



Canadian Water Network
Réseau canadien de l'eau

Municipal Consortium Strategic Sharing Groups

Primer: Advancing Levels of Service in the Context of Uncertainty

Introduction

Strategic Sharing Groups provide unique and meaningful peer-to-peer sharing opportunities on emerging strategic issues. Canadian Water Network (CWN) facilitates an environment for confidential dialogue among participating senior municipal/utility managers, and where appropriate, invites leading experts to share their knowledge. The discussion is directed by the group, with support from CWN staff who frame the issue, invite relevant guest experts, facilitate discussions, incorporate insights from the international community, capture meetings, and use critical takeaways and learnings to shape future Consortium initiatives to support the municipal community.

In 2018, with support and feedback from the Consortium Leadership Group (CLG), CWN launched a pilot Strategic Sharing Group on contaminants of emerging concern in wastewater – the leading topic of choice among CLG members. Once the Strategic Sharing Group had fulfilled its mandate in May of 2019, participants were asked to provide additional feedback on the structure, content, timelines, areas covered, and depth of discussion. An overwhelming number of respondents indicated that all areas of the Strategic Sharing Group met their expectations. As such, CWN decided to move forward with its next Strategic Sharing Group on levels of service under the same structure, but with some updates determined by additional feedback and internal evaluation.

Following discussions with CLG members, CWN has identified a need to improve and update the national dialogue around levels of service. In a 2019 survey of the CLG, the highest percentage of respondents supported advancing the discussion around levels of service. This Strategic Sharing Group will provide municipal and utility decision-makers with information, perspective and knowledge to help inform their plans to, in some cases, re-establish and in other cases, define levels of service for the water utility.

Advancing Levels of Service in the Context of Uncertainty

Utilities and municipalities across Canada have different approaches and definitions to levels of service. Although there is no one-size-fits-all approach to defining, managing and monitoring levels of service, at the most basic level, levels of service can be defined as the ability to meet

the performance and service requirements outlined by the objectives of the utility, expected by the customer and carried out by physical and technical assets.

As the landscape for drinking water, stormwater and wastewater changes, particularly in the face of uncertainty, such as climate change and more recently, the COVID-19 pandemic, municipalities and utilities are faced with the challenge of first clearly and explicitly defining their service level commitments and subsequently monitoring and evaluating these commitments in an effort to ensure they are meeting customer, technical, regulatory and corporate service levels in ways that are both equitable and affordable.

Rationale

Developing clear and explicit levels of service has been a challenge for many municipalities and utilities as different perspectives drive expectations. The utility, for example, might define a level of service as something that fulfills a mandate, goal or objective (e.g. ii. minimize number of watermain breaks), whereas the customer might define the level of service as meeting their individual household needs (e.g. reliable access to clean drinking water). Similarly, the asset itself might dictate the level of service it is capable of accomplishing (e.g. age and condition of watermains). The key to successfully determining levels of service is incorporating these three perspectives in design and development. However, at its most basic definition, levels of service can be characterized as a commitment undertaken by the water, wastewater or stormwater utility to meet quality, service, and performance levels that are **outlined** by the utility, within the **capacity** of the asset, and **expected** by the customer.

There is growing consensus among municipalities and utilities across Canada that changing customer expectations, evolving technologies, aging infrastructure and climate change challenges are driving the re-evaluation of levels of service for water, wastewater and stormwater. In Ontario for example, OReg588 outlines the requirement that municipalities create a strategic asset management policy that addresses operations, levels of service and lifecycle management.¹ Canada's Drinking Water Quality Guidelines set specific parameters (e.g. microbiological, chemical/physical, radiological, etc.) that influence a drinking water utility's level of service.² Similarly, the Federal Wastewater Systems Effluent Regulations (WSER), introduced in 2012 as an annex to the Fisheries Act, provide enforceable actions and standards for wastewater that also influence a wastewater utility's level of service.³

¹ <https://www.ontario.ca/laws/regulation/r17588>

² <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html>

³ <https://laws-lois.justice.gc.ca/eng/regulations/sor-2012-139/fulltext.html>



In 2018, Canadian Water Network and the Canadian Water and Wastewater Association partnered with Public Sector Digest to investigate asset data collection by Canadian municipalities/utilities and how this data is being used to inform decisions. The national report, published in 2019, highlights the role of high-quality data in helping to establish and prioritize asset management and level of service objectives. The report revealed that collecting high-quality asset condition data has the potential to provide municipalities/utilities with the foundational information needed to determine appropriate levels of service. For more information, refer to the [full report](#).

Similarly, a 2018 report prepared by CWN titled *Balancing the Books*, highlighted the challenges to achieving financially sustainable water and wastewater systems and the importance of identifying opportunities to advance financial sustainability through effectively determining and prioritizing appropriate levels of service. For more information, refer to the [full report](#).

Although the term “level of service” has traditionally been considered a technical engineering term, it is central to creating a shared understanding of what customers want and expect their water, wastewater and stormwater systems to achieve while taking into consideration differences in corporate, asset, and customer priorities in the development of levels of service.

Beyond meeting baseline regulatory targets to achieve public health and safety and to protect the environment, level of service targets are arguably subjective. The role of water managers is to propose appropriate service targets and outline key considerations and trade-offs in the range of options. It is then up to municipal Councils to make these decisions, taking into account the information presented by staff, as well as community values.

Level of service targets can affect financial sustainability. For example, small municipalities must consider what appropriate levels of service are (or should be) for their local context, to minimize the risk of adopting levels that are more in line for larger cities (e.g., targets for watermain breakage repair) and incurring unnecessary costs. In addition, disproportionate investments in water systems are likely to be made to achieve service levels in problematic or priority areas of a city. This could lead to a discussion on equity and how those value judgements are made, indicating a need for a transparent and robust decision-making framework.

Challenges related to climate change may require municipalities to re-examine levels of service and consider what solutions are appropriate to achieve local objectives and provide flexibility in operations. For example, temporary flooding in parklands with evacuation protocols may be implemented in some locations, while expanded underground overflow storage infrastructure is implemented in others, so long as public safety and access to hospitals are maintained.



The complexity of defining municipal levels of service and the reality that there is no one-size-fits-all model is a barrier that many municipalities and utilities continue to face. The above competing priorities and objectives exemplify the challenges many municipalities and utilities encounter in their development of appropriate, effective and fit-for-purpose level of service targets.

Challenges and Opportunities to be Explored by the Strategic Sharing Group

This Strategic Sharing Group will explore questions, case studies and strategies related to common challenges drinking water, wastewater and stormwater utilities face in evaluating, developing and advancing levels of service within unique municipal landscapes. Discussions may take a deeper dive into the following topics:

- Exploring how municipalities and utilities define, set, and assess the performance of their level of service targets;
- Investigating how municipalities and utilities prioritize the provision of services, the maintenance and operation of existing services, and the expansion or creation of new services;
- Assessing how to balance corporate, customer, and technical levels of service including growth and development, ageing infrastructure and evolving expectations;
- Investigating how equity and affordability considerations could be incorporated into levels of service planning and implementation;
- Discussing how to maintain and evaluate levels of service in the face of uncertainty (e.g., climate change, the COVID-19 pandemic).