



Hamilton 2019 D.C. Study: Capital Presentation

Development Charges Stakeholders Sub-committee Meeting
January 28, 2019

Agenda



- Services in D.C. Calculation
- Capital Summary
- Level of Service Ceiling Summary
- Capital Cost Drivers
- Draft D.C. Quantum
- D.C. Survey – Municipalities by Service
- D.C. Charge as a proportion of new home sales – 2014 vs. 2018
- Next Steps
- Questions



Services in D.C. Calculation – City-Wide

- Services Related a Highway
- Public Works Facilities, Fleet & Equipment
- Police
- Fire Protection
- Transit
- Parkland
- Indoor Recreation
- Library
- Administrative Studies
- Paramedics
- Long Term Care
- Health Services
- Social & Child Services
- Social Housing
- Airport
- Parking
- Provincial Offences Act
- **Waste Diversion - new**

All services are calculated on a City-wide (or Urban-wide) basis with the exception of Stormwater which has been calculated on an area-specific basis for the separated and combined sewer system areas

Services in D.C. Calculation – Urban Services



- Water Services
- Wastewater Linear Services
- Wastewater Facilities
- Stormwater*

*Water and Wastewater Services are calculated on an Urban-wide basis and Stormwater has been calculated on an area-specific basis for the separated and combined sewer system areas.

Capital Summary

All Services



#	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deduction	Net Capital Cost	Less:		Subtotal	Other (e.g. 10% Statutory Deduction)	Potential DC Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development			Total	Residential Share	Non-Residential Share		
Municipal Wide Services															
1	Fire Services	2019-2031	40,198,816	6,714,900	-	33,483,916	9,744,235	-	23,739,681		23,739,681	14,718,602	9,021,079		
2	Police Services	2019-2031	67,237,836	23,802,300	-	43,435,536	17,404,212	-	26,031,324		26,031,324	16,139,421	9,891,903		
3	Services Related to a Highway	2019-2031	1,383,221,977	482,096,000	-	901,125,977	233,428,975	-	667,697,002		667,697,002	349,582,930	318,114,072		
4	Public Works Facilities, Fleet & Equipment	2019-2031	58,460,837	-	-	58,460,837	16,372,790	-	42,088,047	1,091,832	40,996,215	25,417,653	15,578,562		
5	Transit ¹	2019-2028	475,377,106	21,410,866	22,270,000	431,696,240	246,106,781	108,800,000	76,789,459		76,789,459	48,377,359	28,412,100		
6	Parking Services	2019-2028	56,080,000	4,930,000	-	51,150,000	29,035,463	-	22,114,537	2,579,200	19,535,337	12,307,262	7,228,075		
7	Airport Space	2019-2028	28,000,000	9,240,000	-	18,760,000	1,941,149	-	16,818,851	1,876,000	14,942,851	9,413,996	5,528,855		
8	Parkland Development	2019-2028	159,803,149	53,270,600	-	106,532,549	39,715,700	-	66,816,849	6,115,280	60,701,569	57,666,491	3,035,078		
9	Indoor Recreation	2019-2028	175,584,660	36,575,000	-	139,009,660	12,562,749	-	126,446,911	12,946,500	113,500,411	107,825,390	5,675,021		
10	Library Facilities & Vehicles	2019-2028	73,804,970	19,366,700	-	54,438,270	28,925,400	1,250,000	26,262,870	2,242,090	24,020,780	22,819,741	1,201,039		
11	Library Materials	2019-2028	4,816,650	1,645,619	-	3,171,031	-	-	3,171,031	317,103	2,853,928	2,711,232	142,696		
12	Health Services	2019-2028	583,000	-	-	583,000	501,809	-	81,191	58,300	22,891	20,602	2,289		
13	Provincial Offences Act Facilities ²	2019-2028	3,431,276	1,857,021	-	1,574,254	232,795	-	1,341,459	-	1,341,459	845,119	496,340		
14	Social and Child Services Facilities ³	2019-2028	2,362,227	-	-	2,362,227	-	2,000,000	362,227	-	362,227	326,004	36,223		
15	Social Housing	2019-2028	510,508,000	52,720,000	-	457,788,000	433,153,430	5,900,000	18,734,570	1,873,457	16,861,113	16,861,113	-		
16	Paramedics Facilities	2019-2028	5,369,545	3,040,000	-	2,329,545	-	-	2,329,545	136,000	2,193,545	1,974,190	219,354		
17	Paramedics Vehicles & Equipment	2019-2028	3,482,500	1,687,900	-	1,794,600	-	-	1,794,600	179,460	1,615,140	1,453,626	161,514		
18	Long Term Care Facilities	2019-2028	45,843,000	-	-	45,843,000	36,485,227	5,280,000	4,077,773	614,000	3,463,773	3,117,396	346,377		
19	Administration Studies ⁴	2019-2028	28,579,992	-	631,890	27,948,102	6,423,600	-	21,524,502	1,754,921	19,769,581	12,454,836	7,314,745		
20	Waste Diversion Services ⁴	2019-2028	72,993,900	6,372,000	17,844,390	48,777,510	26,722,600	-	22,054,910	2,205,491	19,849,419	16,475,018	3,374,401		
Urban Services - Water & Wastewater															
21	Wastewater Facilities	2019-2031	927,653,374	89,514,918	-	838,138,456	367,729,172	274,326,078	196,083,206		196,083,206	123,532,420	72,550,786		
22	Wastewater Linear Services	2019-2031	344,063,693	40,170,200	-	303,893,493	26,169,750	9,466,000	268,257,743		268,257,743	169,002,378	99,255,365		
23	Water Services	2019-2031	385,911,587	78,772,420	-	307,139,167	57,760,480	9,870,000	239,508,687		239,508,687	150,890,473	88,618,214		
Urban Services - Stormwater within the Separated Sewer System Area															
24	Stormwater Drainage and Control Services	2019-2031	734,377,088	59,514,059	-	674,863,029	26,629,917	226,174,652	422,058,460		422,058,460	353,233,551	68,825,899		
Urban Services - Stormwater within the Combined Sewer System Area															
25	Stormwater Drainage and Control Services	2019-2031	16,953,643	79,264	-	16,874,379	107,336	-	16,767,043		16,767,043	16,767,043	-		
Total			5,604,698,826	992,779,767	40,746,280	4,571,172,779	1,615,153,570	643,066,730	2,312,952,479	33,989,634	2,278,963,835	1,533,933,847	745,029,988		

Note: Above figures include Reserve Adjustments and Interest Cost from Debentures

¹Other Deductions have been made to account for the value of an existing bus when upsizing to a larger-sized bus

²Capital program for POA includes the recovery of growth related debt as well as a deduction made to account for the reserve fund

³This service includes a growth-related project which is 100% grant funded. The remainder is the recovery of the reserve fund deficit.

⁴Other Deduction relates to the portion of capital projects related to landfill



Level of Service Ceiling Summary

Summary of Service Standards – Services with a 13-Year (2019-2031) Growth Forecast

Service Category	Sub-Component	Maximum Ceiling LOS	Utilized**	Remaining
Services Related to a Highway	Roads	1,982,019,397	667,697,002	1,599,243,394
	Bridges, Culverts & Structures	260,358,843		
	Traffic Signals	21,588,842		
	Active Transportation - Terminals	1,534,057		
	Active Transportation - Shelters	1,439,256		
	Facilities	81,505,849	26,785,330	54,720,518
	Vehicles and Equipment	15,888,698	14,210,885	1,677,813
Fire	Fire Facilities	16,766,041	23,739,681	6,776,858
	Fire Vehicles	10,525,530		
	Fire Small Equipment and Gear	3,224,968		
Police	Police Facilities	22,554,091	26,031,324	(202,279)
	Police Vehicles	1,404,783		
	Police Small Equipment and Gear	1,870,171		

*Transit is now based on a forward looking service standard based on the amendments to the DCA

**Utilized amounts include interest costs from debentures.

Level of Service Ceiling Summary

Summary of Service Standards - Services with a 10-Year (2019-2028) Growth Forecast



Service Category	Sub-Component	Maximum Ceiling LOS	Utilized**	Remaining
Parking	Parking Spaces	17,159,785	22,114,537	880,525
	Parking Meters	284,251		
	Parking Facilities	5,551,026		
Airport	Airport Space	18,961,559	16,818,851	2,142,708
Parks	Parkland Development	29,136,705	66,816,849	794,565
	Parkland Amenities	36,451,778		
	Parkland Amenities - Buildings	657,615		
	Parkland Trails	1,348,404		
	Parks Vehicles and Equipment	16,912		
Recreation	Indoor Recreation Facilities	116,881,157	126,446,911	2,108,703
	Indoor Recreation Facilities - Buildings Within Parks	11,639,982		
	Recreation Vehicles and Equipment	34,474		

*Transit is now based on a forward looking service standard based on the amendments to the DCA

**Utilized amounts include interest costs from debentures.



Level of Service Ceiling Summary

Summary of Service Standards - Services with a 10-Year (2019-2028) Growth Forecast

Service Category	Sub-Component	Maximum Ceiling LOS	Utilized**	Remaining
Library	Library Facilities	25,303,544	26,262,870	(805,817)
	Library Vehicles	153,509		
	Library Collection Materials	4,603,305	3,171,031	1,432,274
Paramedics	Paramedics Facilities	2,505,572	2,329,545	176,027
	Paramedics Vehicles	1,795,270	1,794,600	670
Long Term Care	Long Term Care Facilities	19,858,544	4,077,773	15,780,771
Social Housing	Social Housing	104,387,772	18,734,570	85,653,202
Provincial Offences Act	Provincial Offences Act Facilities	1,462,234	1,341,459	120,775
Health	Health Facilities	4,994,232	81,191	4,961,175
	Health Vehicles	48,134		
Social & Child Services	Social and Child Services Facilities	6,155,303	362,227	5,793,076
Waste Diversion	Waste Diversion - Facilities - Stations/Depots	17,633,971	22,054,910	2,055,691
	Waste Diversion - Vehicles & Equipment	5,164,002		
	Waste Diversion - Carts & Containers	1,312,628		

*Transit is now based on a forward looking service standard based on the amendments to the DCA

**Utilized amounts include interest costs from debentures.



Capital Cost Drivers

Cost Drivers to Capital Costs for all services

- Inflationary factors applied to all services
- Increased land values
- New projects identified by City Staff, Master Plans, and other recent studies (i.e. Active Transportation projects)
- Updated costs based on actual recent tender prices

Capital Cost Drivers – Soft Services



- Land values have been incorporated into the capital cost of projects where land purchases are anticipated;
- Public Works facilities and fleet have had conservative provisions for capital projects in the past. Specific projects have since been identified and included in the D.C.;
- The Recreational Trails Master Plan has resulted in updates to the parks capital listing with several new trails projects included;
- As a newly eligible service, waste diversion is now included in the D.C. calculation; and
- More comprehensive asset inventories and replacement costing valuations have resulted in more accurate service standard ceiling calculations.



Capital Cost Drivers - Water

The following are the main cost drivers to the Growth-Related Water Program:

- 6 new projects added versus the projects included in the 2014 D.C. study;
- 20 projects removed from list – completed or removed from the list based on discussions with City staff;

Cost Updates to Projects from Previous D.C. Study:

- 47 project costs were updated due to inflation from 2014 to 2019 dollars (12.4%);
- 33 project costs were updated as a result of scope changes related to location, length and/or size of infrastructure; and
- Costs were updated on 6 projects based on recent tender prices, detailed E.A. project cost estimates or from the City's Budget, where available.

Note: Several project costs were updated as a result of a combination of the above (i.e. updated cost due to inflation and scope change, etc.)

Capital Cost Drivers – Wastewater Linear Projects



The following are the main cost drivers to the Growth-Related Wastewater Program:

- 14 new projects added versus the projects included in the 2014 D.C. study;
- 30 projects removed from capital list;

Cost Updates to Projects from Previous D.C. Study:

- Inflation increased costs on 31 projects - based on indexing from 2014 to 2019 (12.4%) to represent current 2019\$ dollars;
- Updates to 25 projects with respect to scope changes based on information from the City; and
- 8 project costs were updated based on tender prices, detailed E.A. project cost estimates or from the City's Budget, where available.

Note: Several project costs were updated as a result of a combination of the above (i.e. updated cost due to inflation and scope change, etc.)

Capital Cost Drivers – Woodward Wastewater Treatment Plant



The following are the main cost drivers to the Growth-Related Wastewater Treatment Plan Program:

- Updates to project implementation and costing since the 2014 D.C. study;
- Costing based on actual tender costs received, preliminary design estimates, or conceptual estimates; and
- Post period benefit has now been included as a result of conservation measures and other changes to the system that has resulted in a capacity adjustment.



Capital Cost Drivers - Stormwater

The following are the main cost drivers to the Growth-Related Stormwater Program:

- 43 new projects identified and included in D.C.;
- Projects have been updated or removed based on project completion or new information from the City;
- Unit rates for land costs have increased;
- Capital costs have been inflated by 12.4%;
- Capital cost calculations for SWM facilities are based on actual costs from the 2014-2018 period;
- Contingencies have been added for SWM facility footprint and volume increases;
- Non-residential stormwater facility growth costs have been excluded from the D.C. – direct developer responsibility; and
- D.C. for stormwater is now being calculated on an area-specific basis for the separated and combined sewer system areas



Capital Cost Drivers – Services Related to a Highway

The following are the main cost drivers to the Growth-Related Services Related to a Highway Program:

- 74 new projects added (excluding AT projects) versus the projects included in the 2014 D.C. study;
 - Most of these additional projects have been identified through the most recent Transportation Master Plan;
- 40 projects completed/removed;
- Added 161 Active Transportation projects not included in previous study;
- Updated unit costs to account for inflationary factors, added land costs, E.A. costs, etc. where necessary; and
- Post period provision deduction added to account for benefit to growth beyond the 2019-2031 period.



Capital Cost Drivers - Transit

The following are the main cost drivers to the Growth-Related Transit Program:

- Transit is now based on a forward looking service standard as per the changes in Bill 73;
- Bill 73 also removed the mandatory 10% reduction for growth-related capital costs;
- Current HSR bus-only transit mode share is 6.5%;
- 2028 HSR modal split target of 8.5%;
- In order to reach target, HSR will need 219 new buses, 73 specialized transit vehicles and 14 operations vehicles; and
- The forecasted cost of the Transit Maintenance and Storage Facility has increased based on updated estimates due to increased capacity requirements.

Draft DC Quantum – Residential Single Detached Unit



Residential (Single Detached) Comparison

Service	Current	Calculated	Calculated v. Current
City Wide Services:			
Services Related to a Highway	8,939	10,875	22%
Public Works Facilities, Fleet & Equipment	333	791	138%
Police Services	421	502	19%
Fire Protection Services	371	458	23%
Transit Services	544	1,930	255%
Parkland Development	1,479	2,301	56%
Indoor Recreation Services	2,271	4,303	89%
Library Services	642	1,019	59%
Administrative Studies	795	497	-37%
Paramedics	39	137	251%
Long Term Care	257	124	-52%
Health Services	28	1	-96%
Social & Child Services	31	13	-58%
Social Housing	583	673	15%
Airport facilities	261	376	44%
Parking services	366	491	34%
Provincial Offences Act	25	34	36%
Hamilton Conservation Authority	24	-	-100%
Waste Diversion	Previously Ineligible	657	N/A
Total City Wide Services	17,409	25,182	45%
Water and Wastewater Urban Area Charges:			
Wastewater Facilities	4,090	3,893	-5%
Wastewater Linear Services	5,151	5,326	3%
Water Services	4,603	4,755	3%
Total Water and Wastewater Urban Area Services	13,844	13,974	1%
Stormwater Charges:			
Stormwater Drainage and Control Services (Combined Sewer System)	7,065	3,539	-50%
Stormwater Drainage and Control Services (Separated Sewer System)	7,065	13,085	85%
GRAND TOTAL CITY WIDE	17,409	25,182	45%
GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM	38,318	42,695	11%
GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM	38,318	52,241	36%

Calculated rate in 2019\$

Draft Quantum – Non-residential



Non-Residential (per sq.ft.) Comparison

Service	Current	Calculated	Calculated v. Current
City Wide Services:			
Services Related to a Highway	9.10	8.14	-11%
Public Works Facilities, Fleet & Equipment	0.19	0.40	111%
Police Services	0.23	0.25	9%
Fire Protection Services	0.21	0.23	10%
Transit Services	0.34	0.98	188%
Parkland Development	0.11	0.11	0%
Indoor Recreation Services	0.16	0.20	25%
Library Services	0.04	0.04	0%
Administrative Studies	0.48	0.25	-48%
Paramedics	0.02	0.02	0%
Long Term Care	0.04	0.01	-75%
Health Services	-	-	-
Social & Child Services	-	-	N/A
Social Housing	-	-	-
Airport facilities	0.16	0.19	19%
Parking services	0.22	0.25	14%
Provincial Offences Act	0.01	0.02	100%
Hamilton Conservation Authority	0.02	-	-100%
Waste Diversion		0.13	
Total City Wide Services	11.33	11.22	-1%
Water and Wastewater Urban Area Charges:			
Wastewater Facilities	2.30	1.87	-19%
Wastewater Linear Services	2.90	2.55	-12%
Water Services	2.60	2.29	-12%
Total Water and Wastewater Urban Area Services	7.80	6.71	-14%
Stormwater Charges:			
Stormwater Drainage and Control Services (Combined Sewer System)	1.41	-	-100%
Stormwater Drainage and Control Services (Separated Sewer System)	1.41	2.24	59%
GRAND TOTAL CITY WIDE	11.33	11.22	-1%
GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM	20.54	17.93	-13%
GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM	20.54	20.17	-2%

Calculated rate in 2019\$

D.C. Survey – Municipalities by Service

Residential



Service	Hamilton (Draft Calculated) - Separated Sewer System	Oakville (Including Region of Halton)	Milton (Including Region of Halton)	Burlington (Including Region of Halton)*	Halton Hills (Including Region of Halton)	Lincoln (Including Region of Niagara)**	Grimsby (Including Region of Niagara)	Niagara-on- the-Lake (Including Region of Niagara)	City of Waterloo (Including Region of Waterloo)	Kitchener (Including Region of Waterloo)*	Cambridge (Including Region of Waterloo)*	Brantford*	City of Guelph*
Services Related to a Highway (includes Fleet & Facilities)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Police	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fire	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transit	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
Parks & Recreation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cemeteries								✓	✓				
Library	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Administrative Studies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Paramedics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Long Term Care	✓					✓	✓	✓					
Health Services	✓					✓	✓	✓					✓
Social & Child Services	✓												
Social Housing	✓	✓	✓	✓	✓	✓	✓	✓					
Airport	✓								✓	✓	✓		
Parking	✓	✓	✓		✓	✓	✓		✓	✓		✓	✓
POA	✓					✓	✓	✓					✓
Waste Diversion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Wastewater	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stormwater	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total (Services Hamilton does not collect for removed)	52,241	71,030	55,998	45,486	52,393	39,444	39,444	27,051	38,511	33,739	34,029	22,239	29,909
Total (Services Hamilton does not collect for removed) - Less Stormwater	39,156	71,030	55,998	44,927	52,211	37,866	37,866	25,833	37,235	33,588	33,136	21,877	29,776
Hamilton's D.C. Charge if Collecting Like Services to Each Municipality		38,608	38,608	38,117	38,608	36,837	36,837	36,346	38,311	38,311	37,821	37,278	37,313

*By-law to expire in 2019

**By-law passed with March 2019 enforcement date

Note: Region of Waterloo's By-law is currently under review

New Home Sales in Hamilton

2014 vs. 2018



Year	Median price of 2-storey home	D.C. Charge (Combined Sewer System)	D.C. Charge as a % of Home Price	D.C. Charge (Separated Sewer System)	D.C. Charge as a % of Home Price
2014	\$391,787	\$34,983	9%	\$34,983	9%
2018	\$610,595	\$41,841	7%	\$51,196	8%

Source: Royal LePage

*2014 D.C. in 2014\$, 2018 D.C. in 2018\$ (deflated by 2% from previous schedules)

- While the calculated D.C. quantum has increased significantly, it is relatively stable when viewed as a percentage of home sales.

Next Steps



- The Consulting team to support staff to address inquiries and information requests
- Background Study and draft by-law released to public (March 25, 2019)
- Public Meeting (April 18, 2019)
- Council Consider By-law for Adoption (May 16, 2019 - TBC)



Questions?