Water and Wastewater & Treatment
2015 Budgets

Strategic Priorities & Policy Committee

January 15, 2015

Budget 2015

Agenda

1. Supporting London's Strategic Priorities
2. Core Business Objectives
3. Current Operating Environment & Recent Accomplishments
4. Future Direction & Priorities
5. Financing
6. Summary

Water & WWT – Key contributors to the City's draft strategic priorities

- **Strengthening our Community**
- **Building a Sustainable City**
- **Growing our Economy**
- **Leading in Public Service**

Core Business Objectives

Water & Wastewater priorities focus on 4 primary objectives:

Accomplishments

Future Direction

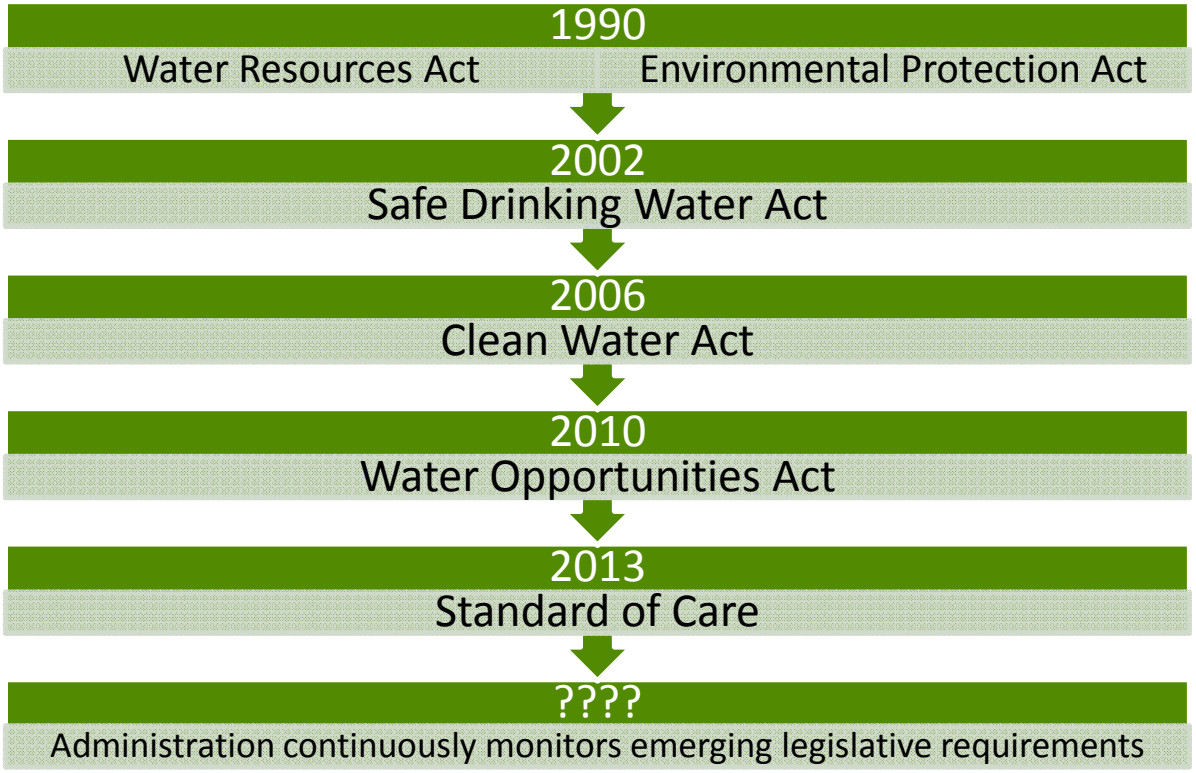
Financing

- "Must Do"
- "Should Do"
- "Want to Do"

Water Legislation

Compliance (Health and Environment)

Various legislation dictates what we do and how we do it:



Responses

License

Operating Plan

Financial Plan

Source Water Protection

Due Diligence

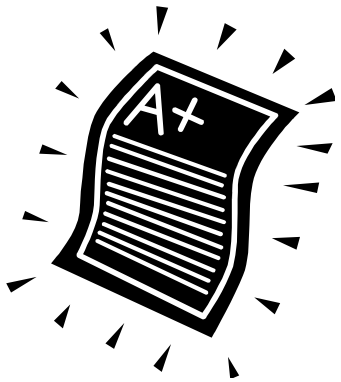
Standard of Care

"Water is unique as a local service … the consequences of a failure in the water system (are) most seriously felt by those who depend on it locally. ***Municipal ownership****, and the ensuing responsibilities, should provide a high degree of* ***public accountability*** *in relation to the local water system."*
- Justice Dennis O'Connor, 2002 Walkerton Inquiry

- Effective January 1, 2013
- **Legal obligation** to exercise a level of care, diligence and skill with regard to a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation

Recent Accomplishments

Compliance
(Health and Environment)

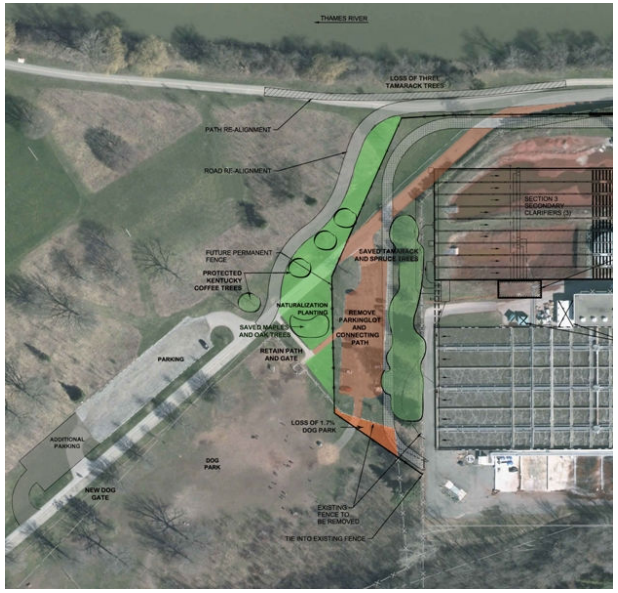


- Full accreditation as Licensed Operating Authority in 2013. Received 100% score on Ministry of Environment 2013 audit.
- Began implementation of contamination risk reduction program – MOE inspection requirement
- Continued lead reduction – free testing, education, ph adjustment, service replacement
- Continued to advance Pollution Prevention & Control Plan to mitigate combined sewer overflows (CSO's) and bypasses to Thames River

Recent Accomplishments

Growth

- 2014 Development Charges Background Study and related Master Plans completed – growth pays for growth
- Council adopted the Industrial Land Development Strategy (ILDS) in March 2014



- Started Greenway Pollution Control Plant expansion project detailed design – service growth from central London intensification and southwest area development

Recent Accomplishments

Efficiency

- Initiated District Meter Program – optimization (non-revenue water) of water system & provide mechanism to charge for construction water
  - Consistent with PwC audit recommendation

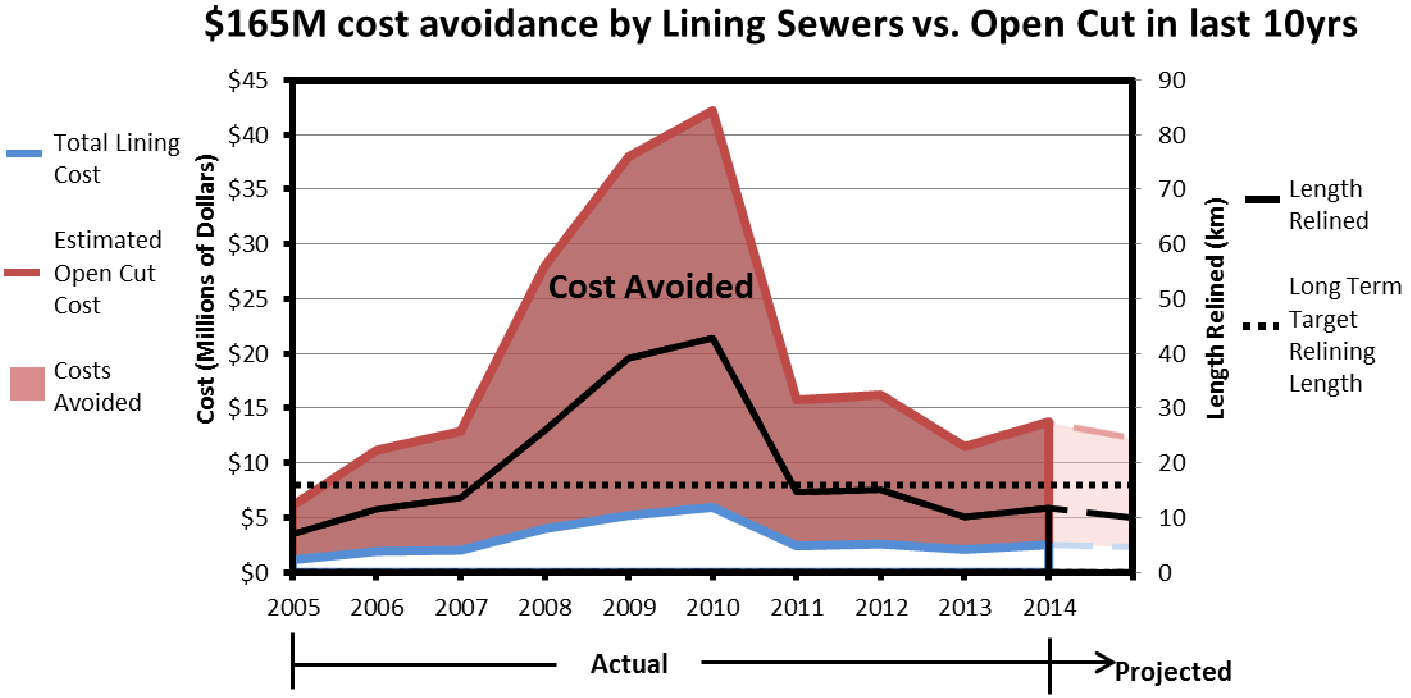
- Develop a strategy & multi-year roadmap to optimize wastewater treatment plants – capacity, wet weather flows, asset management, floodproofing

- Installed new turbo blowers at Adelaide, Vauxhall and Oxford WWTP's – electricity savings of $170,000/year

Recent Accomplishments

Efficiency

TRENCHLESS TECHNOLOGIES



Notes: Data produced by Construction Administration. Theoretical costs are indexed to 2009 average costs. Lining costs are for the actual year.

Recent Accomplishments

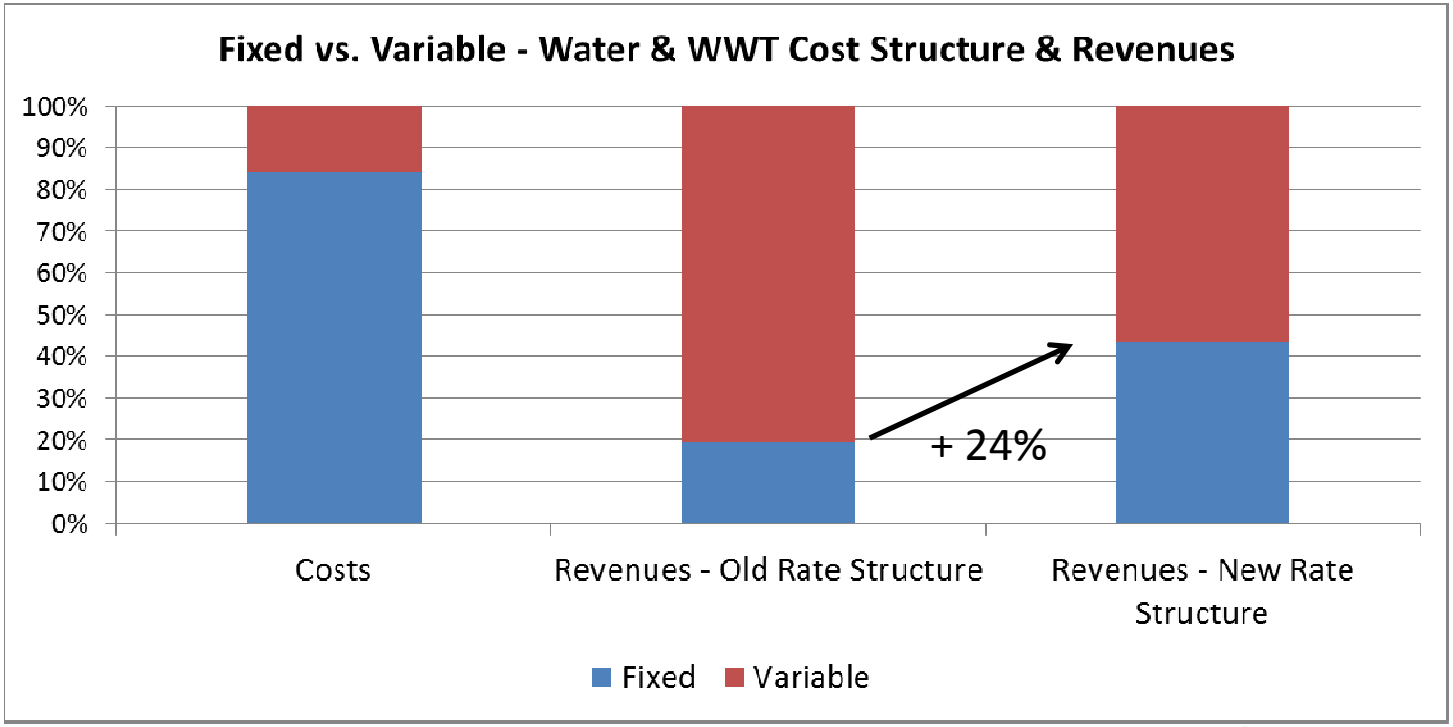
Best Management Practices

- Completed construction of the Wastewater Research Centre at Greenway PCP – wastewater treatment technological innovation
- City-wide campaign on how customers can save on their water bill
- Partnered with Thames Valley District School Board to create “Teaching Toolkit” for educating students about water & wastewater treatment and water distribution & conservation
- Awards: OPWA Innovation for Greenway Dewatering; OWWA for Rate Structure Implementation

Water & Wastewater Rate Structure

Best Management Practices

The new Water and Wastewater rate structure (implemented in March 2013) aims to strike a more appropriate balance between our cost structure (largely fixed) and our previous rate structure (primarily variable):



Costs Avoided by Conservation

- Decline in water consumption of 32% since 2001 – rate increases to cover fixed costs
- Conservation a powerful tool to accommodate growth
- Postpone works that would otherwise be required and would have required higher rates, including:

Project	Timeframe	Estimated Cost
Elgin Area Water Treatment Plant Expansion	Deferred from 2013 to at least 2023 based on current volume forecasts	$60 million
Southside Wastewater Treatment Plant	Deferred >20 years	$95 million

Future Direction/Priorities

Compliance (Health and Environment)

WATER

- Maintain 100% MOE report card score
- Continue lead replacement program
- Finish colour coding of fire hydrants – Fire Code
- Complete contamination risk reduction program
- Drinking Water Quality Management System – continuous improvement

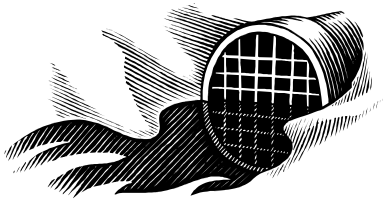
The cost of these initiatives is contained within the proposed Water budget.

Future Direction/Priorities

Compliance (Health and Environment)

WASTEWATER

- Wastewater treatment legislation – expected to be like water system regulations
- Combined Sewer Overflows (CSO's)
  - Pollution Prevention & Control Plan - "road map" for further mitigating CSO's – to be completed in 2-3 years
  - Annual capital program currently in place



Any outputs from the Pollution Prevention & Control Plan may require incremental additions to future Wastewater budgets – prepare financially.

Future Direction/Priorities

Growth

GROWTH SERVICING

- Water and Wastewater servicing capital projects included in 2015 Budgets – ILDS and community
  - ILDS: $79.5M from 2015-2024
- Service southwest London

Future Direction/Priorities

Efficiency

TRENCHLESS TECHNOLOGIES

- Lining pipe a priority where feasible – to manage the infrastructure gap
- Environmentally friendly, less socially disruptive, less costly and extends the service life of the asset:

Method (Water Example)	Cost/m	Estimated Lifespan
Replacement	$1,000-$1,200	75-80 years
Anodes	$70	15-20 years
Cement Mortar Relining	$250	15-20 years
Structural Relining	$600	50 years

Future Direction/Priorities

Efficiency

WASTEWATER TREATMENT OPTIMIZATION

- Objectives: combine latent capacity, lifecycle needs, future effluent criteria, overflows & climate change impacts
- Desired outcomes: Operational efficiencies & reduced energy costs; reduction/deferral of capital costs; meet compliance targets while under construction

While some flood proofing works at Greenway PCP & Vauxhall PCP are included in the 2015 Budget, further investments may be required to operationalize the optimization strategy – prepare financially.

Future Direction/Priorities

Efficiency

ENERGY EFFICIENCY INITIATIVES

- Biosolids – electricity generation from incinerator heat (up to $675,000/year)
- Energy conservation & cost savings – plants and pumping stations -- proactive

Investments may be required to operationalize efficiencies. These investments are currently unknown and will be added to future budgets if required – prepare financially.

Future Direction/Priorities

Best Management Practices

- Computerized Maintenance Management System (CMMS):
  - Improving responses: customers, legal/regulatory
  - Enhancing the efficiency of available resources
  - Comprehensive tracking of maintenance activities
  - More robust reporting capabilities
  - Optimizing costs
- Rate Structure phase in: drainage charge vacant land – credits for large sites -- fairness

The cost of this initiative is contained within the proposed Water and Wastewater budgets.

Future Direction/Priorities

Best Management Practices

EFFICIENCY, NEW TECHNOLOGIES, INNOVATION & OPERATING PHILOSOPHIES

- CMMS, trenchless technology, energy efficiency, district metering, plant optimization, Wastewater Research Centre, etc.
- Target future inflationary-level rate increase target
- Opportunistic to proactive
- Risk based maintenance

Operating Budget Overview

	Water ($000's)	Wastewater ($000's)
2014 Approved Budget (A)	$69,705	$84,529
Additional resources necessary to manage the increase in stormwater management facilities to be constructed in the next 10 years in accordance with the 2014 DC Study.		$180
Increased purchase of water costs	$837	
Misc. increases/(decreases) in operating expenditures	$136	$202
Change in operating expenditures (B)	$973	$382
% change in operating expenditures	2.4%	1.1%
Increase in capital financing (C)	$2,890	$4,273
2015 Proposed Budget (A+B+C)	$73,568	$89,184

Capital Budget Overview

WATER ($000's)	
Lifecycle Renewal	22,766
Growth	5,885
Service Improvement	1,270
TOTAL	29,921

Highlights	
Main Rehabilitation	5,143
Main Replacement	9,824
Replace Water Services	2,000
ILDS Water Servicing	1,200
District Metered Areas	500

WASTEWATER ($000's)	
Lifecycle Renewal	25,627
Growth	42,130
Service Improvement	9,805
TOTAL	77,562

Highlights	
Specialized Sewer Repairs	3,700
Sewer Replacement Program	11,422
Wonderland/Wharncliffe Trunk Sewer	4,057
Lambeth Servicing Solution	6,741
Sanitary/Storm/SWM ILDS Servicing	8,102

Funding in accordance with Financing Principles

Revenue Overview

	Water ($000's)	Wastewater ($000's)
2014 Approved Budget	$69,705	$84,529
Impact of reduced water consumption*	($918)	($900)
Year 3 of the phase-in of the Storm Drainage charges, partially offset by revised categorization of customer accounts		$15
Change in other revenues	$58	$25
Additional revenue from 7% rate increase for 2015	$4,723	$5,515
2015 Proposed Budget	$73,568	$89,184

* Consumption forecasts have been reduced from 41.0 million m^3 in 2014 to 40.1 million m^3 for 2015 (2% reduction).

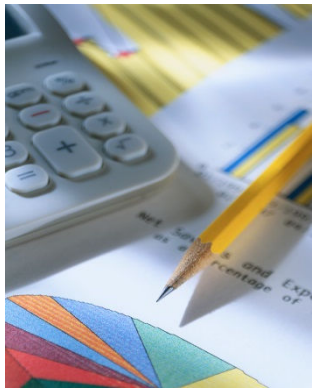
Striking the Balance

2015 Budgets Balance Current & Future Priorities

Financing Principles

Best Management Practices

1) Financing options should accommodate required capital investment needs
2) Capital plans submitted reflect the investment required to maintain safe Water & Wastewater systems

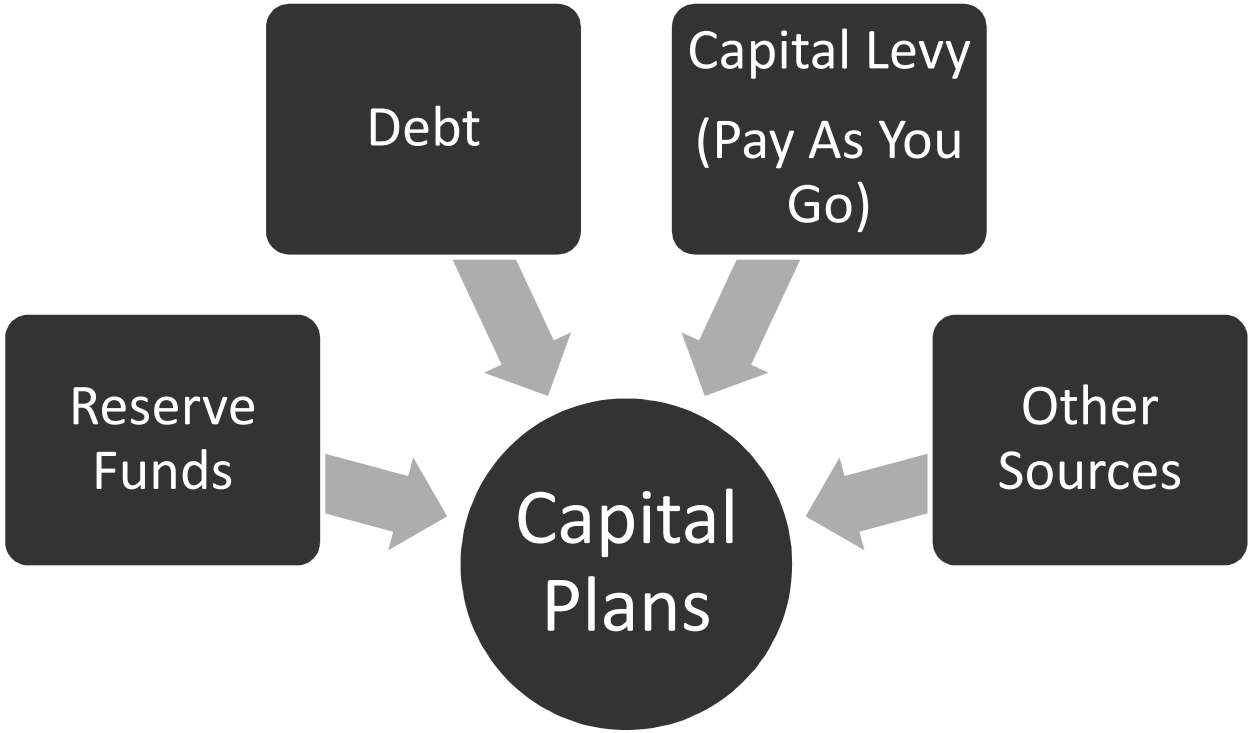


3) Financing strategy should provide flexibility to accommodate future needs such as:
    - Pollution Prevention & Control Plan
    - Wastewater Treatment Optimization Strategy
    - Energy Efficiency Projects
    - Other Emerging Strategic Initiatives

Financial Levers

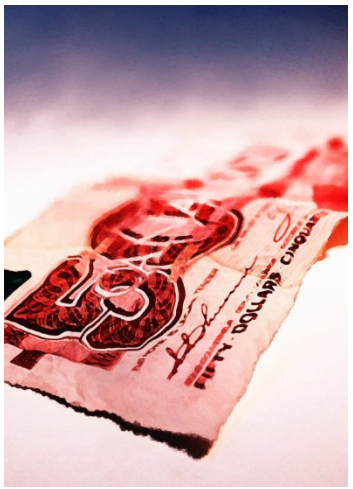
Best Management Practices

4 financing alternatives are available to support the capital plans:



Reserve Fund Principles

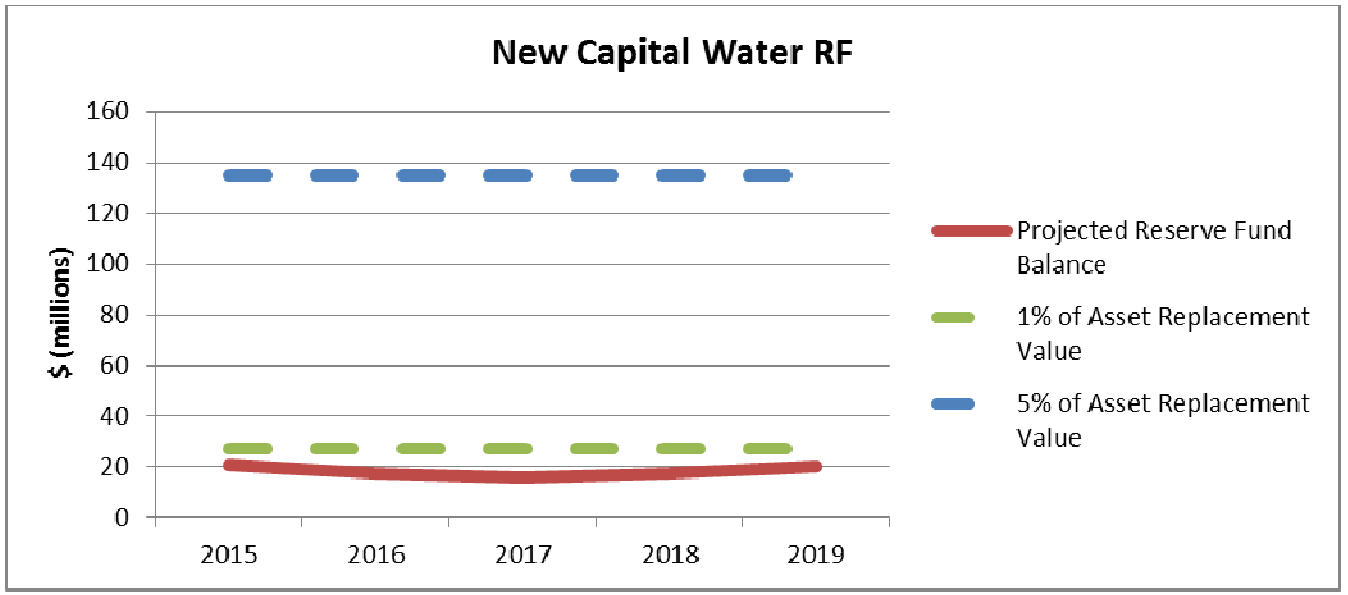
Best Management Practices



- Target reserve fund balances should be based on these key principles, consistent with the corporate reserve funds principles:
  - State of infrastructure that the balances support (the older the asset the sooner the money is needed to replace it)
  - Financial strategy under strategic financial plan (shift to more pay as you go financing)
  - Corporate asset management plan (the level of service and risk that is acceptable for the assets)
- Based on these principles, reserve fund balances in the range of 1% to 5% of the asset replacement values are targeted for Water & Wastewater reserve funds

Water Reserve Fund

Best Management Practices

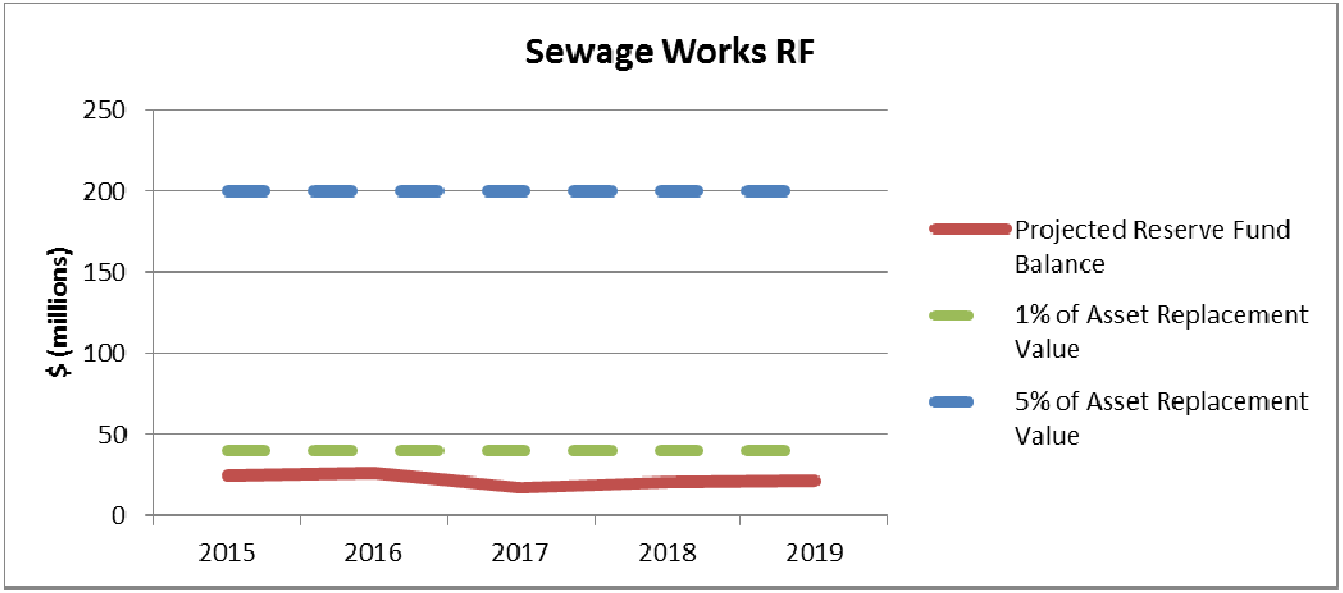


New Capital Water RF ($M)	2015	2016	2017	2018	2019
Ending Balance – Proposed 2015 Budget	$20.8	$17.4	$16.0	$17.4	$20.1
Low End of Target Range (1% of Asset Replacement Value)	$27.0				
High End of Target Range (5% of Asset Replacement Value)	$135.0				

Estimated Replacement Value of Water Assets = $2.7 billion

Wastewater Reserve Fund

Best Management Practices



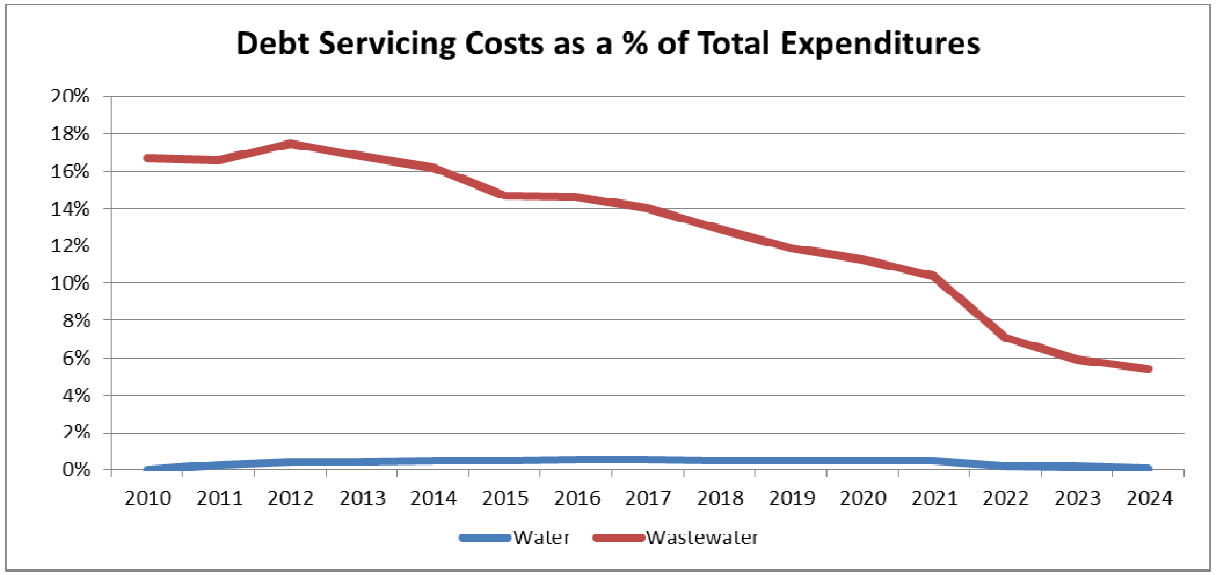
Sewage Works RF ($M)	2015	2016	2017	2018	2019
Ending Balance – Proposed 2015 Budget	$24.4	$26.7	$17.5	$20.9	$21.5
Low End of Target Range (1% of Asset Replacement Value)	$40.0				
High End of Target Range (5% of Asset Replacement Value)	$200.0				

Estimated Replacement Value of Wastewater Assets = $4 billion

Debt Profile

Best Management Practices

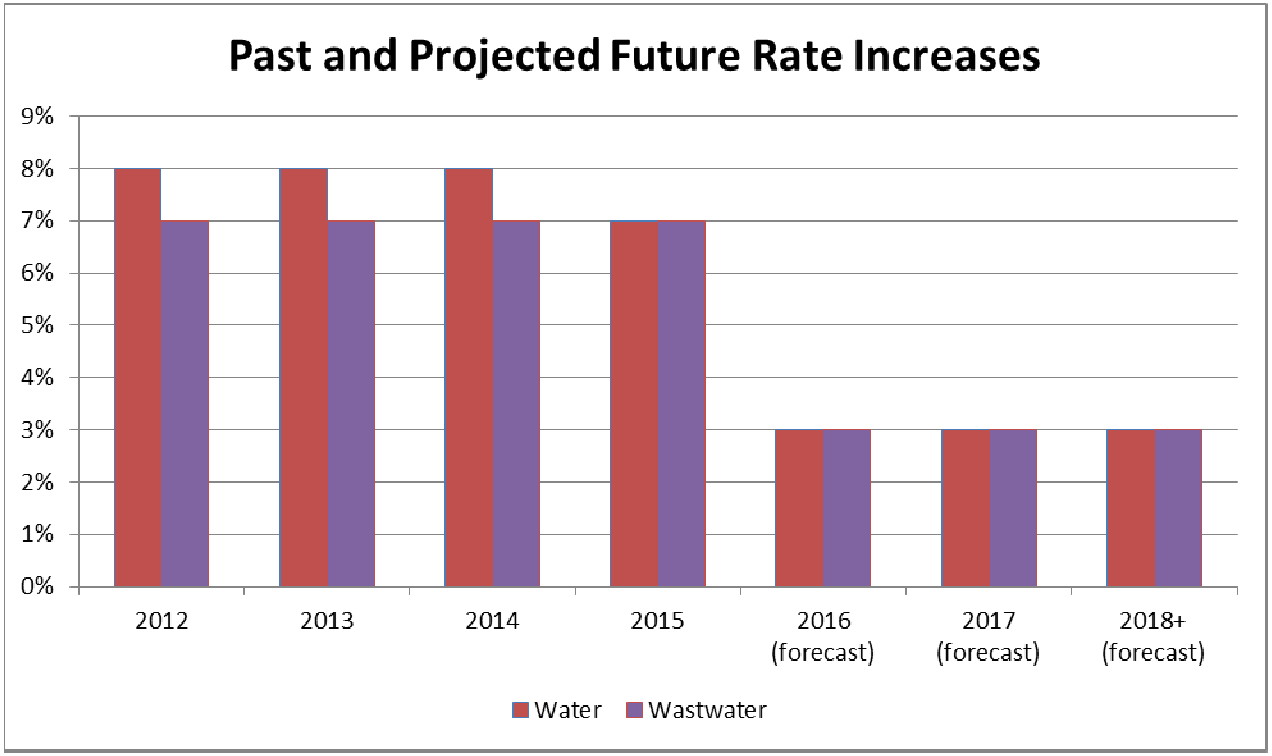
- **No new future rate supported debt is forecasted for Wastewater; only limited use of future debt for Water**
  - Provides capacity to fund initiatives (e.g. PPCP, Wastewater Optimization Strategy, etc.) that are currently not included in the capital plans – "preparing financially"
- Debt servicing burden (for previously issued debt) continues to decrease:



Forecasted Future Rate Increases

Best Management Practices

Positioned to achieve inflationary-level rate increases starting in 2016:



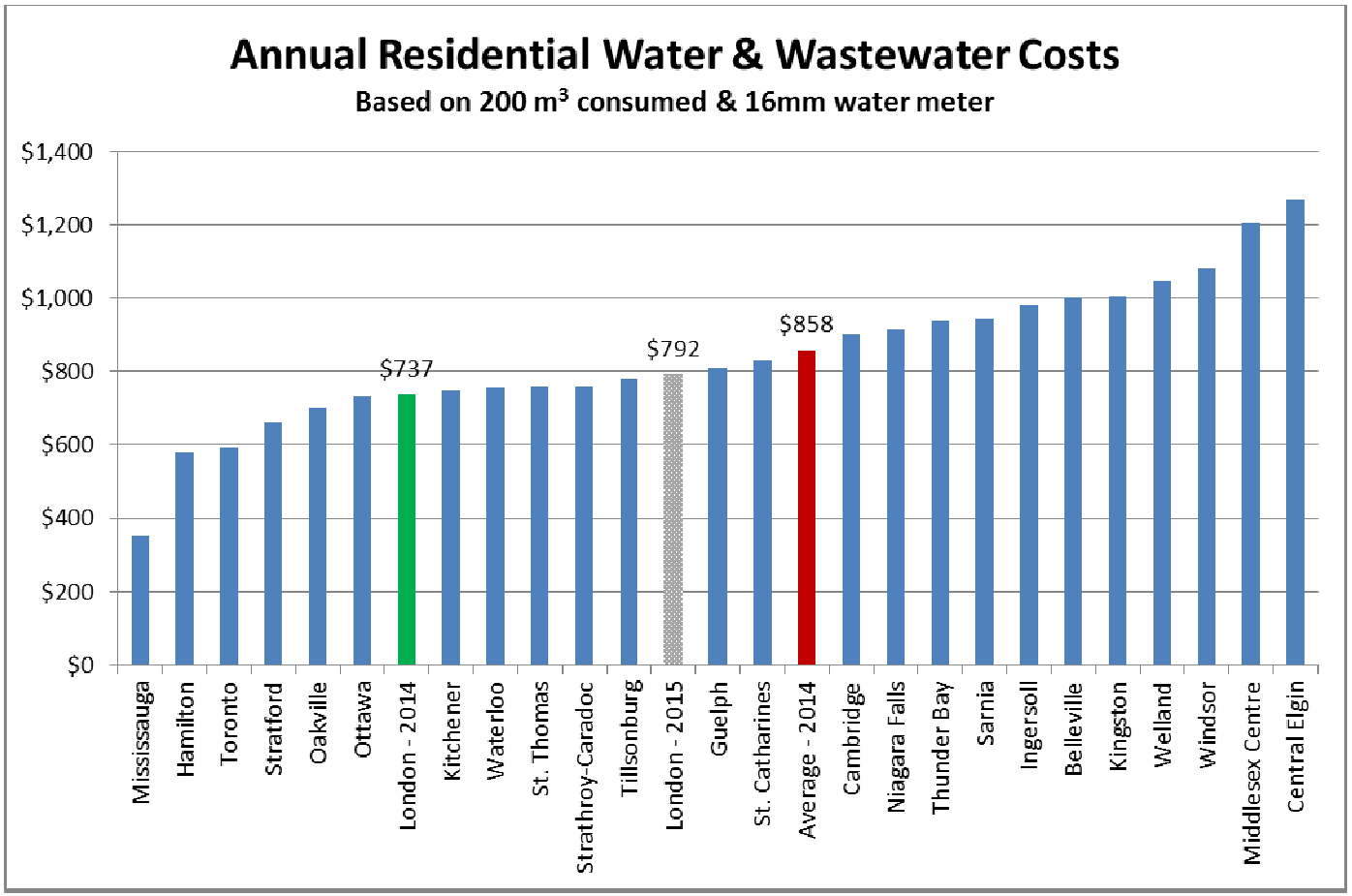
Summary

Impact to the Average Residential Customer

	2014 Budgeted Cost (181.2 m^3)	2014 Revised Cost (171.9 m^3)	2015 Increase	2015 Annual Cost (171.9 m^3)
Water	$363	$343	$24 (7%)	$367
Wastewater	$464	$446	$29 (6.5%*)	$475
Combined	$827	$789	**$53**	$842
Monthly Cost	$68.92	$65.75	**$4.42**	$70.17
Daily Cost	$2.27	$2.16	**$0.15**	$2.31

*** The increase in Wastewater charges is 7%, but the increase to the average residential customer is only 6.5% due to the phase-in of the new Storm Drainage charges.**

How Does London Compare?

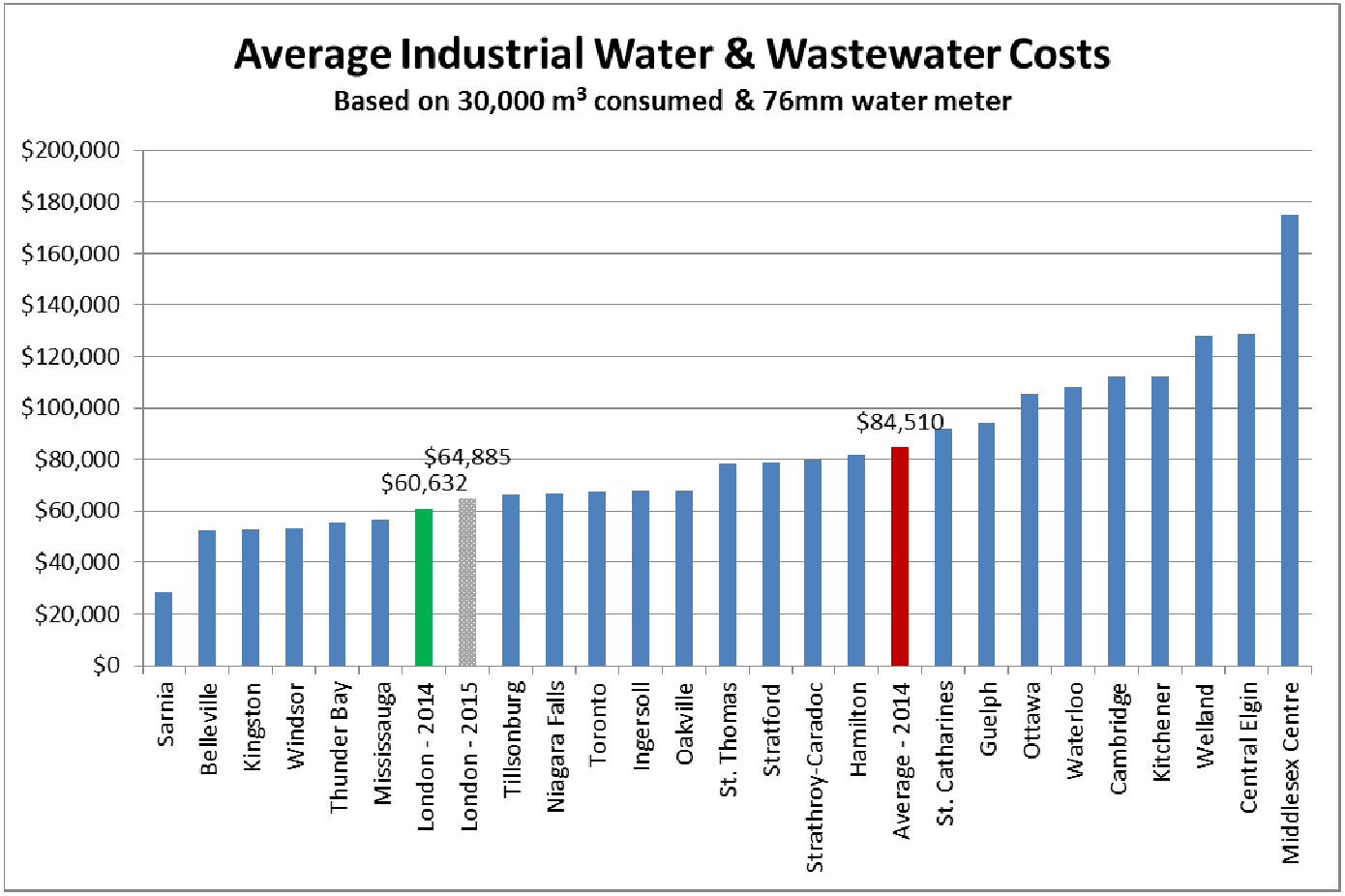


NOTE:
All amounts exclude stormwater charges.
Amounts shown for other municipalities are 2014 amounts.

Source:
2014 BMA Management Consulting Municipal Study

London was ranked 27th of the 94 municipalities surveyed in 2014 for lowest residential Water & Wastewater costs. (2013: London ranked 25th of 97 municipalities surveyed)

How Does London Compare?



NOTE:
All amounts exclude stormwater charges. Amounts shown for other municipalities are 2014 amounts.

Source:
2014 BMA Management Consulting Municipal Study

London was ranked 19th of the 92 municipalities surveyed in 2014 for lowest industrial Water & Wastewater costs. (2013: London ranked 14th of 95 municipalities surveyed)

How Does London Compare?

ACHIEVING FINANCIAL SUSTAINABILITY[1]

Municipality	Financial Sustainability Forecasted
Toronto	2015
Ottawa, Peel, Thunder Bay	Next 2-3 years

NOTE 1: In the utilities context, Financial Sustainability is defined as the achievement of annual rate increases that can be maintained at or near the annual rate of inflation based on a combination of CPI and the Construction Price Index with appropriate use of debt financing, adequate reserve funds and the appropriate investment in capital.

Summary

At an additional cost of $0.15/day for the average residence, the 2015 Budgets ensure:

- **Compliance** with regulatory requirements
- Capital investments in existing and future **Growth** needs
- **Efficiency** initiatives, now and future
- Sound **Financial Management**
  - **Financial sustainability**
  - Meet license requirements / Sustainable Infrastructure Plan
  - Building toward more adequate reserve fund levels
  - Financial flexibility to accommodate future needs