

Guide to Asset Management Planning for Local Governments

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Department of Environment and Local Government

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Introduction

When New Brunswick's local governments signed Gas Tax Funding agreements starting in 2014, they made a commitment to begin infrastructure related asset management planning.

An Asset Management Plan is defined as a tactical plan for managing an organisation's infrastructure and other assets to deliver an agreed standard of service. It is known that asset management planning leads to more informed decision making, improved management of risks and a reduction in costs over time.

Acknowledging that local governments are at varying levels of preparedness in asset management planning, the Department of Environment and Local Government (the Department) has undergone various exercises and engagements in order to determine which asset management planning practices and requirements are best suited to New Brunswick's local governments and the unique circumstances they face. As a result, the following table provides an outline of the minimum requirements needed to meet the terms of the Gas Tax Funding Agreement. This guide expands on each section in an effort to assist local governments in developing the first phase of their Asset Management Plans. The Department strongly encourages local governments to leverage the myriad of asset management resources available from organizations such as the [Federation of Canadian Municipalities](#) or other Canadian municipalities and local governments that have made significant strides in asset management.

This guide provides the minimum content requirements for an asset management plan. Where capacity exists, the Department encourages local governments to implement best practices and expand on the information in their plans beyond what is required to increase the inherent benefits of Asset Management Planning.

Note that the Department is continuing to develop a long term road map in conjunction with local governments and the various municipal associations throughout the province. This road map will assist local governments in building upon the minimum requirements so that asset management planning in New Brunswick becomes increasingly comprehensive over time. As such, the content of this guide will continually evolve. The Department will inform local governments of updates as they occur.

Asset Management Plan Minimum Requirements	
Section	Phase 1 (Short Term – July 31st , 2018)
<u>1. Governance</u>	<ul style="list-style-type: none"> • Governance Statement • Governance Model (<i>processes</i>)
<u>2. Level of Service</u>	<ul style="list-style-type: none"> • Description of services provided by the municipality
<u>3. Inventory of Assets</u>	<ul style="list-style-type: none"> • PSA 3150 inventory of assets as a minimum starting point <i>Adjust format as needed.</i>
<u>4. Risk Assessment</u>	<ul style="list-style-type: none"> • List of Core* assets at a minimum • Consider High Value** assets
<u>5. Climate Change</u>	<ul style="list-style-type: none"> • Identify Climate Change Risks (<i>high-level</i>)
<u>6. Condition Assessment</u>	<ul style="list-style-type: none"> • Core & high value assets as a minimum <ul style="list-style-type: none"> - Estimates using age, material or other methodology - Methodology(ies) should be defined - Accept best guess/visual inspection
<u>7. Cost Analysis</u>	<ul style="list-style-type: none"> • Identify core and high value assets requiring renewal or replacement over the next 50 years with replacement cost estimates.
<u>8. Financial Planning</u>	<ul style="list-style-type: none"> • Cash flow forecasts for core & high value assets
<u>9. Priority Setting</u>	<ul style="list-style-type: none"> • Identify key municipal priorities

* **Core assets** are those assets used in delivering core services such as *Protective, Transportation and Environmental Health services.*

** **High Value assets** would be those that are not considered necessary to core service delivery, however their replacement cost would be significant and they may have a high priority for community or social reasons, such as replacing an arena or renewing a heavily utilized park.

1. Governance

A key factor in successful asset management planning is a clear governance statement that sets the priority and commitment to implement an effective governance model.

The governance statement is essentially a vision statement that expresses the commitment a local government is making to asset management planning.

The governance model details the policies, procedures and roles needed to implement and carry out asset management planning.

As a minimum, the governance section of the asset management plan must include:

- A Governance Statement which declares the commitment to asset management planning and makes it a corporate priority. It must reference the specific resolutions passed by council and acknowledge the need to appropriately resource the financial implications. *(Note: The full text of resolutions are not required, but when possible, hyperlinks should be utilized.)*
- A Governance Model which includes:
 - Asset management planning policies
 - Administrative procedures
 - Schedules of plan review and maintenance
 - Definition of the roles related to asset management within the organization (see diagram). Needs will vary by local government, but as a minimum,
 - responsibilities should be defined for council, management (administration and finance) and operations.

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Example of Asset Management Roles within the organization

Council

- Passes Resolutions to establish AM Commitment, Governance and Policies
- Adopts annual budgets

CAO

- Defines strategy, objectives
- Ensures compliance

CFO

- Ensures resources are available

Corporate Level Asset Manager

- Develops and maintains governance model, guidelines, procedures, tools etc.
- Champions AMP as a cultural commitment
- Performs quality assurance and review
- Engages in continuous improvement

Departmental Managers

- Maintains AMP for their responsibility area

Staff, Engineers etc.

- Assess, observe and report on asset details, counts & measures, condition etc.

These roles can be broken down or spread around the organization as needed, depending on the size of the organization, the level of AM engagement and staff resources available. Some local governments could have dedicated asset management offices, where others see one team or individual take on several roles.

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Best practices would see the governance section also touch on the following areas:

- Incorporate asset management practices and duties into employee performance management.
- Develop Communication packages and web content that target council, staff and the public.
- Identify risks of non-compliance.

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2. Level of Service

The purpose of this section is to give an overview of the services provided by the local government. Services impact the quality of life for citizens and dictate the assets required to support said services. Each local government must provide a description as well as the scope of each of the categories of services it provides. Examples of some categories of services and the specific services within those categories follow. Local governments should provide a similar structure, expanding on the specific services they provide to their citizens. Note that in the future, asset management plan requirements will be expanded to include levels of service and performance measures.

1. Protective Services

- Fire protection
- Police services
- Emergency Measures
- Ground Search and Rescue
- Other (please specify)

2. Transportation

General transportation

- Streets and Roads
- Pedestrian & Cycling routes
- Lighting
- Snow removal
- Street cleaning
- Other (please specify)

Public Transportation

- Busing
- Aviation
- Ferry service
- Other (please specify)

3. Environmental Health Services

Drinking water

- Supply
- Treatment
- Distribution
- Other (please specify)

Wastewater

- Treatment
- Collection
- Storm water management
- Other (please specify)

Solid waste

- Garbage collection
- Recycling
- Other (please specify)

4. Recreation and Cultural Services

- Community centers
- Pools, splash pads
- Sporting courts
- Cultural/Arts facilities
- Tourism services or attractions
- Parks
- Libraries
- Dog parks
- Other (please specify)

5. General Government Services

- City Hall
- Disaster mitigation
- Other (please specify)

6. Energy Services

- Electricity
- Gas
- Other (please specify)

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3. Inventory of Assets

Each local government must provide a detailed inventory of all tangible capital assets as per recommendations in the CICA PSAB Handbook section 3150 Tangible Capital Assets (PSA 3150). Ideally the asset inventory would align with the types of services provided, however, if they are grouped in another manner for ease of administration that is acceptable provided the inventory is current and maintained per the local government's asset management governance model. The Department encourages expansion of existing PSA 3150 inventory as a basis for asset management planning. Below is an example of a portion of a tangible capital asset inventory based on templates made available for PSA 3150 reporting.

MUNICIPAL BUILDINGS (Buildings, Equipment not capable of being moved, & Major improvements)															
ESSENTIAL INFORMATION															
Asset Name & #		Asset Component			Function		Description		Acquisition		Cost		Life		
Name	Nbr	1	2	3	Division	Dept.			Month	Year	Original	Repl	Useful	Rem.	
Police Station	1	Roof			Protective	Police	Tar & Gravel		May	2000	50,000	85,000	30	14	
		Heating/Ventilation							May	2000	25,000	34,000	20	4	
		Building						Brick 10,000 sq ft	May	2000	350,000	1,200,000	50	34	
Arena	2	Building			Parks & Rec		Steel Const 21,000 sq ft		Jun	1984	475,000	3,200,000	50	18	
		Roof					Steel Roof		April	2004	87,000		40	28	
		Ice Plant							Sep	2016	385,000		20	19	
ROADS and STREETS															
ESSENTIAL INFORMATION															
Asset Name & #		Asset Component			Function		Description		Acquisition		Cost		Life		
Name	Nbr	1	2	3	Division	Dept.	Lng (m)	Material	Month	Year	Cost	Basis	Useful	Rem.	
Wilson Ave	321	Base			Transport	Works	2500		Oct	1987	220,000	Historical C	30	1	
		Surface					2500	Pavement	May	1998	160,000		20	2	
		Sidewalk						2500 Concrete	South sid	Jul	2005	265,000		15	4
		Curb						5000 Concrete		Jul	2005	115,000		15	4
		Storm drains						2500 375mm Concr.		Oct	1987	340,000		40	11
Robinson Driv	322	Base			Transport	Works	800			1963	148,000		30	-23	
		Surface					800	Chip Seal	Jun	1992	25,000		30	6	
		Curb						400 Concrete	1 side	Jun	1992	4,000		20	-4
		Storm drains						800 375mm Concr.		Jun	1963	64,000		40	-13

Table 1 Sample portion of a Tangible Capital Asset Inventory

Such an inventory could easily be expanded upon to include data fields that are relevant to the asset management planning requirements established by the Department. The idea of expanding existing inventories in this manner, whenever possible, has key benefits including saving time and helping to keep information consolidated rather than having to maintain multiple sets of data with basic elements repeated.

Additional required fields include:

Indication of Core and High Value Assets – Identify which assets in your inventory are considered to be core or high value assets. Typically core assets are those that fall under the categories of Protective, Transportation or Environmental Health services. High value assets are those that are not core assets but have significant financial implications or are a significant priority to the community.

Climate Risks – As local governments identify risks to their infrastructure that are created or exacerbated by climate change, they will need to cross reference those risks to their asset inventory. This cross reference must identify specifically which assets can be impacted by which risks so that local governments can quickly and effectively identify assets in need of adaptation. Section [5. Climate Change](#) expands on climate change adaptation.

Asset condition rating – Each asset’s condition must be evaluated in accordance with chosen condition assessment methodology. Section [6. Condition Assessment](#) provides additional information on asset condition ratings.

Annual Operating Costs – To facilitate long-term financial forecasting for assets, local governments must identify annual operating and maintenance costs for individual assets.

Replacement/Acquisition Costs – Local governments should already have asset replacement costs established per PSA 3150 requirements. If the asset management plan utilizes a different inventory, then replacement costs must be identified. Whenever possible, local governments should also include anticipated acquisitions within their inventory.

Renewal Costs – To facilitate long-term financial forecasting for assets, local governments must provide renewal schedules by asset. Renewal refers to those endeavors beyond regular maintenance or operation which are intended to extend or ensure the estimated useful life of an asset, without actually replacing it.

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4. Risk Assessment

Each local government must consider risk management and mitigation as an essential part of its asset management planning. In regards to infrastructure, risk is a combination of the likelihood and the severity of an event or circumstances that would negatively impact the ability of infrastructure to meet the service objectives of a local government. Risk management involves identifying and assessing risks and planning ways to avoid or mitigate said risk. Risks can stem from various causes such as climate change, natural disasters and public safety threats. Even asset aging can be deemed a risk to its ability to perform.

As a first step towards implementation of a risk management strategy within asset management plans, the Department requires that local governments identify assets within their inventory that are necessary to attaining the service level objectives of their core services including protective, transportation and environmental health services. High value assets should also be considered for risk assessment as their potential loss could have significant financial repercussions. Wherever possible, local governments should identify potential risks, the likelihood and possible severity.

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5. Climate Change

New Brunswick's mean annual temperature has already increased by 1.1°C in the last 30 years, and climate models predict that the province will warm another 5°C by 2080. Climate change has the effect of exacerbating natural extreme events: this means that as time progresses, events such as storms will get stronger and flooding will be more frequent across the province, thus impacting infrastructure.

In New Brunswick, climate change is expected to result in stronger winds, an increase in the frequency of extreme precipitation (i.e. 50 mm of rain or more in 24 hours or less), and an increase in the magnitude of storm surges in coastal areas. Climate change is also expected to result in a continuing increase in the frequency of freezing rain events and in the continuing rise of sea level. Furthermore, ice jams along rivers are expected to become more frequent, resulting in increased flooding.

In order to prevent significant damage to infrastructure by extreme events, it is important to ensure that municipal assets are adapted to withstand future climate conditions. This means ensuring that the impacts of climate change and extreme weather are considered in all infrastructure life cycle assessments and decisions, including project design, construction, operation, and maintenance. Events such as extreme rainfall can be particularly impactful to low-lying infrastructure such as culverts, storm water systems, sewage treatment facilities, and drinking water distribution systems.

Ultimately, it is recommended for local governments to undertake a community climate change risk and vulnerability assessment. Doing so will identify which pieces of infrastructure or systems are likely to be at highest risk in the future. The risk and vulnerability assessment will also prioritize vulnerabilities, indicating which issues or items are most in need of work, and will consequently recommend adaptation options to increase the climate resiliency of municipal infrastructure. The resulting adaptation projects can then be included in the municipal asset management plan.

As a first step in the adaptation planning process for 2018, local governments are asked to identify the types of climate hazards and associated impacts from climate change that are relevant to their location. This consists of the first step toward climate adaptation.

Key questions to answer include:

- What types of climate threats are the most likely to impact your community, and how?
- How likely are these threats to occur, and how often?
- What are the impacts that are expected to result from the threat?

Answering these questions will identify which types of climate threats and associated impacts are most critical at present in your community, such as sea-level rise and storm surges, coastal erosion, flooding from extreme precipitation events, etc. It will also identify the causes, extent, and frequency of impacts that have occurred in your community.

In Phase I of their asset management plans, local governments will need to identify core and high value assets that are at risk or vulnerable to climate change impacts. If possible, this could be done by expansion of the data fields in their asset inventory; however other formats are acceptable provided there is a listing of vulnerable assets.

A Guide to Climate Change Adaptation Planning for New Brunswick Communities will be published by the end of 2017. For more information on climate change adaptation, please refer to the guide at that time.

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6. Condition Assessment

A key component of establishing an effective asset management plan is evaluating and rating the current condition of existing assets. The current condition is one factor that, combined with actual age, effective age, materials used, climate pressures, community needs, etc., will help determine the renewal or replacement timeframes for assets as well as the subsequent financial planning required. Ideally, asset condition ratings would be represented in numerical scales and integrated into the asset inventory.

Given the wide variation in asset inventories across the province and the various appropriate condition assessment tools and scales available for different asset classes, the decision of which to use will rest with each local government. At a minimum, the Department requires local governments to provide identification of the tool or scale used to obtain their ratings. The rating levels should be numeric for ease of sorting and searching and should include descriptions of each level in the scale.

An *example* of a simple five point rating model:

Simple Condition Rating Model	
Rank	Description of Condition
1	Very Good Condition Only normal maintenance required
2	Minor Defects Only Minor maintenance required (<i><10% of asset</i>)
3	Maintenance Required to Return to Accepted Level of Service Significant maintenance required (<i>10-20% of asset</i>)
4	Requires Renewal Significant renewal/upgrade required (<i>20-40% of asset</i>)
5	Requires Replacement Over 50% of asset requires replacement

An *example* of a rating system based on useful (or service) life:

Condition Rating Using Estimated Useful Life		
Rank	% ESL Remaining	
1	Very Good	80-100%
2	Good	60-79%
3	Fair	40-59%
4	Poor	20-39%
5	Very Poor	< 20%

To meet the July 31, 2018 deadline for minimum requirements, the Department understands that using visual assessment, estimates and useful life may be necessary methods of condition assessment as opposed to more technical or involved practices.

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7. Cost Analysis

Another important element of an effective asset management plan is to identify and subsequently plan for the costs associated to each asset. At a minimum, local governments are required to plan for the maintenance and operation, renewal, replacement and acquisition costs for *existing and planned* core and high value assets. If local governments are utilizing PSA 3150 inventories, they could be expanded to include fields that record and tabulate these costs. The cost analysis must anticipate these costs over the next 50 years.

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8. Financial Planning

Local governments must identify the intended funding sources that are anticipated to cover their cost analysis. Each asset's operation, acquisition, renewal or replacement costs should be able to be linked to an anticipated source such as operating fund, reserve fund, grants, long term capital borrowing or any other funding source.

For the July 31, 2018 deadline, local governments are required to establish cash flow forecasts for core and high value assets.

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9. Priority Setting

Local governments must identify their key priorities for core and high value asset renewal and replacement, as well as any anticipated acquisitions. This can be done as a straightforward listing of key priorities or it could be tied to the asset inventory by incorporating a priority column with a rating system. However local governments choose to prioritize asset renewal and replacement, the methodology should be explained in this section. Where possible, local governments should highlight special circumstances and pressures that may impact priorities beyond asset condition or age.

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