,959
<b>Average</b>	<b>277</b>	<b>59</b>	<b>259</b>	<b>596</b>
% Breakdown	46.5%	10.0%	43.5%	100.0%

Source: City of Kingston building permit data.

<sup>1</sup> Includes townhouses and apartments in duplexes.

<sup>2</sup> Includes bachelor, 1 bedroom and 2 bedroom+ apartments.



Schedule 7  
Kingston City  
Persons Per Unit by Age and Type of Dwelling  
(2016 Census)

Age of Dwelling	Singles and Semi-Detached						Historical 25 Year Average	Forecast 25 Year Average <sup>3</sup>
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	1.765	3.058	4.267	<b>3.037</b>		
6-10	-	-	1.848	3.009	4.385	<b>2.986</b>		
11-15	-	-	1.638	2.941	3.683	<b>2.820</b>		
16-20	-	-	1.463	2.658	3.839	<b>2.604</b>		
20-25	-	-	1.947	2.690	3.545	<b>2.683</b>	2.862	<b>2.768</b>
25-35	-	-	1.786	2.672	3.687	<b>2.720</b>		
35+	-	1.273	1.792	2.480	3.337	<b>2.439</b>		
<b>Total</b>	-	<b>1.236</b>	<b>1.765</b>	<b>2.633</b>	<b>3.576</b>	<b>2.599</b>		

Age of Dwelling	Multiples <sup>1</sup>						Historical 25 Year Average	Forecast 25 Year Average <sup>3</sup>
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	-	2.393	-	<b>2.377</b>		
6-10	-	-	-	2.667	-	<b>2.302</b>		
11-15	-	-	-	2.400	-	<b>2.077</b>		
16-20	-	-	2.063	2.171	-	<b>2.000</b>		
20-25	-	-	1.588	2.566	-	<b>2.244</b>	2.200	<b>2.167</b>
25-35	-	-	2.029	2.676	-	<b>2.476</b>		
35+	-	1.277	1.749	2.598	3.259	<b>2.248</b>		
<b>Total</b>	-	<b>1.293</b>	<b>1.794</b>	<b>2.569</b>	<b>2.919</b>	<b>2.277</b>		

Age of Dwelling	Apartments <sup>2</sup>						Historical 25 Year Average	Forecast 25 Year Average <sup>3</sup>
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	1.282	1.782	2.769	-	<b>1.668</b>		
6-10	-	1.290	1.656	-	-	<b>1.540</b>		
11-15	-	1.333	1.738	-	-	<b>1.667</b>		
16-20	-	1.275	1.716	2.364	-	<b>1.614</b>		
20-25	-	1.187	1.622	2.389	-	<b>1.543</b>	1.606	<b>1.575</b>
25-35	-	1.222	1.676	2.551	-	<b>1.602</b>		
35+	1.139	1.190	1.761	2.373	-	<b>1.599</b>		
<b>Total</b>	<b>1.350</b>	<b>1.215</b>	<b>1.727</b>	<b>2.429</b>	<b>1.929</b>	<b>1.601</b>		

Age of Dwelling	All Density Types					
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total
1-5	-	1.293	1.790	2.900	4.467	<b>2.397</b>
6-10	-	1.278	1.732	2.969	4.300	<b>2.569</b>
11-15	-	1.345	1.667	2.925	3.545	<b>2.534</b>
16-20	-	1.283	1.669	2.584	3.788	<b>2.301</b>
20-25	-	1.216	1.667	2.671	3.250	<b>2.220</b>
25-35	-	1.237	1.727	2.675	3.551	<b>2.309</b>
35+	0.977	1.211	1.766	2.492	3.310	<b>2.143</b>
<b>Total</b>	<b>1.036</b>	<b>1.232</b>	<b>1.743</b>	<b>2.620</b>	<b>3.499</b>	<b>2.246</b>

<sup>1</sup> Includes townhouses and apartments in duplexes.

<sup>2</sup> Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

<sup>3</sup> Adjusted based on 2001-2016 historical trends.

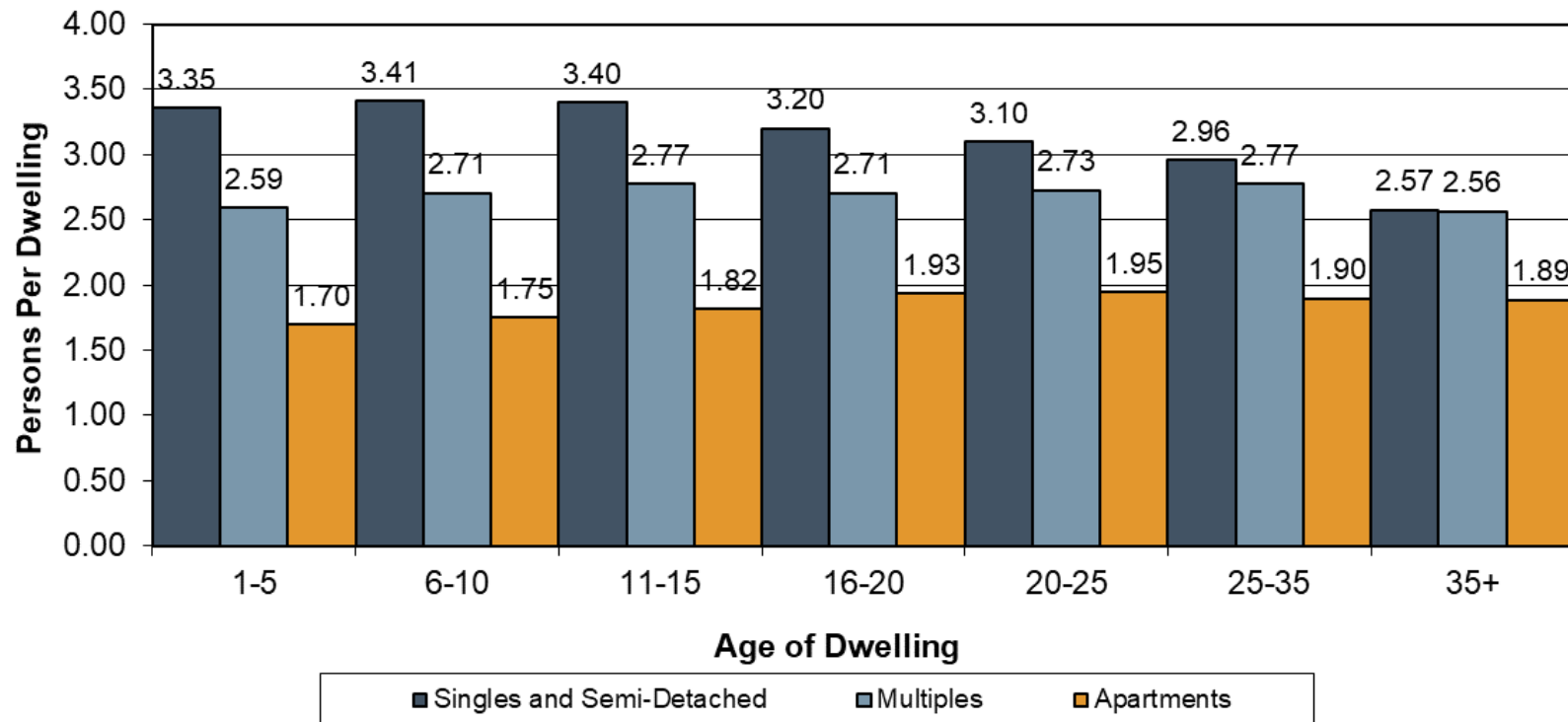
Note: Does not include Statistics Canada data classified as 'Other'

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





Schedule 8  
City of Kingston  
Persons Per Unit Structural Type and Age of Dwelling  
(2016 Census)





Schedule 9a  
City of Kingston  
Employment Activity Rate, 2019 to 2046

Period	Population	Activity Rate							
		Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	N.F.P.O.W. <sup>1</sup>	Total Including N.F.P.O.W.
Mid-2001	114,195	0.002	0.032	0.087	0.211	0.220	0.552	0.037	0.589
Mid-2006	117,207	0.001	0.030	0.088	0.213	0.240	0.571	0.041	0.612
Mid-2011	123,365	0.001	0.025	0.079	0.206	0.255	0.566	0.044	0.610
Mid-2016	123,798	0.002	0.028	0.076	0.209	0.246	0.560	0.044	0.604
Mid-2019	126,148	0.002	0.028	0.077	0.207	0.243	0.556	0.045	0.601
Mid-2024	130,301	0.001	0.029	0.078	0.204	0.238	0.550	0.046	0.596
Mid-2029	134,332	0.001	0.029	0.078	0.203	0.235	0.546	0.047	0.593
Mid-2034	137,848	0.001	0.029	0.079	0.201	0.234	0.545	0.048	0.592
Mid-2046	141,845	0.001	0.030	0.081	0.202	0.240	0.554	0.050	0.604
<b>Incremental Change</b>									
Mid-2001 - Mid-2006	3,012	0.000	-0.002	0.001	0.001	0.019	0.019	0.004	0.023
Mid-2006 - Mid-2011	6,158	0.000	-0.005	-0.009	-0.007	0.016	-0.005	0.003	-0.002
Mid-2011 - Mid-2016	433	0.001	0.003	-0.003	0.003	-0.010	-0.006	0.000	-0.006
Mid-2016 - Mid-2019	2,350	0.000	0.000	0.001	-0.002	-0.003	-0.004	0.001	-0.003
Mid-2019 - Mid-2024	4,152	0.000	0.000	0.001	-0.003	-0.004	-0.006	0.001	-0.005
Mid-2019 - Mid-2029	8,183	0.000	0.001	0.001	-0.004	-0.008	-0.010	0.002	-0.008
Mid-2019 - Mid-2034	11,700	0.000	0.001	0.002	-0.005	-0.009	-0.012	0.003	-0.009
Mid-2019 - Mid-2046	15,697	0.000	0.001	0.004	-0.005	-0.003	-0.003	0.005	0.002
<b>Annual Average</b>									
Mid-2001 - Mid-2006	602	0.000	0.000	0.000	0.000	0.004	0.004	0.001	0.005
Mid-2006 - Mid-2011	1,232	0.000	-0.001	-0.002	-0.001	0.003	-0.001	0.001	0.000
Mid-2011 - Mid-2016	87	0.000	0.001	-0.001	0.001	-0.002	-0.001	0.000	-0.001
Mid-2016 - Mid-2019	783	0.000	0.000	0.000	-0.001	-0.001	-0.001	0.000	-0.001
Mid-2019 - Mid-2024	830	0.000	0.000	0.000	-0.001	-0.001	-0.001	0.000	-0.001
Mid-2019 - Mid-2029	818	0.000	0.000	0.000	0.000	-0.001	-0.001	0.000	-0.001
Mid-2019 - Mid-2034	780	0.000	0.000	0.000	0.000	-0.001	-0.001	0.000	-0.001
Mid-2019 - Mid-2046	581	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> 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 9b  
City of Kingston  
Employment Forecast, 2019 to 2046

Period	Employment								Employment Total (Excluding Work at Home and N.F.P.O.W.)
	Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	N.F.P.O.W. <sup>1</sup>	Total Employment (Including N.F.P.O.W.)	
<b>Mid-2001</b>	180	3,660	9,910	24,145	25,175	63,070	4,220	67,290	59,410
<b>Mid-2006</b>	135	3,505	10,273	24,908	28,110	66,930	4,810	71,740	63,425
<b>Mid-2011</b>	125	3,130	9,690	25,370	31,505	69,820	5,440	75,260	66,690
<b>Mid-2016</b>	190	3,480	9,393	25,848	30,420	69,330	5,460	74,790	65,850
<b>Mid-2019</b>	190	3,589	9,683	26,094	30,641	70,196	5,676	75,873	66,607
<b>Mid-2024</b>	190	3,771	10,118	26,560	31,065	71,705	5,995	77,701	67,934
<b>Mid-2029</b>	190	3,930	10,503	27,204	31,583	73,411	6,295	79,705	69,480
<b>Mid-2034</b>	190	4,043	10,832	27,772	32,224	75,061	6,597	81,658	71,018
<b>Mid-2046</b>	190	4,188	11,452	28,696	34,019	78,545	7,118	85,663	74,357
<b>Incremental Change</b>									
<b>Mid-2001 - Mid-2006</b>	-45	-155	363	763	2,935	3,860	590	4,450	4,015
<b>Mid-2006 - Mid-2011</b>	-10	-375	-583	463	3,395	2,890	630	3,520	3,265
<b>Mid-2011 - Mid-2016</b>	65	350	-298	478	-1,085	-490	20	-470	-840
<b>Mid-2016 - Mid-2019</b>	0	109	290	246	221	866	216	1,083	757
<b>Mid-2019 - Mid-2024</b>	0	182	436	467	424	1,509	319	1,828	1,327
<b>Mid-2019 - Mid-2029</b>	0	341	821	1,110	942	3,214	618	3,833	2,873
<b>Mid-2019 - Mid-2034</b>	0	454	1,149	1,678	1,583	4,865	921	5,785	4,411
<b>Mid-2019 - Mid-2046</b>	0	598	1,770	2,602	3,378	8,349	1,442	9,790	7,750
<b>Annual Average</b>									
<b>Mid-2001 - Mid-2006</b>	-9	-31	73	153	587	772	118	890	803
<b>Mid-2006 - Mid-2011</b>	-2	-75	-117	93	679	578	126	704	653
<b>Mid-2011 - Mid-2016</b>	13	70	-60	96	-217	-98	4	-94	-168
<b>Mid-2016 - Mid-2019</b>	0	36	97	82	74	289	72	361	252
<b>Mid-2019 - Mid-2024</b>	0	36	87	93	85	302	64	366	265
<b>Mid-2019 - Mid-2029</b>	0	34	82	111	94	321	62	383	287
<b>Mid-2019 - Mid-2034</b>	0	30	77	112	106	324	61	386	294
<b>Mid-2019 - Mid-2046</b>	0	22	66	96	125	309	53	363	287

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> 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 9c  
City of Kingston  
Employment and Gross Floor Area (G.F.A.) Forecast, 2019 to 2046

Period	Population	Employment					Gross Floor Area in Square Feet (Estimated) <sup>1</sup>				
		Primary	Industrial	Commercial/ Population Related	Institutional	Total	Industrial	Commercial/ Population Related	Institutional	Total	
Mid-2001	114,195	180	9,910	24,145	25,175	59,410					
Mid-2006	117,207	135	10,273	24,908	28,110	63,426					
Mid-2011	123,365	125	9,690	25,370	31,505	66,690					
Mid-2016	123,798	190	9,393	25,848	30,420	65,851					
Mid-2019	126,148	190	9,683	26,094	30,641	66,608					
Mid-2024	130,301	190	10,118	26,560	31,065	67,933					
Mid-2029	134,332	190	10,503	27,204	31,583	69,480					
Mid-2034	137,848	190	10,832	27,772	32,224	71,018					
Mid-2046	141,845	190	11,452	28,696	34,019	74,357					
<b>Incremental Change</b>											
Mid-2001 - Mid-2006	3,012	-45	363	763	2,935	4,016					
Mid-2006 - Mid-2011	6,158	-10	-583	462	3,395	3,264					
Mid-2011 - Mid-2016	433	65	-297	478	-1,085	-839					
Mid-2016 - Mid-2019	2,350	0	290	246	221	757	377,000	135,300	154,700	667,000	
Mid-2019 - Mid-2024	4,152	0	435	466	424	1,325	565,500	256,300	296,800	1,118,600	
Mid-2019 - Mid-2029	8,183	0	820	1,110	942	2,872	1,066,000	610,500	659,400	2,335,900	
Mid-2019 - Mid-2034	11,700	0	1,149	1,678	1,583	4,410	1,493,700	922,900	1,108,100	3,524,700	
Mid-2019 - Mid-2046	15,697	0	1,769	2,602	3,378	7,749	2,299,700	1,431,100	2,364,600	6,095,400	
<b>Annual Average</b>											
Mid-2001 - Mid-2006	602	-9	73	153	587	803					
Mid-2006 - Mid-2011	1,232	-2	-117	92	679	653					
Mid-2011 - Mid-2016	87	13	-59	96	-217	-168					
Mid-2016 - Mid-2019	783	0	97	82	74	252	125,667	45,100	51,567	222,333	
Mid-2019 - Mid-2024	830	0	87	93	85	265	113,100	51,260	59,360	223,720	
Mid-2019 - Mid-2029	818	0	82	111	94	287	106,600	61,050	65,940	233,590	
Mid-2019 - Mid-2034	780	0	77	112	106	294	99,580	61,527	73,873	234,980	
Mid-2019 - Mid-2046	581	0	66	96	125	287	85,174	53,004	87,578	225,756	

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Square foot per employee assumptions

Industrial	1,300
Commercial/ Population Related	550
Institutional	700



Schedule 9c  
City of Kingston  
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. sq.ft. <sup>1</sup>	Commercial G.F.A. sq.ft. <sup>1</sup>	Institutional G.F.A. sq.ft. <sup>1</sup>	Total Non-Residential G.F.A. sq.ft. <sup>1</sup>	Employment Increase <sup>2</sup>
Urban <sup>3</sup>	2019 - 2024	547,300	251,900	296,800	1,096,000	1,303
	2019 - 2029	1,027,000	600,000	659,400	2,286,400	2,823
	2019 - 2034	1,432,600	906,900	1,108,100	3,447,600	4,334
	2019 - 2046	2,186,600	1,406,900	2,364,600	5,958,100	7,618
Rural <sup>3</sup>	2019 - 2024	18,200	4,400	-	22,600	22
	2019 - 2029	39,000	10,500	-	49,500	49
	2019 - 2034	61,100	16,000	-	77,100	76
	2019 - 2046	113,100	24,200	-	137,300	131
City of Kingston	2019 - 2024	565,500	256,300	296,800	1,118,600	1,325
	2019 - 2029	1,066,000	610,500	659,400	2,335,900	2,872
	2019 - 2034	1,493,700	922,900	1,108,100	3,524,700	4,410
	2019 - 2046	2,299,700	1,431,100	2,364,600	6,095,400	7,749

Source: Forecast derived from the City of Kingston Population, Housing and Employment Growth Forecast, 2016 to 2046 by Watson & Associates Economists Ltd., 2019.

<sup>1</sup> Square feet per employee assumptions:

Industrial	1,300
Commercial/ Population Related	550
Institutional	700

<sup>2</sup> Employment increase does not include work at home and no fixed place of work.

<sup>3</sup> Allocations derived from the City of Kingston Water and Wastewater Master Plan Growth Scenario Report. January 30, 2017 by Utilities Kingston

Note: Numbers may not add up precisely due to rounding.



Schedule 10  
City of Kingston  
Non-Residential Construction Value  
Years 2007 to 2016  
(000's 2018 \$)

YEAR	Industrial				Commercial				Institutional				Total			
	New	Improve	Additions	Total	New	Improve	Additions	Total	New	Improve	Additions	Total	New	Improve	Additions	Total
2007	2,412	5,275	1,190	8,877	27,014	18,743	3,582	49,338	139,374	20,226	9,461	169,061	168,800	44,244	14,232	227,276
2008	1,545	1,458	3,067	6,069	36,472	19,504	1,789	57,765	7,057	9,219	118,361	134,636	45,073	30,182	123,216	198,471
2009	11,385	1,147	0	12,532	15,514	21,113	10,378	47,005	73,356	6,319	2,683	82,358	100,255	28,579	13,061	141,894
2010	123	4,615	2,074	6,812	68,467	20,966	0	89,433	1,096	17,207	1,450	19,752	69,685	42,788	3,523	115,997
2012	9,809	7,743	0	17,552	38,611	28,754	10,720	78,086	21,461	11,557	2,918	35,937	69,882	48,055	13,638	131,574
2013	9,328	5,730	15,780	30,838	6,022	16,212	12,527	34,761	6,558	7,983	1,283	15,824	21,908	29,925	29,591	81,424
2014	4,493	3,223	0	7,716	55,123	18,568	8,101	81,792	259,670	10,081	3,428	273,179	319,286	31,871	11,530	362,687
2015	1,142	2,856	0	3,998	4,282	20,575	981	25,837	7,919	8,622	8,131	24,673	13,343	32,054	9,112	54,508
2016	11,361	16,975	3,707	32,042	10,516	14,700	1,409	26,626	29,707	15,379	0	45,086	51,584	47,054	5,116	103,755
Subtotal	52,021	53,056	26,186	131,263	314,760	205,236	50,792	570,788	569,188	120,070	147,715	836,973	935,969	378,362	224,693	1,539,024
Percent of Total	40%	40%	20%	100%	55%	36%	9%	100%	68%	14%	18%	100%	61%	25%	15%	100%
Average	5,202	5,306	4,364	13,126	31,476	20,524	5,644	57,079	56,919	12,007	18,464	83,697	93,597	37,836	22,469	153,902
2007 - 2011 Period Total				39,116				323,686				442,274				805,076
<b>2007 - 2011 Average</b>				<b>7,823</b>				<b>64,737</b>				<b>88,455</b>				<b>161,015</b>
% Breakdown				4.9%				40.2%				54.9%				100.0%
2012 - 2016 Period Total				92,147				247,102				394,699				733,948
<b>2012 - 2016 Average</b>				<b>18,429</b>				<b>49,420</b>				<b>78,940</b>				<b>146,790</b>
% Breakdown				12.6%				33.7%				53.8%				100.0%
2007 - 2016 Period Total				131,263				570,788				836,973				1,539,024
<b>2007 - 2016 Average</b>				<b>13,126</b>				<b>57,079</b>				<b>83,697</b>				<b>153,902</b>
% Breakdown				8.5%				37.1%				54.4%				100.0%

Source: Statistics Canada Publication, 64-001-X1B

Note: Inflated to year-end 2018 (January, 2019) dollars using Reed Construction Cost Index



Schedule 11  
City of Kingston  
Employment to Population Ratio by Major Employment Sector, 2001 to 2016

NAICS	Year				Change			Comments	
	2001	2006	2011	2016	01-06	06-11	11-16		
<b>Employment by industry</b>									
<b>Primary Industry Employment</b>									
11	Agriculture, forestry, fishing and hunting	450	250	195	270	-200	-55	75	Categories which relate to local land-based resources.
21	Mining and oil and gas extraction	15	10	65	55	-5	55	-10	
<b>Sub-total</b>		<b>465</b>	<b>260</b>	<b>260</b>	<b>325</b>	<b>-205</b>	<b>0</b>	<b>65</b>	
<b>Industrial and Other Employment</b>									
22	Utilities	210	345	340	310	135	-5	-30	Categories which relate primarily to industrial land supply and demand.
23	Construction	1,985	2,175	2,470	2,560	190	295	90	
31-33	Manufacturing	4,755	3,770	3,295	2,895	-985	-475	-400	
41	Wholesale trade	1,275	1,580	1,475	1,515	305	-105	40	
48-49	Transportation and warehousing	1,340	1,565	1,310	1,225	225	-255	-85	
56	Waste management and remediation services	845	1,450	1,318	1,325	605	-133	8	
<b>Sub-total</b>		<b>10,410</b>	<b>10,885</b>	<b>10,208</b>	<b>9,830</b>	<b>475</b>	<b>-678</b>	<b>-378</b>	
<b>Population Related Employment</b>									
44-45	Retail trade	8,430	8,475	8,485	8,370	45	10	-115	Categories which relate primarily to population growth within the municipality.
51	Information and cultural industries	1,505	1,135	1,155	1,030	-370	20	-125	
52	Finance and insurance	1,870	2,225	2,310	2,245	355	85	-65	
53	Real estate and rental and leasing	1,300	1,370	1,370	1,310	70	0	-60	
54	Professional, scientific and technical services	2,820	2,800	3,380	3,385	-20	580	5	
55	Management of companies and enterprises	15	70	65	35	55	-5	-30	
56	Administrative and support	845	1,450	1,318	1,325	605	-133	8	
71	Arts, entertainment and recreation	945	1,065	910	1,135	120	-155	225	
72	Accommodation and food services	5,395	5,310	5,825	6,345	-85	515	520	
81	Other services (except public administration)	2,855	2,840	2,385	2,770	-15	-455	385	
<b>Sub-total</b>		<b>25,980</b>	<b>26,740</b>	<b>27,203</b>	<b>27,950</b>	<b>760</b>	<b>463</b>	<b>748</b>	
<b>Institutional</b>									
61	Educational services	7,875	9,200	10,920	9,395	1,325	1,720	-1,525	
62	Health care and social assistance	9,705	10,665	10,785	12,450	960	120	1,665	
91	Public administration	8,625	9,195	10,430	9,385	570	1,235	-1,045	
<b>Sub-total</b>		<b>26,205</b>	<b>29,060</b>	<b>32,135</b>	<b>31,230</b>	<b>2,855</b>	<b>3,075</b>	<b>-905</b>	
<b>Total Employment</b>		<b>63,060</b>	<b>66,945</b>	<b>69,805</b>	<b>69,335</b>	<b>3,885</b>	<b>2,860</b>	<b>-470</b>	
<b>Population</b>		<b>114,195</b>	<b>117,207</b>	<b>123,365</b>	<b>123,798</b>	<b>3,012</b>	<b>6,158</b>	<b>433</b>	
<b>Employment to Population Ratio</b>									
<b>Industrial and Other Employment</b>		<b>0.09</b>	<b>0.09</b>	<b>0.08</b>	<b>0.08</b>	<b>0.00</b>	<b>-0.01</b>	<b>0.00</b>	
<b>Population Related Employment</b>		<b>0.23</b>	<b>0.23</b>	<b>0.22</b>	<b>0.23</b>	<b>0.00</b>	<b>-0.01</b>	<b>0.01</b>	
<b>Institutional Employment</b>		<b>0.23</b>	<b>0.25</b>	<b>0.26</b>	<b>0.25</b>	<b>0.02</b>	<b>0.01</b>	<b>-0.01</b>	
<b>Primary Industry Employment</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	
<b>Total</b>		<b>0.55</b>	<b>0.57</b>	<b>0.57</b>	<b>0.56</b>	<b>0.02</b>	<b>-0.01</b>	<b>-0.01</b>	

Source: 2001-2016 is a custom order for Place of Work data by Statistics Canada.

Note: 2001-2016 employment figures are classified by North American Industry Classification System (NAICS) Code.



# Appendix B

## Level of Service





Service: Fire Facilities  
 Unit Measure: ft<sup>2</sup> of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bld'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.
Central Division -Station #4 (Brock St.)	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	16,600	\$184	\$216
Central Division - Station #5 (171 Railway St.)	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	\$217	\$254
Central Division - Training Tower (171 Railway St.)	1,008	1,008	1,008								\$140	\$165
Central Division - Storage Garage (171 Railway St.)	200	200	200	200	200	200	200	200	200	200	\$51	\$62
Central Division - Cement Building (171 Railway St.)	200	200	200	200	200	200	200	200	200	200	\$96	\$114
Central Division - Station #6 (262 Palace Road)	5,560	5,560	5,560	5,560	5,560	5,560	5,560	5,560	5,560	5,000	\$67	\$81
East Division - Station #1 (1640 Joyceville Road)	9,795	9,795	9,795	9,795	9,795	9,795	9,795	9,795	9,795	10,000	\$138	\$163
East Division - Station #2 (3505 Brewers Mills Road)	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	3,400	\$139	\$164
East Division - Station #3 211 Gore Road)	8,866	8,866	8,866	8,866	8,866	8,866	8,866	8,866	8,866	8,736	\$188	\$220
East Division - Training Tower	2,569	2,569	2,569	2,569	2,569	2,569	2,569	2,569	2,569	620	\$233	\$273
West Division -Station #7 (905 Woodbine Rd.)	19,892	19,892	19,892	19,892	19,892	19,892	19,892	19,892	19,892	20,400	\$152	\$180
West Division - Station #10 (127 Days Road)	4,320	4,320	4,320	4,320	4,320	4,320	4,320	4,320	4,320	5,200	\$140	\$166
West Division - Station #9 (2835 Hwy 38)	6,595	6,595	6,595	6,595	6,595	6,595	6,595	6,595	6,595	8,120	\$90	\$107
West Division - Elginburg Station (storage)	3,937	3,937	3,937	3,937	3,937	3,937	3,937	3,937	3,937	5,200	\$141	\$166
West Division - Station #8 (1485 Unity Road 3)	7,598	7,598	7,598	7,598	7,598	7,598	7,598	7,598	7,598	9,800	\$131	\$155
Kingston Fire and Rescue Headquarters	15,663	15,663	15,663	15,663	15,663	15,663	15,663	15,663	15,663	15,663	\$365	\$425
Kingston Fire Training Centre - Concession Stand				200	200	200	200	200	200	200	\$91	\$109
Kingston Fire Training Centre - Fire Training Tower				4,180	4,180	4,180	4,180	4,180	4,180	4,180	\$248	\$290
Kingston Fire Training Centre - Storage Quonset				3,800	3,800	3,800	3,800	3,800	3,800	3,800	\$91	\$109
Kingston Fire Training Centre - Storage Shed				125	125	125	125	125	125	125	\$91	\$109
Kingston Fire Training Centre - Sun shelter				100	100	100	100	100	100	100	\$91	\$109
<b>Total</b>	<b>109,291</b>	<b>109,291</b>	<b>109,291</b>	<b>116,688</b>	<b>116,688</b>	<b>116,688</b>	<b>116,688</b>	<b>116,688</b>	<b>116,688</b>	<b>121,144</b>		

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.8396	0.8289	0.8193	0.8686	0.8651	0.8599	0.8554	0.8520	0.8447	0.8695

10 Year Average	2009-2018
Quantity Standard	0.8503
Quality Standard	\$213
Service Standard	\$181

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$181
Eligible Amount	\$1,968,014



Service: Fire Vehicles  
 Unit Measure: No. of vehicles

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/Vehicle)
Tanker	7	7	7	7	7	7	7	7	7	7	\$364,000
Pumper	16	16	16	16	16	17	18	19	20	20	\$800,000
Aerial/Pumper	6	6	6	6	6	5	4	3	2	2	\$1,200,000
Platform	2	2	2	2	2	2	2	2	2	2	\$1,800,000
Squad (Rescue)	6	6	6	6	6	4	4	4	4	4	\$350,000
Support Vehicles	40	40	40	40	40						\$63,100
Support Vehicles (large)						3	3	3	3	3	\$200,000
Support Vehicles (small)						31	31	31	31	31	\$40,000
UTV	4	4	4	4	4	4	4	4	4	4	\$15,000
UTV Trailer	3	3	3	3	3	4	4	4	4	4	\$4,000
Marine Unit	1	1	1	1	1	1	1	1	1	1	\$1,000,000
Blocker Truck						1	1	1	1	1	\$350,000
<b>Total</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>79</b>	<b>79</b>	<b>79</b>	<b>79</b>	<b>79</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	0.65	0.64	0.64	0.63	0.63	0.58	0.58	0.58	0.57	0.57

10 Year Average	2009-2018
Quantity Standard (per 1,000)	0.6075
Quality Standard	\$375,243
Service Standard	\$228

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$228
Eligible Amount	\$2,477,925



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

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/item)
Full Time Equipped Firefighters	144	144	144	144	144	144	144	144	144	145	\$15,000
Volunteer Equipped Firefighters	171	171	171	171	171	171	171	171	171	171	\$15,000
<b>Total</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>316</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	2.4200	2.3890	2.3615	2.3449	2.3353	2.3214	2.3093	2.3000	2.2803	2.2680

10 Year Average	2009-2018
Quantity Standard (per 1,000)	2.3330
Quality Standard	\$14,998
Service Standard	\$35

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$35
Eligible Amount	\$380,341



Service: Police Facilities  
 Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bld'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.
Police Headquarters - 700 Division St.	121,087	121,087	121,087	121,087	121,087	121,087	121,087	121,087	121,087	121,087	\$309	\$361
Police Storage Facility - 717 Division St.	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	\$124	\$147
<b>Total</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>	<b>125,887</b>		

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.9671	0.9547	0.9438	0.9371	0.9333	0.9277	0.9229	0.9192	0.9113	0.9035

10 Year Average	2009-2018
Quantity Standard	0.9321
Quality Standard	353
Service Standard	\$329

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$329
Eligible Amount	\$3,574,817



Service: Police Vehicles  
 Unit Measure: No. of vehicles and equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/Vehicle)
Police Vehicles	105	104	107	111	110	110	113	113	112	112	\$36,975
<b>Specialty Vehicles</b>											
Self Propelled Command Post	-	-	-	-	1	1	1	1	1	1	\$688,000
Ident Truck	1	1	2	2	2	2	2	2	2	2	\$57,300
K9 Truck	1	2	2	2	2	2	2	2	2	2	\$55,000
Prisoner Van	2	2	3	3	3	3	3	3	3	3	\$131,900
Traffic Investigation Truck	-	-	-	1	1	1	1	1	1	1	\$56,200
ERU Response Truck	1	1	1	1	1	1	1	1	1	1	\$114,700
ERU Transit Truck									1	1	\$47,300
<b>Total</b>	<b>110</b>	<b>110</b>	<b>115</b>	<b>120</b>	<b>120</b>	<b>120</b>	<b>123</b>	<b>123</b>	<b>123</b>	<b>123</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	0.8451	0.8342	0.8621	0.8933	0.8896	0.8843	0.9017	0.8981	0.8904	0.8828

10 Year Average	2009-2018
Quantity Standard (per 1,000)	0.8782
Quality Standard	\$43,840
Service Standard	\$39

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$39
Eligible Amount	\$418,495



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

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/item)
# Police Officers	199	202	202	202	202	202	203	203	203	207	\$12,000
<b>Total</b>	<b>199</b>	<b>202</b>	<b>202</b>	<b>202</b>	<b>202</b>	<b>202</b>	<b>203</b>	<b>203</b>	<b>203</b>	<b>207</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	1.5288	1.5320	1.5144	1.5037	1.4976	1.4886	1.4882	1.4822	1.4696	1.4857

10 Year Average	2009-2018
Quantity Standard (per 1,000)	1.4991
Quality Standard	\$12,001
Service Standard	\$18

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$18
Eligible Amount	\$195,551



Service: Roads  
 Unit Measure: lane km of roadways

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/km)
Urban Arterial	162	162	162	162	162	189	189	189	189	189	\$4,350,548
Urban Collector	58	58	58	58	58	61	61	61	61	61	\$4,259,717
Semi-Urban Arterial	117	117	117	117	117	100	100	100	100	100	\$3,099,226
Semi-Urban Collector	18	18	18	18	18	14	14	14	14	14	\$3,009,435
Rural Arterial	196	196	196	196	196	191	191	191	191	191	\$2,350,478
Rural Collector	62	62	62	62	62	62	62	62	62	62	\$2,218,497
<b>Total</b>	<b>612</b>	<b>612</b>	<b>612</b>	<b>612</b>	<b>612</b>	<b>616</b>	<b>616</b>	<b>616</b>	<b>616</b>	<b>616</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	4.7009	4.6406	4.5874	4.5550	4.5365	4.5418	4.5181	4.5000	4.4615	4.4233

10 Year Average	2009-2018
Quantity Standard (per 1,000)	4.5465
Quality Standard	\$3,242,296
Service Standard	\$14,741

D.C. Amount (before deductions)	27 Year
Forecast Population	21,882
\$ per Capita	\$14,741
Eligible Amount	#####



Service: Public Works Facilities  
 Unit Measure: ft<sup>2</sup> of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bld'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.	
Depot School Storage Building, 610 Montreal St.	570	570	570	570	-	-	-	-	-	-	\$131	\$149	
Depot School, 610 Montreal St.	1,725	1,725	1,725	1,725	-	-	-	-	-	-	\$131	\$149	
Public Works Admin Office (Friendship), 141 Railway St.	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	\$130	\$438	
1211 John Counter Blvd.	6,224	6,224	6,224	6,224	6,224	6,224	6,224	6,224	6,224	6,224	\$194	\$282	
City Greenhouse, 99 Norman Rogers Drive	8,222	8,222	8,222	8,222	8,222	8,222	8,222	8,222	8,222	8,222	\$165	\$185	
Creeford Garage & Workshop, 2711 Creeford Rd.	10,860	10,860	10,860	10,860	10,860	10,860	10,860	10,860	10,860	10,860	\$130	\$204	
Equipment Storage Building, 2709 Creeford Rd.	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200	\$131	\$122	
Public Works Fleet Garage, 701 Division St.	32,678	32,678	32,678	32,678	32,678	32,678	32,678	32,678	32,678	32,678	\$130	\$147	
Forestry Garage, 1643 Highway 15	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	\$130	\$147	
Joyceville Sand Storage Building, Highway 15	3,486	3,486	3,486	3,486	3,486	3,486	3,486	3,486	3,486	3,486	\$128	\$144	
Creeford Salt Shed 1, 2709 Creeford Rd.	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	\$87	\$122	
Creeford Salt Shed 2, 2709 Creeford Rd.	1,173	1,173	1,173	1,173	1,173	1,173	1,173	1,173	1,173	1,173	\$87	\$122	
Creeford Sand Dome, 2709 Creeford Rd.	10,568	10,568	10,568	10,568	10,568	10,568	10,568	10,568	10,568	10,568	\$33	\$122	
Creeford Steel Storage Building, 2709 Creeford Rd.	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	\$131	\$122	
Public Works Operations Centre, 701 Division	-	-	-	20,450	20,450	20,450	20,450	20,450	20,450	20,450	20,450	\$249	\$267
Division Campus Sand Dome, 701 Division St.	10,568	10,568	10,568	10,568	10,568	10,568	10,568	10,568	10,568	10,568	\$33	\$40	
Woodbine Park - Garage & Workshop	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$127	\$144	
Sand & Salt Dome, 87 Innovation									10,568	10,568	\$127	\$122	
Shop/Work Stations 2993 Highway 2 East Building	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	\$127	\$144	
<b>Total</b>	<b>110,131</b>	<b>110,131</b>	<b>110,131</b>	<b>130,581</b>	<b>128,286</b>	<b>128,286</b>	<b>128,286</b>	<b>128,286</b>	<b>138,854</b>	<b>138,854</b>			

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.8461	0.8352	0.8256	0.9720	0.9511	0.9454	0.9405	0.9367	1.0052	0.9966

10 Year Average	2009-2018
Quantity Standard	0.9254
Quality Standard	\$167
Service Standard	\$155

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$155
Eligible Amount	\$1,684,415





Service: Corporate Fleet  
 Unit Measure: No. of vehicles and equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/Vehicle)
Vehicles/Equipment*	271	272	271	234	241	241	241	241	241	241	\$96,500
<b>Total</b>	<b>271</b>	<b>272</b>	<b>271</b>	<b>234</b>	<b>241</b>	<b>241</b>	<b>241</b>	<b>241</b>	<b>241</b>	<b>241</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	2.0819	2.0628	2.0317	1.7419	1.7867	1.7760	1.7668	1.7597	1.7446	1.7297

10 Year Average	2009-2018
Quantity Standard (per 1,000)	1.8482
Quality Standard	\$96,499
Service Standard	\$178

\* Includes Public Works, Parks, and Recreation vehicles and equipment

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$178
Eligible Amount	\$1,938,665



Service: Parkland & Trail Development  
 Unit Measure: Acres of Developed Parkland

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/Item)
Community Park/Special Facility (acres)	611	622	629	629	632	632	632	639	639	690	\$234,800
Community Park/Special Facility - Additional Amenities (equivalent acres)						4	6	9	16	36	\$234,800
Neighbourhood Parks (acres)	428	428	428	429	429	431	433	434	439	439	\$123,600
Neighbourhood Parks - Additional Amenities (equivalent acres)						2	3	11	13	15	\$123,600
Linear Recreation space (kms of Trails and Pathways)	38	38	38	40	41	41	41	48	48	49	\$15,500
Linear Recreation space - Additional Amenities (equivalent kms)						-	15	189	189	205	\$15,500
Outdoor Aquatic Centre (Building sq. ft.)	-	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	\$401
Belle Park Fairways Clubhouse (Building sq. ft.)	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100	3,100	\$108
Belle Park Fairways Maintenance Shops (Building sq. ft.)	3,250	3,250	3,250	3,250	3,250	3,250	3,250	3,250	3,250	3,250	\$91
CaraCo Home Field (Building sq. ft.)	-	-	-	2,175	2,175	2,175	2,175	2,175	2,175	2,175	\$344
Woodbine Building (Building sq. ft.)	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	\$124
John Machin Sports Field Building (Building sq. ft.) - 750 Innovation Drive						1,850	1,850	1,850	1,850	1,850	\$344
<b>Total</b>	<b>11,927</b>	<b>23,438</b>	<b>23,444</b>	<b>25,623</b>	<b>25,626</b>	<b>27,484</b>	<b>27,504</b>	<b>27,705</b>	<b>27,719</b>	<b>27,809</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.0916	0.1778	0.1758	0.1907	0.1900	0.2025	0.2016	0.2023	0.2007	0.1996

10 Year Average	2009-2018
Quantity Standard	0.1833
Quality Standard	\$8,554
Service Standard	\$1,568

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$1,568
Eligible Amount	\$17,043,834



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

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bld'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.
INVISTA Centre	166,875	166,875	166,875	166,875	166,875	166,875	166,875	166,875	166,875	166,875	\$345	\$384
Leons Centre (ice pad only)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	\$198	\$222
Centre 70 - 100 Days road	29,185	29,185	29,185	29,185	29,185	29,185	29,185	29,185	29,185	29,185	\$319	\$355
Kingston Memorial Centre - 303 York Street	61,500	61,500	61,500	61,500	61,500	61,500	61,500	61,500	61,500	61,500	\$308	\$344
Catarauqui Community Centre - 1030 Sunnyside Road	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	\$339	\$378
Madoma Community Centre - 1805 Hwy 2	4,528	4,528	4,528	4,528	4,528	4,528	4,528				\$401	\$446
Meadowcrest Community Centre - 360 Kingston Mills Road	3,229	3,229	3,229	3,229	3,229	3,229	3,229				\$401	\$446
Portsmouth Olympic Harbour - 53 Younge Street	18,397	18,397	18,397	18,397	18,397	18,397	18,397	18,397	18,397	18,397	\$219	\$245
Artillery Park Aquatic Centre - 382 Bagot Street (OLD)	26,125	26,125	26,125	-	-	-	-	-	-	-	\$325	\$362
Artillery Park Aquatic Centre - 382 Bagot Street (NEW)						33,907	33,907	33,907	33,907	33,907	\$325	\$362
Beechgrove Complex Recreation Centre	-	-	-	20,893	20,893						\$245	\$274
Wally Elmer Community Centre	20,375	20,375	20,375	20,375	20,375	20,375					\$319	\$355
Harold Harvey Community Centre	23,300	23,300	23,300	-	-	-	-	-	-	-	\$245	\$274
Kingston Seniors Association Centre	24,639	24,639	24,639	24,639	24,639	24,639	24,639	24,639	24,639	24,639	\$184	\$207
Rideau Heights Community Centre										24,000	\$337	\$451
<b>Total</b>	<b>498,153</b>	<b>498,153</b>	<b>498,153</b>	<b>469,621</b>	<b>469,621</b>	<b>482,635</b>	<b>462,260</b>	<b>454,503</b>	<b>454,503</b>	<b>478,503</b>		

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	3.8270	3.7780	3.7346	3.4959	3.4816	3.5568	3.3888	3.3186	3.2902	3.4343

10 Year Average	2009-2018
Quantity Standard	3.5306
Quality Standard	\$349
Service Standard	\$1,234

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$1,234
Eligible Amount	\$13,408,906



Service: Library Facilities  
 Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bid'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.
Pittsburgh Library - 80 Gore Rd	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	\$272	\$332
Central Library - 130 Johnson St.	62,000	62,000	62,000	62,000	62,000	62,000	62,000	62,000	62,000	62,000	\$197	\$242
Calvin Park Library - 88 Wright Cres.	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	\$564	\$685
Kingscourt Library - 115 Kirkpatrick St.	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	\$169	\$208
Isabel Turner Branch Library - Cataragui Town Centre	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	\$199	\$244
Rideau Heights Branch - 85 MacCauley Street										6,240	\$272	\$332
<b>Total</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>109,150</b>	<b>112,240</b>		

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.8385	0.8278	0.8183	0.8125	0.8092	0.8044	0.8002	0.7970	0.7902	0.8056

10 Year Average	2009-2018
Quantity Standard	0.8104
Quality Standard	\$286
Service Standard	\$232

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$232
Eligible Amount	\$2,518,579



Service: Library Collection Materials  
 Unit Measure: No. of library collection items

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/item)
Book Collection	487,432	484,515	448,517	449,787	443,672	370,045	340,125	310,196	293,839	290,171	\$60
Reference Materials	12,197	10,826	10,045	9,664	8,833	12,714	15,874	13,005	12,609	11,834	\$120
CD & DVDs	28,265	32,741	43,041	45,676	38,190	50,829	51,627	50,117	49,867	49,688	\$50
Print Periodicals	454	452	394	508	541	519	382	369	274	265	\$80
Database Subscriptions	104	70	32	54	68	32	18	14	13	24	\$1,570
E-Resources	702	1,294	2,683	3,314	5,027	6,210	7,445	10,634	13,981	13,872	\$50
<b>Total</b>	<b>529,154</b>	<b>529,898</b>	<b>504,712</b>	<b>509,003</b>	<b>496,331</b>	<b>440,349</b>	<b>415,471</b>	<b>384,335</b>	<b>370,583</b>	<b>365,854</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	4.07	4.02	3.78	3.79	3.68	3.25	3.05	2.81	2.68	2.63

10 Year Average	2009-2018
Quantity Standard	3.3742
Quality Standard	\$61
Service Standard	\$204

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$204
Eligible Amount	\$2,222,806



Service: Affordable Housing  
 Unit Measure: No. of Units

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/unit)
Rent-Geared-To-Income (RGI) Units	2,041	2,041	2,041	2,041	2,041	2,096	2,062	2,072	2,082	2,070	\$93,551
Affordable Units	188	221	277	314	325	371	398	421	444	444	\$85,918
<b>Total</b>	<b>2,229</b>	<b>2,262</b>	<b>2,318</b>	<b>2,355</b>	<b>2,366</b>	<b>2,467</b>	<b>2,460</b>	<b>2,493</b>	<b>2,526</b>	<b>2,514</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.0171	0.0172	0.0174	0.0175	0.0175	0.0182	0.0180	0.0182	0.0183	0.0180

10 Year Average	2009-2018
Quantity Standard	0.0177
Quality Standard	\$92,721
Service Standard	\$1,641

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$1,641
Eligible Amount	\$17,839,518



Service: Waste Diversion - Facilities - Stations/Depots  
 Unit Measure: ft<sup>2</sup> of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bld'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.
Solid Waste Garage Building	18,112	18,112	18,112	18,112	18,112	18,112	18,112	18,112	18,112	18,112	\$135	\$153
<b>Total</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>	<b>18,112</b>		
Percentage attributable to Eligible Portion	30%	30%	30%	44%	51%	48%	52%	53%	51%	53%		
<b>Total Eligible Portion of Facilities</b>	<b>5,434</b>	<b>5,434</b>	<b>5,434</b>	<b>7,895</b>	<b>9,247</b>	<b>8,748</b>	<b>9,375</b>	<b>9,600</b>	<b>9,243</b>	<b>9,608</b>		

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.0417	0.0412	0.0407	0.0588	0.0686	0.0645	0.0687	0.0701	0.0669	0.0690

10 Year Average	2009-2018
Quantity Standard	0.0590
Quality Standard	\$153
Service Standard	\$9

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$9
Eligible Amount	\$98,156



Service: Waste Diversion - Facilities - Recycling/Reuse  
 Unit Measure: ft² of building area

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Bld'g Value (\$/sq.ft.)	Value/sq.ft. with land, site works, etc.
Kingston Area Recycling Centre (KARC) Building	28,964	28,964	28,964	28,964	28,964	28,964	28,964	28,964	28,964	28,964	\$143	\$161
<b>Total</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>		
Percentage attributable to Eligible Portion	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
<b>Total Eligible Portion of Facilities</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>	<b>28,964</b>		

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard	0.2225	0.2197	0.2171	0.2156	0.2147	0.2134	0.2123	0.2115	0.2097	0.2079

10 Year Average	2009-2018
Quantity Standard	0.2144
Quality Standard	\$161
Service Standard	\$35

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$35
Eligible Amount	\$375,341





Service: Waste Diversion - Vehicles & Equipment  
 Unit Measure: No. of vehicles and equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/Vehicle)
<b>5 Ton Recycle Trucks</b>											
2012 International 4300	12392	-		1	1	1	1	1	1	1	\$238,000
2012 International 4300	12393			1	1	1	1	1	1	1	\$238,000
2013 International 4300	13394				1	1	1	1	1	1	\$238,000
2013 International 4300	13395				1	1	1	1	1	1	\$238,000
2015 Freightliner M2106	15370						1	1	1	1	\$238,000
2016 Freightliner M2106	16371							1	1	1	\$238,000
2015 Freightliner M2106	15386						1	1	1	1	\$238,000
2018 Freightliner MS-106	18373									1	\$238,000
<b>Pick-Up Trucks</b>											
2017 Haul-all Ranger	17924									1	\$29,000
% Attributable to Diversion	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
<b>5 Ton Rear Loading Refuse Packers</b>											
2003 Sterling LT 7501	374	1	1	1	1	1	1	1	1	1	\$263,000
2013 International s625	13379					1	1	1	1	1	\$263,000
2009 Sterling Q106	09380	1	1	1	1	1	1	1	1	1	\$263,000
2009 Sterling Q106	09381	1	1	1	1	1	1	1	1	1	\$263,000
2009 Sterling Q106	09382	1	1	1	1	1	1	1	1	1	\$263,000
2015 Freightliner M2106	15383						1	1	1	1	\$263,000
2016 Freightliner M2106	16384							1	1	1	\$263,000
2015 Freightliner M2106	15390						1	1	1	1	\$263,000
2014 Freightliner M2106	14397					1	1	1	1	1	\$263,000
2014 Freightliner M2106	14398					1	1	1	1	1	\$263,000
2017 Freightliner M2106	17378								1	1	\$263,000
% Attributable to Diversion	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
<b>5 Ton Side Loading Refuse Packers</b>											
2009 International s625	09387	1	1	1	1	1	1	1	1	1	\$382,000
2009 International s625	09388	1	1	1	1	1	1	1	1	1	\$382,000
2009 International s625	09389	1	1	1	1	1	1	1	1	1	\$382,000
<b>Pick-Up Trucks</b>											
2009 Ford F550	09396	1	1	1	1	1	1	1	1	1	\$382,000
2017 Ford F550	17385									1	\$180,000
% Attributable to Diversion	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	



Service: Waste Diversion - Vehicles & Equipment  
 Unit Measure: No. of vehicles and equipment

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Value (\$/Vehicle)
<b>Other</b>											
2007 FORD F250 07375	1	1	1	1	1	1	1	1	1	1	\$44,000
2014 Ford F150 14376						1	1	1	1	1	\$32,000
2009 Ford F150 09849	1	1	1	1	1	1	1	1	1	1	\$30,000
2009 Skyjack 9852	1	1	1	1	1	1	1	1	1	1	\$9,000
2017 Doosan G30N-7LP 17584	1	1	1	1	1	1	1	1	1	1	\$57,000
% Attributable to Diversion	30%	30%	30%	44%	51%	48%	52%	53%	51%	53%	
<b>Total</b>	<b>3.6</b>	<b>3.6</b>	<b>3.6</b>	<b>6.1</b>	<b>8.7</b>	<b>9.7</b>	<b>12.5</b>	<b>13.9</b>	<b>15.4</b>	<b>16.5</b>	

Population	130,167	131,857	133,389	134,336	134,885	135,695	136,407	136,957	138,137	139,331
Per Capita Standard (per 1,000)	0.0277	0.0273	0.0270	0.0457	0.0648	0.0716	0.0915	0.1011	0.1111	0.1181

10 Year Average	2009-2018
Quantity Standard (per 1,000)	0.0686
Quality Standard	\$213,265
Service Standard	\$15

D.C. Amount (before deductions)	10 Year
Forecast Population	10,870
\$ per Capita	\$15
Eligible Amount	\$159,028



# Appendix C

## Cash Flow Calculation



**Cash Flow Calculation - Fire - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.15	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(40,550)	(180)	(180)		56,550	\$0.15	8,636	(32,094)	(1,907)	(34,001)
2020	(34,001)	(57,556)	(59,283)		113,100	0.157	17,791	(75,493)	(2,874)	(78,367)
2021	(78,367)	(180)	(191)		113,100	0.162	18,325	(60,233)	(3,638)	(63,871)
2022	(63,871)	(26,780)	(29,263)		113,100	0.167	18,874	(74,260)	(3,626)	(77,886)
2023	(77,886)	(180)	(202)		113,100	0.172	19,441	(58,648)	(3,584)	(62,232)
2024	(62,232)	(180)	(209)		106,600	0.177	18,873	(43,568)	(2,777)	(46,345)
2025	(46,345)	(18,893)	(22,559)		100,100	0.182	18,254	(50,651)	(2,546)	(53,197)
2026	(53,197)	(180)	(221)		100,100	0.188	18,801	(34,617)	(2,305)	(36,922)
2027	(36,922)	(180)	(228)		100,100	0.193	19,365	(17,784)	(1,436)	(19,220)
2028	(19,220)	(180)	(235)		100,100	0.199	19,946	492	(492)	(0)
<b>Total</b>		<b>(104,488)</b>	<b>(112,571)</b>	-	<b>1,015,950</b>		<b>178,307</b>		<b>(25,186)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Fire - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$185.03	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(534,286)	(2,370)	(2,370)		569	\$185.03	105,213	(431,444)	(25,350)	(456,794)
2020	(456,794)	(758,348)	(781,098)		1,137	190.58	216,738	(1,021,154)	(38,796)	(1,059,950)
2021	(1,059,950)	(2,370)	(2,514)		1,137	196.30	223,240	(839,224)	(49,853)	(889,078)
2022	(889,078)	(352,851)	(385,570)		1,137	202.19	229,937	(1,044,711)	(50,762)	(1,095,473)
2023	(1,095,473)	(2,370)	(2,667)		1,137	208.25	236,835	(861,305)	(51,365)	(912,670)
2024	(912,670)	(2,370)	(2,747)		1,170	214.50	250,961	(664,457)	(41,400)	(705,856)
2025	(705,856)	(248,933)	(297,239)		1,203	220.94	265,720	(737,375)	(37,885)	(775,259)
2026	(775,259)	(2,370)	(2,915)		1,203	227.56	273,692	(504,482)	(33,593)	(538,075)
2027	(538,075)	(2,370)	(3,002)		1,203	234.39	281,903	(259,175)	(20,928)	(280,103)
2028	(280,103)	(2,370)	(3,092)		1,203	241.42	290,360	7,165	(7,165)	0
<b>Total</b>		<b>(1,376,722)</b>	<b>(1,483,216)</b>	-	<b>11,098</b>		<b>2,374,599</b>		<b>(357,097)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Fire - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.33	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(101,475)	(450)	(450)		55,310	\$0.33	18,097	(83,828)	(4,864)	(88,692)
2020	(88,692)	(144,030)	(148,351)		110,620	0.337	37,280	(199,763)	(7,572)	(207,335)
2021	(207,335)	(450)	(478)		110,620	0.347	38,398	(169,415)	(9,890)	(179,304)
2022	(179,304)	(67,016)	(73,230)		110,620	0.358	39,550	(212,984)	(10,298)	(223,281)
2023	(223,281)	(450)	(507)		110,620	0.368	40,737	(183,051)	(10,666)	(193,717)
2024	(193,717)	(450)	(522)		126,990	0.379	48,168	(146,071)	(8,919)	(154,991)
2025	(154,991)	(47,279)	(56,453)		143,360	0.391	56,009	(155,435)	(8,149)	(163,584)
2026	(163,584)	(450)	(554)		143,360	0.402	57,689	(106,448)	(7,088)	(113,537)
2027	(113,537)	(450)	(570)		143,360	0.414	59,420	(54,687)	(4,416)	(59,103)
2028	(59,103)	(450)	(587)		143,360	0.427	61,202	1,512	(1,512)	(0)
<b>Total</b>		<b>(261,476)</b>	<b>(281,702)</b>	-	<b>1,198,220</b>		<b>456,550</b>		<b>(73,374)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Police - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$92.51	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	93,138	(123,145)	(123,145)		569	\$92.51	52,602	22,595	1,447	24,042
2020	24,042	(120,432)	(124,045)		1,137	95.28	108,361	8,358	405	8,763
2021	8,763	(117,799)	(124,972)		1,137	98.14	111,612	(4,598)	52	(4,546)
2022	(4,546)	(115,241)	(125,927)		1,137	101.09	114,960	(15,513)	(527)	(16,040)
2023	(16,040)	(112,759)	(126,911)		1,137	104.12	118,409	(24,542)	(1,065)	(25,607)
2024	(25,607)	(110,348)	(127,924)		1,170	107.24	125,471	(28,060)	(1,409)	(29,469)
2025	(29,469)	(108,008)	(128,968)		1,203	110.46	132,850	(25,586)	(1,445)	(27,032)
2026	(27,032)	(105,736)	(130,042)		1,203	113.77	136,836	(20,238)	(1,241)	(21,479)
2027	(21,479)	(103,531)	(131,149)		1,203	117.19	140,941	(11,688)	(871)	(12,558)
2028	(12,558)	(101,389)	(132,290)		1,203	120.70	145,169	321	(321)	(0)
<b>Total</b>		<b>(1,118,389)</b>	<b>(1,275,375)</b>	-	<b>11,098</b>		<b>1,187,211</b>		<b>(4,975)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Police - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.08	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	7,069	(9,346)	(9,346)		56,550	\$0.08	4,329	2,052	114	2,166
2020	2,166	(9,140)	(9,415)		113,100	0.079	8,918	1,669	48	1,717
2021	1,717	(8,940)	(9,485)		113,100	0.081	9,185	1,417	39	1,456
2022	1,456	(8,746)	(9,557)		113,100	0.084	9,461	1,360	35	1,395
2023	1,395	(8,558)	(9,632)		113,100	0.086	9,745	1,507	36	1,544
2024	1,544	(8,375)	(9,709)		106,600	0.089	9,460	1,295	35	1,330
2025	1,330	(8,197)	(9,788)		100,100	0.091	9,150	692	25	717
2026	717	(8,025)	(9,870)		100,100	0.094	9,424	272	12	284
2027	284	(7,858)	(9,954)		100,100	0.097	9,707	38	4	42
2028	42	(7,695)	(10,040)		100,100	0.100	9,998	(1)	1	0
<b>Total</b>		<b>(84,882)</b>	<b>(96,796)</b>	-	<b>1,015,950</b>		<b>89,377</b>		<b>350</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Police - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.16	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	17,689	(23,389)	(23,389)		55,310	\$0.16	9,044	3,345	263	3,608
2020	3,608	(22,873)	(23,559)		110,620	0.168	18,631	(1,320)	29	(1,292)
2021	(1,292)	(22,373)	(23,736)		110,620	0.173	19,190	(5,837)	(187)	(6,025)
2022	(6,025)	(21,887)	(23,917)		110,620	0.179	19,766	(10,176)	(425)	(10,601)
2023	(10,601)	(21,416)	(24,104)		110,620	0.184	20,359	(14,346)	(655)	(15,001)
2024	(15,001)	(20,958)	(24,296)		126,990	0.190	24,073	(15,225)	(793)	(16,018)
2025	(16,018)	(20,514)	(24,494)		143,360	0.195	27,991	(12,522)	(749)	(13,271)
2026	(13,271)	(20,082)	(24,698)		143,360	0.201	28,831	(9,139)	(588)	(9,727)
2027	(9,727)	(19,663)	(24,909)		143,360	0.207	29,696	(4,940)	(385)	(5,325)
2028	(5,325)	(19,256)	(25,125)		143,360	0.213	30,586	136	(136)	(0)
<b>Total</b>		<b>(212,411)</b>	<b>(242,227)</b>	-	<b>1,198,220</b>		<b>228,166</b>		<b>(3,628)</b>	

Note: Numbers may not add due to rounding



Cash Flow Calculation - Roads - Residential

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Financing Requirements	Development Related Long-Term Debt	Population Growth	\$2,546.67	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	6,394,000	(4,524,299)	(4,524,299)			569	\$2,546.67	1,448,096	3,317,797	121,397	3,439,195
2020	3,439,195	(5,553,103)	(5,719,696)			1,137	2,623.07	2,983,078	702,577	51,772	754,349
2021	754,349	(4,524,299)	(4,799,829)			1,137	2,701.76	3,072,571	(972,909)	(5,737)	(978,646)
2022	(978,646)	(21,791,480)	(23,812,139)	12,129,270		1,137	2,782.82	3,164,748	(9,496,768)	(274,980)	(9,771,747)
2023	(9,771,747)	(809,616)	(911,230)		(789,026)	1,137	2,866.30	3,259,690	(8,212,313)	(472,082)	(8,684,395)
2024	(8,684,395)	(8,489,741)	(9,841,937)	2,723,247	(789,026)	1,170	2,952.29	3,454,104	(13,138,008)	(572,838)	(13,710,846)
2025	(13,710,846)	(970,880)	(1,159,281)		(966,178)	1,203	3,040.86	3,657,248	(12,179,056)	(679,610)	(12,858,666)
2026	(12,858,666)	(809,616)	(995,725)		(966,178)	1,203	3,132.09	3,766,965	(11,053,603)	(627,697)	(11,681,301)
2027	(11,681,301)	(809,616)	(1,025,597)		(966,178)	1,203	3,226.05	3,879,974	(9,793,101)	(563,703)	(10,356,804)
2028	(10,356,804)	(809,616)	(1,056,365)		(966,178)	1,203	3,322.83	3,996,374	(8,382,972)	(491,919)	(8,874,892)
2029	(8,874,892)	(809,616)	(1,088,056)		(966,178)	1,103	3,422.51	3,774,567	(7,154,558)	(420,773)	(7,575,331)
2030	(7,575,331)	(970,880)	(1,343,924)		(966,178)	1,003	3,525.19	3,535,856	(6,349,577)	(365,529)	(6,715,106)
2031	(6,715,106)	(809,616)	(1,154,318)		(966,178)	1,003	3,630.95	3,641,931	(5,193,670)	(312,605)	(5,506,276)
2032	(5,506,276)	(809,616)	(1,188,948)		(966,178)	1,003	3,739.87	3,751,189	(3,910,212)	(247,183)	(4,157,395)
2033	(4,157,395)	(809,616)	(1,224,616)		(966,178)	1,003	3,852.07	3,863,725	(2,484,464)	(174,349)	(2,658,813)
2034	(2,658,813)	(809,616)	(1,261,355)		(966,178)	826	3,967.63	3,275,313	(1,611,032)	(112,083)	(1,723,115)
2035	(1,723,115)	(970,880)	(1,557,977)		(966,178)	648	4,086.66	2,648,119	(1,599,150)	(87,209)	(1,686,360)
2036	(1,686,360)	(936,697)	(1,548,217)		(966,178)	648	4,209.26	2,727,563	(1,473,192)	(82,938)	(1,556,130)
2037	(1,556,130)	(936,697)	(1,594,664)		(966,178)	648	4,335.54	2,809,390	(1,307,581)	(75,172)	(1,382,754)
2038	(1,382,754)	(936,697)	(1,642,503)		(966,178)	648	4,465.60	2,893,671	(1,097,763)	(65,114)	(1,162,877)
2039	(1,162,877)	(936,697)	(1,691,779)		(966,178)	648	4,599.57	2,980,481	(840,352)	(52,585)	(892,936)
2040	(892,936)	(1,097,961)	(2,042,530)		(966,178)	648	4,737.56	3,069,896	(831,748)	(45,273)	(877,021)
2041	(877,021)	(936,697)	(1,794,808)		(966,178)	648	4,879.69	3,161,993	(476,014)	(35,517)	(511,531)
2042	(511,531)	(936,697)	(1,848,652)		(966,178)	648	5,026.08	3,256,853	(69,508)	(15,252)	(84,760)
2043	(84,760)	(936,697)	(1,904,112)		(966,178)	648	5,176.86	3,354,558	399,509	3,934	403,443
2044	403,443	(936,697)	(1,961,235)		(966,178)	648	5,332.17	3,455,195	931,226	16,683	947,909
2045	947,909	(1,097,961)	(2,367,852)		(966,178)	648	5,492.13	3,558,851	1,172,730	26,508	1,199,238
2046	1,199,238	(936,697)	(2,080,674)		(966,178)	324	5,656.89	1,832,808	(14,805)	14,805	(0)
<b>Total</b>		<b>(65,708,294)</b>	<b>(83,142,317)</b>	<b>14,852,517</b>	<b>(22,833,958)</b>	<b>24,491</b>		<b>90,274,807</b>		<b>(5,545,048)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Roads - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$2.19	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	512,857	(362,890)	(362,890)			56,550	\$2.19	123,665	273,632	9,831	283,463
2020	283,463	(445,410)	(458,772)			113,100	2.252	254,750	79,441	4,536	83,977
2021	83,977	(362,890)	(384,990)			113,100	2.320	262,392	(38,621)	567	(38,054)
2022	(38,054)	(1,747,876)	(1,909,951)	972,878		113,100	2.390	270,264	(704,863)	(19,502)	(724,364)
2023	(724,364)	(64,939)	(73,089)		(63,287)	113,100	2.461	278,372	(582,369)	(34,302)	(616,670)
2024	(616,670)	(680,955)	(789,413)	218,429	(63,287)	106,600	2.535	270,245	(980,697)	(41,931)	(1,022,628)
2025	(1,022,628)	(77,873)	(92,985)		(77,496)	100,100	2.611	261,379	(931,729)	(51,302)	(983,031)
2026	(983,031)	(64,939)	(79,866)		(77,496)	100,100	2.690	269,221	(871,173)	(48,673)	(919,846)
2027	(919,846)	(64,939)	(82,262)		(77,496)	100,100	2.770	277,297	(802,307)	(45,207)	(847,514)
2028	(847,514)	(64,939)	(84,730)		(77,496)	100,100	2.853	285,616	(724,124)	(41,255)	(765,380)
2029	(765,380)	(64,939)	(87,272)		(77,496)	92,820	2.939	272,789	(657,358)	(37,347)	(694,705)
2030	(694,705)	(77,873)	(107,795)		(77,496)	85,540	3.027	258,936	(621,060)	(34,539)	(655,599)
2031	(655,599)	(64,939)	(92,587)		(77,496)	85,540	3.118	266,704	(558,978)	(31,883)	(590,861)
2032	(590,861)	(64,939)	(95,364)		(77,496)	85,540	3.211	274,705	(489,017)	(28,347)	(517,363)
2033	(517,363)	(64,939)	(98,225)		(77,496)	85,540	3.308	282,946	(410,139)	(24,347)	(434,486)
2034	(434,486)	(64,939)	(101,172)		(77,496)	76,353	3.407	260,136	(353,018)	(20,672)	(373,690)
2035	(373,690)	(77,873)	(124,964)		(77,496)	67,167	3.509	235,702	(340,449)	(18,746)	(359,195)
2036	(359,195)	(75,132)	(124,181)		(77,496)	67,167	3.614	242,773	(318,099)	(17,779)	(335,878)
2037	(335,878)	(75,132)	(127,907)		(77,496)	67,167	3.723	250,056	(291,225)	(16,461)	(307,686)
2038	(307,686)	(75,132)	(131,744)		(77,496)	67,167	3.835	257,558	(259,368)	(14,885)	(274,254)
2039	(274,254)	(75,132)	(135,696)		(77,496)	67,167	3.950	265,285	(222,161)	(13,031)	(235,192)
2040	(235,192)	(88,066)	(163,830)		(77,496)	67,167	4.068	273,243	(203,275)	(11,510)	(214,785)
2041	(214,785)	(75,132)	(143,960)		(77,496)	67,167	4.190	281,440	(154,800)	(9,702)	(164,502)
2042	(164,502)	(75,132)	(148,279)		(77,496)	67,167	4.316	289,884	(100,394)	(6,954)	(107,347)
2043	(107,347)	(75,132)	(152,727)		(77,496)	67,167	4.445	298,580	(38,990)	(3,841)	(42,832)
2044	(42,832)	(75,132)	(157,309)		(77,496)	67,167	4.579	307,538	29,901	(339)	29,561
2045	29,561	(88,066)	(189,923)		(77,496)	67,167	4.716	316,764	78,905	1,356	80,261
2046	80,261	(75,132)	(166,889)		(77,496)	33,583	4.858	163,133	(991)	991	0
<b>Total</b>		<b>(5,270,405)</b>	<b>(6,668,773)</b>	<b>1,191,307</b>	<b>(1,831,492)</b>	<b>2,299,700</b>		<b>7,351,372</b>		<b>(555,272)</b>	

Note: Numbers may not add due to rounding





Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$4.69	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	1,733,683	(1,226,728)	(1,226,728)			55,310	\$4.69	259,190	766,145	31,248	797,393
2020	797,393	(1,505,681)	(1,550,851)			110,620	4.827	533,932	(219,526)	7,223	(212,303)
2021	(212,303)	(1,226,728)	(1,301,436)			110,620	4.972	549,950	(963,789)	(30,872)	(994,661)
2022	(994,661)	(5,908,590)	(6,456,476)	3,288,757		110,620	5.121	566,448	(3,595,932)	(120,503)	(3,716,435)
2023	(3,716,435)	(219,521)	(247,073)		(213,938)	110,620	5.274	583,442	(3,594,005)	(191,899)	(3,785,904)
2024	(3,785,904)	(2,301,927)	(2,668,565)	738,387	(213,938)	126,990	5.433	689,875	(5,240,144)	(236,934)	(5,477,078)
2025	(5,477,078)	(263,246)	(314,330)		(261,972)	143,360	5.595	802,170	(5,251,209)	(281,618)	(5,532,827)
2026	(5,532,827)	(219,521)	(269,983)		(261,972)	143,360	5.763	826,235	(5,238,547)	(282,749)	(5,521,295)
2027	(5,521,295)	(219,521)	(278,083)		(261,972)	143,360	5.936	851,022	(5,210,327)	(281,705)	(5,492,032)
2028	(5,492,032)	(219,521)	(286,425)		(261,972)	143,360	6.114	876,553	(5,163,876)	(279,718)	(5,443,594)
2029	(5,443,594)	(219,521)	(295,018)		(261,972)	147,790	6.298	930,748	(5,069,835)	(275,978)	(5,345,812)
2030	(5,345,812)	(263,246)	(364,395)		(261,972)	152,220	6.487	987,407	(4,984,772)	(271,178)	(5,255,949)
2031	(5,255,949)	(219,521)	(312,984)		(261,972)	152,220	6.681	1,017,029	(4,813,876)	(264,333)	(5,078,209)
2032	(5,078,209)	(219,521)	(322,374)		(261,972)	152,220	6.882	1,047,540	(4,615,014)	(254,447)	(4,869,462)
2033	(4,869,462)	(219,521)	(332,045)		(261,972)	152,220	7.088	1,078,966	(4,384,512)	(242,917)	(4,627,429)
2034	(4,627,429)	(219,521)	(342,007)		(261,972)	149,639	7.301	1,092,493	(4,138,914)	(230,116)	(4,369,030)
2035	(4,369,030)	(263,246)	(422,433)		(261,972)	147,058	7.520	1,105,860	(3,947,575)	(218,311)	(4,165,886)
2036	(4,165,886)	(253,978)	(419,787)		(261,972)	147,058	7.745	1,139,036	(3,708,608)	(206,705)	(3,915,314)
2037	(3,915,314)	(253,978)	(432,381)		(261,972)	147,058	7.978	1,173,207	(3,436,459)	(192,984)	(3,629,443)
2038	(3,629,443)	(253,978)	(445,352)		(261,972)	147,058	8.217	1,208,403	(3,128,363)	(177,392)	(3,305,755)
2039	(3,305,755)	(253,978)	(458,713)		(261,972)	147,058	8.464	1,244,655	(2,781,784)	(159,798)	(2,941,582)
2040	(2,941,582)	(297,703)	(553,816)		(261,972)	147,058	8.718	1,281,995	(2,475,374)	(142,195)	(2,617,569)
2041	(2,617,569)	(253,978)	(486,648)		(261,972)	147,058	8.979	1,320,455	(2,045,734)	(122,412)	(2,168,146)
2042	(2,168,146)	(253,978)	(501,248)		(261,972)	147,058	9.248	1,360,069	(1,571,296)	(98,160)	(1,669,456)
2043	(1,669,456)	(253,978)	(516,285)		(261,972)	147,058	9.526	1,400,871	(1,046,842)	(71,303)	(1,118,145)
2044	(1,118,145)	(253,978)	(531,774)		(261,972)	147,058	9.812	1,442,897	(468,993)	(41,662)	(510,656)
2045	(510,656)	(297,703)	(642,025)		(261,972)	147,058	10.106	1,486,184	71,532	(11,527)	60,005
2046	60,005	(253,978)	(564,159)		(261,972)	73,529	10.409	765,385	(741)	741	(0)
<b>Total</b>		<b>(17,816,293)</b>	<b>(22,543,393)</b>	<b>4,027,144</b>	<b>(6,191,250)</b>	<b>3,795,700</b>		<b>27,622,019</b>		<b>(4,648,204)</b>	



**Cash Flow Calculation - Public Works - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$259.61	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	485,295	(718,037)	(718,037)		569	\$259.61	147,618	(85,124)	5,002	(80,122)
2020	(80,122)	(293,675)	(302,485)		1,137	267.39	304,093	(78,515)	(4,164)	(82,679)
2021	(82,679)	(293,675)	(311,560)		1,137	275.42	313,215	(81,023)	(4,297)	(85,320)
2022	(85,320)	(293,675)	(320,906)		1,137	283.68	322,612	(83,614)	(4,435)	(88,049)
2023	(88,049)	(293,675)	(330,534)		1,137	292.19	332,290	(86,292)	(4,576)	(90,869)
2024	(90,869)	(293,675)	(340,450)		1,170	300.95	352,109	(79,210)	(4,465)	(83,674)
2025	(83,674)	(293,675)	(350,663)		1,203	309.98	372,817	(61,520)	(3,811)	(65,332)
2026	(65,332)	(293,675)	(361,183)		1,203	319.28	384,001	(42,513)	(2,831)	(45,344)
2027	(45,344)	(293,675)	(372,018)		1,203	328.86	395,522	(21,841)	(1,764)	(23,604)
2028	(23,604)	(293,675)	(383,179)		1,203	338.73	407,387	604	(604)	(0)
<b>Total</b>		<b>(3,361,110)</b>	<b>(3,791,015)</b>	-	<b>11,098</b>		<b>3,331,664</b>		<b>(25,944)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Public Works - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.17	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	29,450	(43,573)	(43,573)		56,550	\$0.17	9,702	(4,422)	313	(4,109)
2020	(4,109)	(17,821)	(18,356)		113,100	0.177	19,986	(2,479)	(173)	(2,652)
2021	(2,652)	(17,821)	(18,907)		113,100	0.182	20,585	(973)	(95)	(1,069)
2022	(1,069)	(17,821)	(19,474)		113,100	0.187	21,203	661	(11)	650
2023	650	(17,821)	(20,058)		113,100	0.193	21,839	2,431	39	2,469
2024	2,469	(17,821)	(20,660)		106,600	0.199	21,201	3,011	69	3,079
2025	3,079	(17,821)	(21,280)		100,100	0.205	20,506	2,306	67	2,373
2026	2,373	(17,821)	(21,918)		100,100	0.211	21,121	1,576	49	1,626
2027	1,626	(17,821)	(22,576)		100,100	0.217	21,755	805	30	835
2028	835	(17,821)	(23,253)		100,100	0.224	22,407	(10)	10	(0)
<b>Total</b>		<b>(203,966)</b>	<b>(230,054)</b>	-	<b>1,015,950</b>		<b>200,306</b>		<b>298</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Public Works - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.50	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	99,553	(147,297)	(147,297)		55,310	\$0.50	27,423	(20,322)	990	(19,331)
2020	(19,331)	(60,244)	(62,051)		110,620	0.511	56,491	(24,892)	(1,161)	(26,053)
2021	(26,053)	(60,244)	(63,913)		110,620	0.526	58,186	(31,780)	(1,518)	(33,298)
2022	(33,298)	(60,244)	(65,830)		110,620	0.542	59,931	(39,198)	(1,903)	(41,101)
2023	(41,101)	(60,244)	(67,805)		110,620	0.558	61,729	(47,177)	(2,317)	(49,494)
2024	(49,494)	(60,244)	(69,839)		126,990	0.575	72,990	(46,344)	(2,516)	(48,859)
2025	(48,859)	(60,244)	(71,935)		143,360	0.592	84,871	(35,923)	(2,226)	(38,149)
2026	(38,149)	(60,244)	(74,093)		143,360	0.610	87,417	(24,824)	(1,653)	(26,477)
2027	(26,477)	(60,244)	(76,315)		143,360	0.628	90,039	(12,753)	(1,030)	(13,783)
2028	(13,783)	(60,244)	(78,605)		143,360	0.647	92,741	353	(353)	(0)
<b>Total</b>		<b>(689,494)</b>	<b>(777,684)</b>	-	<b>1,198,220</b>		<b>691,817</b>		<b>(13,686)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Transit - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$427.07	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(2,114,350)	(88,267)	(88,267)		569	\$427.07	242,843	(1,959,774)	(106,946)	(2,066,720)
2020	(2,066,720)	(188,143)	(193,788)		1,137	439.88	500,257	(1,760,251)	(100,458)	(1,860,709)
2021	(1,860,709)	(273,656)	(290,322)		1,137	453.08	515,264	(1,635,766)	(91,782)	(1,727,549)
2022	(1,727,549)	(273,656)	(299,031)		1,137	466.67	530,722	(1,495,858)	(84,614)	(1,580,472)
2023	(1,580,472)	(273,656)	(308,002)		1,137	480.67	546,644	(1,341,830)	(76,710)	(1,418,541)
2024	(1,418,541)	(273,656)	(317,242)		1,170	495.09	579,247	(1,156,536)	(67,596)	(1,224,132)
2025	(1,224,132)	(273,656)	(326,760)		1,203	509.95	613,314	(937,578)	(56,745)	(994,323)
2026	(994,323)	(273,656)	(336,562)		1,203	525.24	631,713	(699,172)	(44,454)	(743,627)
2027	(743,627)	(248,738)	(315,093)		1,203	541.00	650,664	(408,056)	(30,232)	(438,287)
2028	(438,287)	(169,138)	(220,686)		1,203	557.23	670,184	11,211	(11,211)	(0)
<b>Total</b>		<b>(2,336,222)</b>	<b>(2,695,754)</b>	-	<b>11,098</b>		<b>5,480,852</b>		<b>(670,748)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Transit - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.35	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings /(Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(160,472)	(6,699)	(6,699)		56,550	\$0.35	19,934	(147,237)	(8,077)	(155,315)
2020	(155,315)	(14,279)	(14,708)		113,100	0.363	41,063	(128,959)	(7,462)	(136,421)
2021	(136,421)	(20,770)	(22,034)		113,100	0.374	42,295	(116,160)	(6,630)	(122,791)
2022	(122,791)	(20,770)	(22,695)		113,100	0.385	43,564	(101,922)	(5,899)	(107,821)
2023	(107,821)	(20,770)	(23,376)		113,100	0.397	44,871	(86,326)	(5,096)	(91,422)
2024	(91,422)	(20,770)	(24,078)		106,600	0.409	43,561	(71,939)	(4,288)	(76,227)
2025	(76,227)	(20,770)	(24,800)		100,100	0.421	42,132	(58,895)	(3,547)	(62,442)
2026	(62,442)	(20,770)	(25,544)		100,100	0.434	43,396	(44,590)	(2,810)	(47,399)
2027	(47,399)	(18,878)	(23,914)		100,100	0.447	44,698	(26,616)	(1,943)	(28,559)
2028	(28,559)	(12,837)	(16,749)		100,100	0.460	46,039	730	(730)	(0)
<b>Total</b>		<b>(177,311)</b>	<b>(204,598)</b>	-	<b>1,015,950</b>		<b>411,553</b>		<b>(46,483)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Transit - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.76	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings /(Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(401,571)	(16,764)	(16,764)		55,310	\$0.76	41,770	(376,565)	(20,426)	(396,991)
2020	(396,991)	(35,733)	(36,805)		110,620	0.778	86,047	(347,750)	(19,549)	(367,299)
2021	(367,299)	(51,974)	(55,140)		110,620	0.801	88,628	(333,811)	(18,404)	(352,215)
2022	(352,215)	(51,974)	(56,794)		110,620	0.825	91,287	(317,722)	(17,586)	(335,308)
2023	(335,308)	(51,974)	(58,498)		110,620	0.850	94,025	(299,780)	(16,671)	(316,452)
2024	(316,452)	(51,974)	(60,253)		126,990	0.875	111,178	(265,526)	(15,277)	(280,803)
2025	(280,803)	(51,974)	(62,060)		143,360	0.902	129,275	(213,589)	(12,978)	(226,567)
2026	(226,567)	(51,974)	(63,922)		143,360	0.929	133,153	(157,336)	(10,077)	(167,413)
2027	(167,413)	(47,242)	(59,845)		143,360	0.957	137,148	(90,110)	(6,760)	(96,870)
2028	(96,870)	(32,124)	(41,914)		143,360	0.985	141,262	2,478	(2,478)	0
<b>Total</b>		<b>(443,710)</b>	<b>(511,995)</b>	-	<b>1,198,220</b>		<b>1,053,772</b>		<b>(140,207)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Parks & Recreation - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$868.53	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 2.5% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	2,128,212	(392,595)	(392,595)		569	\$868.53	493,869	2,229,486	54,471	2,283,958
2020	2,283,958	(1,302,855)	(1,341,940)		1,137	894.59	1,017,370	1,959,387	53,042	2,012,429
2021	2,012,429	(1,174,918)	(1,246,470)		1,137	921.43	1,047,891	1,813,850	47,828	1,861,678
2022	1,861,678	(2,894,219)	(3,162,591)		1,137	949.07	1,079,328	(221,585)	20,501	(201,083)
2023	(201,083)	(2,519,392)	(2,835,598)		1,137	977.54	1,111,708	(1,924,973)	(26,576)	(1,951,549)
2024	(1,951,549)	(965,678)	(1,119,485)		1,170	1,006.87	1,178,012	(1,893,023)	(48,057)	(1,941,080)
2025	(1,941,080)	(1,151,895)	(1,375,423)		1,203	1,037.08	1,247,294	(2,069,209)	(50,129)	(2,119,337)
2026	(2,119,337)	(216,483)	(266,246)		1,203	1,068.19	1,284,713	(1,100,871)	(40,253)	(1,141,124)
2027	(1,141,124)	(168,134)	(212,987)		1,203	1,100.23	1,323,254	(30,856)	(14,650)	(45,506)
2028	(45,506)	(1,009,282)	(1,316,884)		1,203	1,133.24	1,362,952	562	(562)	(0)
<b>Total</b>		<b>(11,795,448)</b>	<b>(13,270,218)</b>	-	<b>11,098</b>		<b>11,146,389</b>		<b>(4,383)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Parks & Recreation - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.23	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	51,395	(9,481)	(9,481)		56,550	\$0.23	13,136	55,050	1,331	56,381
2020	56,381	(31,463)	(32,407)		113,100	0.239	27,060	51,034	1,343	52,376
2021	52,376	(28,374)	(30,102)		113,100	0.246	27,872	50,147	1,282	51,428
2022	51,428	(69,894)	(76,375)		113,100	0.254	28,708	3,761	690	4,451
2023	4,451	(60,842)	(68,478)		113,100	0.261	29,569	(34,458)	(788)	(35,245)
2024	(35,245)	(23,321)	(27,035)		106,600	0.269	28,706	(33,574)	(1,807)	(35,381)
2025	(35,381)	(27,818)	(33,216)		100,100	0.277	27,764	(40,832)	(2,001)	(42,833)
2026	(42,833)	(5,228)	(6,430)		100,100	0.286	28,597	(20,665)	(1,667)	(22,332)
2027	(22,332)	(4,060)	(5,144)		100,100	0.294	29,455	1,980	(534)	1,445
2028	1,445	(24,374)	(31,802)		100,100	0.303	30,339	(18)	18	0
<b>Total</b>		<b>(284,854)</b>	<b>(320,469)</b>	-	<b>1,015,950</b>		<b>271,207</b>		<b>(2,133)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Parks & Recreation - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.23	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	60,616	(11,182)	(11,182)		55,310	\$0.23	12,931	62,365	1,537	63,902
2020	63,902	(37,108)	(38,221)		110,620	0.241	26,638	52,319	1,453	53,771
2021	53,771	(33,464)	(35,502)		110,620	0.248	27,437	45,706	1,243	46,949
2022	46,949	(82,433)	(90,077)		110,620	0.255	28,260	(14,868)	401	(14,467)
2023	(14,467)	(71,758)	(80,764)		110,620	0.263	29,108	(66,123)	(2,115)	(68,239)
2024	(68,239)	(27,505)	(31,885)		126,990	0.271	34,418	(65,706)	(3,516)	(69,222)
2025	(69,222)	(32,808)	(39,175)		143,360	0.279	40,020	(68,377)	(3,612)	(71,989)
2026	(71,989)	(6,166)	(7,583)		143,360	0.288	41,221	(38,352)	(2,896)	(41,249)
2027	(41,249)	(4,789)	(6,066)		143,360	0.296	42,457	(4,858)	(1,210)	(6,068)
2028	(6,068)	(28,746)	(37,508)		143,360	0.305	43,731	155	(155)	0
<b>Total</b>		<b>(335,959)</b>	<b>(377,964)</b>	-	<b>1,198,220</b>		<b>326,219</b>		<b>(8,871)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Library - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$352.10	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	492,241	(203,658)	(203,658)		569	\$352.10	200,214	488,798	12,263	501,061
2020	501,061	(203,658)	(209,767)		1,137	362.67	412,441	703,734	15,060	718,794
2021	718,794	(203,658)	(216,060)		1,137	373.55	424,814	927,548	20,579	948,127
2022	948,127	(203,658)	(222,542)		1,137	384.75	437,559	1,163,144	26,391	1,189,535
2023	1,189,535	(978,145)	(1,100,911)		1,137	396.30	450,685	539,309	21,611	560,920
2024	560,920	(978,145)	(1,133,938)		1,170	408.18	477,565	(95,454)	5,818	(89,635)
2025	(89,635)	(978,145)	(1,167,957)		1,203	420.43	505,652	(751,940)	(22,091)	(774,031)
2026	(774,031)	(203,658)	(250,473)		1,203	433.04	520,821	(503,683)	(33,540)	(537,223)
2027	(537,223)	(203,658)	(257,987)		1,203	446.03	536,446	(258,764)	(20,895)	(279,659)
2028	(279,659)	(203,658)	(265,727)		1,203	459.42	552,539	7,153	(7,153)	(0)
<b>Total</b>		<b>(4,360,040)</b>	<b>(5,029,022)</b>	-	<b>11,098</b>		<b>4,518,738</b>		<b>18,043</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Library - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.09	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	11,887	(4,918)	(4,918)		56,550	\$0.09	5,247	12,217	301	12,518
2020	12,518	(4,918)	(5,066)		113,100	0.096	10,810	18,262	385	18,647
2021	18,647	(4,918)	(5,218)		113,100	0.098	11,134	24,563	540	25,103
2022	25,103	(4,918)	(5,374)		113,100	0.101	11,468	31,197	704	31,900
2023	31,900	(23,622)	(26,586)		113,100	0.104	11,812	17,126	613	17,739
2024	17,739	(23,622)	(27,384)		106,600	0.108	11,467	1,822	245	2,066
2025	2,066	(23,622)	(28,206)		100,100	0.111	11,091	(15,048)	(341)	(15,389)
2026	(15,389)	(4,918)	(6,049)		100,100	0.114	11,424	(10,014)	(667)	(10,681)
2027	(10,681)	(4,918)	(6,230)		100,100	0.118	11,766	(5,145)	(415)	(5,560)
2028	(5,560)	(4,918)	(6,417)		100,100	0.121	12,119	142	(142)	(0)
<b>Total</b>		<b>(105,293)</b>	<b>(121,448)</b>	-	<b>1,015,950</b>		<b>108,339</b>		<b>1,222</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Library - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.09	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	14,020	(5,801)	(5,801)		55,310	\$0.09	5,144	13,363	342	13,706
2020	13,706	(5,801)	(5,975)		110,620	0.096	10,596	18,327	400	18,728
2021	18,728	(5,801)	(6,154)		110,620	0.099	10,914	23,488	528	24,016
2022	24,016	(5,801)	(6,338)		110,620	0.102	11,242	28,919	662	29,581
2023	29,581	(27,860)	(31,356)		110,620	0.105	11,579	9,803	492	10,296
2024	10,296	(27,860)	(32,297)		126,990	0.108	13,691	(8,310)	25	(8,285)
2025	(8,285)	(27,860)	(33,266)		143,360	0.111	15,920	(25,631)	(890)	(26,522)
2026	(26,522)	(5,801)	(7,134)		143,360	0.114	16,397	(17,258)	(1,149)	(18,408)
2027	(18,408)	(5,801)	(7,348)		143,360	0.118	16,889	(8,866)	(716)	(9,582)
2028	(9,582)	(5,801)	(7,568)		143,360	0.121	17,396	245	(245)	0
<b>Total</b>		<b>(124,183)</b>	<b>(143,237)</b>	-	<b>1,198,220</b>		<b>129,768</b>		<b>(551)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Administration Studies - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$94.71	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	100,618	(15,521)	(15,521)		569	\$94.71	53,853	138,950	2,995	141,944
2020	141,944	(15,521)	(15,987)		1,137	97.55	110,936	236,894	4,735	241,629
2021	241,629	(122,171)	(129,611)		1,137	100.47	114,264	226,282	5,849	232,131
2022	232,131	(189,716)	(207,308)		1,137	103.49	117,692	142,515	4,683	147,198
2023	147,198	(186,161)	(209,526)		1,137	106.59	121,223	58,895	2,576	61,471
2024	61,471	(104,396)	(121,024)		1,170	109.79	128,453	68,901	1,630	70,530
2025	70,530	(15,521)	(18,533)		1,203	113.08	136,008	188,005	3,232	191,236
2026	191,236	(122,171)	(150,255)		1,203	116.48	140,088	181,069	4,654	185,723
2027	185,723	(189,716)	(240,327)		1,203	119.97	144,290	89,687	3,443	93,129
2028	93,129	(186,161)	(242,898)		1,203	123.57	148,619	(1,150)	1,150	0
<b>Total</b>		<b>(1,147,056)</b>	<b>(1,350,990)</b>	<b>-</b>	<b>11,098</b>		<b>1,215,426</b>		<b>34,946</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Administration Studies - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.08	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	7,637	(1,178)	(1,178)		56,550	\$0.08	4,445	10,904	232	11,135
2020	11,135	(1,178)	(1,213)		113,100	0.081	9,157	19,078	378	19,456
2021	19,456	(9,272)	(9,837)		113,100	0.083	9,431	19,050	481	19,532
2022	19,532	(14,399)	(15,734)		113,100	0.086	9,714	13,512	413	13,925
2023	13,925	(14,129)	(15,902)		113,100	0.088	10,006	8,028	274	8,303
2024	8,303	(7,923)	(9,185)		106,600	0.091	9,714	8,831	214	9,045
2025	9,045	(1,178)	(1,407)		100,100	0.094	9,395	17,033	326	17,359
2026	17,359	(9,272)	(11,404)		100,100	0.097	9,677	15,632	412	16,045
2027	16,045	(14,399)	(18,240)		100,100	0.100	9,967	7,772	298	8,069
2028	8,069	(14,129)	(18,435)		100,100	0.103	10,266	(100)	100	(0)
<b>Total</b>		<b>(87,058)</b>	<b>(102,535)</b>	<b>-</b>	<b>1,015,950</b>		<b>91,771</b>		<b>3,128</b>	

Note: Numbers may not add due to rounding





**Cash Flow Calculation - Administration Studies - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.17	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	19,110	(2,948)	(2,948)		55,310	\$0.17	9,204	25,366	556	25,922
2020	25,922	(2,948)	(3,036)		110,620	0.171	18,961	41,847	847	42,694
2021	42,694	(23,204)	(24,617)		110,620	0.177	19,530	37,607	1,004	38,611
2022	38,611	(36,032)	(39,373)		110,620	0.182	20,115	19,353	725	20,077
2023	20,077	(35,357)	(39,794)		110,620	0.187	20,719	1,002	263	1,265
2024	1,265	(19,828)	(22,986)		126,990	0.193	24,499	2,778	51	2,829
2025	2,829	(2,948)	(3,520)		143,360	0.199	28,486	27,795	383	28,178
2026	28,178	(23,204)	(28,537)		143,360	0.205	29,341	28,981	714	29,696
2027	29,696	(36,032)	(45,644)		143,360	0.211	30,221	14,272	550	14,822
2028	14,822	(35,357)	(46,133)		143,360	0.217	31,128	(183)	183	(0)
<b>Total</b>		<b>(217,856)</b>	<b>(256,589)</b>	-	<b>1,198,220</b>		<b>232,203</b>		<b>5,275</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Affordable Housing - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$140.56	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings / (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	(74,242)	(192,652)	(192,652)		569	\$140.56	79,927	(186,967)	(6,857)	(193,824)
2020	(193,824)	(192,652)	(198,432)		1,137	144.78	164,649	(227,606)	(11,063)	(238,669)
2021	(238,669)	(192,652)	(204,385)		1,137	149.12	169,588	(273,465)	(13,444)	(286,909)
2022	(286,909)	(192,652)	(210,516)		1,137	153.60	174,676	(322,749)	(16,004)	(338,752)
2023	(338,752)	(112,380)	(126,485)		1,137	158.20	179,916	(285,321)	(16,382)	(301,703)
2024	(301,703)	(112,380)	(130,280)		1,170	162.95	190,647	(241,336)	(14,255)	(255,591)
2025	(255,591)	(112,380)	(134,188)		1,203	167.84	201,859	(187,919)	(11,642)	(199,561)
2026	(199,561)	(112,380)	(138,214)		1,203	172.87	207,915	(129,860)	(8,647)	(138,507)
2027	(138,507)	(112,380)	(142,360)		1,203	178.06	214,153	(66,715)	(5,387)	(72,102)
2028	(72,102)	(112,380)	(146,631)		1,203	183.40	220,577	1,844	(1,844)	(0)
<b>Total</b>		<b>(1,444,891)</b>	<b>(1,624,143)</b>	-	<b>11,098</b>		<b>1,803,908</b>		<b>(105,524)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Waste Diversion - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$24.16	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	-	(65,903)	(65,903)		569	\$24.16	13,738	(52,165)	(1,369)	(53,534)
2020	(53,534)	(9,805)	(10,100)		1,137	24.89	28,301	(35,333)	(2,333)	(37,665)
2021	(37,665)	(27,116)	(28,767)		1,137	25.63	29,150	(37,283)	(1,967)	(39,250)
2022	(39,250)	(27,116)	(29,630)		1,137	26.40	30,025	(38,856)	(2,050)	(40,906)
2023	(40,906)	(27,116)	(30,519)		1,137	27.19	30,925	(40,500)	(2,137)	(42,637)
2024	(42,637)	(9,805)	(11,367)		1,170	28.01	32,770	(21,234)	(1,677)	(22,911)
2025	(22,911)	(9,805)	(11,708)		1,203	28.85	34,697	78	(599)	(521)
2026	(521)	(65,903)	(81,053)		1,203	29.71	35,738	(45,836)	(1,217)	(47,053)
2027	(47,053)	(9,805)	(12,421)		1,203	30.61	36,810	(22,664)	(1,830)	(24,494)
2028	(24,494)	(9,805)	(12,794)		1,203	31.52	37,914	627	(627)	(0)
<b>Total</b>		<b>(262,182)</b>	<b>(294,263)</b>	-	<b>11,098</b>		<b>310,069</b>		<b>(15,806)</b>	

Note: Numbers may not add due to rounding

**Cash Flow Calculation - Waste Diversion - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.02	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	-	(5,002)	(5,002)		56,550	\$0.02	1,128	(3,874)	(102)	(3,976)
2020	(3,976)	(744)	(767)		113,100	0.021	2,323	(2,419)	(168)	(2,587)
2021	(2,587)	(2,058)	(2,183)		113,100	0.021	2,393	(2,378)	(130)	(2,508)
2022	(2,508)	(2,058)	(2,249)		113,100	0.022	2,465	(2,292)	(126)	(2,418)
2023	(2,418)	(2,058)	(2,316)		113,100	0.022	2,538	(2,196)	(121)	(2,317)
2024	(2,317)	(744)	(863)		106,600	0.023	2,464	(716)	(80)	(795)
2025	(795)	(744)	(889)		100,100	0.024	2,384	700	(3)	697
2026	697	(5,002)	(6,152)		100,100	0.025	2,455	(2,999)	(60)	(3,060)
2027	(3,060)	(744)	(943)		100,100	0.025	2,529	(1,474)	(119)	(1,593)
2028	(1,593)	(744)	(971)		100,100	0.026	2,605	41	(41)	(0)
<b>Total</b>		<b>(19,899)</b>	<b>(22,334)</b>	-	<b>1,015,950</b>		<b>23,283</b>		<b>(949)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Waste Diversion - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$0.04	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Existing Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings / (Cost)	
2019	-	(12,517)	(12,517)		55,310	\$0.04	2,363	(10,154)	(267)	(10,420)
2020	(10,420)	(1,862)	(1,918)		110,620	0.044	4,868	(7,470)	(470)	(7,940)
2021	(7,940)	(5,150)	(5,464)		110,620	0.045	5,014	(8,390)	(429)	(8,818)
2022	(8,818)	(5,150)	(5,628)		110,620	0.047	5,164	(9,282)	(475)	(9,757)
2023	(9,757)	(5,150)	(5,796)		110,620	0.048	5,319	(10,234)	(525)	(10,759)
2024	(10,759)	(1,862)	(2,159)		126,990	0.050	6,290	(6,628)	(456)	(7,084)
2025	(7,084)	(1,862)	(2,224)		143,360	0.051	7,313	(1,995)	(238)	(2,233)
2026	(2,233)	(12,517)	(15,394)		143,360	0.053	7,533	(10,094)	(324)	(10,418)
2027	(10,418)	(1,862)	(2,359)		143,360	0.054	7,759	(5,018)	(405)	(5,423)
2028	(5,423)	(1,862)	(2,430)		143,360	0.056	7,992	139	(139)	0
<b>Total</b>		<b>(49,795)</b>	<b>(55,888)</b>	-	<b>1,198,220</b>		<b>59,615</b>		<b>(3,727)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Wastewater - Residential**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Debtenture Financing Requirements	Development Related Long-Term Debt	Population Growth	\$2,134.16	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Earnings/ (Cost)	
2019	12,472,632	(7,691,788)	(7,691,788)			547	\$2,134.16	1,168,039	5,948,884	230,269	6,179,153
2020	6,179,153	(16,590,829)	(17,088,554)	9,843,877		1,095	2,198.19	2,406,161	1,340,637	93,997	1,434,635
2021	1,434,635	(2,089,411)	(2,216,656)		(2,373,576)	1,095	2,264.13	2,478,346	(677,252)	9,467	(667,784)
2022	(667,784)	(1,213,317)	(1,325,824)		(2,373,576)	1,095	2,332.05	2,552,696	(1,814,487)	(65,160)	(1,879,647)
2023	(1,879,647)	(291,084)	(327,618)		(2,373,576)	1,095	2,402.02	2,629,277	(1,951,563)	(100,569)	(2,052,133)
2024	(2,052,133)	(922,926)	(1,069,924)		(2,373,576)	1,124	2,474.08	2,780,223	(2,715,409)	(125,148)	(2,840,557)
2025	(2,840,557)	(274,375)	(327,618)		(2,373,576)	1,153	2,548.30	2,937,860	(2,603,891)	(142,917)	(2,746,808)
2026	(2,746,808)	(266,383)	(327,618)		(2,373,576)	1,153	2,624.75	3,025,995	(2,422,006)	(135,681)	(2,557,687)
2027	(2,557,687)	(1,475,464)	(1,869,074)		(2,373,576)	1,153	2,703.49	3,116,775	(3,683,562)	(163,833)	(3,847,395)
2028	(3,847,395)	(251,092)	(327,618)		(2,373,576)	1,153	2,784.59	3,210,279	(3,338,309)	(188,625)	(3,526,934)
2029	(3,526,934)	(243,778)	(327,618)		(2,373,576)	1,057	2,868.13	3,030,560	(3,197,568)	(176,518)	(3,374,086)
2030	(3,374,086)	(1,976,678)	(2,736,185)		(2,373,576)	960	2,954.18	2,837,169	(5,646,677)	(236,795)	(5,883,472)
2031	(5,883,472)	(229,784)	(327,618)		(2,373,576)	960	3,042.80	2,922,284	(5,662,382)	(303,079)	(5,965,461)
2032	(5,965,461)	(527,592)	(774,786)		(2,373,576)	960	3,134.09	3,009,952	(6,103,870)	(316,820)	(6,420,690)
2033	(6,420,690)	(216,594)	(327,618)		(2,373,576)	960	3,228.11	3,100,251	(6,021,633)	(326,611)	(6,348,244)
2034	(6,348,244)	(210,285)	(327,618)		(2,373,576)	792	3,324.95	2,634,395	(6,415,043)	(335,036)	(6,750,079)
2035	(6,750,079)	(204,161)	(327,618)		(2,373,576)	624	3,424.70	2,137,797	(7,313,476)	(369,168)	(7,682,644)
2036	(7,682,644)	(198,214)	(327,618)		(2,373,576)	624	3,527.44	2,201,931	(8,181,907)	(416,444)	(8,598,351)
2037	(8,598,351)	(496,941)	(846,009)		(2,373,576)	624	3,633.26	2,267,989	(9,549,947)	(476,393)	(10,026,339)
2038	(10,026,339)	(186,836)	(327,618)		(2,373,576)	624	3,742.26	2,336,028	(10,391,504)	(535,968)	(10,927,472)
2039	(10,927,472)	(181,394)	(327,618)		(2,373,576)	624	3,854.53	2,406,109	(11,222,556)	(581,438)	(11,803,994)
2040	(11,803,994)	(88,055)	(163,809)		(2,373,576)	624	3,970.17	2,478,293	(11,863,086)	(621,261)	(12,484,347)
2041	(12,484,347)	-	-			624	4,089.27	2,552,641	(9,931,706)	(588,421)	(10,520,127)
2042	(10,520,127)	(304,500)	(600,957)			624	4,211.95	2,629,221	(8,491,864)	(499,065)	(8,990,928)
2043	(8,990,928)	-	-			624	4,338.31	2,708,097	(6,282,831)	(400,936)	(6,683,767)
2044	(6,683,767)	-	-			624	4,468.46	2,789,340	(3,894,427)	(277,678)	(4,172,105)
2045	(4,172,105)	-	-			624	4,602.51	2,873,020	(1,299,085)	(143,619)	(1,442,703)
2046	(1,442,703)	-	-			312	4,740.59	1,479,605	36,902	(36,902)	-
<b>Total</b>		<b>(36,131,481)</b>	<b>(40,314,978)</b>		<b>(47,471,515)</b>	<b>23,530</b>		<b>72,700,334</b>		<b>(7,230,352)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Wastewater - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Debtenture Financing Requirements	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$3.68	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings / (Cost)	
2019	1,994,180	(1,229,798)	(1,229,798)			54,730	\$3.68	201,636	966,019	37,002	1,003,021
2020	1,003,021	(2,652,616)	(2,732,195)	1,573,883		109,460	3.795	415,370	260,079	15,789	275,868
2021	275,868	(334,064)	(354,409)		(379,498)	109,460	3.909	427,831	(30,208)	3,071	(27,137)
2022	(27,137)	(193,990)	(211,979)		(379,498)	109,460	4.026	440,666	(177,948)	(5,383)	(183,332)
2023	(183,332)	(46,540)	(52,381)		(379,498)	109,460	4.147	453,886	(161,325)	(9,047)	(170,372)
2024	(170,372)	(147,562)	(171,064)		(379,498)	102,700	4.271	438,630	(282,304)	(11,883)	(294,187)
2025	(294,187)	(43,868)	(52,381)		(379,498)	95,940	4.399	422,051	(304,014)	(15,703)	(319,717)
2026	(319,717)	(42,591)	(52,381)		(379,498)	95,940	4.531	434,713	(316,883)	(16,711)	(333,594)
2027	(333,594)	(235,904)	(298,836)		(379,498)	95,940	4.667	447,754	(564,174)	(23,566)	(587,740)
2028	(587,740)	(40,146)	(52,381)		(379,498)	95,940	4.807	461,187	(558,432)	(30,087)	(588,519)
2029	(588,519)	(38,976)	(52,381)		(379,498)	88,530	4.951	438,334	(582,064)	(30,728)	(612,792)
2030	(612,792)	(316,040)	(437,473)		(379,498)	81,120	5.100	413,694	(1,016,069)	(42,758)	(1,058,827)
2031	(1,058,827)	(36,739)	(52,381)		(379,498)	81,120	5.253	426,105	(1,064,601)	(55,740)	(1,120,341)
2032	(1,120,341)	(84,354)	(123,876)		(379,498)	81,120	5.410	438,888	(1,184,826)	(60,511)	(1,245,337)
2033	(1,245,337)	(34,630)	(52,381)		(379,498)	81,120	5.573	452,055	(1,225,161)	(64,851)	(1,290,012)
2034	(1,290,012)	(33,621)	(52,381)		(379,498)	71,977	5.740	413,135	(1,308,756)	(68,218)	(1,376,973)
2035	(1,376,973)	(32,642)	(52,381)		(379,498)	62,833	5.912	371,473	(1,437,378)	(73,877)	(1,511,255)
2036	(1,511,255)	(31,691)	(52,381)		(379,498)	62,833	6.089	382,618	(1,560,516)	(80,634)	(1,641,150)
2037	(1,641,150)	(79,453)	(135,264)		(379,498)	62,833	6.272	394,096	(1,761,815)	(89,328)	(1,851,143)
2038	(1,851,143)	(29,872)	(52,381)		(379,498)	62,833	6.460	405,919	(1,877,103)	(97,866)	(1,974,969)
2039	(1,974,969)	(29,002)	(52,381)		(379,498)	62,833	6.654	418,097	(1,988,751)	(104,048)	(2,092,799)
2040	(2,092,799)	(14,079)	(26,191)		(379,498)	62,833	6.854	430,640	(2,067,848)	(109,217)	(2,177,065)
2041	(2,177,065)	-	-			62,833	7.059	443,559	(1,733,506)	(102,652)	(1,836,159)
2042	(1,836,159)	(48,685)	(96,084)			62,833	7.271	456,866	(1,475,377)	(86,928)	(1,562,305)
2043	(1,562,305)	-	-			62,833	7.489	470,572	(1,091,733)	(69,669)	(1,161,402)
2044	(1,161,402)	-	-			62,833	7.714	484,689	(676,713)	(48,251)	(724,964)
2045	(724,964)	-	-			62,833	7.945	499,229	(225,735)	(24,956)	(250,691)
2046	(250,691)	-	-			31,417	8.184	257,103	6,412	(6,412)	-
<b>Total</b>		<b>(5,776,863)</b>	<b>(6,445,739)</b>		<b>(7,589,959)</b>	<b>2,186,600</b>		<b>11,740,795</b>		<b>(1,273,160)</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Wastewater - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Debt Financing Requirements	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$7.90	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings / (Cost)	
2019	7,037,726	(4,340,118)	(4,340,118)			54,870	\$7.90	433,700	3,131,308	127,113	3,258,421
2020	3,258,421	(9,361,432)	(9,642,275)	5,554,442		109,740	8.141	893,422	64,009	41,530	105,539
2021	105,539	(1,178,957)	(1,250,756)		(1,339,298)	109,740	8.385	920,225	(1,564,290)	(38,292)	(1,602,582)
2022	(1,602,582)	(684,618)	(748,101)		(1,339,298)	109,740	8.637	947,831	(2,742,150)	(114,049)	(2,856,199)
2023	(2,856,199)	(164,245)	(184,859)		(1,339,298)	109,740	8.896	976,266	(3,404,091)	(164,333)	(3,568,423)
2024	(3,568,423)	(520,764)	(603,708)		(1,339,298)	125,940	9.163	1,153,996	(4,357,434)	(208,054)	(4,565,488)
2025	(4,565,488)	(154,817)	(184,859)		(1,339,298)	142,140	9.438	1,341,511	(4,748,135)	(244,483)	(4,992,618)
2026	(4,992,618)	(150,308)	(184,859)		(1,339,298)	142,140	9.721	1,381,756	(5,135,019)	(265,850)	(5,400,870)
2027	(5,400,870)	(832,536)	(1,054,632)		(1,339,298)	142,140	10.013	1,423,209	(6,371,591)	(309,027)	(6,680,618)
2028	(6,680,618)	(141,679)	(184,859)		(1,339,298)	142,140	10.313	1,465,905	(6,738,871)	(352,262)	(7,091,133)
2029	(7,091,133)	(137,553)	(184,859)		(1,339,298)	146,630	10.622	1,557,577	(7,057,713)	(371,407)	(7,429,121)
2030	(7,429,121)	(1,115,347)	(1,543,902)		(1,339,298)	151,120	10.941	1,653,430	(8,658,890)	(422,310)	(9,081,201)
2031	(9,081,201)	(129,657)	(184,859)		(1,339,298)	151,120	11.269	1,703,033	(8,902,325)	(472,068)	(9,374,393)
2032	(9,374,393)	(297,695)	(437,176)		(1,339,298)	151,120	11.607	1,754,124	(9,396,743)	(492,742)	(9,889,485)
2033	(9,889,485)	(122,214)	(184,859)		(1,339,298)	151,120	11.956	1,806,748	(9,606,895)	(511,780)	(10,118,675)
2034	(10,118,675)	(118,654)	(184,859)		(1,339,298)	148,748	12.314	1,831,734	(9,811,098)	(523,157)	(10,334,255)
2035	(10,334,255)	(115,198)	(184,859)		(1,339,298)	146,375	12.684	1,856,594	(10,001,819)	(533,822)	(10,535,641)
2036	(10,535,641)	(111,843)	(184,859)		(1,339,298)	146,375	13.064	1,912,292	(10,147,507)	(542,933)	(10,690,440)
2037	(10,690,440)	(280,401)	(477,363)		(1,339,298)	146,375	13.456	1,969,661	(10,537,441)	(557,232)	(11,094,673)
2038	(11,094,673)	(105,423)	(184,859)		(1,339,298)	146,375	13.860	2,028,750	(10,590,080)	(569,225)	(11,159,305)
2039	(11,159,305)	(102,352)	(184,859)		(1,339,298)	146,375	14.276	2,089,613	(10,593,850)	(571,020)	(11,164,870)
2040	(11,164,870)	(49,686)	(92,430)		(1,339,298)	146,375	14.704	2,152,301	(10,444,297)	(567,241)	(11,011,537)
2041	(11,011,537)	-	-			146,375	15.145	2,216,870	(8,794,667)	(519,913)	(9,314,580)
2042	(9,314,580)	(171,815)	(339,092)			146,375	15.599	2,283,376	(7,370,296)	(437,978)	(7,808,274)
2043	(7,808,274)	-	-			146,375	16.067	2,351,878	(5,456,396)	(348,198)	(5,804,594)
2044	(5,804,594)	-	-			146,375	16.550	2,422,434	(3,382,160)	(241,152)	(3,623,312)
2045	(3,623,312)	-	-			146,375	17.046	2,495,107	(1,128,205)	(124,727)	(1,252,932)
2046	(1,252,932)	-	-			73,188	17.557	1,284,980	32,048	(32,048)	-
<b>Total</b>		<b>(20,387,313)</b>	<b>(22,747,865)</b>		<b>(26,785,966)</b>	<b>3,771,500</b>		<b>46,308,323</b>		<b>(9,366,659)</b>	

Note: Numbers may not add due to rounding



Cash Flow Calculation - Water - Residential

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Population Growth	\$590.28	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25% D.C. Reserve Fund Interest Earnings/ (Cost)	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020				
2019	9,223,578	(1,673,720)	(1,673,720)		547	\$590.28	323,063	7,872,921	213,706	8,086,627
2020	8,086,627	(3,409,817)	(3,512,111)		1,095	607.99	665,510	5,240,025	166,583	5,406,609
2021	5,406,609	(1,909,689)	(2,025,989)		1,095	626.23	685,475	4,066,095	118,409	4,184,503
2022	4,184,503	(1,119,635)	(1,223,456)		1,095	645.01	706,040	3,667,087	98,145	3,765,232
2023	3,765,232	(791,393)	(890,720)		1,095	664.36	727,221	3,601,733	92,087	3,693,820
2024	3,693,820	(768,343)	(890,720)		1,124	684.29	768,970	3,572,070	90,824	3,662,893
2025	3,662,893	(745,964)	(890,720)		1,153	704.82	812,570	3,584,743	90,595	3,675,339
2026	3,675,339	(724,237)	(890,720)		1,153	725.97	836,947	3,621,566	91,211	3,712,777
2027	3,712,777	(1,007,643)	(1,276,452)		1,153	747.75	862,056	3,298,381	87,639	3,386,021
2028	3,386,021	(682,663)	(890,720)		1,153	770.18	887,917	3,383,218	84,615	3,467,834
2029	3,467,834	(662,779)	(890,720)		1,057	793.28	838,210	3,415,323	86,039	3,501,363
2030	3,501,363	(643,475)	(890,720)		960	817.08	784,721	3,395,363	86,209	3,481,572
2031	3,481,572	(624,733)	(890,720)		960	841.60	808,262	3,399,114	86,009	3,485,123
2032	3,485,123	(911,037)	(1,337,889)		960	866.84	832,510	2,979,744	80,811	3,060,555
2033	3,060,555	(588,871)	(890,720)		960	892.85	857,485	3,027,320	76,098	3,103,419
2034	3,103,419	(571,719)	(890,720)		792	919.63	728,636	2,941,335	75,559	3,016,894
2035	3,016,894	(555,067)	(890,720)		624	947.22	591,284	2,717,458	71,679	2,789,137
2036	2,789,137	(538,900)	(890,720)		624	975.64	609,023	2,507,440	66,207	2,573,647
2037	2,573,647	(827,704)	(1,409,111)		624	1,004.91	627,293	1,791,829	54,568	1,846,398
2038	1,846,398	(507,965)	(890,720)		624	1,035.06	646,112	1,601,790	43,102	1,644,892
2039	1,644,892	(493,170)	(890,720)		624	1,066.11	665,496	1,419,667	38,307	1,457,974
2040	1,457,974	(478,806)	(890,720)		624	1,098.09	685,460	1,252,714	33,884	1,286,598
2041	1,286,598	(429,157)	(822,310)		624	1,131.03	706,024	1,170,312	30,711	1,201,024
2042	1,201,024	(721,158)	(1,423,267)		624	1,164.97	727,205	504,962	21,325	526,287
2043	526,287	(404,522)	(822,310)		624	1,199.91	749,021	452,998	12,241	465,239
2044	465,239	(392,740)	(822,310)		624	1,235.91	771,492	414,421	10,996	425,417
2045	425,417	(381,301)	(822,310)		624	1,272.99	794,637	397,744	10,290	408,033
2046	408,033	(370,195)	(822,310)		312	1,311.18	409,238	(5,039)	5,039	-
<b>Total</b>		<b>(22,936,406)</b>	<b>(31,354,347)</b>	<b>-</b>	<b>23,530</b>		<b>20,107,879</b>		<b>2,022,891</b>	

Note: Numbers may not add due to rounding



**Cash Flow Calculation - Water - Non-Residential (Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$1.01	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	1,474,707	(267,602)	(267,602)		54,730	\$1.01	55,533	1,262,638	34,217	1,296,855
2020	1,296,855	(545,177)	(561,532)		109,460	1.045	114,399	849,722	26,832	876,554
2021	876,554	(305,330)	(323,924)		109,460	1.076	117,831	670,460	19,338	689,798
2022	689,798	(179,012)	(195,612)		109,460	1.109	121,365	615,552	16,317	631,869
2023	631,869	(126,532)	(142,412)		109,460	1.142	125,006	614,463	15,579	630,042
2024	630,042	(122,846)	(142,412)		102,700	1.176	120,805	608,434	15,481	623,915
2025	623,915	(119,268)	(142,412)		95,940	1.212	116,239	597,742	15,271	613,012
2026	613,012	(115,794)	(142,412)		95,940	1.248	119,726	590,326	15,042	605,368
2027	605,368	(161,106)	(204,085)		95,940	1.285	123,318	524,601	14,125	538,725
2028	538,725	(109,147)	(142,412)		95,940	1.324	127,017	523,330	13,276	536,606
2029	536,606	(105,968)	(142,412)		88,530	1.364	120,723	514,917	13,144	528,061
2030	528,061	(102,882)	(142,412)		81,120	1.405	113,937	499,586	12,846	512,431
2031	512,431	(99,885)	(142,412)		81,120	1.447	117,355	487,374	12,498	499,872
2032	499,872	(145,661)	(213,908)		81,120	1.490	120,876	406,840	11,334	418,174
2033	418,174	(94,151)	(142,412)		81,120	1.535	124,502	400,264	10,230	410,494
2034	410,494	(91,409)	(142,412)		71,977	1.581	113,783	381,865	9,904	391,769
2035	391,769	(88,747)	(142,412)		62,833	1.628	102,309	351,666	9,293	360,959
2036	360,959	(86,162)	(142,412)		62,833	1.677	105,378	323,925	8,561	332,486
2037	332,486	(132,337)	(225,295)		62,833	1.727	108,540	215,731	6,853	222,583
2038	222,583	(81,216)	(142,412)		62,833	1.779	111,796	191,966	5,182	197,148
2039	197,148	(78,850)	(142,412)		62,833	1.833	115,150	169,885	4,588	174,473
2040	174,473	(76,554)	(142,412)		62,833	1.888	118,604	150,665	4,064	154,729
2041	154,729	(68,616)	(131,475)		62,833	1.944	122,162	145,417	3,752	149,168
2042	149,168	(115,302)	(227,558)		62,833	2.003	125,827	47,437	2,458	49,894
2043	49,894	(64,677)	(131,475)		62,833	2.063	129,602	48,021	1,224	49,245
2044	49,245	(62,793)	(131,475)		62,833	2.125	133,490	51,260	1,256	52,517
2045	52,517	(60,964)	(131,475)		62,833	2.188	137,495	58,537	1,388	59,925
2046	59,925	(59,188)	(131,475)		31,417	2.254	70,810	(740)	740	-
<b>Total</b>		<b>(3,667,175)</b>	<b>(5,013,074)</b>	<b>-</b>	<b>2,186,600</b>		<b>3,233,578</b>		<b>304,791</b>	

Note: Numbers may not add due to rounding





**Cash Flow Calculation - Water - Non-Residential (Non-Industrial)**

Year	D.C. Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expenditures	Development Related Long-Term Debt	Sq. Ft. of Gross Floor Area	\$2.06	Anticipated Revenues	Annual Surplus/ (Deficit)	2.5% / 5.25%	D.C. Reserve Fund Closing Balance after Interest
		Nominal Project Cost	Project Cost Inflated at 3%	Anticipated Debt Payments		Per Capita per Year Inflated at (3%) Starting in 2020			D.C. Reserve Fund Interest Earnings /(Cost)	
2019	5,204,436	(944,402)	(944,402)		54,870	\$2.06	113,110	4,373,143	119,720	4,492,863
2020	4,492,863	(1,924,001)	(1,981,721)		109,740	2.123	233,007	2,744,149	90,463	2,834,611
2021	2,834,611	(1,077,549)	(1,143,171)		109,740	2.187	239,997	1,931,437	59,576	1,991,012
2022	1,991,012	(631,758)	(690,339)		109,740	2.253	247,197	1,547,870	44,236	1,592,106
2023	1,592,106	(446,546)	(502,592)		109,740	2.320	254,613	1,344,127	36,703	1,380,829
2024	1,380,829	(433,540)	(502,592)		125,940	2.390	300,965	1,179,202	32,000	1,211,203
2025	1,211,203	(420,913)	(502,592)		142,140	2.461	349,869	1,058,480	28,371	1,086,851
2026	1,086,851	(408,653)	(502,592)		142,140	2.535	360,365	944,624	25,393	970,018
2027	970,018	(568,566)	(720,242)		142,140	2.611	371,176	620,952	19,887	640,839
2028	640,839	(385,195)	(502,592)		142,140	2.690	382,312	520,559	14,517	535,076
2029	535,076	(373,976)	(502,592)		146,630	2.770	406,220	438,704	12,172	450,876
2030	450,876	(363,083)	(502,592)		151,120	2.853	431,219	379,503	10,380	389,883
2031	389,883	(352,508)	(502,592)		151,120	2.939	444,155	331,446	9,017	340,462
2032	340,462	(514,056)	(754,908)		151,120	3.027	457,480	43,034	4,794	47,827
2033	47,827	(332,272)	(502,592)		151,120	3.118	471,204	16,440	803	17,243
2034	17,243	(322,595)	(502,592)		148,748	3.212	477,721	(7,628)	120	(7,508)
2035	(7,508)	(313,199)	(502,592)		146,375	3.308	484,204	(25,896)	(877)	(26,773)
2036	(26,773)	(304,076)	(502,592)		146,375	3.407	498,730	(30,635)	(1,507)	(32,142)
2037	(32,142)	(467,035)	(795,096)		146,375	3.509	513,692	(313,546)	(9,074)	(322,620)
2038	(322,620)	(286,621)	(502,592)		146,375	3.615	529,103	(296,109)	(16,242)	(312,351)
2039	(312,351)	(278,273)	(502,592)		146,375	3.723	544,976	(269,967)	(15,286)	(285,253)
2040	(285,253)	(270,168)	(502,592)		146,375	3.835	561,325	(226,520)	(13,434)	(239,954)
2041	(239,954)	(242,154)	(463,991)		146,375	3.950	578,165	(125,780)	(9,601)	(135,381)
2042	(135,381)	(406,916)	(803,083)		146,375	4.068	595,510	(342,954)	(12,556)	(355,510)
2043	(355,510)	(228,253)	(463,991)		146,375	4.190	613,375	(206,126)	(14,743)	(220,869)
2044	(220,869)	(221,605)	(463,991)		146,375	4.316	631,777	(53,084)	(7,191)	(60,275)
2045	(60,275)	(215,150)	(463,991)		146,375	4.446	650,730	126,464	827	127,291
2046	127,291	(208,884)	(463,991)		73,188	4.579	335,126	(1,574)	1,571	(3)
<b>Total</b>		<b>(12,941,946)</b>	<b>(17,691,798)</b>	<b>-</b>	<b>3,771,500</b>		<b>12,077,322</b>		<b>410,040</b>	

Note: Numbers may not add due to rounding



# Appendix D

## Long-Term Capital and Operating Cost Examination



## Appendix D: Long-Term Capital and Operating Cost Examination

As a requirement of the D.C.A. 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 saving 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 City's approved 2017 Financial Information Return (F.I.R.).

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 D-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 City 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. No additional operating impact is anticipated for costs associated with Administration Studies and as such, the Administration Studies Services has not been included in Table D-1.



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

SERVICE	ANNUAL LIFECYCLE EXPENDITURES	ANNUAL OPERATING EXPENDITURES	TOTAL ANNUAL EXPENDITURES
1. Wastewater Services	3,639,265	3,775,549	7,414,814
2. Water Services	1,059,028	3,287,101	4,346,129
3. Roads Services	15,193,196	5,712,814	20,906,010
4. Public Works	407,352	55,872	463,224
5. Fire Services	96,174	2,144,053	2,240,227
6. Police Services	59,250	3,197,623	3,256,873
7. Transit Services	238,288	2,072,356	2,310,644
8. Parks and Recreation Services	677,957	2,365,615	3,043,572
9. Library Services	409,280	1,251,844	1,661,124
10. Affordable Housing	86,708	1,140,879	1,227,587
11. Waste Diversion Services	77,707	475,879	553,586
<b>Total</b>	<b>21,944,205</b>	<b>25,479,584</b>	<b>47,423,789</b>



# Appendix E

## Local Service Policy



# Appendix E: Local Service Policy

## Roads and Related Services

1. For the purpose of interpreting this guideline the following meanings will be used. Major collectors refer to a collector road with a right-of-way width of at least 26 metres, with no permitted lot frontage and restricted access. Minor collectors are collector roads with a right-of-way of less than 26 metres, with permitted lot frontage and direct access other than at major intersections where approved urban design guidelines, traffic or safety concerns require restrictions within thirty-five (35) metres of the intersection.
2. Arterial and Collector Roads (including Structures)
  - a. New minor collector roads constructed internal to a development are the direct responsibility of the developer.
  - b. New minor collector roads constructed external to a development, but serving primarily to connect a development to the main road network, are a direct developer responsibility.
  - c. New, widened, extended or upgraded, major collector roads are considered to be development charge projects.
  - d. New, widened, extended or upgraded, arterial roads are considered to be development charge projects.
  - e. All other new roads are considered to be the developer's responsibility.
3. Traffic Signals and Intersection Improvements
  - a. New signalization or intersection improvements located at the intersection of two arterial roads, or at the intersection of a major collector road with an arterial road, or at the intersection of two major collector roads and located external to a development, the work will be financed through development charges.
  - b. New signalization or intersection improvements located at the intersection of a minor collector road with an arterial road and external to a development, the work will be cost shared by a Benefiting Owners' Agreement and best efforts of the municipality as Subdivision Agreements come forward.



- c. New signalization or intersection improvements that serve primarily as private site entrances or as entrances to developments, are a direct responsibility of the developer.
  - d. All other traffic signalization and Intersection improvements required by a new development are considered to be the direct responsibility of the developer.
4. Streetlights
- a. Streetlights located on arterial or major collector roads are considered to be eligible for development charge financing, and are included in the roads construction cost estimate.
  - b. Streetlights on all other new roads are considered to be a direct developer responsibility.
5. Sidewalks
- a. Construction of sidewalks on newly constructed development charge eligible roads will be considered to be part of the capital cost of the related development charge project.
  - b. Construction of new sidewalks on existing roads, including sidewalks external to a development that are required to connect the new area to public spaces, are considered to be a direct developer responsibility.

## **Storm Water Management**

1. Storm Sewers, Diversion Channels and Outfalls
- a. Storm sewers constructed internal to a development are a direct responsibility of the developer, unless the City requests sewers to be oversized, in which case the incremental cost of oversizing will be financed by area-specific development charges or through a joint service agreement to be developed by the parties, and with the facilitation of the City through its best efforts, based on an area stormwater master drainage plan, and with the prior agreement and approval of the City.
  - b. Storm sewers, diversion channels and storm sewer outfalls constructed external to a development and greater in size than determined by engineering standards to be necessary to drain the owner's lands will be



financed by area-specific development charges or through a joint service agreement to be developed by the parties, and with the facilitation of the City through its best efforts, based on an area stormwater master drainage plan, and with the prior agreement and approval of the City.

- c. Storm sewers of any size required by a development to connect to an existing local trunk storm sewer or outlet shall be the developer's responsibility.

## 2. Stormwater Management Facilities

- a. Stormwater management facilities shall include all stormwater quantity/quality control structures, safety fencing, signage, easements and right-of-way to access facilities.
- b. Stormwater quality and quantity control works are a direct developer responsibility except as noted in c. and d. below.
- c. Where the size of the development prevents on-site stormwater management facilities or when such facilities are deemed impractical in the sole opinion of the Municipality, the Municipality may elect to apply a financial contribution policy based on the area of impervious surfaces. Funds acquired in this fashion shall be placed in a reserve fund to be used in the construction of future centralized facilities or other watershed improvements.
- d. If a stormwater management project benefits a broad area of development and the work provides service to lands owned by two or more unrelated parties, then the project may be considered to be financed:
  - i. through area-specific development charges, based on an area stormwater master drainage plan, and with the prior approval of the City; or
  - ii. through a joint service agreement to be developed by the parties, and with the facilitation of the City through its best efforts.

## 3. Erosion Control Measures

- a. Erosion works required to mitigate the impact of a development are a direct developer responsibility.





## Land Acquisition/Easements

### 1. For Roads

- a. Land acquisition for arterial or major collector roads, to the minimum widths required according to the City's Official Plan, is primarily achieved through dedications under the Planning Act. Lands in excess of the minimum right-of-way widths or in areas where limited or no development is anticipated, and direct dedication is unlikely, the land acquisition is considered to be part of the capital cost of the related development charge project.
- b. Land acquisition necessary to achieve the right-of-way width required by the Official Plan for construction of a major collector road will be financed by development charges.
- c. Purchase of land will be compensated at the then current fair market value as defined by the Expropriations Act.
- d. Land acquisition for the purchase of associated easements required for arterial or major collector roads is considered to be part of the capital costs of the related development charge project.

### 2. For Grade Separations

- a. Land acquisition for grade separations (beyond normal dedication requirements) is considered to be part of the capital cost of the related development charge project.

### 3. Land Acquisition for Stormwater Management Facilities

- a. Land acquisition for centralized Stormwater Management Facilities, to the size required according to the approved engineering standards, is primarily provided by dedications under the Planning Act. In areas where limited or no development is anticipated, and direct dedication is unlikely, the land acquisition may be considered to be part of the capital cost of the related development charge project.
- b. Purchase of land will be compensated at the then current fair market value as defined by the Expropriations Act.



#### 4. For Parkland

- a. The cost of land acquisition for parkland will not be financed by development charges.

### **Parkland Development**

#### 1. Clean Land

- a. The City of Kingston expects parkland deeded to the municipality to be environmentally clean with all natural hazards removed.
- b. The park site shall meet the requirements of the Environmental Protection Act to limit the risk of liability and provide a safe environment for interim and future leisure and active recreational use.
- c. The park site shall have been subject to an Environmental Assessment (Class 1) and associated clean-up (if noted as a requirement of draft plan or subdivision agreement).
- d. The clean-up of all litter, garbage, construction debris, and environmental hazards as identified under Environmental Assessment and by Recreation and Leisure Services and Public Works is required.

#### 2. Servicing

- a. The developer is responsible to install an electrical service and a 50mm water service from the street right-of-way to the park property line.
- b. If requested by the City, the developer is responsible to install a larger water service and the cost incurred will be funded by the City.
- c. If requested by the City, the developer may install other services, such as a sanitary connection, and the cost incurred will be funded by the City.

#### 3. Park Design and Construction

- a. In the event the City requests the developer to assist in the design and/or construction of the park, the cost incurred will be funded by the City

#### 4. Rough Grading

- a. The parkland is to be left in an untouched or natural state.



- b. Where permitted by the City, the existing grades may be altered by the developer in accordance with the overall surface drainage plan.
- c. Where grades are altered, such as when site filling or drainage improvements are proposed, the developer is required to rough grade the site to provide good site drainage, to provide access from surrounding streets and to establish grass seed to prevent erosion.
- d. Where the site is left in a rough graded condition, a topsoil stockpile is required to be provided.

## 5. Recreational Trails

- a. Recreational trails and their associated infrastructure (landscaping, bridges, trail surface, etc.), not otherwise captured as active transportation works, are included as part of parkland development charges.

## Water and Wastewater

1. The charge is utilized to fund future capacity in the respective systems (water and wastewater), including treatment plant expansions, pumping or booster stations, and reservoirs, etc.
2. Where oversizing of infrastructure, whether internal or external to the development is required by Utilities Kingston to facilitate future planned servicing (sanitary or water) of other lands the cost of servicing shall be the responsibility of the developer or those parties which enter in to a joint servicing agreement. Utilities Kingston will in such cases utilize its best efforts to assist the developer and other related (benefiting) parties in achieving a joint servicing agreement.
3. Water
  - a. Booster Stations & Reservoirs:
    - i. Facilities identified as being required in a Utilities Kingston approved Master Servicing Plan(s) to accommodate growth will be funded from Development Charge revenues to the extent eligible.
    - ii. Facilities required to service only a proposed development or subsequent phases of the same development will not be eligible for any Development Charge funding.



- b. Facilities not identified in a Utilities Kingston approved Master Servicing Plan but are subsequently identified by Utilities Kingston as being required in order to facilitate two or more developments and where the potential benefiting lands are owned by two or more unrelated parties may be eligible for Development Charges funding at the appropriate time.
  - c. Land required to facilitate the construction of Booster Stations or Reservoirs required by the Utilities Kingston/City will be funded from Development Charges revenue, based on the then current fair market value as defined by the Expropriations Act.
4. Wastewater
- a. Lift Stations:
  - b. Facilities identified as being required in a Utilities Kingston approved Master Servicing Plan(s) to accommodate growth will be funded from Development Charge revenues to the extent eligible.
  - c. Facilities required to service only the proposed development or subsequent phases of the same development will not be eligible for any Development Charge funding.
  - d. Facilities not identified in a Utilities Kingston approved Master Servicing Plan but are subsequently identified by Utilities Kingston as being required in order to facilitate two or more developments and where the potential benefiting lands are owned by two or more unrelated parties may be eligible for Development Charges funding at the appropriate time.
  - e. Land required to facilitate the construction of Booster Stations or Reservoirs required by the Utilities Kingston/City will be funded from Development Charges revenue, based on the then current fair market value as defined by the Expropriations Act.
  - f. Any Lift Station facility not identified in the applicable Development Charges schedule of projects is ineligible for funding.



# Appendix F

## Proposed D.C. By-law



# Appendix F: Proposed D.C. By-Law

City of Kingston By-Law 2019-XXX.

A By-Law To Establish Development Charges For The City Of Kingston, Cited As The  
“City Of Kingston Development Charge By-Law 2019”

**Whereas** subsection 2(1) of the *Development Charges Act, 1997 c. 27* (hereinafter called “the Act”) provides that the Council of a Municipality may pass By-laws for the imposition of Development Charges against land for increased capital costs required because of the need for services arising from development in the area to which the By-law applies; and

**Whereas** the Council of The Corporation of the City of Kingston (“City of Kingston”) has given Notice in accordance with Section 12 of the Act of its intention to pass a By-law under Section 2 of the said Act; and

**Whereas** the Council of the City of Kingston has heard all persons who applied to be heard no matter whether in objection to, or in support of, the Development Charge By-law at a public meeting held on July 9, 2019; and

**Whereas** the Council of the City of Kingston had before it a report entitled 2019 Development Charges Background Study, dated July 26, 2019, prepared by Watson & Associates Economists Ltd., wherein it is indicated that the development of any land within the City of Kingston will increase the need for services as defined herein; and

**Whereas** the Council of the City of Kingston has determined that the development or redevelopment of land, buildings or structures for residential and non-residential uses will require the provision, enlargement or expansion of the services referenced in Schedule “A” and Council has resolved to meet the increased need for services; and

**Whereas** on August 13, 2019 the Council of the City of Kingston adopted the 2019 Development Charges Background Study dated July 26, 2019 in which certain recommendations were made relating to the establishment of a Development Charge policy for the City of Kingston pursuant to the Act; and

**Whereas** the Council of the City of Kingston on August 13, 2019 determined that no additional public meeting was required; and

**Therefore be it resolved that** the Council of The Corporation of the City of Kingston hereby enacts as follows:



## 1. Definitions

- 1) “Act” means the *Development Charges Act*, S.O. 1997, c. 27;
- 2) “Administration Service” means all studies carried out by the Municipality related to eligible services for which a Development Charge By-law may be imposed under the Act;
- 3) “Agricultural Use” means lands, buildings or structures located within an agriculture zone as determined under the Zoning By-law applicable to the property, excluding any portion thereof used as a dwelling unit, used or designed or intended for use as a bona fide farming operation for the production of crops or the breeding, raising or maintaining of livestock or both, including:
  - a. The keeping of bees and uses where animals or birds are kept for grazing, breeding, raising, boarding, or training of livestock of all kinds including, but not limited to: cattle, swine, sheep, goats, rabbits, poultry, fish, horses, ponies, mules, and fur bearing animals; or
  - b. The tillage of soil, growing and harvesting of vegetables, fruits, field crops, mushrooms, berries, trees, flowers, sod or landscaping materials; the erection and use of greenhouses; woodlots and forest tree uses; the packing, treating, storing and sale of products produced on the farm operation; and, other similar uses customarily carried on in the field of general agriculture; or
  - c. Such buildings or structures located on the farm operation property that are designed and intended to be used solely for or in connection with the production of crops or livestock including, but not limited to:
    - i. barns and silos;
    - ii. buildings or structures used for the storage and repair of the farm operation’s equipment;
    - iii. buildings or structures used for the storage or processing of materials used in the production or maintenance of crops or livestock; or
    - iv. buildings or structures used for the processing, packing, treating, storing or sale of the products derived from the farming operation’s production of crops or livestock, or both.
- 4) “Air supported structure” means a structure consisting of a pliable membrane which achieves and maintains its shape and support by internal air pressure;



- 5) "Apartment dwelling" means any dwelling unit within a building containing more than four (4) dwelling units where the units are connected by an interior corridor. Despite the foregoing, an apartment dwelling includes Stacked Townhouse Dwellings;
- 6) "Assessment Act" means the *Assessment Act*, R.S.O. 1990, c. A.31;
- 7) "Back-to-back townhouse dwelling" means a building containing four (4) or more dwelling units separated vertically by a common wall, including a rear common wall, that does not have a rear yard with amenity area;
- 8) "Bedroom" means a habitable room larger than seven (7) square metres, including a den, study, or other similar area, but does not include a living room, dining room or kitchen;
- 9) "Board of Education" means a board defined in s.s. 1(1) of the *Education Act*, R.S.O. 1990, c. E.2;
- 10) "Building or structure" means a structure consisting of a wall, a roof and floor or any of them or a structural system serving the function thereof, and includes an air supported structure, a seasonal air supported structure, tents, and an area attached to and ancillary to a retail development that is covered with a roof-like structure, but does not include a canopy and storage tanks;
- 11) "Building Code Act" means the *Building Code Act*, 1992, S.O. 1992, c. 23;
- 12) "Canopy" means a roof-like structure projecting more than three hundred millimetres (300 mm) from the exterior face of a building and includes a free-standing roof-like structure constructed on lands used for an automotive fuel station or a drive-through facility;
- 13) "Capital cost" means costs incurred or proposed to be incurred by the Municipality, or a local board thereof, directly or by others on behalf of, and as authorized by, the Municipality or local board,
  - a. to acquire land or an interest in land, including a leasehold interest;
  - b. to improve land;
  - c. to acquire, lease, construct or improve buildings and structures;
  - d. to acquire, lease, construct or improve facilities including:
    - i. rolling stock with an estimated useful life of seven (7) years or more,





- ii. furniture and equipment, other than computer equipment,
  - iii. materials acquired for circulation, reference or information purposes by a library board as defined in the *Public Libraries Act*, R.S.O. 1990, c. P.44;
- e. to undertake studies in connection with any of the matters referred to in clauses (a) to (d);
  - f. to complete the Development Charge Background Study under Section 10 of the Act;
  - g. interest on money borrowed to pay for costs in (a) to (d);
- required for the provision of services designated in this By-law within or outside the Municipality;
- 14) “City Treasurer” means the Chief Financial Officer and City Treasurer for the City of Kingston or his/her designate;
  - 15) “Commercial” means any non-residential development not defined under “institutional” or “industrial”;
  - 16) “Council” means the Council of The Corporation of the City of Kingston;
  - 17) “Development” means any activity or proposed activity in respect of land that requires one or more of the actions referred to in Section 2 of this By-law and includes the redevelopment of land or the redevelopment, expansion, extension or alteration of a use, building or structure;
  - 18) “Development Charge” means a charge imposed pursuant to this By-law;
  - 19) “Duplex” means a building comprising, by horizontal division, two dwelling units;
  - 20) “Dwelling unit” means a room or suite of rooms used, or designed or intended for use by, one person or persons living together, in which culinary and sanitary facilities are provided for the exclusive use of such person or persons;
  - 21) “Grade” means the average level of finished ground adjoining a building or structure at all exterior walls;
  - 22) “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, or between the centre lines of party walls, of all floors above Grade;



- 23) “Industrial” means lands, buildings or structures or portions thereof located within a zone in which the proposed industrial use is permitted by the applicable Zoning By-law, used, designed or intended for use for manufacturing, producing, processing, storing, Warehousing or distribution of something, and the retail sale by a manufacturer, producer or processor of something that they have manufactured, produced or processed, if the retail sales are at the site where the manufacturing, production or processing takes place, as well as office space and Research and Development space that is ancillary to the manufacturing, producing, storing, Warehousing or distribution of something at the site, but shall not include self-storage facilities or retail warehouses. For greater certainty, industrial uses are limited to those “Industrial and Other Employment” uses set out in Schedule 11 of Appendix A in the City’s 2019 Development Charges Background Study as classified by the North American Industry Classification System (NAICS) Code;
- 24) “Institutional” means lands, buildings or structures used or designed or intended for use by an organized body, society, health care organization or religious group and shall include, without limiting the generality of the foregoing, places of worship, senior’s residences and special care facilities;
- 25) “Local board” means a public utility commission, public library board, local board of health, or any other board, commission, committee or body or local authority established or exercising any power or authority under any general or special act with respect to any of the affairs or purposes of the Municipality or any part or parts thereof;
- 26) “Local services” means those services or facilities which are under the jurisdiction of the Municipality and are related to a Plan of Subdivision or within the area to which the Plan relates, required as a condition of approval under s.51 of the *Planning Act*, or as a condition of approval under s.53 of the *Planning Act*;
- 27) “Multiple dwelling” means all dwellings other than single detached dwellings, semi-detached dwellings, and apartment dwellings;
- 28) “Municipality” means The Corporation of the City of Kingston;
- 29) “Non-Industrial” means any non-residential building or structure which is not an industrial use. Without limiting the generality of the foregoing, non-industrial includes commercial and retail uses and institutional uses;
- 30) “Non-residential uses” means a building or structure used for other than a residential use. For greater clarity, Hotels, Motels, Bed and Breakfast, and Retirement Homes not meeting the definition of a “dwelling unit” are included within the definition of non-residential uses.



- 31) “Owner” means the owner of land or a person who has made application for an approval for the development of land upon which a Development Charge is imposed;
- 32) “Planning Act” means the *Planning Act*, R.S.O. 1990, c. P.13, as amended;
- 33) “Regulation” means any regulation made pursuant to the Act;
- 34) “Residential uses” means lands, buildings or structures or portions thereof used, or designed or intended for use as a home or residence of one or more individuals, and shall include a single detached dwelling, a semi-detached dwelling, a multiple dwelling, an apartment dwelling, and the residential portion of a mixed-use building or structure;
- 35) “Research and Development uses” means gross floor area in a building which is not exempt from assessment and taxation under the *Assessment Act*, R.S.O. 1990, c. A.31 and for which a corporation will receive Federal or Provincial Scientific Research and Experimental Development (SR&ED) income tax credits;
- 36) “Row dwelling” means a building divided into three (3) or more dwelling units, each of which has a separate entrance and access to grade;
- 37) “Seasonal air supported structure” means an air supported structure that is raised and/or erected for a maximum of six (6) months in any given year to allow for the use of an outdoor sports field or portion thereof during the winter season for sports-related activities;
- 38) “Seasonal Structure” means a building or structure placed or constructed on land and used, designed or intended for use for a non-residential purpose during a single season of the year for a maximum of four (4) months where such building or structure is designed to be easily demolished or removed from the land at the end of the season;
- 39) “Second residential unit” means a separate residential dwelling unit, which is ancillary to a principal residential dwelling unit, and includes a separate, clearly defined, safe access, kitchen, washroom and living space;
- 40) “Semi-detached dwelling” means a building divided vertically into two (2) dwelling units each of which has a separate entrance and access to grade;
- 41) “Services” means services set out in Schedule “A” to this By-law;
- 42) “Single detached dwelling” means a completely detached building containing only one (1) dwelling unit;



- 43) “Stacked townhouse” means a building, other than a duplex, row townhouse, or back to back townhouse, containing at least 3 dwelling units; each dwelling unit separated from the other vertically and/or horizontally and each dwelling unit having a separate entrance to grade.
- 44) “Temporary building or structure” means a non-residential building or structure constructed or placed upon lands which is demolished or removed from the lands within three (3) years of building permit issuance, and includes but is not limited to, sales trailers and temporary office trailers but excludes a mobile home;
- 45) “Temporary venue” means a building or structure that is placed or constructed on land and is used or intended for use for a particular event where the event has a duration of one (1) week or less and the building or structure is erected immediately before the beginning of the event and is demolished or removed from the land immediately following the end of the event;
- 46) “Warehouse use” means lands, buildings, or structures used or designed for the storage of goods which will be sold elsewhere or subsequently transported to another location for sale, including the storage of goods by a distributor or supplier who markets goods for retail sale at other locations, provided that the warehouse use is located within an industrial zone as defined in the City’s Zoning By-laws. Warehouse use shall not include:
  - a. mini-warehouses for the storage of household or other articles;
  - b. any retail or commercial uses; and
  - c. locations which sell directly to the ultimate consumer of the goods.

## **Calculation of Development Charges**

2. 1) Every Owner of land in the Municipality shall pay to the Municipality a Development Charge as calculated in this By-law whenever the Owner’s lands are developed and the development requires an approval described in 2. 2) below.
- 2) Subject to subsection 2. 3), Development Charges shall be calculated and collected in accordance with the provisions of this By-law and be imposed on land where the development requires:
  - a. the passing of a Zoning By-law or an amendment thereto 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*, R.S.O. 1990, c.C.26; or
  - g. the issuing of a permit under the *Building Code Act*, in relation to a building or structure.
- 3) Subsection 2. 1) shall not apply in respect to:
- a. local services installed or paid for by the Owner within a Plan of Subdivision or within the area to which the Plan relates, as a condition of approval under Section 51 of the *Planning Act*;
  - b. local services installed or paid for by the Owner as a condition of approval under Section 53 of the *Planning Act*.
3. 1) Development Charges against land shall be imposed, calculated and collected in accordance with the base rates set out in Schedule “B”, which relate to the services set out in Schedule “A”.
- 2) The Development Charge applicable to land shall be calculated as follows:
- a. in the case of residential development or redevelopment, or the residential portion of a mixed-use development or redevelopment, the sum of the product of the number of dwelling units of each type multiplied by the corresponding total Development Charge for such dwelling unit type, as set out in Schedule “B”;
  - b. in the case of non-residential development or redevelopment, or the non-residential portion of a mixed-use development or redevelopment, the product of the gross floor area of such development multiplied by the corresponding total Development Charge for such gross floor area, as set out in Schedule “B”.
4. The Development Charges imposed pursuant to this By-law are payable in full, subject to the exemptions herein from the effective date of this By-law.
- 1) Every applicant for a building permit that seeks an exemption to this By-law shall make an application in a form approved by the Chief Financial Officer and City Treasurer in which the applicant certifies that its proposed use will qualify



for the exemption upon issuance of the occupancy permit and shall not be materially altered in any manner such that the use would no longer qualify for the exemption granted in this By-law for a period of three (3) years subsequent to the issuance of the occupancy certificate and if the application is approved by the Chief Financial Officer and City Treasurer shall enter into such agreements as required by the Chief Financial Officer and City Treasurer.

- 2) The Chief Financial Officer and City Treasurer shall be responsible for coordinating the review of applications for exemptions and the circulation of such applications, where appropriate, to other municipal departments and/or external agencies with an interest in the matter.
- 3) Upon approval by the Chief Financial Officer and City Treasurer, the requirement to pay Development Charges shall be deferred for a period of three (3) years subsequent to the issuance of an occupancy permit and subject to subsection 4. 4) shall at the end of that period be permanently waived and exempted.
- 4) In the event that the actual use does not conform to the use described in the application for exemption as approved and does not qualify otherwise for an exemption pursuant to this By-law, at the time of issuance of the occupancy permit or at any time within three (3) years subsequent to issuing of the occupancy permit, the applicant shall be deemed to not qualify for the exemption and the applicant shall forthwith pay all fees that were deferred pursuant to this By-law failing which the amount unpaid will be added to the tax roll and collected in the same manner as taxes.

### **Applicable Lands**

5. 1) Subject to subsection 5. 2), charges payable under this By-law apply to all lands in the Municipality, whether or not the land or use is exempt from taxation under Section 3 of the *Assessment Act*.
- 2) This By-law shall not apply to land that is owned by and used for the purposes of:
  - a. a board as defined in the *Education Act*;
  - b. any municipality or local board thereof.



## **Exemptions**

### **Industrial Uses**

6. 1) The Municipality shall exempt industrial uses from the charges payable under this By-law where an application for exemption for a proposed industrial use has been approved pursuant to Section 4. 1) and the approved use continues for the three (3) year period subsequent to the issuance of an occupancy permit.

### **Lands Designated as Part of a Community Improvement Area**

6. 2) The Municipality may exempt lands from this By-law where the lands are designated in the City of Kingston Official Plan as part of the Community Improvement Area and the Municipality implements a Community Improvement Plan by By-law which includes the said lands.

### **Rules with Respect to Exemptions for Intensification of Existing Housing**

6. 3) Notwithstanding Section 6. 2) of this By-law, no Development Charge shall be imposed with respect to developments or portions of developments that result in:
  - a. an interior alteration to an existing building or structure which does not change or intensify the use of land;
  - b. the enlargement of an existing residential dwelling unit;
  - c. the creation of one (1) or two (2) additional residential dwelling units in an existing single detached dwelling where the total gross floor area of the additional unit(s) does not exceed the gross floor area of the existing dwelling unit;
  - d. the creation of one (1) additional dwelling unit in a semi-detached dwelling or row dwelling where the total gross floor area of the additional unit does not exceed the gross floor area of the existing dwelling unit; or
  - e. the creation of one (1) additional dwelling unit in any other existing residential building provided the gross floor area of the additional unit does not exceed the smallest existing dwelling unit already in the building.





- 4) Where an Owner makes application for a building permit for the construction of a second residential unit on an existing lot where a principal residential dwelling has already been established, no Development Charge shall be applicable to the second residential unit provided that:
  - a. The second residential unit is permitted by and meets the regulations of the applicable Zoning By-law; and
  - b. The second residential unit meets the criteria set out in the City of Kingston Official Plan.

### **Rules with Respect to Exemptions for Intensification of New Housing**

6. 5) Where an Owner makes application for a building permit for the construction of a new single detached dwelling, semi-detached dwelling or row dwelling that is being purpose-built to contain a second residential unit, no Development Charge shall be applicable to the second residential unit provided that:
  - a. The second residential unit is permitted by and meets the regulations of the applicable Zoning By-law; and
  - b. The second residential unit meets the criteria set out the City of Kingston Official Plan.

### **Other Exemptions**

6. 6) Development Charges shall not apply to lands, buildings or structures used or to be used for the purposes of:
  - a. a place of worship classified as exempt from taxation under Section 3 of the *Assessment Act*;
  - b. an agricultural use;
  - c. a seasonal air supported structure save and except any portion of the structure that is permanent, including, but not limited to washrooms, change rooms, canteens, and concession stands;
  - d. a seasonal structure;
  - e. a temporary venue.





### **Rules with Respect to an “Industrial” Expansion Exemption**

6. 7) Notwithstanding Section 2 of this By-law, if a development includes the enlargement of the gross floor area of an existing industrial building, the Development Charge that is payable shall be:
  - a. If the existing gross floor area is enlarged by fifty (50) percent or less, the amount of the Development Charge in respect of the enlargement is zero; or
  - b. If the existing gross floor area is enlarged by more than fifty (50) percent, the Development Charge is payable on the amount by which the enlargement exceeds fifty (50) percent of the gross floor area before the enlargement.
  - c. For the purpose of this Section, the terms “gross floor area” and “existing industrial building” shall have the same meaning as those terms have in O.Reg. 82/98 made under the Act.

### **Rules with Respect to a Temporary Building or Structure Exemption**

6. 8) The Municipality may exempt a temporary building or structure from the charges payable under this By-law where an application for exemption for the proposed temporary building or structure has been approved in accordance with Section 4. 1) of this By-law, subject to the following conditions:
  - a. That the temporary building or structure is accessory to or ancillary to a permitted use on the property;
  - b. That the status of the building or structure as a temporary building or structure is maintained in accordance with the provisions of this By-law;
  - c. In the event that a temporary building or structure is deemed by the Municipality to no longer be temporary, the Development Charges shall become immediately due and payable and shall be calculated in accordance with Schedule “B” to this By-law as of the date that the building or structure is deemed to no longer be temporary.

### **Local Service Installation**

7. Nothing in this By-law prevents Council from requiring, as a condition of an agreement under Section 51 or 53 of the *Planning Act*, that the Owner, at his or her own expense, shall install or pay for such local services, within the Plan of Subdivision or within the area to which the Plan relates, as Council may require.



## Multiple Charges

8. 1) Where two (2) or more of the actions described in subsection 2. 2) are required before land to which a Development Charge applies can be developed, only one Development Charge shall be calculated and collected in accordance with the provisions of this By-law.
- 2) Notwithstanding subsection 8. 1), if two (2) or more of the actions described in subsection 2. 2) occur at different times, and if the subsequent action has the effect of increasing the need for municipal services as set out in Schedule "A", an additional Development Charge on the additional residential units and non-residential gross floor area shall be calculated and collected in accordance with the provisions of this By-law.

## Services in Lieu

9. 1) The Municipality may enter an agreement with an Owner under Section 38 of the Act, to give the Owner a credit towards the Development Charge applicable to the Owner's development where the agreement requires the Owner to perform work that relates to a service to which this By-law relates. The agreement shall provide that the credit will be equal to the reasonable cost to the Owner of providing the services to which this By-law relates. In no case shall the agreement provide for a credit that exceeds the total Development Charge payable by an Owner to the Municipality in respect of the development to which the agreement relates.
- 2) In any agreement under subsection 9. 1), Council may also give a further credit to the Owner equal to the reasonable cost of providing services in addition to, or of a greater size or capacity, than would be required under this By-law.
- 3) The credit provided for in subsection 9. 2) shall not be charged to any Development Charge Reserve Fund.

## Rules with Respect to Re-Development

10. 1) Where all or part of a residential, non-residential or mixed-use building or structure is demolished or redeveloped, otherwise applicable Development Charges shall be reduced as calculated in subsection 10. 2) below, provided that:
  - a. The residential, non-residential or mixed-use building or structure was occupied within five (5) years prior to the issuance of a building permit for redevelopment of the lands; and



- b. In the case where the residential, non-residential or mixed-use building or structure is demolished, a demolition permit has been issued within five (5) years prior to the issuance of a building permit for redevelopment of the lands.
- 2) Where a residential, non-residential or mixed-use building or structure qualifies for a reduction in otherwise applicable Development Charges pursuant to section 10. 1) above, the amount of the charge shall be reduced as follows:
  - a. In the case of a residential building or structure, or the residential uses in a mixed-use building or structure, which is being redeveloped for residential or non-residential purposes, the Development Charges will be reduced by an amount calculated by multiplying the applicable Development Charge under this By-law by the number of dwelling units that have been or will be demolished or converted to another type of residential use or non-residential use, and according to the type of dwelling unit so demolished or converted.
  - b. In the case of a non-residential building or structure, or the non-residential uses in a mixed-use building or structure, which is being redeveloped for residential or non-residential purposes, the Development Charges payable at the time of building permit issuance will be reduced by an amount calculated by multiplying the applicable Development Charge under this By-law by the existing gross floor area that has been or will be converted or demolished for new residential or non-residential uses, and according to the type of non-residential floor area or use so demolished or converted; however, Development Charges will be imposed on all additional residential and non-residential gross floor area in excess of the existing non-residential gross floor area that has been or will be converted or demolished.
- 3) A reduction shall not exceed the amount of the Development Charge that would otherwise be payable, and no reduction is available if the existing land use is exempt under this By-law.

### **Timing of Calculation and Payment**

11. 1) Development Charges shall be calculated and payable in full in money or by provision of services as may be agreed upon, or by credit granted under the Act, on the date that the first building permit is issued in relation to a building or structure on land to which a Development Charge applies.
- 2) Where Development Charges apply to land in relation to which a building permit is required, the building permit shall not be issued until the Development Charge has been paid in full.



## Reserve Funds

12. 1) Monies received for the payment of Development Charges shall be used only in accordance with the provisions of Section 35 of the Act.
- 2) Monies received from payment of Development Charges under this By-law shall be maintained in two separate Reserve Funds as follows: Roads Services, Fire Services, Police Services, Transit Services, Wastewater Services, and Water Services; and Public Works, Parks and Recreation Services, Library Services, Administration Studies, Affordable Housing, and Waste Diversion Services.
- 3) The Reserve Funds created by operation of this By-law shall be maintained in separate sub accounts in accordance with the service sub-categories set out in Schedule "A". The Development Charge payments shall be credited to each sub account in accordance with the amounts shown in Schedule "B", plus interest earned thereon.
- 4) Where any Development Charge, or part thereof, remains unpaid after the due date, the amount unpaid shall be added to the tax roll and shall be collected in the same manner as municipal taxes.
- 5) Where any unpaid Development Charges are collected as municipal taxes under subsection 12. 4), the monies so collected shall be credited to the Development Charge Reserve Funds referred to in subsection 12. 2).
- 6) The Chief Financial Officer and City Treasurer shall, in each year commencing in 2020 for the 2019 year, furnish to Council a statement in respect of the Reserve Funds established hereunder for the prior year, containing the information set out in Section 12 of O.Reg. 82/98.

## Refunds

13. 1) Where Development Charges have been paid on the issuance of a building permit and the building permit is subsequently cancelled, the building permit shall be deemed never to have been issued and the amount of the Development Charge paid shall be refunded to the Owner by the City without any interest.
- 2) Where Development Charges have been paid on or prior to the issuance of a building permit and the building permit is subsequently revised resulting in an overpayment of Development Charges to the City, the amount of any such overpayment shall be refunded to the Owner by the City without any interest.



## **By-Law Amendment or Appeal**

14. 1) Where this By-law or any Development Charge prescribed thereunder is amended or repealed either by order of the Local Planning Appeal Tribunal or by resolution of the Municipal Council, the Chief Financial Officer and City Treasurer shall calculate forthwith the amount of any overpayment to be refunded as a result of said amendment or repeal.
- 2) Refunds that are required to be paid under subsection 14. 1) shall be paid with interest to be calculated as follows:
  - a. Interest shall be calculated from the date on which the overpayment was collected to the date on which the refund is paid;
  - b. The Bank of Canada interest rate in effect on the date of enactment of this By-law shall be used.
- 3) Refunds that are required to be paid under subsection 14. 1) shall include the interest owed under this section.

## **By-law Indexing**

15. The Development Charges set out in Schedule “B” to this By-law shall be adjusted without amendment to this By-law commencing on the first day of January, 2020 and annually thereafter on the first day of January in accordance with the most recent second quarter year over year change in in the Statistics Canada Quarterly, “Construction Price Statistics” (Ottawa Region)

## **Severability**

16. In the event any provision, or part thereof, of this By-law is found by a court of competent jurisdiction to be ultra vires, such provision, or part thereof, shall be deemed to be severed, and the remaining portion of such provision and all other provisions of this By-law shall remain in full force and effect.

## **Headings for Reference Only**

17. The headings inserted in this By-law are for convenience of reference only and shall not affect the construction or interpretation of this By-law.

## **By-law Registration**

18. A certified copy of this By-law may be registered on title to any land to which this By-law applies.



### **By-law Administration**

19. This By-law shall be administered by the Chief Financial Officer and City Treasurer.

### **Schedules to the By-law**

20. The following Schedules to this By-law form an integral part of this By-law:

**Schedule “A”:** Designated Municipal Services Under this By-law

**Schedule “B”:** Schedule of City-Wide Development Charges

### **Date By-law Effective**

21. This By-law shall come into force and effect on September 29.

### **Term of By-law**

22. This By-law shall continue in full force and effect for a term of five (5) years unless it is repealed by Council at an earlier date.

### **Short Title**

23. This By-law may be cited as the “City of Kingston Development Charge By-Law, 2019.”

### **Existing By-law Repealed**

24. By-laws No.2014-135 and 2009-138 are hereby repealed effective as of the date and time of this By-law coming into effect.



**Schedule “A” to**

**City of Kingston By-Law No. 2019-XXX**

**Designated Municipal Services Under this By-Law**

- 1) Roads Services;
- 2) Public Works;
- 3) Fire Services;
- 4) Police Services;
- 5) Transit Services;
- 6) Parks and Recreation Services;
- 7) Library Services;
- 8) Administration Studies;
- 9) Affordable Housing;
- 10)Waste Diversion Services;
- 11)Wastewater Services; and
- 12)Water Services.



**Schedule “B” to**  
**City of Kingston By-law No. 2019-XXX**  
**Schedule of City-Wide Development Charges**

Service	RESIDENTIAL					NON-RESIDENTIAL	
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples - 2 Bedrooms +	Other Multiples - <750 ft <sup>2</sup> with 1 Bedroom	Industrial (per sq.ft. of Gross Floor Area)	Non-Industrial (per sq.ft. of Gross Floor Area)
<b>Municipal Wide Services:</b>							
Roads Services	7,049	4,683	2,865	5,519	2,865	2.19	4.69
Public Works	719	477	292	563	292	0.17	0.50
Fire Services	512	340	208	401	208	0.15	0.33
Police Services	256	170	104	200	104	0.08	0.16
Transit Services	1,182	785	480	925	480	0.35	0.76
Parks and Recreation Services	2,404	1,597	977	1,882	977	0.23	0.23
Library Services	975	648	396	763	396	0.09	0.09
Administration Studies	262	174	107	205	107	0.08	0.17
Affordable Housing	389	258	158	305	158	-	-
Waste Diversion Services	67	44	27	52	27	0.02	0.04
<b>Total Municipal Wide Services</b>	<b>13,815</b>	<b>9,176</b>	<b>5,614</b>	<b>10,815</b>	<b>5,614</b>	<b>3.36</b>	<b>6.96</b>
<b>Urban Services</b>							
Wastewater Services	5,907	3,925	2,401	4,625	2,401	3.68	7.90
Water Services	1,634	1,086	664	1,279	664	1.01	2.06
<b>Total Urban Services</b>	<b>7,541</b>	<b>5,010</b>	<b>3,065</b>	<b>5,904</b>	<b>3,065</b>	<b>4.70</b>	<b>9.97</b>
<b>GRAND TOTAL RURAL AREA</b>	<b>13,815</b>	<b>9,176</b>	<b>5,614</b>	<b>10,815</b>	<b>5,614</b>	<b>3.36</b>	<b>6.96</b>
<b>GRAND TOTAL URBAN AREA</b>	<b>21,356</b>	<b>14,186</b>	<b>8,679</b>	<b>16,719</b>	<b>8,679</b>	<b>8.06</b>	<b>16.93</b>