



# Toronto Water

## Service Level Review

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Public Works and Infrastructure Committee Presentation  
June 17, 2015



# Presentation Overview

- Toronto Water at a Glance
- Inventory of Assets
- Program Map
- Program Challenges
- Service Levels and Performance
- Service Challenges/Opportunities/Priority Actions
- Service Standards



# Toronto Water at a Glance

- Serve 3.4 million residents and businesses in Toronto, and portions of York and Peel
- Over \$28.2 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



# Inventory of Assets

## Replacement Value \$28.2 Billion

### WASTEWATER/STORMWATER - \$19.1 Billion

- 4 wastewater treatment plants
- 7 storage and detention tanks
- 3,935 km of sanitary, 1,524km of combined and 386 km of trunk sewer
- 4,969 km of storm sewers
- 152,924 maintenance holes
- 507,026 sewer service connections
- 84 wastewater pumping stations
- 371 km of watercourses, 84 stormwater management ponds
- 1,841 outfalls & 171,156 catchbasins

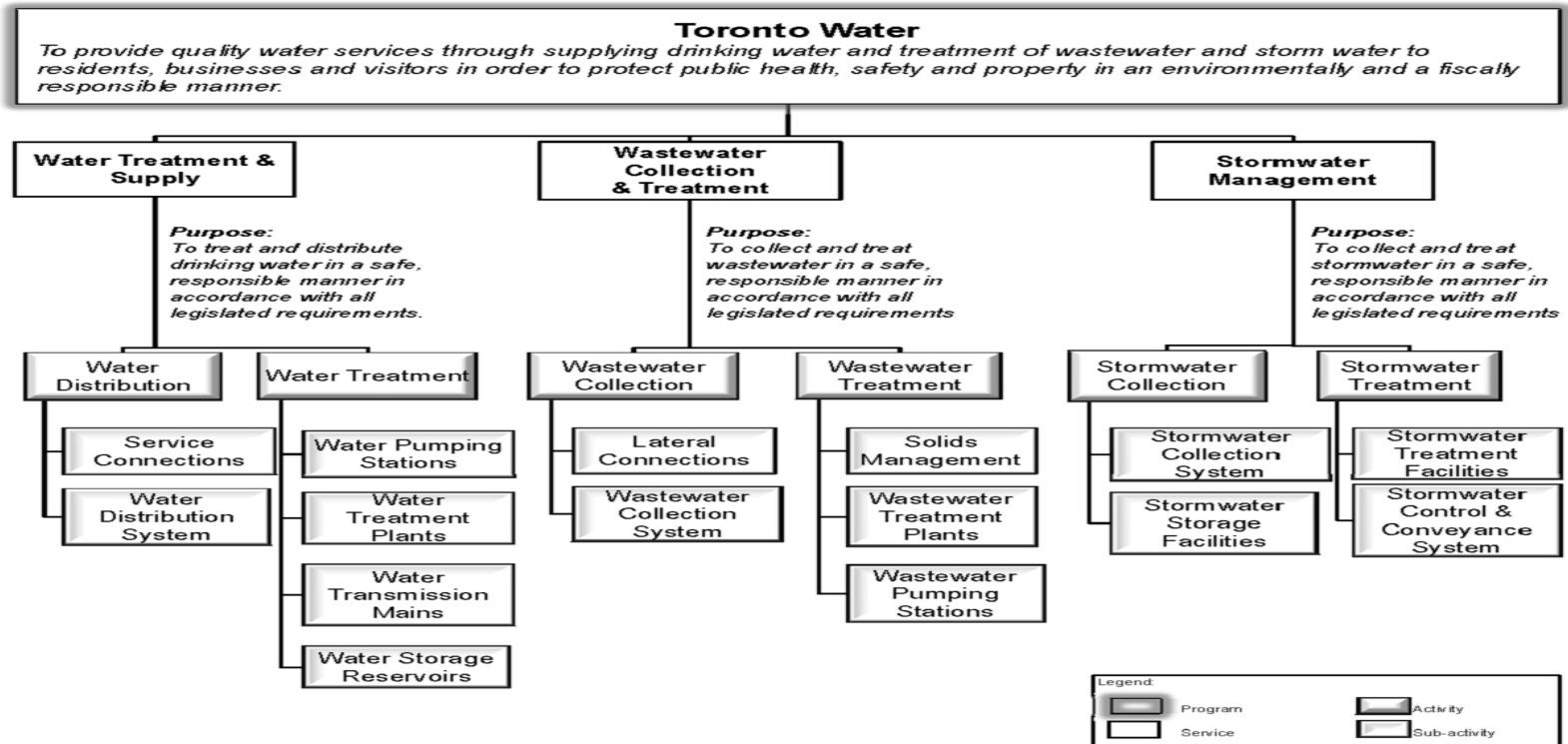
### WATER - \$9.1 Billion

- 4 water filtration plants
- 11 reservoirs and 4 elevated storage tanks
- 5,501 km of distribution watermains and 549 km of trunk watermains
- 63,539 valves and 41,349 hydrants
- 510,623 water service connections, plus York Region (population served 600,000)
- 18 water pumping stations



# Toronto Water

## 2015 Program Map



**Service Customer**

**Water Treatment & Supply**

- Water account holders
- Water consumers

**Wastewater Collection & Treatment**

- Wastewater account holders
- Wastewater producers
- Public and private landowners

**Stormwater Management**

- Public and private landowners



# Toronto Water Program Challenges

<b>Long-term Financial Stability</b>	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.
<b>Declining Water Consumption</b>	Downward trend over the last decade, despite population growth. Anticipate base water consumption will flatline.
<b>Aging Infrastructure</b>	Significant state of good repair backlog for underground assets; water/wastewater treatment plants and facilities. Currently updating condition assessments on major assets.
<b>Basement Flooding</b>	Significant investment required to manage basement flooding issues across the city.
<b>Strict Regulatory Control &amp; Oversight</b>	Water and wastewater industry continues to experience increased legislative and regulatory reform impacting both operating and capital budgets – i.e. the Federal Effluent Regulations, enacted on July 18, 2012, includes new enforcement activities and potential penalties for non-compliance.
<b>Managing Reserve Balances</b>	Ensuring positive reserve balances during major capital spending years. Simultaneous large scale projects are planned for the next five years.



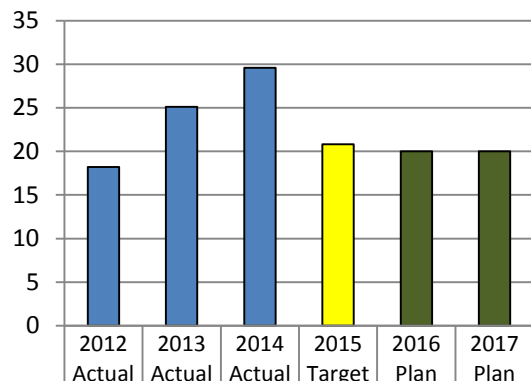
# Service Levels: 2012 - 2018

Service Level Description		2012	2013	2014	2015	2016	2017	2018
<b>Water Treatment &amp; Supply</b>								
Watermain Breaks per 100 km of Water Distribution Pipe	Approved/Target	20.8	20.8	20.8	20.8	24.8	23.1	23.1
	Actual	18.2	25.1	29.6	n.a.	n.a.	n.a.	n.a.
Percent Water Meters Read Automatically	Approved/Target	36%	57%	83%	95%	96%	97%	98%
	Actual	33%	62%	93%	n.a.	n.a.	n.a.	n.a.
Water Treatment Non-Compliance Events	Approved/Target	0	0	0	0	0	0	0
	Actual	2	4	0	n.a.	n.a.	n.a.	n.a.
Electrical kWh per ML of water pumped	Approved/Target	317	317	340	340	340	340	340
	Actual	337	335	337	n.a.	n.a.	n.a.	n.a.
<b>Wastewater Collection &amp; Treatment</b>								
Wastewater Main Backups per 100 km of Wastewater Main	Approved/Target	5.27	5.27	5.27	5.27	5.27	5.27	5.27
	Actual	9.96	11.79	13.38	n.a.	n.a.	n.a.	n.a.
Percent Blocked Service Lines Responded to First-Call	Approved/Target	60%	60%	60%	60%	60%	60%	65%
	Actual	69%	62%	59%	n.a.	n.a.	n.a.	n.a.
Wastewater Treatment Non-Compliance Events	Approved/Target	0	0	0	0	0	0	0
	Actual	0	1	1	n.a.	n.a.	n.a.	n.a.
<b>Stormwater Management</b>								
KM of Stormwater Collection Network	Approved/Target	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Actual	4,943	4,971	4,986	n.a.	n.a.	n.a.	n.a.
Catch Basins Cleaned	Approved	75,000	75,000	75,000	95,000	95,000	95,000	95,000
	Actual	97,803	101,328	100,175	n.a.	n.a.	n.a.	n.a.



# Performance Measures

## Water Treatment & Supply

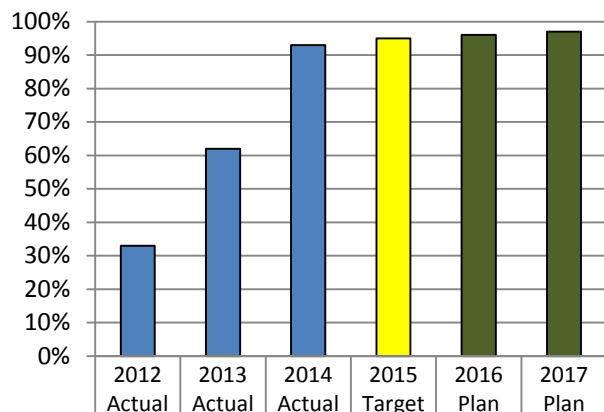


Watermain Breaks per 100 KM Water Distribution Pipe

2012 Actual	18.2	2013 Actual	25.1	2014 Actual	29.6	2015 Target	20.8	2016 Plan	20	2017 Plan	20
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### Watermain Breaks per 100 KM of Water Distribution Pipe

- 2012 -2014 rising trend was impacted by severe cold weather fluctuations and aging watermains
- 2015 target was determined in 2014
- 2016 -2017 plan is to maintain watermain break and repair levels of typical climate years with improved state-of-good repair program



Percent Water Meters Read Automatically

2012 Actual	33%	2013 Actual	62%	2014 Actual	93%	2015 Target	95%	2016 Plan	96%	2017 Plan	97%
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### Percent Water Meters Read Automatically

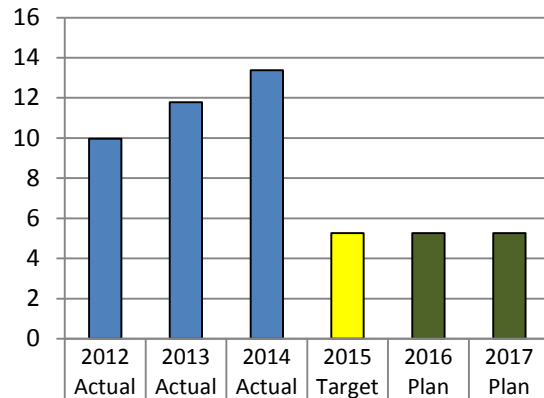
- 2012-2014 improving trend due to major increases of automated water meter program installations
- 2015 target to complete installations
- 2016-2017 plan is to continue to complete installations in violation of bylaw





# Performance Measures

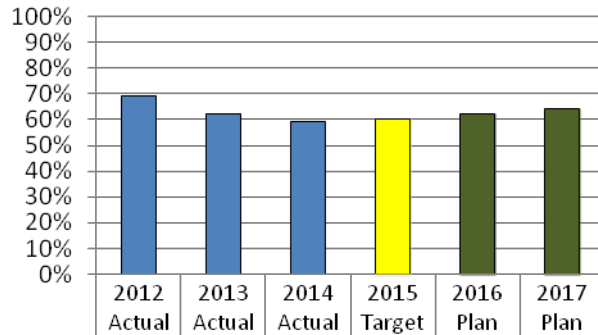
## Wastewater Collection & Treatment



Wastewater Main Backups per 100 km Wastewater Main	2012 Actual	2013 Actual	2014 Actual	2015 Target	2016 Plan	2017 Plan
	9.96	11.79	13.38	5.27	5.27	5.27

### Wastewater Main Backups per 100 km Wastewater Main

- 2012 -2014 rising trend was impacted by severe storms causing wastewater capacity constraints
- 2015 aggressive target was determined in 2014
- 2016 -2017 plan is to maintain wastewater main backups and repair levels of typical climate years



Percent Blocked Service Lines Responded to First Call	2012 Actual	2013 Actual	2014 Actual	2015 Target	2016 Plan	2017 Plan
	69%	62%	59%	60%	62%	64%

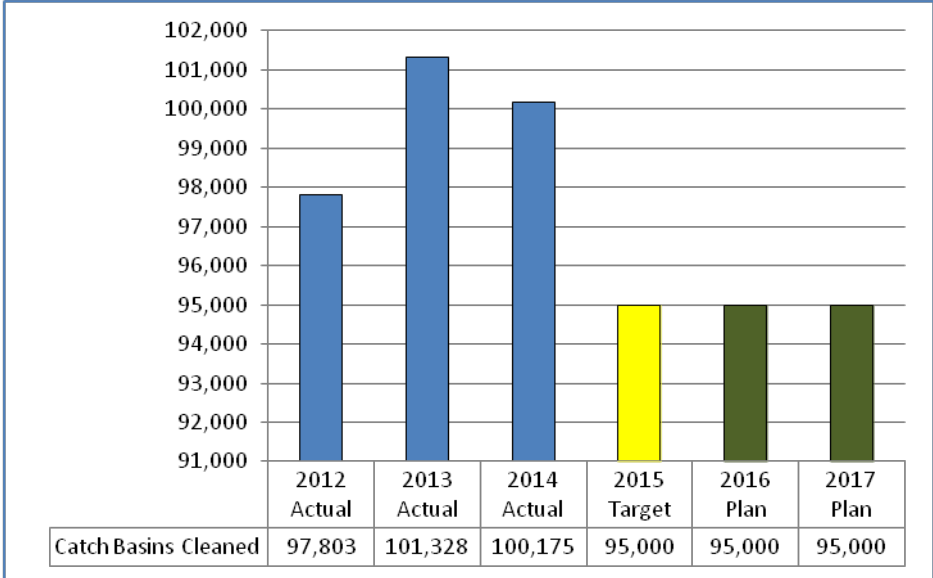
### Percent Blocked Service Lines Responded to First Call

- 2013 -2014 stable trend while tracking blocked sewers first call response
- 2015 target was based on demonstrated performance
- 2016 -2017 plan is to continue improving blocked sewer customer service and first call response



# Performance Measure

## Stormwater Management



### Catch Basins Cleaned:

- 2012 -2014 stable trend with high effort in cleaning catch basins to improve stormwater collection
- 2015 target is to continue catch basin cleaning while continuing linear system preventative maintenance
- 2016-2017 plan is to maintain linear catch basin cleaning to target levels





# Water Treatment & Supply



# Service Challenges & Opportunities

## Water Treatment & Supply

### ■ Challenges

- ✓ Long-term financial stability
- ✓ Successive water rate increases for infrastructure renewal
- ✓ Declining water consumption affects revenues
- ✓ Aging water infrastructure make predictability of repairs difficult
- ✓ Increased water regulatory compliance requirements
- ✓ Climate and severe weather affect watermain repair and reconstruction
- ✓ Water meter program requires enforcement and penalties to complete

### ■ Opportunities

- ✓ Improve customer service and first call response
- ✓ Improve repair time of urgent water system infrastructure
- ✓ Improve emergency responsiveness and resiliency to severe climate events
- ✓ Energy efficiency in all water operations and built into capital investments



# Strategies to Address Challenges & Opportunities: Priority Actions Taken or Underway

Water Treatment and Supply	
Actions	Results / Progress
Protect source water quality and quantity	Source Water Protection Plan completed with comments to Ministry of Environment and Climate Change.
Protect and improve drinking water quality	Corrosion Control implemented at four water treatment plants at end of 2014. A formal sampling program is currently being implemented to monitor effectiveness.
Watermain replacement and rehabilitation	Investment in 2014 of \$83 million for watermain replacement and rehabilitation and approximately \$2.8 billion in the 10-year plan.
Complete the Toronto Water Meter Program	As of June 5, 2015 468,000 automated water meters installed both ICI and residential. Expected operating savings by end of 2016 to be \$5 million annually.





# Wastewater Collection & Treatment



# Service Challenges & Opportunities

## Wastewater Collection & Treatment

### ■ Challenges

- ✓ Long-term financial stability
- ✓ Successive water rate increases for infrastructure renewal
- ✓ Declining water consumption affects revenues for wastewater program
- ✓ Aging wastewater infrastructure
- ✓ Increased wastewater regulatory compliance requirements
- ✓ Severe storms affect wastewater capacity, causing backups and blocked sewers

### ■ Opportunities

- ✓ Improve repair time of urgent wastewater system infrastructure
- ✓ Improve customer service and wastewater first call response



# Strategies to Address Challenges & Opportunities: Priority Actions Taken or Underway

<b>Wastewater Collection and Treatment</b>	
<b>Actions</b>	<b>Results / Progress</b>
<b>Infrastructure upgrades at wastewater treatment plants</b>	In 2014, three treatment plants completed over \$333 million in upgrades including odour control, building and facility upgrades, standby power generation and biosolids upgrades. The 10-year plan includes nearly \$3 billion in infrastructure renewal.
<b>Sewer replacement and rehabilitation</b>	In 2014, \$57 million spent on sewer replacement and rehabilitation. The 10-year plan includes \$1.125 billion in improvements..
<b>Basement Flooding Protection Subsidy Program</b>	Subsidies for devices to prevent residential sewage backups have increased from \$579,164 in 2010 to approximately \$14 million in the 2015 approved budget.







# Stormwater Management



# Service Challenges & Opportunities

## Stormwater Management

### ■ Challenges

- ✓ Long-term financial stability
- ✓ Successive water rate increases for new infrastructure
- ✓ Declining water consumption affects revenues for stormwater program
- ✓ Increased regulatory compliance requirements
- ✓ Severe storms causing backups, blocked sewers, erosion

### ■ Opportunities

- ✓ Continue aggressive stormwater infrastructure upgrades including environmental assessments, engineering and construction
- ✓ Improve customer service for first call response



# Strategies to Address Challenges & Opportunities: *Priority Actions Taken or Underway*

<b>Stormwater management being addressed through capital investment</b>	<b>\$2.6 billion being invested over the next 10 years including basement flooding subsidies, environmental assessments, engineering, construction, stormwater ponds, trunk sewers, erosion control.</b>
<b>Consideration of a stormwater charge as a funding option for investing in Toronto Water infrastructure</b>	<b>Research underway as per Council direction being led by Economic Development to review all fees to assist in determining a possible funding policy.</b>





# Service Standards



# Service Standards

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

Activity Type	Service Levels				
	2012	2013	2014	% within Standard	Target Performance
Watermain-Possible Break	8 hours	2 hours	2 hours	71%	85%
Water Service Line-Leaking	24 hours	4 hours	4 hours	60%	75%
Water Service Line -Low Pressure, Low Flow	40 bus days	24 hours	24 hours	84%	75%
Water Service Line - No Water	24 hours	4 hours	4 hours	55%	75%
Water Service Line - Turn Off/Burst	8 hours	2 hours	2 hours	83%	75%
Water Service Line -Turn Off (non emergency)	24 hours	8 hours	8 hours	89%	75%
Water Service Line -Turn On	4 hours	8 hours	8 hours	94%	75%





Thank You

