



22. Water Services

WHAT IS THE SERVICE?

Water Services include the treatment and distribution of potable (drinking) water from the source of water supply to the customer. The goal of water services is to ensure that a clean, affordable and adequate supply of water is available to meet demand from both existing communities and to provide opportunities for future economic 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 that 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.

Water services comprise:

- ▶ Treatment of water from the source at water treatment plants to ensure that drinking water meets or exceeds regulatory requirements
- ▶ Distribution of drinking water to customers through systems of watermains, water pumping stations and storage reservoirs

Water services are provided to residential and ICI (industrial, commercial and institutional) sector customers. Municipal water rates generally provide the funding for these services.

WHAT ARE THE MAJOR SERVICE DELIVERY ISSUES?

Ongoing issues related to Water Services are:

- ▶ Legislation – increased legislation impacts on both operating costs and construction costs
- ▶ Staffing – shortage of qualified/certified operations staff
- ▶ Training – programs for licensing and certification of operations staff and the upgrading of licenses for staff in accordance with Ministry of the Environment (MOE) requirements
- ▶ Climate change - negative impacts of climate change associated with extended drought conditions and increased demand for water from municipal water supplies

WHAT ARE THE RESULTS?

Figures 22.2 and 22.4 use the term integrated systems to describe the municipal results presented for those cities or regional municipalities that have full responsibility for ownership and service delivery of all water infrastructure and activities including water 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, transmission and major water storage facilities, while the local municipalities within those regions are responsible for local water distribution systems and storage facilities.

How much treated water is used in each municipality?

FIG. 22.1 Megalitres of Treated Water per 100,000 Population

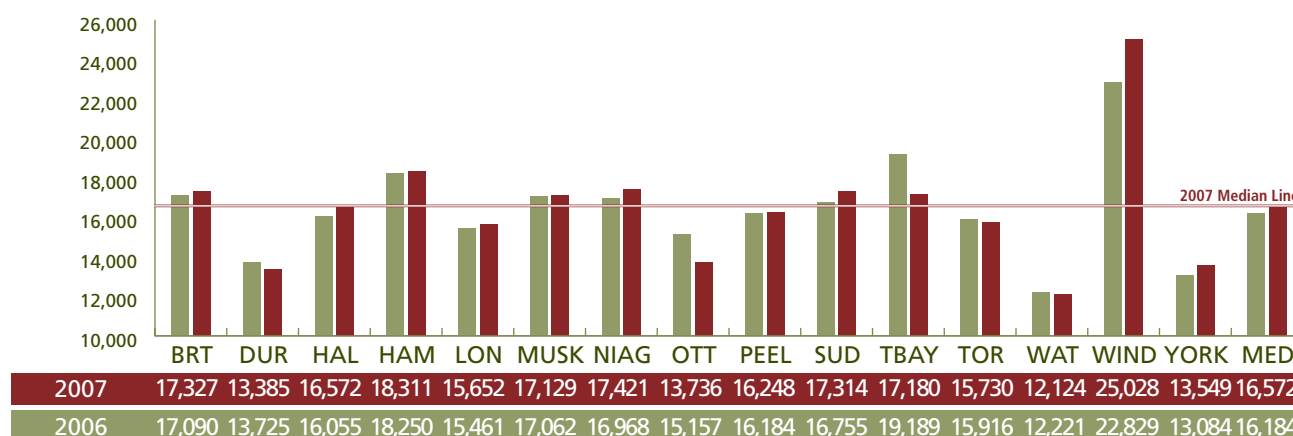


Figure 22.1 shows the volume of drinking water treated per 100,000 persons. Overall demand includes water provided to the residential and ICI sectors. These volumes shown are in megalitres (one megalitre is equivalent to one million litres).

How many watermain breaks are there?

FIG. 22.2 Number of Watermain Breaks per 100 Km of Water Distribution Pipe

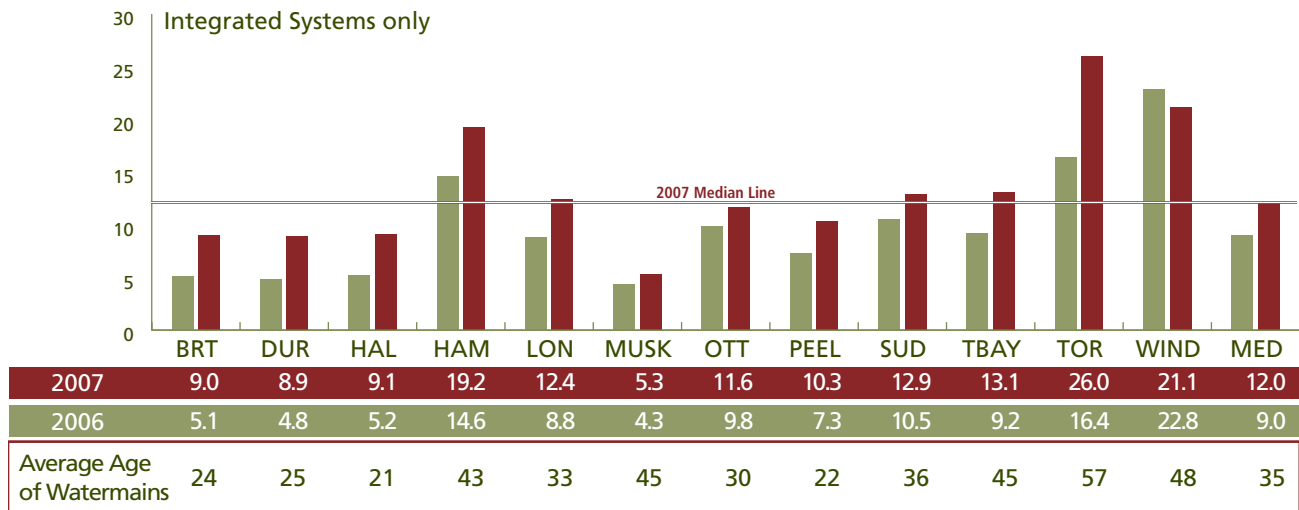


Figure 22.2 shows the number of watermain breaks per 100 Km of distribution pipe. This and the supporting information on the age of watermain pipe shows that there is a relationship between older water distribution systems and higher rates of watermain breaks.

How much does the treatment of drinking water cost?

FIG. 22.3 Operating Cost for the Treatment of Drinking Water per Megalitre of Drinking Water Treated

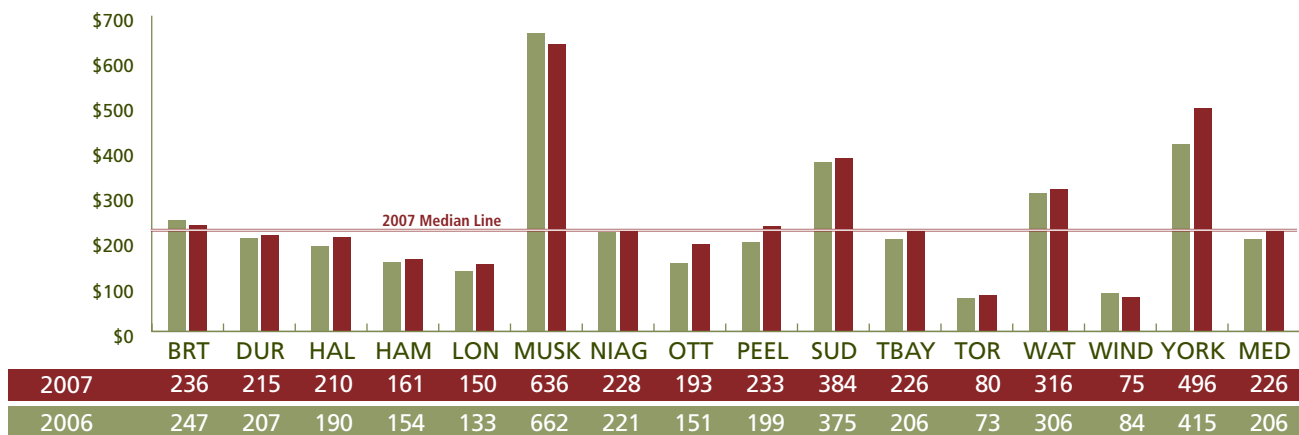


Figure 22.3 shows the cost of treating a megalitre of drinking water. Costs include operation and maintenance of treatment plants as well as quality assurance and laboratory testing to ensure compliance with regulations.

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.

How much does it cost to distribute drinking water?

FIG. 22.4 Operating Cost for the Distribution of Drinking Water per Km of Water Distribution Pipe

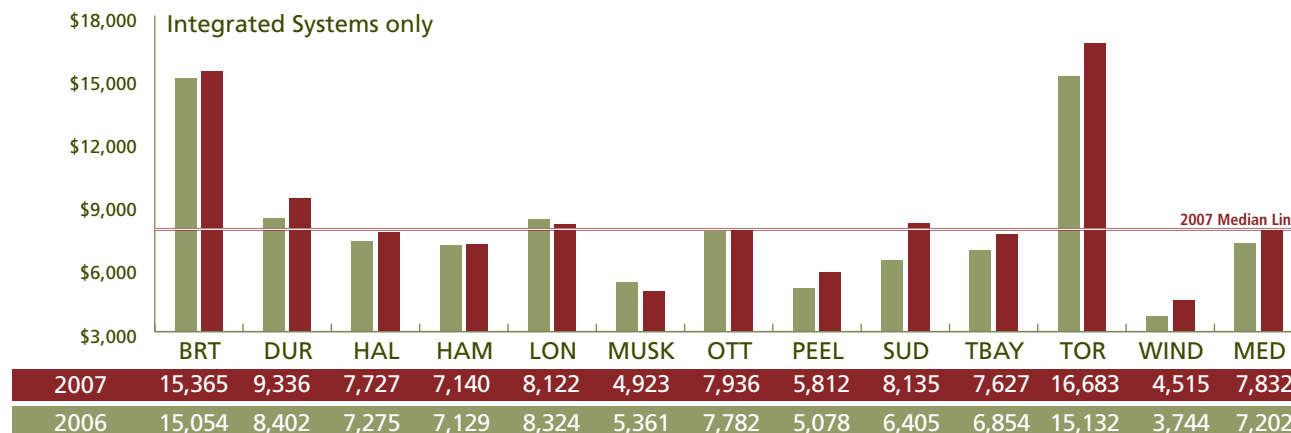


Figure 22.4 shows the cost per kilometer of water distribution pipe (watermain) of integrated systems for the distribution of drinking water to customers. Costs include the distribution of water from the water treatment plant to the customer.

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. Of significant importance is the size of the geographic area serviced
- ▶ Treatment plants – the 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)
- ▶ Local water supply requirements - specific municipal water quality requirements may exceed provincial regulations
- ▶ Age of infrastructure - age and condition of the water distribution pipe, type of water distribution pipe material and frequency of maintenance activities
- ▶ Weather conditions - negative impacts of climate change associated with severe cold weather (e.g., increased watermain breaks)
- ▶ Conservation programs – extent of municipal water conservation programs can impact water consumption

For more information about the results, contact the Municipality's representative listed in Appendix F, page 94.