

2020 Budget Notes

Engineering and Construction Services

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What we do

Engineering and Construction Services (ECS) provides specialized engineering design and construction services to internal clients (Toronto Water, Transportation Services, Solid Waste Management Services, and other City Programs and Agencies), and external clients (the development industry, utility companies and other public agencies) creating safe and sustainable municipal infrastructure.

Engineering and Construction Services delivers the following services:

- Municipal Infrastructure Construction
- Engineering Review and Acceptance
- Engineering Information

Why we do it

Engineering and Construction Services' mission is to build safe and sustainable infrastructure that enhances the quality of life of the people of Toronto, through professionalism in project planning, engineering and project management services, and to be an industry leader in delivering municipal infrastructure engineering services with integrity and pride.

Who we serve

Municipal Infrastructure Construction

- Business Improvement Areas (BIAs)
- City and Agency Staff
- Utility Companies

Beneficiaries

- Businesses
- Residents
- Visitors/Tourists

Engineering Review and Acceptance

- City and Agency Staff
- Development Industry
- Metrolinx
- Utility Companies

Beneficiaries

- Businesses
- Residents
- Visitors/Tourists

Engineering Information

- Businesses
- City and Agency Staff
- Metrolinx
- Residents
- Waterfront Toronto

Beneficiaries

- Businesses
- Residents
- Visitors/Tourists

Budget at a glance

STAFF RECOMMENDED OPERATING BUDGET			
\$Million	2020	2021	2022
Revenues	\$71.3	\$73.2	\$74.5
Gross Expenditures	\$73.1	\$75.3	\$76.9
Net Expenditures	\$ 1.8	\$ 2.1	\$ 2.4
Approved Positions	617.1	617.1	617.1

STAFF RECOMMENDED 10-YEAR CAPITAL PLAN			
\$Million	2020	2021-2029	Total
This program does not have a capital budget.			

Key service outcomes

Outcomes	Description
Municipal Infrastructure Construction	Build new and upgraded infrastructure including bridges, roads, sewers, watermains, solid waste facilities, stormwater management facilities, water and wastewater treatment facilities.
Engineering Review and Acceptance	Ensure that development and third party works to comply with applicable by-laws, standards and regulatory requirements, maintain the integrity of existing City infrastructure, and secure associated upgrades to City infrastructure.
Engineering Information	Establish and maintain effective technical and data support to the various business units within the Program and across the City involved in building and managing the City's infrastructure.

Goals and metrics

Planned Activities to Achieve Outcomes		2018 Actual	2019 Proj. Actual	2020 Target	Status
	High rate of expenditure on municipal infrastructure design and construction as a percentage of assigned Capital Program	80%	86%	80%	●
	Development Applications reviewed and accepted within STAR timelines	80%	80%	75%	●
	Compliance with bridge condition inspection regulatory timelines	100%	100%	100%	●

Our experience and success

- Delivered \$860 million in capital projects in 2019 (\$234 million more than in 2018) on behalf of Client Divisions and Agencies representing a delivery rate of 86% on an assigned capital program valued at \$1.004 billion.
- Processed over 96% of capital construction payments (approximately 2,600) within the 30-day compliance period.
- Issued City's first "strategic sourcing" contract for construction of the 2019 to 2021 multi-year Standalone Watermain Replacement Program, thereby securing the best value for the City over the three-year term of the contract.
- Achieved 80% compliance (on 1,860 development application circulations) with mandated timelines for development application circulations (STAR requirement is 75%).
- Achieved 98% compliance with timelines for 5,530 third party applications reviewed in 2019, comprised of 260 transit expansion design submissions (including Eglinton Crosstown and Finch West Light Rail Transit, GO Expansion, and the Scarborough Subway extension), and 5,270 full stream utility applications.
- Maintained 100% completion rate in 2019 for the Provincially-legislated biennial bridge condition inspection cycle: 873 bridge condition inspections were completed, comprising 322 discrete spans along the elevated portion of the F.G. Gardiner Expressway, 284 bridges and culverts along City roads, and 267 vehicular and pedestrian bridges within City parks.
- Completed 100% of planned environmental certificate of property use (CPU) inspections and reporting on behalf of Parks, Forestry and Recreation, thereby ensuring full compliance with regulatory requirements.
- Processed over 250 municipal numbering applications, and processed and reported on 62 new street names.

Key challenges and risks

- Ongoing significant forecasted year-over-year **increase in the assigned Capital Program**:
 - Presents a challenge to sustain the 80% capital delivery rate.
 - Represents additional pressures on the ECS Operating budget to provide necessary resources.
- Increased demand for delivery of **major third party work**:
 - Review of permit applications for a major Rogers system upgrade.
 - Support to Waterfront Toronto's Port Lands Flood Protection Project and Port Lands Redevelopment.
 - Specialized support and expedited reviews for Metrolinx LRT, Subway and GO Expansion transit projects.
- **Recruiting and retaining top calibre talent** that is needed in key business areas, due to the highly competitive engineering and construction project management market, which continues to negatively affect the Program's ability to fully staff its complement.

Priority actions

Effectively manage multi-year construction

- Continue to enhance planning and coordination of multi-year Capital Program with internal and external stakeholders (now that construction coordination function has been assigned to ECS).
- Emphasize the need for asset owning divisions to define and "lock down" multi-year programs (e.g., 3 years) in order to ensure successful completion of capital projects, achieve prescribed capital delivery rates, and minimize disruption to residents, businesses and visitors.
- Work with Financial Planning Division to permit fall tender issuance and award, prior to budget approval, for State of Good Repair projects.

Increase delivery capacity to accommodate City's municipal infrastructure capital program

- Revisit alternative procurement strategies (e.g., Task Order Contracting) to increase capital construction throughput.
- Pursue "Strategic Sourcing" by issuing multi-year construction contracts in areas where multi-year programs are defined.

Ensure regulatory compliance and reliance on best practices

- Continue to maintain 100% completion rate for the provincially legislated biennial bridge condition inspection cycle.
- Complete 100% of planned environmental CPU inspections and reporting on behalf of Parks, Forestry and Recreation, thereby ensuring full compliance with regulatory requirements.

- Ensure compliance with the new *Construction Act*, which imposes strict prompt payment timelines, through staff training and updating of operating procedures.
- Continue and increase vigilance and oversight on construction contracts to address issues highlighted in Auditor General's reports on Program operations.

Leverage technology

- Advance the system for electronic review of development application drawings to improve customer service while maintaining application and drawing security and review timelines.
- Implement an Enterprise Information Management Program to more effectively, efficiently and securely manage construction and related documents.

Continue to **ensure Third Party applications are processed** according to timelines established by Council

- Advance the mandate to expand the Digital Map Owners Group (DMOG) across the City and develop new agreements with each utility company.
- Negotiate and enter into agreements to provide dedicated support to third parties and utilities as and when needed, so that work of external entities can be facilitated while at the same time ensuring City assets are protected.

Effectively manage human capital

- Develop and implement a strategy to address the chronic inability to recruit and retain top calibre talent due to reduced competitiveness in the employment market through a comprehensive review of salary compensation, which may impact future operating budgets.
- In the context of the highly competitive labour market, continuously assess human capital requirements and adjust complement composition as needed (e.g., downgrade Senior Engineer to Engineer, if warranted).
- Promote skills development and undertake succession planning; continue to showcase ECS as an employer of choice by participating and increasing the presence of ECS at targeted recruitment events (e.g., career fairs) and actively engaging higher education institutions to attract new talent

Our key service levels



Year End Actual
Expenditure equal to
80% of assigned
Capital Program



75% of Development
Applications reviewed
and accepted within
STAR timelines



100% bridge condition
inspection compliance
within regulatory
timelines

Key service deliverables

- New and upgraded municipal infrastructure is built on behalf of client divisions ensuring the safety and sustainability of fundamental City services.
- Development applications are reviewed to ensure that they comply with applicable by-laws, standards and regulatory requirements, maintain the integrity of existing City infrastructure, and secure associated upgrades, and are completed in accordance with Council-approved "Streamlining the Application Review" (STAR) timelines.
- Inspections of City-owned bridges and structures are conducted according to legislated timelines and requirements.
- Specialized engineering, surveying and construction inspection support are provided to Metrolinx and TTC transit programs.
- All legislated environmental certificate of property use (CPU) requirements, including inspections, reports, compliance audits, and Annual Reports, are completed on behalf of Parks, Forestry and Recreation.

RECOMMENDATIONS

The City Manager and Chief Financial Officer and Treasurer recommend that:

1. City Council approve the 2020 Staff Recommended Operating Budget for Engineering and Construction Services of \$73.088 million gross, \$1.834 million net for the following services:

Service:	Gross (\$000s)	Revenue (\$000s)	Net (\$000s)
Engineering Information	9,893.9	9,025.1	868.8
Engineering Review and Acceptance	14,420.5	14,858.4	(437.9)
Municipal Infrastructure Construction	48,773.9	47,371.3	1,402.6
Total Program Budget	73,088.3	71,254.8	1,833.5

2. City Council approve the 2020 staff complement for Engineering and Construction Services of 617.1 positions, comprising 128.2 operating positions and 488.9 capital positions.

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**2020 STAFF RECOMMENDED
OPERATING BUDGET**

2020 OPERATING BUDGET OVERVIEW

Table 1: 2020 Staff Recommended Operating Budget by Service

(\$000s)	2018 Actuals *	2019 Projected Actuals *	2020 Base Budget	2020 New / Enhanced	2020 Staff Rec'd Budget	Change v. 2019 Projected Actual	
By Service	\$	\$	\$	\$	\$	\$	%
Revenues							
Engineering Information	7,648.4	7,077.3	9,025.1		9,025.1	1,947.8	27.5%
Engineering Review and Acceptance	17,270.3	15,978.0	14,858.4		14,858.4	(1,119.6)	(7.0%)
Municipal Infrastructure Construction	36,851.8	39,750.7	47,371.3		47,371.3	7,620.6	19.2%
Total Revenues	61,770.5	62,806.0	71,254.8	0.0	71,254.8	8,448.8	13.5%
Expenditures							
Engineering Information	8,171.3	8,442.5	9,893.9		9,893.9	1,451.4	17.2%
Engineering Review and Acceptance	11,909.8	12,339.0	14,420.5		14,420.5	2,081.5	16.9%
Municipal Infrastructure Construction	40,281.9	45,195.5	48,773.9		48,773.9	3,578.4	7.9%
Total Gross Expenditures	60,363.0	65,977.0	73,088.3	0.0	73,088.3	7,111.3	10.8%
Net Expenditures	(1,407.5)	3,171.0	1,833.5	0.0	1,833.5	(1,337.5)	(42.2%)
Approved Positions	592.1	600.1	617.1	0.0	617.1	17.0	2.8%

*2018 Actuals and 2019 Actuals (based on Q3 2019) adjusted retroactively to remove interdepartmental charges and recoveries.

COSTS TO MAINTAIN EXISTING SERVICES

Total 2020 Base Budget expenditures of \$73.088 million gross reflecting an increase of \$7.111 million in spending above 2019 projected year-end actuals, predominantly arising from:

- Salary and benefit increases, including the addition of 7.0 temporary positions to support work on the installation of fibre optic cable throughout Toronto as part of the Rogers Communications Uplift project.
- Operating costs for salaries and benefits for the addition of 10.0 positions for delivery of capital projects, to help address the increased demand for delivery of clients' capital programs and major third party work (fully recovered). These additional positions are required to manage complex and multi-year construction projects, including projects for Toronto Water and the Strategic Rehabilitation of the F.G. Gardiner Expressway.
- Higher costs for general equipment and professional services required to manage and deliver large scale construction projects.

EQUITY IMPACTS OF BUDGET CHANGES

No equity impacts: The changes in Engineering and Construction Services' 2020 Staff Recommended Operating Budget have no equity impacts.

2020 STAFF RECOMMENDED OPERATING BUDGET KEY DRIVERS

The 2020 Staff Recommended Operating Budget for Engineering and Construction Services is \$73.088 million gross or 10.8 per cent higher than the 2019 Projected Actuals. Table 2 below summarizes the key cost drivers for the base budget.

Table 2: 2020 Key Drivers – Base Budget

Key Cost Drivers (\$000)	2018 Actuals *	2019 Projected Actuals *	2020 Staff Rec'd Base Budget	Year over Year Changes	
				\$	%
Expenditures					
1 Salaries and Benefits	57,746.8	61,817.3	68,246.3	6,429.0	10.4%
2 Materials & Supplies	140.6	202.6	341.3	138.7	68.5%
3 Equipment	422.0	477.2	739.7	262.4	55.0%
4 Service and Rent	1,604.6	2,565.2	2,851.2	286.0	11.1%
5 Contribution To Capital					
6 Contribution To Reserves	766.0	902.3	906.2	3.9	0.4%
7 Other Expenditures	(317.0)	12.5	3.7	(8.8)	-70.3%
Total Expenditures	60,363.0	65,977.0	73,088.3	7,111.3	10.8%
Revenues					
1 Provincial Subsidies					
2 Federal Subsidies					
3 User Fees & Donations	10,954.1	8,935.8	8,585.5	(350.3)	-3.9%
4 Transfers From Capital	44,321.9	47,689.1	55,634.8	7,945.7	16.7%
5 Other Revenues	6,494.5	6,181.1	7,034.5	853.4	13.8%
Total Revenues	61,770.5	62,806.0	71,254.8	8,448.7	13.5%
Net Expenditures	(1,407.5)	3,171.0	1,833.5	(1,337.5)	-42.2%

*2018 Actuals and 2019 Actuals (based on Q3 2019) adjusted retroactively to remove interdepartmental charges and recoveries.

Salaries and Benefits: Includes inflationary increases on existing salaries and benefits, and the 17 additional positions as described on page 7. Enhanced vacancy management is factored into the 2020 budget.

Equipment: Includes increases for general equipment required for operational needs.

Services and Rents: Include increases for professional and technical services for the delivery of construction projects.

Revenues: Include increases for recovery of additional positions as described on page 7 and anticipated recoveries from third parties, in particular Metrolinx.

Note:

1. For additional information on 2020 key cost drivers refer to [Appendix 1](#).

2021 and 2022 OUTLOOKS**Table 3: 2021 and 2022 Outlooks**

(\$000s)	2019 Projected Actuals *	2020 Staff Rec'd Budget	2021 Outlook	2022 Outlook
	\$	\$	\$	\$
Revenues	62,806.0	71,254.8	73,165.5	74,547.3
Gross Expenditures	65,977.0	73,088.3	75,278.2	76,948.4
Net Expenditures	3,171.0	1,833.5	2,112.7	2,401.1
Approved Positions	600.1	617.1	617.1	617.1

*2019 Q3 Projected Actuals adjusted retroactively to remove interdepartmental charges and recoveries

Key 2021 drivers

The 2021 Outlook with total gross expenditures of \$75.278 million reflects an anticipated \$2.190 million or 3.0 per cent increase in gross expenditures above the 2020 Recommended Budget based on the following:

- Inflationary increases for salaries and benefits.
- Annualised costs for the positions added in 2020 to delivery capital projects.

This increase is mostly offset by anticipated recoveries of positions for the delivery of capital projects and recoveries from third parties.

Key 2022 drivers

The 2022 Outlook with total gross expenditures of \$76.948 million reflects an anticipated \$1.670 million or 2.2 per cent increase in gross expenditures above the 2021 Recommended Budget based on the following:

- Inflationary increases for salaries and benefits.

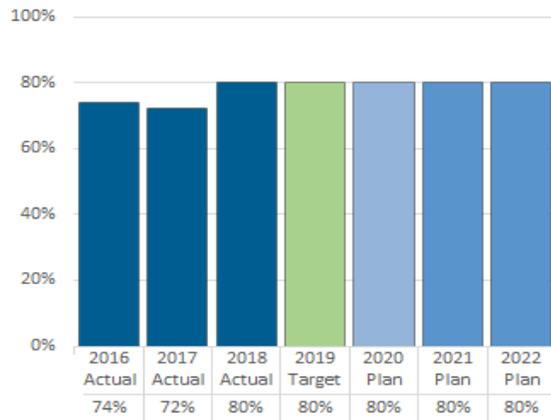
This increase is mostly offset by anticipated recoveries of positions for the delivery of capital projects and recoveries from third parties.

How well we are doing

Performance measures

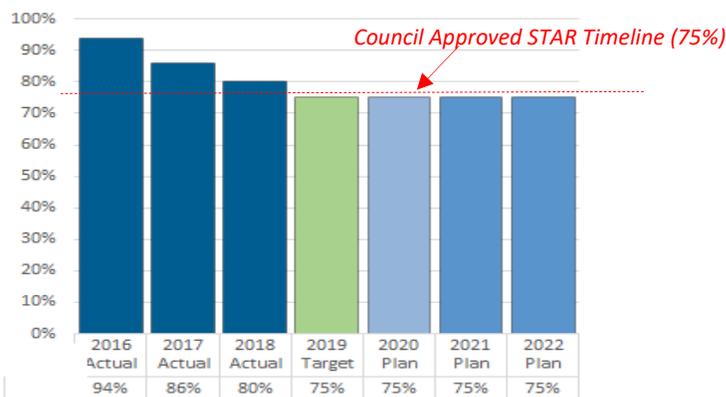
Behind the numbers

Annual Expenditure on Municipal Infrastructure Design & Construction as a % of Assigned Capital Budget



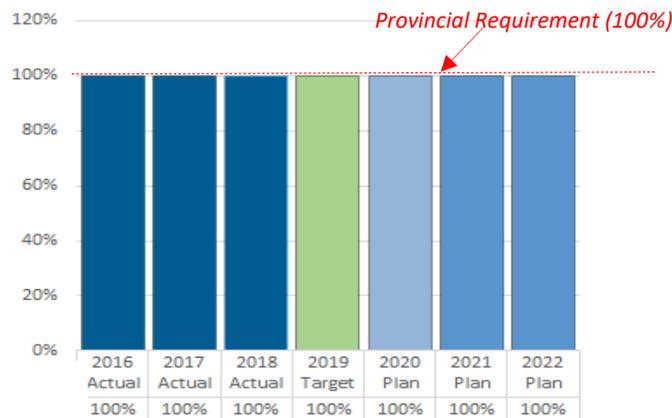
- This measure indicates how much of the assigned capital program Engineering and Construction Services spends.
- There continues to be substantial growth in construction activity for clients' capital programs, which has grown to over \$1 Billion in 2019 and will continue to grow in future years, driven primarily by increases in Toronto Water's and Transportation Services' Capital Budgets and Plans
- In 2018 the actual expenditures were \$626.0 million and 2019 the expenditures are projected to be \$860.0 million representing an increase of 37.4%.
- ECS continues to target spending at least 80% of its assigned capital program.

% of Development Applications and Revisions Reviewed within STAR timelines



- This measure indicates how well ECS complies with the 75% Council approved "Streamlining the Application Review" (STAR) timeline for circulations of development applications and revisions.
- In 2019, 80% of development application circulations and revisions by Engineering and Construction Services were completed within STAR timelines, surpassing the 75% Council approved target compliance rate.
- ECS will continue to target compliance with STAR timelines in 2020 and future years.

% of Bridge Condition Inspections completed compared to plan



- In 2019, ECS again completed 100% of planned bridge condition inspections.
- ECS is targeting to maintain a 100% completion rate in 2020 and future years for the legislated biennial bridge condition inspection cycle.

APPENDICES

Appendix 1

2020 Staff Recommended Operating Budget by Expenditure Category

Category (In \$000s)	2017	2018	2019	2019	2020	2020 Change from	
	Actuals *	Actuals *	Budget *	Projected Actuals **	Total Staff Recommended Budget	2019 Projected Actual	%
	\$	\$	\$	\$	\$	\$	%
Provincial Subsidies							
Federal Subsidies							
Other Subsidies							
User Fees & Donations	13,637.4	10,954.1	8,836.6	8,935.8	8,585.5	(350.3)	(3.9%)
Licences & Permits Revenue							
Transfers From Capital	44,113.0	44,321.9	54,294.6	47,689.1	55,634.8	7,945.7	16.7%
Contribution From Reserves/Reserve Funds							
Sundry and Other Revenues	5,249.4	6,494.5	6,672.6	6,181.1	7,034.5	853.4	13.8%
Total Revenues	62,999.8	61,770.5	69,803.8	62,806.0	71,254.8	8,448.8	13.5%
Salaries and Benefits	56,381.4	57,746.8	68,873.1	61,817.3	68,246.3	6,429.0	10.4%
Materials & Supplies	182.7	140.6	341.5	202.6	341.3	138.7	68.5%
Equipment	404.8	422.0	878.2	477.2	739.7	262.4	55.0%
Service and Rent	2,075.6	1,604.6	2,889.5	2,565.2	2,851.2	286.0	11.1%
Contribution To Capital							
Contribution To Reserves/Reserve Funds	768.4	766.0	902.3	902.3	906.2	3.9	0.4%
Other Expenditures (includes Inter-divisional charges)	(2.0)	(317.0)	3.7	12.5	3.7	(8.8)	(70.3%)
Total Gross Expenditures	59,811.0	60,363.0	73,888.4	65,977.0	73,088.3	7,111.3	10.8%
Net Expenditures	(3,188.8)	(1,407.5)	4,084.6	3,171.0	1,833.5	(1,337.5)	(42.2%)
Approved Positions	574.1	592.1	600.1	600.1	617.1	17.0	2.8%

* Prior Year Actuals and 2019 Budget adjusted retroactively to remove interdepartmental charges and recoveries

** 2019 Projected Actual (based on Q3 2019) adjusted retroactively to remove interdepartmental charges and recoveries

Appendix 2

Summary of 2020 Service Changes

N/A

Appendix 3

Summary of 2020 New / Enhanced Service Priorities Included in Budget

N/A

Appendix 4

Summary of 2020 New / Enhanced Service Priorities Not Included in Budget

N/A

Appendix 5

2020 Capital Budget; 2021 - 2029 Capital Plan Including Carry Forward Funding

N/A

Appendix 6

Reporting on Major Capital Projects: Status Update

N/A

Appendix 7

Summary of Capital Needs Constraints

N/A

Appendix 8

2020 User Fee Changes (Excludes User Fees Adjusted for Inflation)

N/A

Appendix 9

Inflows and Outflows to/from Reserves and Reserve Funds
2020 Operating Budget

Corporate Reserve / Reserve Funds

Reserve / Reserve Fund Name (In \$000s)	Reserve / Reserve Fund Number	Withdrawals (-) / Contributions (+)		
		2020	2021	2022
		\$	\$	\$
Beginning Balance *		1,127.03	1,172.59	741.95
Vehicle Reserve - ECS	XQ1016			
<i>Withdrawals (-)</i>				
Other Division/Agency Withdrawals		-141.00	-617.20	-391.20
	Total Withdrawals	-141.00	-617.20	-391.20
<i>Contributions (+)</i>				
Engineering & Construction Services		186.56	186.56	186.56
	Total Contributions	186.56	186.56	186.56
Total Reserve / Reserve Fund Draws / Contributions		45.56	-430.64	-204.64
Balance at Year-End		1,172.59	741.95	537.31

* Based on 9-month 2019 Reserve Fund Variance Report

Reserve / Reserve Fund Name (In \$000s)	Reserve / Reserve Fund Number	Withdrawals (-) / Contributions (+)		
		2020	2021	2022
		\$	\$	\$
Beginning Balance *		29,462.41	26,035.42	22,539.94
Insurance Reserve Fund	XR1010			
<i>Withdrawals (-)</i>				
Other Division/Agency Withdrawals		-66,235.19	-66,309.23	-65,970.84
	Total Withdrawals	-66,235.19	-66,309.23	-65,970.84
<i>Contributions (+)</i>				
Engineering & Construction Services		719.66	719.66	719.66
Other Division/Agency Contributions		62,088.55	62,094.09	62,103.31
	Total Contributions	62,808.21	62,813.74	62,822.97
Total Reserve / Reserve Fund Draws / Contributions		-3,426.99	-3,495.49	-3,147.87
Balance at Year-End		26,035.42	22,539.94	19,392.07

* Based on 9-month 2019 Reserve Fund Variance Report

Appendix 10

Glossary of Terms

Agencies, Boards and Commissions (ABCs): Special purpose bodies created by the City of Toronto to deliver key services. Each ABC has a different mandate, authorities and responsibilities to deliver services on behalf of the City, and generally operate at arm's length or independently of the City.

Approved Position: Permanent or temporary positions that support the delivery of City services and service levels as approved by Council.

Actuals: An actual financial amount paid (or received) for the delivery of City services (these exclude any commitments to be paid in the future).

Capacity to Spend: Ability to spend money along with the capacity to deliver projects as demonstrated by historic spending patterns and approved contractual obligations.

Capital Budget: A Capital Budget is the City's plan to acquire / build assets or extend the useful life of existing assets; an example of a capital expenditure is the construction of a new community centre.

Capital Needs Constraints: The capital needs that cannot be accommodated within the capital plan that the Program or Agency have the capacity to deliver.

Complement: Positions that support the delivery of City services and service levels as approved by Council.

Efficiencies: Reductions in the cost of delivering a service without a reduction in service level.

New / Enhanced: New and enhanced service changes resulting in an increase in service levels from what was previously approved by Council.

Operating Budget: An Operating Budget is the City's annual plan to provide services to the residents of Toronto; the budget includes all revenues and expenses needed to provided services; an example of an operating cost would be the cost to run the TTC subways.

Operating Impact of Completed Capital Projects: The additional expense (or savings) and positions needed to operate or maintain a new asset; an example would be the additional expense and staff needed to operate a recently completed community centre.

Rate Supported Budget: Budget fully funded by user fees such as Solid Waste, Toronto Water and Toronto Parking Authority.

Staff Recommended Operating / Capital Budget: An operating or capital budget recommended by the City Manager and Chief Financial Officer and Treasurer to City Council for consideration and approval.

State of Good Repair (SOGR): The cost of maintaining assets to ensure the assets are able to support the delivery of City services and meet service outcomes.

Streamlining the Application Review (STAR): The City's timeline targets for reviewing planning applications.

Tax Supported Budget: Budget funded by property taxes.

User Fees: Program generated fee and rental revenue for the use of its services (such as the TTC fare, ice rental fees and various City permits).

Value Based Outcome Review (VBOR): The City conducted a Value Based Outcome Review in 2019 for all of its operations and agencies to identify specific opportunities and strategies to maximize the use of tax dollars, enhance its financial sustainability while achieving service outcomes. These opportunities will help the City chart its financial course in the next four years.