

# WATER SNAPSHOT MEDIANS FOR 2016

## COST TO DISTRIBUTE DRINKING WATER

\$20,101/km of pipe  
INTEGRATED SYSTEMS

\$75,433/km of pipe  
TWO-TIER SYSTEMS

WATR305T (EFFICIENCY)

## COST OF DRINKING WATER TREATMENT

\$384/megalitre  
INTEGRATED SYSTEMS

\$618/megalitre  
TWO-TIER SYSTEMS

WATR310T (EFFICIENCY)

## WATER TREATED

(PER 100,000 PEOPLE)

12,782  
MEGALITRES

INTEGRATED SYSTEMS

10,734  
MEGALITRES

TWO-TIER SYSTEMS

WATR210 (SERVICE LEVEL)



1 MEGALITRE = 1,000,000 LITRES

### KEEP IN MIND:

#### Influencing Factors

Influencing factors can create variances in comparison data from year-to-year and from municipality-to-municipality.



#### Age of Infrastructure

Age, condition and type of pipe material and frequency of maintenance of the water distribution system



#### Conservation Programs

Extent of impact on water consumption



#### Pumping Stations

Number and size of water pumping stations required to maintain pressure in the water distribution system



#### Provincial Standards

Municipal water quality requirements may exceed provincial regulations



#### Supply & Demand

Water source, treatment cost, size of geographic area and different supply areas impact demand



#### Treatment Plants

Number, size and complexity of the municipality's water treatment plants



#### Urban Density

Proximity of pipes to other utilities increases the cost for repair and replacement



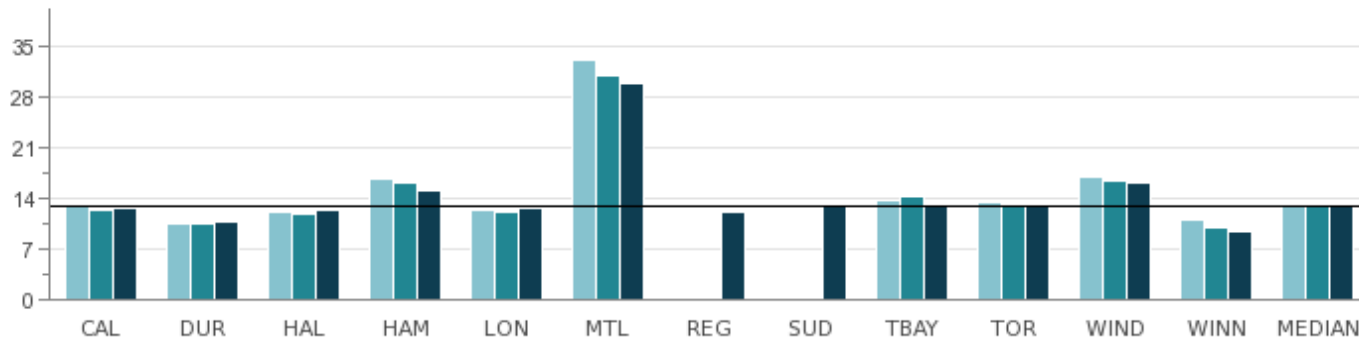
#### Weather Conditions

Negative impacts associated with more severe and frequent extreme weather events

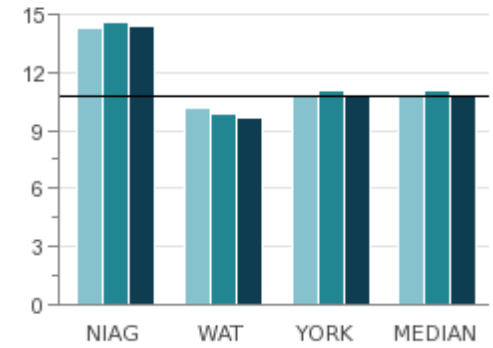
For a full description of influencing factors, please go to: [www.mbncanada.ca](http://www.mbncanada.ca)

**Fig. 36.1 Megalitres of Treated Water per 100,000 Population**

Integrated Systems (In Thousands)



Two-Tier Systems (In Thousands)



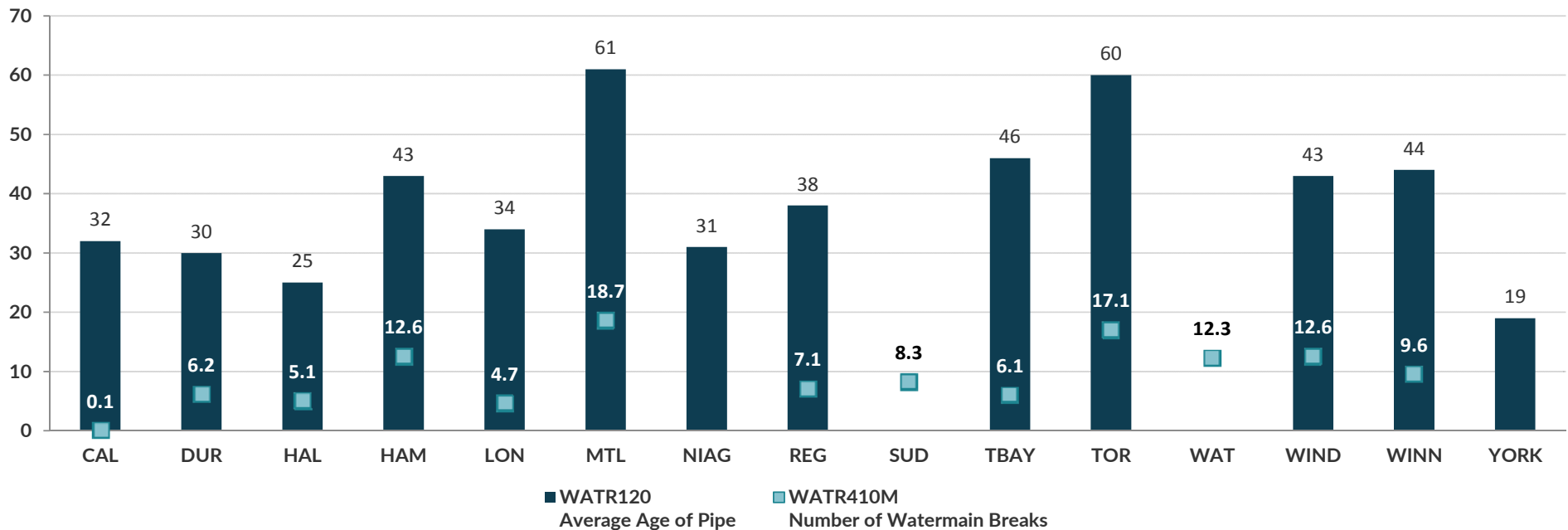
2014	13,004	10,526	12,042	16,656	12,208	32,858	N/A	N/A	13,568	13,279	16,818	10,863	13,142	14,326	10,137	10,785	10,785
2015	12,467	10,435	11,929	16,223	11,988	30,794	N/A	N/A	14,301	13,103	16,317	9,965	12,785	14,628	9,828	11,017	11,017
2016	12,552	10,626	12,258	15,096	12,527	29,812	11,943	13,123	13,208	13,011	16,081	9,458	12,782	14,358	9,634	10,734	10,734

Source: WATR210 (Service Level)

**Fig. 36.2 Average Age of Water Pipe / Number of Water Main Breaks per 100KM of Water Distribution Pipe**

Age of Water Distribution Pipe - Old pipes are usually in poor condition as a result of pipe corrosion, pipe materials (susceptible to fractures), and leakage at pipe joints and service connections which contributes to an increased frequency of water main breaks relative to newer systems that do not have such deficiencies.

Number of Watermain Breaks - excludes service connections and hydrant leads.



Source: WATR120 (Community Impact); WATR410M (Customer Service)

Comment:

Niagara Region and York Region have reported the average age of pipe only; while Greater Sudbury and Waterloo have reported the number of watermain breaks.

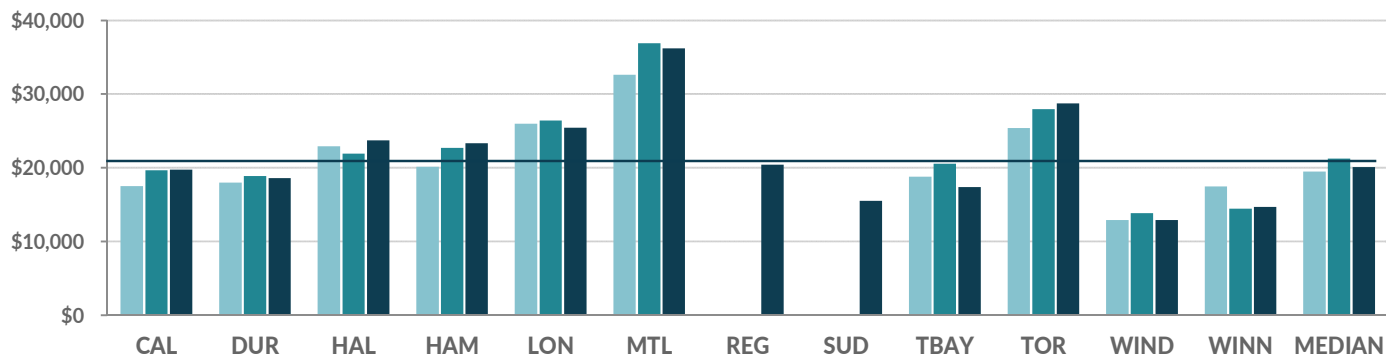
**Fig. 36.3 Total Cost for the Distribution/Transmission of Drinking Water per Km of Water Distribution Pipe Relative to the Number of Water Pumping Stations Operated**

Municipalities providing service over a broad geographic area generally have higher operating costs due to the number and type of water treatment facilities and water pumping stations operated. The distance between the individual systems has an impact on the daily operating costs for both the distribution and transmission of drinking water. Amortization cost can vary from year to year depending on the type of infrastructure, capital fund expenditures, etc.

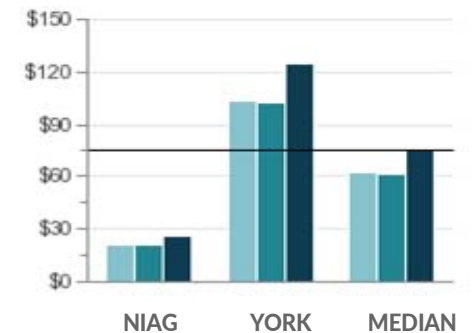
**Integrated Systems:** The term applies to municipalities that have full responsibility for all water activities including treatment, transmission, storage and local distribution.

**Two-Tier Systems:** The term applies to municipalities that have responsibility for components of water activities such as water treatment, water transmission and major water storage facilities; and whereas local municipalities are responsible for local water distribution systems and storage facilities.

**Integrated Systems (in Thousands)**



**Two-Tier Systems (in Thousands)**



2014	\$17,516	\$17,986	\$22,934	\$20,122	\$26,005	\$32,639	N/A	N/A	\$18,835	\$25,414	\$12,912	\$17,479	\$19,479	\$21,201	\$103,808	\$62,505
2015	\$19,650	\$18,887	\$21,956	\$22,689	\$26,445	\$36,916	N/A	N/A	\$20,578	\$27,957	\$13,861	\$14,464	\$21,267	\$20,680	\$102,364	\$61,522
2016	\$19,757	\$18,592	\$23,748	\$23,347	\$25,458	\$36,226	\$20,445	\$15,530	\$17,410	\$28,732	\$12,919	\$14,697	\$20,101	\$26,460	\$124,405	\$75,433
Water Pumping Stations	41	17	14	22	7	19	3	15	8	18	3	5		11	21	

Source: WATR305T (Efficiency); WATR808 (Statistic)

**Comments:**

The Region of Waterloo is responsible for treatment of drinking water only.

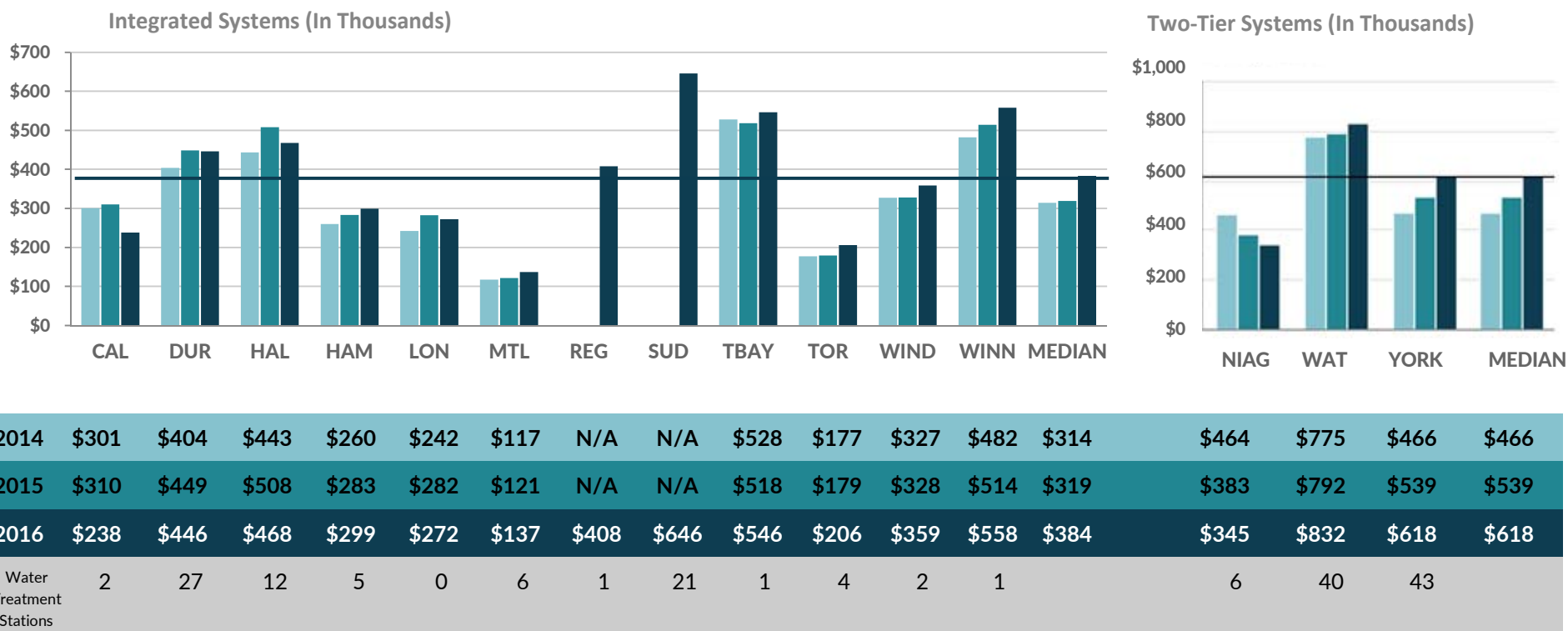
York Region is the only municipality without direct access to Lake Ontario and has service agreements with the Regions of Peel and Durham, as well as the City of Toronto.

**Fig. 36.4 Total Cost for the Treatment of Drinking Water per Megalitre of Drinking Water Treated Relative to the Number of Water Treatment Stations**

Cost includes operation and maintenance of treatment plants as well as quality assurance and laboratory testing to ensure compliance with regulations. Amortization can vary from year to year depending on the type of infrastructure, capital fund expenditures, etc. Municipalities providing service over a broad geographic area generally have higher operating costs due to the number and type of water treatment facilities and water pumping stations operated. The distance between the individual systems has an impact on the daily operating costs for both the treatment of drinking water.

**Integrated Systems:** The term applies to municipalities that have full responsibility for all water activities including treatment, transmission, storage and local distribution.

**Two-Tier Systems:** The term applies to municipalities that have responsibility for components of water activities such as water treatment, water transmission and major water storage facilities; and whereas local municipalities are responsible for local water distribution systems and storage facilities.



Source: WATR310T (Efficiency); WATR801 (Statistic)

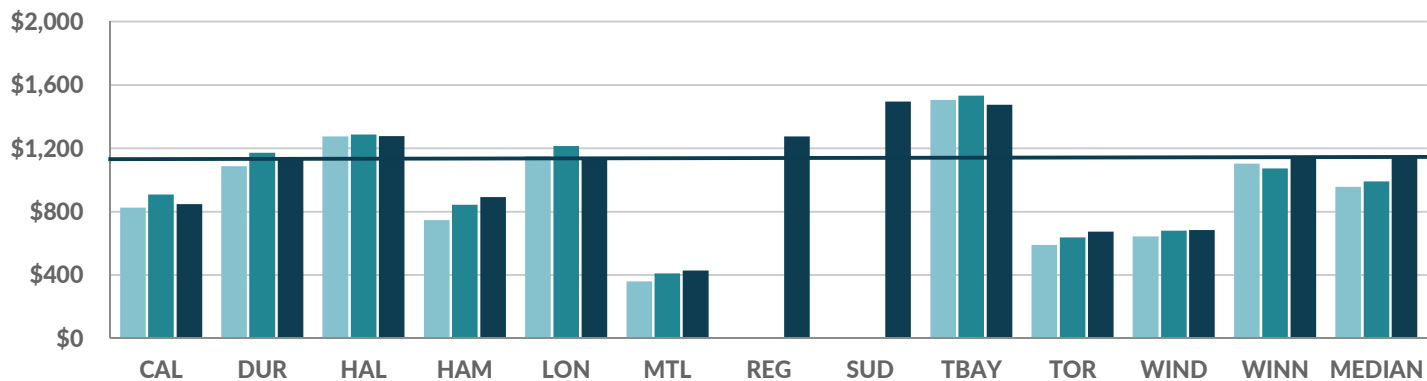
**Fig. 36.5 Total Cost for the Treatment, Distribution and Transmission of Drinking Water per Megalitre of Drinking Water Treated**

Municipalities providing service over a broad geographic area generally have higher operating costs due to the number and type of water treatment facilities and water pumping stations operated. The distance between the individual systems has an impact on the daily operating costs for the treatment, distribution and transmission of drinking water. Amortization cost can vary significantly from year to year depending on the type of infrastructure, capital fund expenditures, etc.

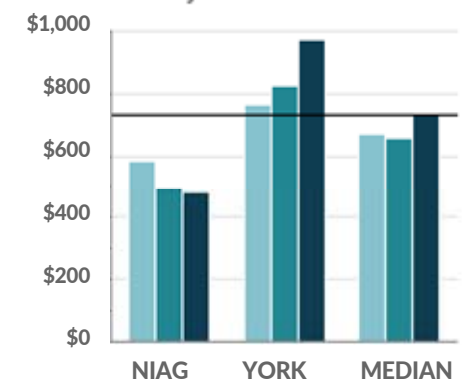
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Integrated Systems (In Thousands)



Two-Tier Systems (In Thousands)



2014	\$825	\$1,087	\$1,274	\$747	\$1,149	\$360	N/A	N/A	\$1,505	\$590	\$644	\$1,104	\$956	\$580	\$762	\$671
2015	\$908	\$1,172	\$1,288	\$844	\$1,215	\$410	N/A	N/A	\$1,532	\$638	\$681	\$1,073	\$991	\$494	\$822	\$658
2016	\$848	\$1,143	\$1,276	\$891	\$1,138	\$428	\$1,274	\$1,494	\$1,475	\$674	\$684	\$1,149	\$1,141	\$485	\$974	\$730

Source: WATR315T (Efficiency)

**Comments:**

The Region of Waterloo is responsible for the treatment of drinking water only, and do not appear on this graph.

York Region's costs are higher as a result of a high asset base and depreciation/amortization costs.