BU 35.1

2018 Toronto Water Budget

2018-2027 Recommended Operating/Capital/Water Rate

Budget Committee, November 3, 2017

Lou Di Gironimo, General Manager, Toronto Water

Toronto Water at a Glance

- Serve 3.6 million residents and businesses in Toronto, and portions of York and Peel
- Over $28.6 billion in infrastructure
- Operates facilities 24 hours per day, 365 days per year
- Program is rate-supported – no reliance on the property tax base to support Toronto Water operating and capital budgets

Replacement Value $28.6 Billion

Water – $9.2 Billion

- 4 water filtration plants
- 11 reservoirs and 4 elevated storage tanks
- 5,551 km of distribution watermains and 550 km of trunk watermains
- 64,913 valves and 41,505 hydrants
- 511,452 water service connections, plus York Region (population served: 600,000)
- 18 water pumping stations

Wastewater – $11.5 Billion

- 4 wastewater treatment plants
- 3,730 km sanitary sewers, 1,411km combined sewers
- 253 km sanitary trunk, 121 km combined trunk
- 57,772 sanitary maintenance holes, 24,748 combined maintenance holes
- 507,548 sewer service connections
- 67 sanitary pumping stations, 8 combined pumping stations

Stormwater – $7.9 Billion

- 7 storage and detention tanks
- 4,981 km of storm sewers, and 27 km of trunk sewers
- 76,331 maintenance holes
- 371 km of watercourses, 84 stormwater management ponds
- 1,864 outfalls and 173,370 catch basins
- 12 stormwater pumping stations

Strategic Actions 2013-2018

City Building

1. Implement Smart Urban Growth Strategies
2. Invest in Culture
3. Develop a Long-term Transportation Plan and Policies

Economic Vitality

4. Increase Employment Opportunities
5. Accelerate Economic Growth

Environmental Sustainability

6. Support Environmental Sustainability
7. Develop a Long-term Solid Waste Management Strategy

Social Development

8. Support Affordable Housing
9. Strengthen Neighbourhoods
10. Enhance the City's Quality of Life
11. Advance Toronto's Motto 'Diversity our Strength'
12. Improve Emergency Response and Prevention

Good Governance

13. Open Government by Design
14. Engage the Public
15. Strengthen Public Service Governance
16. Strengthen Intergovernmental Relationships
17. Enhance the City's Capacity to Serve Toronto's Diversity
18. Develop and Implement a Workforce Plan
19. Improve Customer Service
20. Enhance Performance Measurement
21. Improve Organizational Excellence
22. Implement Shared Services

Fiscal Sustainability

23. Update the Long-term Fiscal Plan
24. Improve Service and Financial Planning
25. Ensure State of Good Repair for Infrastructure
26. Finance the City's Growth

Toronto Water Strategic Plan 2010-2020

Mission Statement

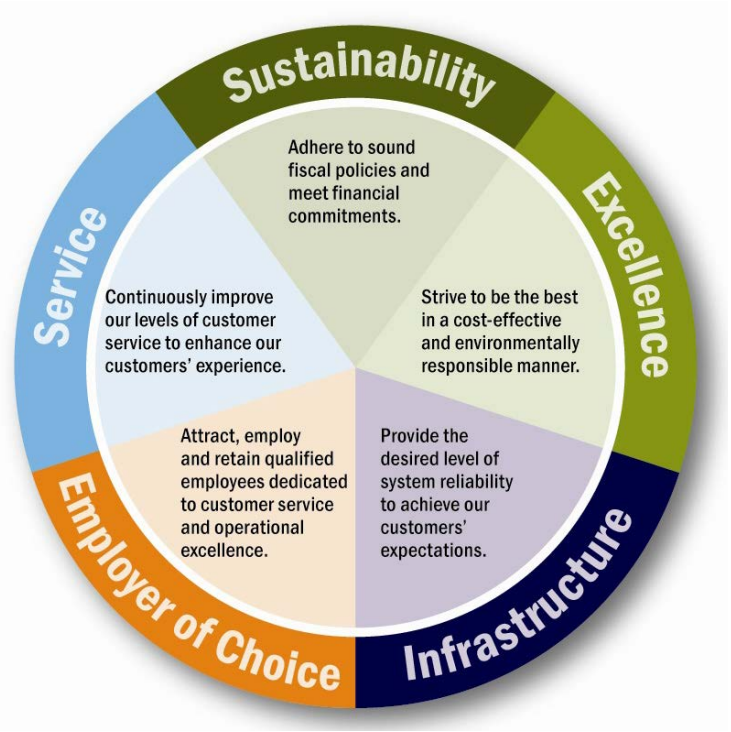
To provide quality water services through supplying drinking water and the treatment of wastewater and stormwater to residents, businesses and visitors in order to protect public health, safety and property in an environmentally and a fiscally responsible manner.

Vision Statement

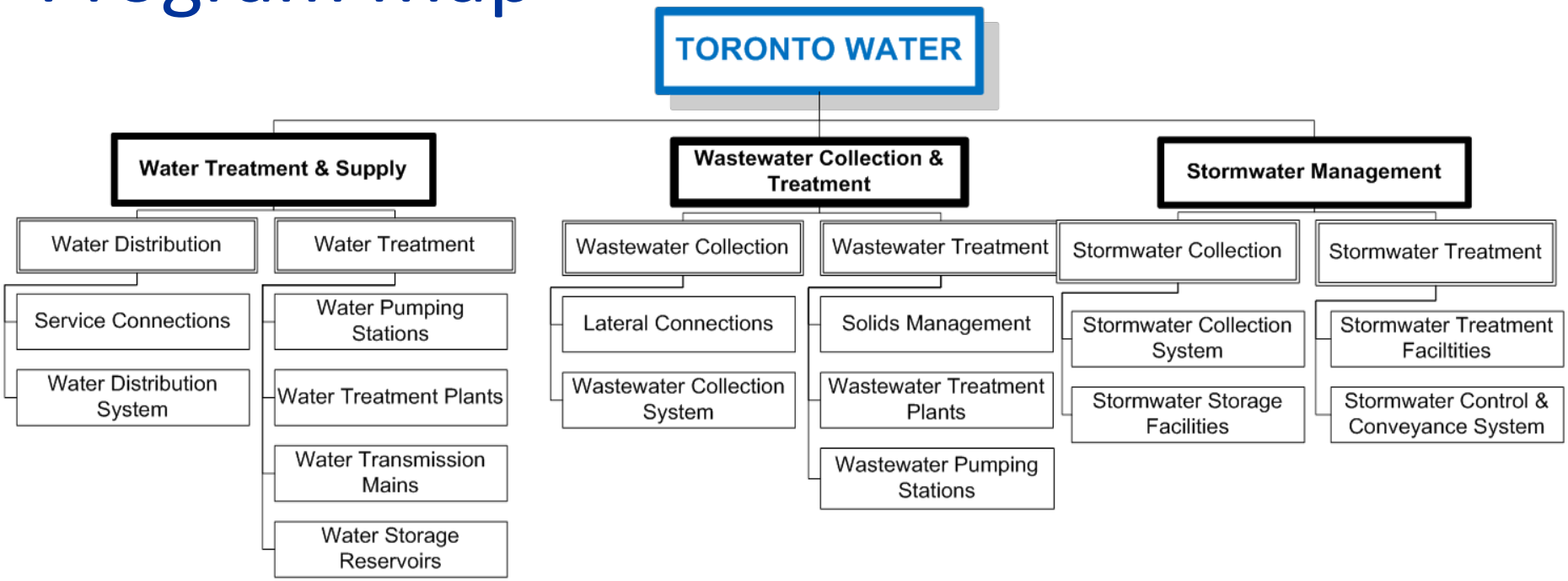
Toronto Water will be a leader in achieving excellence and efficiency in all aspects of water service delivery.

Guiding Principles

I. Continuous Service Delivery Improvement
II. Financial Vitality, Viability and Sustainability
III. Operational Excellence
IV. Infrastructure Management
V. Employer of Choice



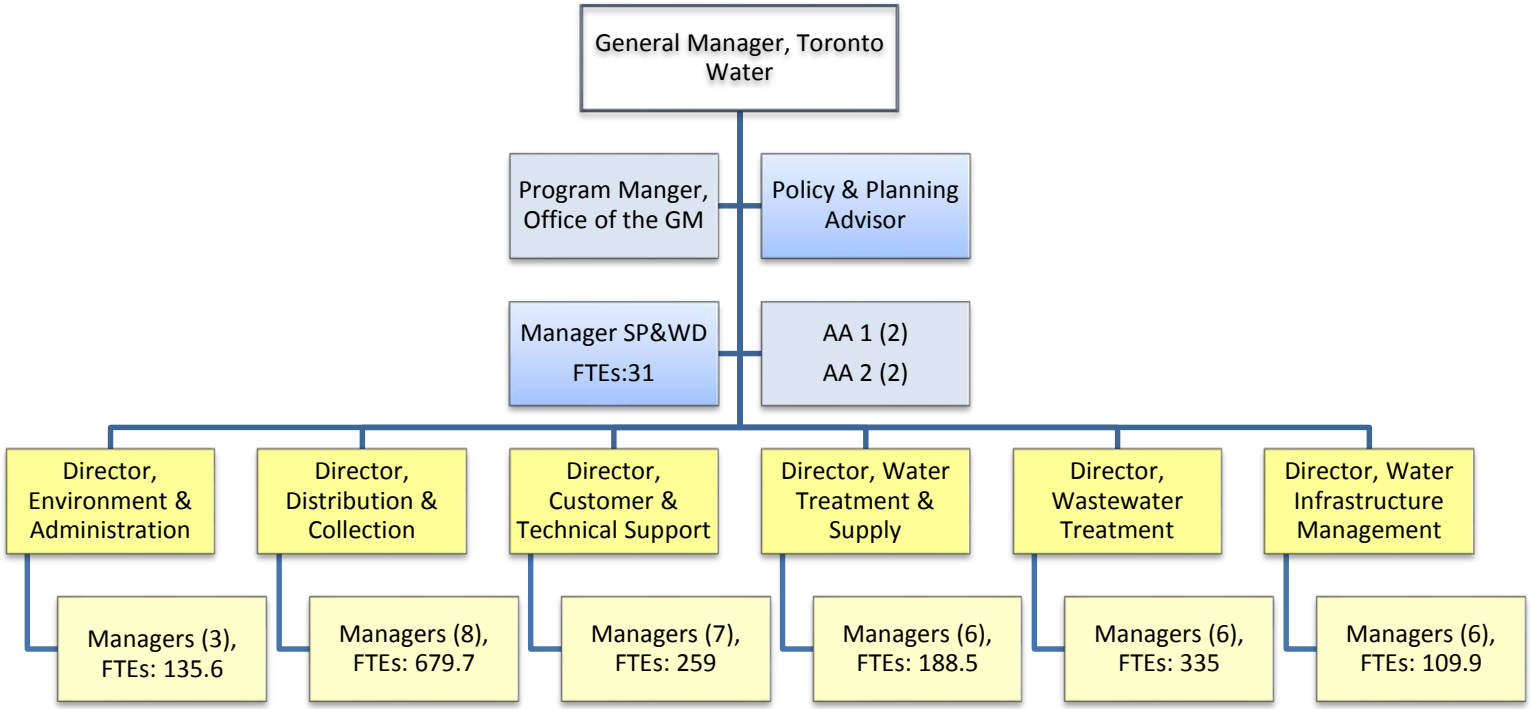
Program Map



Toronto Water – Key Services:

- **Water Treatment & Supply**: Treat and distribute drinking water in a safe, responsible manner in accordance with all legislated requirements.
- **Wastewater Collection & Treatment**: Collect and treat wastewater in a safe, responsible manner in accordance with all legislated requirements.
- **Stormwater Management**: Collect and treat stormwater in a safe, responsible manner in accordance with all legislated requirements.

Toronto Water – Organizational Structure



2017 Full and Part Time Staff

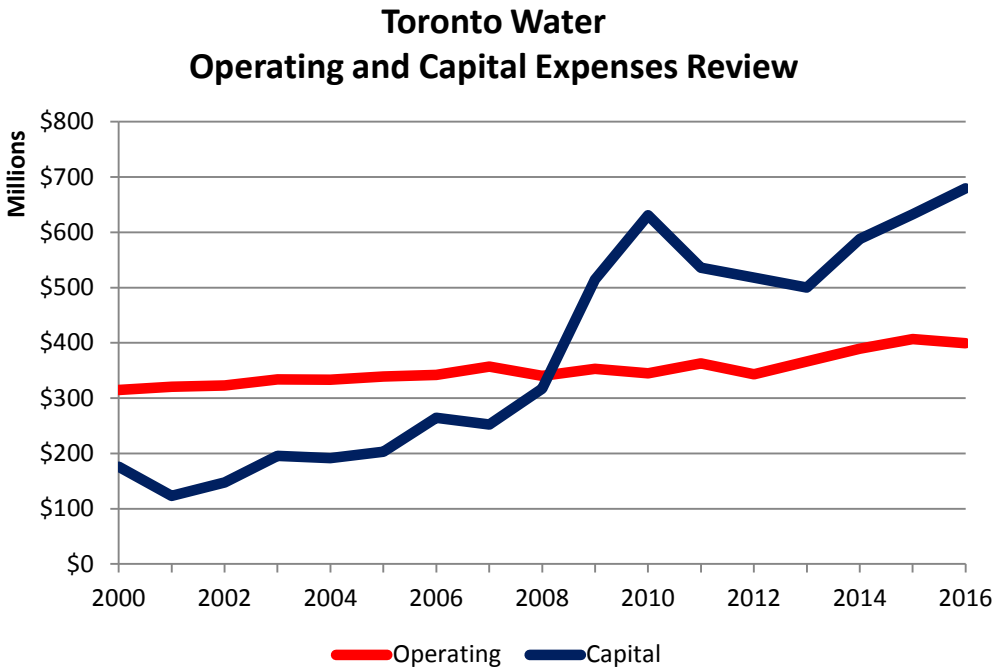
Category	Senior Management	Management	Exempt Professional & Clerical	Union	Total
Permanent	1.0	169.0	177.0	1,309.0	1,656.0
Temporary	0.0	5.0	2.0	89.7	96.7
Total	1.0	174.0	179.0	1,398.7	1,752.7

Toronto Water
Program Challenges

Program Challenges

Long-term Financial Stability	Existing 10-year financial plan relies primarily on successive water rate increases to fund continued infrastructure investment and conform with pay-as-you-go financing strategy.
Declining Water Consumption	Downward trend over the last decade, despite population growth. Anticipate base water consumption will flat line. Forecast is for a moderate annual decrease in consumption (-0.5%)
Aging Infrastructure	Significant state of good repair backlog for underground assets; water/wastewater treatment plants and facilities. Currently updating condition assessments on major assets.
Basement Flooding	Significant investment required to manage basement flooding issues across the city.
Strict Regulatory Control & Oversight	Water and wastewater industry continues to experience increased legislative and regulatory reform impacting both operating and capital budgets.
Managing Reserve Balances	Ensuring positive reserve balances during major capital spending years. Simultaneous large scale projects are planned for the next ten years.

Financial Performance (Actual Costs)



Stable Operating Costs

- Operating costs have been growing relatively slowly over the past 15 years.

Capital Spending

- Increased revenue generated by rate increases have been reinvested in infrastructure.
- 2016 capital spending ($680M) was highest in Toronto Water history.

Toronto Water
2018 Recommended Operating Budget

Operating Budget Challenges

Maintaining stable operating costs	Continue to find efficiencies while ensuring legislative compliance.
Managing the continuous increase in costs from internal and external sources	Increase in personnel costs, service providers and materials and supplies due to inflation (electricity, chemicals, parts and machinery).
Operating impact of completed capital projects	Process improvements require additional resources.
Asset management & critical response processes	Ensuring operational resilience and minimizing risk to assets during extreme weather occurrences.
Ongoing service priorities	Ensuring efficient and effective response time to customer service demands.
Workforce planning & development	Developing hiring strategies for critical, vulnerable and hard to fill positions including on-the-job training programs.

2017 Key Service Accomplishments

MOECC Compliance	The Ministry of Environment and Climate Change (MOECC) has completed annual inspections at the City's water treatment facilities and there have been no major non-conformance issues identified.
Award	2017 Ontario Water Works Association Best Tasting Water Award.
Improving Customer Service	The management structure of the Toronto Water Customer Care Centre was implemented in Q2 2017 and resulted in $0.747 million in savings due the reduction of eight positions. This is the first step of a transformational initiative that sets the stage for further improvements planned to increase customer satisfaction.
Technology Improvements	• Optimizing GIS technology to enhance operational efficiency and improve customer service. • Piloting smart grid technologies to help with in the field data collection and connectivity.
Basement Flooding	As of September 1, 2017, received and processed 3,267 Basement Flooding Protection Program applications to provide financial subsidy to install flood protection devices such as backwater valves.
Public Education	Ongoing education and outreach program - 267 outreach events with an estimated attendance of 3.9 million people as report by event organizers.
Water Saving Program	Water conservation projects related to the Industrial Water Rate Program resulted in estimated water savings of 3.75 million m3 per year.

Modernization & Transformation Initiatives

Toronto Water Customer Care Organizational Realignment	A transformational initiative that sets the stage for further improvements planned to increase customer satisfaction through improved customer call handling, customer service processes and customer communication and notification.
Geometric Network	Implementing a utility model for all linear assets to create modelled relationships between assets. The implementation of this utility model will enable a distributed maintenance process, with which Toronto Water will increase productivity and improve quality of asset management with optimized work flows and minimized manual processes.
Transmission Operations Optimizer (T.O.O.)	Developing advanced programming to automate pump run schedules to minimize hydro expenditures.
Enterprise Work Management System	Replacing several legacy software applications with an enterprise solution, improving the coordination of daily maintenance related activities across the city's four largest operating divisions, Parks, Forestry and Recreation, Solid Waste Management, Toronto Water and Transportation.
Office Modernization Program (Metro Hall)	Transforming the City's current workplace design to improve staff engagement and productivity, while optimizing the City's real estate portfolio, reducing operating costs and the City's carbon footprint.

2017 Projected Year End Variance

Budget Variance and Projection to year end ($000's):

(In $000's)	2015 Actuals	2016 Actuals	2017 Approved Budget (Adjusted)	2017 Projected Actuals (Q3)	2017 Approved Budget vs Projected Actuals	
	$	$	$	$	$	%
Gross Expenditure	414,701	408,889	443,792	429,642	14,150	3.2%
Revenues	1,094,106	1,216,906	1,231,928	1,220,028	(11,900)	-1.0%
Capital Contribution	679,405	808,017	788,137	790,386	2,250	0.3%
Approved Positions	1,624.7	1,629.7	1,752.7	1,612.7	140.1	8.0%

- Toronto Water is projecting a $2.3 million surplus
- Lower expenditures relating mainly to savings in utilities and salaries and benefits
- Lower revenues due to a drop in consumption from sale of water due to wet spring and summer.

Vacancies

2016 Positions				2017 YTD (October) Positions			
Budget	Actual	Vacancies	%	Budget	Actual	Vacancies	%
1,758.7	1,618.3	140.0	8.0%	1,752.7	1,613.3	139.4	8.0%

** 2016 October vacancy rate was 9.0%.*

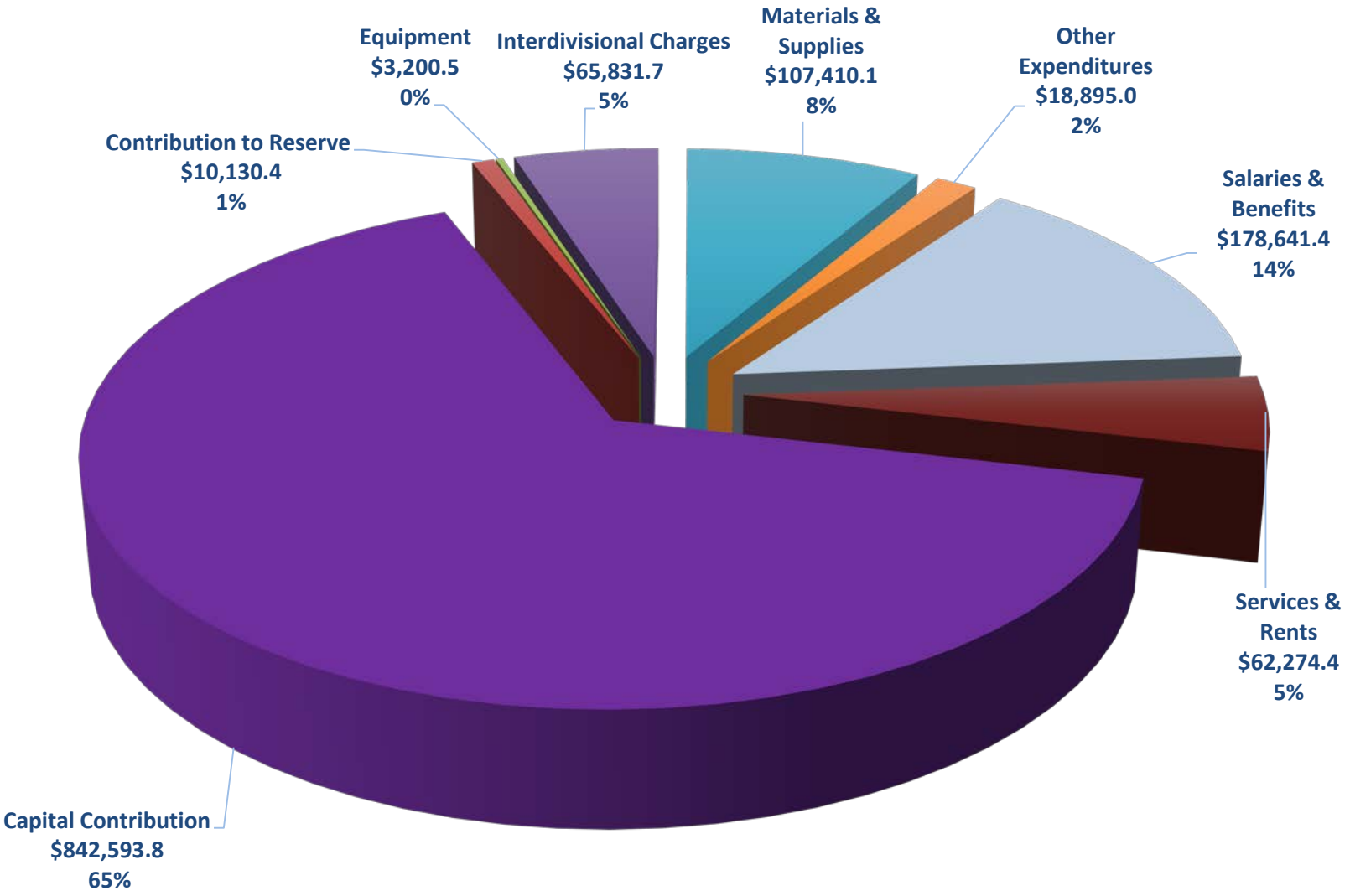
Explanation for vacancies:

- Retirements / Aging Workforce
- Implementation of large reorganization/restructuring exercise (Customer Care Centre initiative) towards more efficient customer service delivery -- positions are being repurposed as part of internal organizational efforts
- Difficulty finding fully qualified candidates for critical trade and technical positions
- Frequent internal employee movement (transfers, promotions, alternate rate, etc.)
- Significant time to fill permanent vacancies

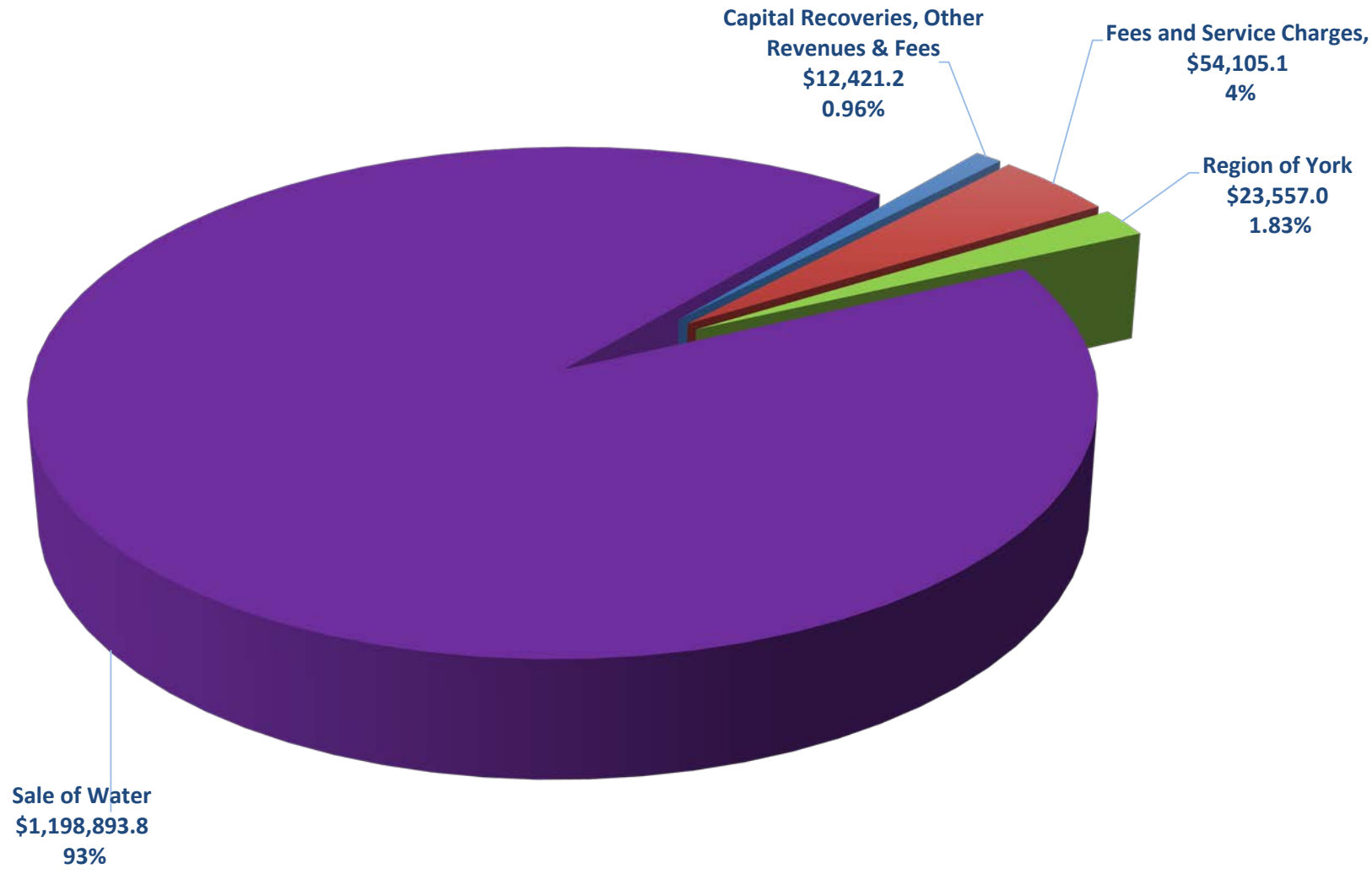
Strategies to fill vacancies:

- Five-year Workforce Plan up to December 2018 to fill critical, vulnerable and hard-to-fill positions first – hiring strategy will focus on effective/timely recruitment of these positions
- Hire over approved complement for operation and technical positions
- Implement on-the-job training programs for hard to fill positions

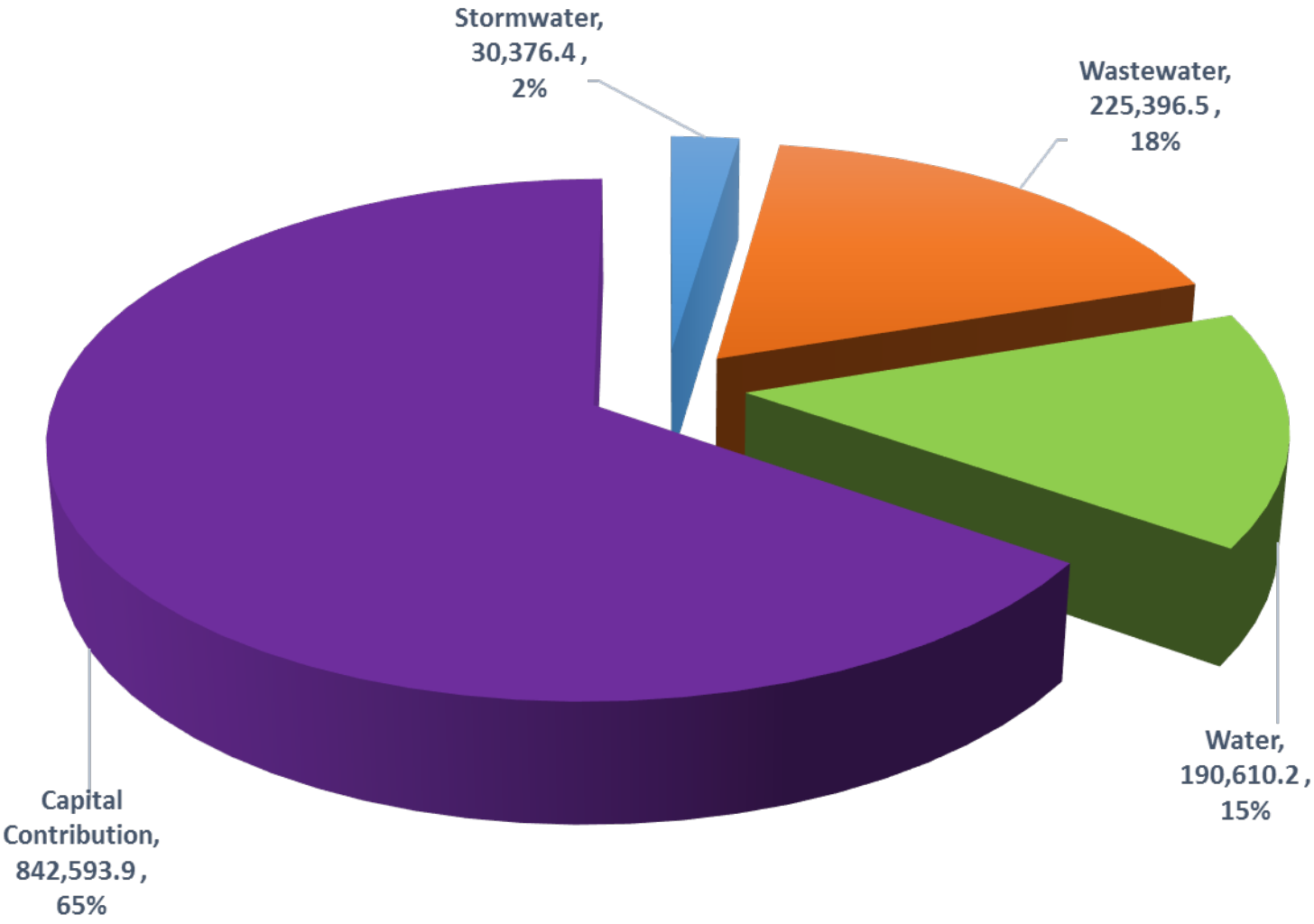
2018 Base Budget ($1.289 Billion) (000's)



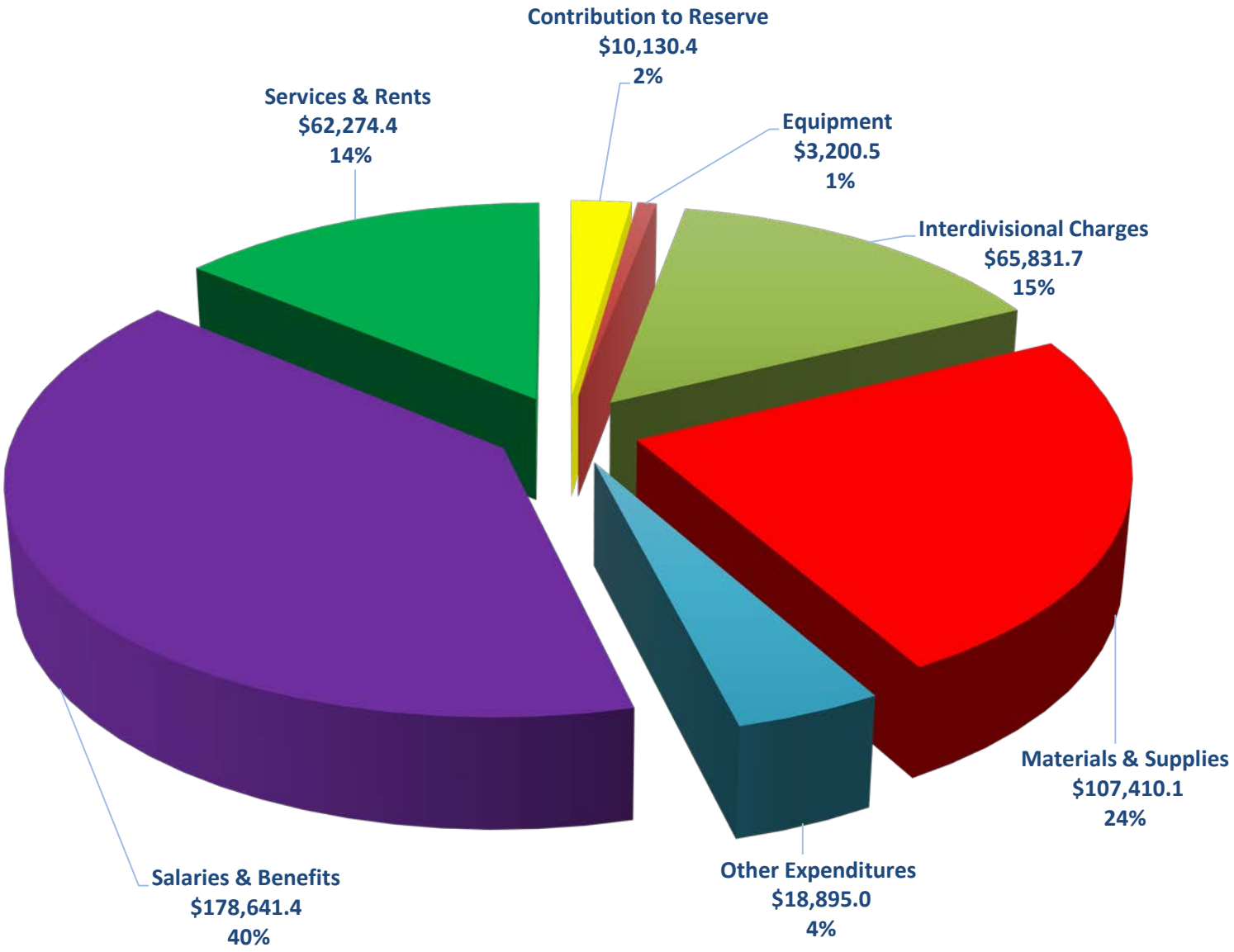
2018 Operating Budget Funding Sources ($000's)
$1.289 Billion



2018 Operating Budget by Service ($000's)
$1.289 Billion



2018 Operating Budget by Expenditure ($000's)
$446.383 Million (Gross)



2018 Recommended Base Budget

BASE BUDGET COMPARISON ($000s)				
(in $000's)	2017 Approved Budget (Adjusted)	2018 Budget Recommended	$ Increase (Decrease)	% Incr. (Decr.)
Gross Expenditures	443,792	446,383	2,592	0.6%
Revenues Excluding Sale of Water Toronto	85,677	90,083	4,406	5.1%
Net Expenditures	358,115	356,300	(1,814.6)	-0.5%
Sale of Water Toronto	1,146,251	1,198,894	52,643	4.6%
Capital Contribution	788,137	842,594	54,457	6.9%
No. of Positions	1,752.7	1,761.7	9.0	0.5%

- Toronto Water was able to offset gross expenditure pressures of $9.9 million with $7.3 million in expenditure reductions and $4.4 million in revenue change.
- The nine positions include: one position related to operating impact of capital (Humber Plant); one temporary position for capital delivery; two positions for TTC Scarborough Subway Extension; five positions for administration related to private water (groundwater) and accelerating development applications reviews.

2018 Proposed Positions

Business Case	Position Title	Pos. Type	FTE	Source
Humber Treatment Plant - New Substation	Electrical Instrument Control Technician	Permanent	1	Operating Impact of Completed Capital
			1	
Recovery from Capital - Enterprise Work Management System	Senior Systems Integrator TW	Temporary	1	Capital Project Recovery – Enterprise Work Management System
			1	
TTC Scarborough Subway Extension	Senior Engineer	Temporary	1	Additional revenue (external)
	Engineer	Temporary	1	
			2	
Private Water - Development Application Review	Engineering Technical Coordinator	Permanent	1	Additional revenue (external)
	Engineering Technologist Technician 3	Permanent	1	
	Quality Control Officer	Permanent	2	
	Support Assistant C	Permanent	1	
			5	
		TOTAL	9	

2018 Operating Budget

(In $000s)	2018 Recommended Operating Budget												Incremental Change			
	2017 Approved Budget	Base	Base Budget v. 2017 Approved Budget Changes		Service Changes	Base Incl. Service Changes	Base Budget (incl. Service Changes) v. 2017 Appvoved Budget Changes		New/ Enhanced	Total Budget	2018 Rec. vs.Budget vs. 2017 Approved Budget Changes		2019		2020	
By Service	$	$	$	%	$	$	$	%	$	$	$	%	$	%	$	%
Water Treatment & Supply																
Gross Expenditures	193,574.8	192,137.8	(1,437.0)	(0.7%)	(1,588.9)	190,548.9	(3,025.9)	98.4%	61.4	190,610.2	(2,964.5)	(1.5%)	6,282.1	3.3%	5,272.8	2.7%
Revenue	543,185.9	565,338.5	22,152.7	4.1%	85.1	565,423.7	22,237.8	104.1%		565,423.7	22,237.8	4.1%	13,238.4	2.3%	16,170.7	2.8%
Capital Contribution	349,611.1	373,200.7	23,589.7	6.7%	1,674.1	374,874.8	25,263.7	7.2%	(61.4)	374,813.4	25,202.4	7.2%	6,956.3	1.9%	10,897.9	2.8%
Wastewater Collection & Treatment																
Gross Expenditures	221,309.4	226,678.7	5,369.3	2.4%	(1,337.5)	225,341.3	4,031.9	1.8%	55.2	225,396.5	4,087.1	1.8%	7,258.2	3.2%	6,665.5	2.9%
Revenue	684,541.6	718,684.9	34,143.2	5.0%	67.8	718,752.6	34,211.0	5.0%		718,752.6	34,211.0	5.0%	17,167.2	2.4%	21,455.5	2.9%
Capital Contribution	463,232.2	492,006.1	28,773.9	6.2%	1,405.2	493,411.3	30,179.1	6.5%	(55.2)	493,356.1	30,123.9	6.5%	9,909.0	2.0%	14,790.1	2.9%
Stormwater Management																
Gross Expenditures	28,907.4	30,378.1	1,470.7	5.1%	(7.8)	30,370.3	1,462.9	5.1%	6.1	30,376.4	1,469.0	5.1%	848.9	2.8%	564.0	1.8%
Revenue	4,200.7	4,742.6	541.9	12.9%	58.2	4,800.8	600.1	14.3%		4,800.8	600.1	14.3%	244.9	5.1%	97.6	2.0%
Capital Contribution	(24,706.7)	(25,635.5)	(928.8)	3.8%	66.0	(25,569.5)	(862.8)	3.5%	(6.1)	(25,575.6)	(869.0)	3.5%	(604.0)	2.4%	(466.4)	1.8%
Total										-						
Gross Expenditures	443,791.6	449,194.6	5,403.0	1.2%	(2,934.2)	446,260.4	2,468.9	0.6%	122.7	446,383.2	2,591.6	0.6%	14,389.2	3.2%	12,502.3	2.7%
Revenue	1,231,928.2	1,288,766.0	56,837.8	4.6%	211.1	1,288,977.1	57,048.9	4.6%		1,288,977.1	57,048.9	4.6%	30,650.5	2.4%	37,723.8	2.8%
Total Capital Contribution	788,136.6	839,571.4	51,434.8	6.5%	3,145.2	842,716.6	54,580.0	6.9%	(122.7)	842,593.9	54,457.3	6.9%	16,261.3	1.9%	25,221.5	2.9%
Approved Positions	1,752.7	1,761.7	9.0	0.5%		1,761.7	9.0	0.5%		1,761.7	9.0	0.5%	18.0	1.0%	9.0	0.5%

2018 Net Operating Budget Changes ($millions)

PRESSURES		COST REDUCTIONS/SAVINGS	
Operating Impact of Capital	1.496	Contributions & Transfers - PILT (net)	0.400
Recovery from Capital - Salaries & Benefits	0.116	Utility Efficiencies	2.495
Contributions & Transfers - TRCA	0.121	Chemical Efficiencies	0.136
Operating Cost - Wastewater & Water Treatment	0.961	Line-by-line review/Fleet Service Review	0.389
Private Water - Development Application Review	0.372	Inter-divisional Charges (net)	3.926
TTC Scarborough Subway Extension	0.254		
Short Stream Utility Fees	0.600		
ECONOMIC FACTORS			
Economic Factors - Energy and Utilities	1.335	REVENUE CHANGES	
Economic Factors - Materials & Supply, Equipment and Contracted Services	1.921	User Fees - Inflation & Volume	1.211
Cost of Living Allowances, Step, Merit & Progression Pay	2.762	Other Revenue & Recoveries	3.195
TOTAL PRESSURES	9.939	SAVINGS & REVENUE CHANGES	11.753

2018 New and Enhanced Services

	New/Enhanced						Total			Incremental Change			
	Water Treatment & Supply		Wastewater Collection & Treatment		Stormwater Management		$	$	Position	2019 Plan		2020 Plan	
Description ($000s)	Gross	Net	Gross	Net	Gross	Net	Gross	Net	#	Net	Pos.	Net	Pos.
Enhanced Services Priorities													
Funding for Senior Communications Coordinator Position in CMO Office	61.4	61.4	55.2	55.2	6.1	6.1	122.7	122.7		2.8		3.2	
Total New / Enhanced Services	**61.4**	**61.4**	**55.2**	**55.2**	**6.1**	**6.1**	**122.7**	**122.7**		**2.8**		**3.2**	

Toronto Water is seeking funding of $0.123 million for one additional senior communications coordinator, with digital communications expertise to assist in planning, implementing and managing a divisional digital component. The additional position will provide specific digital expertise including web management, social media, customer service related to proactive digital communication and digital advice/support for the annual Toronto Water communications strategy, and, as required, to the three senior communications coordinators. This request is dependent on Strategic Communications obtaining approval for the one position increase to their complement.

Outlook - 2019 and 2020 Plan
Major Cost Drivers

Economic Factors: Payroll -- $3.7 million (2019) + $1.8M (2020)

- Progression Pay, Step Increase & Salary Realignment to actuals
- Cost of Living Adjustment (COLA) increase of 1.0% budgeted for Union positions (2019 only as 2020 will be under a new contract)

Economic Factors: Non-Payroll -- $8.1 million (2019) + $8.4M (2020)

- Energy & chemical factors higher than the Consumer Price Index (CPI) factors
- Inflationary increase in existing service contracts
- Hydro increase of 8.8% (2019) and 8.5% (2020) ($66.2 million 2017 budget)

Operating Impact of Completed Capital Projects -- $1.0 million (2019) + $1.5M (2020)

- Ashbridges Bay Treatment Plant "P" Building & Waste Activated Sludge Upgrade
- Basement Flooding Protection Program (Transfer of Assets to Toronto Water): Coatsworth Cut CSO storage tank, Charles Caccia Park CSO storage tank and Old Sheppard stormwater tanks
- Waterfront Stormwater Infrastructure – West Don Lands/East Bayfront
- Highland Creek Treatment Plant – Odour Control Upgrade – Phase 1 Construction

Contributions, Compliance & Environmental -- $0.4 million (2019) + $0.4 million (2020)

- Contributions– Payment in Lieu of Taxes & TRCA

Toronto Water

2018–2027 Recommended Capital Budget

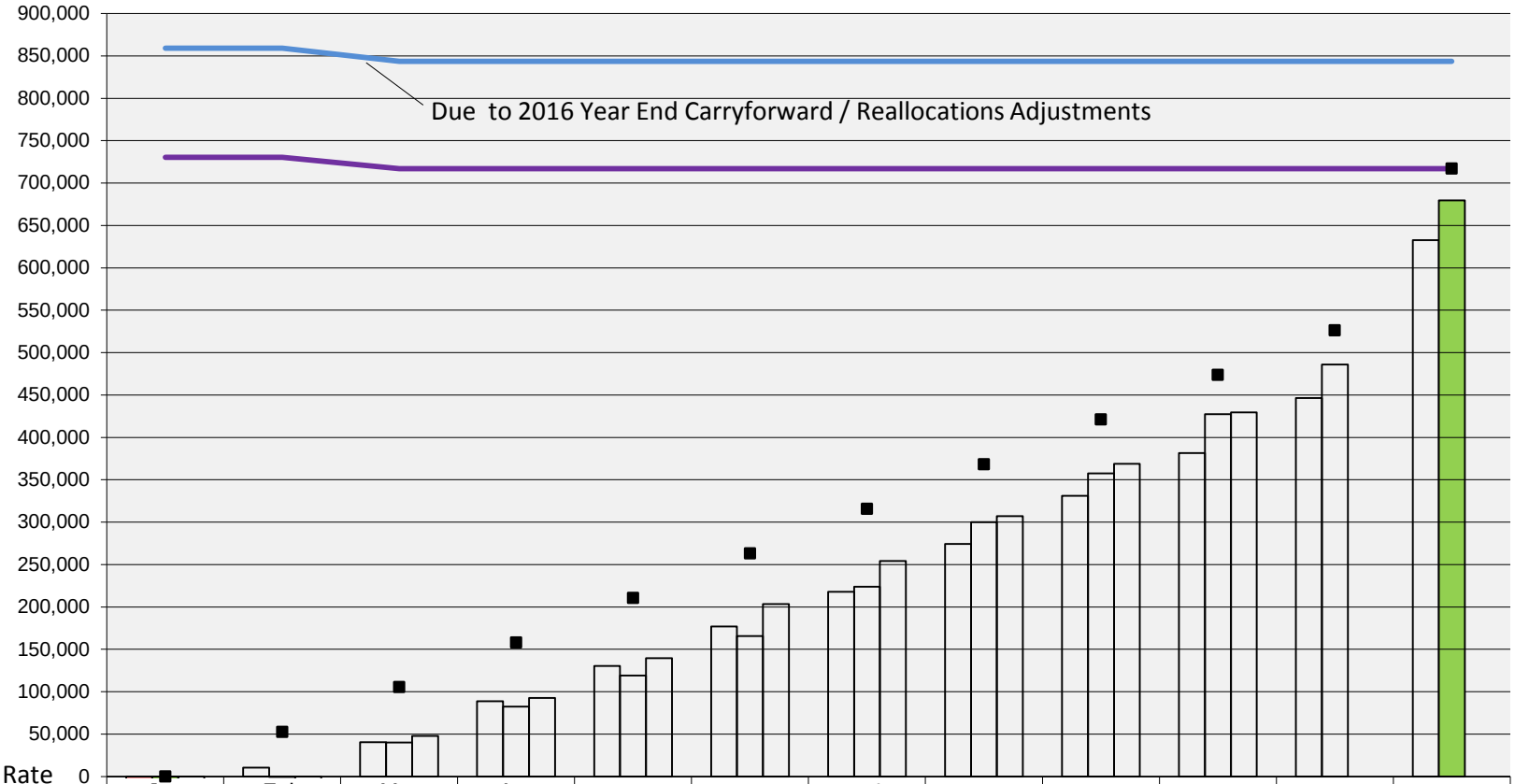
Capital Budget Challenges

Long-term Financial Stability	Existing 10-year financial plan relies primarily on successive water rate increases to fund continued infrastructure investment and conforms with pay-as-you-go financing strategy.
Planning for Growth	The City of Toronto is experiencing significant growth with many landowners submitting development applications to amend the zoning by-law to increase the permitted density. Insufficient development charges are being collected to offset the cost of growth projects incorporated in the 10 year plan resulting in additional draws from water rate reserves.
Aging Infrastructure	Significant state of good repair backlog for underground assets, water/wastewater treatment plants and facilities. Currently updating condition assessments on major assets. Escalating unit rates for pipe replacement.
Basement Flooding	Significant investment required to manage basement flooding issues across the city.
Managing Reserve Balances	Ensuring positive reserve balances during major capital spending years. Simultaneous large scale projects are planned for the next five years.

2017 Key Accomplishments

Program Area	Key Accomplishments
Water Treatment & Supply ($308 Million)	▪ Approximately 32 km of watermain replacement ($65M) and 86 km of structural watermain lining ($77M) ▪ Water service replacement – ($29M) ▪ Water treatment plant upgrades ($30M) ▪ Transmission watermain replacement ($15M) ▪ Reservoirs and pumping stations ($20M) ▪ Water Meter Program ($4M); Engineering Services ($33M); New Connections ($35M)
Wastewater Treatment & Collection ($302 Million)	▪ 4 km of sewer replacement ($20M) and 105 km of sewer rehabilitation ($58M); trunk sewer rehabilitation ($21M) ▪ Ashbridges Bay Treatment Plant Upgrades including P building, biofilters and engineering for the integrated pumping station and outfall projects ($77M) ▪ Highland Creek Treatment Plant Upgrades including biosolids and odour control ($32M) ▪ Humber Treatment Plant Upgrades including gas compressor, odour control and secondary treatment ($45M) ▪ Pumping station and forcemain rehabilitation ($6M) ▪ Engineering Services ($33M); Business & Technology ($7M); Yards & Facilities ($3M)
Stormwater Management ($82 Million)	▪ Basement Flooding Protection Program - ongoing ($49M) ▪ Wet Weather Flow Master Plan - ongoing ($33M)

Capital Spending – Year-Over-Year Comparison



51 % Expenditure Rate

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015 Actual	(13,446)	10,455	40,346	88,816	130,307	177,001	218,005	274,372	331,119	381,424	446,250	632,577
2016 Actual	(38,487)	(117)	40,199	82,385	119,178	165,712	223,953	299,936	357,519	427,410	485,762	679,598
2017 Actual	(53,410)	(11,921)	48,025	92,519	139,611	203,279	254,167	307,129	368,920	429,612		
2017 Budget	859,144	859,144	843,535	843,535	843,535	843,535	843,535	843,535	843,535	843,535	843,535	843,535
2017 Target (85%)	730,272	730,272	717,004	717,004	717,004	717,004	717,004	717,004	717,004	717,004	717,004	717,004
2017 Cumulative Target	0	52,609	105,217	157,826	210,435	263,043	315,652	368,261	420,869	473,478	526,086	717,004
Multi-Year Commitments	1,002,602	1,020,549	1,023,348	1,022,435	1,060,830	1,039,421	1,061,134	1,112,255	1,076,763	1,067,141		

Updated to October 26

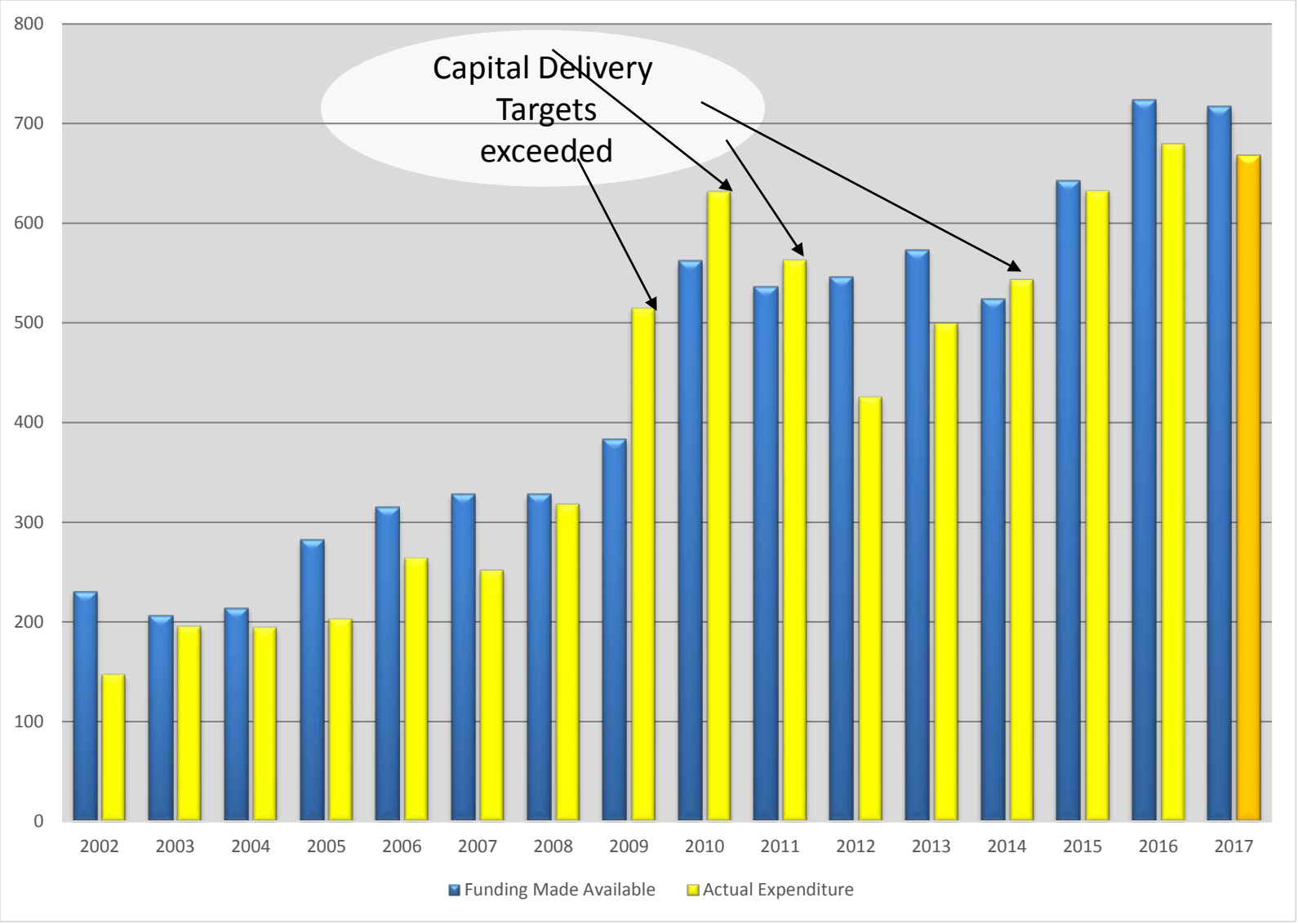
2017 Capital Spending - Budget to Actual Comparison

2017 Approved	Actuals as of September 30, 2017		Projected Actuals at Year End		Unspent Balance	
$	$	% Spent	$	% Spent	$	% Unspent
843,534,626	380,680,640	45.1%	667,948,122	79.2%	175,586,504	20.8%

Key Points:

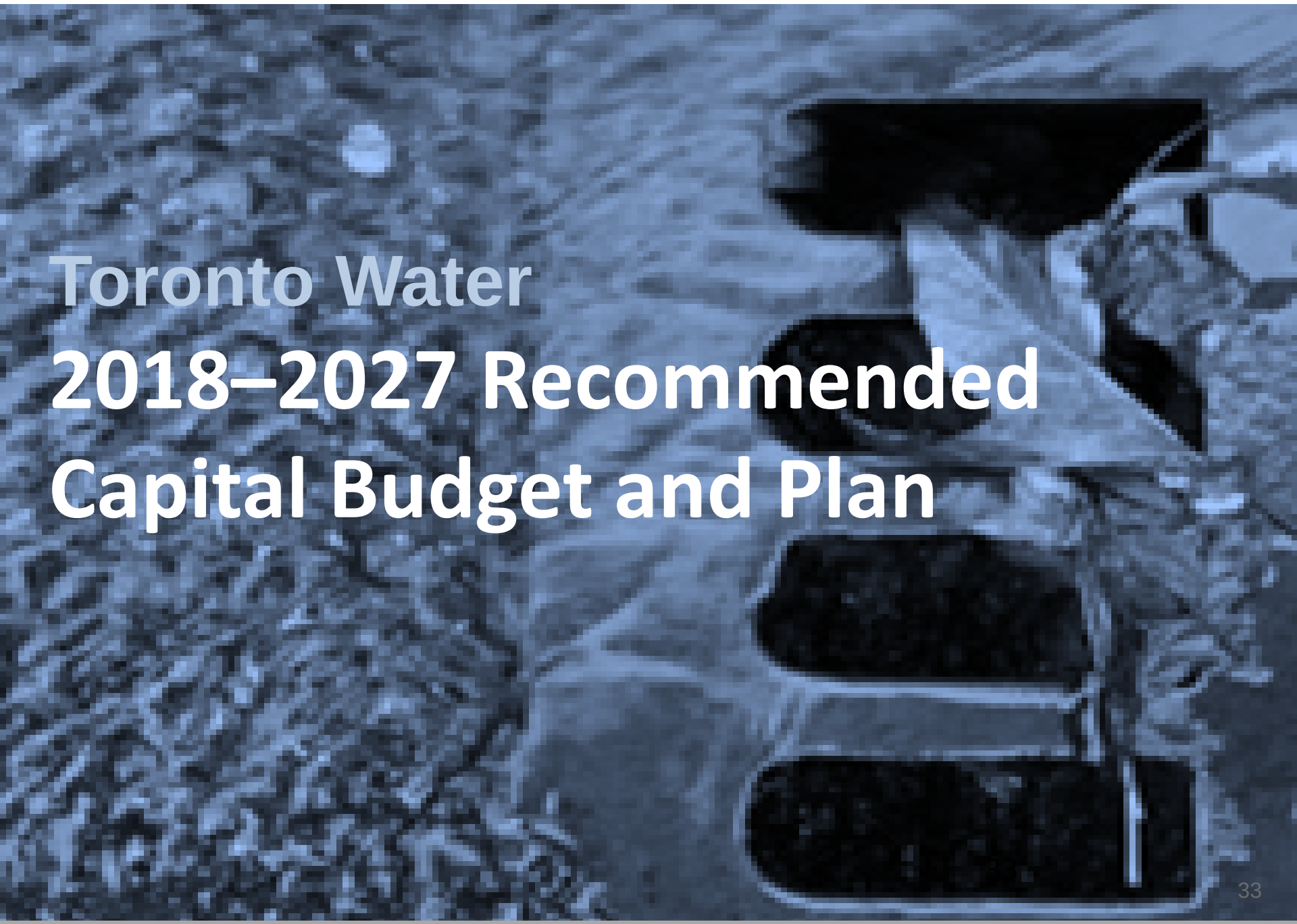
- Target expenditure is 85%
- Spending to date is lagging due to delayed contract awards and some performance issues with contractors and consultants
- Over $1 Billion of commitments in active contracts
- Up to 10% of the program ($84M) is for contingency
- Market rates for construction work are trending upwards

2002-2017 Capital Budget Expenditure Rate ($millions)



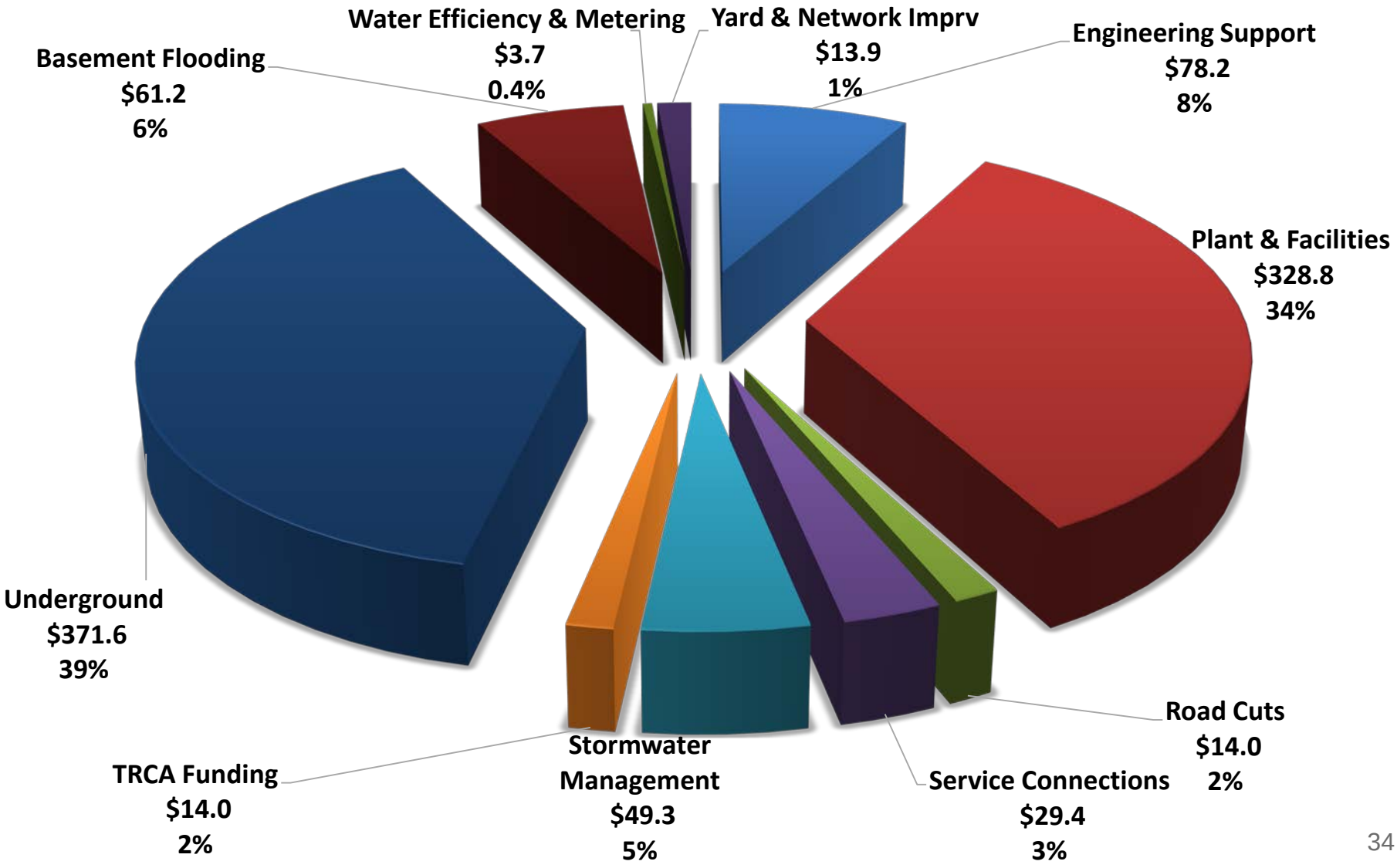
2017 Capital Completion rate is projected to be 79.2% of Gross Amount

2017 Capital Completion Target was set at 85% of Gross Amount

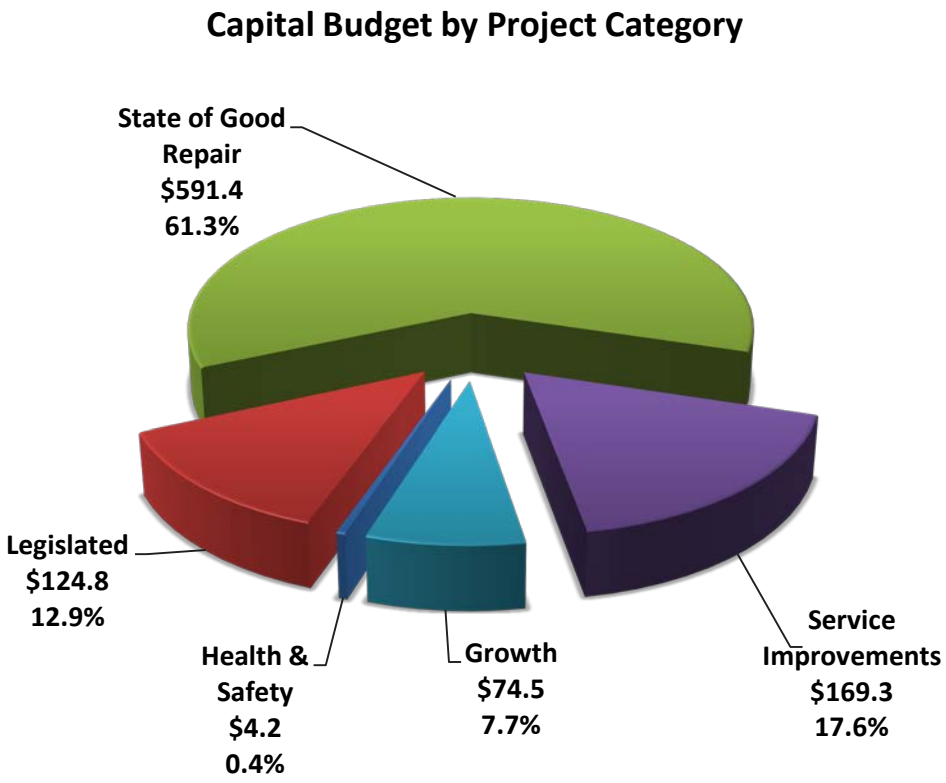


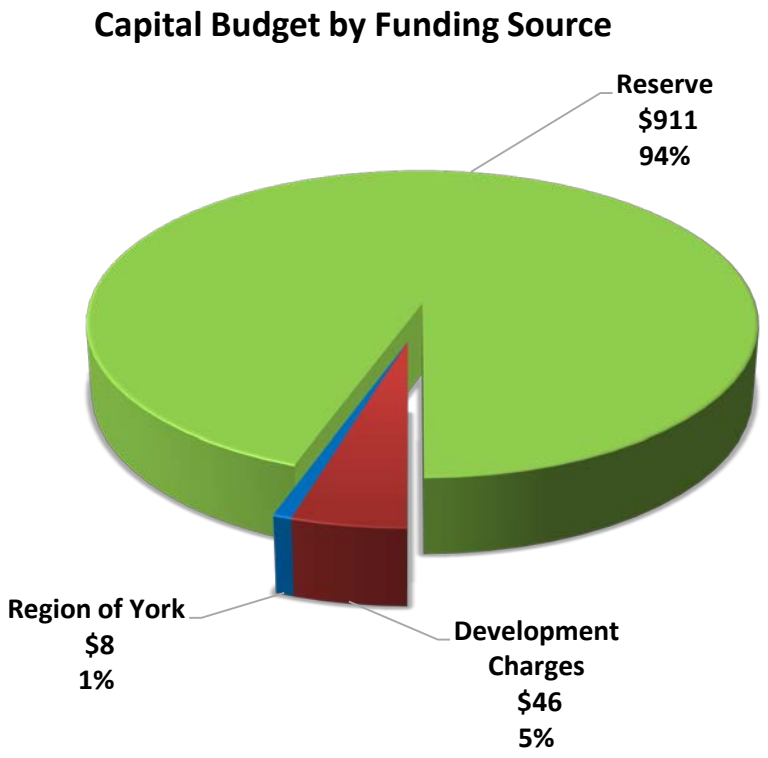
Toronto Water
2018–2027 Recommended Capital Budget and Plan

2018 Capital Budget ($millions)
$964 Million (Gross)

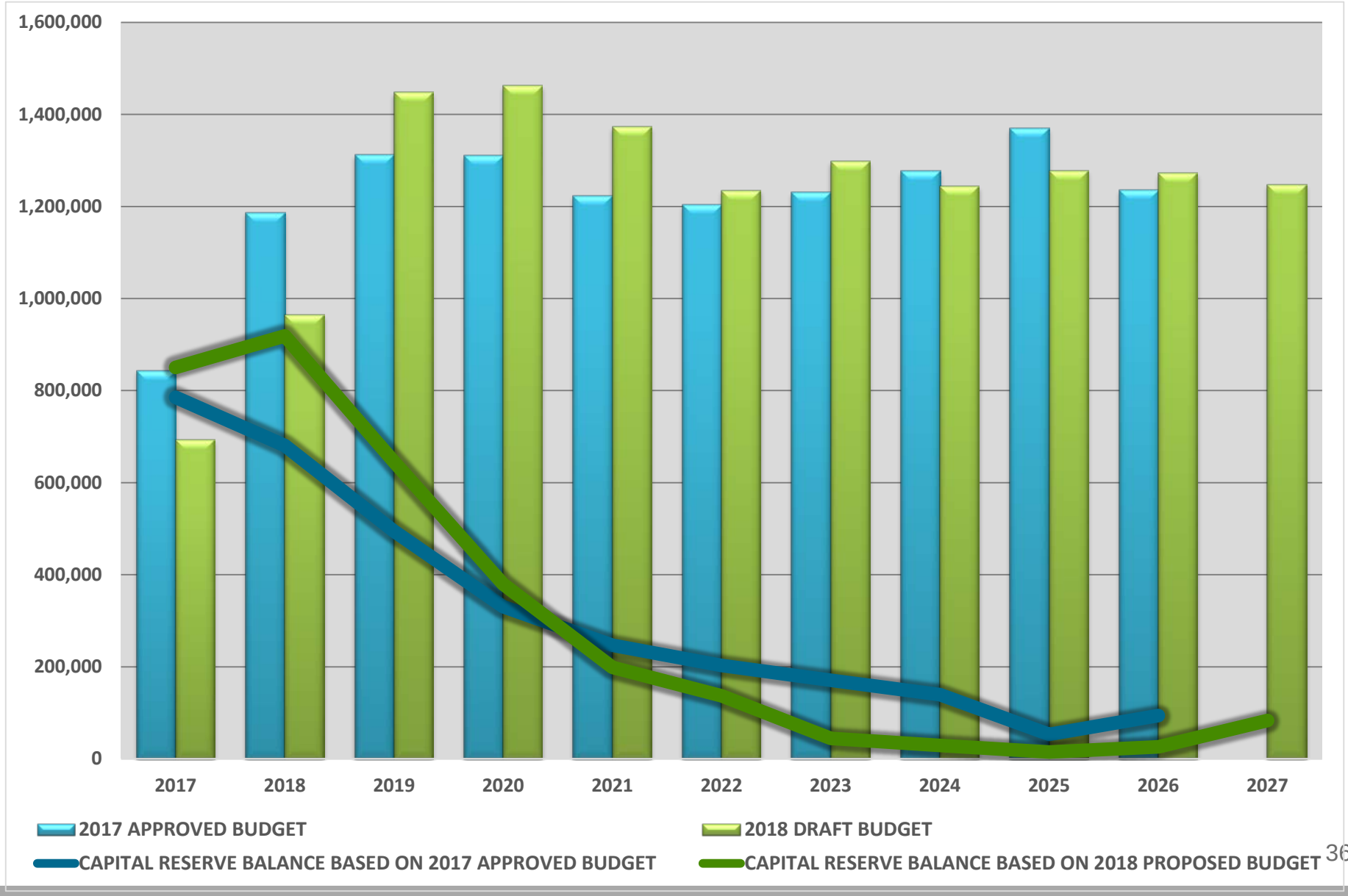


2018 Capital Budget by Project Category & Funding Source ($millions)

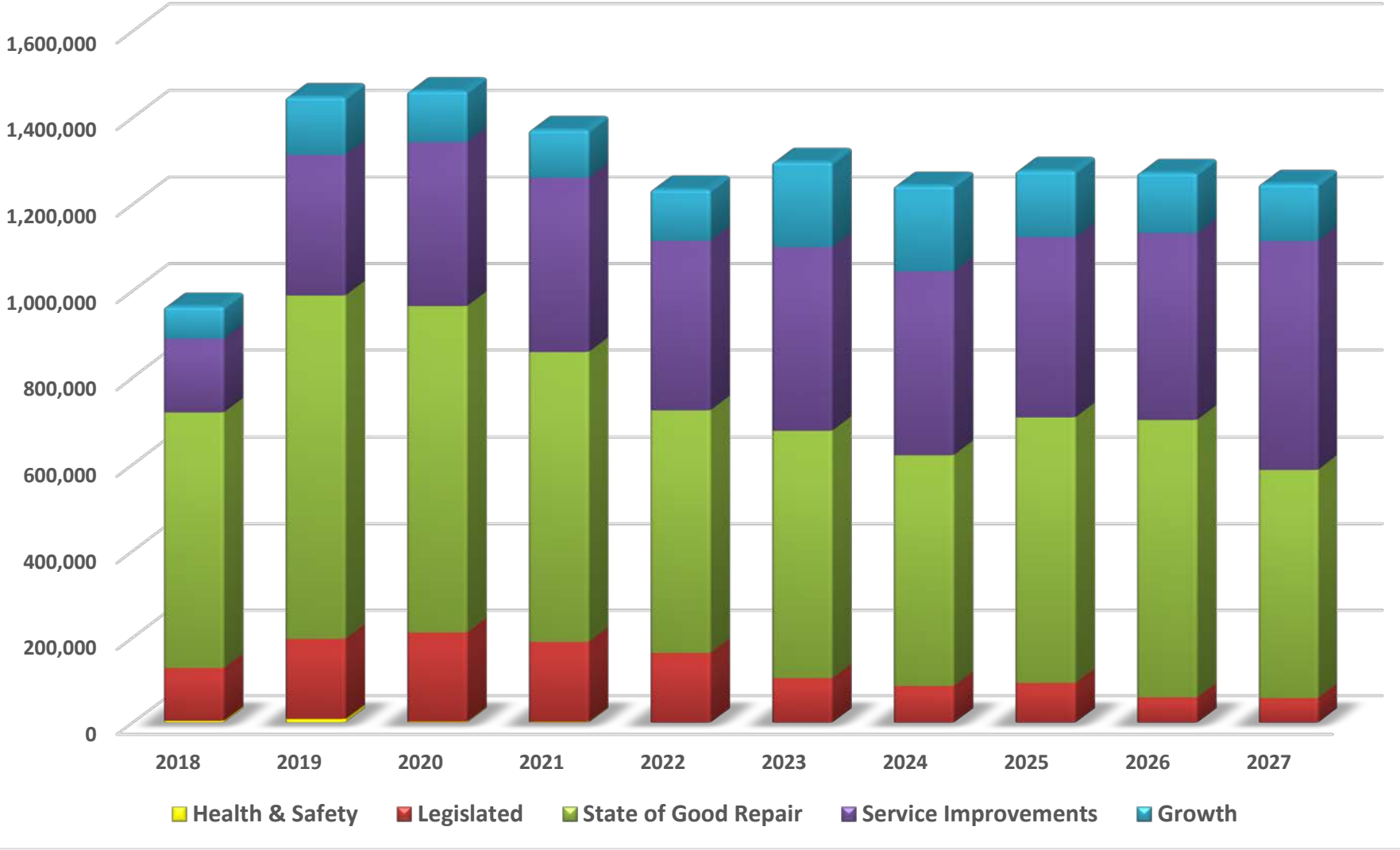




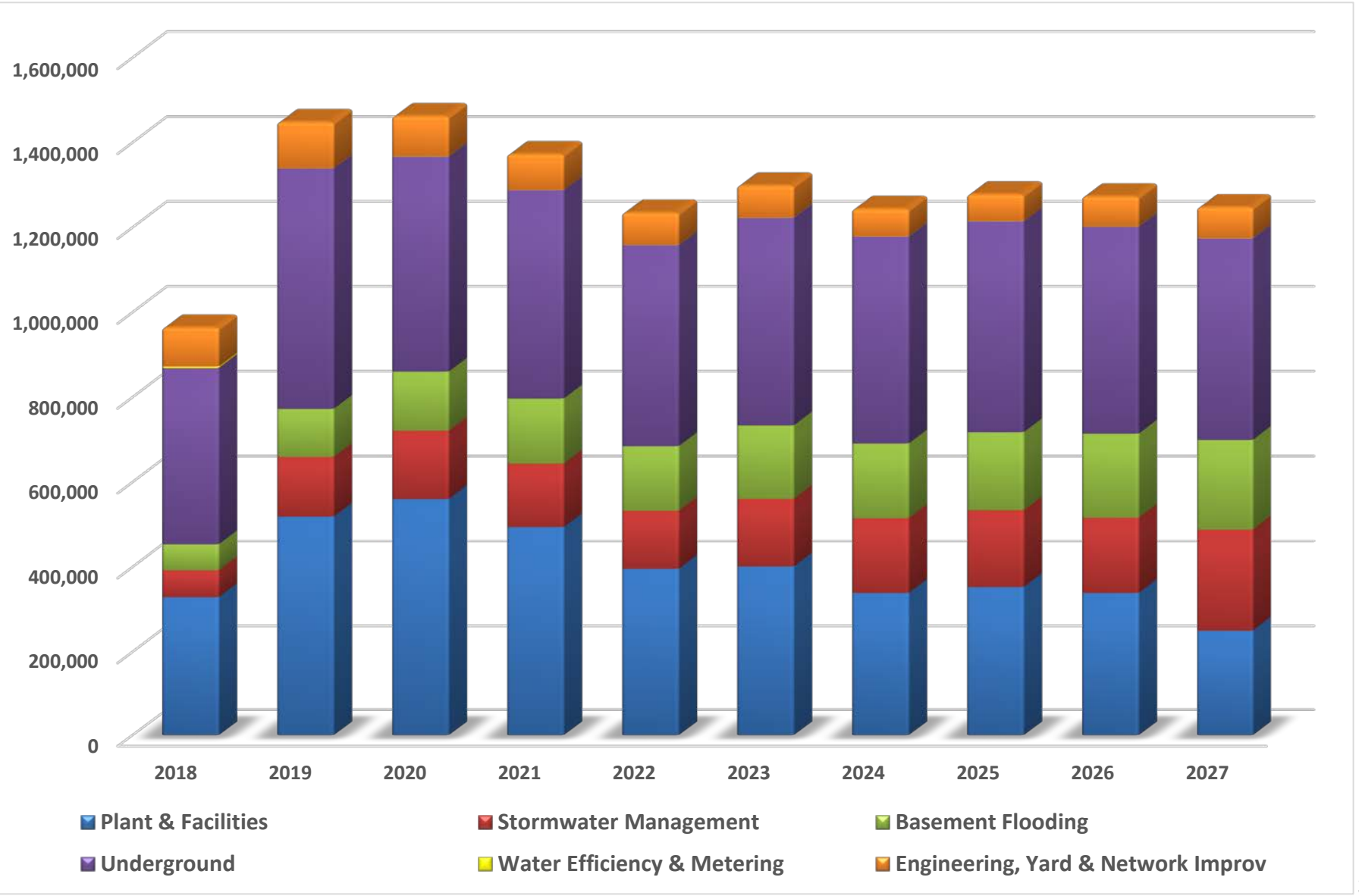
10-Year Capital Plan Comparison ($millions)



2018 – 2027 Capital Plan by Category



2018 – 2027 Capital Plan by Asset Class

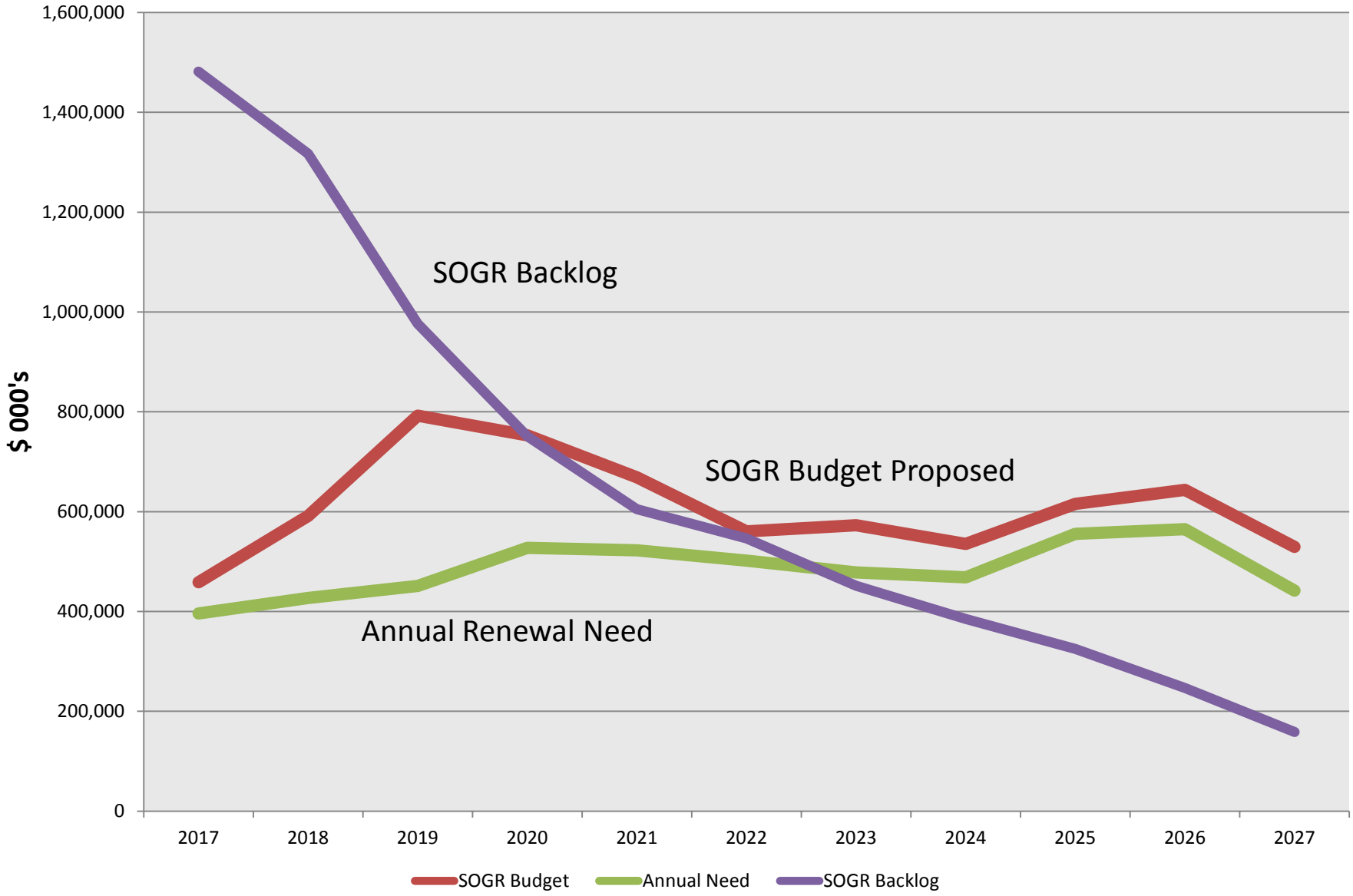


Capital Overview 2018-2027 - $12.8 Billion

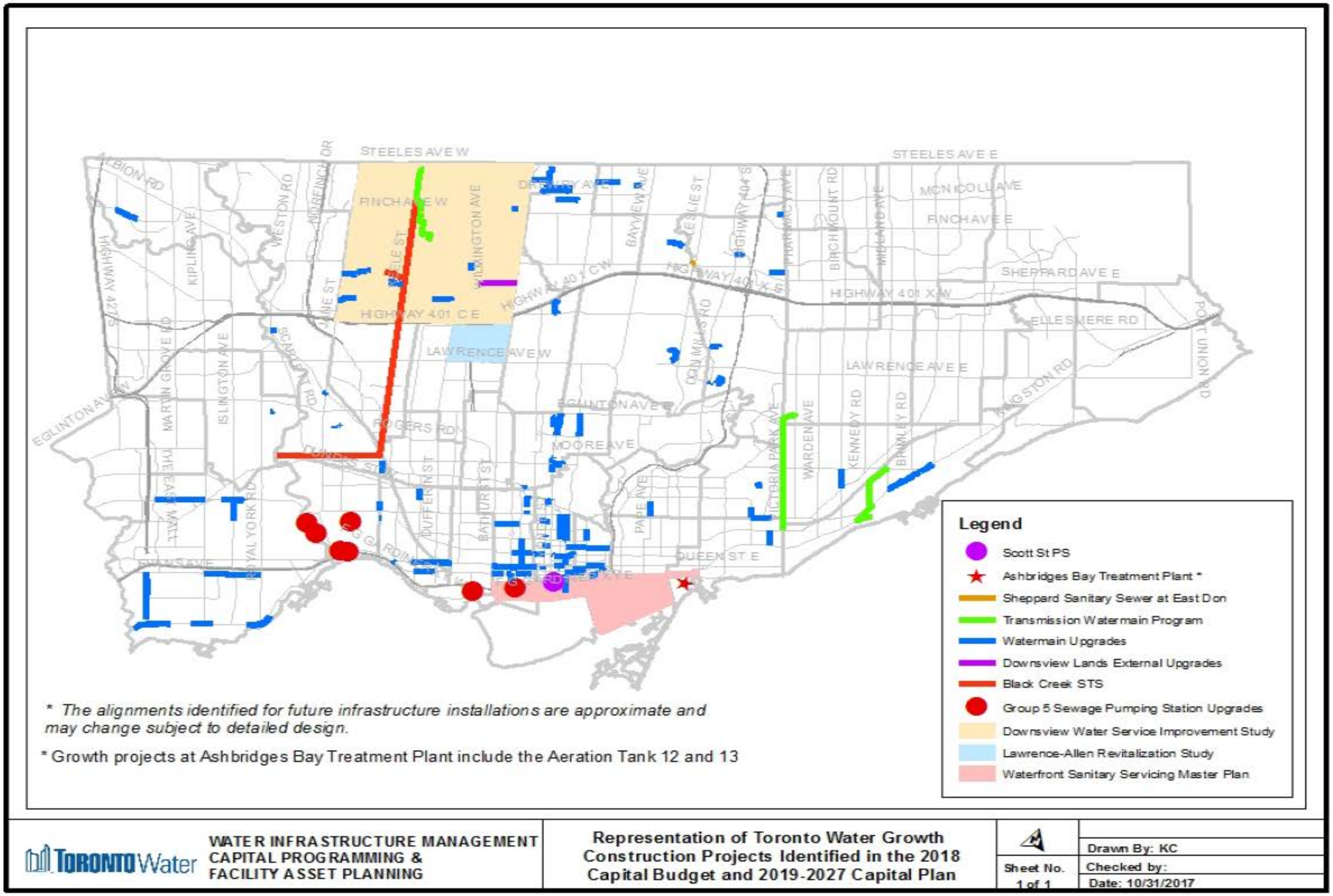
Program Area	Key Programs and Projects
Water Treatment & Supply ($4.3 Billion)	▪ Watermain replacement ($1,197M) and rehabilitation ($743M) ▪ Water service replacement – ($440M) ▪ Water treatment plant upgrades ($455M) ▪ Transmission watermain replacement ($346M) ▪ Reservoirs and pumping stations ($296M) ▪ Water Meter Program ($3M); Engineering Services ($407M); New Connections ($388M), Water Efficiency Plan ($5M)
Wastewater Treatment & Collection ($5.4 Billion)	▪ Sewer replacement and new sewers ($253M), sewer rehabilitation ($676M), and trunk sewer rehabilitation ($661M) ▪ Ashbridges Bay Treatment Plant Upgrades ($2,131M) ▪ Highland Creek Treatment Plant Upgrades ($566M) ▪ Humber Treatment Plant Upgrades ($423M) ▪ Pumping station rehabilitation and forcemains ($152M) ▪ Engineering Services ($407M); Business & Technology ($74M); Yards & Facilities ($53M)
Stormwater Management ($3.1 Billion)	▪ Basement Flooding Protection Program ($1,561M) ▪ Wet Weather Flow Master Plan ($1,583M)

49% of funding is allocated to State of Good Repair Projects

State of Good Repair Funding & Backlog



Growth Related Upgrades (2018-2027)



** The alignments identified for future infrastructure installations are approximate and may change subject to detailed design.*

* Growth projects at Ashbridges Bay Treatment Plant include the Aeration Tank 12 and 13

Toronto Water — WATER INFRASTRUCTURE MANAGEMENT CAPITAL PROGRAMMING & FACILITY ASSET PLANNING	Representation of Toronto Water Growth Construction Projects Identified in the 2018 Capital Budget and 2019-2027 Capital Plan	Sheet No. 1 of 1	Drawn By: KC Checked by: Date: 10/31/2017

Development Charge Reserve Shortfalls (2018-2027)

Growth Related Projects with 10 Year Capital Plan

- $5,338M - total project cost of Development Charge (DC) eligible projects
  - $848M - maximum DC funding eligibility
- $163M - new growth related projects not included in DC list
  - Ashbridges Bay Treatment Plant Aeration Tank 12 & 13 - $157 million
  - Scott Street Pumping Station - $4 million
  - Highland Creek Treatment Plant Biosolids Management Enhancement - $2 million

Development Charge Reserve Forecast $000's

Development Charge Reserve	2017 Projected Year End Balance	10 Year Forecasted Contribution	Total Value	10 Year Capital Funding Need	Balance
Water	$47,488	$275,739	$323,227	$319,700	$3,527
Wastewater	$51,545	$207,855	$259,400	$566,707	($307,307)
Stormwater	$18,733	$55,452	$74,185	$124,644	($50,460)
Total	**$117,765**	**$539,046**	**$656,811**	**$1,011,051**	

Impact of Funding Deficiency

- Many DC eligible projects will receive partial or no funding from DC Reserves
- This results in additional funding draws from Capital Reserves and deferrals in the State of Good Repair and Service Improvement programs

Summary of Major Projects Underway in 2017

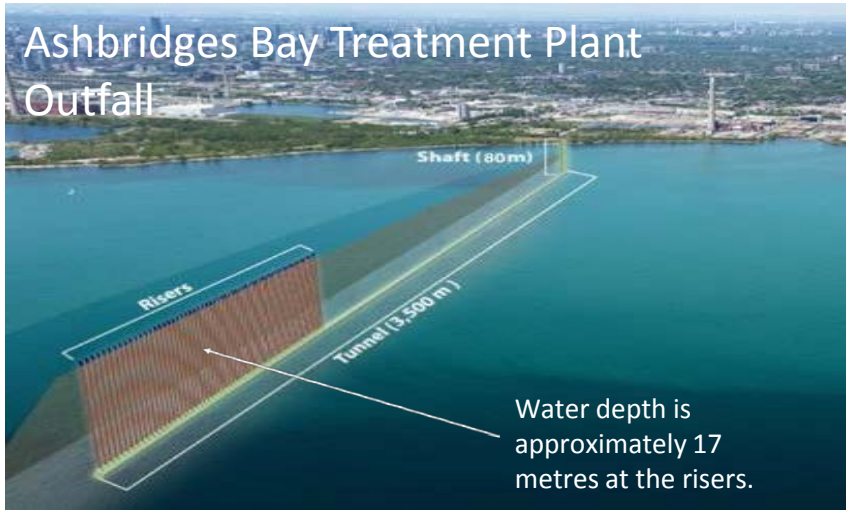
Watermain Rehabilitation

St. Clair Reservoir Rehabilitation

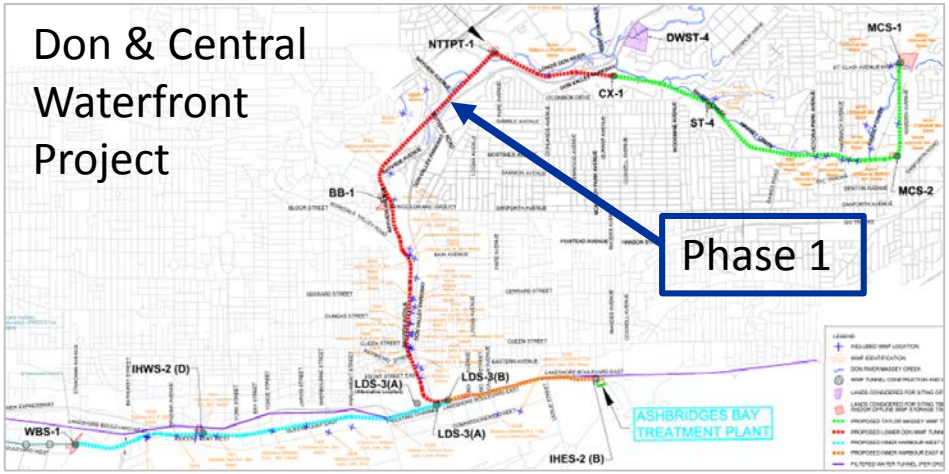
Storm Sewer Upgrades
Basement Flooding

Project	Cost
Clark FP Filter Rehabilitation	$35M
St. Clair Reservoir Rehabilitation	$25M
Standby Power – Ellesmere PS	$25M
ABTP Ferrous Upgrades	$27M
ABTP Service Air P Building Upgrades	$135M
HCTP Odour Control Upgrades	$65M
HCTP Biosolids Treatment Upgrades	$55M
HTP Odour Control Implementation Phase 1	$53M
HTP Secondary Treatment Upgrades – South	$157
Basement Flooding (2017)	$49M
32km of watermain replacement (2017)	$65M
4km of sewer replacement (2017)	$20M
Trunk Sewer Rehabilitation	$50M
Don & Central Waterfront Engineering	$57M
Watercourse restoration (2017) incl. TRCA	$19M

Major Projects to be Awarded in 2018 ($1.6B)



Project	Cost
ABTP Disinfection System	$281M
ABTP Outfall	$327M
ABTP Integrated Pumping Station – Phase 2	$112M
ABTP Waste Activated Sludge Upgrades	$160M
Don & Central Waterfront – Phase 1	$500M
Rosehill Reservoir	$40M
Scarborough Transmission WM	$45M
ABTP Digester 9-12 Refurbishment	$35M
HCTP Liquid Train Repairs – Phase 1	$45M
HCTP Aeration System Upgrades	$55M



Unfunded TRCA Capital Needs

Project Description ($000s)	Total Project Cost	Funding Cash flow									
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Category 3: Health & Safety or SOGR to Avoid Service Interruption or Legal Claims											
Black Creek Pioneer Village - Asset SOGR	13,000	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Black Creek Pioneer Village - Asset Master Plan	500	100	200	200							
Asset Management Plan Implementation	5,000	500	500	500	500	500	500	500	500	500	500
Lower Don Erosion Restoration Project	4,000	100	200	1,200	1,200	1,300					
Flood Mitigation Priority Enhancement Studies	1,500	150	150	150	150	150	150	150	150	150	150
Erosion Control - Floodline Mapping Enhancement	680	680									
Western Beaches Breakwall Repair (Phase 1)	7,000	500	500	2,000	2,000	2,000					
Other Initiatives - Post Restoration Maintenance Plan	125	125									
Other initiatives - Restoration Enhancements	1,000	100	100	100	100	100	100	100	100	100	100
Special Policy Areas and Flood Vulnerable Areas Review	150	150									
Category 6: Implementing Council Priorities											
Scarborough Waterfront Project	170,000	3,000	6,000	6,000	6,000	7,500	7,500	7,500	7,500	7,500	7,500
South Mimico Trail Connection	2,000	1,300	700								
Scarborough Bluffs West Study - EA	3,420	1,140	1,140	1,140							
Scarborough Bluffs West Project Implementation	26,000				2,000	4,000	4,000	4,000	4,000	4,000	4,000
Tommy Thompson Park - Master Plan Phase II	17,700	1,000	4,200	2,500	2,000	2,000	2,000	2,000	2,000		
Toronto Wildlife Centre	9,705	3,235	3,235	3,235							
Category 8: Address A Sustained Service Demand											
Greenlands Acquisition Project	35,250	2,250	2,750	3,000	3,250	3,500	3,750	4,000	4,250	4,250	4,250
Waterfront Rehabilitation	100,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Gatineau Hydro Corridor Revitalization	800			100	100	100	100	100	100	100	100
Climate Research and Resilience	750	75	75	75	75	75	75	75	75	75	75
Sustainable Neightborhood Retrofit Action Plan	1,200	250	275	300	375						
Watershed Plan Development	2,200	220	220	220	220	220	220	220	220	220	220
Partners in Project Green - Eco Forks	2,480	320	370	250	250	250	230	210	200	200	200
Total	404,460	26,495	31,915	32,270	29,520	32,995	29,925	30,155	30,395	28,395	28,395

Key Points:

- Projects have not been assessed for deliverability, prioritization and coordination with Toronto Water
- Principle for cost sharing between rate and tax funding for projects not impacting Toronto Water infrastructure has not been established
- Clarification required regarding Council Priorities category

Incremental Operating Impact of Capital

($000s)	2018 Rec. Budget	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2027 Plan	2018-2027 Total
Approved Projects											
Basement Flooding Relief - Tunnel Project				100.0							100.0
Basement Flooding Relief - Group 2		206.0	87.2								293.2
Highland Creek WWTP - Process & Facility Upgrade		5.0									5.0
Highland Creek TP -Odor Control Upgrades - Phase 1 Construction		100.0									100.0
Ashbridges Bay WWTP - P Building	825.0	199.9	100.0	100.0							1,224.9
Ashbridges Bay- Ferrous Upgrades	(180.0)										(180.0)
Ashbridges Bay- D Building Phase 2					165.0						165.0
Ashbridges Bay- Service Air Upgrades	50.0										50.0
Ashbridges Bay I Integrated Pumping Station - Construction								1,000.0			1,000.0
Ashbridges Bay - Misc. Mech Rehab		161.9	(12.0)								149.9
Ashbridges Bay - Biofilters Upgrade & Replacement	100.0										100.0
North Toronto Treatment Plan Improvements			466.0								466.0
Sewer Replacement - Waterfront Stormwater Infrastructure		160.6	76.2								236.8
Sewer System Rehabilitation - CCTV Inspection	15.0										15.0
Laboratory Equipment (Warranty Expiry)		25.0	35.0	15.0	50.0	50.0					175.0
Island - Chem. & Res. Mgt. Const.	(39.0)	0.0	99.9								60.9
Humber WWTP - New Substation	105.0										105.0
Humber Odour Control			550.0								550.0
Highland Creek WWTP -Communication System		10.0									10.0
Ashbirdges Bay WWTP - Effluent System			712.1	413.4							1,125.5
Ashbridges Bay - Waste Activated Sludge Upgrade - Construction	620.0		(620.0)		1,700.0						1,700.0
Water Treatment UV Disinfection				119.6	287.5						407.1
SWM End of Pipe Facilities - Etobicoke Waterfront				50.0							50.0
Wet Weather Flow Master Plan		115.0		50.0							165.0
Total	1,496.0	983.4	1,494.4	848.0	2,202.5	50.0	0.0	1,000.0	0.0	0.0	8,074.3

Toronto Water
Service Levels

FPARS – Program Service Levels

Service Levels Water Treatment & Supply Water Distribution		2014	2015	2016	2017	2018	2019	2020
Percent Time Operating Within 276 kPA to 793 kPA Requirements	Approved/Target	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%
	Actual	99.4%	99.5%	99.5%	n.a.	n.a.	n.a.	n.a.
Watermain Breaks per 100 km of Water Distribution Pipe	Approved/Target	20.8	20.8	24.8	23.1	23.1	23.1	23.1
	Actual	29.6	28.2	18.9	n.a.	n.a.	n.a.	n.a.
Water Treatment								
Electrical kWH per ML of Water Pumped	Approved/Target	340	340	340	340	340	330	330
	Actual	337	333	336	n.a.	n.a.	n.a.	n.a.
Water Treatment Non-Compliance Events	Approved/Target	0	0	0	0	0	0	0
	Actual	0	1	0	n.a.	n.a.	n.a.	n.a.
Transmission Valve Chambers Inspected	Approved/Target	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	Actual	828	1,075	1,280	n.a.	n.a.	n.a.	n.a.
Megalitres of Reservoir Storage Capacity Maintained	Approved/Target	1,895	1,895	1,895	1,895	1,895	1,895	1,895
	Actual	1,895	1,895	1,895	n.a.	n.a.	n.a.	n.a.
Wastewater Collection & Treatment Wastewater Collection								
Percent Sewer Service Line Blocked Requests Resulting in Repair or Rehab	Approved/Target	n.a.	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
	Actual	31.0%	33.0%	35.0%	n.a.	n.a.	n.a.	n.a.
Mainline Backups per 100 KM of Pipe	Approved/Target	5.27	5.27	5.27	5.27	5.27	5.27	5.27
	Actual	4.30	3.90	4.9	n.a.	n.a.	n.a.	n.a.
Wastewater Treatment								
Percent Samples Not Meeting NMA Requirements	Approved/Target	0%	0%	0%	0%	0%	0%	0%
	Actual	0%	0%	0%	n.a.	n.a.	n.a.	n.a.
Wastewater Treatment Non-Compliance Events	Approved/Target	0	0	0	0	0	0	0
	Actual	1	6	3	n.a.	n.a.	n.a.	n.a.
Percent Wastewater Pumping Stations Meeting Legislative Requirements	Approved/Target	100%	100%	100%	100%	100%	100%	100%
	Actual	100%	100%	100%	n.a.	n.a.	n.a.	n.a.
Stormwater Management Stormwater Collection								
Percent Catch Basins Cleaned	Approved/Target	100%	100%	100%	100%	100%	100%	100%
	Actual	97%	110%	97%	n.a.	n.a.	n.a.	n.a.
ML of Dedicated (designed) Stormwater Storage Capacity	Approved/Target	1,246	1,246	1,246	1,248	1,248	1,248	1,248
	Actual	1,242	1,246	1,246	n.a.	n.a.	n.a.	n.a.
Stormwater Treatment								
Drainage Area (hectares) Where Quality Control Provided	Approved/Target	7,065	7,065	7,065	7,065	7,065	7,065	7,065
	Actual	6,979	6,990	6,990	n.a.	n.a.	n.a.	n.a.
Stormwater Control & Conveyance Systems Meeting Certificates of Approval	Approved/Target	100%	100%	100%	100%	100%	100%	100%
	Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Service Standards

Service Standards measure response times to 311 Customer Service Requests. These measures are an indication of how we are able to respond to operational and environmental issues.

Activity Type	Service Levels			
	2014 to 2016	% Within Standard 2016	% Within Standard YTD 2017 (January 1 to September 30)	Target Performance
Watermain-Possible Break	2 hours	79.7%	82.7%	85%
Water Service Line-Leaking	4 hours	54.7%	51.6%	75%
Water Service Line -Low Pressure, Low Flow	24 hours	69.7%	60.9%	75%
Water Service Line - No Water	4 hours	75.1%	81.8%	75%
Water Service Line - Turn Off/Burst	2 hours	84.7%	88.9%	75%
Water Service Line -Turn Off (non emergency)	8 hours	87.3%	87.7%	75%
Water Service Line -Turn On	8 hours	92.5%	92.8%	75%

Toronto Water

2018 Recommended Water Rate

Water Rate Model Assumptions for 2018

Consumption Forecast

- 2017: 2.5% below 2015 actual
  (*2016 consumption assumed higher than average)*
- 2018: 1.5% below 2015 actual
- 2019 and forward: 0.5% decrease per year

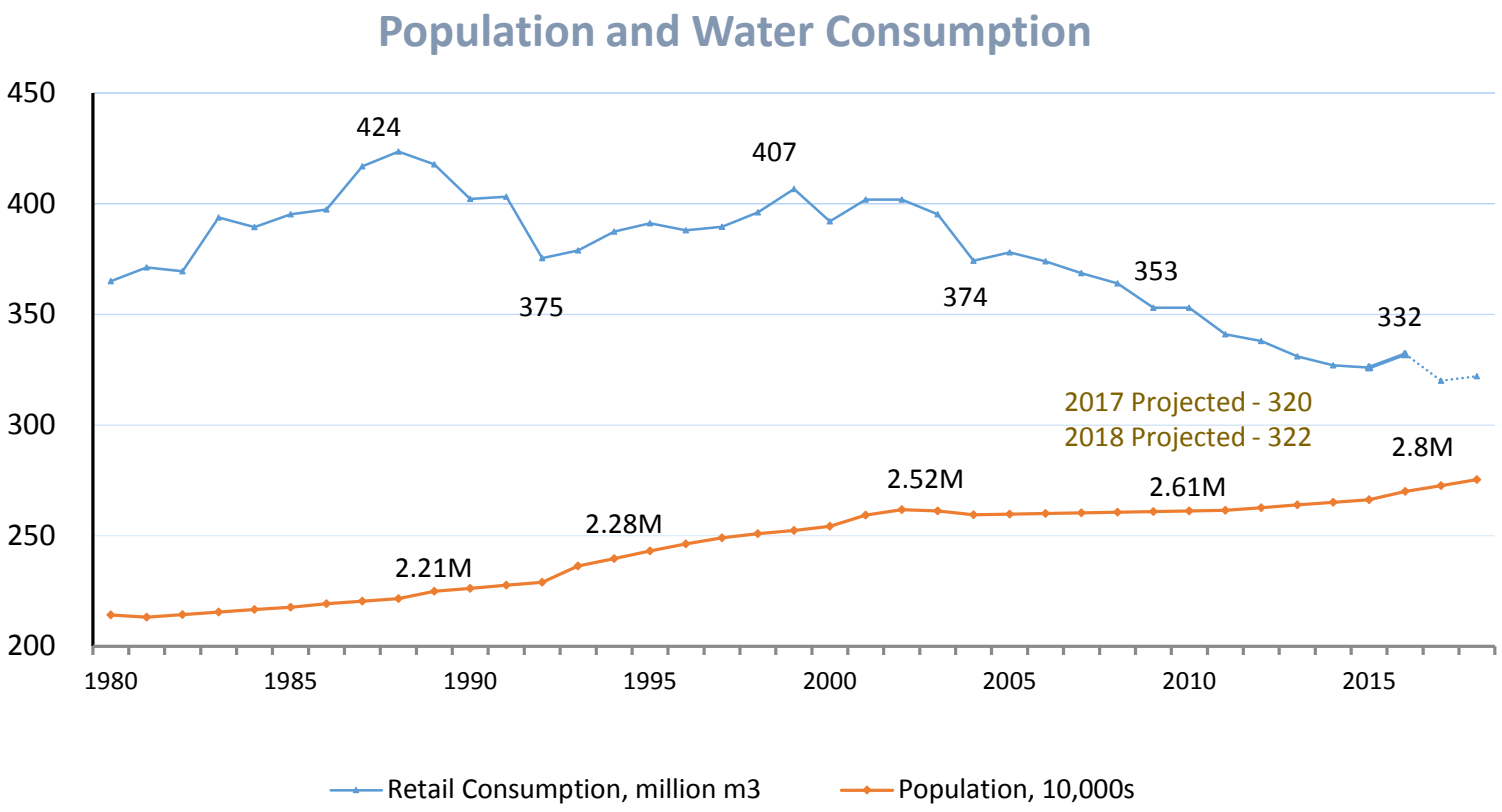
Capital Expenditure Rate Forecast

- 2017: 82%
- 2018 and forward: 85%

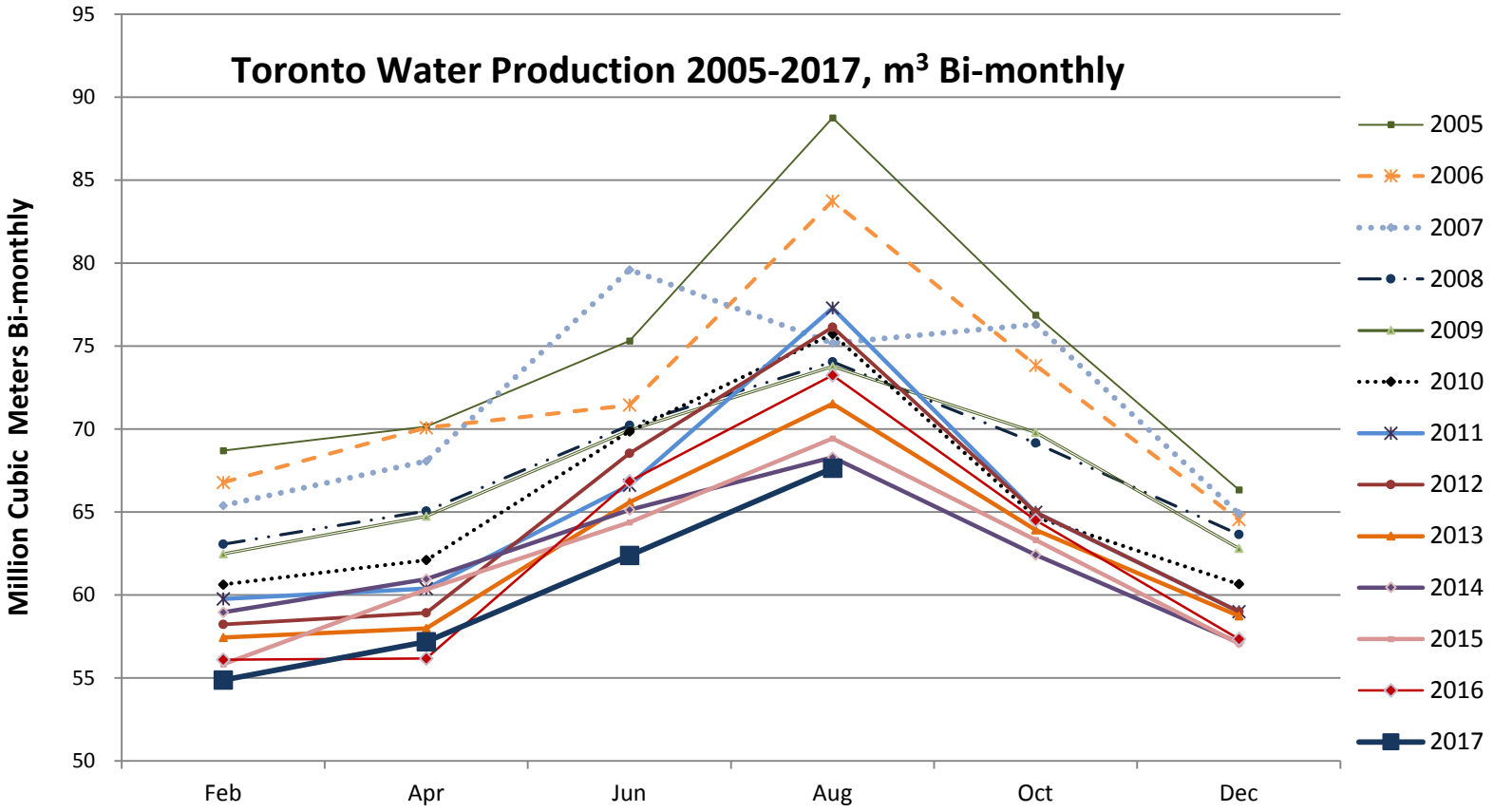
Rate Increases

- 2018: 5%
- 2019 forward: 3%

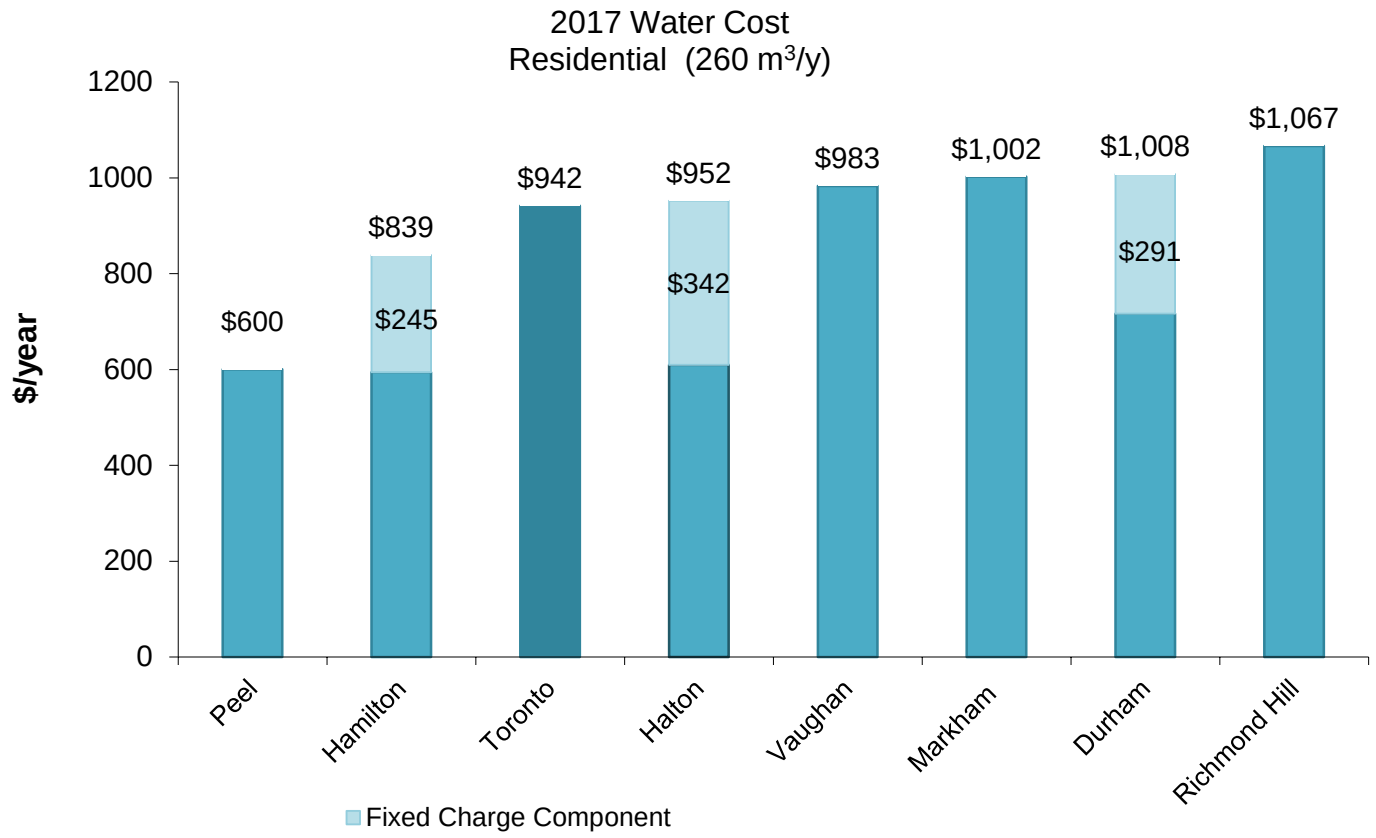
Population and Water Consumption



Water Production

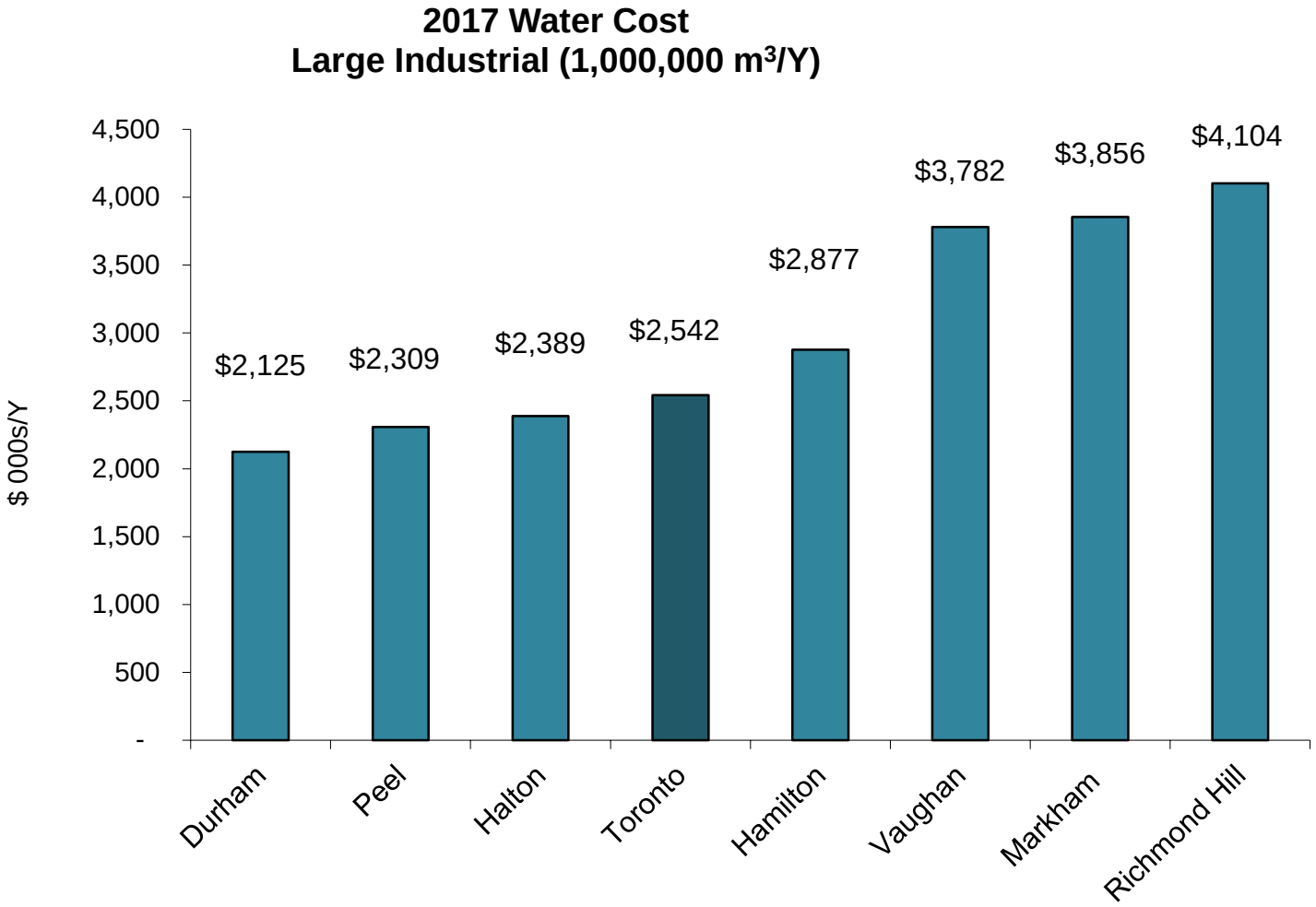


How Does Toronto Compare?

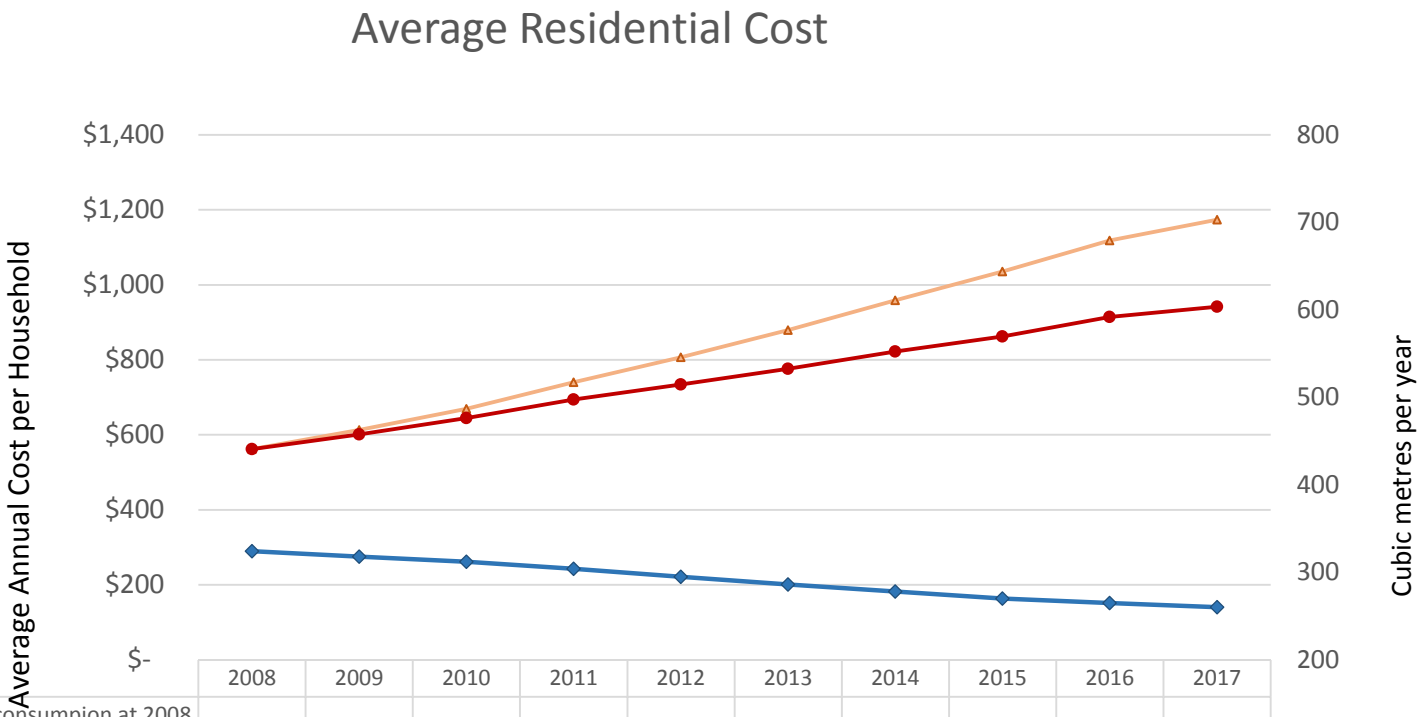


** Note: Peel stormwater funded by property taxes except for Mississauga's stormwater charge (not included in the chart) since 2016*

How Does Toronto Compare?



Impact of Rate Increases



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Residential cost with constant consumpion at 2008 level, $/y	$562	$613	$669	$740	$807	$879	$958	$1,035	$1,118	$1,174
Residential cost with actual consumption $/y	562	601	645	694	734	776	822	863	914	942
Average annual consumption per household m3/y	324	318	312	304	295	286	278	270	265	260

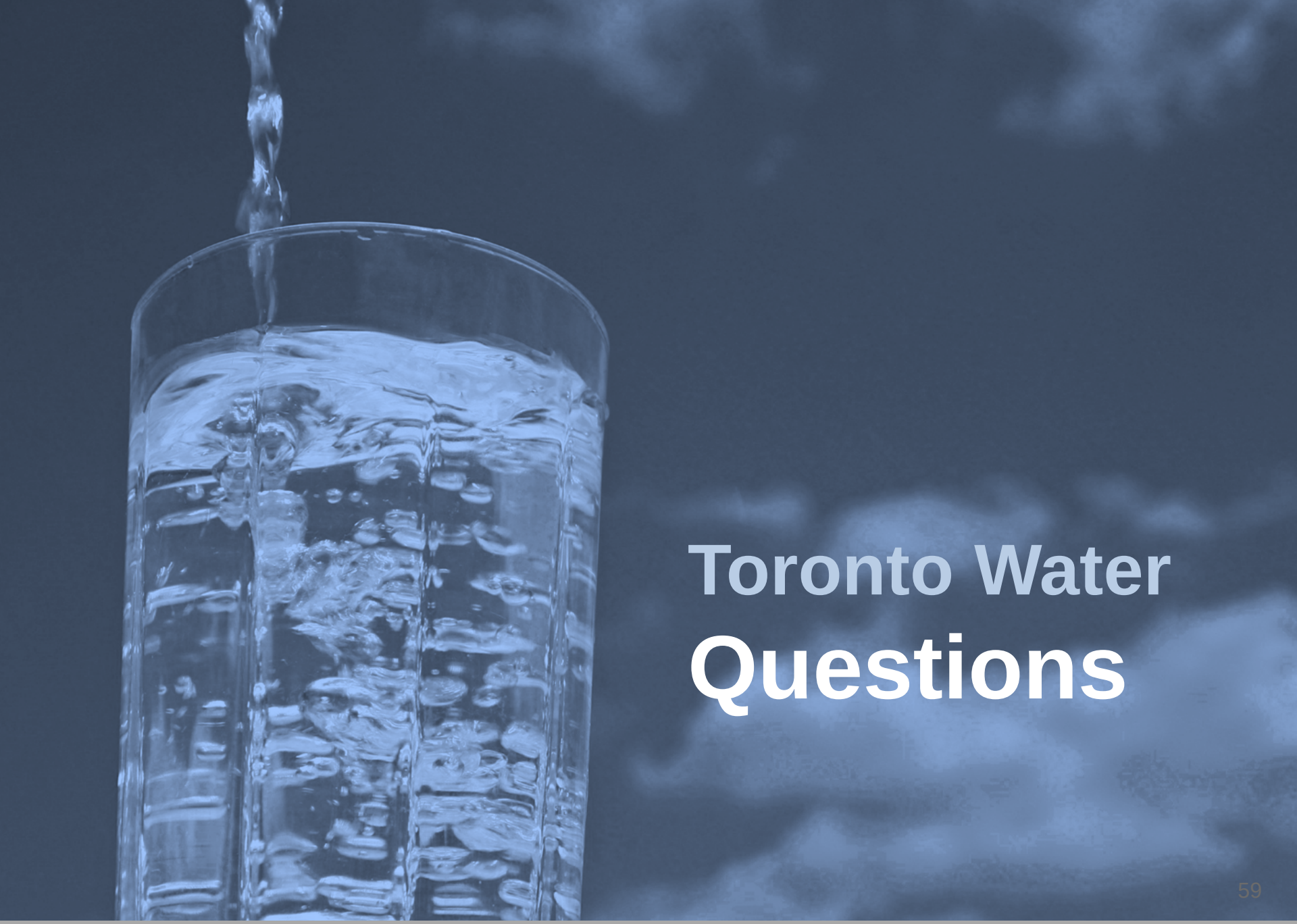
2018 Water Rate Increase Impact

Type of Property	Average Consumption	2017 Cost	2018 Projected Cost	2017 Rate Increase Impact	
Residential	260	$942	$989	$47	5.0%
Commercial	100,000	$362,260	$380,373	$18,113	5.0%
Industrial	100,000	$260,099	$273,104	$13,005	5.0%
Large Industrial	1,000,000	$2,542,304	$2,669,419	$127,115	5.0%

Daily cost for all residential drinking water, wastewater and stormwater services only $2.71 per day.

Projected Water Rate Increase

			2017 - 2027 Plan									
TORONTO WATER	**2017 Budget**	**2017 Projected Actual**	**2018**	**2019***	**2020**	**2021**	**2022**	**2023***	**2024**	**2025**	**2026**	**2027**
Water Rate Increase	5%	5%	5%	3.6%	3.0%	3.0%	3.0%	3.6%	3.0%	3.0%	3.0%	3.0%
WATER RATE REVENUE, $M	**$1,146**	**$1,131**	**$1,199**	**$1,228**	**$1,266**	**$1,297**	**$1,329**	**$1,362**	**$1,403**	**$1,438**	**$1,473**	**$1,510**
Water Rate Revenue Increase, $M			6.0%	2.5%	3.1%	2.5%	2.5%	2.5%	3.1%	2.5%	2.5%	2.5%
CAPITAL RESERVE CLOSING BALANCE	**$784.5**	**$850.0**	**$918.9**	**$645.5**	**$379.8**	**$198.5**	**$137.0**	**$44.3**	**$29.3**	**$14.9**	**$25.8**	**$83.4**



Toronto Water
Questions