

WATER **SNAPSHOT MEDIANS FOR 2015**

COST TO DISTRIBUTE DRINKING WATER

\$21,956/megalitre
INTEGRATED SYSTEMS

\$61,522/megalitre
TWO-TIER SYSTEMS

fig. WATR305T (EFFICIENCY)

COST OF DRINKING WATER TREATMENT

\$328/megalitre
INTEGRATED SYSTEMS

\$539/megalitre
TWO-TIER SYSTEMS

fig. WATR310T (EFFICIENCY)

WATER TREATED

(PER 100,000 PEOPLE)

12,467
MEGALITRES
INTEGRATED SYSTEMS

11,017
MEGALITRES
TWO-TIER SYSTEMS

fig. 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



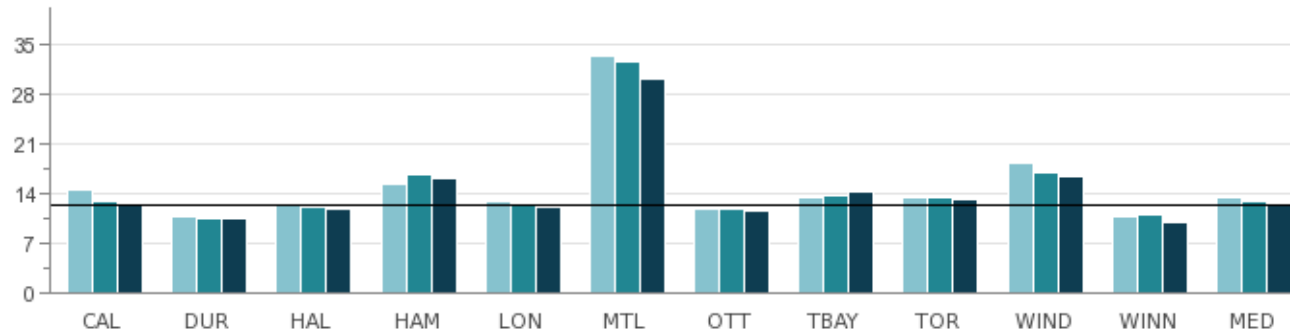
Weather Conditions

Negative impacts associated with more severe and frequent extreme weather events

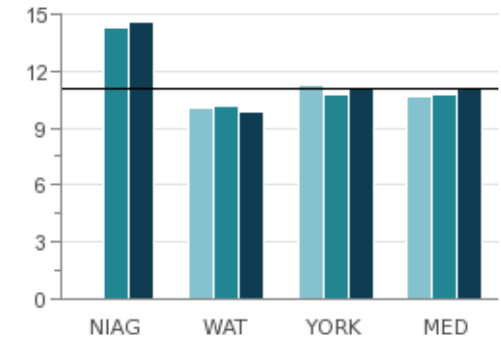
For a full description of influencing factors, please go to: www.mbncanada.ca

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

Integrated Systems (In Thousands)



Two-Tier Systems (In Thousands)



2013	14,448	10,614	12,484	15,170	12,756	33,329	11,745	13,400	13,542	18,216	10,633	13,400	N/A	10,086	11,304	10,695
2014	13,004	10,526	12,042	16,656	12,208	32,503	11,687	13,568	13,279	16,818	10,863	13,004	14,326	10,137	10,785	10,785
2015	12,467	10,435	11,929	16,223	11,988	30,027	11,530	14,301	13,103	16,317	9,965	12,467	14,628	9,828	11,017	11,017

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), leakage at pipe joints and service connections which contributes to an increased frequency of watermain breaks relative to newer systems that do not have such deficiencies.

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

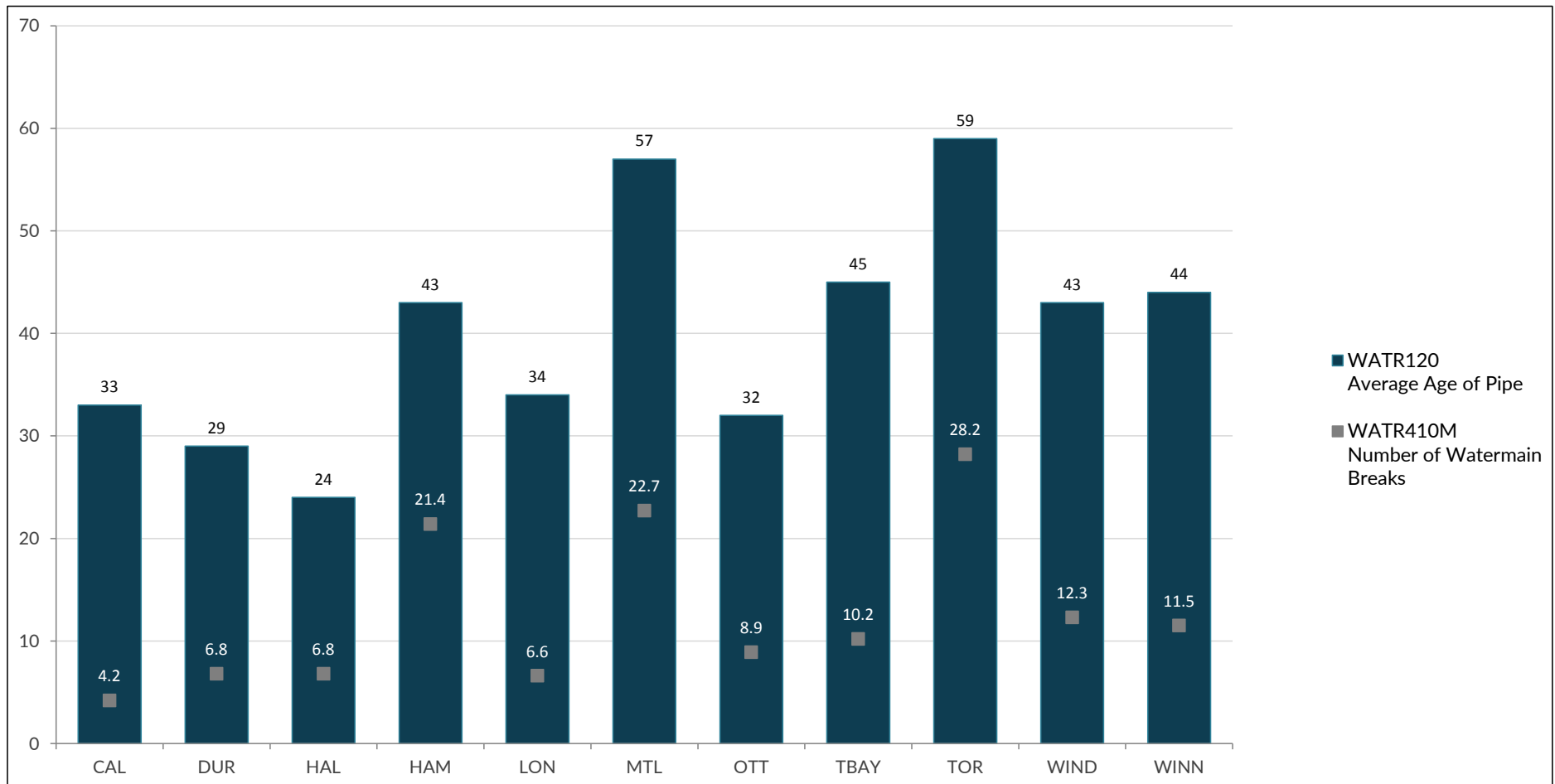


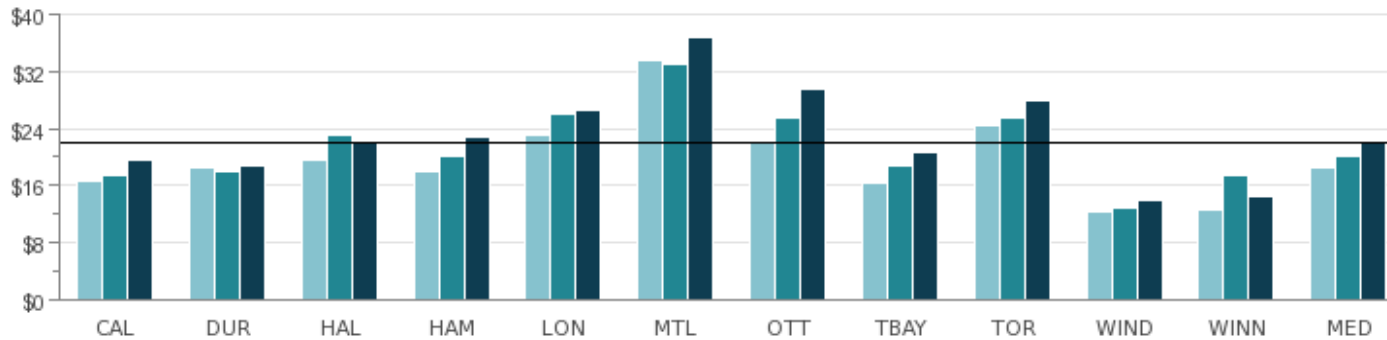
Fig. 36.3 Total Cost for the Distribution/Transmission of Drinking Water per Km of Water Distribution Pipe Relative to the Number of Water Pumping Stations Operated

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 treatment and distribution of drinking water. Amortization cost can vary significantly from year to year depending on the type of infrastructure, capital fund expenditures, etc.

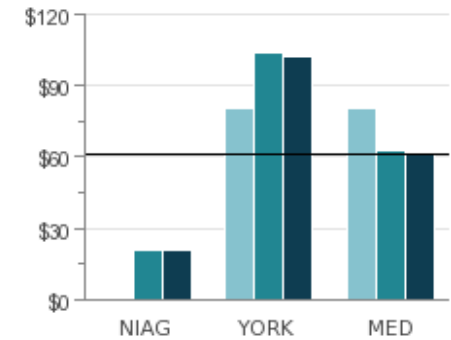
Integrated Systems: The term applies to municipalities that have full responsibility for all water activities including treatment, transmission, storage and local distribution.

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)



2013	\$16,578	\$18,401	\$19,630	\$18,009	\$23,153	\$33,396	\$22,207	\$16,491	\$24,540	\$12,402	\$12,682	\$18,401	N/A	\$80,515	\$80,515
2014	\$17,516	\$17,986	\$22,934	\$20,122	\$26,005	\$33,034	\$25,394	\$18,835	\$25,414	\$12,912	\$17,479	\$20,122	\$21,201	\$103,808	\$62,505
2015	\$19,650	\$18,887	\$21,956	\$22,689	\$26,445	\$36,763	\$29,512	\$20,578	\$27,957	\$13,861	\$14,464	\$21,956	\$20,680	\$102,364	\$61,522
Water Pumping Stations	39	17	25	22	7	23	17	18	8	3	5	-	11	21	-

Source: WATR305T (Efficiency); WATR808 (Statistic)

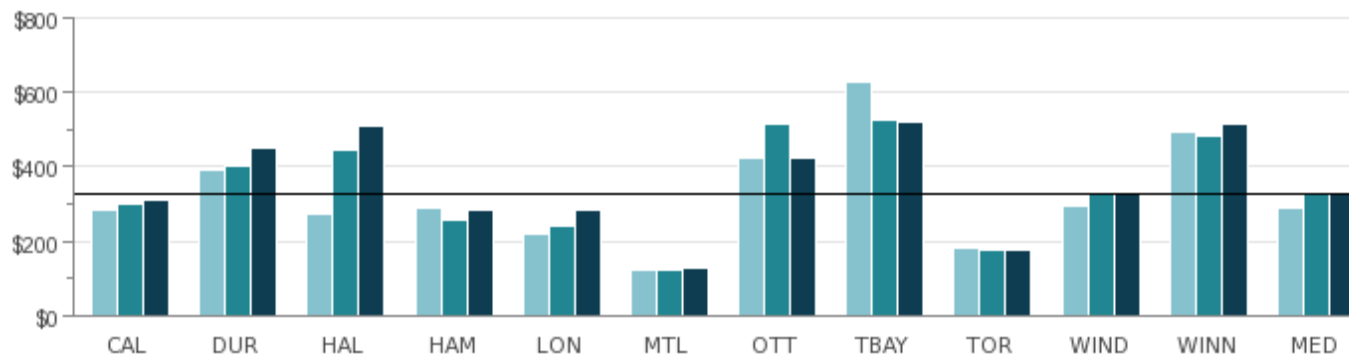
Fig. 36.4 Total Cost for the Treatment of Drinking Water per Megalitre of Drinking Water Treated Relative to the Number of Water Treatment Stations

Cost includes operation and maintenance of treatment plants as well as quality assurance and laboratory testing to ensure compliance with regulations. Amortization can vary 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 both the treatment and distribution of drinking water.

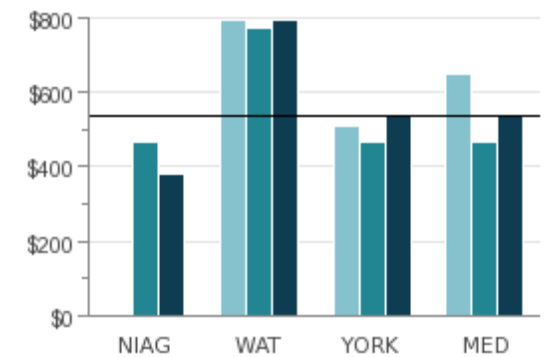
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Integrated Systems



Two-Tier Systems



2013	\$282	\$394	\$276	\$288	\$218	\$122	\$426	\$627	\$184	\$296	\$494	\$288	N/A	\$794	\$509	\$652
2014	\$301	\$404	\$443	\$260	\$242	\$126	\$517	\$528	\$177	\$327	\$482	\$327	\$464	\$775	\$466	\$466
2015	\$310	\$449	\$508	\$283	\$282	\$130	\$423	\$518	\$179	\$328	\$514	\$328	\$383	\$792	\$539	\$539
Water Treatment Stations	2	30	12	5	N/A	6	7	1	4	2	1	-	6	40	43	-

Source: WATR310T (Efficiency); WATR801 (Statistic)

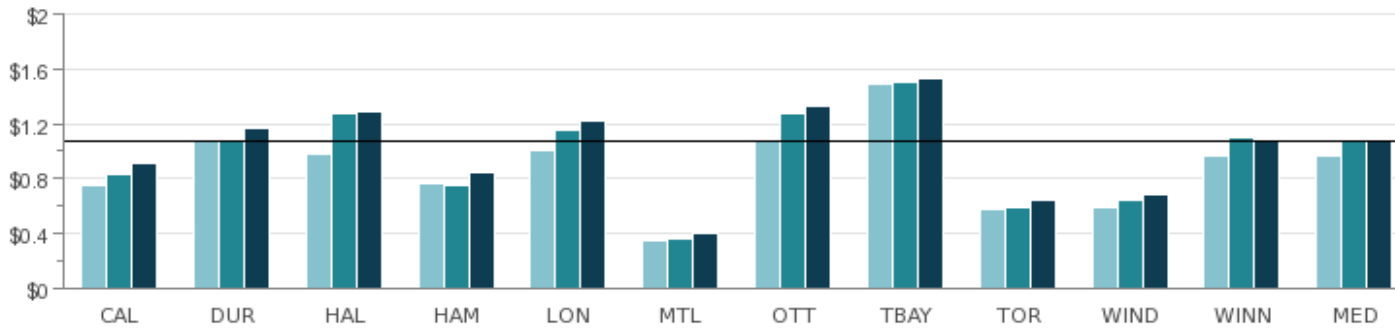
Fig. 36.5 Total Cost for the Treatment, Distribution and Transmission of Drinking Water per Megalitre of Drinking Water Treated

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 both the treatment and distribution of drinking water. Amortization cost can vary significantly from year to year depending on the type of infrastructure, capital fund expenditures, etc.

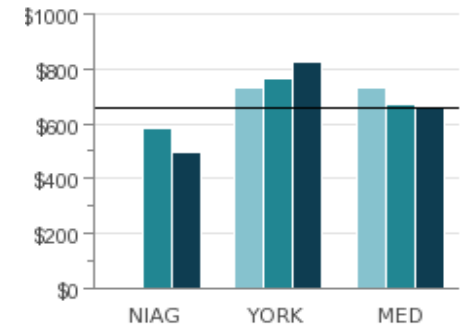
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Integrated Systems (In Thousands)



Two-Tier Systems



2013	\$753	\$1,091	\$976	\$769	\$1,000	\$347	\$1,084	\$1,493	\$579	\$586	\$961	\$961	N/A	\$734	\$734
2014	\$825	\$1,087	\$1,274	\$747	\$1,149	\$357	\$1,279	\$1,505	\$590	\$644	\$1,104	\$1,087	\$580	\$762	\$671
2015	\$908	\$1,172	\$1,288	\$844	\$1,215	\$401	\$1,324	\$1,532	\$638	\$681	\$1,073	\$1,073	\$494	\$822	\$658

Source: WATR315T (Efficiency)

Comment: The Region of Waterloo is responsible for treatment only; therefore results are not available for the total cost.