



ASSET MANAGEMENT LEVELS OF SERVICE GUIDE

The Asset Management Toolkit was developed by the Northwest Territories Association of Communities. Work was completed by Kerr Wood Leidal Associates Ltd. in 2018. It has been updated by Jacobs, in partnership with KWL, in May of 2023 to reflect the realities of how the climate is impacting the ability of NWT communities to deliver services.

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MUT Association of Communities

1. About this Guide

The Levels of Service Guide ("The Guide") was developed by the Northwest Territories Association of Communities (NWTAC). The Guide is designed to help communities use the Levels of Service Template to create documents that are tailored to their local context.

This Guide is part of a Toolkit of resources that have been developed to help communities build their capacity in asset management. The resources that make up this Toolkit include:

- Asset Management Policy Template & Supporting Guide
- Sasset Management Plan Template, Inventory Template & Supporting Guide
- ► Lifecycle Cost Workbooks (2) & Supporting Guides
- Levels of Service Template & Supporting Guide (this document)
- Playbook Worksheet, Climate Vulnerability Assessment Worksheet, Annual Schedule Template & Supporting Guide
- Smart Management Practices (6)

Each component is designed to be used together with the other components of the Toolkit, which can be found online at: www.nwtac.com

Purpose

This Guide provides information and resources to support communities in the Northwest Territories as they document customer Levels of Service. It is designed to help communities interpret and adapt the Levels of Service Template.

Intended Audience

This Guide has been developed for representatives of communities in the Northwest Territories, including staff, senior management, and decision-makers such as Mayor, Chief, and Council. This Guide may also be of interest to members of the public who would like to learn more about asset management practices in their community.

Guide Structure

This Guide provides a starting place for communities to develop their own levels of service. It includes sections describing each component of the Levels of Service Template. The Guide also provides support to communities interested in tailoring the template to meet their needs.

The Guide is made up of five major sections:

1. About this Guide	Information on the purpose and structure of this Guide.
2. Background	Details on what Levels of Service are and they fit with existing strategies and practices in the Northwest Territories.
3. Documenting Customer Levels of Service	A description of each section in the Levels of Service Template.
4. Putting it into Practice	An overview of next steps for integrating customer Levels of Service into your Asset Management Plan and asset management program.
5. Glossary	A list of key terms used throughout the report, and their definitions.

2. Background

What are Levels of Service?

Levels of Service (LoS) are specific parameters that describe the extent and quality of services that the municipality provides to users. Levels of Services link an asset's performance to target performance goals and can be broken down into the following categories:

- 1. Legal Requirements: Statutory, Regulatory and contractual requirements are the minimum levels of service that must be provided.
- 2. **Community (Customer) Levels of Service**: Community Levels of Service define how a service is perceived by the user, with non-technical measures for service goals.
- 3. Asset (Technical) Levels of Service: Asset Levels of Service are specific and quantifiable measures for service targets.

Climate Change and LoS

Climate Change is impacting NWT communities in many ways, and its implications for LoS need to be anticipated in planning for sustainable service delivery. This template includes features to help you record the impacts of climate change on current and future LoS and to develop strategies to increase your community's climate resiliency.

Definitions

Asset Type	Major group of assets (e.g. watermains, pump stations, roads, sidewalks, streelighting).
Current Level of Service	The level of service that is currently provided (which may be more or less than the level of service commitment)
Indicator	A specific property of service that can be objectively evaluated
Level of Service Objective	The level of service the municipality aims to deliver to its customers. This is usually subjective or descriptive for community levels of service and may be quantitative for asset levels of service.
Linear Asset	An asset inventoried by length, typically as part of an interconnected system or network such as watermains or roads.
Performance Measure	The means used by the municipality to assess a level of service. The following measures are indicated in Tab 3:
	 O&M data: operating logbooks, sample test results, SCADA data, work order or CMMS data
	 complaints: records of numbers and types of comments received from users by telephone, mail, front counter, website, email or social media
	 expert assessment: Evaluation based on analysis by a competent staff member or consultant, using specific and repeatable criteria and methodology
	 service contract: enforceable terms of a contract with a third party that provides a service on behalf of the municipality (e.g. biweekly residential waste collection)
	OH&S records: workplace inspection, accident, lost time and near miss records
	program data: utilization rates of facilities or equipment, spare capacity, range of services supported by the assets

Definitions

Service Area	A major division of municipal service delivery (e.g. waterworks, sanitary sewer, transportation)
Service Characteristic	General property of service delivered by an asset or group of assets (e.g. safety, capacity, regulatory compliance).
Sustainability Gap	The anticipated future gap between current level of service and the level of service objective. For example, there may not be a current capacity gap in a sewer service, however, based on growth projections and the ability of current infrastructure to delivery the service, a future gap is anticipated once a certain demand or growth rate has been achieved.
Vertical Asset	An asset inventoried by item (not by length), such as a treatment plant or traffic light.

3. Documenting Customer Levels of Service

Levels of Service can be evaluated by measures such as customer complaints per certain number of people, customer surveys, community outreach, collected data, or discussions with municipal staff familiar with service operations. The process for documenting levels of service is described according to the seven steps defined in Figure 1 below.





This template acts as a customizable tool to help smaller municipalities communicate with Councils, stakeholders, and residents about:

- ▶ The services and levels of service the community currently provides;
- > Any gaps that may exist between the current status and that which is required, desired or expected; and
- Actions or estimated cost to close gaps.

This template is a customizable tool focused primarily on external levels of service (i.e. regulatory and customer LoS) but also provides opportunities for documentation of internal (technical) levels of service.

The completed template will provide a documented set of levels of service for each service area that are commonly understood by staff, council, and the community.

Categories and subcategories of services that do not apply to the community may be ignored or removed from the template by the user.

What are Levels of Service?

The process involves:

- Documenting current services and current levels of service;
- ▶ Identifying gaps between current LoS and LoS Objectives; and
- ▶ Identifying actions and estimated costs to address LoS gaps.

Grey cells are locked and designed to auto-populate from previous worksheets.

Blue Text indicates a user input cell. Replace the blue text with information specific to your community.

NOTE: all cells except blue cells are locked and cannot be edited. The template can be unlocked so you can customize it by clicking the "Unprotect Sheet" box in the "Review" tab of Excel

Introduction

- 1. Enter your community name
- 2. List your corporate service delivery goals or commitments



Services and Assets

1 Identify your Services

The purpose of this worksheet is to document what services the municipality provides, THEN to identify the assets involved in delivering each service. This ensures that you are organizing your assets based on their function in serving the community, rather than trying to define services based on the assets you have.

- 1. List your service areas:
- Modify the defaults as needed
- Describe services under each category
- ▶ Use bylaws, budgets and service plans as your references
- Don't start with the assets!

2 Identify your Assets

- 1. List the assets for each service:
- Modify the defaults as needed
- Use capital plans and asset registers as your references
- ▶ This is not a complete inventory; the purpose is to link asset groups to services.
- Adjust the table to describe the services you provide (delete rows that aren't needed, and add sections if needed for service areas not included in the template

NOTE: Changing content in this tab has no influence on the rest of the template.

Describing and Evaluating Levels of Service

Not every service needs a service level associated with each characteristic of service. These characteristics often overlap, and some service levels may reflect more than one of them.

Thinking about services using these characteristics can help to consider what levels of service need to be documented. Use the provided examples as a basis to develop your own. Adjust wording to suit your own community. Add or delete indicators as needed.

The indicators must be measurable, but not necessarily quantitatively. Community levels of service are usually subjective, since they are intended to reflect how users perceive the service.

Describe Current Levels of Service

General properties that may be used to describe a service:

- ► **Regulatory:** What is the legal minimum?
- ► Capacity/Availability: How much, where, when and for whom?
- ► Safety: Protecting people and property
- ► Quality: How good is it (and in what respect)?
- ► Reliability: How often is service interrupted?
- Sustainability/Environmental: How well is the environment protected? Can the service be sustained over the long term at the current annual cost, with only inflationary adjustments to the budget? Does it rely on environmentally unsustainable resources or practices?
- ▶ What are the Community's commitments to the public?

4 Identify Performance Measures

Four example service levels are provided for each indicator. Does one of them suit your community? Consider:

- What is the legal minimum?
- What commitments have been made in public-facing plans (e.g. community or master plans)?
- What is important to the public?
- What objectives have been set internally by staff, but are not commitments made directly to the public?
- Do not promise more than you can deliver!
- Think about the outcome, not the inputs
- Each LoS should cover only one indicator of the service
- Avoid technical jargon when describing community levels of service

Select one of the example level of service statements that best describes your community's current level of service, or write your own statement instead. Don't worry if your community's levels of service are "basic" (i.e. 1 or 2 of the 4 example statements). Residents of small and rural communities usually do not need or expect the same levels of infrastructure service as in large cities. For example, nature provides many opportunities for recreation in smaller communities that are not available in big cities.

Higher levels of service cost more. In many cases, reducing a level of service where less is needed is a cost-effective and acceptable strategy to address a performance gap. This practice is called demand management. Long term cost implications: eg if a lower target is selected, what does that mean for costs down the line (e.g. more frequent, higher risk)

(Note: the service levels might vary depending on the specific asset – e.g. some buildings, aesthetics might matter more than others; hospital or emergency response centre vs. storage building)

Evaluation of Services

5 Identify Performance and Sustainability Gaps

- 1. Is current LoS more or less than the service level target?
- 2. Can current LoS be sustained over time?
- 3. What can be done to address gaps?
 - ▶ What will it cost?
 - ► How long will it take?
 - ▶ Which alternative best meets users' needs?

It can be a problem to perform below OR above a service level goal. If reducing service is acceptable and practicable, it may free up resources (time, money or equipment) that can be reallocated to address a deficiency in another area.

Addressing gaps often involves trade-offs between service levels, costs, and risks over the lifecycle of assets. Informing Council and the members of the community who are affected by those trade-offs is important, so that decisions can be made with full consideration of the implications.

Are there gaps between current performance and LOS goals?

► Too low, or too high?

How can gaps be addressed?

- ► Reduce service level commitment
- Change O&M practice
- Manage demands
- Acquire or improve assets
- Consult Council and the public

Are there foreseeable future gaps between current performance and LOS commitments? Consider:

- Changing climate: drought, flood, wildfire, sea level rise, extreme storms
- Community growth and demographic change
- Asset deterioration and unfunded renewal needs

Climate Change Impacts on Level of Service

Some examples of potential climate change impacts on levels of service in NWT communities include:

- Severe storms causing more frequent and severe flooding, impeding transportation and increasing risk of damage to buildings
- More freeze-thaw cycles and costs of maintenance such as steaming drainage pipes
- Sea level rise increasing flooding risk in coastal communities
- Loss of permafrost damaging buildings, roads and other assets;
- Reduced open periods for winter roads, potentially impacting many services that rely on supplies delivered by truck

Consider these and other impacts of climate change when assessing potential sustainability gaps for service levels.

What are the best solutions?



Source: Developing Levels of Service and Performance Measures, NAMS New Zealand, 2007

6 Develop Strategies to Address Gaps

Describe the Options. Consider:

- Master Plans: Have options previously been developed and costed?
- Are there ways to meet the community's need without new infrastructure?
- Is doing nothing acceptable?
- What level of public or stakeholder communication is needed?

What are the best solutions?

- ► Which options are feasible?
- Which options are affordable?
- What option has the lowest lifecycle cost?
- What are the implications for risk over the asset life cycle?

Document lifecycle cost implications.

Make a recommendation.

Leverage Natural Assets to Address Level of Service Gaps

Natural assets are widely used in delivering services to communities in NWT. Consider how these assets can contribute to your strategies for addressing LoS performance and sustainability gaps:

- Healthy boreal forest and tundra ecosystems provide carbon capture and storage, mitigating impacts of burning fossil fuels, and provide habitat for many foods and other essential goods
- Wetlands, lakes and ponds provide water sources and store rainfall and snowmelt runoff, helping protect against flooding. Wetlands also provide natural treatment for wastewater effluent
- Rivers and lakes provide transportation routes particularly in winter when ice roads and trails can be established

Action Plan



Prepare a Service Delivery Plan

- 1. Is current performance more or less than the service level target?
- 2. Can current performance be sustained over time?
- 3. What can be done to address gaps?
 - What will it cost?
 - ► How long will it take?
 - ▶ Which alternative best meets users' needs?

It can be a problem to perform below OR above a service level goal. If reducing service is acceptable and practicable, it may free up resources (time, money or equipment) that can be reallocated to address a deficiency in another area.

Addressing gaps often involves trade-offs between service levels, costs, and risks over the lifecycle of assets. Informing Council and the members of the community who are affected by those trade-offs is important, so that decisions can be made with full consideration of the implications.

Are there gaps between current performance and LOS goals?

► Too low, or too high?

How can gaps be addressed?

- Reduce service level commitment
- Change O&M practice
- Manage demands
- Acquire or improve assets
- ► Consult Council and the public



When considering strategies to address gaps, browse other NWTAC toolkits such as the Built Environment Guide (https://builtenvironment.toolkitnwtac.com/), Climate Change (https://climatechange.toolkitnwtac.com/), Asset Management and Energy Efficiency (https://energy.toolkitnwtac.com/), and other NWTAC resources including video guides on inspecting and maintaining assets (https://assetmanagement.toolkitnwtac.com/).

Are there foreseeable future gaps between current performance and LOS commitments? Consider:

- ► Changing climate: drought, flood, wildfire, sea level rise, extreme storms
- Community growth and demographic change
- Asset deterioration and unfunded renewal needs

Reporting Out

- 1. Use the report to share the outcomes of this process, particularly priorities, with staff and Council
- 2. Add an annual (recurring) meeting to your calendar for reviewing LOS
- 3. Clearly communicate level of service commitments to the public if this isn't already being done
- 4. Address priority actions identified

4. Putting it into Practice

Defining and using a performance framework for infrastructure-based community services is one of the most complex aspects of asset management. Start with the most basic levels of service that you provide to the community in each of your main service areas (e.g. public works, recreation, administration and emergency services), and define some specific performance targets for each of the core services you provide. Ask yourself if these are understandable and meaningful to community members, and revise them if not. Then, keep track of your performance in delivering these service levels, and share the results with elected representatives and community members.

When you establish levels of service, it is at least as important to clearly state what you can't do as it is to state what you can do. For example, if some community members expect snow to be cleared from roads immediately after a major storm but you can't get it done in less than 8 hours, it would be appropriate to say you will strive to have snow cleared within one day after a storm event.

Reliability of Water Service

There two general levels of service for reliability of trucked water delivery in NWT communities. Some communities deliver water when a user calls for delivery. Others top up all cisterns on a regular schedule. Delivery on demand generally reduces the lifecycle cost of the service by using less fuel and causing less wear and tear on water trucks, but also represents a lower level of reliability, as users are likely to routinely run out of water unless they carefully monitor their cisterns.

Trucked water service is also vulnerable to climate change, as increased freeze-thaw cycles in spring and fall and thawing permafrost cause trucks to get stuck and increase risks of damage (causing a reliability gap between service level objectives and actual levels of service). Some communities are adapting by topping up cisterns when adverse weather is forecasted to occur. This strategy can build resilience to climate change, but requires diligent planning and scheduling and may increase costs of service as trucks make extra deliveries.



Roy "Sugloo" Ipana Arena, Inuvik

Skating activities are available in Inuvik in the fall, winter and spring seasons. With climate change, the skating season is becoming shorter as weather warms earlier in spring, resulting in earlier closure of the ice surface. Although the availability of skating activities is declining, the reduction in availability saves costs and produces fewer GHG emissions. Also, with warmer weather there is less demand for skating as many local residents get out on the land to enjoy traditional cultural and recreational activities. Planning for a shorter skating season is a simple and effective adaptation to climate change that is unlikely to be seen as an overall reduction in access to recreational and cultural activities in Inuvik.

Contact: Grant Hood, Senior Administrative Officer, Town of Inuvik