

# WATER SNAPSHOT MEDIANS FOR 2017

## COST TO DISTRIBUTE DRINKING WATER

\$20,967/km of pipe  
INTEGRATED SYSTEMS

\$76,700/km of pipe  
TWO-TIER SYSTEMS

WATR305T (EFFICIENCY)

## COST OF DRINKING WATER TREATMENT

\$437/megalitre  
INTEGRATED SYSTEMS

\$616/megalitre  
TWO-TIER SYSTEMS

WATR310T (EFFICIENCY)

## WATER TREATED

(PER 100,000 PEOPLE)

12,716  
MEGALITRES  
INTEGRATED SYSTEMS

9,662  
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



#### 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

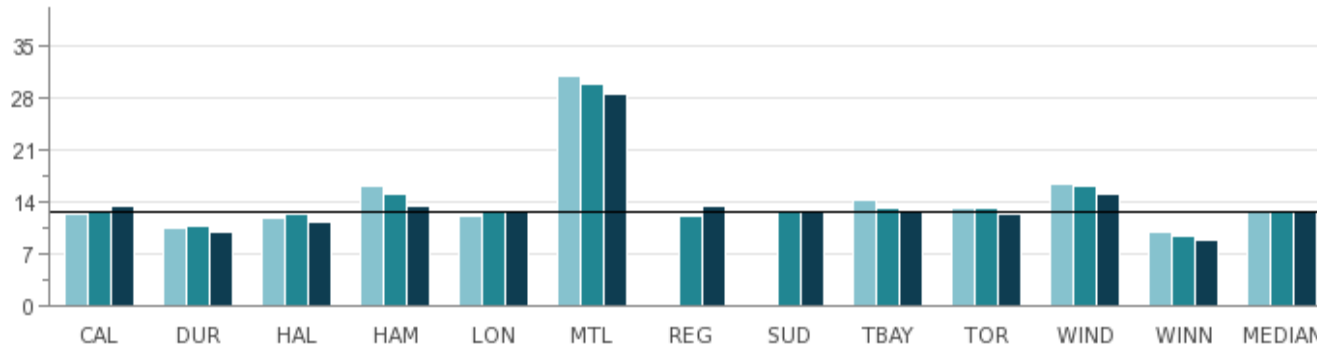
For a full description of influencing factors, please go to: [www.mbncanada.ca](http://www.mbncanada.ca)

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

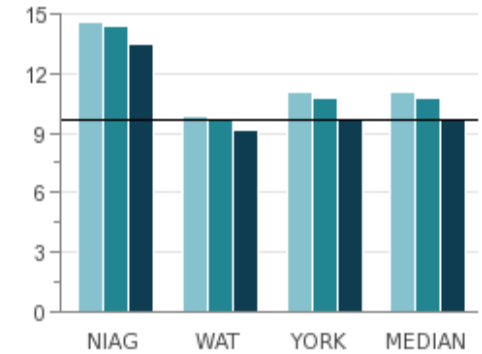
**Integrated Systems:** The term applies to municipalities that have full responsibility for all water activities including treatment, transmission, storage and local distribution.

**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)



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	12,906	13,208	13,011	16,081	9,458	12,729	14,358	9,634	10,734	10,734
2017	13,397	9,843	11,251	13,434	12,540	28,540	13,510	12,613	12,819	12,388	14,964	8,962	12,716	13,526	9,167	9,662	9,662

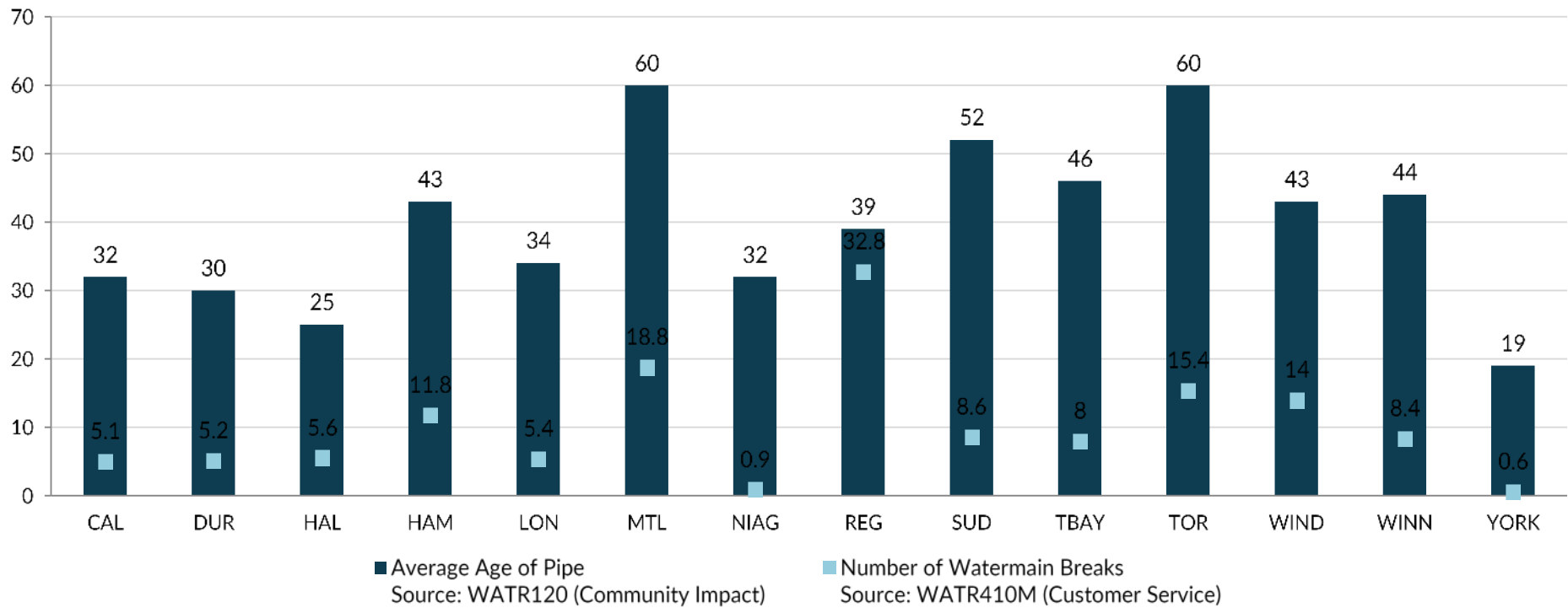
Source: WATR210 (Service Level)

**Montreal:** The City must produce significant volumes of water to meet the needs of the ICIs, which is a large proportion of the clientele served. In addition, the aging of the infrastructures causes a high rate of water loss, which has a significant impact on the volume of water produced by the City.

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

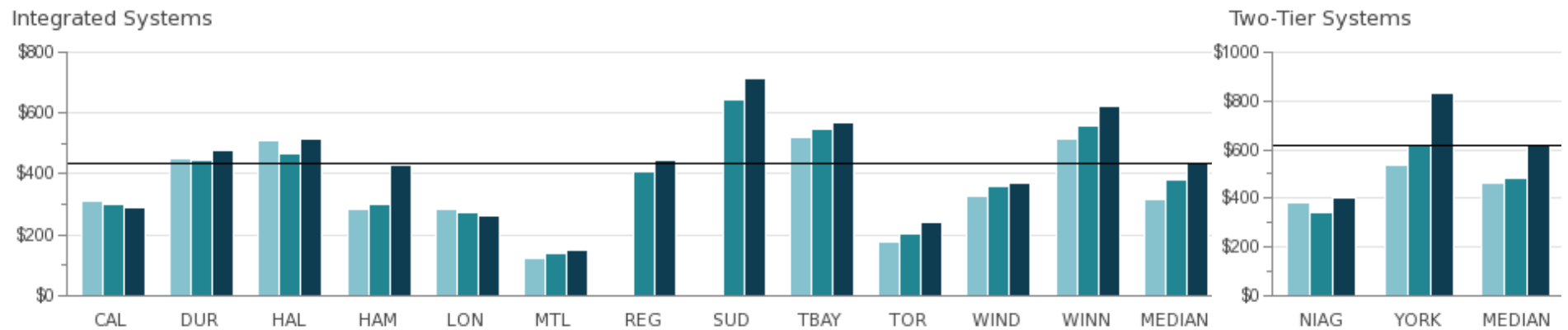
Age of Water Distribution Pipe: Old pipes are usually in poor condition as a result of pipe corrosion, pipe materials (susceptible to fractures), and leakage at pipe joints and service connections which contributes to an increased frequency of water main breaks relative to newer systems that do not have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

Number of Watermain Breaks: Excludes service connections and hydrant leads.



**Fig. 36.3 Total Cost for the Treatment of Drinking Water per Megalitre of Drinking Water Treated Relative to the Number Water Treatment Facilities**

This measure reflects the total cost for the treatment of drinking water. Costs include operation and maintenance of treatment plants as well as quality assurance and laboratory testing to ensure compliance with regulations, and amortization which 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 wells operated. The distance between the individual systems has an impact on the daily operating costs for both the treatment of drinking water. Refer to Fig. 36.1 for description of Integrated and Two-Tier systems.



2015	\$310	\$449	\$508	\$283	\$282	\$121	N/A	N/A	\$518	\$179	\$328	\$514	\$319	\$383	\$539	\$461
2016	\$303	\$446	\$468	\$299	\$272	\$137	\$408	\$646	\$546	\$206	\$359	\$558	\$384	\$345	\$618	\$482
2017	\$288	\$479	\$514	\$428	\$265	\$148	\$445	\$716	\$571	\$243	\$371	\$620	\$437	\$399	\$832	\$616
Water Treatment Facilities	2	28	12	5	0	6	1	21	1	4	2	1		6	42	

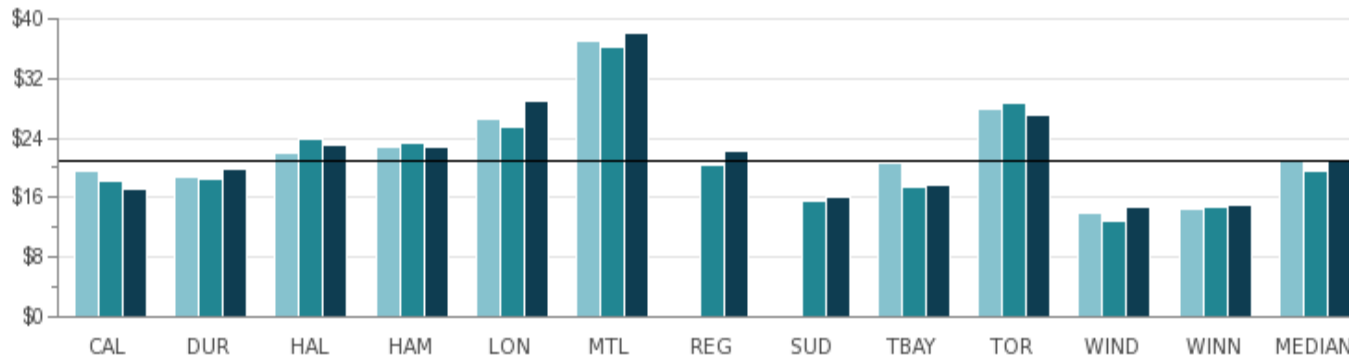
Source: WATR310T (Efficiency); WATR801 (Statistic)

Waterloo: The Region’s treatment and transmission infrastructure are fully integrated and the cost components cannot be separated. See Fig. 36.5 for total cost.

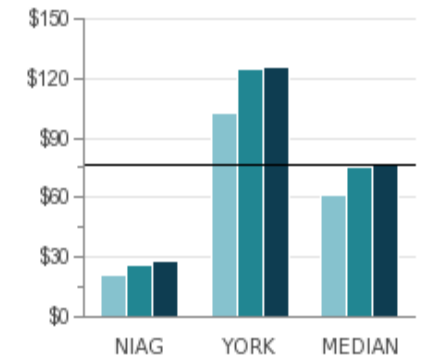
**Fig. 36.4 Total Cost for the Distribution/Transmission of Drinking Water per Km of Water Distribution Pipe to the Number of Water Pumping Stations Operated**

This measure reflects the total cost for the distribution and transmission of drinking water. Amortization is also included and 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 distribution and transmission of drinking water. Refer to Fig. 36.1 for description of Integrated and Two-Tier systems.

Integrated Systems (In Thousands)



Two-Tier Systems (In Thousands)



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	\$18,328	\$18,592	\$23,748	\$23,347	\$25,458	\$36,226	\$20,445	\$15,530	\$17,410	\$28,732	\$12,919	\$14,697	\$19,519	\$26,460	\$124,405	\$75,433
2017	\$17,269	\$19,736	\$22,947	\$22,930	\$29,088	\$38,057	\$22,197	\$16,164	\$17,665	\$27,116	\$14,737	\$15,068	\$20,967	\$27,719	\$125,681	\$76,700
Water Pumping Stations	41	17	14	22	8	19	3	15	8	18	3	5		11	22	

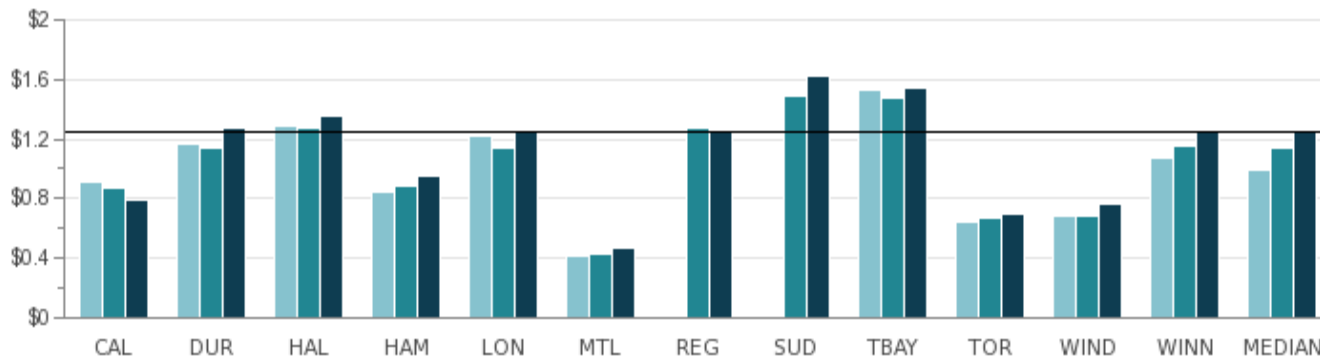
Source: WATR305T (Efficiency); WATR808 (Statistic)

Waterloo: The Region's treatment and transmission infrastructure are fully integrated, and the cost components cannot be separated. See Fig. 36.5 for total cost.

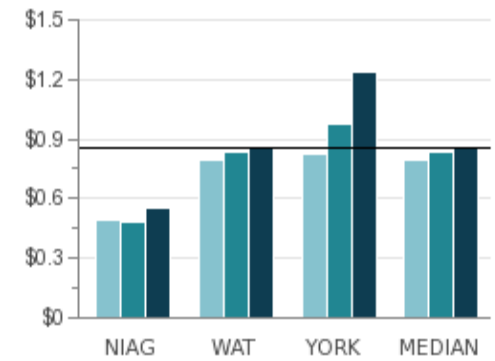
**Fig. 36.5 Total Cost for the Treatment and Distribution/Transmission of Drinking Water per Megalitre of Drinking Water Treated**

This measure reflects the combined total cost for the treatment, distribution and transmission of drinking water. It includes amortization which can vary significantly 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 the treatment, distribution and transmission of drinking water. Refer to Fig. 36.1 for description of Integrated and Two-Tier systems.

Integrated Systems (In Thousands)



Two-Tier Systems (In Thousands)



2015	\$908	\$1,172	\$1,288	\$844	\$1,215	\$410	N/A	N/A	\$1,532	\$638	\$681	\$1,073	\$991	\$494	\$792	\$822	\$792
2016	\$868	\$1,143	\$1,276	\$891	\$1,138	\$428	\$1,274	\$1,494	\$1,475	\$674	\$684	\$1,149	\$1,141	\$485	\$832	\$974	\$832
2017	\$788	\$1,271	\$1,360	\$958	\$1,246	\$466	\$1,266	\$1,619	\$1,543	\$698	\$764	\$1,250	\$1,248	\$553	\$857	\$1,236	\$857

Source: WATR315T (Efficiency)

York: Costs are higher because of a high asset base and depreciation/amortization costs.