



21. WATER SERVICES

Water Services include the treatment and distribution of potable (drinking) water from the water supply source to the customer. The goal of water services is to ensure a clean, affordable and adequate supply of water is available to meet demand from both existing communities and future development. Provincial and municipal policies ensure water supply is readily available for emergency purposes, such as fire protection and to meet peak demand conditions.

To ensure the drinking water from your tap is safe and of high quality, it undergoes monitoring and testing during the treatment process. The distribution system is also monitored frequently. Annual water quality reports are available from your municipal water provider, showing compliance with provincial and federal water quality regulations.

Specific objectives of water services include:

- treatment of source water at water treatment plants to ensure drinking water meets or exceeds regulatory requirements
- distribution of drinking water to customers through systems of watermains, water pumping stations and storage reservoirs
- ensuring adequate capacity is maintained for both existing communities and future development

Water services are provided to residential and Industrial, Commercial and Institutional (ICI) sector customers. These services are generally funded through Municipal water rates.

What should you consider when reviewing these results?

Each municipality's results are influenced to varying degrees by a number of factors, including:

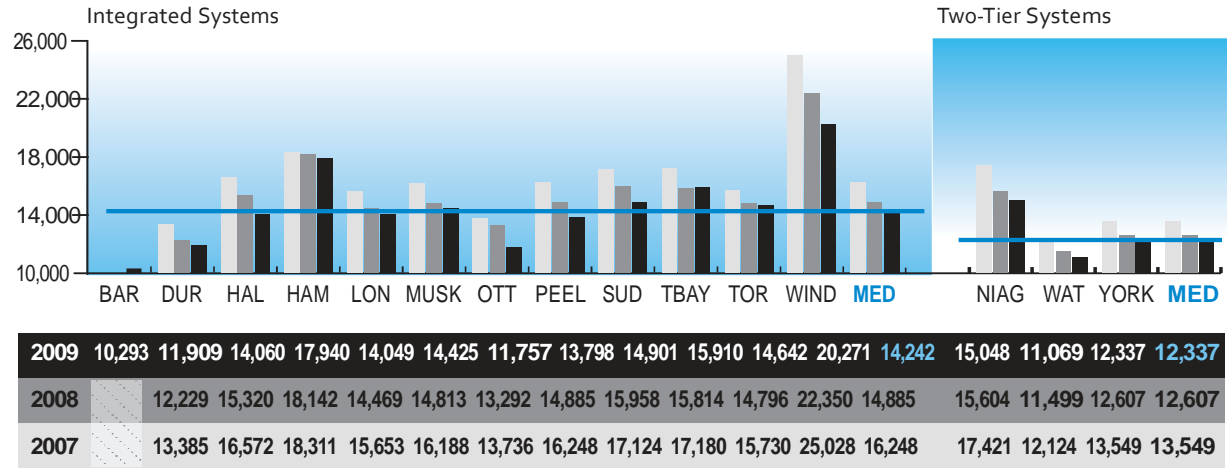
- demand: variation in supply to the ICI and residential sectors, relative to total system demand
- supply: cost is impacted by the water source (ground water or surface water), the resulting treatment costs and the number of independent water supply/distribution systems operated; size of the geographic area serviced
- treatment plants: number, size and complexity of a municipality's water treatment plants
- urban density: proximity of pipes to other utilities increases the cost for infrastructure repair and replacement
- age of infrastructure: age and condition of the water distribution pipe, type of water distribution pipe material and frequency of maintenance activities
- local water supply requirements: specific municipal water quality requirements may exceed provincial regulations
- weather conditions: negative impacts associated with more severe and frequent extreme weather events
- conservation programs: extent of municipal water conservation programs can impact water consumption

NOTE: Difference in accounting procedures between OMBI municipalities may not make the performance measure results for operating cost directly comparable due to 1) differences in the type of expenditures included as an operating cost, 2) differences in the 'level of materiality' or 'dollar threshold' for items included in the operating cost calculation and 3) differences in the amount of unfunded liabilities.

What are the results?

How much water is treated in each municipality?

Fig. 21.1 Megalitres of Treated Water per 100,000 Population



Source: WATR21o (Service Level)

Figure 21.1 shows the volume of drinking water treated per 100,000 persons. Overall demand includes water provided to the residential and ICI sectors. These volumes shown are in megalitres (one megalitre is equivalent to one million litres).

The term “integrated systems” is used to describe those systems of cities or regional municipalities that have full responsibility for all wastewater activities including treatment, transmission, storage and local distribution. The Regional Municipalities of Niagara, Waterloo and York do not operate integrated systems. They are responsible for water treatment, water transmission (including major, feeder mains & pumping stations) and major water storage facilities. The local municipalities within those regions are responsible for local water distribution systems and storage facilities.

What is the age of the infrastructure and population density in the serviced community?

Fig. 21.2 Average Age of Water Pipe/Population Density of Service Area

Municipality	Age of Pipe	Population Density
Barrie	35	1,812.5
Durham	19	225.2
Halton	23	472.6
Hamilton	43	428.9
London	34	831.6
Muskoka	40	7.9
Niagara	30	205.5
Ottawa	31	324.9

Municipality	Age of Pipe	Population Density
Peel	22	1,023.8
Sudbury (Greater)	44	36.9
Thunder Bay	45	312.0
Toronto	57	4,346.3
Waterloo	NA	371.6
Windsor	47	1,488.1
York	14	619.0

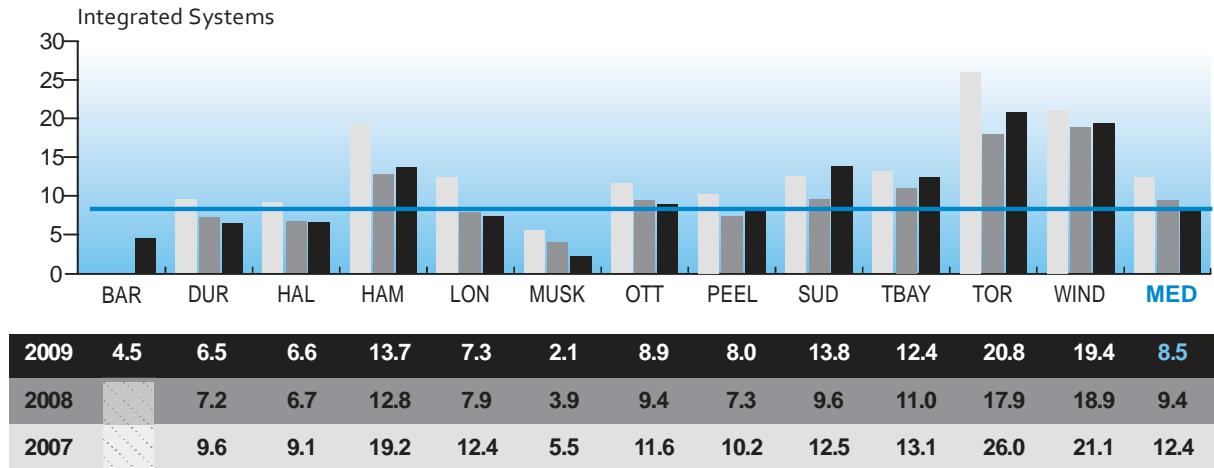
Source: WAT105 (Community Impact); WATR00g

Figure 21.2 identifies the two primary factors to consider when reviewing the Number of Wastewater Main Backups per 100 Kilometre of Wastewater Main (Figure 21.3) and the Cost for the Distribution/Transmission of Drinking Water per Kilometre of Water Distribution Pipe (Figure 21.4). The summary table is provided for cross-referencing purposes.

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How many watermain breaks are there?

Fig. 21.3 Number of Water Main Breaks per 100 Kilometre of Water Distribution Pipe (excluding Service Connections and Hydrant Leads) (MPMP)

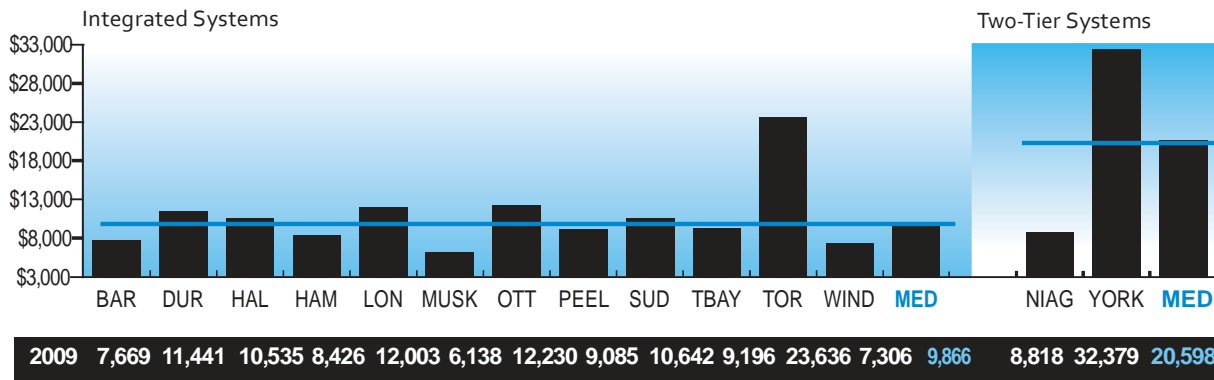


Source: WATR_{410M} (Customer Service)

Figure 21.3 shows the number of watermain breaks per 100 kilometre of distribution pipe. This and the supporting information on the age of watermain pipe shows there is a relationship between older water distribution systems and higher rates of watermain breaks. Information is not shown for the Regional Municipalities of Niagara, Waterloo and York as these municipalities are not responsible for local water distribution.

How much does the distribution and transmission of drinking water cost?

Fig. 21.4 Operating Cost for the Distribution/Transmission of Drinking Water per Kilometre of Water Distribution Pipe (MPMP)



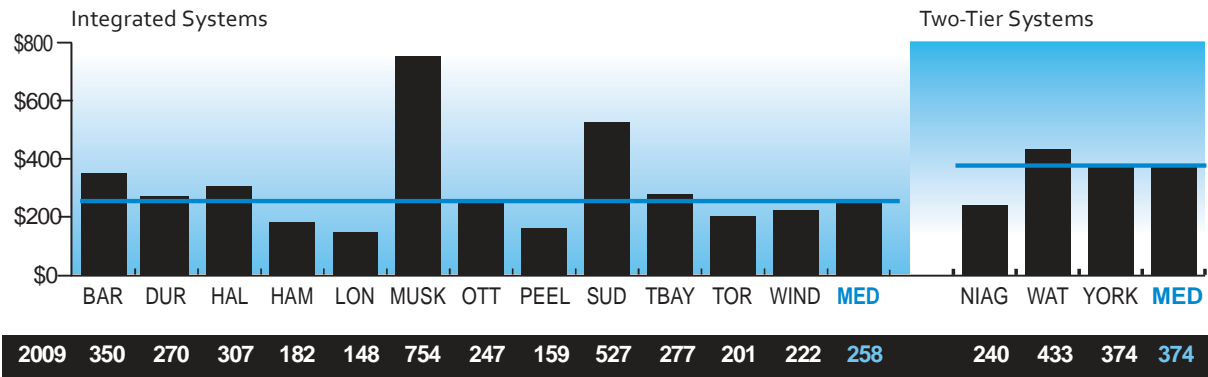
Source: WATR_{305M} (Efficiency)

Figure 21.4 shows the average cost per kilometre of water distribution/transmission to customers. Costs include the provision of water from the water treatment plant to the customer. Information is shown separately for Integrated Systems and for the Region's responsible for water treatment, transmission and storage only.

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How much does the treatment of drinking water cost?

Fig. 21.5 Operating Cost for the Treatment of Drinking Water per Megalitre of Drinking Water Treated (MPMP)



Source: WATR_{310M} (Efficiency)

Figure 21.5 shows the cost of treating a megalitre of drinking water. Costs include operation and maintenance of treatment plants as well as quality assurance and laboratory testing to ensure compliance with regulations.

Municipalities providing service over a broad geographic area will have higher operating costs due to the number and type of water treatment facilities operated and the distance between the individual systems. This has an impact on the daily operating costs for both the treatment and distribution of drinking water.