Asset Management Plan

Township of Nipigon

2025

nipigon
a natural edge

This Asset Management Program was prepared by:

Empowering your organization through advanced asset management, budgeting & GIS solutions

Key Statistics

Replacement cost of asset portfolio
$133.1 million

Replacement cost of infrastructure per household (2021)
$178,217

Percentage of assets in fair or better condition
44%

Percentage of assets with assessed condition data
36%

Annual capital infrastructure deficit
$2.6 million

Recommended timeframe for eliminating annual infrastructure deficit
20 Years

Target reinvestment rate
2.84%

Actual reinvestment rate
0.91%

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Executive Summary

Municipal infrastructure provides the foundation for the economic, social, and environmental health and growth of a community through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. This involves the development and implementation of asset management strategies and long-term financial planning.

Scope

This AMP identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, the Township can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This AMP includes the following asset categories:

With the development of this AMP the Township has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by July 1, 2025.

Process and Limitations

A key limitation of this document is the inventory data used. Recommendations in subsequent sections outline these limitations in more detail, however, the overarching limitation lies in the accuracy and completeness of the asset inventory. All analysis and results utilize an asset inventory housed in the enterprise asset management system, Citywide™. This inventory acts as the Tangible Capital Asset (TCA) registry for the Township and is used for reporting on the Financial Information Returns (FIR). Although the inventory is suitable for financial purposes, it does not contain the detail and description ideal for capital and operational decision-making that the AMP is intended for. Examples of specific limitations include estimated useful life values that may not match serviceable life observed in the field, inadequate naming conventions, and replacement costs based on inflated historical values. These limitations are common for most AMPs developed in Ontario.

Finally, it should be noted that the AMP is a snapshot in time. Information in this plan is reflective of year end 2024 information. Since the previous AMP, improvements have been made and over time the asset inventory will continue to evolve to include the additions, disposals, and other asset transactions, which will be accounted for through the regular update of the AMP, which is required at least every five years.

Findings

The overall replacement cost of the asset categories included in this AMP totals $133.1 million. 44% of all assets analysed in this AMP are in fair or better condition. Assessed condition data was available for 36% of all assets. For the remaining 64% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

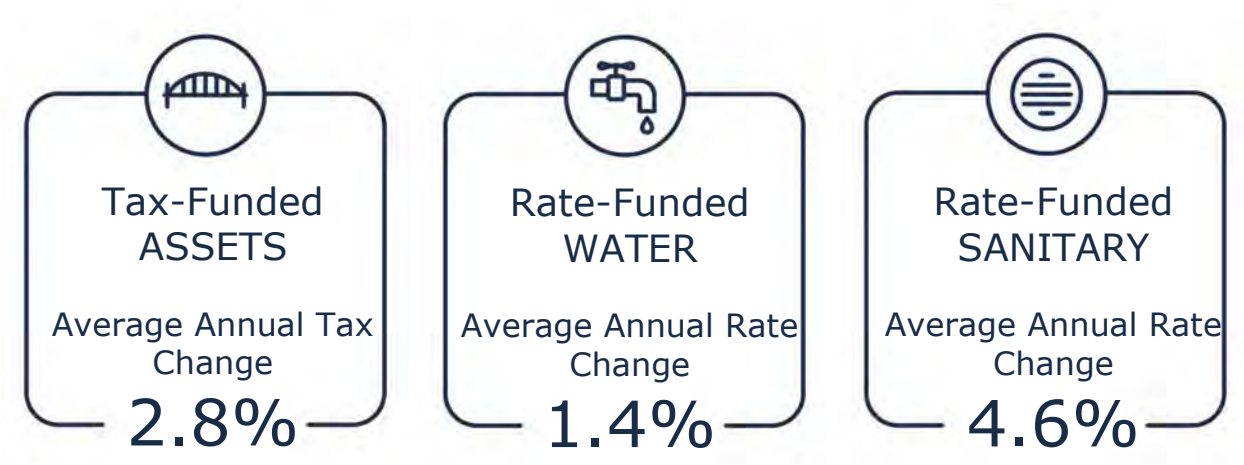
The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (paved roads and gravel roads) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Township's average annual capital requirement totals $3.8 million. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $1.2 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $2.6 million.

It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at the Township. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax change required to eliminate the Township's infrastructure deficit based on a 20-year plan:



Recommendations to guide continuous refinement of the Township's asset management program. These include:

- Review data to update and maintain a complete and accurate dataset
- Review estimated useful life to reflect true service life as utilized by staff
- Develop a condition assessment strategy with a regular schedule
- Review and update lifecycle management strategies
- Development and regularly review short- and long-term plans to meet capital requirements
- Implement the recommended tax and rate increase over 20 Years to close the infrastructure funding gap and reach sustainable reinvestment levels to meet the proposed level of services. This phased approach ensures the Township can meet the requirements of O. Reg 588/17 while minimizing the financial burden on residents in any single year. It supports predictable budgeting, reduces reliance on reactive maintenance, and enables service levels to be maintained or improved over time.

1 Introduction & Context

Key Insights

- The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio

- The Township's asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management

- An asset management plan is a living document that should be updated regularly to inform long-term planning

- Ontario Regulation 588/17 outlines several key milestone and requirements for asset management plans in Ontario between July 1, 2022, and 2025

1.1 Nipigon Community Profile

The Township of Nipigon is a vibrant community in Northwestern Ontario, Canada, located along the west side of the Nipigon River and south of Helen Lake. As the northernmost community on the Great Lakes, Nipigon serves as a gateway between Lake Nipigon and Lake Superior and offers a unique blend of natural beauty, small-town charm, and historical significance.

Nestled amid picturesque pine forests and the shores of two major lakes, Nipigon provides residents and visitors with diverse opportunities for outdoor recreation, particularly fishing. The community's rich history is closely tied to the fur trade and the development of the Canadian Pacific Railway.

As of the 2021 Census, Nipigon's population stands at 1,473—a 10.3% decrease since 2016—covering 107.94 square kilometers with a population density of 13.6 people per square kilometer. The township has a diverse age distribution: 24.6% of residents are seniors (65+), 58.4% are adults aged 15–64, and 17% are children under 15.

Nipigon's economy revolves around forest products, fishing, and tourism. The township is a popular starting point for fishing excursions on the Nipigon River system and Lake Superior. Residents benefit from essential services, schools, recreational facilities, and strong ties to the community's natural environment. While continuously evolving, Nipigon preserves its distinctive character—making it an appealing place to live, work, and visit in Northwestern Ontario.

Census Characteristic	Township of Nipigon	Ontario
Population 2021	1,473	14,223,942
Population Change 2016-2021	-10.3%	5.8
Total Private Dwellings	747	5,929,250
Population Density(km^2)	13.6	15.9
Land Area (km^2)	107.94	892,411.76

1.2 Climate Change

Climate change can cause severe impacts on human and natural systems around the world. The effects of climate change include increasing temperatures, higher levels of precipitation, droughts, and extreme weather events. In 2019, Canada's Changing Climate Report (CCCR 2019) was released by Environment and Climate Change Canada (ECCC).

The report revealed that between 1948 and 2016, the average temperature increase across Canada was 1.7°C; moreover, during this time period, Northern Canada experienced a 2.3°C increase. The temperature increase in Canada has doubled that of the global average. If emissions are not significantly reduced, the temperature could increase by 6.3°C in Canada by the year 2100 compared to 2005 levels. Observed precipitation changes in Canada include an increase of approximately 20% between 1948 and 2012. By the late 21st century, the projected increase could reach an additional 24%. During the summer months, some regions in Southern Canada are expected to experience periods of drought at a higher rate. Extreme weather events and climate conditions are more common across Canada. Recorded events include droughts, flooding, cold extremes, warm extremes, wildfires, and record minimum arctic sea ice extent.

The changing climate poses a significant risk to the Canadian economy, society, environment, and infrastructure. The impacts on infrastructure are often a result of climate-related extremes such as droughts, floods, higher frequency of freeze-thaw cycles, extended periods of high temperatures, high winds, and wildfires. Physical infrastructure is vulnerable to damage and increased wear when exposed to these extreme events and climate variabilities. Canadian Municipalities are faced with the responsibility to protect their local economy, citizens, environment, and physical assets.

1.2.1 Township of Nipigon Climate Profile

Nipigon is located in Northwestern Ontario, situated along the Nipigon River and near Lake Superior. The area is expected to experience notable effects of climate change, including higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme events. According to climate projections and data from Environment and Climate Change Canada (ECCC), the Township of Nipigon may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000, the annual average temperature in Nipigon was approximately 2°C.
- Under a high emissions scenario, the annual average temperatures are projected to increase by 5.5–6.5°F (3–3.6°C) by mid-century and 7.5–9.5°F (4.2–5.3°C) by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, winter and spring precipitation in the Great Lakes region (including Nipigon) is projected to increase by 10 to 20 percent by late this century, relative to 1970-2000.
- Summer and fall precipitation changes are not projected to be larger than natural variations.

Increase in Frequency of Extreme Weather Events:

- It is expected that the frequency and severity of extreme weather events will change.
- Increases in the frequency and intensity of extreme precipitation are projected across the Great Lakes region, including Nipigon.
- Nipigon may face more intense rainfall events, potentially leading to increased flooding risks

1.2.2 Integration of Climate Change and Asset Management

Asset management practices aim to deliver sustainable service delivery - the delivery of services to residents today without compromising the services and well-being of future residents. Climate change threatens sustainable service delivery by reducing the useful life of an asset and increasing the risk of asset failure. Desired levels of service can be more difficult to achieve as a result of climate change impacts such as flooding, high heat, drought, and more frequent and intense storms.

In order to achieve the sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset management and climate change adaptation observes industry best practices and enables the development of a holistic approach to risk management.

For Nipigon, this integration is particularly important given the projected climate changes and their potential impacts on infrastructure. For example:

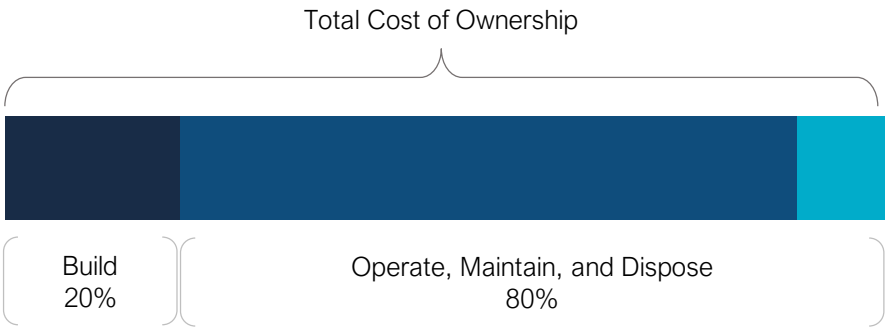
- Increased freeze-thaw cycles may accelerate road deterioration
- More intense rainfall events could strain stormwater management systemshttps://toolkit.climate.gov/regions/great-lakes.
- Changes in temperature and precipitation patterns may affect the lifespan and performance of various municipal assets.

By incorporating climate change considerations into its asset management practices, Nipigon can better prepare for these challenges and ensure the long-term sustainability of its infrastructure and services.

1.3 An Overview of Asset Management

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% derives from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.



These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

This industry standard, defined by the Institute of Asset Management (IAM), emphasizes the alignment between the corporate strategic plan and various asset management documents. The strategic plan has a direct, and cascading impact on asset management planning and reporting.

1.3.1 Asset Management Policy

An asset management policy represents a statement of the principles guiding the municipality's approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

The Township adopted the Strategic Asset Management Policy in accordance with Ontario Regulation 588/17. The Township of Nipigon's Strategic Asset Management Policy provides an organizational commitment to good stewardship of municipal infrastructure assets, which leads to accountability and transparency to the residents of Nipigon through the adoption of best practices regarding asset management planning.

Guided by this policy, the Township will focus its infrastructure efforts on managing risks, enhancing decision-making process, and fulfilling both short-term and long-term needs within the bounds of possible funding.

1.3.2 Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how the municipality plans to achieve asset management objectives through planned activities and decision-making criteria.

The Township's Asset Management Policy contains many of the key components of an asset management strategy and may be expanded on in future revisions or as part of a separate strategic document.

1.3.3 Asset Management Plan

The asset management plan (AMP) presents the outcomes of the Township's asset management program and identifies the resource requirements needed to achieve a defined level of service. The AMP typically includes the following content:

- State of Infrastructure
- Asset Management Strategies
- Levels of Service
- Financial Strategies

The AMP is a living document that should be updated regularly as additional asset and financial data becomes available. This will allow the Township to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

1.4 Key Concepts in Asset Management

Effective asset management integrates several key components, including lifecycle management, risk management, and levels of service. These concepts are applied throughout this asset management plan and are described below in greater detail.

1.4.1 Lifecycle Management Strategies

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation, and replacement. The following table provides a description of each type of activity and the general difference in cost.

Lifecycle Activity	Description	Example (Roads)	Cost
Maintenance	Activities that prevent defects or deteriorations from occurring	Crack Seal	$
Rehabilitation/ Renewal	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	Mill & Re-surface	$$
Replacement/ Reconstruction	Asset end-of-life activities that often involve the complete replacement of assets	Full Reconstruction	$$$

Depending on initial lifecycle management strategies, asset performance can be sustained through a combination of maintenance and rehabilitation, but at some point, replacement is required. Understanding what effect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

The Township's approach to lifecycle management is described within each asset category outlined in this AMP. Developing and implementing a proactive lifecycle strategy will help staff to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

1.4.2 Risk Management Strategies

Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal. Some are more important than others, and their failure or disrepair poses more risk to the community than that of others. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road. These high-value assets should receive funding before others.

By identifying the various impacts of asset failure and the likelihood that it will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused.

This AMP includes a high-level evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets.

1.4.3 Levels of Service

A level of service (LOS) is a measure of what the Township is providing to the community and the nature and quality of that service. Within each asset category in this AMP, technical metrics and qualitative descriptions that measure both technical and community levels of service have been established and measured as data is available.

These measures include a combination of those that have been outlined in O. Reg. 588/17 in addition to performance measures identified by the Township as worth measuring and evaluating. The Township measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories (roads, bridges, water, sanitary sewer, stormwater) the Province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For

non-core asset categories, the Township has determined the qualitative descriptions that will be used to determine the community level of service provided. These descriptions can be found in the Levels of Service subsection within each asset category.

Technical Levels of Service

Technical levels of service are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of the Township's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

For core asset categories (roads, bridges, water, sanitary, stormwater) the Province, through O. Reg. 588/17, has provided technical metrics that are required to be included in this AMP. For non-core asset categories, the Township has determined the technical metrics that will be used to determine the technical level of service provided. These metrics can be found in the Levels of Service subsection within each asset category.

Current and Proposed Levels of Service

This AMP focuses on measuring the current level of service provided to the community. Once current levels of service have been measured, the Township plans to establish proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17.

Proposed levels of service should be realistic and achievable within the timeframe outlined by the Township. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals and long-term sustainability. Once proposed levels of service have been established, and prior to July 2025, the Township must identify a lifecycle management and financial strategy which allows these targets to be achieved.

1.5 Ontario Regulation 588/17

As part of the *Infrastructure for Jobs and Prosperity Act, 2015*, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17). Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

The diagram below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

2019

Strategic Asset Management Policy

2022

Asset Management Plan for Core Assets with the following components:

Current levels of service

Lifecycle activities to sustain LOS

Cost of lifecycle activities

Population and employment forecasts

Discussion of growth impacts

2024

Asset Management Plan for Core and Non-Core Assets (same components as 2022) and Asset Management Policy Update

2025

Asset Management Plan for All Assets with the following additional components:

Proposed levels of service for next 10 years

Updated inventory analysis

Lifecycle management strategy

Financial strategy and addressing shortfalls

Discussion of how growth assumptions impacted lifecycle and financial

1.5.1 O. Reg. 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to meet by July 1, 2025. Next to each requirement a page or section reference is included in addition to any necessary commentary.

Requirement	O. Reg. Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4.1.1 - 5.2.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4.1.1 - 5.2.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.1.3 – 5.2.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.1.2 – 5.2.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.1.2 – 5.2.2	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4.1.7 - 5.2.7	Complete
Current performance measures in each category	S.5(2), 2	4.1.7 - 5.2.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4.1.4 - 5.2.4	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	6.1-6.2	Complete
Proposed levels of service for each category for next 10 years	S.6(1), 1(i-ii)	4.1.8 - 5.2.8	Complete
Explanation of appropriateness of proposed levels of service	S.6(1), 2(i-iv)	4.1.8 - 5.2.8	Complete
Lifecycle management activities for proposed levels of service	S.6(1), 4(i)	4.1.8 - 5.2.8	Complete
10-year capital costs for proposed levels of service	S.6(1), 4(ii)	Appendix A	Complete

2 Scope and Methodology

Key Insights

- This asset management plan includes 8 tax-funded asset categories and 2 rate-funded asset categories.

- The source and recency of replacement costs impact the accuracy and reliability of asset portfolio valuation.

- Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

2.1 Asset Categories Included in this AMP

This asset management plan for the Township of Nipigon is produced in compliance with Ontario Regulation 588/17. The July 2025 deadline under the regulation requires analysis of both core and non-core assets.

The AMP summarizes the state of the infrastructure for the Township's asset portfolio, establishes current levels of service and the associated technical and customer oriented key performance indicators (KPIs), outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

Asset Category	Source of Funding
Road Network	Tax Levy
Bridges	
Stormwater Network	
Furniture & Office Equipment	
Buildings	
Machinery & Equipment	
Vehicles	
Land Improvements	
Sanitary Sewer Network	User Rates
Water Network	

2.2Deriving Replacement Costs

There are a range of methods to determine the replacement cost of an asset, and some are more accurate and reliable than others. This AMP relies on two methodologies:

- **User-Defined Cost and Cost/Unit**: Based on costs provided by municipal staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience.
- **Cost Inflation/CPI Tables**: Historical cost of the asset is inflated based on Consumer Price Index or Non-Residential Building Construction Price Index

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the

absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the Township incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.3Estimated Useful Life and Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the Township expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset in this AMP was assigned according to the knowledge and expertise of municipal staff and supplemented by existing industry standards when necessary.

By using an asset's in-service date data and its EUL, the Township can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the Township can more accurately forecast when it will require replacement. The SLR is calculated as follows:

$$Service\ Life\ Remaining\ (SLR) = In\ Service\ Date + Estimated\ Useful\ Life(EUL) - Current\ Year$$

2.4Reinvestment Rate

As assets age and deteriorate, they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost.

By comparing the actual vs. target reinvestment rate the Township can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

$$Target\ Reinvestment\ Rate = \frac{Annual\ Capital\ Requirement}{Total\ Replacement\ Cost}$$

$$Actual\ Reinvestment\ Rate = \frac{Annual\ Capital\ Funding}{Total\ Replacement\ Cost}$$

2.5Deriving Asset Condition

An incomplete or limited understanding of asset condition can mislead long-term planning and decision-making. Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Township's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. When assessed condition data is not available, service life remaining is used to approximate asset condition.

Condition	Description	2.6Criteria	Service Life Remaining (%)
Very Good	Fit for the future	Well maintained, good condition, new or recently rehabilitated	80-100
Good	Adequate for now	Acceptable, generally approaching mid-stage of expected service life	60-80
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40-60
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20-40
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	0-20

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition. Appendix D includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

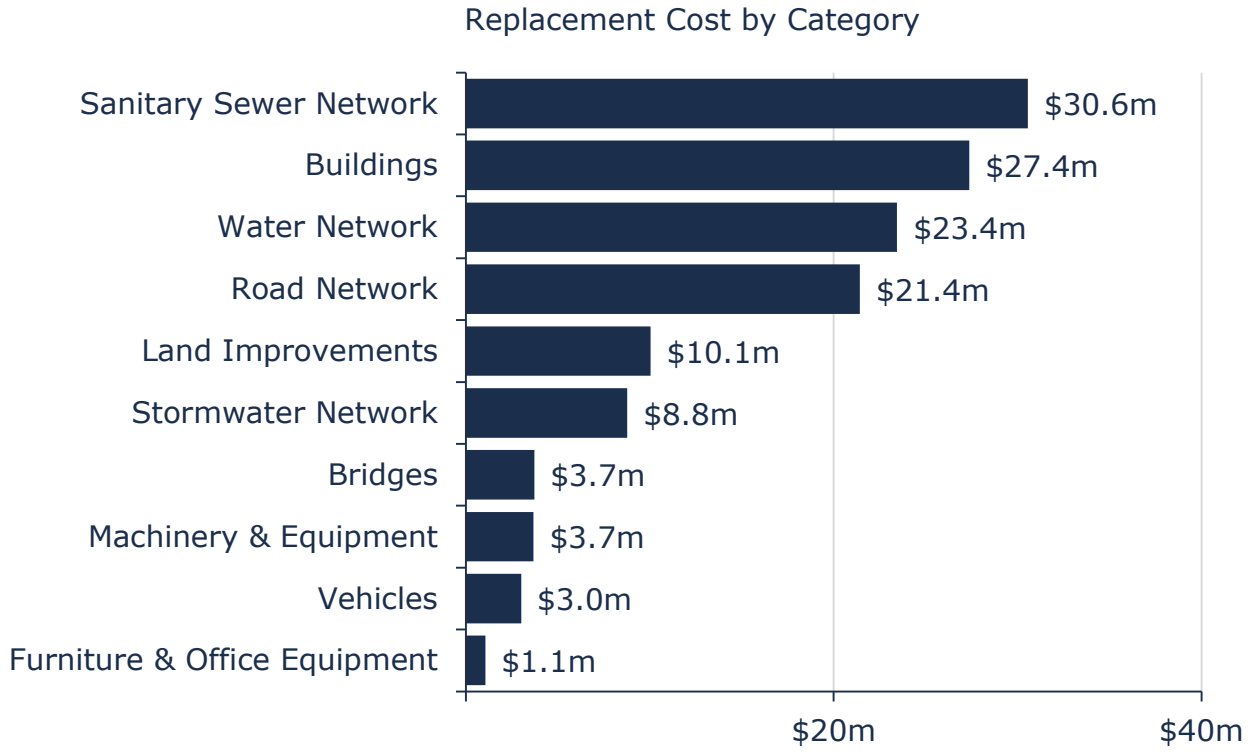
3 Portfolio Overview

Key Insights

- The total current replacement cost of the Township's asset portfolio is $133.1 million.
- The Township's target re-investment rate is 2.84%, and the actual re-investment rate is 0.91%, contributing to an expanding infrastructure deficit.
- 44% of all assets are in fair or better condition.
- 48% of assets are projected to require replacement in the next 10 years.
- Average annual capital requirements of approximately $3.8 million per year across all assets

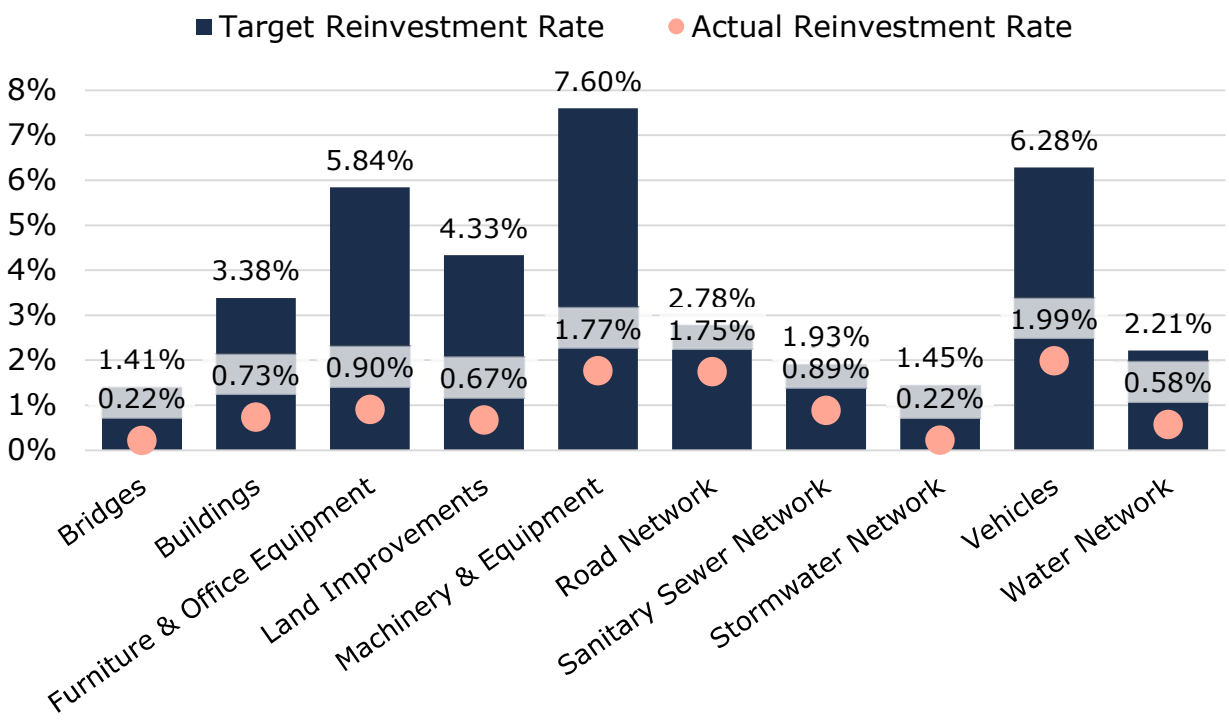
3.1Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total current replacement cost of $133.1 million based on inventory data from 2024. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



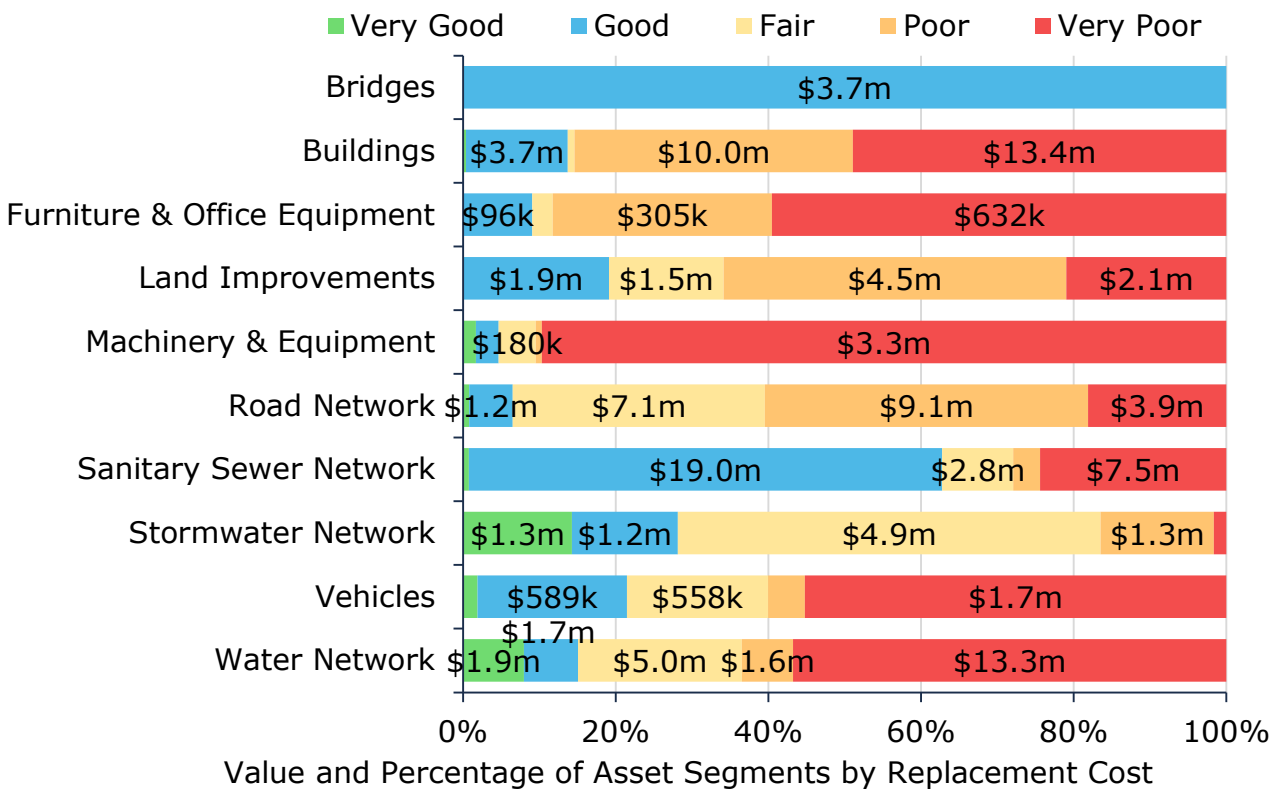
3.2Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, the Township should be allocating approximately $3.8 million annually, for a target reinvestment rate of 2.84%. Actual annual spending on infrastructure totals approximately $1.2 million, for an actual reinvestment rate of 0.91%.



3.3Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 44% of assets in Nipigon are in fair or better condition. This estimate relies on both age-based and field condition data. Note that vehicles and equipment and machinery use age-based condition, which tends to understate the true performance-based condition as they undergo routine maintenance that allows the Township to use these assets beyond what age-based condition suggests.



Value and Percentage of Asset Segments by Replacement Cost

This AMP relies on assessed condition data for 36% of assets; for the remaining portfolio, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment	% of Assets with Assessed Condition	Source of Condition Data
Road Network	Asphalt Roads	100%	Staff Estimates
	Gravel Roads	100%	Staff Estimates
	Other Roadside Assets	0%	N/A
Bridges	Bridges	100%	2019 OSIM Report
Stormwater Network	All	0%	N/A
Buildings	All	0%	N/A
Machinery & Equipment	All	0%	N/A
Vehicles	All	0%	N/A

Land Improvements	All	0%	N/A
Furniture & Office Equipment	All	0%	N/A
Water Network	Water Treatment	99%	Staff Estimates
	Other Water Assets	0%	N/A
Sanitary Sewer Network	Sewage Treatment Plant	97%	Staff Estimates
	Other Sanitary Assets	0%	N/A

3.4Service Life Remaining

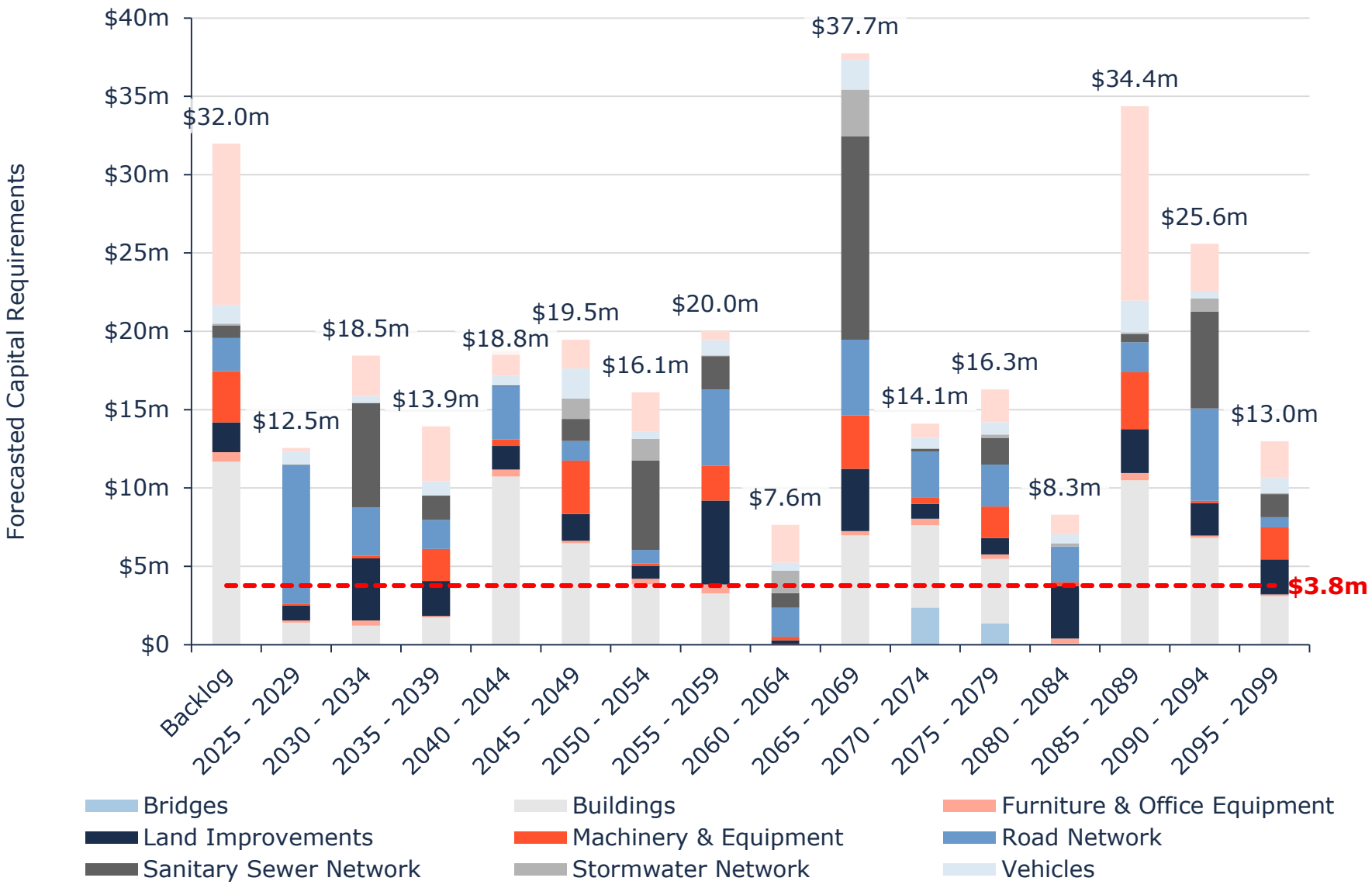
Based on asset age, available assessed condition data and estimated useful life, 48% of the Township's assets will require replacement within the next 10 years. Annual Capital requirements over the next 10 years are identified in Appendix A.

3.5Forecasted Capital Requirements

The development of a long-term capital forecast should include asset maintenance, rehabilitation, and replacement requirements. With the development of asset-specific lifecycle strategies that include the timing and cost of future capital events, the Township can produce an accurate long-term capital forecast.

Current backlog for all the assets has reached $32 million where buildings and the water network are the largest contributors. Much of the water network was constructed in the 1950s through to the 1970s and many building components are over 20 years old. The average annual capital requirement for all assets is $3.8 million.

The following graph identifies capital requirements from 2025 to 2099. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The trend line represents the average capital requirements.


Forecasted Capital Requirements
$40m
$35m
$30m
$25m
$20m
$15m
$10m
$5m
$0
$32.0m
$12.5m
$18.5m
$13.9m
$18.8m
$19.5m
$16.1m
$20.0m
$7.6m
$37.7m
$14.1m
$16.3m
$8.3m
$34.4m
$25.6m
$13.0m
$3.8m
Backlog
2025 - 2029
2030 - 2034
2035 - 2039
2040 - 2044
2045 - 2049
2050 - 2054
2055 - 2059
2060 - 2064
2065 - 2069
2070 - 2074
2075 - 2079
2080 - 2084
2085 - 2089
2090 - 2094
2095 - 2099
Bridges
Buildings
Furniture & Office Equipment
Land Improvements
Machinery & Equipment
Road Network
Sanitary Sewer Network
Stormwater Network
Vehicles

4 Analysis of Tax-funded Assets

Key Insights

- Tax-funded assets are valued at $79.1 million
- 36% of tax-funded assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for tax-funded assets is approximately $2.7 million
- Critical assets should be evaluated to determine appropriate risk mitigation activities and treatment options

4.1Road Network

A safe and efficient Road Network is a critical component of an integrated transportation system that can ensure all necessary services to serve and support the Township's development. The Road Network includes all municipally owned and maintained asphalt and gravel roadways in addition to supporting roadside infrastructure including sidewalks, streetlights, curb and gutter.

The Township's roads, sidewalks and streetlights are maintained by the Public Works Department who is also responsible for winter snow clearing, ice control and dust control operations.

The state of the infrastructure for the road network is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirements
$21.4 million	Poor (29%)	$596,000

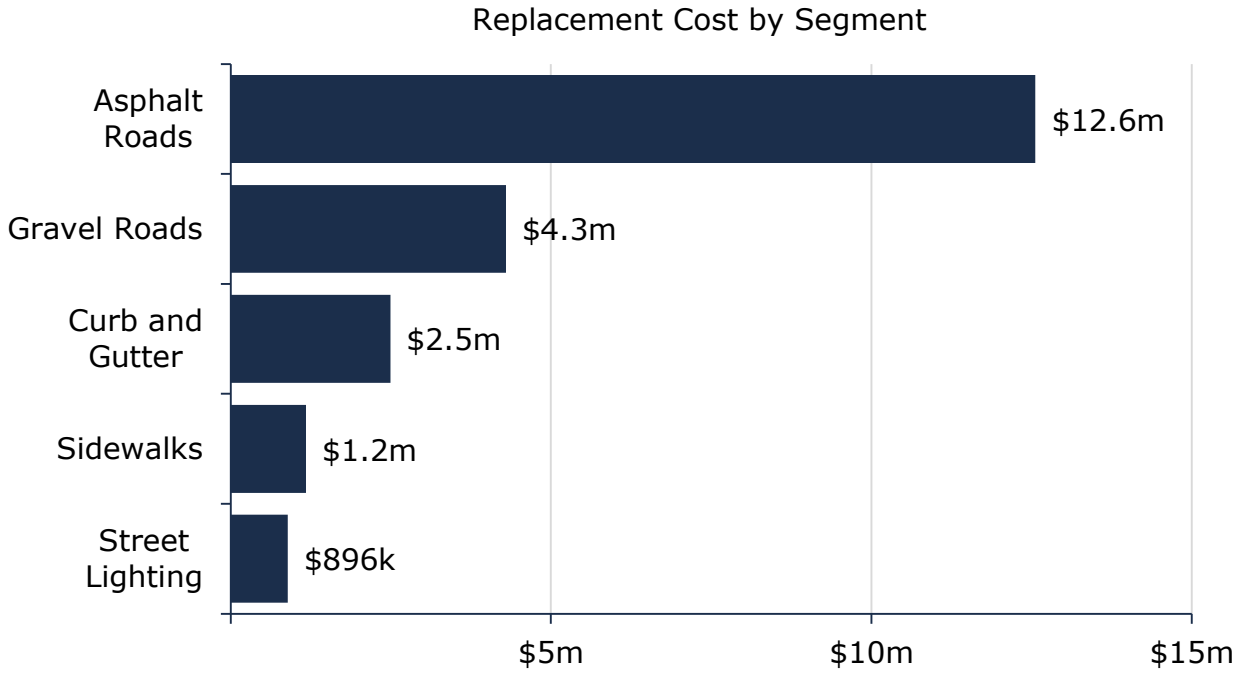
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Scope	The road network service is conveniently accessible to the whole community in sufficient capacity (meets traffic demands) and is available under almost all conditions.
Safe & Regulatory	The road network is in poor condition with limited inspection for signage may result in increase probability of hazards and causing road closures.
Reliability	The road network is in poor condition which may result in unplanned service interruptions and road closures.

4.1.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Road Network inventory.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Asphalt Roads	16,210 m	Cost per unit	$12,560,000
Curb and Gutter	13,165 m	Cost per unit	$2,495,000
Gravel Roads	13,986 m	Cost per unit	$4,297,000
Sidewalks	4,232 m	Cost per unit	$1,180,000
Street Lighting	299	CPI Tables	$896,000
			$21,427,000



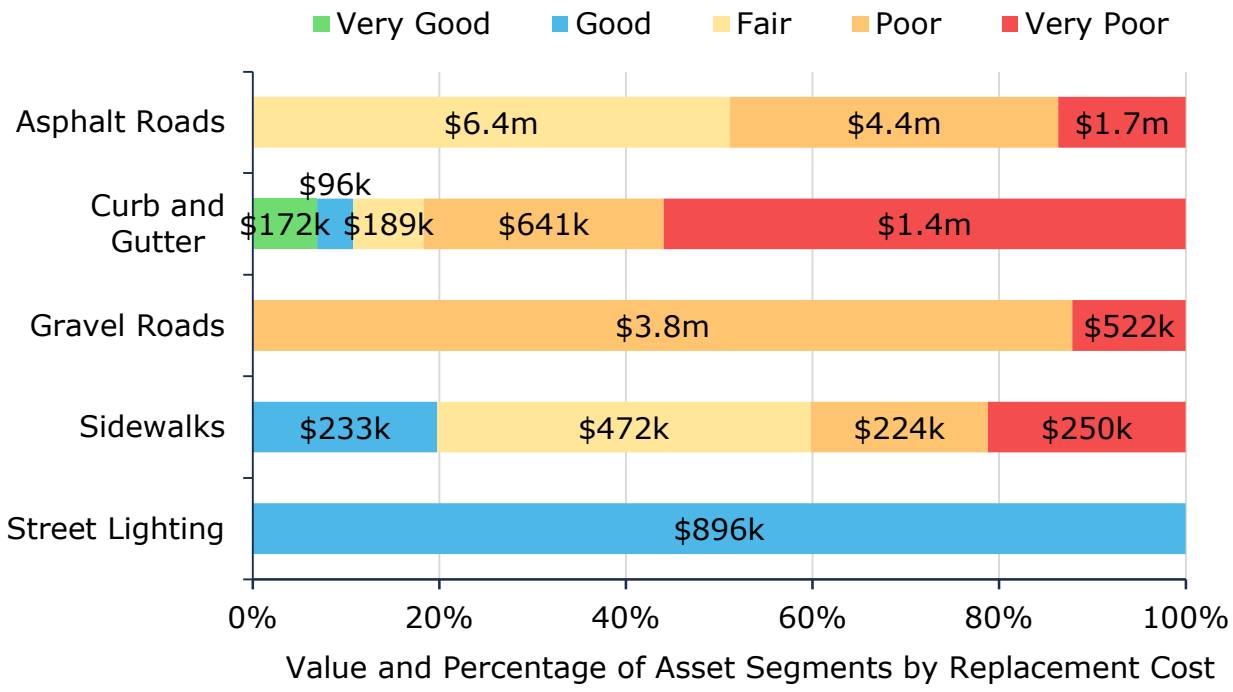
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.1.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. The average condition is not a good indicator for gravel roads because gravel roads are perpetually re-stoned every three years.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Asphalt Roads	29%	Poor	100% Assessed
Curb and Gutter	22%	Poor	Age-based
Gravel Roads	25%	Poor	100% Assessed
Sidewalks	38%	Poor	Age-based
Street Lighting	69%	Good	Age-based
	29%	**Poor**	**79% Assessed**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the road network.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

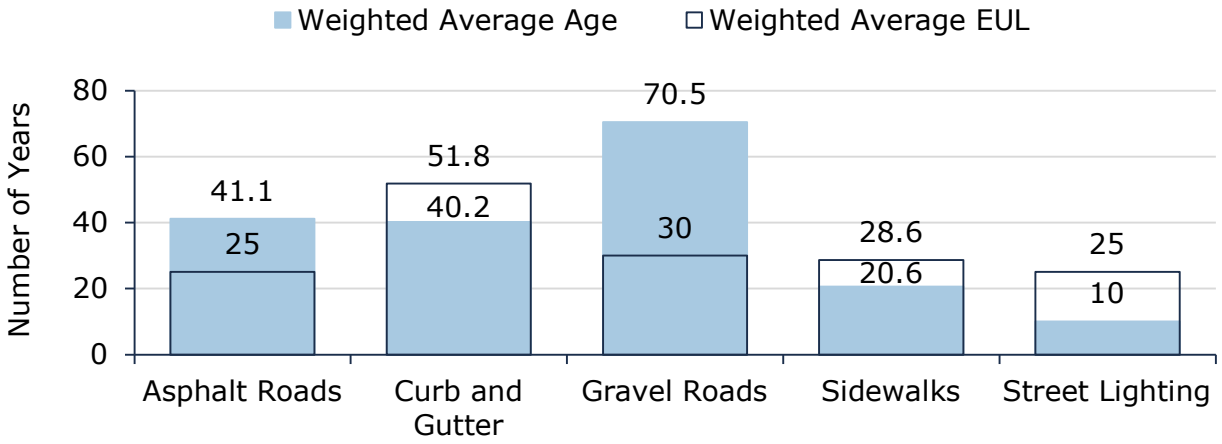
- Roads and roadside assets are inspected by the Public Works Department daily.
- Road inspection results are recorded, and associated defects are reported to the superintendent daily. However, these results are not aggregated to a numerical condition score.
- Streetlights are inspected twice per month by the Public Works Department.

4.1.3 Estimated Useful Life & Average Age

The estimated useful life for Road Network assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor.

The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining. Asphalt Roads and Gravel Roads undergo regular patching and gravelling respectively, which maintains the roads in-service despite them being beyond their estimated useful life.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Asphalt Roads	41.1	25.0
Curb and Gutter	40.2	51.8
Gravel Roads	70.5	30.0
Sidewalks	20.6	28.6
Street Lighting	10.0	25.0



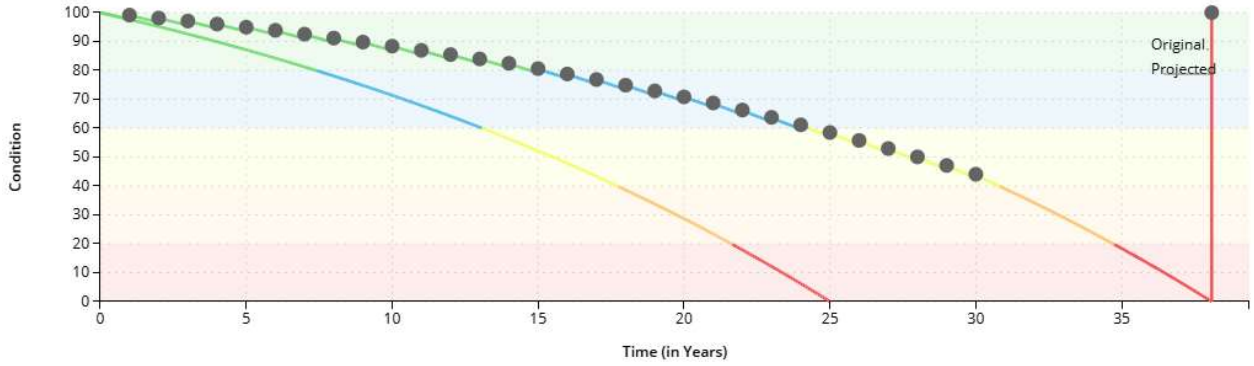
Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.1.4 Lifecycle Management Strategy

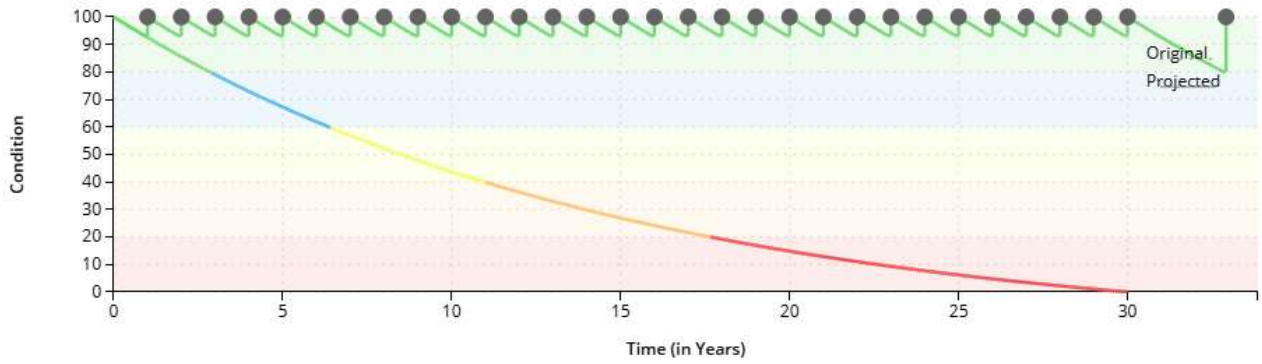
The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment.

Roads, sidewalks, and curb and gutter are usually replaced in coordination with the underground infrastructure to realize the cost savings of bundling work. This approach means that road renewal and replacement vary year by year. For purposes of this plan, we have developed a strategy that approximates the timing of activities when coordination is not required, as we do not have sufficient data to predict coordination opportunities. The following figures outlines this strategy. However, it should be noted that the following strategies may be adjusted at any given year to accommodate construction coordination opportunities.

Asphalt Roads		
Event Name	**Event Class**	**Event Trigger**
Patching	Preventative Maintenance	Repeats annually
Full Reconstruction	Replacement	0 Condition

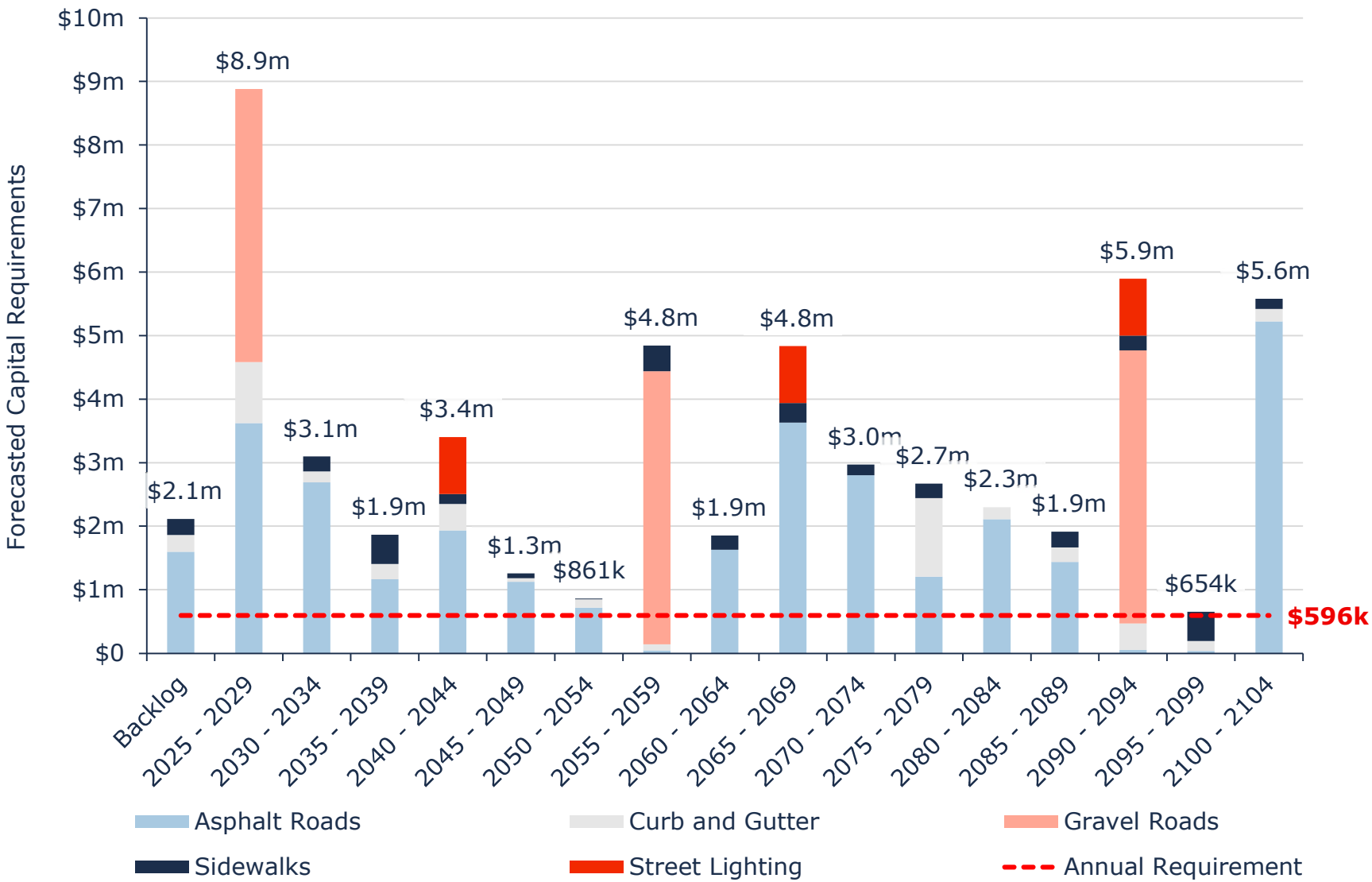


Gravel Roads		
Event Name	**Event Class**	**Event Trigger**
Dust Suppressant	Maintenance	Repeats annually
Gravel Maintenance	Rehabilitation	Repeats annually for 30 times
Gravel Patching	Maintenance	Repeats annually for 30 times
Full Reconstruction	Replacement	80% Condition



4.1.5 Forecasted Capital Requirements

Based on the lifecycle strategies identified previously for asphalt and gravel roads, and assuming the end-of-life replacement of all other assets in this category, the following graph forecasts long-term capital requirements until 2104 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The current backlog for Road Network is $2.1 million dominated by asphalt roads. The annual capital requirement is $596 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.1.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$3,872,509 (18%)	$3,816,764 (18%)	$4,168,616 (19%)	$5,039,672 (24%)	$4,529,279 (21%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the road network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
	Material (Economic)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Climate Change & Extreme Events

The trend of climate change-induced extreme precipitation events is projected to continue. High frequency and intensity of precipitation can cause flooding in poor drainage areas. This also results in accelerating the deterioration of road surfaces and weakening the foundation. An increase in cracking, sinkholes and other damages in freeze/thaw cycles are anticipated because of heavy precipitation. As a result, higher maintenance and rehabilitation requirements are expected to maintain the same level of service. To improve asset resiliency, staff should identify the critical areas and improve drainage through enhanced lifecycle strategies.

Capital Funding Strategies

Due to limited competition, material and construction costs in the Township are relatively high. The current level of financial investment does not sufficiently address maintenance and capital rehabilitation requirements proactively. Some roadway projects may be deferred to make bulk orders for saving opportunities. An annual capital funding strategy can reduce dependency on grant funding and help prevent deferral of capital works.

Environment Uncertainty

Extra time and costs can be incurred when encountering unexpected soil type and quality, such as clay and bedrock during excavation. To mitigate the risks, the soil condition and composition can be investigated to reduce environmental uncertainties.

4.1.7 Current Levels of Service

The following tables identify the Township's current level of service for the road network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the road network.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	Nipigon's road network spans approximately 30km over an area of 109km². Surface material ranges from asphalt to gravel. The system mostly consists of local roads with an MMS class of 5 or 6.
Quality	Description or images that illustrate the different levels of road class pavement and sidewalk condition	The Township condition ratings are based on visual inspections from the Public Works Manager. Every road section received a 1-5 condition rating. A score of 5 refers to an excellent condition. No discernable deficiencies are identified. No signs of deterioration or remedial work is required. A score of 3 refers to a fair condition. Some sections of the road are starting to show deterioration. Remedial work and surface upgrade may be needed in the near future. A score of 1 refers to significant signs of deterioration. Remedial work is required to bring the road back up to standard.

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the road network.

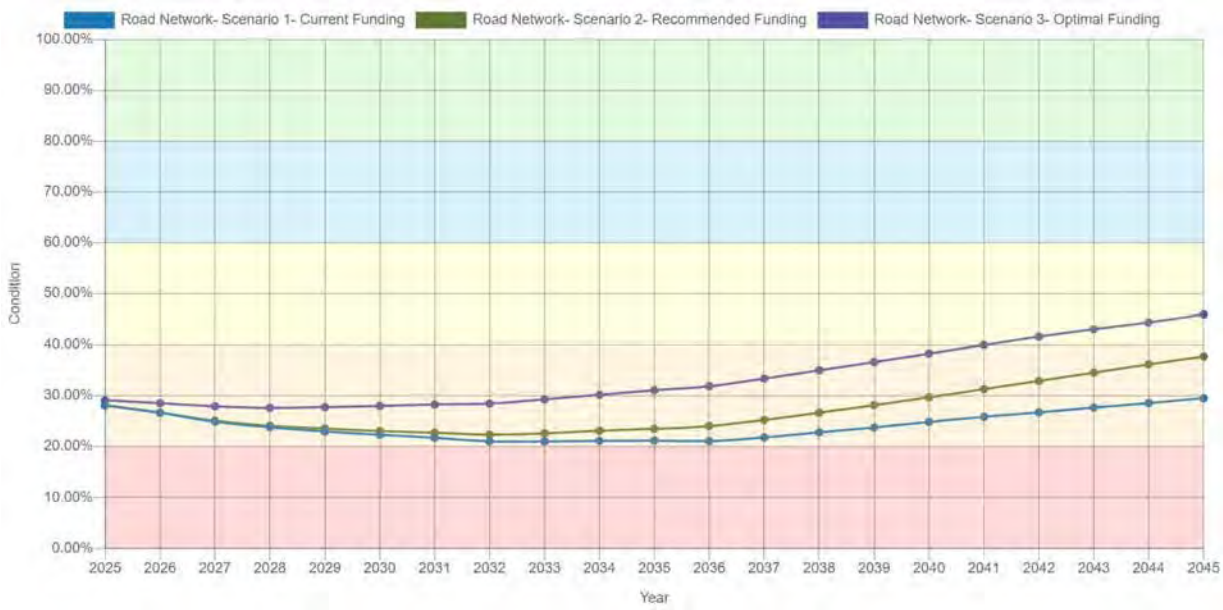
Service Attribute	Technical Metric	Current LOS (2024)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km2)	0
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km2)	0
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km2)	0.55
Quality	Average pavement condition index for paved roads in the municipality	29 %
	Average surface condition for unpaved roads in the municipality (e.g., excellent, good, fair, poor)	Poor

4.1.8 Proposed Levels of Service

The proposed levels of service (PLOS) for the road network establish performance targets that balance affordability, service reliability, and sustainability. Roads are one of the Township's most critical assets, providing year-round mobility, emergency access, and connectivity between residential areas, municipal facilities, and regional networks.

Staff Input

Staff are generally satisfied with current road reliability and surface distribution and highlighted the need for improved preventative maintenance (with the purchase of new equipment).



The graph above illustrates the projected condition of the Township's road network from 2025 to 2045 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different capital reinvestment pathway with implications for the network's performance, lifecycle costs, and long-term service sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo - the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with the $374 thousand allocated to road network.

- Under this scenario, the road network condition gradually declines from ~28% in 2025 to ~20% by 2035, stabilizing in the lower Fair range. The average risk score for the studied period is 11.57.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.33% of this increase would be allocated to the road network, closing the identified annual funding deficit by 2045.

- Condition is projected to gradually decline until 2031, then recovers to ~38% by 2045, stabilizing in the Fair range. The average risk score for the studied period is 11.22.

- This funding level protects the existing stability and delivers visible service enhancements, such as smoother driving surfaces, fewer reactive repairs, and critical routes (school bus and emergency access) can be maintained consistently- aligning with community expectations for quality and reliability.

- The approach also builds long-term resilience, keeps backlog manageable, reduces deferred renewal pressure, and prevents future cost escalation.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met- essentially eliminating the infrastructure deficit from the outset.
- Road condition improves steadily to ~43% by 2045. The average risk score for the studied period is 10.66.
- This scenario allows for proactive, timely replacements, avoiding critical deterioration and minimizing downtime.
- While not financially achievable under current circumstances, this scenario is valuable as a benchmark for long-term service excellence and cost avoidance.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding- a potential ~8% lower condition by 2045 if no corrective action is taken.
- The Recommended Scenario is both financially feasible and operationally realistic, offering a clear path to stabilize asset condition and maintain service continuity with manageable tax impacts.
- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework.

- It preserves current stability while gradually improving condition to meet community expectations for better road surfaces and safety.
- This measured, risk-informed funding increase aligns with staff recommendations to reduce deferred renewal risk which would significantly increase future costs, avoid future tax spikes, and transition the Township toward more proactive pavement lifecycle management.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.1.9 Recommendations

Asset Inventory

- The streetlight inventory includes 1 pooled asset that should be broken into discrete segments to allow for detailed planning and analysis.
- Continue to update the unit replacement costs which reflect current tender pricing.

Condition Assessment Strategies

- Consider developing a condition score that utilizes the routine inspection records for roadside assets.

Lifecycle Management Strategies

- Implement the identified lifecycle management strategies for asphalt roads to realize potential cost avoidance and maintain a high quality of road pavement condition.
- Adjust the projected capital requirements to account for future construction coordination opportunities. Adjust the estimated useful life of roads to account for the average life between full replacements as seen in the field.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Adjust the likelihood of failure to account for roads that have high-risk underground infrastructure.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Township believes to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

4.2Bridges

Bridges represent a critical portion of the Township's transportation system to facilitate the movement of people and goods. The Township does not own any structural culverts which spans are equal or larger than 3 meters.

The Public Works Department is responsible for the maintenance of bridges with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

The table below outlines high-level service indicators for Bridges.

Replacement Cost	Condition	Average Annual Requirements
$3.7 million	Good (65%)	$ 53,000

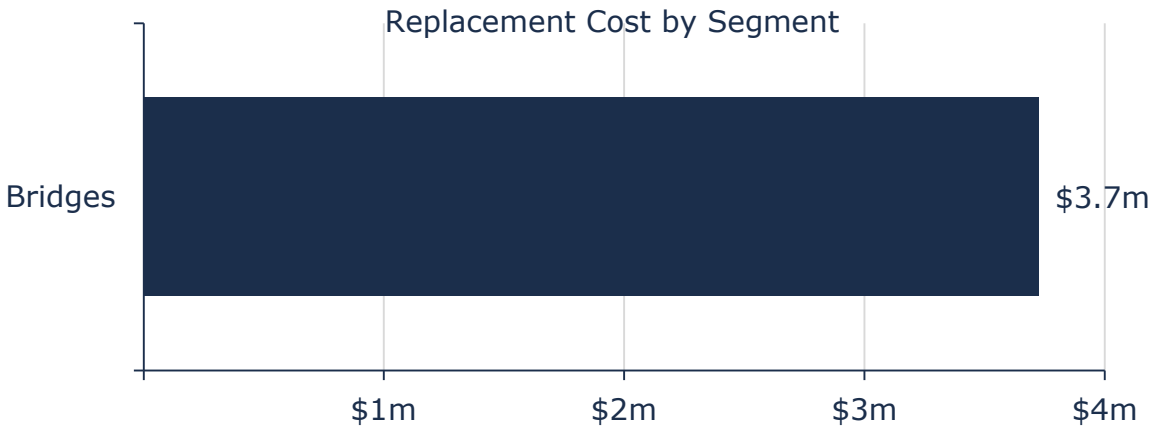
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Scope	Bridges are conveniently accessible to the whole community in sufficient capacity (meets traffic demands) and are available under most weather conditions. None of the bridges have dimensional or loading restrictions.
Safe & Regulatory	Limited Inspection of bridges may result in unplanned structure closures or increase probability of hazards.
Reliability	The bridges are in good condition with minimal unplanned service interruptions and bridge closures.

4.2.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's Bridges inventory.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Bridges	2	Inflated 2022 User-Defined Costs	$3,726,000



Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

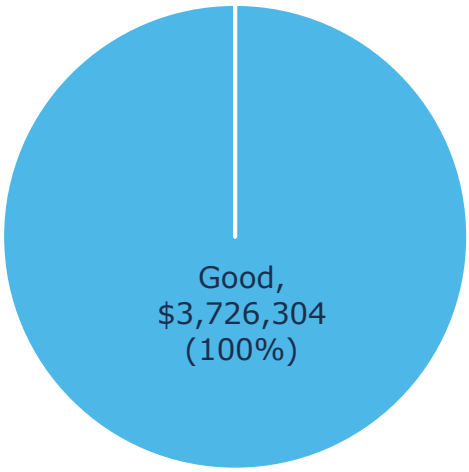
4.2.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Bridges	66%	Fair[1]	100% Assessed

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

[1] Based on the Bridge Condition Index from the 2025 OSIM report. This score reflects the aggregate condition of all bridge components, considering visual defects.



To ensure that the Township's continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the bridges.

Current Approach to Condition Assessment

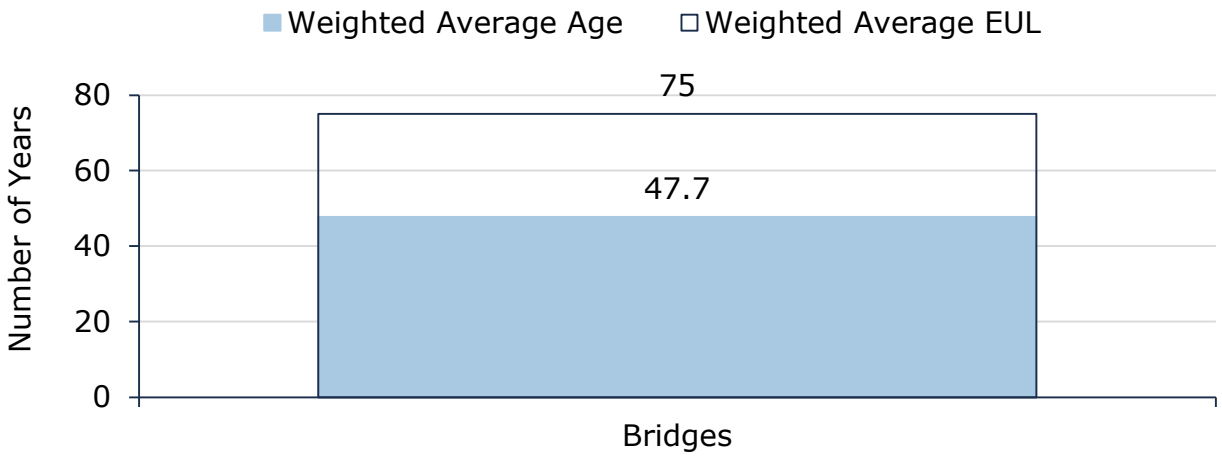
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- Condition assessments of all bridges are completed every 2 years in accordance with the Ontario Structure Inspection Manual (OSIM).

4.2.3 Estimated Useful Life & Average Age

The estimated useful life for Bridges has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Bridges	47.7	75



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset.

4.2.4 Lifecycle Management Strategy

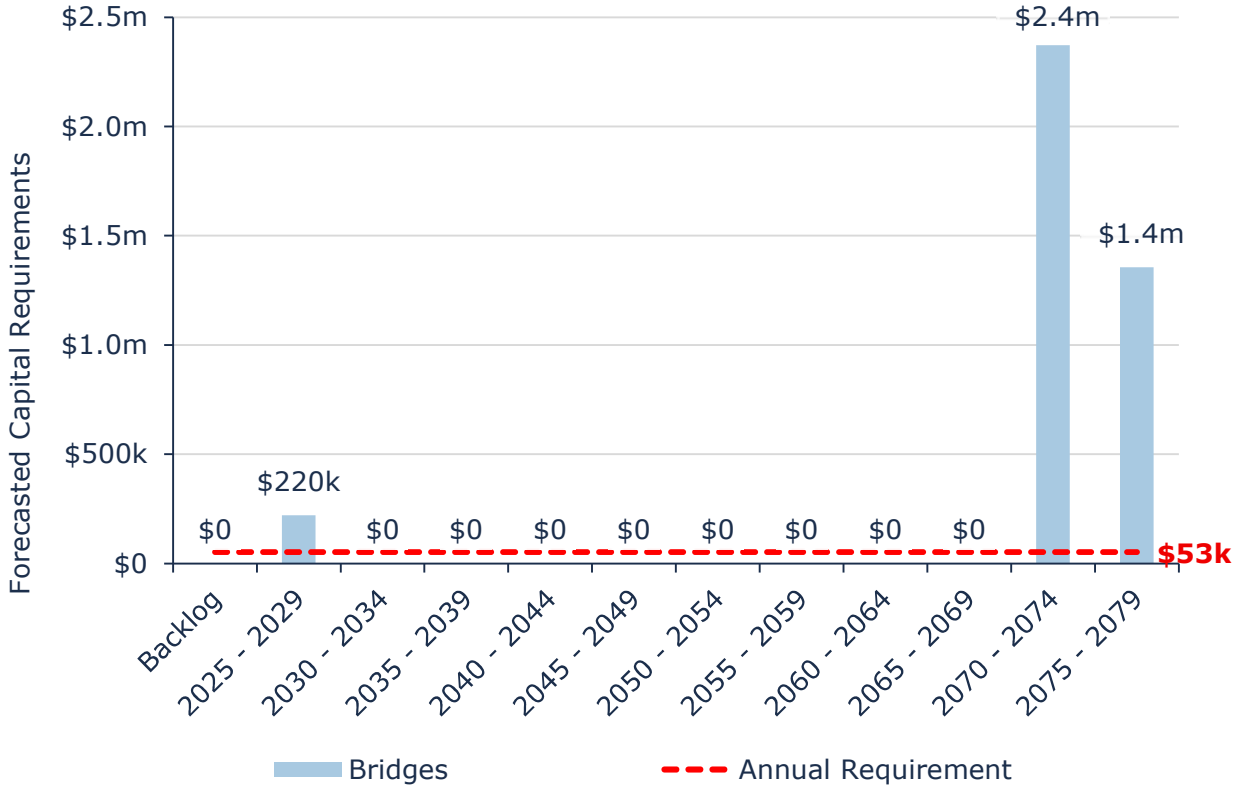
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	All lifecycle activities are driven by the results of mandated structural inspections completed according to the Ontario Structure Inspection Manual (OSIM).
	Major rehabilitation and replacement projects are completed in as-needed basis with considerations of BCI, traffic count and bridge types.
Inspection	The most recent inspection report was completed in 2025 by Structura Engineering Inc.

4.2.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2079 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $53 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.2.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
- (0%)	$1,355,020 (36%)	- (0%)	$2,371,284 (64%)	- (0%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of bridges are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
Surface Type	

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Aging Infrastructure

As municipal bridges continue to age, there are a handful of structures that are approaching the end of their original useful life. Bridges in poor condition pose a higher risk in addition to needing more maintenance and repairs. Current lifecycle management strategies for bridges are reactive. An enhanced proactive strategy can help extend the service life of structures with lower funding requirement.

4.2.7 Current Levels of Service

The following tables identify the Township's current level of service for bridges. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Bridges.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Bridges are a key component of the municipal transportation network. None of the municipality's structures have loading or dimensional restrictions meaning that most types of vehicles, including heavy transport, motor vehicles, emergency vehicles and cyclists can cross them without restriction.
Quality	Description or images of the condition of bridges and how this would affect use of the bridges	See Appendix B

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by bridges.

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of bridges in the Township with loading or dimensional restrictions	0%
Quality	Average bridge condition index value for bridges in the Township	65%
	Average bridge condition index value for structural culverts in the Township	N/A

4.2.8 Proposed Levels of Service

The proposed levels of service (PLOS) for bridges reflect the Township's long-term performance targets for ensuring structural integrity, connectivity, and public safety. While only two bridges exist in the network, they are essential for maintaining access and providing reliable links between communities.

Staff Input

Recent bridge conditions completed by Structure Engineering noted the Township's bridge as "Fair" with no current restrictions. Routine inspections under the OSIM program identify repairs, which are acted upon as required. Adequate staffing exists, but significant capital repairs would require other projects to be deferred.

The graph above illustrates the projected condition of the Township's Bridges from 2025 to 2085 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different capital reinvestment pathway with implications for the network's performance, lifecycle costs, and long-term service sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo - the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with the $8 thousand allocated to bridges.

- Under this scenario, the condition declines steadily from ~65% in 2025 to below ~20% by 2060 eventually reaching end of life before 2085 highlighting the inability to fund OSIM-recommended repairs and eventually force closure or emergency replacement. The average risk score for the studied period is 18.06.

- Without dedicated funding, OSIM-recommended repairs cannot be consistently implemented, leading to accelerated deterioration and eventual service loss.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.07% of this increase would be allocated to the bridges, closing the identified annual funding deficit by 2045.

- Condition is projected to gradually decline until in 2077, there is a sharp recovery to ~36% as a replacement event takes place. The average risk score for the studied period is 17.45.

- Available funds ensure critical OSIM-recommended repairs can be undertaken, preserving safety and extending asset life.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met- essentially eliminating the infrastructure deficit from the outset.

- Bridges' condition declines steadily to ~4% by 2070 followed by a drastic improvement in condition as the most critical bridge in terms of replacement value is replaced. The average risk score for the studied period is 15.56.

- This scenario provides proactive lifecycle management, ensuring long-term reliability, minimal restrictions, and avoided emergency repairs. While not fiscally feasible, it sets a benchmark for service excellence.

Interpretation and Planning Implications

- The system-generated graph only considers replacement, but in practice, bridge sustainability depends on implementing OSIM report recommendations for ongoing maintenance and repairs. These smaller interventions are essential to extend life and reduce risk and provide updated bridge condition index necessary in tracking the asset deterioration.

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding- a potential ~33% lower condition by 2085 if no corrective action is taken.

4.2.9 Recommendations

Data Review/Validation

- Continue to review and validate inventory data, assessed condition data and replacement costs for all bridges upon the completion of OSIM inspections every 2 years. Complete recommended repairs as noted by the inspections.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Lifecycle Management Strategies

- This AMP only includes capital costs associated with the reconstruction of bridges. The Township should work towards identifying projected capital rehabilitation and renewal costs for bridges and integrating these costs into long-term planning.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Township believe to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates

4.3Stormwater Network

The Township is responsible for owning and maintaining a storm sewer network of a 6.4 km of storm sewer mains, drainage culverts and other supporting infrastructure.

Staff are working towards improving the accuracy and reliability of their storm sewer network inventory to assist with long-term asset management planning.

The state of the infrastructure for the storm sewer network is summarized in the following table.

Replacement Cost	Condition	Averal Annual Requirements
$8.8 million	Fair (55%)	$128,000

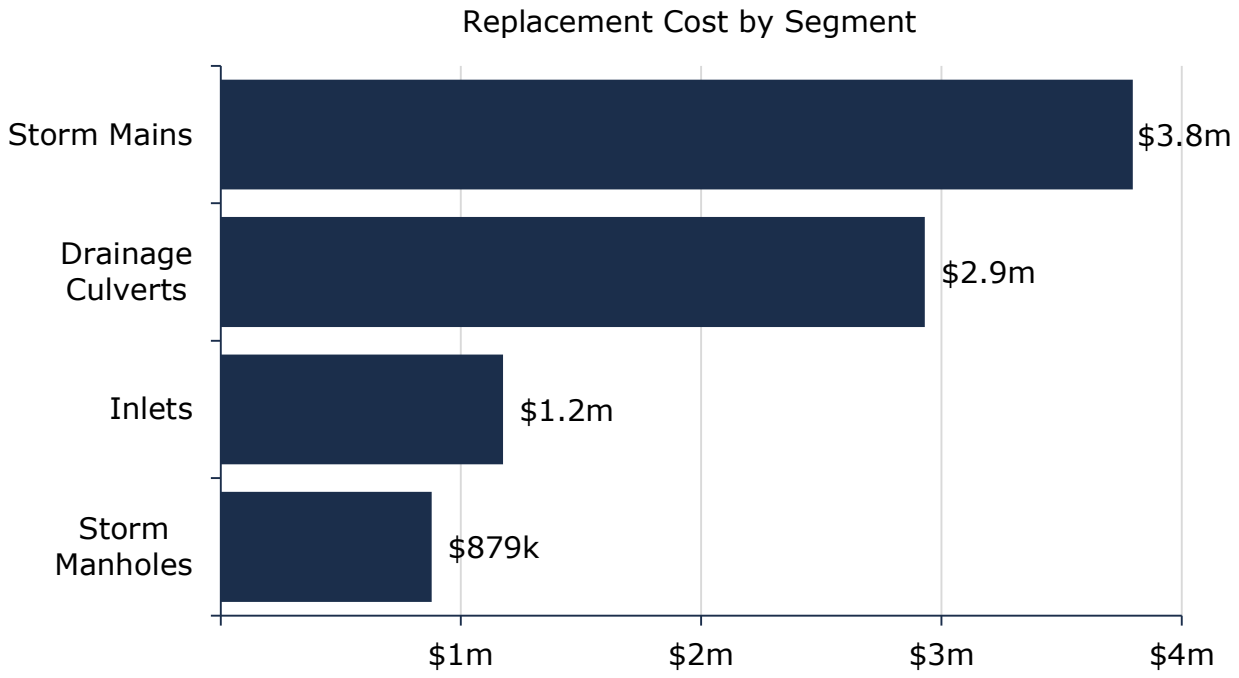
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Scope	Some areas of the Township are protected from flooding by the municipal storm sewer network.
Safe & Regulatory	50% of storm sewer network within the municipality is resilient to a 5-year storm.
Performance	The stormwater network is in fair condition, 84% of the network are in fair or better condition.

4.3.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's stormwater network inventory.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Drainage Culverts	182 m	CPI Tables	$2,931,000
Inlets	178	Inflated 2022 User-defined Cost	$1,176,000
Storm Mains	6,366 m	Inflated 2022 User-defined Cost	$3,797,000
Storm Manholes	56	Inflated 2022 User-defined Cost	$879,000
			$8,782,000



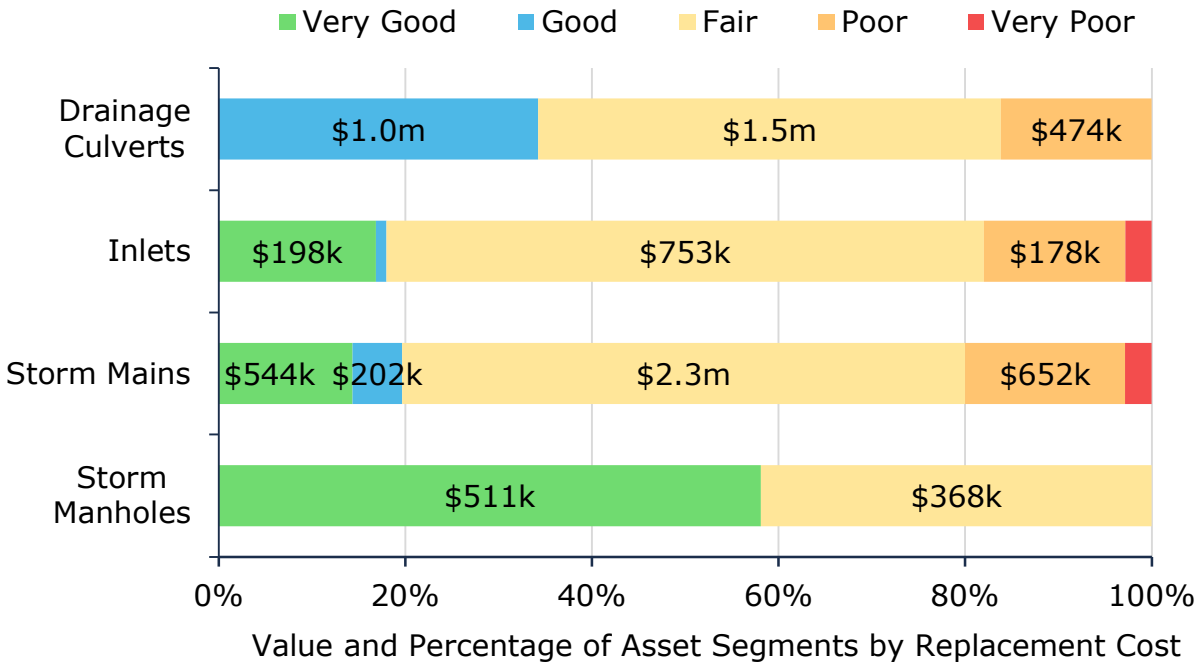
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.3.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

	Average Condition (%)	Average Condition Rating	Condition Source
Drainage Culverts	51%	Fair	Age-based
Inlets	54%	Fair	Age-based
Storm Mains	54%	Fair	Age-based
Storm Manholes	75%	Good	Age-based
	55%	**Fair**	**Age-based**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's stormwater network continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the stormwater network.

Current Approach to Condition Assessment

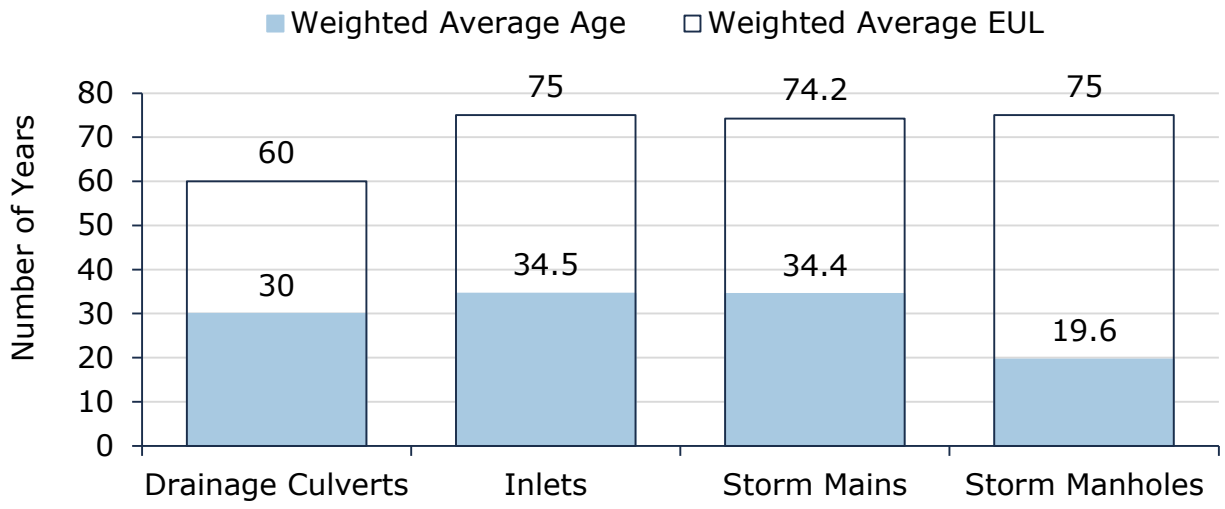
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- There are no formal condition assessment programs in place for the stormwater network.
- Catch basins and rain garden slumps are inspected annually.
- Currently, the Township plans to establish a regular assessment program which may include the CCTV inspections every 5 years or regular internal inspections.

4.3.3 Estimated Useful Life & Average Age

The estimated useful life for Storm Network assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Drainage Culverts	30.0	60.0
Inlets	34.5	75.0
Storm Mains	34.4	74.2
Storm Manholes	19.6	75.0



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.3.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

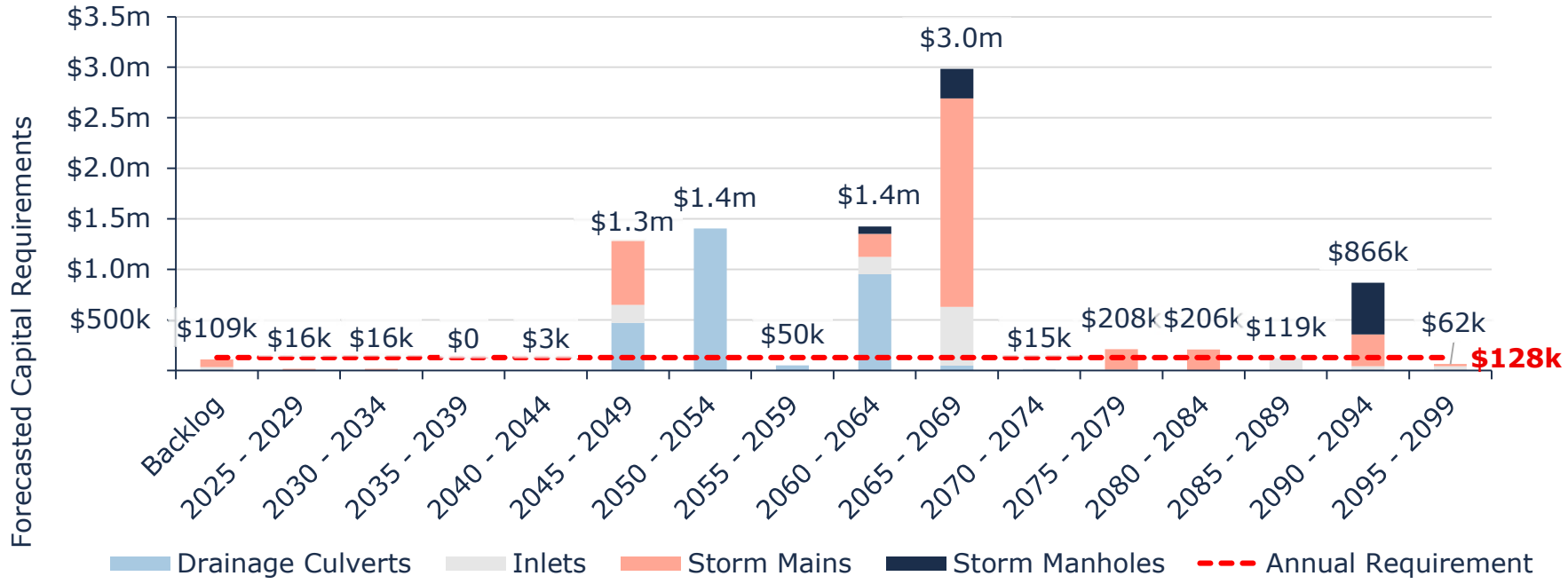
The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Vacuum cleaning for storm mains is performed on an as needed basis.
	Ditching activities are performed once every three to four years.
	Catch basins and rain garden slumps are cleaned on an as needed basis.
	Strategic mains are flushed on yearly basis by in-house staff.
	Regular maintenance is in place to remove obstacles and debris.
Rehabilitation & Replacement	Currently no rehabilitation program in place for stormwater network.
	Full replacement is undertaken when it reaches its end-of-life or receives public complaints.
	Stormwater network replacement schedule is based on the break records, remaining service life, costs, pipe material, and if multiple issues exist in road, sanitary and water network.

4.3.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2099. The annual capital requirement is $128 thousand to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.

Substantial capital requirements are forecasted between 2065 and 2069 largely attributed to storm mains. The Township should proactively replace the stormwater network to avoid a future spike in replacement requirements.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.3.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$2,021,760 (41%)	$33,040 (<1%)	$3,422 (<1%)	$953,422 (19%)	$1,920,309 (39%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the stormwater network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
	Pipe Diameter (Economic)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Aging Infrastructure

An aging Stormwater Network can pose a flooding risk to natural water resources and other surrounding infrastructure. More maintenance and rehabilitation activities are required when assets approach the end of their useful lives. Current lifecycle management strategies for stormwater network are reactive. A regular condition assessment program for the whole network and an enhanced proactive strategy for the strategic mains can help to minimize unplanned lifecycle activities and extend the service life of structures with lower funding requirement.

4.3.7 Current Levels of Service

The following tables identify the Township's current level of service for the stormwater network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the stormwater network.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include map, of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater system	See Appendix B

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the stormwater network.

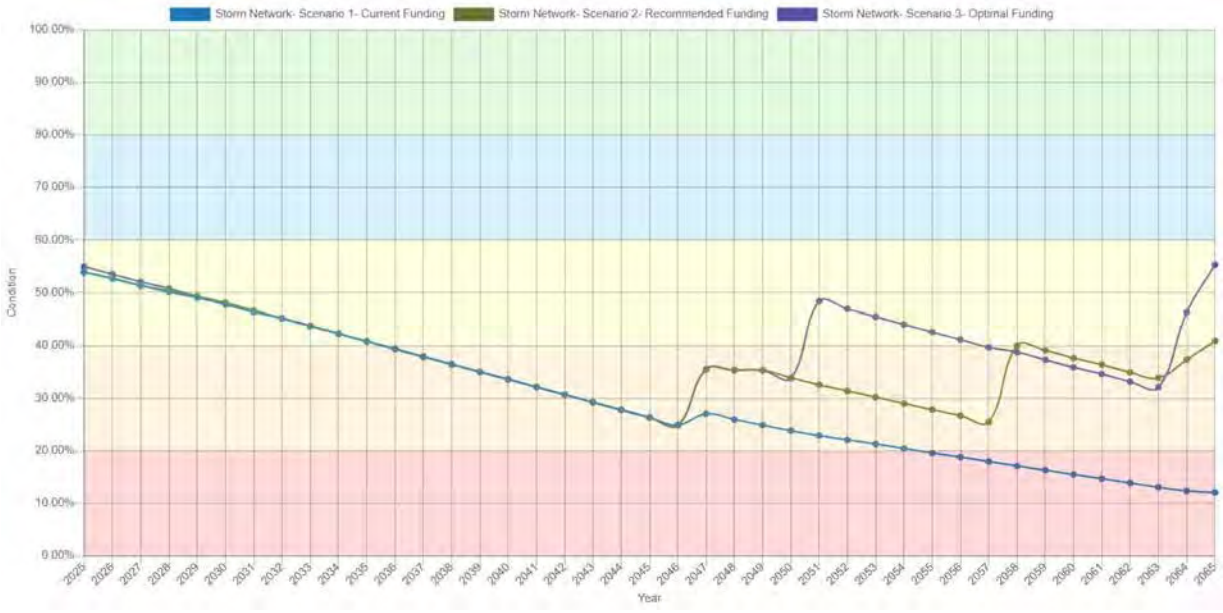
Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties in municipality resilient to a 100-year storm	25%
	% of the municipal stormwater management system resilient to a 5-year storm	50%

4.3.8 Proposed Levels of Service

The proposed levels of service (PLOS) for the stormwater network establish long-term performance targets to ensure effective drainage, flood prevention, and protection of local waterways. The system plays a critical role in community resilience by reducing surface water buildup, mitigating flood risk, and supporting the durability of adjacent infrastructure such as roads and buildings.

Staff Input

Staff reported that the system manages both frequent and infrequent storm events well, with flooding incidents rare in recent years. Age-based condition assessments were noted as sufficient for the Township's size, and adequate funding and staffing exist to maintain the network, though future expansion would improve resilience.



The graph above illustrates the projected condition of the Township's stormwater network from 2025 to 2065 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different

capital reinvestment pathway with implications for network performance, lifecycle costs, and long-term sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo – the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with $19.8 thousand allocated to the stormwater network.
- Under this scenario, condition steadily declines from ~53% in 2025 to ~12% by 2065, moving into the Very Poor range. The average risk score for the studied period is 8.02.
- Funding levels are insufficient to manage long-term needs, resulting in deferred maintenance, higher flood risk, and increased reliance on reactive repairs.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.16% of this increase would be allocated to the stormwater network, closing the identified annual funding deficit by 2045.
- Condition is projected to gradually decline until in 2046, then fluctuates positively due to periodic lifecycle interventions reaching 41% by 2065. The average risk score for the studied period is 6.90.
- While condition remains below optimal levels, available funds ensure that critical rehabilitation projects can proceed, maintaining essential drainage capacity and building additional drains to increase resiliency.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met- essentially eliminating the infrastructure deficit from the outset.
- Stormwater assets' condition declines steadily until 2047 followed by a drastic improvement in condition reaching 55% by 2065. The average risk score for the studied period is 6.30.
- Proactive rehabilitation ensures strong long-term resilience, minimized flooding risk, and reduced lifecycle costs. While fiscally unattainable in the near term, it provides a benchmark for service excellence.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding- a potential ~28% lower condition by 2065 if no corrective action is taken.

- The Recommended Scenario is both financially feasible and operationally realistic, offering a clear path to stabilize asset condition and maintain service continuity with manageable tax impacts.

- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy
Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Ensures sufficient funding for priority repairs and rehabilitation projects.
- Reduces the risk of localized flooding and erosion by maintaining drainage system capacity.
- Supports the resilience of roads, buildings, and other municipal assets that rely on stormwater management. Coordinating drainage upgrades with road rehabilitation projects can improve cost efficiency and resilience.
- Provides the Township with a feasible, long-term path to manage climate risks without overextending fiscal resources.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.3.9 Recommendations

Asset Inventory

- The Township should continue to review asset quantities and other critical information to ensure the entire network is accounted for.
- Consider gathering and updating the replacement costs and in-service dates for stormwater assets in an established cycle to improve the data accuracy and completeness.

Condition Assessment Strategies

- The development of a comprehensive inventory should be accompanied by a system-wide assessment of the condition of all assets in the Stormwater Network through CCTV inspections.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Lifecycle Management Strategies

- Document and review lifecycle management strategies for the stormwater network on a regular basis to achieve the lowest total cost of ownership while maintaining adequate service levels.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

4.4Buildings

The Township of Nipigon owns and maintains several facilities and recreation centres that provide key services to the community. These include:

- Community Centre, Marina, Museum
- Tourist Information Centre
- Curling Rink
- Municipal Buildings
- Fire Halls
- Storage Buildings and Garage

The state of the buildings is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirements
$27.4 million	Poor (22%)	$926,000

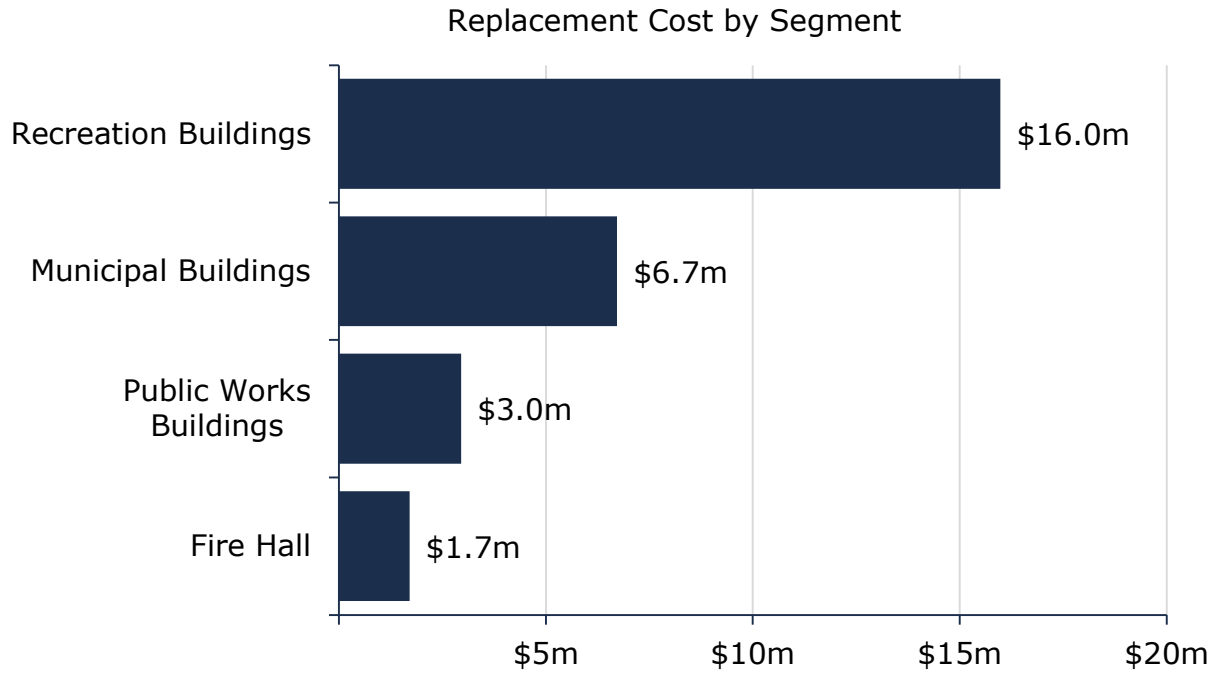
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Performance	The buildings are in poor condition without any reported safety issues, 15% of the buildings are in fair or better condition.
Safe & Regulatory	None of the user group complaints are related to unsafe condition.

4.4.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's buildings inventory.

Asset Segment	Quantity (components)	Primary Replacement Cost Method	Total Replacement Cost
Fire Hall	1(8)	CPI Tables	$1,711,000
Municipal Buildings	5(30)	CPI Tables	$6,722,000
Public Works Buildings	3(9)	CPI Tables	$2,959,000
Recreation Buildings	7(30)	CPI Tables	$15,980,000
			$27,372,000



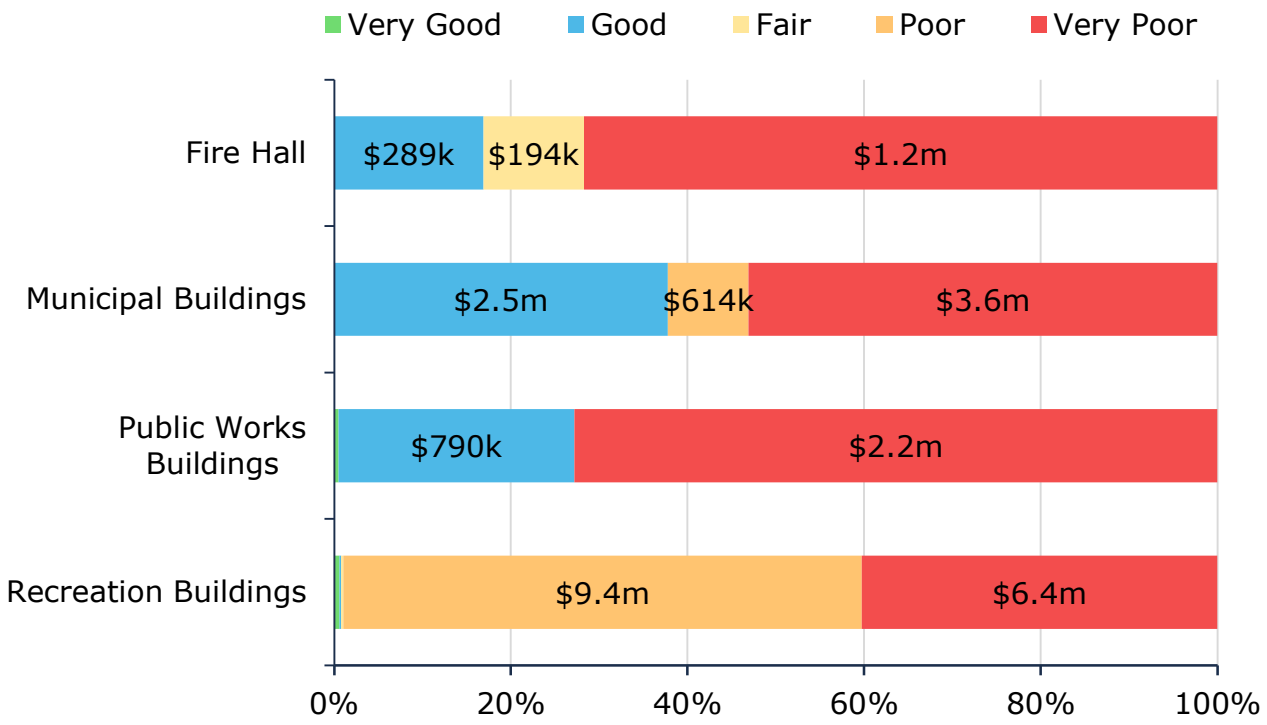
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.4.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Fire Hall	18%	Very Poor	Age-based
Municipal Buildings	29%	Poor	Age-based
Public Works Buildings	18%	Very Poor	Age-based
Recreation Buildings	21%	Poor	Age-based
	22%	**Poor**	**Age-based**

The age-based condition may not be a precise indicator to represent the actual building condition. The Township should review and update the estimated useful life of the building components or conduct a building assessment to improve the accuracy. A condition score based on visual inspections may reveal the buildings to be in better condition than illustrated below.
The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



Value and Percentage of Asset Segments by Replacement Cost

To ensure that the Township's buildings continue to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the buildings.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

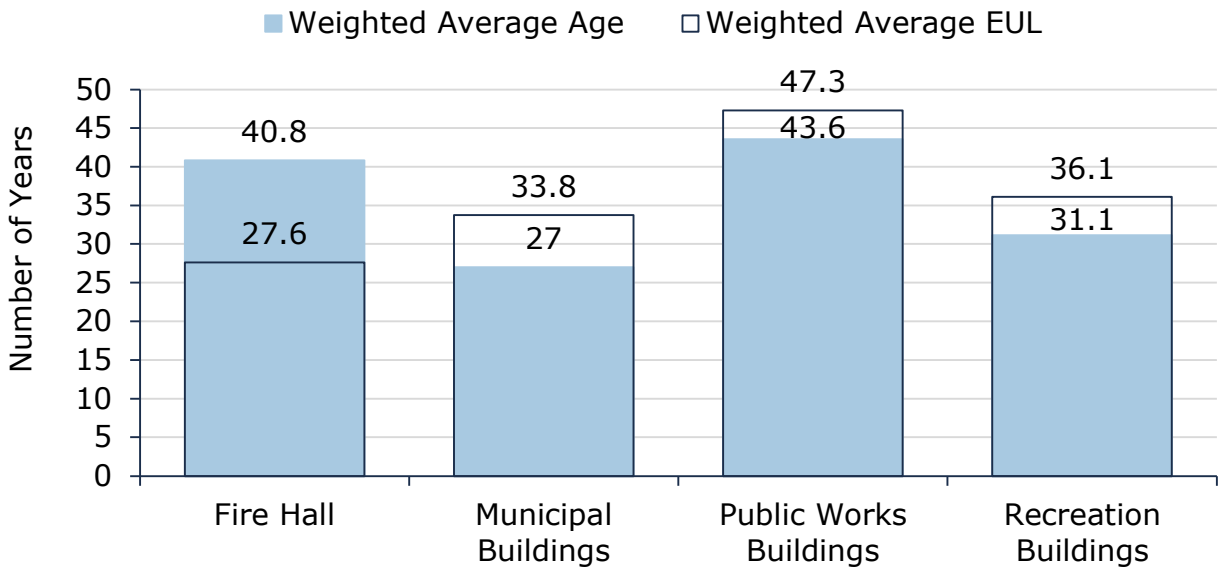
- Health and safety inspection by internal staff is completed monthly
- Municipal buildings are subject to internal inspections on an as-needed basis
- Currently, there are no formal condition structural assessment programs for building assets in place

4.4.3 Estimated Useful Life & Average Age

The estimated useful life for Buildings assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In

such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Fire Hall	40.8	27.6
Municipal Buildings	27.0	33.8
Public Works Buildings	43.6	47.3
Recreation Buildings	31.1	36.1



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.4.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

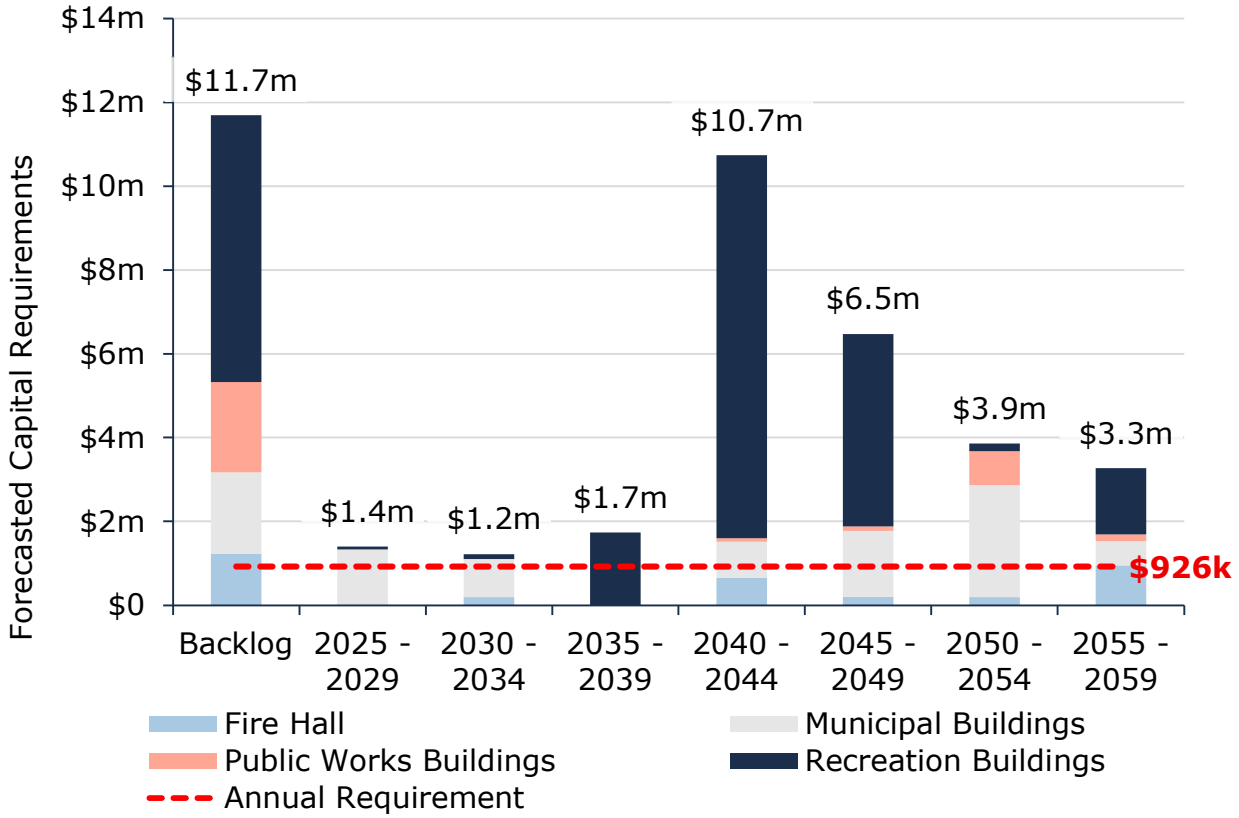
Activity Type	Description of Current Strategy
	Health and Safety inspections are completed on a monthly basis.

Maintenance / rehabilitation/ replacement	Other maintenance, service calls and rehabilitation activities are completed as per manufacturer's recommendations.
	Full replacement for the building is based on the maintenance records, maintenance time, costs and replacement costs.

4.4.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2059 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $926 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.

The current backlog for Buildings is $11.7 million as many facilities were constructed prior to 1990. However, routine maintenance over time has kept many components serviceable, meaning that the true backlog is likely smaller than indicated below. It is recommended to conduct a building condition assessment to evaluate the actual building condition and the backlog.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.4.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$1,012,859 (4%)	$4,148,998 (15%)	$683,619 (2%)	$8,419,444 (31%)	$13,106,963 (48%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the buildings are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
	Building Type (Health & Safety)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Aging Infrastructure & Capital Funding Strategies

Many building assets in the Township are reaching the end of their estimated useful life. There is currently a backlog of approximately $11.7 million for Buildings. Several buildings require replacements of major components in the coming years. Major capital rehabilitation projects for buildings will be heavily reliant on the availability of grant funding opportunities. The Township should consider performing internal building structure inspections on a regular cycle and document all deficiencies. With the inspection data, a 5-to-10-year proactive facilities replacement /rehabilitation plan can be developed to reduce grant dependency and prevent deferral of capital works.

Asset Information & Lifecycle Management Strategies

The estimated useful life for the building assets is age-based. Condition-based estimated useful life can be determined by completing a detailed assessment for all building components. This can increase confidence in the development of data-driven strategies to address infrastructure needs, prioritize the inspections/maintenance activities. An enhanced proactive strategy can extend the service life of assets with lower funding requirement.

4.4.7 Current Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Buildings.

Service Attribute	Technical Metric	Current LOS (2024)
Performance	% of buildings in fair or better condition	22%
	% of buildings in poor or very poor condition	78%

4.4.8 Proposed Levels of Service

The proposed levels of service (PLOS) for buildings establish long-term performance targets to ensure municipal facilities remain safe, accessible, and functional for staff and the public. Township buildings provide essential spaces for administration, community programs, and operations, making their ongoing reliability a critical service requirement.

Staff Input

Staff rated the general reliability of Township buildings as "Satisfied," noting that issues are typically addressed within five business days, with urgent matters resolved sooner. Preventative maintenance is carried out where feasible, though major capital repairs require external funding or reserves.

The graph above illustrates the projected condition of the Township's buildings from 2025 to 2045 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different reinvestment pathway with implications for performance, lifecycle costs, and long-term service continuity.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with $201 thousand allocated to buildings.

- Under this scenario, building condition declines from ~30% in 2025 to ~9% by 2045, entering the Very Poor range. The average risk score for the studied period is 14.56.

- With limited funding, only reactive maintenance and smaller repairs can be addressed, leaving major rehabilitation needs deferred and increasing the likelihood of sudden failures.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 1.09% of this increase would be allocated to the buildings, closing the identified annual funding deficit by 2045.
- Condition is projected to remain relatively stable, hovering between ~20–25% through 2045. The average risk score for the studied period is 14.04.
- This scenario allows for some lifecycle interventions and phased rehabilitation projects, reducing deferred renewal pressure while keeping facilities in serviceable condition.
- Although overall condition does not improve significantly, critical facilities remain operational, and service delivery is preserved without requiring disruptive closures.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met- essentially eliminating the infrastructure deficit from the outset.
- Condition steadily rises to ~38% by 2045, lifting buildings into the upper-Fair range. The average risk score for the studied period is 12.43.
- This level of funding enables proactive, phased renovations, extending facility lifecycles, improving accessibility, and reducing the likelihood of emergency repair costs.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding- a potential ~15% lower condition by 2045 if no corrective action is taken.
- The Recommended Scenario is both financially feasible and operationally realistic, offering a clear path to stabilize asset condition and maintain service continuity with manageable tax impacts.
- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Preserves building functionality and public access with manageable tax impacts.
- Supports phased rehabilitation planning, reducing the risk of disruptive closures.
- Balances fiscal constraints with the need to address long-term building performance.
- Provides a sustainable path to maintain essential service delivery while aligning with staff's emphasis on preventative maintenance.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.4.9 Recommendations

Asset Inventory

- Several buildings have exceeded their estimated useful life. Review the estimated useful life values and ensure they reflect the true service life as utilized by staff.
- The estimated useful life values should be reviewed to ensure they match the true service life of each building.

Replacement Costs

- A number of replacement costs for buildings were based on the inflation of historical costs. These costs should be evaluated to determine their accuracy and reliability. It is suggested that the Township gather square footage costs of facilities from neighboring municipalities to better estimate replacement costs.

Condition Assessment Strategies

- The Township should implement and expand the scope of regular condition assessments for all buildings to better inform short- and long-term capital requirements.
- Review assets that have surpassed their estimated useful life to determine if immediate rehabilitation or replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

4.5 Vehicles

Vehicles allow staff to efficiently deliver municipal services and personnel. Municipal vehicles are used to support several service areas, including:

- Public Works vehicles for winter control activities, the maintenance of the transportation network, address service requests in the Community
- Fire vehicles to provide emergency services
- Recreation Vehicles to maintain ice rinks

The state of the vehicles is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirements
$3.0 million	Poor (27%)	$189,000

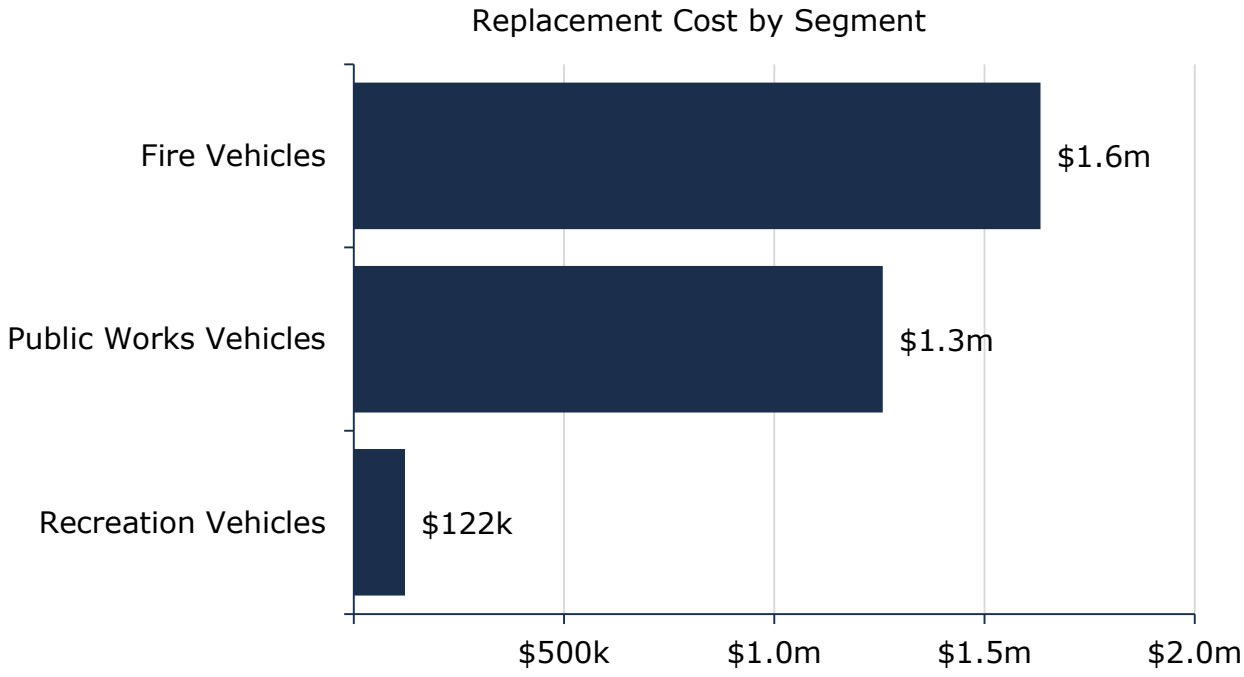
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Performance	The vehicles owned by the Township are in poor condition. However, 60% of the vehicles are in poor or very poor condition.
Accessible & Reliable	Most of the vehicles in service can perform its primary function.
Safe & Regulatory	All the vehicles have completed the regulated MTO maintenance inspections.

4.5.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's vehicles.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Fire Vehicles	4	CPI Tables	$1,633,000
Public Works Vehicles	8	CPI Tables	$1,258,000
Recreation Vehicles	1	CPI Tables	$122,000
			$3,013,000



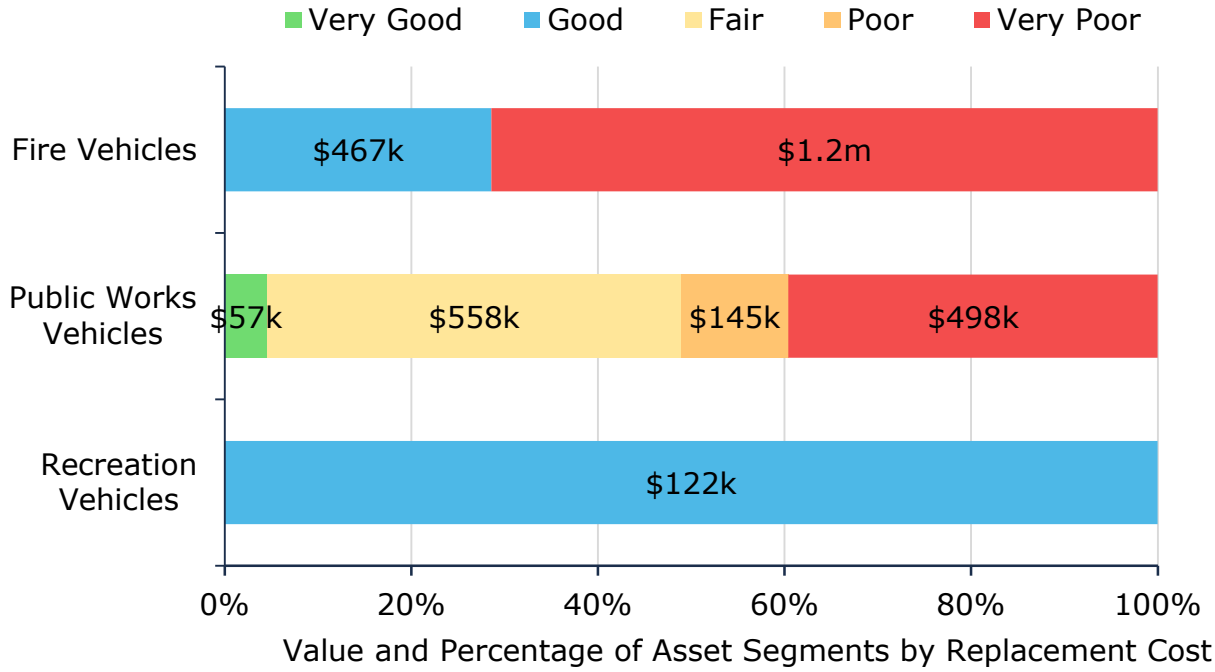
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.5.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. Although age indicates many vehicles are in poor condition, routine maintenance has kept all vehicles serviceable.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Fire Vehicles	23%	Poor	Age-based
Public Works Vehicles	27%	Poor	Age-based
Recreation Vehicles	74%	Good	Age-based
	27%	**Poor**	**Age-based**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's Vehicles continue to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the vehicles.

Current Approach to Condition Assessment

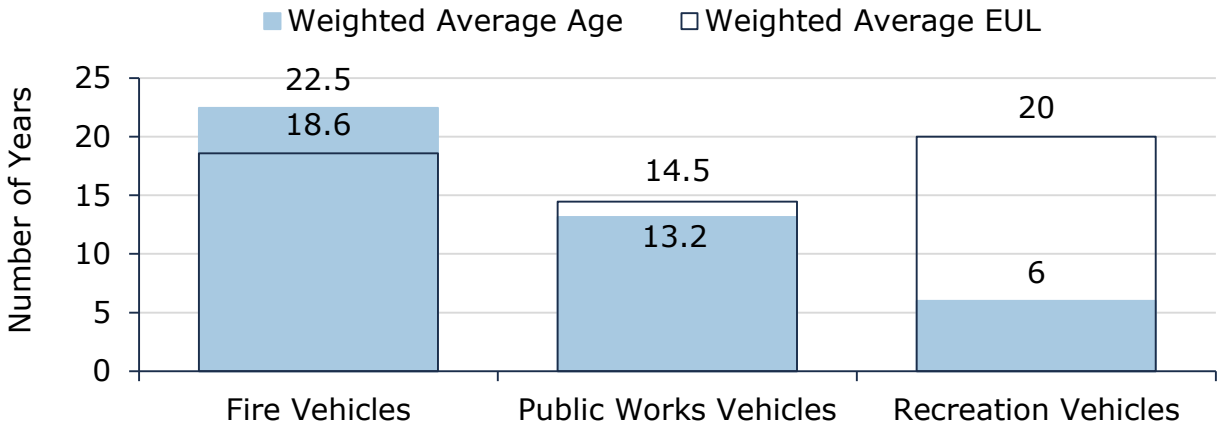
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- Visual inspections on vehicles are completed to ensure they are in state of adequate repair prior to operation.
- Safety inspections are completed on a yearly basis.
- Air emission checks for aging vehicles are completed on a regular basis.

4.5.3 Estimated Useful Life & Average Age

The estimated useful life for vehicles has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. As such, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Fire Vehicles	22.5	18.6
Public Works Vehicles	13.2	14.5
Recreation Vehicles	6.0	20.0



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.5.4 Lifecycle Management Strategy

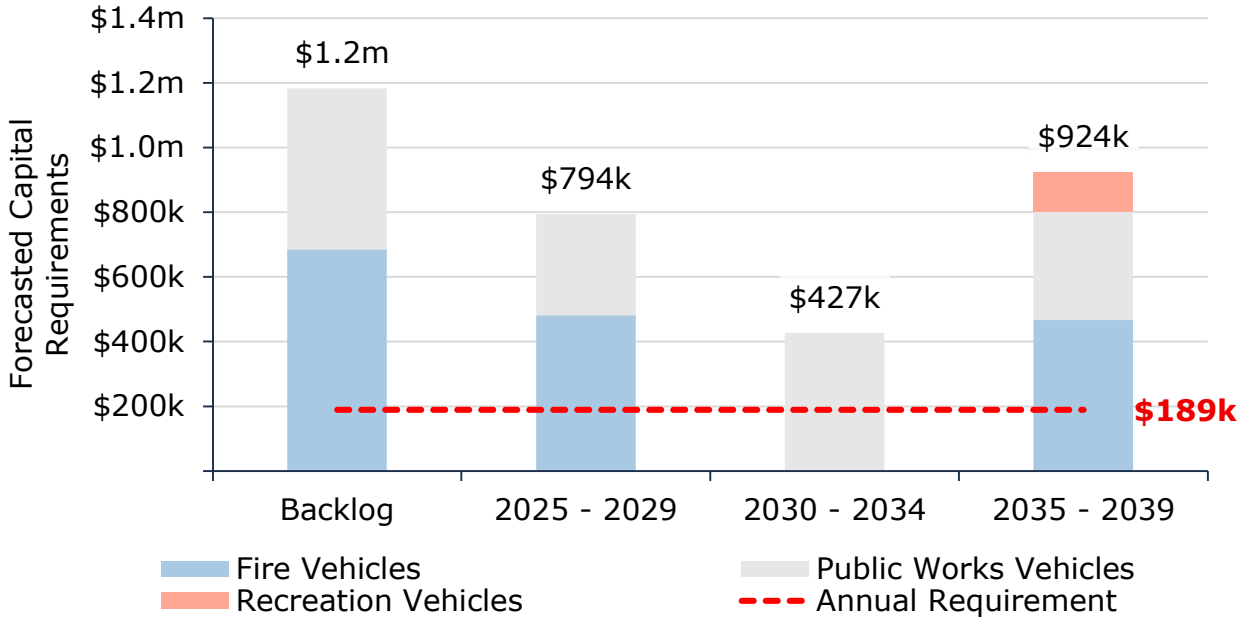
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation/ Replacement	Safety inspection is completed on vehicles on an annual basis by external mechanicians.
	Routine maintenance on vehicles is completed on a regular basis by external mechanicians.
	Oil change and other rehavilitation activities are completed based on manufacture's recommendations and staff's expertise.
	Full replacement for the vehicles is based on the break down records, maintenance costs and replacement costs.

4.5.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2039 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $189 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.5.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low $57,427 (2%)	5 - 7 Low $159,092 (5%)	8 - 9 Moderate $670,905 (22%)	10 - 14 High $567,548 (19%)	15 - 25 Very High $1,558,411 (52%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the vehicles are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
	Vehicles Type (Health & Safety)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Aging Infrastructure and Funding Strategies

Several vehicles within the Township are approaching or have exceeded their estimated useful life. As vehicles age, they will require exponentially increasing O&M costs to ensure compliance with MTO standards and to function adequately. As capital budgets become more constrained, more maintenance will be postponed, which will further amplify this risk. Replacement and major rehabilitation of the vehicles are entirely dependant on the availability of reserve fund. When funds are not available, it will cause the deferral for vehicles renewal or vehicles purchase. Commit to a dedicated vehicle reserve contribution can help prevent deferral of capital works.

Current supply chain issues continue to reduce availability of parts and increase prices. Uncertainty in the supply chain is a risk to the proper repair and maintenance of Township vehicles.

4.5.7 Current Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Vehicles.

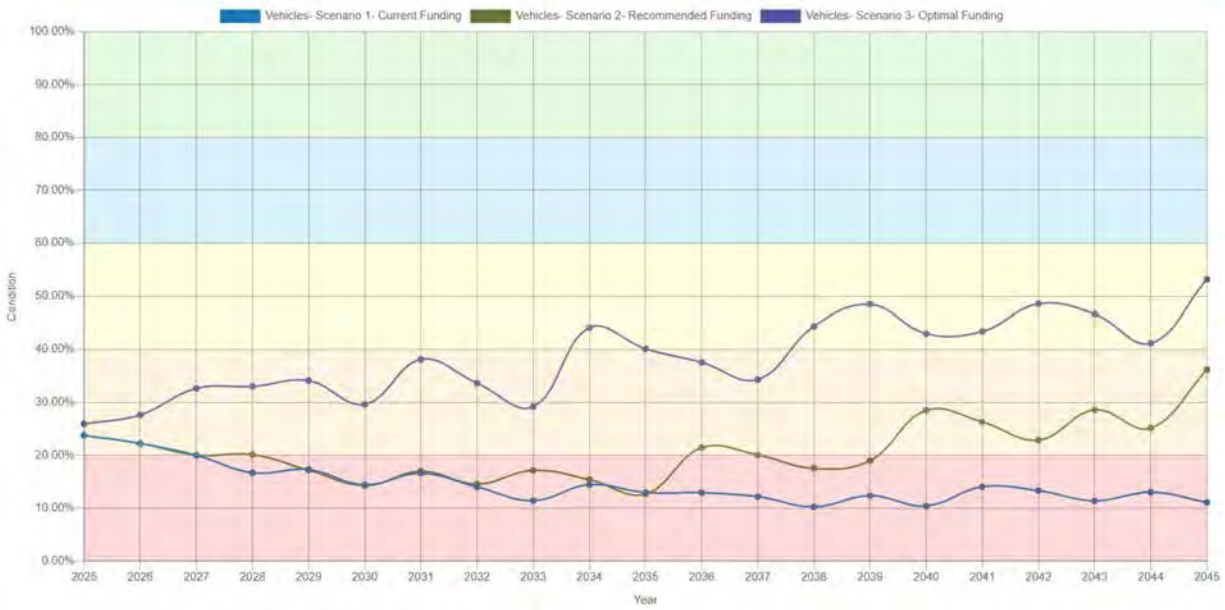
Service Attribute	Technical Metric	Current LOS (2024)
Performance	% of vehicles in fair or better condition	40%
	% of vehicles in poor or very poor condition	60%

4.5.8 Proposed Levels of Service

The proposed levels of service (PLOS) for vehicles establish performance targets that ensure the Township's fleet remains safe, reliable, and able to support daily operations. Vehicles are critical to delivering public services, from road maintenance and snow clearing to emergency access, making their availability and upkeep an essential service requirement.

Staff Input

Staff reported overall vehicle reliability as decent, though better preventative maintenance is required. Vehicles are generally responsive to operational needs, and replacements are manageable due to lower annual mileage. Routine servicing is carried out, but cleaning and proactive upkeep remain limited.



The graph above illustrates the projected condition of the Township's vehicles from 2025 to 2045 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different reinvestment pathway with implications for performance, lifecycle costs, and long-term service continuity.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with $60 thousand allocated to vehicles.
- Under this scenario, fleet condition declines steadily from ~23% in 2025 to ~11% by 2045, falling into the Very Poor range. The average risk score for the studied period is 17.26.
- Funding levels under this scenario are insufficient for consistent lifecycle renewal, leading to greater reliance on reactive maintenance, higher operating costs, and increased risk of vehicle downtime.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.19% of this increase would be allocated to vehicles, closing the identified annual funding deficit by 2045.
- Condition fluctuates positively to ~36% by 2045. The average risk score for the studied period is 16.22.

- This funding level supports phased replacements and essential preventative maintenance, ensuring service reliability for critical operations such as snow removal and road maintenance.

- While overall condition remains modest, essential fleet capacity is preserved, and staff can maintain reliable day-to-day service delivery.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met- essentially eliminating the infrastructure deficit from the outset.

- Condition improves gradually, reaching ~53% by 2045, lifting vehicles into the Fair range. The average risk score for the studied period is 13.11.

- This funding level enables proactive replacement cycles, fleet modernization, and transition to hybrid or electric vehicles, reducing lifecycle costs and improving environmental performance.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding- a potential ~25% lower condition by 2045 if no corrective action is taken.

- The Recommended Scenario is both financially feasible and operationally realistic, offering a clear path to stabilize asset condition and maintain service continuity with manageable tax impacts.

- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Maintains vehicle availability for critical services such as snow clearing, grading, and road maintenance.
- Provides sufficient funding for phased fleet renewal, avoiding disruptive service failures.
- Creates an opportunity to gradually integrate hybrid or electric vehicles, aligning with sustainability goals.
- Balances fiscal constraints with staff's emphasis on preventative maintenance.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.5.9 Recommendations

Inventory

- Several vehicles have exceeded their estimated useful life. Review the estimated useful life values and ensure they reflect the true service life as utilized by staff. The TCA policy may be revised to reflect a more accurate estimated useful life value.
- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk equipment. Consider developing the condition rating criteria and document the condition rating of the assets for rehabilitation or replacement projection.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

4.6 Land Improvements

The Township owns a number of land improvements, including:

- Playgrounds and Sports fields
- Furnishing and Signage
- Boardwalks and Lookouts

The state of the land improvement assets is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirement:
$10.1 million	Fair (37%)	$436,000

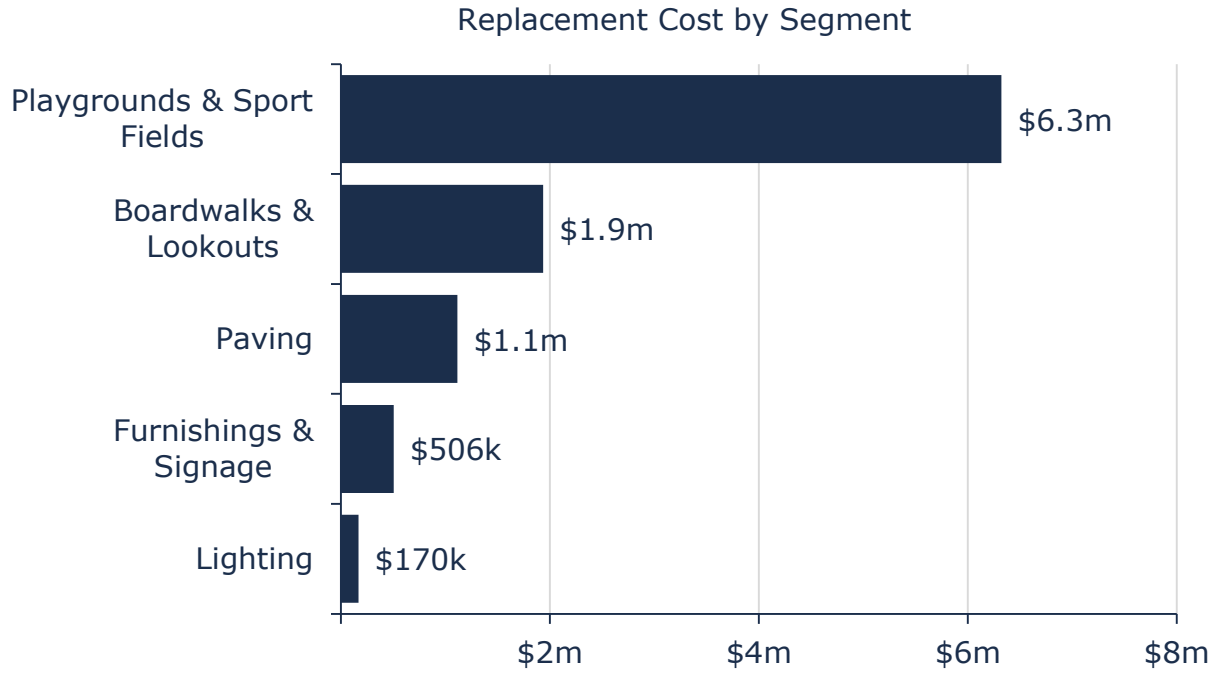
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Performance	The land improvements owned by the Township are in poor condition and 34% of the land improvements are in fair or better condition.
Safe & Regulatory	The playgrounds are inspected once per month for CSA compliance, and to check for defects.

4.6.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's land improvements.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Boardwalks & Lookouts	4	CPI Tables	$1,936,000
Furnishings & Signage	19	CPI Tables	$506,000
Lighting	233	CPI Tables	$170,000
Paving	3	CPI Tables	$1,115,000
Playgrounds & Sport Fields	60	CPI Tables	$6,323,000
			$10,050,000



Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

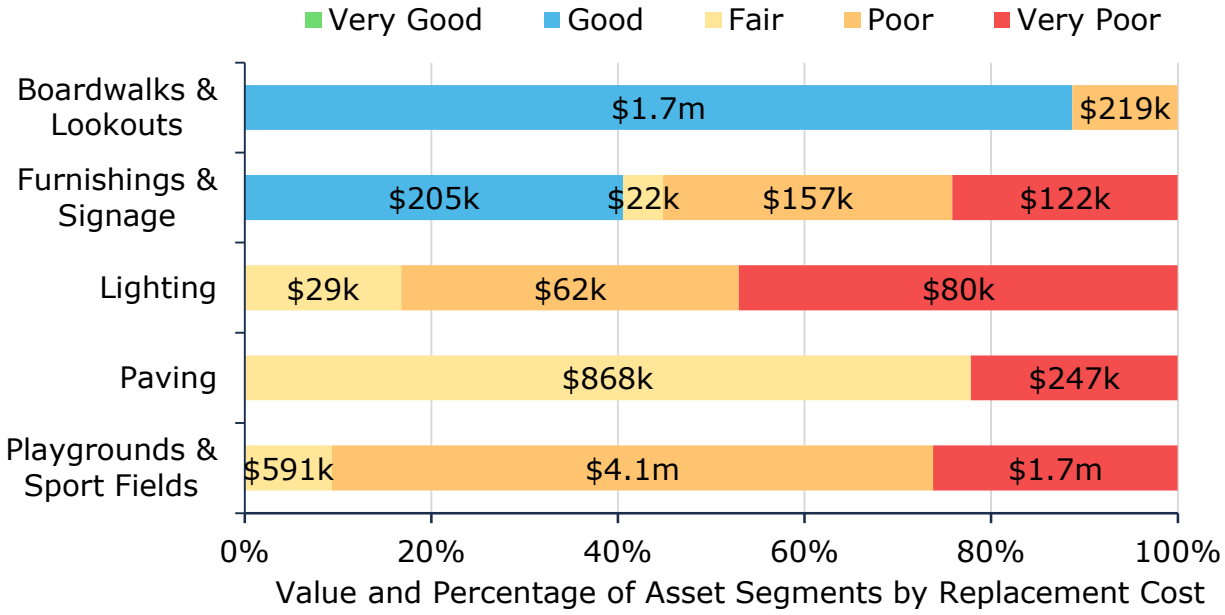
4.6.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Boardwalks & Lookouts	66%	Good	Age-based
Furnishings & Signage	42%	Fair	Age-based
Lighting	19%	Very Poor	Age-based
Paving	38%	Poor	Age-based
Playgrounds & Sport Fields	28%	Poor	Age-based
	37%	**Poor**	**Age-based**

The age-based condition may not be an accurate indicator of the actual condition. The Township can review and update the estimated useful life of the building components or conduct a building assessment to improve the accuracy of condition scores.

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's land improvements continue to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the land improvements.

Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

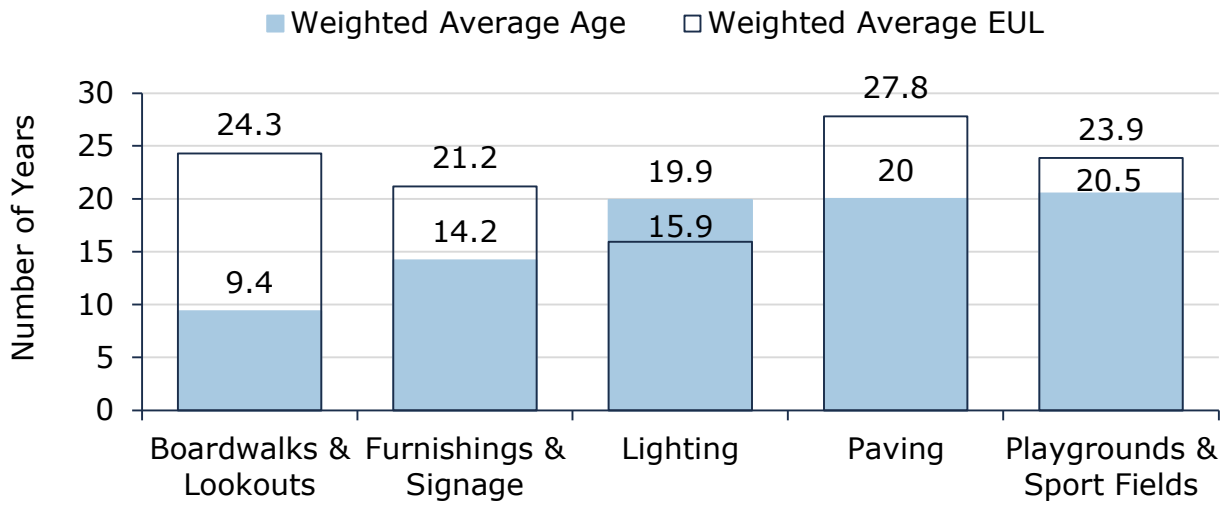
- Regular visual inspections of parks are completed by in-house staff and recorded to ensure they are in state of adequate repair.
- Playground structures are inspected by in-house staff on a monthly basis for CSA compliance.
- Condition assessments for park assets are completed at least twice per year.
- Lighting, benches and other improvements are inspected seasonally.

4.6.3 Estimated Useful Life & Average Age

The estimated useful life for land improvement assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. For such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Boardwalks & Lookouts	9.4	24.3
Furnishings & Signage	14.2	21.2
Lighting	19.9	15.9[2]
Paving	20.0	27.8
Playgrounds & Sport Fields	20.5	23.9

[2] The true useful life of lighting assets is likely longer than stated in the TCA policy



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.6.4 Lifecycle Management Strategy

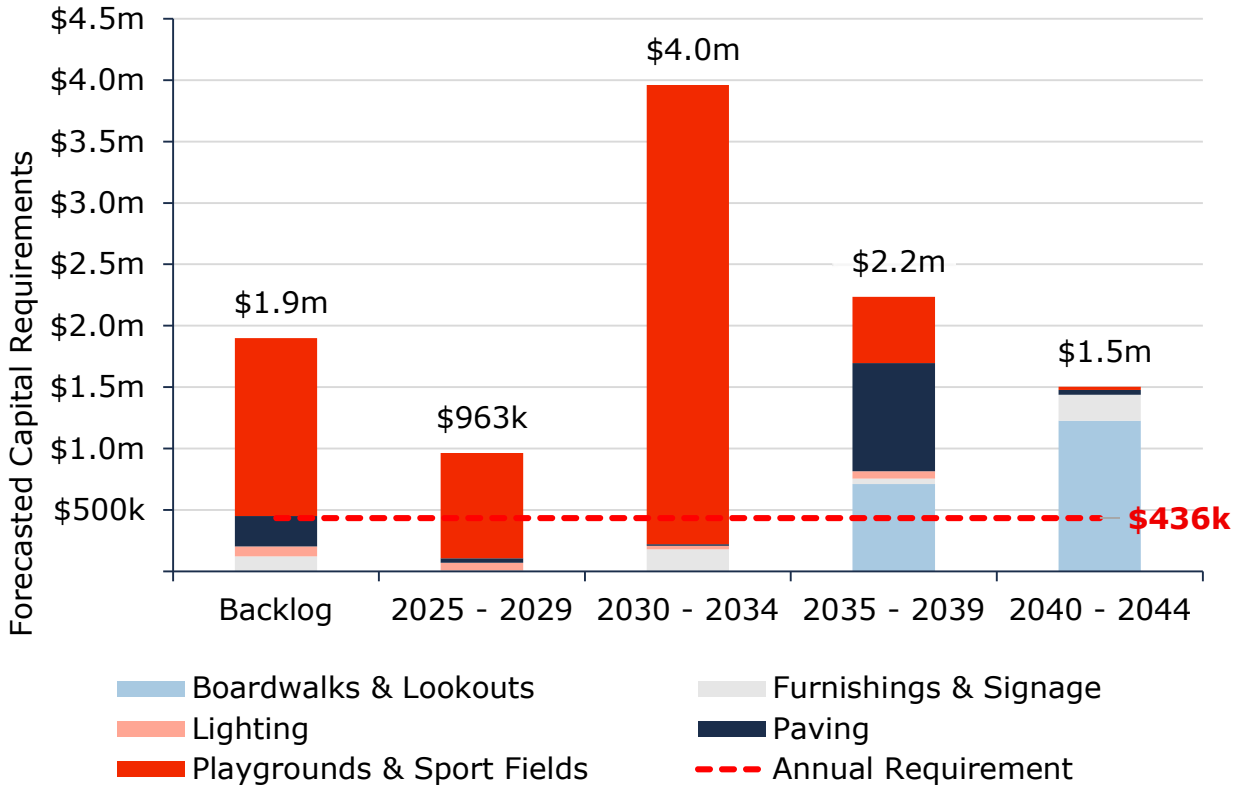
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation/ Replacement	Trail maintenance is completed twice per year by external contractor.
	Parks are subjected to scheduled mowing and landscaping, prescribed by asset usage and season.
	Maintainence of park assets are completed on an as needed basis.
	The replacement of land improvements depends on its expected useful life, usage and deficiencies identified by staff.

4.6.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $436 thousand. The current backlog for land improvements is $1.9 million largely attributed to playgrounds and sports fields. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.6.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low $113,024 (1%)	5 - 7 Low $296,141 (3%)	8 - 9 Moderate $553,056 (6%)	10 - 14 High $2,846,858 (28%)	15 - 25 Very High $6,241,018 (62%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the land improvements are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Growth & Infrastructure Design
As the Municipality continues to grow, new residents have higher expectations and different demands than original residents. Major capital rehabilitation projects for recreation services are entirely dependant on the availability of grant funding opportunities. When grants are not available, there may be a risk of not meeting community expectation or safety requirements. This may become critical over time if these assets are not managed proactively.

4.6.7 Current Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Land Improvements.

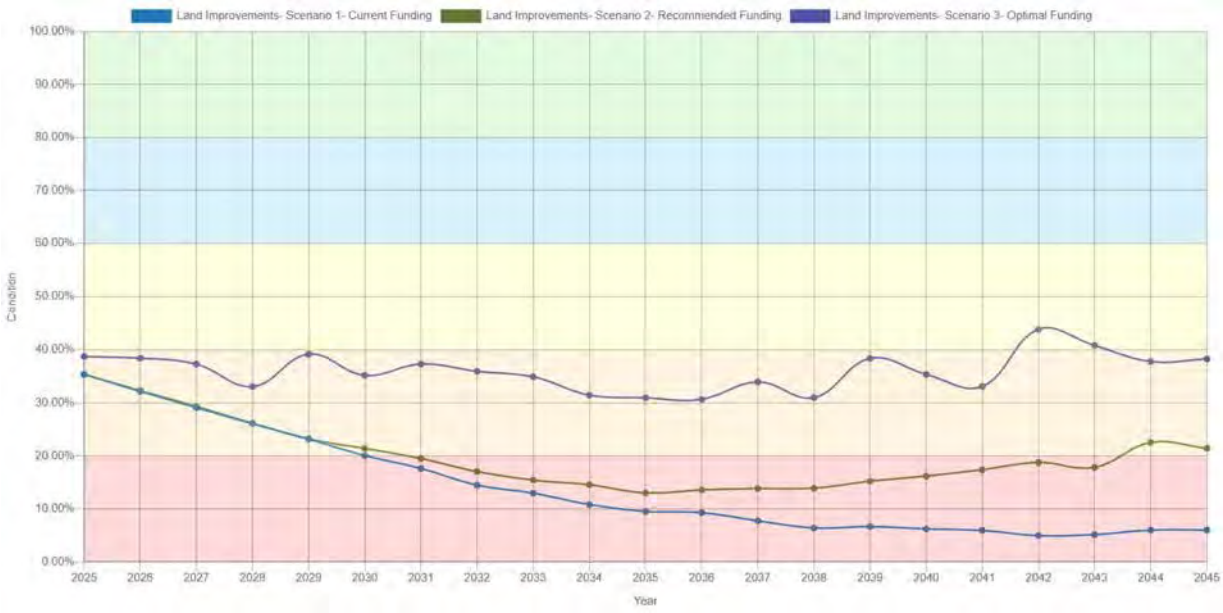
Service Attribute	Technical Metric	Current LOS (2024)
Performance	% of land improvements in fair or better condition	34%
	% of land improvements in poor or very poor condition	66%

4.6.8 Proposed Levels of Service

The proposed levels of service (PLOS) for land improvements establish performance targets that ensure municipal grounds, drainage systems, and supporting site assets remain safe, functional, and accessible for community use. Land improvements cover a wide range of assets such as pavements, drainage, signage, and fencing, all of which contribute to the overall reliability of Township services.

Staff Input

Staff noted that land improvements are generally well-managed, with monthly inspections ensuring that faults are identified and addressed in a timely manner. Smaller projects can be funded within current limits, while larger works may need to be phased or deferred. Age-based assessments were reported as sufficient, and repairs are typically carried out as required.



The graph above illustrates the projected condition of the Township's land improvements from 2025 to 2045 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different

reinvestment pathway with implications for performance, lifecycle costs, and long-term service sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with $67 thousand allocated to land improvements.
- Under this scenario, condition declines steadily from ~35% in 2025 to ~6% by 2045, entering the Very Poor range. The average risk score for the studied period is 20.29.
- Funding levels under this scenario do not allow for consistent lifecycle renewal, leading to a growing backlog, higher reactive costs, and increased risk of service disruption.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.55% of this increase would be allocated to land improvements, closing the identified annual funding deficit by 2045.
- Condition is projected to stabilize somewhat, reaching ~21% by 2045. The average risk score for the studied period is 19.38.
- This funding level provides capacity for phased lifecycle interventions and prioritized projects, helping to manage deterioration and keep essential land improvements serviceable.
- While overall condition remains below the Fair threshold, safety and functionality can be preserved, especially for high-use areas.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met — essentially eliminating the infrastructure deficit from the outset.
- Condition improves modestly, fluctuating to reach ~38% by 2045. The average risk score for the studied period is 16.22.
- This scenario provides proactive lifecycle renewal, ensuring long-term durability, reduced maintenance costs, and the ability to modernize assets where needed.
- While not fiscally achievable under current conditions, it provides a benchmark for service excellence.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the consequences of underfunding — a potential ~15% lower condition by 2045 if corrective action is not taken.
- The Recommended Scenario provides a realistic balance, addressing priority land improvement needs while keeping tax impacts manageable.
- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Ensures monthly inspections can continue to translate into timely repairs and replacements.
- Provides resources to address priority projects while deferring lower-priority upgrades.
- Preserves safety and usability of key land improvements such as drainage and signage.
- Balances fiscal constraints with staff's emphasis on preventative inspections and phased delivery.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.6.9 Recommendations

Replacement Costs

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.
- The estimated useful life values should be reviewed to ensure they match the true service life of the land improvement assets. The TCA Policy may need to be adjusted to reflect more accurate useful life values.

Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk equipment. Consider developing the condition rating criteria and document the condition rating of the assets for rehabilitation or replacement projection.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

4.7 Machinery & Equipment

In order to maintain the high quality of public infrastructure and support the delivery of core services, Township staff own and employ various types of machinery and equipment. This includes:

- Fire equipment to support the delivery of emergency services
- Public Work equipment to provide winter control activities and support transportation services
- Arena equipment and Ice-making Equipment to provide recreation services
- Municipal equipment to support administration services and community services

Keeping machinery and equipment in an adequate state of repair is important to maintain a high level of service.

The state of the machinery & equipment is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirement:
$3.7 million	Very Poor (6%)	$280,000

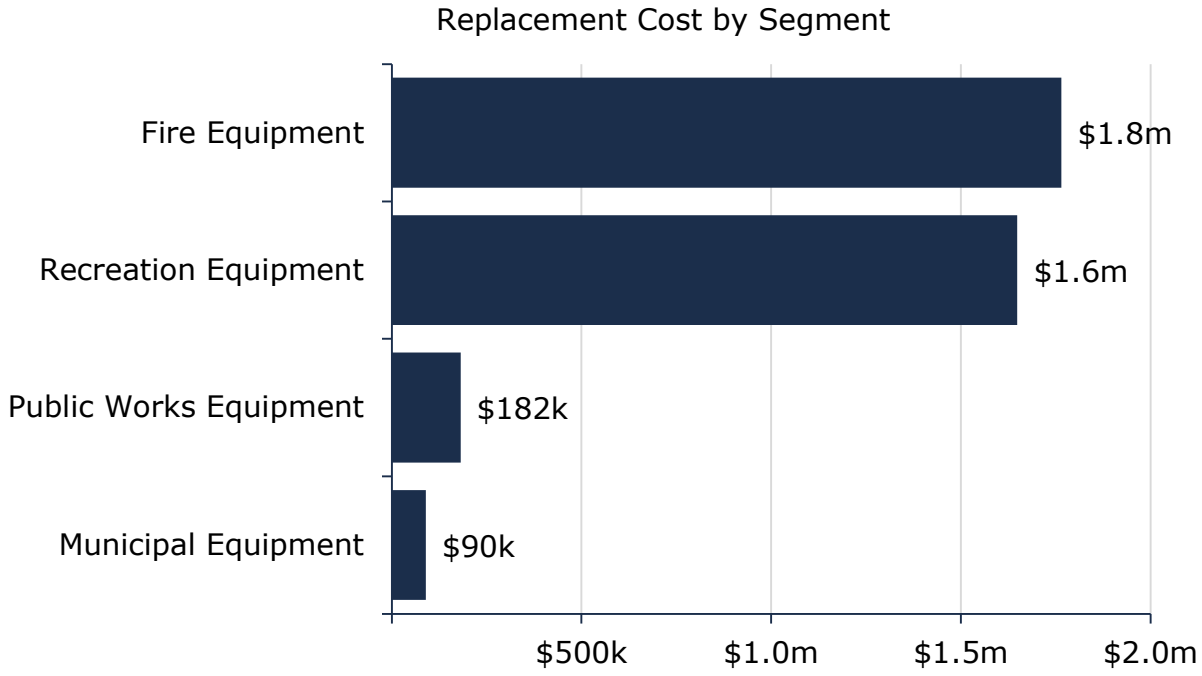
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Performance	The machinery and equipment owned by the Township are in very poor condition overall, and 90% of the machinery & equipment is in poor or very poor condition.
Safe & Regulatory	All machinery and equipment have completed the regulated maintenance and inspection activities.

4.7.1 Asset Inventory & Replacement Cost

The following table includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's machinery and equipment inventory.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Fire Equipment	182	CPI Tables	$1,765,000
Municipal Equipment	2	CPI Tables	$90,000
Public Works Equipment	5	CPI Tables	$182,000
Recreation Equipment	10	CPI Tables	$1,649,000
			$3,686,000



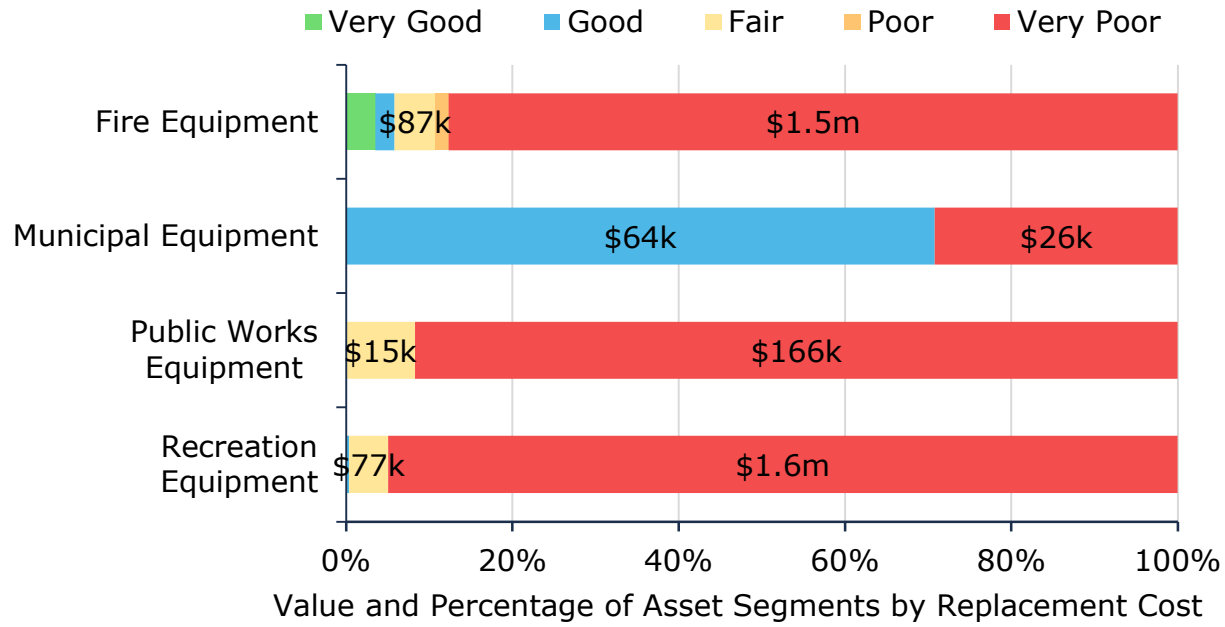
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.7.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Fire Equipment	7%	Very Poor	Age-based
Municipal Equipment	52%	Fair	Age-based
Public Works Equipment	4%	Very Poor	Age-based
Recreation Equipment	3%	Very Poor	Age-based
	6%	**Very Poor**	**Age-Based**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's machinery and equipment continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the machinery and equipment.

Current Approach to Condition Assessment

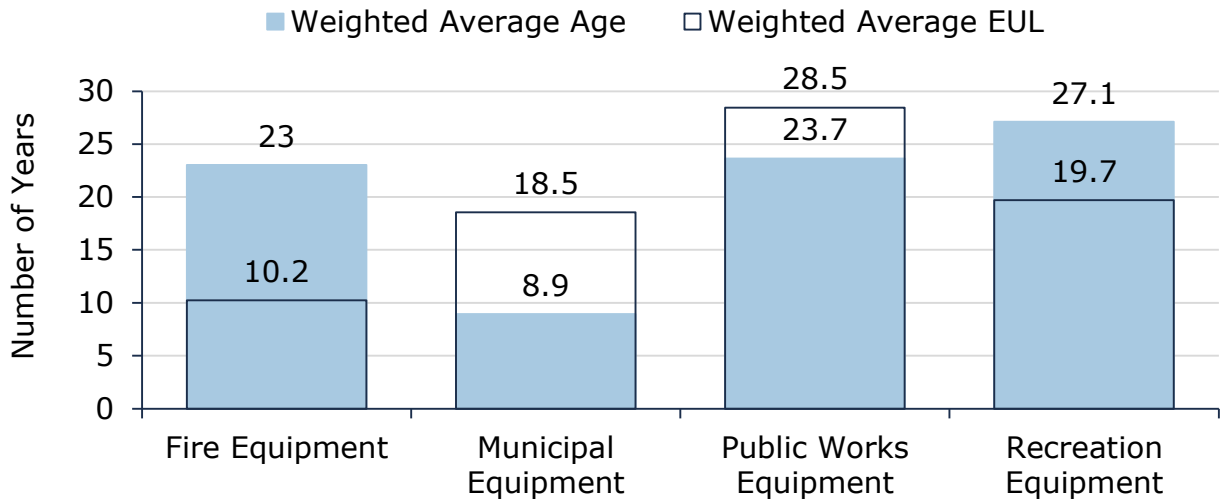
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- Annual inspections for graders are completed by Strongco.
- Safety checks for machinery and equipment are performed annually.
- Generators are load tested annually as per CSA requirements.

4.7.3 Estimated Useful Life & Average Age

The estimated useful life for machinery and equipment assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Fire Equipment	23.0	10.2
Municipal Equipment	8.9	18.5
Public Works Equipment	23.7	28.5
Recreation Equipment	27.1	19.7



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.7.4 Lifecycle Management Strategy

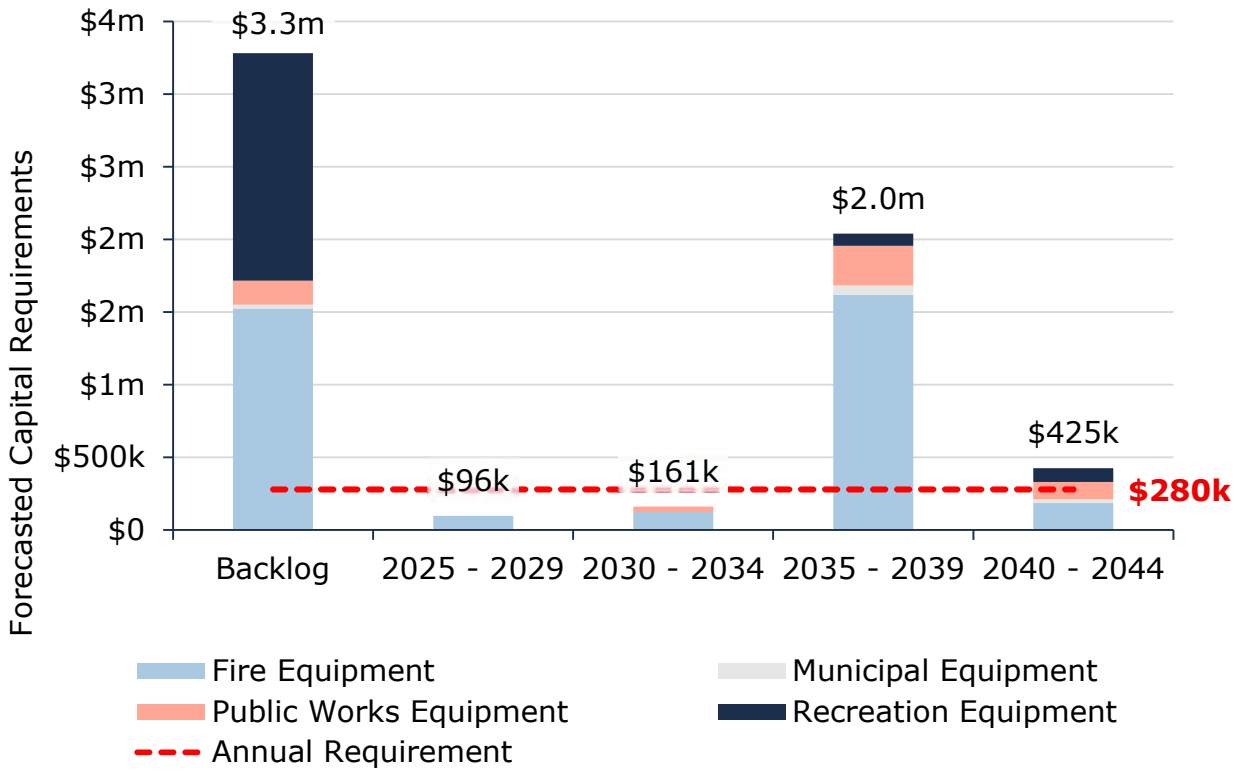
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Annual diagnostics of the graders are completed annually.
	Oil changes of the machinery and equipment are performed according to manufacture's recommendations and annual safety checks.
	Machinery and equipment is maintained according to manufacturer recommended actions and supplemented by the expertise of municipal staff.
Replacement	The replacement of machinery and equipment depends on its break records, maintenance costs, usage and deficiencies identified by mechanicians.

4.7.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $280 thousand. The current backlog for machinery and equipment is $3.3 million largely attributed to recreation equipment and fire equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

4.7.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$302,306 (8%)	$253,581 (7%)	- (0%)	$277,667 (8%)	$2,852,138 (77%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the machinery and equipment are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
	Services Type (Health & Safety)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Aging Infrastructure and Funding Strategies

As machines and equipment age, they will require increasing O&M costs to function adequately. As capital budgets become more constrained, more maintenance will be postponed, and it will cause the deferral for equipment renewal or equipment purchase. Commit to a dedicated machinery and equipment reserve contribution can help prevent deferral of capital works.

4.7.7 Current Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Machinery and Equipment.

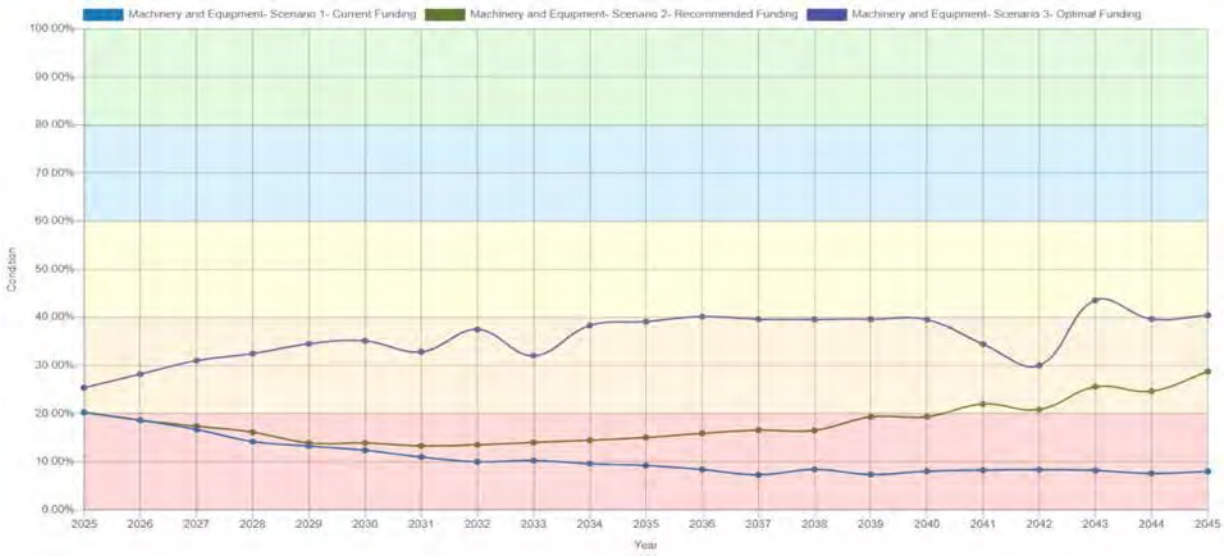
Service Attribute	Technical Metric	Current LOS (2024)
Performance	% of machinery and equipment in fair or better condition	10%
	% of machinery and equipment in poor or very poor condition	90%

4.7.8 Proposed Levels of Service

The proposed levels of service (PLOS) for machinery and equipment establish long-term performance targets to ensure that Township-owned assets remain reliable and available for staff use. These assets directly support day-to-day service delivery and administration, making their upkeep critical to maintaining continuity of municipal operations.

Staff Input

Staff reported general satisfaction with machinery and equipment, noting that service disruptions are minimized through timely replacements. Routine maintenance is carried out, and assets are replaced as required. While resources are adequate for smaller-scale purchases, larger replacements may require budget planning or phased implementation. Reliable machinery and equipment are also critical to the performance of other service areas. For example, IT systems support financial planning and infrastructure monitoring; maintenance equipment enables road, water, and stormwater operations. As such, sustained reinvestment in this category helps safeguard the Township’s ability to manage its broader asset portfolio.



The graph above illustrates the projected condition of the Township's machinery and equipment from 2025 to 2045 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different reinvestment pathway with implications for reliability, lifecycle costs, and service sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with $65 thousand allocated to machinery and equipment.
- Under this scenario, condition declines from ~20% in 2025 to ~8% by 2045, remaining in the Very Poor range. The average risk score for the studied period is 15.94.
- Funding is insufficient to support timely replacements, leading to more frequent service disruptions, reduced staff efficiency, and increased reliance on reactive fixes.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.32% of this increase would be allocated to machinery and equipment, closing the identified annual funding deficit by 2045.
- Condition declines and stabilizes at ~13% and fluctuates upwards, reaching ~29% by 2045. The average risk score for the studied period is 15.04.
- This level of funding allows for phased replacements and ensures that critical equipment (e.g., maintenance machinery) remains serviceable, reducing downtime and preserving continuity of operations.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met — essentially eliminating the infrastructure deficit from the outset.
- Condition improves steadily to ~40% by 2045, raising assets into the Fair range. The average risk score for the studied period is 12.30.
- Proactive renewal minimizes lifecycle costs, enables modernization, and reduces the likelihood of costly service failures.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the consequences of underfunding — a potential ~20% lower condition by 2045 if corrective action is not taken.
- The Recommended Scenario provides a feasible, fiscally responsible path, balancing service reliability with manageable tax impacts.
- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Ensures machinery and equipment remain reliable for daily administrative and operational tasks.
- Reduces service disruptions by supporting timely replacements.
- Provides capacity to plan for larger purchases without straining reserves.
- Balances fiscal constraints with staff's emphasis on preventative maintenance and replacement-as-required.
- By sustaining reliable equipment, this scenario also indirectly supports roads, stormwater, and water services.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.7.9 Recommendations

Inventory

- Many assets within the machinery and equipment category are pooled, with little description. The Township should exhaustively review the inventory and pooled assets where necessary. Further, the Township should provide better descriptions of equipment to improve accuracy of the inventory.

Replacement Costs

- A number of replacement costs for machinery and equipment were based on the inflation of historical costs. These costs should be evaluated to determine their accuracy and reliability. Continue to gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- The Township should implement the existing condition rating criteria and expand the scope of condition assessments for all the machinery and equipment to better inform short- and long-term capital requirements.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

4.8 Furniture & Office Equipment

In order to maintain the high quality of public infrastructure and support the delivery of core services, Township staff own and employ various types of furniture and office equipment. This includes:

- Office Equipment
- Office Furnishings
- Computer Systems

Keeping furniture and office equipment in an adequate state of repair is important to maintain a high level of service.

The state of the furniture and office equipment is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirement:
$1.1 million	Poor (17%)	$62,000

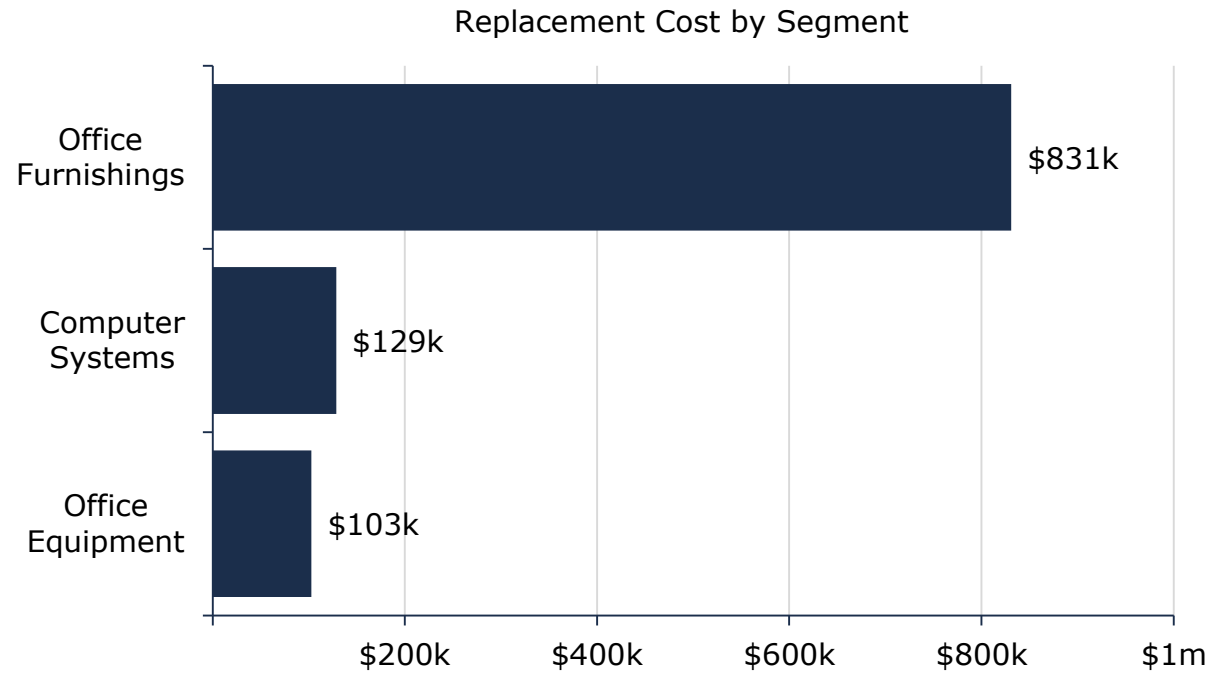
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Performance	The furniture and office equipment owned by the Township are in very poor condition overall, and 88% of the assets is in poor or very poor condition.
Safe & Regulatory	All furniture and office equipment have completed the regular inspection activities recommended by manufacture.

4.8.1 Asset Inventory & Replacement Cost

The following table includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's furniture and office equipment inventory.

Asset Segment	Quantity	Primary Replacement Cost Method	Total Replacement Cost
Computer Systems	6	CPI Tables	$129,000
Office Equipment	16	CPI Tables	$103,000
Office Furnishings	299	CPI Tables	$831,000
			$1,062,000



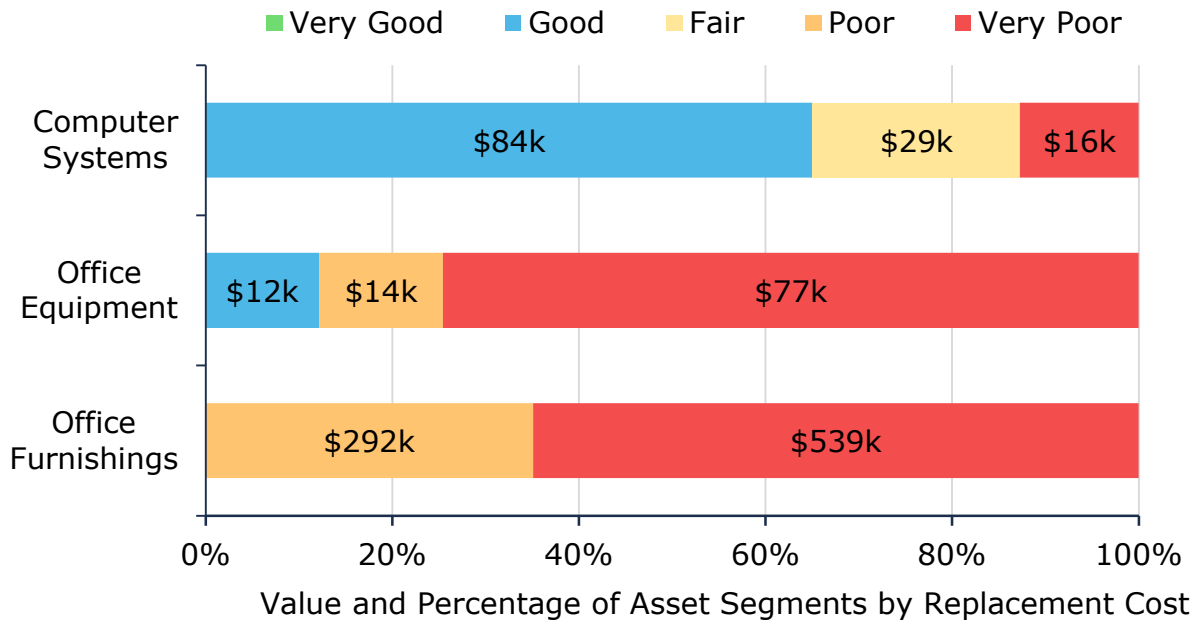
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.8.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. Generally, furniture and office equipment are maintained in-service beyond the typical estimated useful life. Many of these assets can still perform their intended function even after they have exceeded their estimated useful life.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Computer Systems	56%	Fair	Age-based
Office Equipment	14%	Very Poor	Age-based
Office Furnishings	11%	Very Poor	Age-based
	17%	**Very Poor**	**Age-based**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's furniture and office equipment continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the furniture and office equipment.

Current Approach to Condition Assessment

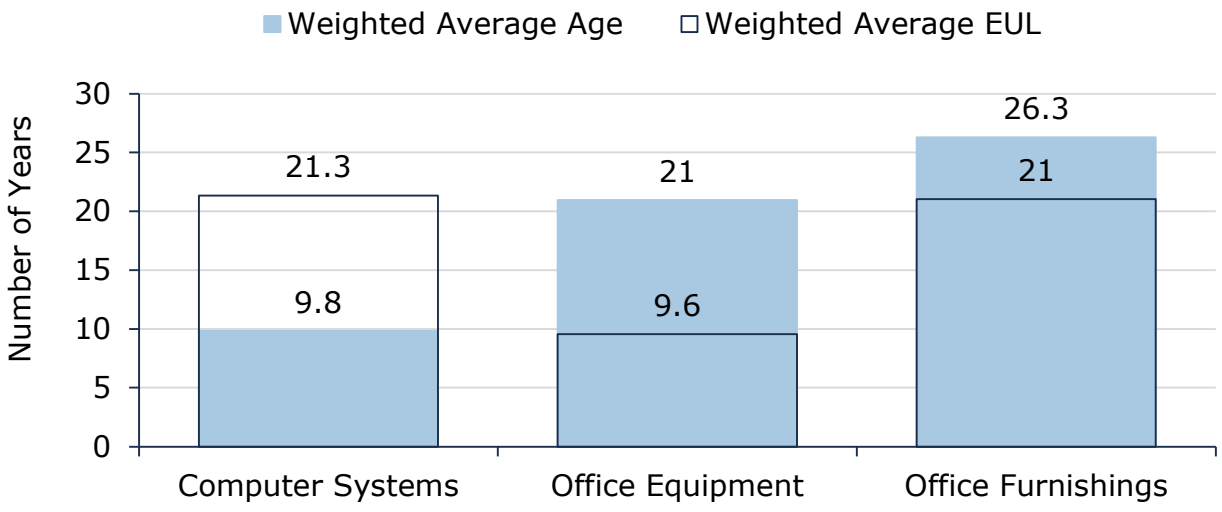
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- Currently, no formal assessment in place for furniture and office equipment.
- IT equipment is inspected according to manufacture's recommendations and staff's expertise.

4.8.3 Estimated Useful Life & Average Age

The estimated useful life for furniture and office equipment assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Computer Systems	9.8	21.3
Office Equipment	21.0	9.6
Office Furnishings	26.3	21.0



Each asset's estimated useful life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type. The estimated useful life may be adjusted to account for the true service life of these assets as observed by the Township.

4.8.4 Lifecycle Management Strategy

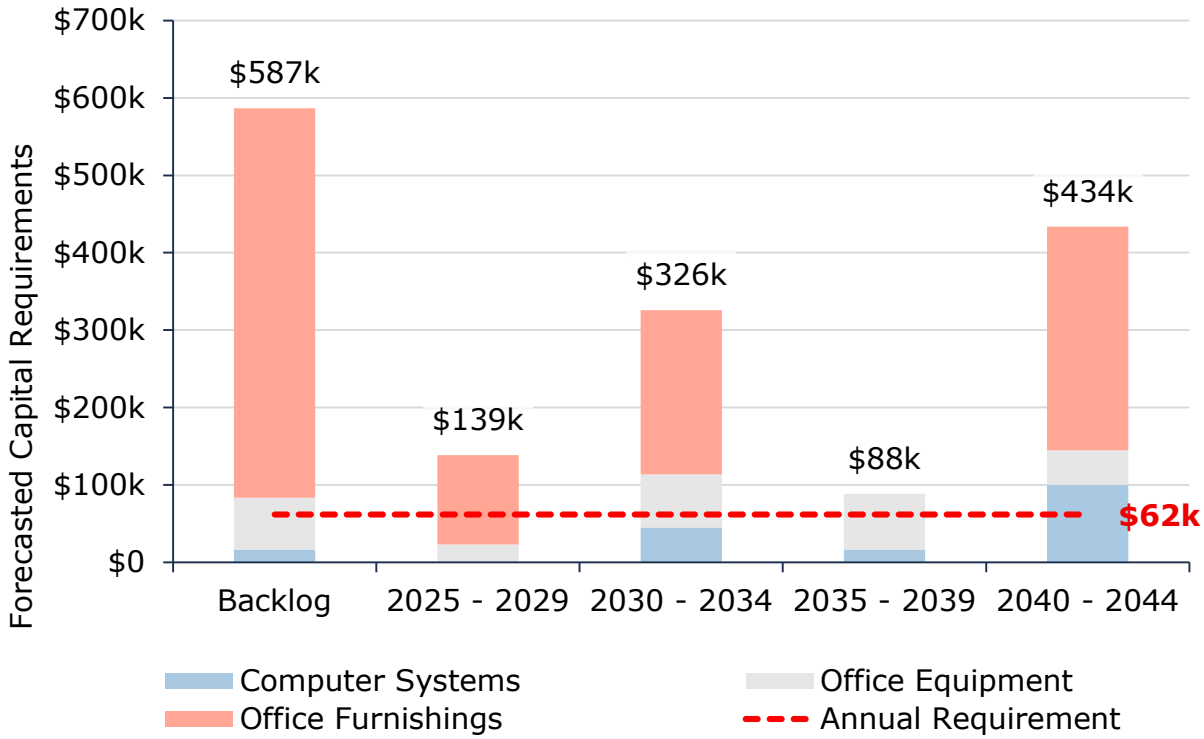
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation /Replacement	Cleaning and inspection for furniture and office equipment are completed on as-needed basis.
	IT equipment is maintained according to manufacturer's recommended actions and supplemented by the expertise of municipal staff.
	The replacement of furniture and office equipment depends on its expected useful life, usage and deficiencies identified by staff.

4.8.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $62 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise. The current backlog for furniture and office equipment is $587 thousand largely attributed to office furnishings. This backlog may be overstated, as these assets remain in-service longer than is typical.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.8.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low $25,586 (2%)	5 - 7 Low $173,628 (16%)	8 - 9 Moderate $26,590 (3%)	10 - 14 High $722,165 (68%)	15 - 25 Very High $114,299 (11%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the furniture and office equipment are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
	Service Type (Operational)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Inventory Supply Chain

The current supply chain shortages have led to a backlog of available parts. This results in many furniture and office equipment assets being used beyond the estimated useful life documented in the TCA Policy. The Township may experience unexpected failure if many assets are nearing the end of their service life.

4.8.7 Current Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Furniture and Office Equipment.

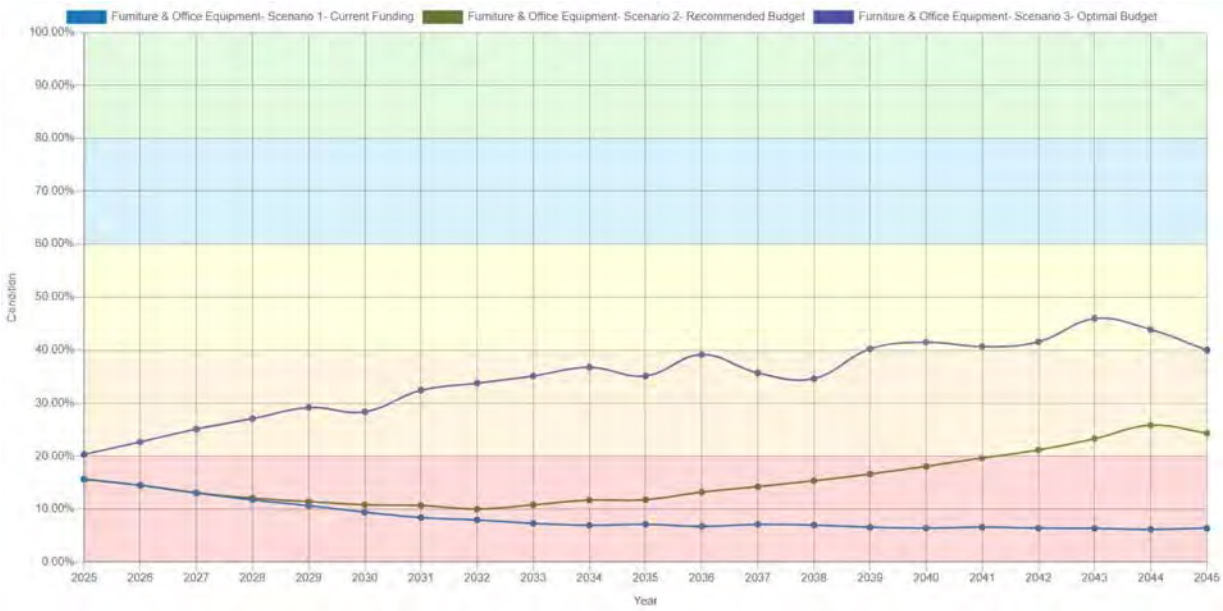
Service Attribute	Technical Metric	Current LOS (2024)
Performance	% of furniture and office equipment in fair or better condition	12%
	% of furniture and office equipment in poor or very poor condition	88%

4.8.8 Proposed Levels of Service

The proposed levels of service (PLOS) for furniture and office equipment establish performance targets that ensure Township's facilities remain functional, safe, and supportive of both administrative and public services. These assets include office furnishings, display cases, and other service equipment, all of which play an important role in delivering a professional, reliable environment for staff and residents.

Staff Input

Staff reported satisfaction with the overall availability and reliability of furniture and office equipment, noting that replacements are made as needed to maintain service delivery. These assets generally remain in good condition, with minimal disruptions, and their costs are small enough to be budgeted for annually. Routine preventative maintenance is generally not required and replacement as needed has proven to be most cost-effective.



The graph above illustrates the projected condition of the Township's furniture and office equipment from 2025 to 2045 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different reinvestment pathway with implications for performance, lifecycle costs, and long-term sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $805 thousand across all tax-funded assets, with $9.6 thousand allocated to furniture and office equipment.
- Under this scenario, condition declines from ~16% in 2025 to ~6% by 2045. The average risk score for the studied period is 12.85.

- With minimal funding, replacements are limited and delayed, resulting in inconsistent quality across facilities.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 2.8% annual tax levy increase over 20 years, as described in the Township's funding strategy. Approximately 0.08% of this increase would be allocated to furniture and office equipment, closing the identified annual funding deficit by 2045.
- Condition fluctuates but improves modestly, reaching ~24% by 2045. The average risk score for the studied period is 12.21.
- This funding level supports timely replacements, ensuring that assets such as desks, chairs, and public display equipment remain functional and presentable for community and staff use.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met — essentially eliminating the infrastructure deficit from the outset.
- Condition rises to ~40% by 2045, placing these assets into the Fair range. The average risk score for the studied period is 9.99.
- Proactive replacements ensure facilities maintain consistent standards, improve accessibility, and reduce the likelihood of disruption to service delivery.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the consequences of underfunding — a potential ~18% lower condition by 2045 if corrective action is not taken.
- The Recommended Scenario balances fiscal realities with the Township's service needs, ensuring replacements are managed without straining reserves.
- The Optimal Scenario sets a theoretical ceiling for asset performance, helping the Township evaluate long-term trade-offs and prioritize investment based on risk and value-for-money.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Conducts basic periodic inspections and asset condition tracking to promptly identify any safety or functionality issues.

- Provides predictable funding for routine replacements without overcommitting tax resources.
- Maintains functionality at minimal cost while preserving the Township's ability to prioritize larger infrastructure categories.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

4.8.9 Recommendations

Inventory

- Many of the furniture and office equipment assets have exceeded their estimated useful life. The Township may consider revising estimated useful life values in the TCA Policy to reflect the life current experienced.

Replacement Costs

- A number of replacement costs for furniture and office equipment were based on the inflation of historical costs. These costs should be evaluated to determine their accuracy and reliability. Continue to gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- The Township should implement the existing condition rating criteria and expand the scope of condition assessments for all the furniture and office equipment to better inform short- and long-term capital requirements.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.

- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

5 Analysis of Rate funded Assets

Key Insights

- Rate-funded assets are valued at $54.0 million
- 57% of rate-funded assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for rate-funded assets is approximately $1.1 million
- Critical assets should be evaluated to determine appropriate risk mitigation activities and treatment options

5.1 Sanitary Sewer Network

The Sanitary sewer network is a major infrastructure service that the Township maintains to protect residents' health and minimize environmental impacts. The sewer services are overseen by the Public Works Department. The Sanitary Sewer Network includes:

- Gravity mains and force mains
- Service connections
- Manholes
- Sanitary Treatment Plant and equipment

The state of the infrastructure for the sanitary sewer network is summarized in the following table.

Replacement Cost	Condition	Average Annual Requirement:
$30.6 million	Fair (51%)	$589,000

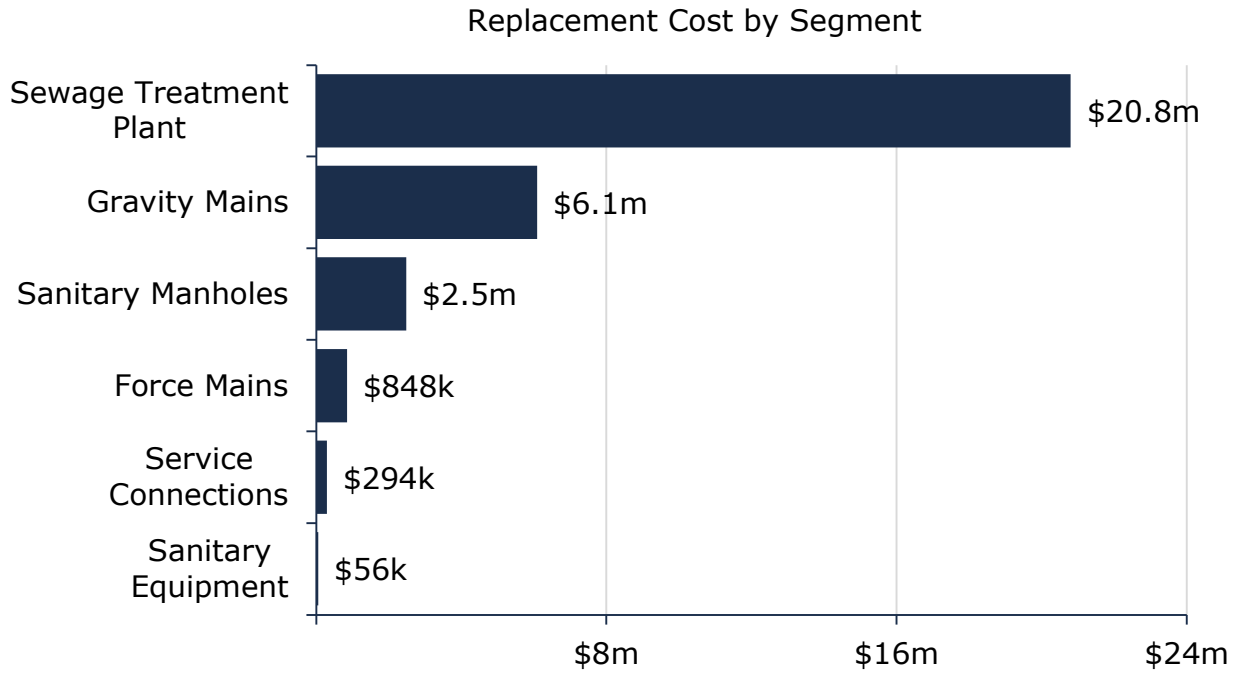
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Scope	The sanitary sewer network is accessible to some area of the Township.
Performance	The sanitary sewer network is in fair condition, 72% of the network are in fair or better condition.
Reliability	The sanitary sewer network is in fair condition with minimal unplanned service interruptions due to backups and effluent violations.

5.1.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's sanitary sewer network inventory.

Asset Segment	Quantity (components)	Replacement Cost Method	Total Replacement Cost
Force Mains	1,574 m	Cost per unit	$848,000
Gravity Mains	11,297 m	Cost per unit	$6,089,000
Sanitary Equipment	2	CPI Tables	$56,000
Sanitary Manhole	115	Inflated 2022 User defined costs	$2,480,000
Service Connections	695	Cost per unit	$294,000
Sewage Treatment Plant	1(26)	CPI Tables	$20,796,000
			$30,564,000



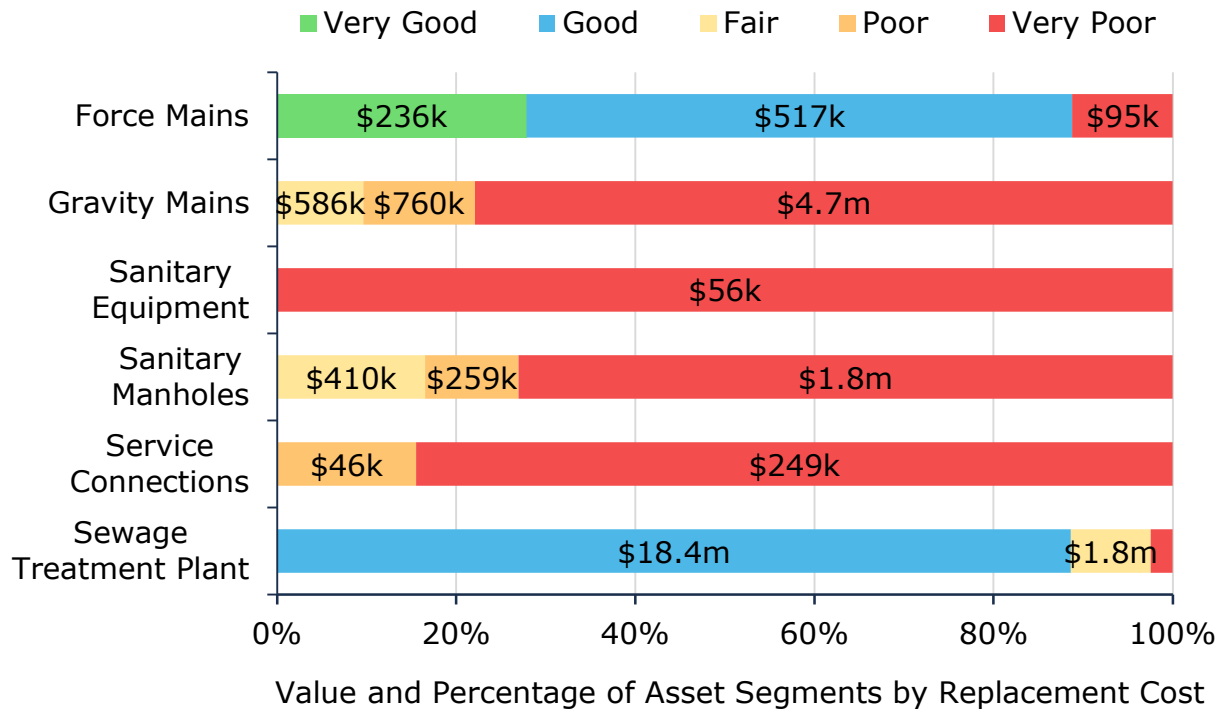
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

5.1.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Force Mains	68%	Good	Age-based
Gravity Mains	17%	Very Poor	Age-based
Sanitary Equipment	0%	Very Poor	Age-based
Sanitary Manhole	19%	Very Poor	Age-based
Service Connections	5%	Very Poor	Age-based
Sewage Treatment Plant	65%	Good	98% Assessed
	51%	**Fair**	**66% Assessed**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale. All assets, except for the Sewage Treatment Plant, relies on age-based condition, which does not account for the life extensions from regular maintenance.



To ensure that the Township's sanitary sewer network continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the sanitary sewer network.

Current Approach to Condition Assessment

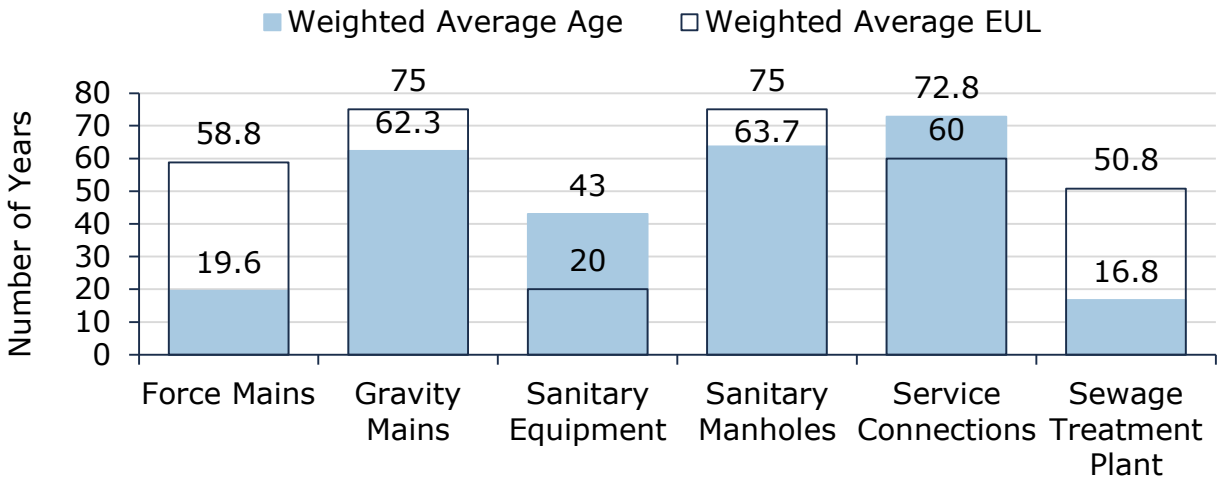
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- CCTV inspections are utilized for identified blockages in sanitary mains based on public complaints or on an as needed basis. However, these results are not used towards determining an overall condition score.
- The sanitary sewer treatment system is inspected internally on a periodic basis and is reported annually to be compliant with the Ministry of Environment standards.

5.1.3 Estimated Useful Life & Average Age

The estimated useful life for sanitary sewer network assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining. Many sanitary sewer assets were constructed in the 1950s through the 1970s and appear to be nearing the end of their service life.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Force Mains	19.6	58.8
Gravity Mains	62.3	75.0
Sanitary Equipment	43.0	20.0
Sanitary Manhole	63.7	75.0
Service Connections	72.8	60.0
Sewage Treatment Plant	16.8	50.8



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.1.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

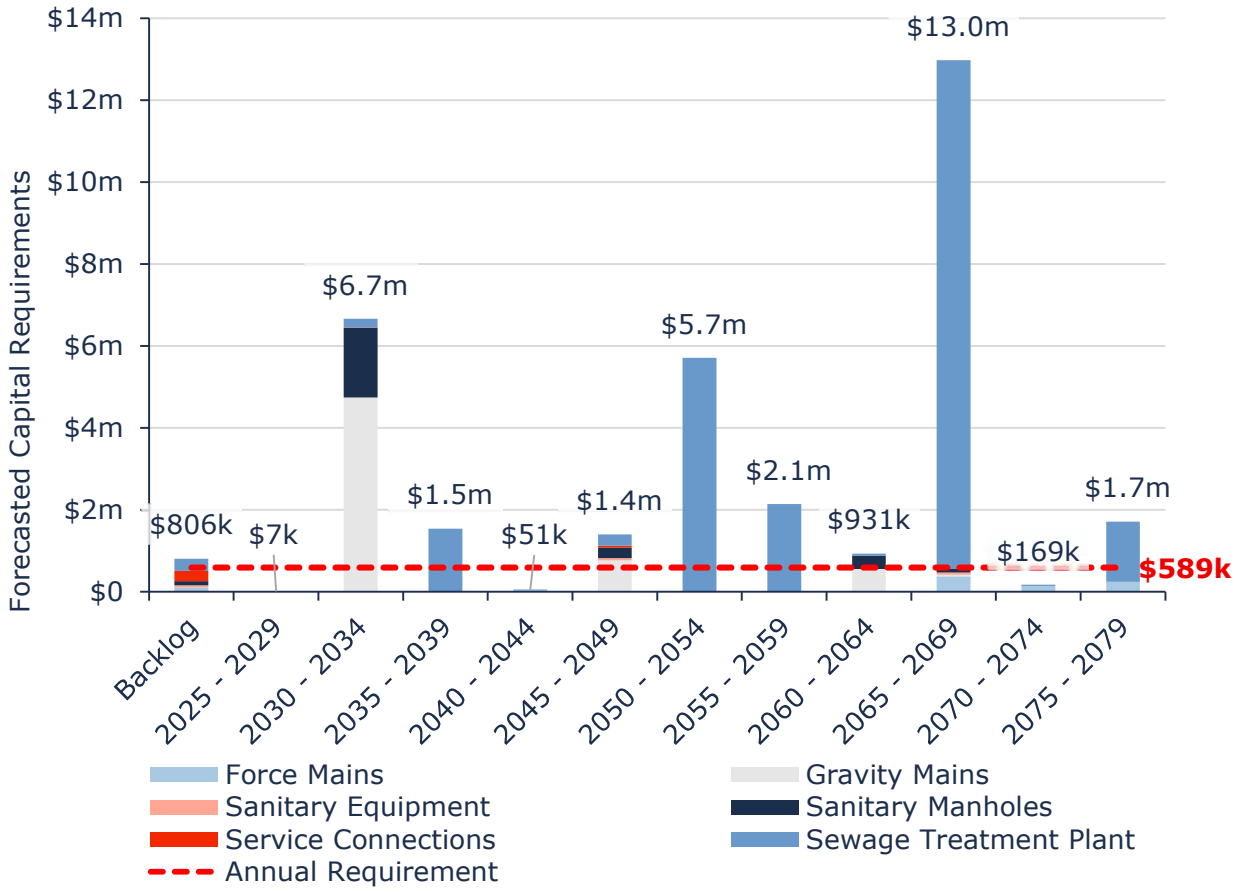
The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Vaccum cleaning is performed to remove pipe sediments from runoff on an as needed basis. Vaccum cleaning is performed annually for pipes with identified blockages
	Smoke testing, flushing, vacuum cleaning and cctv inspections are completed by external contractors
	Sanitary mains in the strategic areas are flushed on yearly basis
	The treatment plant is operated on and maintained by internal staff
Rehabilitation & Replacement	Currently, no proactive rehabilitation program in place for sanitary networks
	Full replacement is undertaken when the asset reaches its end-of-life
	Sanitary sewer network replacement schedule is based on the break records, costs and if multiple issues exist in road, storm and water network

5.1.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2079 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $589 thousand. The current backlog for sanitary network is $806 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.

Proactive replacement of the sewage treatment plant is suggested to avoid a $13.0 million capital expenditure between 2065 and 2069.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

5.1.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$2,149,756 (7%)	$2,896,703 (9%)	$1,805,334 (6%)	$21,862,893 (72%)	$1,785,631 (6%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the sanitary sewer network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Pipe Material	Replacement Cost (Economic)
Pipe Type	Diameter for mains (Economic)
Condition	

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Aging Infrastructure

As the sanitary sewer network continues to age, there are a handful of structures that are approaching the end of their original useful life. Failure of sanitary sewer network may cause inconvenience and disruption to the expected levels of service to residents. The Township currently employs a reactive replacement strategy.

Capital Funding Strategies

As the sanitary sewer network continues to age, it requires the Township to maintain the assets more frequently to ensure the assets are meeting safety requirements and avoid service disruption. Current lifecycle strategies for sanitary assets are relatively reactive. The Township should consider developing an annual capital funding strategy to reduce dependency on grant funding and prevent deferral the capital works. The Township should also consider updating asset replacement costs and event costs on a cyclical basis to improve the effectiveness of capital planning.

5.1.7 Current Levels of Service

The following tables identify the Township's current level of service for sanitary sewer network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by sanitary sewer network.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal sanitary sewer systems	See Appendix B
Reliability	Description of how combined sewers in the municipal sanitary sewer system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	No combined sewer is used in the Township.
	Description of the frequency and volume of overflows in combined sewers in the municipal sanitary sewer system that occur in habitable areas or beaches	No combined sewer is used in the Township.

Service Attribute	Qualitative Description	Current LOS (2024)
	Description of how stormwater can get into sanitary sewers in the municipal sanitary sewer system, causing sewage to overflow into streets or backup into homes	Inflow and infiltration are the biggest source of storm water entering the collection system. Sewer backups are typically the result of one of the following: tree roots in the sewer lateral, or blockages due to materials flushed. Each sewage lift station has an overflow pipe that is equipped to minimize system backups in the event of a heavy rainfall. There is a fourth sewage lift station at the Sanitary Sewer Treatment Plant which would overflow back to the sludge storage lagoon onsite.
	Description of how sanitary sewers in the municipal sanitary sewer system are designed to be resilient to avoid stormwater infiltration	All new sanitary sewers are constructed of HDPE, having tighter joints at manholes.
	Description of the effluent that is discharged from sewage treatment plants in the municipal sanitary sewer system	Approximately 350,000 m^3 of influent is treated annually and typically meets the concentration and loading requirements for E Coli, Total P, TSS CBOD5 and pH.

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the sanitary sewer network.

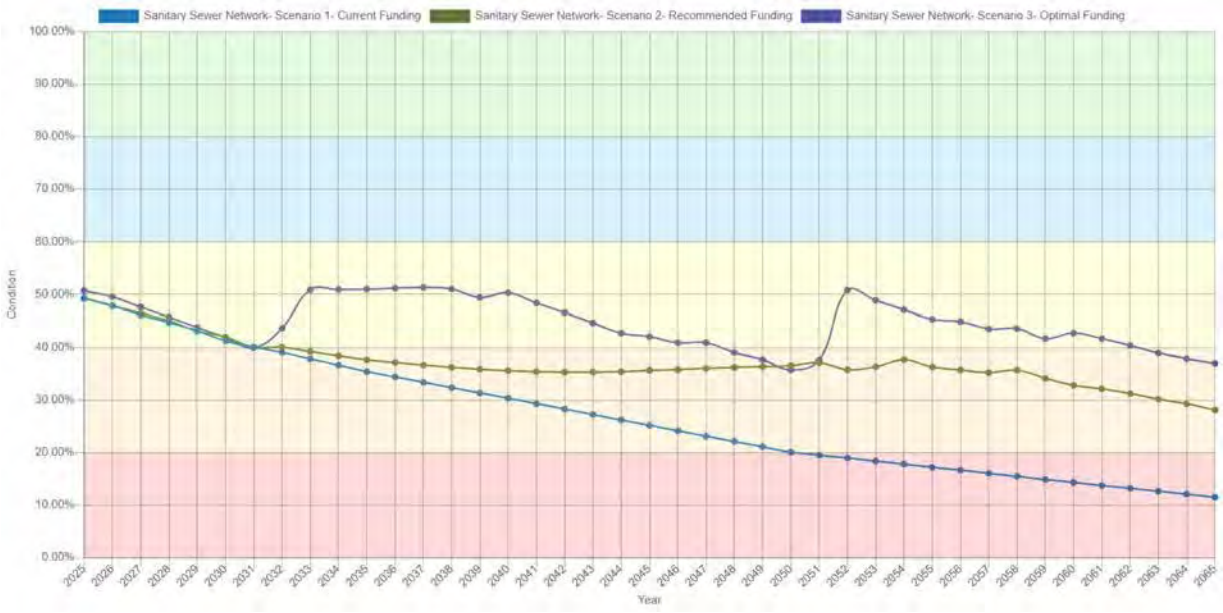
Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal sanitary sewer system	81%
Reliability	# of events per year where combined sewer flow in the municipal sanitary sewer system exceeds system capacity compared to the total number of properties connected to the municipal sewer system	N/A
	# of connection-days per year having sanitary sewer backups compared to the total number of properties connected to the municipal sanitary system	0
	# of effluent violations per year due to sanitary sewer discharge compared to the total number of properties connected to the municipal sewer system	0

5.1.8 Proposed Levels of Service

The proposed levels of service (PLOS) for the sanitary sewer network establish long-term performance targets that ensure safe, reliable sanitary sewer collection and environmental protection. This network is critical to safeguarding public health, supporting development, and protecting water quality in local streams and groundwater.

Staff Input

Staff reported that the sanitary sewer network is currently reliable, with few service disruptions. Condition is largely based on age data, as inspections are limited. Preventative maintenance is minimal, with most reinvestment occurring only when failures occur. Staff emphasized that proactive investment is needed to avoid increased infiltration, blockages, and eventual system failures.



The graph above illustrates the projected condition of the Township's sanitary sewer network from 2025 to 2065 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different reinvestment pathway with implications for lifecycle costs, risk, and long-term service sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $135 thousand allocated to the sanitary sewer network.
- Under this scenario, network condition declines steadily from ~49% in 2025 to ~11% by 2065, entering the Very Poor range. The average risk score for the studied period is 15.69.
- Funding at this level results in deferred rehabilitation, higher infiltration/inflow, increased risk of blockages, and costly reactive repairs.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 4.6% annual rate-funded increase, specifically directed to the sanitary sewer network. This closes the identified annual funding deficit by 2045.
- Condition stabilizes and fluctuates positively due to periodic lifecycle interventions, reaching ~28% by 2065. The average risk score for the studied period is 14.63.
- This funding level supports proactive sewer lining, localized rehabilitation, and maintenance programs, reducing risk of blockages and backups while ensuring regulatory compliance.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met — essentially eliminating the infrastructure deficit from the outset.

- Condition improves significantly following proactive interventions, reaching ~37% by 2065. The average risk score for the studied period is 13.38.

- This funding level enables systematic inspection programs, proactive rehabilitation, and phased renewal of aging mains, reducing long-term costs and ensuring system resilience against climate-related stressors.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding — a potential ~17% lower condition by 2065 if corrective action is not taken.

- The Recommended Scenario offers a feasible and financially responsible path, stabilizing condition and ensuring compliance with sanitary sewer management requirements.

- The Optimal Scenario provides a benchmark for long-term service excellence, minimizing infiltration/inflow, reducing environmental risk, and extending asset life.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Provides sustainable funding through dedicated rate-supported increases to ensure the sanitary sewer network can meet regulatory and operational demands.
- Reduces the risk of backups, infiltration, and environmental contamination.
- Enables targeted rehabilitation programs to manage aging infrastructure before critical failure occurs.
- Aligns with staff recommendations for more proactive maintenance and ensures sanitary services remain safe, reliable, and environmentally responsible.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

5.1.9 Recommendations

Asset Inventory

- There are several pooled service connection assets that require further segmentation and length measurements to allow for asset-specific lifecycle planning and costing.
- The treatment plant should be further componentized to ensure all components are accounted for. The accuracy of the estimated useful life values and replacements costs should be verified, as this plan uses estimates developed by Township staff.

Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk sanitary sewer network assets.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Lifecycle Management Strategies

- A trenchless re-lining strategy is expected to extend the service life of sanitary mains at a lower total cost of ownership and should be implemented to extend the life of infrastructure at the lowest total cost of ownership.
- Evaluate the efficacy of the Township’s lifecycle management strategies at regular intervals to determine the impact cost, condition and risk.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

5.2 Water Network

To protect residents' health and life, the Township is responsible to provide an adequate water supply, monitor the water quality and maintain the water system.

The water network in the Township includes the following:

- Water Treatment Plant
- Water mains
- Hydrants
- Valves and curb stop valves.

The state of the infrastructure for the water network is summarized in the following table.

Replacement Cost	Condition	Average annual Requirement:
$23.4 million	Poor (27%)	$519,000

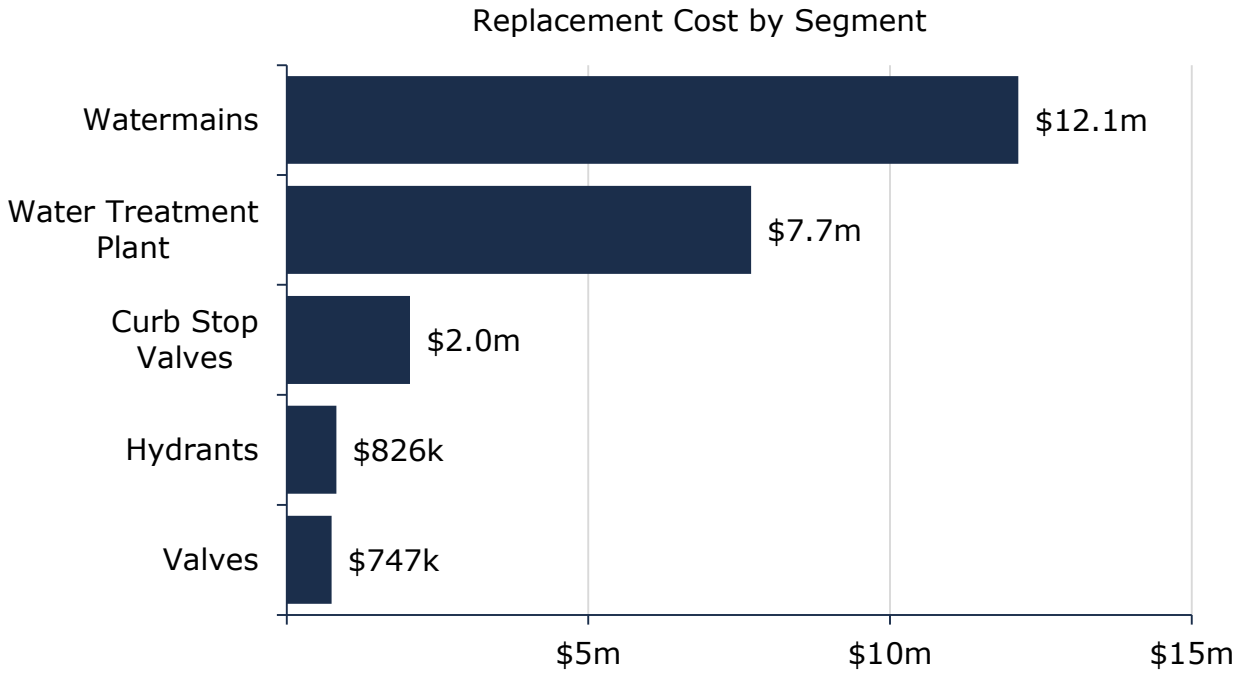
The following core values and level of service statements are a key driving force behind the Municipality's asset management planning:

Service Attribute	Level of Service Statement
Scope	Current municipal water is accessible to the Township. The water network includes watermains, hydrants, valves and water treatment plant.
Reliability	The water network is in poor condition with several boil water advisories in place per year.

5.2.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Township's water network inventory.

Asset Segment	Quantity (Components)	Replacement Cost Method	Total Replacement Cost
Curb Stop Valves	601	CPI Tables	$2,048,000
Hydrants	68	Cost per unit	$826,000
Valves	222	Inflated 2022 user defined costs	$747,000
Water Treatment	1 (66)	CPI Tables	$7,696,000
Watermains	14,622 m	User-defined Cost	$12,129,000
			$23,446,000



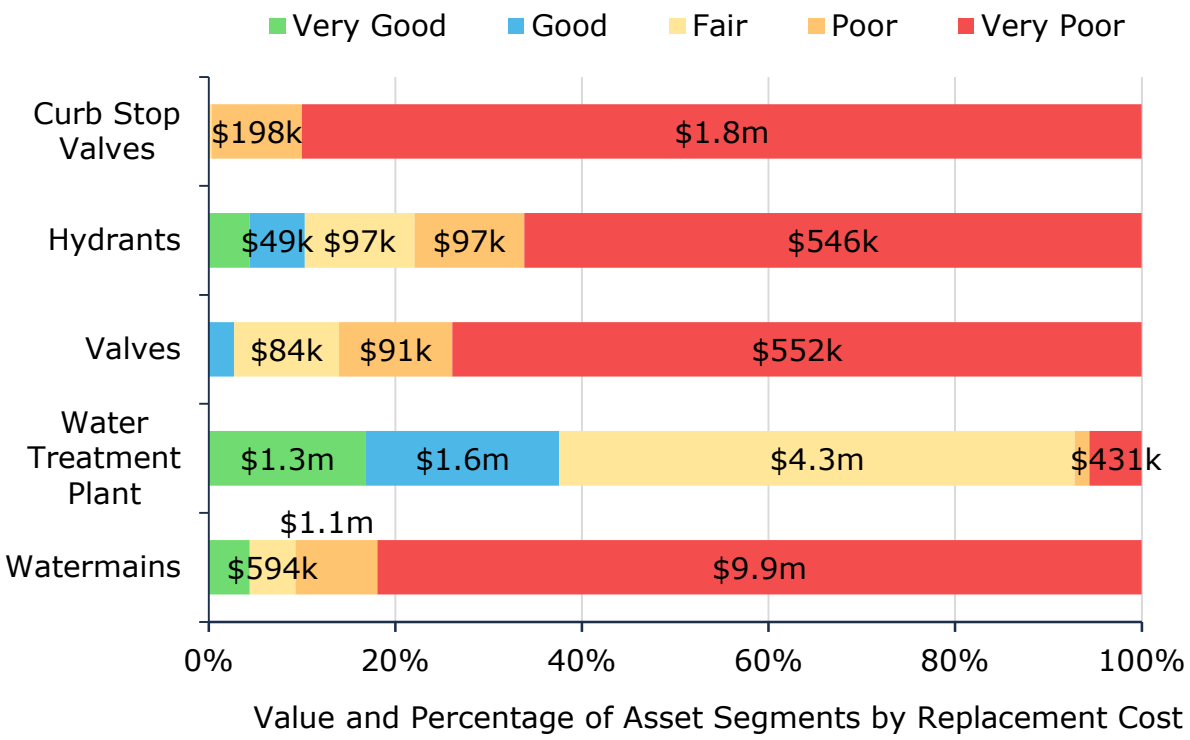
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

5.2.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost. Much of the water network was constructed from the 1950s through the 1970s, resulting in the majority of the network being in poor condition.

Asset Segment	Average Condition (%)	Average Condition Rating	Condition Source
Curb Stop Valves	6%	Very Poor	Age-based
Hydrants	19%	Very Poor	Age-based
Valves	13%	Very Poor	Age-based
Water Treatment	59%	Fair	99% Assessed
Watermains	12%	Very Poor	Age-based
	27%	**Poor**	**29% Assesed**

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Township's water network continues to provide an acceptable level of service, the Township should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management

strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the water network.

Current Approach to Condition Assessment

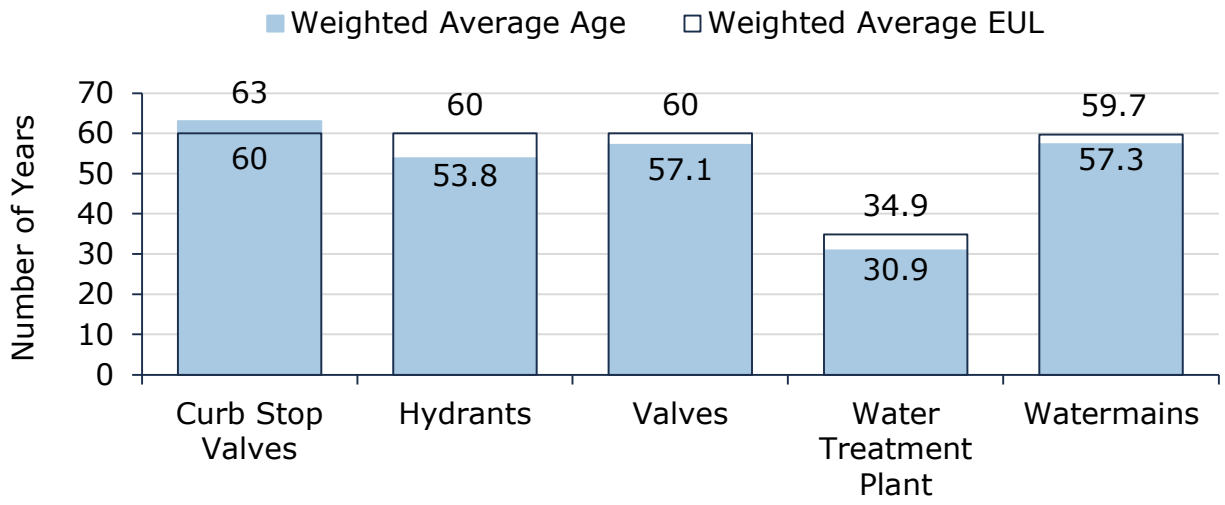
Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Township's current approach:

- Internal staff track watermain breaks and leaks by monitoring water usage and using the drawdown SOP.
- Vibration equipment is used to identify watermain leaks and breaks in select problem areas.
- Certified operators monitor the Water Treatment Facility performance, adhering to the Drinking Water Quality Management System (DWQMS) requirements.

5.2.3 Estimated Useful Life & Average Age

The estimated useful life for water network assets has been assigned according to a combination of established industry standards and staff knowledge. The average age of each asset is based on the number of years each asset has been in-service. The estimated useful life and weighted average age are calculated using the available inventory information, applying replacement cost as the weighting factor. The figure below represents the Estimated Useful Life and the average age for each segment, except when an asset has been assigned an assessed condition rating. In such cases, assessed condition may increase or decrease the average service life remaining.

Asset Segment	Weighted Average Age (Years)	Profile Lifecycle Estimated Useful Life (Years)
Curb Stop Valves	63.0	60.0
Hydrants	53.8	60.0
Valves	57.1	60.0
Water Treatment	30.9	34.9
Watermains	57.3	59.7



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.2.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

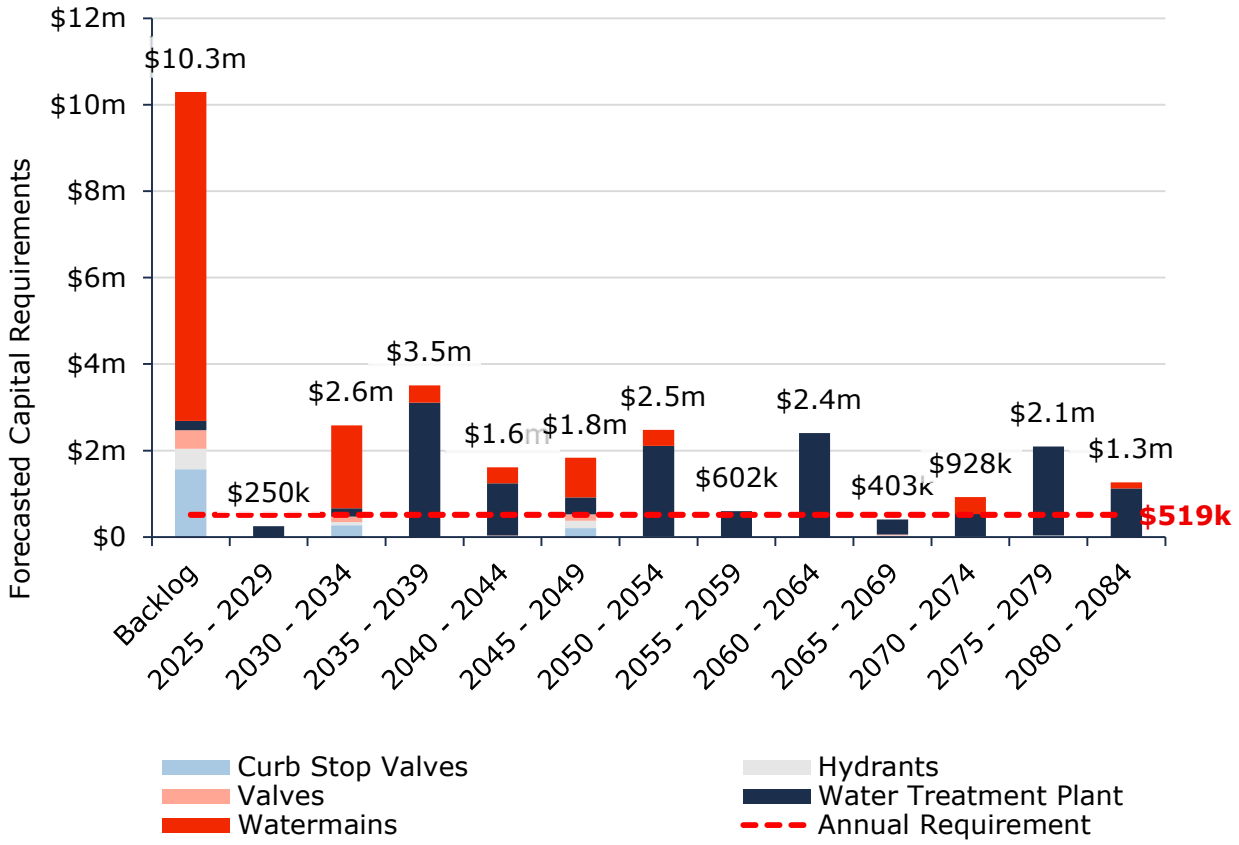
The following table outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Hydrant flushing occurs every spring and fall by in-house staff.
	Hydrant flows tests and valve turning checks conducted on a regular basis.
	Watermain flushing occurs twice per year by in-house staff.
	Water quality tests are performed in the strategic areas of the distribution system on a regular basis.
	Operators take samples for water quality test when watermain breaks.
	External companies are hired for Water Treatment Plant calibration testing.
Rehabilitation	Watermains are relined based on tuberculation when no water main breaks have occurred.
Replacement	Full replacement is undertaken when it reaches its end-of-life.

Activity Type	Description of Current Strategy
	Water network replacement schedule is based on the break records, remaining service life, costs, pipe material, and if multiple issues exist in road, sanitary and stormwater network.
	A 5-year Renewal Plan is in place for Water Treatment Plant.

5.2.5 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements until 2084 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets. The annual capital requirement is $519 thousand. The current backlog for water network is $10.3 million largely attributed to water mains. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets to ensure projects are not deferred and replacement needs are met as they arise.



The projected cost of lifecycle activities that will need to be undertaken over the next 20 years to achieve the proposed level of service can be found in Appendix A.

5.2.6 Risk & Criticality

Risk Matrix

The following risk diagram provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2024 inventory data. See Appendix C for the criteria used to determine the risk rating of each asset.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$3,226,977 (14%)	$6,513,200 (28%)	$8,706,752 (37%)	$4,203,622 (18%)	$795,096 (3%)

This is a high-level model developed for the purposes of this AMP and Township staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the water network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
Pipe Material	Diameter (Economic)

The identification of critical assets allows the Township to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Township is currently facing:

Capital Funding Strategies

As the water network and treatment plant continue to age, major capital rehabilitation and renewal projects need to occur. Currently, the municipality relies heavily on grant funding to deliver this work. Failure to receive grant funding can result in a growing backlog of capital work. An annual capital funding strategy can reduce dependency on grant funding and help prevent deferral of critical works.

5.2.7 Current Levels of Service

The following tables identify the Township's current level of service for water network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Township has selected for this AMP.

Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by water network.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system	See Appendix B
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	See Appendix B, all users connected to the water distribution system have at least minimum requirements for fire flow.
Reliability	Description of boil water advisories and service interruptions	Boil Water Advisories are typically related to watermain breaks of cast iron watermains bedded in clay soils. Typically, the break is found within 1 day and isolated. The drinking water advisory typically lasts for approximately 1 week until safe microbiological samples have been achieved and in consultation with the Thunder Bay District Health Unit.

Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the water network.

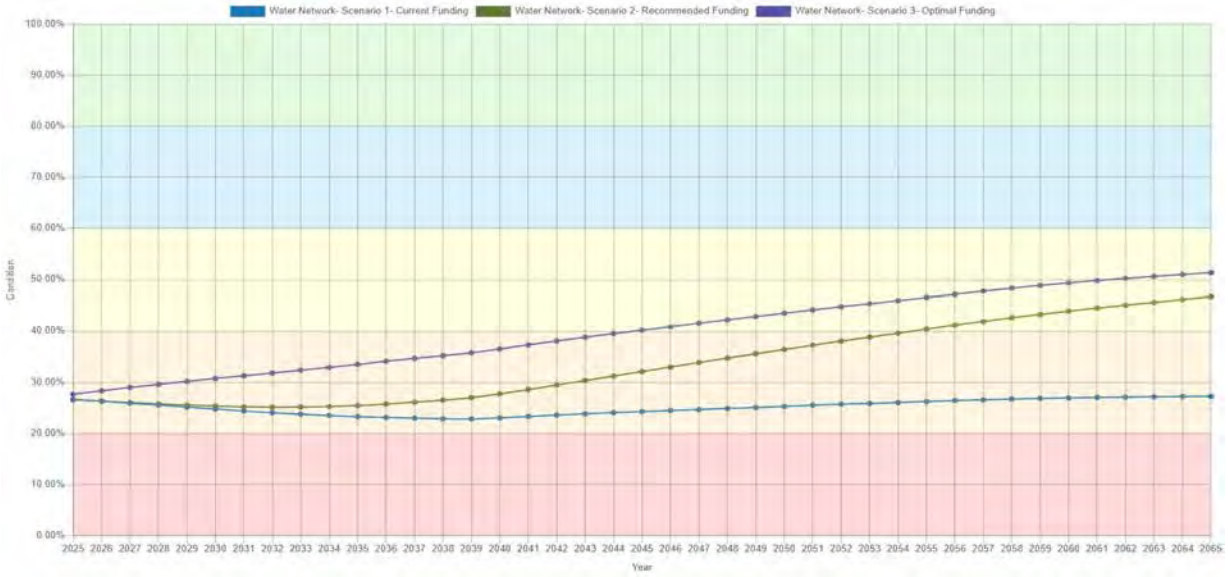
Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal water system	82%
	% of properties where fire flow is available	82%
Reliability	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	6
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	1

5.2.8 Proposed Levels of Service

The proposed levels of service (PLOS) for the water network establish long-term performance targets to ensure safe, reliable water delivery and fire protection capacity. The system is critical to public health, community growth, and emergency response, making its performance central to the Township's infrastructure planning.

Staff Input

Staff reported that the water network is reliable, with few service disruptions. Preventative maintenance is limited, and age-based condition data drives reinvestment decisions. While current resources allow for operation, proactive renewal is required to maintain water quality and sustain fire flow coverage, particularly as the system expands.



The graph above illustrates the projected condition of the Township's water network from 2025 to 2065 under three funding scenarios: Current Budget, Recommended Budget, and Optimal Budget. Each scenario represents a different reinvestment pathway with implications for system performance, lifecycle costs, and service sustainability.

Scenario 1: Current Budget (Blue Line)

- Represents the status quo — the Township's existing annual capital funding capacity is estimated at $271 thousand allocated to the water network.
- Under this scenario, condition remains relatively static, hovering around ~27% through 2065, staying in the Poor range. The average risk score for the studied period is 8.70.
- Funding at this level supports operations but does not enable major rehabilitation, resulting in gradual decline in service reliability and increasing vulnerability to water quality or pressure issues.

Scenario 2: Recommended Budget (Green Line)

- Reflects the implementation of a 1.4% annual rate-funded increase, specifically dedicated to the water network. This closes the identified annual funding deficit by 2045.
- Condition improves gradually, reaching ~47% by 2065. The average risk score for the studied period is 8.05.
- This funding level supports proactive renewal of mains, hydrants, and valves, improving fire flow reliability and reducing the risk of water quality issues.

Scenario 3: Optimal Budget (Purple Line)

- Represents a theoretical scenario where the Township has all lifecycle funding needs fully met — essentially eliminating the infrastructure deficit as soon as possible.

- Condition improves more significantly, reaching ~51% by 2065, placing the system in the Fair range. The average risk score for the studied period is 7.60.

- Proactive renewal and systematic upgrades ensure long-term reliability, improved pressure and fire protection, and minimized lifecycle costs.

Interpretation and Planning Implications

- The comparison between the Current and Recommended Scenarios highlights the risk of underfunding — a potential ~19% lower condition by 2065 if corrective action is not taken.

- The Recommended Scenario provides a feasible, fiscally responsible path, stabilizing the system and protecting essential water services.

- The Optimal Scenario sets a benchmark for excellence, minimizing service risk and positioning the Township to respond to growth and climate pressures.

Alignment with Funding Strategy

Scenario 2 has been identified as the most practical path forward under the Township's fiscal framework as it:

- Ensures adequate fire flow and water quality protection for residents and businesses.
- Provides phased renewal of critical mains and appurtenances, reducing reactive costs.
- Supports sustainable growth and emergency service capacity while balancing affordability.
- Reinforces interconnections with other networks, as reliable water service is essential for fire safety (protecting buildings) and resilient community development.

For detailed annual requirements and capital cost projections under this scenario, refer to Appendix A – 20-Year Capital Replacement Forecast.

5.2.9 Recommendations

Replacement Costs

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk water network assets. Many watermains are projected to fail immediately. A more accurate condition score can be developed by reviewing historical watermain breaks, material, and age.

- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Maintain and refine the proposed levels of service established in this 2025 AMP, ensuring they remain aligned with community expectations, financial capacity, and operational realities.
- Implement strategies to close any identified gaps between current and proposed levels of service and periodically reassess these strategies as part of ongoing AMP updates.

6 Impacts of Growth

Key Insights

- Understanding the key drivers of growth and demand will allow the Township to more effectively plan for new infrastructure, and the upgrade or disposal of existing infrastructure.

- The population and employment are expected to be stable.

- The costs of growth should be considered in long-term funding strategies that are designed to achieve the proposed levels of service.

6.1 Description of Growth Assumptions

The demand for infrastructure and services will change over time based on a combination of internal and external factors. Understanding the key drivers of growth and demand will allow the Township to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure. Increases or decreases in demand can affect what assets are needed and what level of service meets the needs of the community.

6.1.1 Nipigon Official Plan (November 2019)

The Township of Nipigon's Official Plan is intended to manage land use change in a manner that has the greatest positive impact on the Township while ensuring the sustainability of the environment and the character of the community. The Plan is based on the data collected in a series of detailed background studies dealing with growth management, local planning, and the environment. This Plan incorporates new policy direction as a result of the Provincial Policy Statement in 2005 (PPS) and is also consistent with the Northern Ontario Growth Plan. The document planning horizon spans 20 years, covering it from 2012 to 2032.

The Official Plan has been approved at Township Council as of July 19th, 2016. The Township focuses on strengthening the service delivery in the existing settlement area, limiting the amount of development in the rural area and the recreational residential development in the shoreline.

The permanent population of the Township is projected to remain relatively stable as 1,631, over the life of this Official Plan. The Township aims to create 112 new jobs and the development of approximately 5 hectares of new employment lands to achieve an employment to population ratio of 1:4. The Township encourages the development of Employment Areas to provide a range of job opportunities and a broad range of commercial and service facilities to meet the needs of residents of the Township and the surrounding Region. The Township will improve the existing tourist facilities and develop the waterfront areas to encourage tourism business. The following table outlines population, private dwellings and employment changes to the Township between 2006-2021 from Statistics Canada, for which the Township will be required to provide services.

Year	Population	Private Dwellings	Employment
2021	1,473	747	N/A
2016	1,642	804	595
2011	1,631	823	N/A
2006	1,752	837	745

6.1.2 Nipigon Community Strategic Plan 2024

The Township of Nipigon’s Community Strategic Plan (2024) is designed to guide municipal decision-making and service delivery, focusing on strengthening the community’s sustainability, economic resilience, and quality of life. The Plan incorporates statements of vision and goals emerging from recent community engagement, council priorities, and provincial/federal funding initiatives which includes:

- The Strategic Plan emphasizes supporting tourism as a major economic driver, including waterfront and recreation asset improvements and downtown revitalization programs.
- Investment in public infrastructure is highlighted to retain residents while attracting newcomers, with priority given to roads, water and sewage treatment plant improvements.
- Strengthen Nipigon’s business community by re-establishing an Economic Development department, supporting local businesses through outreach and surveys, preparing key development sites, and promoting a "shop local" awareness campaign

Overall, the Strategic Plan complements the Official Plan by addressing growth management, service improvements, and local infrastructure investment with up-to-date perspectives and actionable goals for 2024–2028.

6.2 Impact of Growth on Lifecycle Activities

The Township of Nipigon's growth assumptions reflect a stable population with a slow recovery trend. While the population declined below 1,500 residents from 2006 to 2021, recent projections in the 2024 Community Profile indicate a gradual rebound, approaching 1,600 residents by 2033. Although this growth is small, it signifies a positive turnaround from past losses.

The Official Plan (2019) projects approximately 1,631 residents through 2032, focusing on sustainable land use management aimed at consolidating development within existing settlement areas and limiting rural and shoreline expansion. The plan also targets job creation and employment land development to maintain a balanced employment-population ratio.

Complementing this, the 2024 Community Strategic Plan prioritizes economic resilience and infrastructure investments, including tourism, waterfront improvements, and critical infrastructure like roads, water, and sewage treatment facilities. It also strengthens the business community through economic development initiatives.

Given the slow growth trajectory, the demand for municipal services and infrastructure assets is expected to change gradually. Lifecycle management will focus primarily on maintaining, rehabilitating, and optimizing existing assets rather than rapid expansion. Transportation infrastructure will require ongoing maintenance and targeted upgrades; water and sewage facilities will need modernization aligned with population intensification; and parks and community facilities will undergo incremental growth with associated lifecycle planning.

This underscores the importance of integrating current asset condition data, risk assessments, and financial strategies into comprehensive asset management. Such an approach will support sustainable service delivery and fiscal responsibility amid Nipigon's slow but positive population recovery and evolving infrastructure needs through 2032 and beyond.

7 Financial Strategy

Key Insights

- The Township is committing approximately $1.2 million towards capital projects per year from sustainable revenue sources
- Given the annual capital requirement of $3.8 million, there is currently a funding gap of $2.6 million annually
- For tax-funded assets, we recommend increasing tax revenues by 2.8% each year for the next 20 years to achieve a sustainable level of funding
- For rate-funded assets, we recommend increasing rate revenues 4.6% for sanitary services and by increasing rate revenues 1.4% for water services annually for the next 20 years to achieve a sustainable level of funding

7.1 Financial Strategy Overview

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow Township of Nipigon to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Reserves
    d. Debt
    e. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community Building Fund (CCBF)
    b. Annual grants

Note: Periodic grants are normally not included due to Provincial requirements for firm commitments. However, if moving a specific project forward is wholly dependent on receiving a one-time grant, the replacement cost included in the financial strategy is the net of such grant being received.

If the financial plan component results in a funding shortfall, the Province requires the inclusion of a specific plan as to how the impact of the shortfall will be managed. In determining the legitimacy of a funding shortfall, the Province may evaluate a Township's approach to the following:

1. In order to reduce financial requirements, consideration has been given to revising service levels downward.
2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.

b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

7.1.1 Annual Requirements & Capital Funding

Annual Requirements

This financial strategy is designed around two key elements: the average annual capital requirement, and the average annual capital funding currently available. The annual requirement is calculated based on the replacement cost and service life of each asset, and where possible, includes lifecycle modeling through proposed levels of service. These values are then aggregated to determine category-level funding needs.

Annual requirements may be calculated based on a "replacement only" scenario, in which capital costs are only incurred at the construction and replacement of each asset. However, for all asset categories, lifecycle management events and strategies have been developed to identify potential capital cost avoidances that are realized through strategic rehabilitation and renewal of the Township's main assets in these categories to achieve the desired levels of service if implemented.
The following outlines the difference between the two scenarios:

1. **Replacement Only Scenario**: Based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life.
2. **Lifecycle Strategy Scenario**: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

The annual requirements represent the amount the Township should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability based on the proposed levels of service.

The table below outlines the total average annual capital requirements for existing assets in each category, based on the proposed levels of service. While total replacement costs across all asset categories is $133.1 million, the estimated annual capital requirements across all asset categories is approximately $3.8 million when factoring in the lifecycle strategies within this AMP.

The table also illustrates the system-generated, equivalent target reinvestment rate for the proposed levels of service, calculated by dividing the annual capital requirements by the total replacement cost of each category. The cumulative target reinvestment for these categories is estimated at 2.8%.

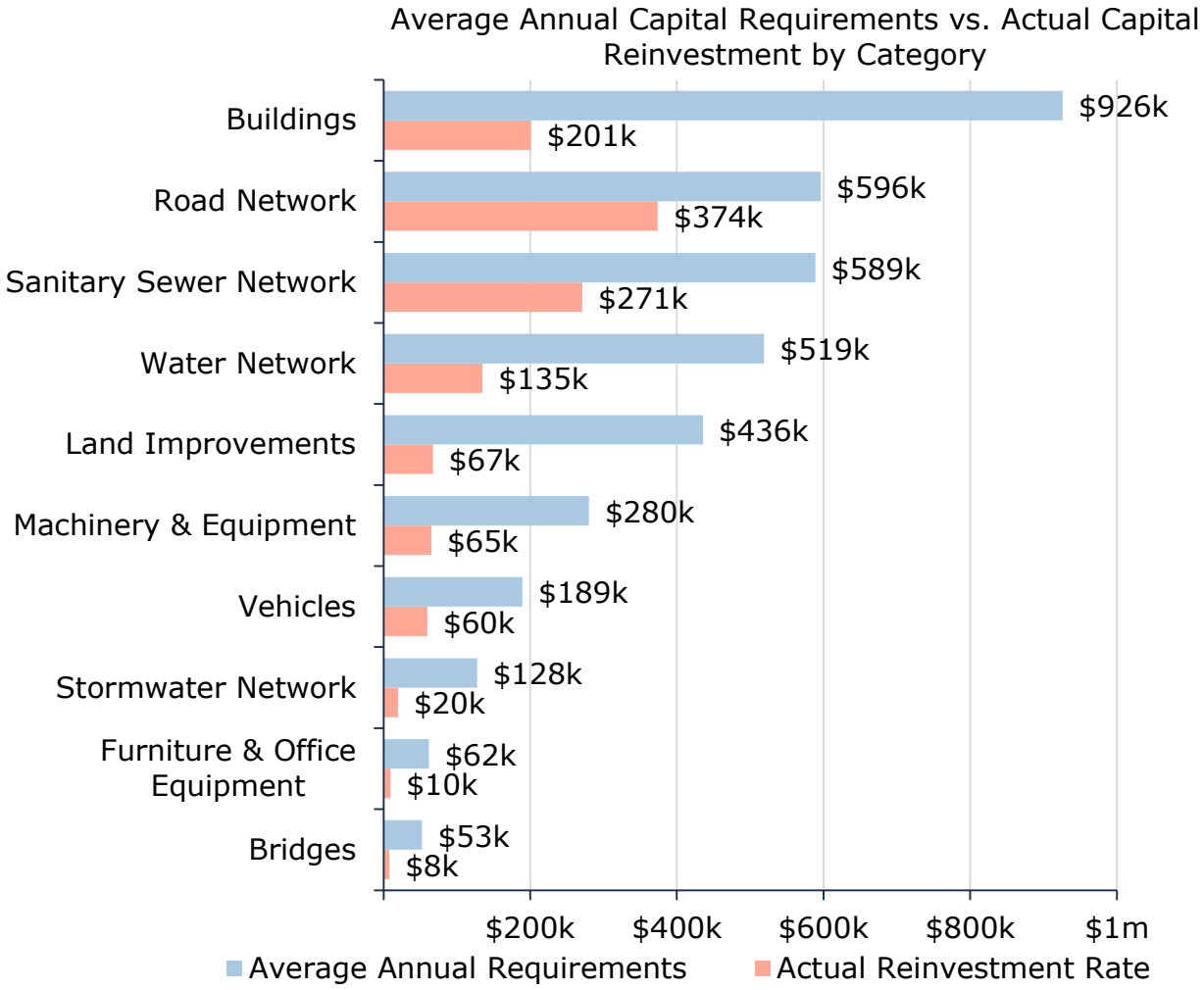
Asset Category	Replacement Cost	Annual Capital Requirements	Target Reinvestment Rate
Bridges	$3,726,304	$52,671	1.4%

Buildings	$27,371,883	$926,040	3.4%
Furniture & Office Equipment	$1,062,268	$62,058	5.8%
Land Improvements	$10,050,097	$435,622	4.3%
Machinery & Equipment	$3,685,692	$280,121	7.6%
Road Network	$21,426,842	$596,065	2.8%
Storm Network	$8,782,340	$127,554	1.5%
Vehicles	$3,013,383	$189,384	6.3%
Water Network	$30,564,068	$588,863	1.9%
Sanitary Network	$23,445,647	$518,965	2.2%
Total	**$133,128,524**	**$3,777,343**	**2.8%**

As the lifecycle strategy scenario would result in significant cost savings for the Township, we have used these annual requirements in the development of the current and proposed levels of service, as well as the financial strategy.

Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $1.2 million towards capital projects each year. Given the annual capital requirement of $3.8 million to achieve the proposed levels of service, there is currently a funding gap of $2.6 million annually.



7.2 Funding Objective

We have developed a scenario that would enable Nipigon to achieve full funding within 1-20 years for the following assets:

1. **Tax Funded Assets:** Bridges, Buildings, Furniture & Office Equipment, Land Improvements, Machinery & Equipment, Road Network, Stormwater Network, and Vehicles
2. **Rate-Funded Assets:** Water Network and Sanitary Sewer Network

For each scenario developed we have included strategies, where applicable, regarding the use of cost containment and funding opportunities.

7.3 Financial Profile: Tax Funded Assets

7.3.1 Current Funding Position

The following tables show, by asset category, Nipigon's average annual asset investment requirements, current funding positions, and funding increases required to achieve full funding on assets funded by taxes.

Asset Category	Avg. Annual Requirement	Annual Funding Available					Annual Deficit
		Capital Allocation from Taxes	**CCBF**	**OCIF**	**Capital Reserve Allocation from Taxes**	**Total Available**	
Bridges	**$52,671**	$8,159				**$8,159**	**$44,512**
Buildings	**$926,040**	$143,452			$57,500	**$200,952**	**$725,088**
Furniture & Office Equipment	**$62,058**	$9,613				**$9,613**	**$52,445**
Land Improvements	**$435,622**	$67,482				**$67,482**	**$368,140**
Machinery & Equipment	**$280,121**	$43,393			$21,750	**$65,143**	**$214,978**
Road Network	**$596,065**	$92,336	$96,482	$133,600	$51,500	**$373,918**	**$222,147**
Storm Network	**$127,554**	$19,759				**$19,759**	**$107,794**
Vehicles	**$189,384**	$29,337			$30,500	**$59,837**	**$129,547**
Total	**$2,669,515**	**$413,533**	**$96,482**	**$133,600**	**$161,250**	**$804,864**	**$1,864,650**

The average annual investment requirement for the above categories is $2.7 million. Annual revenue currently allocated to these assets for capital purposes is $805 thousand leaving an annual deficit of $1.9 million. Put differently, these infrastructure categories are currently funded at 30.2% of their long-term requirements.

7.3.2 Full Funding Requirements

In 2025, Nipigon has budgeted annual tax revenues of approximately $2.5 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding of the proposed levels of service would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Bridges	1.8%
Buildings	28.6%
Furniture & Office Equipment	2.1%
Land Improvements	14.5%
Machinery & Equipment	8.5%
Road Network	8.8%
Storm Network	4.3%
Vehicles	5.1%
Total	**73.7%**

Based on the current funding levels, our scenario modeling provides recommendations for several phase-in period lengths for achieving the proposed levels of services:

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	1,864,650	1,864,650	1,864,650	1,864,650
Tax Increase Required	73.5%	73.5%	73.5%	73.5%
Annually:	**11.7%**	**5.7%**	**3.8%**	**2.8%**

7.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 20-year option. This involves the proposed levels of service for these asset categories being achieved over 20 years by:

a) increasing tax revenues by 2.8% each year for the next 20 years solely for the purpose achieving the proposed levels of service for the asset categories covered in this section of the AMP.
b) allocating the current CCBF and OCIF revenue as outlined previously.
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm

commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[3].

2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

Although this option achieves the funding needed for the proposed levels of service on an annual basis in 20 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

7.4 Financial Profile: Rate Funded Assets

The following tables show, by asset category, Nipigon's average annual asset investment requirements, current funding positions, and funding increases required to achieve the proposed levels of service for assets funded by rates.

Asset Category	Avg. Annual Requirement	Annual Funding Available			Annual Deficit
		Rates	To Operating	Total Available	
Water Services	518,965	775,000	(504,000)	271,000	247,965
Sanitary Sewer Network	588,863	314,000	(179,000)	135,000	453,863
Total	**1,107,828**	**1,089,000**	**(683,000)**	**406,000**	**701,828**

The average annual investment requirement for the above categories is $1.1 million to meet the proposed levels of service. Annual revenue currently allocated to these assets for capital purposes is $406 thousand leaving an annual deficit of $702 thousand. Put differently, these infrastructure categories are currently funded at 36.6% of their long-term/ideal requirements.

7.4.1 Full Funding Requirements

In 2025, Nipigon had budgeted annual water revenues of $775 thousand and budgeted annual sanitary revenues of $314 thousand. As illustrated in the table below, without consideration of any other sources of revenue, achieving the funding

[3] The Township should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

required for the proposed levels of service would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	32.0%
Sanitary Sewer Network	144.5%

In the following tables, we have expanded the above scenario to present multiple options. Due to the significant increases required, we have provided phase-in options of up to 20 years:

Water Network				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	247,965	247,965	247,965	247,965
Rate Increase Required	32.0%	32.0%	32.0%	32.0%
Annually:	**5.8%**	**2.9%**	**1.9%**	**1.4%**

Sanitary Sewer Network				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	453,863	453,863	453,863	453,863
Rate Increase Required	144.5%	144.5%	144.5%	144.5%
Annually:	**19.6%**	**9.4%**	**6.2%**	**4.6%**

7.4.2 Financial Strategy Recommendations

Considering all of the above information, we recommend the 20-year options. This involves the proposed levels of service being achieved over 20 years by:

a) increasing rate revenues by 1.4% for the Water network and 4.6% for the Sanitary Sewer network each year for the next 20 years solely for the purpose of achieving full funding to the asset categories covered in this section of the AMP.
b) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
2. We realize that raising rate revenues for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.
3. Any increase in rates required for operations would be in addition to the above recommendations.

As the above option achieves funding requirements for the proposed levels of service on an annual basis in 20 years and provides improvements to financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.
Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

7.5 Use of Debt

Debt can be strategically utilized as a funding source with in the long-term financial plan. The benefits of leveraging debt for infrastructure planning include:

a) the ability to stabilize tax & user rates when dealing with variable and sometimes uncontrollable factors
b) equitable distribution of the cost/benefits of infrastructure over its useful life
c) a secure source of funding
d) flexibility in cash flow management

Debt management policies and procedures with limitations and monitoring practices should be considered when reviewing debt as a funding option. In efforts to mitigate increasing commodity prices and inflation, interest rates have been rising. Sustainable funding models that include debt need to incorporate the now current realized risk of rising interest rates

The following tables outline how Nipigon has historically used debt for investing in the asset categories as listed. As of year-end 2024, there is currently no outstanding debt for the assets covered by this AMP. The revenue options outlined in this plan allow the Township to achieve the proposed levels of service of infrastructure requirements without further use of debt.

7.6 Use of Reserves

7.6.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

a) the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
b) financing one-time or short-term investments
c) accumulating the funding for significant future infrastructure investments
d) managing the use of debt
e) normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the capital reserves currently available to Nipigon.

Asset Category	Balance at December 31, 2024
Buildings	$2,574,153
Land Improvements	$112,332
Machinery & Equipment	$55,961
Road Network	$403,317
Sanitary Sewer Network	$43,766
Water Network	$4,815
Other	$686,769
Total Reserves:	**$3,881,113**

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Township should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should take into account when determining their capital reserve requirements include:

a) breadth of services provided
b) age and condition of infrastructure
c) use and level of debt
d) economic conditions and outlook
e) internal reserve and debt policies.

These reserves are available for use by applicable asset categories during the phase-in period to achieve the proposed levels of service in this plan. This coupled with Nipigon’s judicious use of debt in the past, allows the scenarios to assume

that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term

8 Appendices

Key Insights

- Appendix A identifies projected 20-year capital requirements for each asset category to achieve proposed level of service.

- Appendix B includes several maps that have been used to visualize the current level of service.

- Appendix C identifies the criteria used to calculate risk for each asset category.

- Appendix D provides additional guidance on the development of a condition assessment.

- Appendix F summarizes the internal staff survey report which covers different parameters in understanding the current levels of service and requirements for proposed levels of service.

- Appendix E contains a summary of the asset inventory used to develop this document.

Appendix A: Proposed LOS 20-year Capital Requirements

The table below outlines projected capital investment needs by asset category over the 20-year period from 2025 to 2044, in alignment with Scenario 2, the Township's selected funding strategy which is designed to support the gradual achievement of proposed levels of service.

It is important to note that Ontario Regulation 588/17 requires municipalities to project capital needs over a minimum of 10-year horizon. As such, the timing of asset interventions is based on condition data and lifecycle schedules, and some funding needs fall just outside this planning window. In cases where a capital requirement is shown as $0, it does not imply that the asset has no long-term needs, but rather that the next major investment is forecasted for beyond 2044. As demonstrated in the supporting projected condition graphs in the proposed level of service sections for each category, investments made during the 20-year mark shows visible condition improvements.

Asset Categories	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	-	15k	$165k	40k	-	-	-	-	-	-
Buildings	$198k	$219k	$231k	$255k	$273k	$288k	$317k	$350k	$357k	$406k
Furniture & Office Equipment	$8k	$11k	$9k	$14k	$15k	$14k	$19k	$13k	$25k	$22k
Land Improvements	$71k	$76k	$86k	$65k	$67k	$144k	$143k	$81k	$165k	$193k
Machinery & Equipment	$62k	$63k	$78k	$87k	$44k	$134k	$95k	$103k	$122k	$134k
Road Network	$369k	$388k	$399k	$426k	$433k	$426k	$455k	$472k	$454k	$518k
Sanitary Sewer Network	$123k	$146k	$158k	$138k	$7k	$240k	-	$591k	$256k	$259k
Stormwater Network	$14k	$26k	$7k	$40k	$30k	$25k	-	-	-	-
Vehicles	$36k	$69k	$37k	$108k	-	-	$178k	-	$167k	$37k
Water Network	$271k	$280k	$289k	$299k	$309k	$319k	$329k	$340k	$351k	$363k
Total	$1.2m	$1.3m	$1.5m	$1.4m	$1.2m	$1.6m	$1.5m	$2.0m	$1.9m	$1.9m

Asset Categories	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
Bridges	-		-	-	-	-	-	-	-	-
Buildings	$438k	$466k	$502k	$538k	$587k	$575k	$676k	$602k	$983k	$846k
Furniture & Office Equipment	$16k	$33k	$30k	$33k	$36k	$38k	$41k	$46k	$54k	$60k
Land Improvements	$36k	$247k	$221k	$193k	$319k	$278k	$312k	$333k	$57k	$655k
Machinery & Equipment	$134k	$146k	$142k	$115k	$249k	$134k	$264k	$112k	$356k	$134k
Road Network	$500k	$528k	$530k	$555k	$560k	$583k	$613k	$626k	$631k	$666k
Sanitary Sewer Network	$285k	$303k	$326k	$353k	$377k	$405k	$437k	$476k	$510k	$543k
Stormwater Network	-	-	-	-	-	$3k	-	-	-	-
Vehicles	-	$341k	$36k	-	$122k	$390k	$37k	-	$276k	-
Water Network	$375k	$387k	$400k	$413k	$427k	$441k	$456k	$471k	$486k	$503k
Total	$1.8m	$2.5m	$2.2m	$2.2m	$2.7m	$2.8m	$2.8m	$2.7m	$3.4m	$3.4m

Appendix B: Level of Service Maps

Images of Bridge in Fair Condition
Maata's Road Bridge over Stillwater Creek
Inspected: June 16, 2025


Figure 1: North Approach.


Figure 5: Deck Rot - SW


Figure 2: South Approach.


Figure 6: Deck Rot - NW


Figure 20: South Crib - Severe Rot


Figure 19: North Crib - Severe Rot.

Images of Bridge in Fair Condition
Brennen Drive Bridge over CN Rail
Inspected: June 16, 2025


Figure 11: East Elevation


Figure 17: North End - Rust Staining and Delamination of Girders 3 and 4 From East

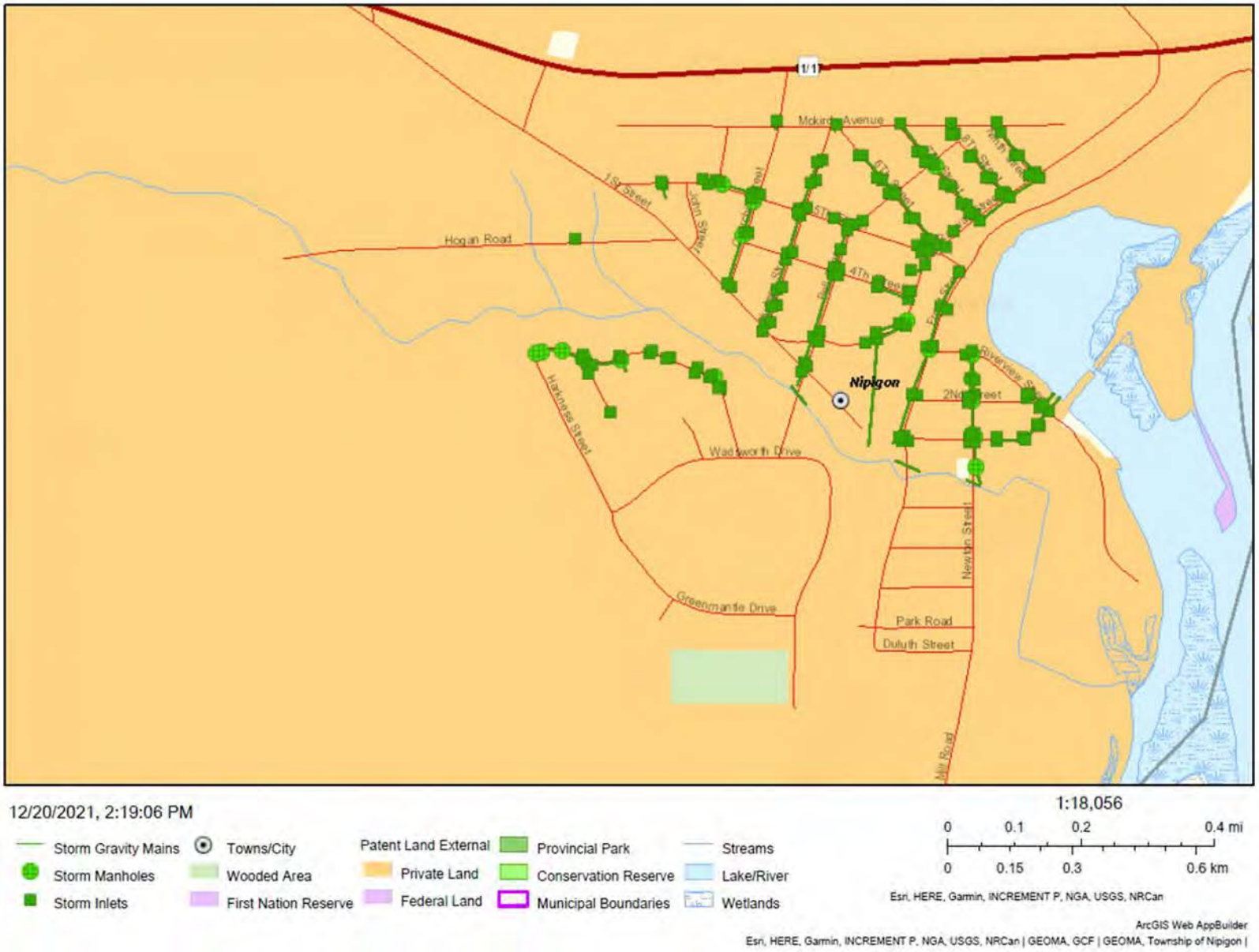

Figure 12: North Abutment


Figure 18: North End - Rust Staining and Delamination of Girders 4 and 5 From East

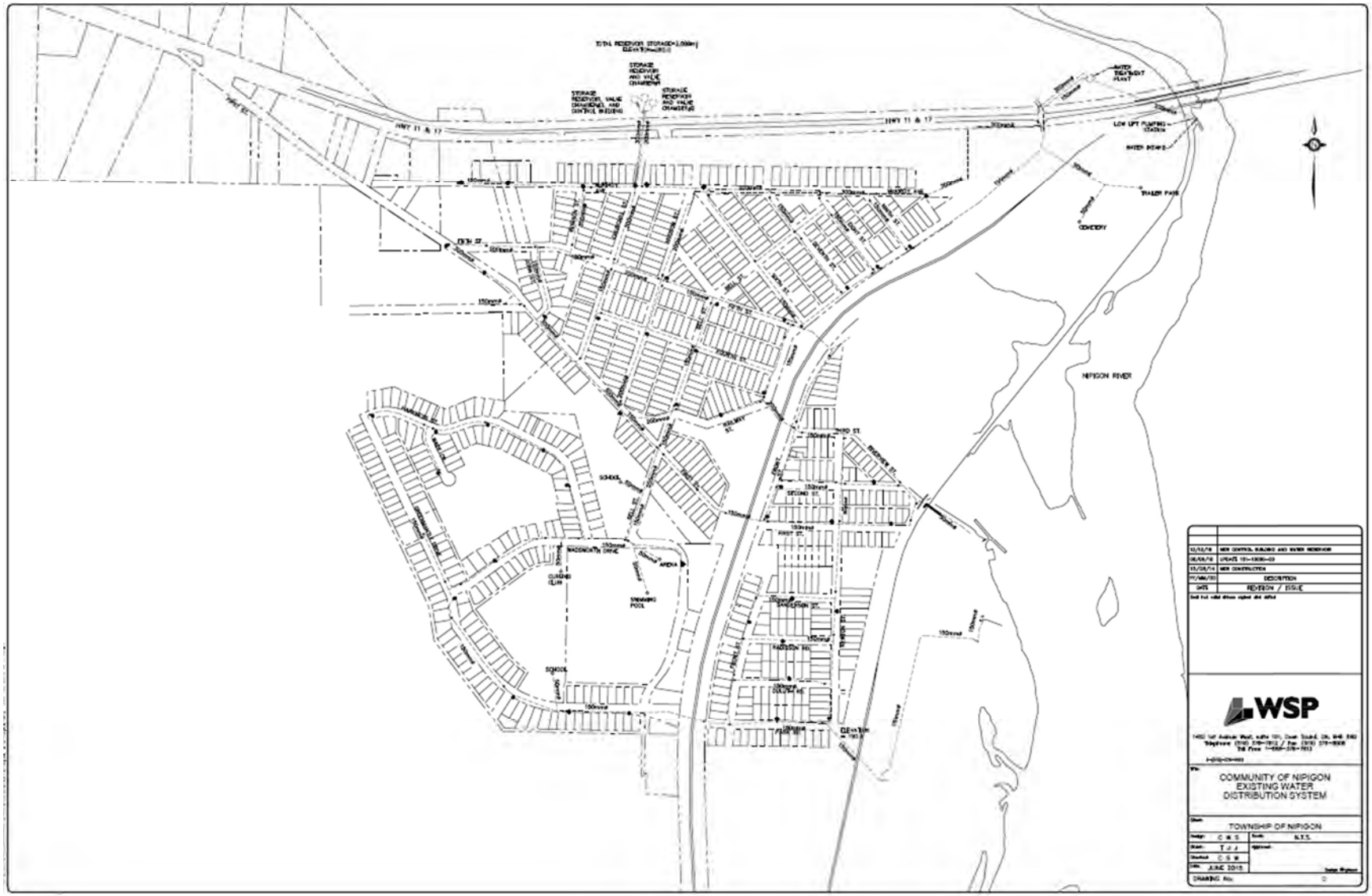

Figure 28: North Pier, South Side, Small Spall (Left)


Figure 27: Underside of Structure at Midspan - Small Spalls, Delaminations, Rust Staining

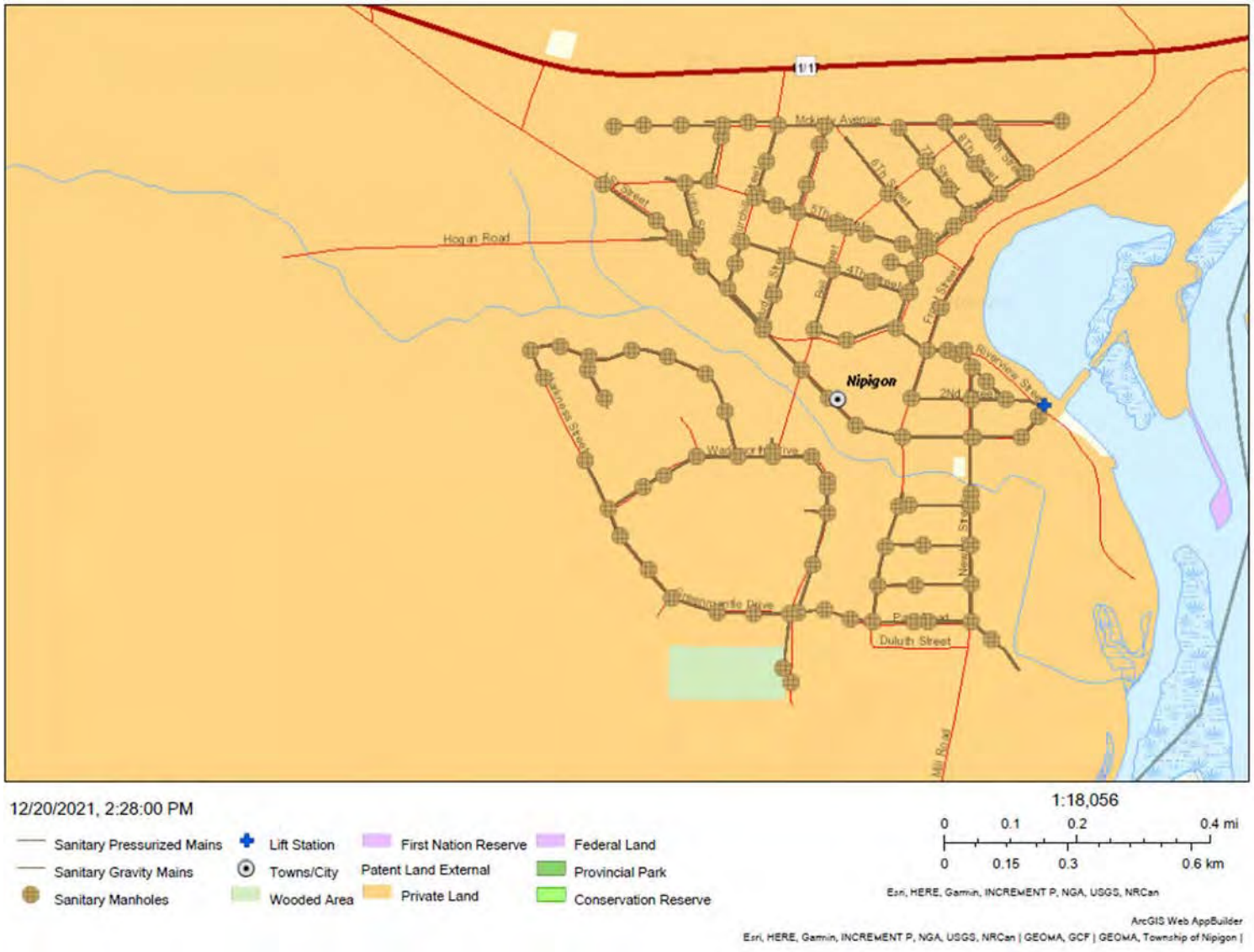
Stormwater Network Map



Water Network Map



Sanitary Sewer Network



Appendix C: Risk Rating Criteria

Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
Road Network (all other assets) Buildings Machinery & Equipment Land Improvements Vehicles Water Network (all other assets) Stormwater Network (all other assets) Sanitary Sewer Network (all other assets) Furniture & Office Equipment	Condition	100%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
Sanitary Sewer Network (Sanitary Mains)	Condition	70%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Pipe Material	20%	PVC	1
			PVC SDR	1
			Asbestos Concrete	3
			Clay Tile	4
	Pipe Type	10%	Gravity Mains	2
			Force Mains	4
Stormwater Network (Storm Mains)	Condition	80%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
Water Network (Watermains)	Pipe Material	20%	PVC	1
			Concrete	2
			Corrugated Metal Pipe	3
	Condition	80%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
Bridges	Pipe Material	20%	Ductile Iron	3
			Cast Iron	4
	Condition	80%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Surface Type	20%	Wood	1
			Concrete	3
			Asphalt	4
			Asphalt / Gravel	4
			Gravel	5

Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Road Network (Asphalt Roads)	Economic (100%)	Replacement Cost (80%)	0-$100,000	1
			$100,000-$250,000	2
			$250,000-$500,000	3
			$500,000-$1000,000	4
			$1000,000+	5
		Material (20%)	Asphalt – 50mm	2
			Asphalt – 100mm	4
Buildings	Economic (70%)	Replacement Cost (80%)	0-$100,000	1
			$100,000-$500,000	2
			$500,000-$1,000,000	3
			$1,000,000-$2,500,000	4
			$2,500,000+	5
	Health and Safety (20%)	Building Type (20%)	Community and Recreation	2
			Other Buildings	2
			Recreation Buildings	2
			Marina	3
			Municipal Buildings	3
			Public Works	3
			Public Works Buildings	3
			Fire Hall	4
Stormwater Network (Drainage Culverts)	Economic (100%)	Diameter (100%)	0 - 250 mm	1
			251 - 425 mm	2
			426 - 900 mm	3
			901 - 2,000 mm	4
			2,001 - 3,000 mm	5

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Machinery & Equipment	Economic (80%)	Replacement Cost (100%)	0-$50,000	1
			$50,000-$100,000	2
			$100,000-$250,000	3
			$250,000-$500,000	4
			$500,000+	5
	Health and Safety (20%)	Services Type (100%)	Office Equipment	2
			Other Machinery & Equipment	2
			Ice-Making Equipment	3
			Public Works Equipment	3
			Fire Department Equipment	4
Stormwater network (Storm Mains)	Economic (100%)	Diameter (100%)	0-250 mm	1
			251-450 mm	2
			451-1,000 mm	3
			1,001-2,200 mm	4
			2,200+ mm	5
Land Improvements	Economic (100%)	Replacement Cost (100%)	0-$50,000	1
			$50,000-$100,000	2
			$100,000-$250,000	3
			$250,000-$500,000	4
			$500,000+	5
Furniture & Office Equipment	Economic (80%)	Replacement Cost (100%)	0-$10,000	1
			$10,000-$50,000	2
			$50,000-$100,000	3
			$100,000-$250,000	4
			$250,000+	5
	Operational (20%)	Services Type (100%)	Office Equipment	2
			Office Furnishings	2
			Computer Systems	3

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Sanitary sewer network (Gravity Mains, Force Main) Water Network (watermains)	Economic (100%)	Diameter (100%)	0-100mm	1
			101-150 mm	2
			151-200 mm	3
			201-250 mm	4
			251-300 mm	5
Vehicles	Economic (70%)	Replacement Cost (100%)	0-100 mm	1
			$50,000-$100,000	2
			$100,000-$250,000	3
			$250,000-$500,000	4
			$500,000+	5
	Health and Safety (30%)	Vehicles Type (100%)	Licensed Vehicle	2
			Unlicensed Vehicle	4
Bridges	Economic (100%)	Replacement Cost (100%)	0-$250,000	1
			$250,000-$500,000	2
			$500,000-$1,000,000	3
			$1000,000-$1,500,000	4
			$1,500,000-$2,000,000	5
Road Network (all other assets) Sanitary Sewer Network (all other assets) Stormwater Network (all other assets) Water Network (all other assets)	Economic (100%)	Replacement Cost (100%)	0-$100,000	1
			$100,000-$250,000	2
			$250,000-$500,000	3
			$500,000-$1000,000	4
			$1000,000+	5

Appendix D: Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.

Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, the Township's condition assessment strategy should outline several key considerations, including:

- The role of asset condition data in decision-making
- Guidelines for the collection of asset condition data
- A schedule for how regularly asset condition data should be collected

Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows municipal staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts the Township's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, the Township can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of future capital expenditures, the Township can develop long-term financial strategies with higher accuracy and reliability.

Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of condition assessments there can be little confidence in the validity of condition data and asset management strategies based on this data.

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project. There are many options available to the Township to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource intensive. It is not necessarily an effective strategy to collect assessed condition data across the entire asset inventory. Instead, the Township should prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making. The International Infrastructure Management Manual (IIMM) identifies four key criteria to consider when making this determination:

1. **Relevance**: every data item must have a direct influence on the output that is required
2. **Appropriateness**: the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
3. **Reliability**: the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
4. **Affordability**: the data should be affordable to collect and maintain

Appendix E: Internal Staff Survey

The Municipality of Nipigon is committed to delivering safe, reliable, and high-quality water services to its residents and businesses. As part of developing the 2025 Asset Management Plan (AMP), an internal survey was conducted with key staff members to evaluate the current performance of the municipal infrastructure, identify priority service areas, and assess future planning needs. The survey focused on:

- Assessing the current condition and performance of asset groups
- Identifying priority areas for maintenance, replacement, or investment
- Gauging support for a proposed service expansion and lifecycle strategy
- Understanding staff perspectives on risks, maintenance approaches, and long-term planning

All staff responses were collected, reviewed, and grouped by asset category to identify common themes, concerns, and recommendations regarding the current levels of service.

Road Network

Reliability

Service availability was rated as "Generally Satisfied," with no excessive numbers of closures or load restrictions in existence. The condition and reliability of road assets were also rated as "Generally Satisfied," with the Township replacing approximately 500–800 m of paved road per year.

Resourcing

Resources were reported as adequate to maintain the road network. Sufficient staff is available, and the Township is investing in new equipment. Crack sealing equipment will be purchased in 2025 to extend pavement life.

Lifecycle and Maintenance Strategy

The current approach of milling and paving 500–800 m per year was confirmed as effective for addressing roads in poor condition. Preventative maintenance is recognized as essential for extending service life. Planned acquisition of crack sealing equipment will enhance the Township's lifecycle strategy. Gravel placement, routine grading, and calcium treatment are applied to maintain unpaved roads in good condition.

Level of Service – As per 2024 AMP

1. **Average pavement condition index for paved roads**
    - Current: 39%
    - Desired Change: Current Level is Satisfactory for the Community
    - Rationale: Milling and paving program and upcoming crack sealing purchase provide sufficient maintenance capacity
2. **Average surface condition of unpaved roads**
    - Current: Poor
    - Desired Change: Current Level is Satisfactory for the Community

- Rationale: Gravel roads are kept in good condition with around 750 MT of gravel is placed.

Additional Levels of Service Recommendations

- A 1-ton asphalt hot box is identified as a need to improve patching (likely to be purchased in 2025)
- The current distribution of paved and unpaved roads was reported as correct for the Township. Levels of service should be maintained at status quo while ensuring roads receive routine maintenance.

Bridges

Reliability

The overall condition of bridges was rated as "Fair," with signage present to support safety. Closures or restrictions due to maintenance or safety concerns have not occurred in recent years. Bridges are examined every two years by engineers. The timeliness and effectiveness of repairs were rated as "Good," with maintenance completed as required.

Resourcing

Resources and staff were reported as adequate to maintain bridges under normal conditions. Whenever a bridge required significant repairs exceeding $250,000, the Township would need to defer other capital projects to finance the work.

Lifecycle and Maintenance Strategy

The Township follows a proactive approach, with bridge inspections every two years conducted by engineers. Maintenance activities are carried out based on recommendations from these reports.

Level of Service – As per 2024 AMP

1. **Bridge Restrictions**
    - Current: There are no load or dimensional restrictions on bridges
    - Desired Change: Status quo should be maintained
    - Rationale: Only two low-traffic bridges exist, and current practices ensure safety.
2. **Average condition index of Bridges**
    - Current: 65%
    - Desired Change: Current Level is Satisfactory for the Community
    - Rationale: Maintenance is aligned with inspection recommendations

Additional Levels of Service Recommendations

- The Township should set aside additional funds to ease the future financial burden of major capital repairs or bridge replacements.

Stormwater Network

Reliability

The stormwater system was reported to handle average rainfall from 5-year and 100-year rainfall events with no issues noted in recent years. Standing water or poor drainage is rare. The Township was assessed as well prepared to respond to heavy storms or flooding events, with drains in place to mitigate storm impacts.

Resourcing

Resources were reported as adequate. The Township has sufficient funds and staffing to maintain and replace the stormwater system.

Lifecycle and Maintenance Strategy

The overall effectiveness of stormwater management in reducing erosion and protecting waterways was rated as very effective. Age-based condition assessments were confirmed as sufficient for the Township's system size. The current approach to lifecycle and maintenance activities are deemed appropriate.

Level of Service – As per 2024 AMP

1. **% of the Township stormwater management system resilient to a 5-year storm**
    - Current: 50%
    - Desired Change: Current level of service is satisfactory
    - Rationale: Township is likely to be more resilient than 50%. Moreover, flooding due to storms is rare in Nipigon due to its favorable geography and effective existing systems.
2. **% of the Township stormwater management system resilient to a 100-year storm**
    - Current: 25%
    - Desired Change: The level of service should be increased
    - Rationale: Enhancing stormwater infrastructure is critical to protecting public safety, property, and the environment from increasingly intense storm events.

Additional Levels of Service Recommendations

- Additional drains should be installed where feasible, particularly alongside road construction projects, to further increase resilience.

Buildings

Reliability

The general reliability of Township buildings was rated as "Satisfied." All buildings were reported as generally clean, and issues are typically addressed within five business days, with urgent matters being resolved sooner. Access to buildings was confirmed as similar across all areas, with no areas identified as underrepresented.

Resourcing

Resources are adequate to address items under $250,000 in a timely manner. However, any larger repairs or projects would require funding from reserves or would take priority over other capital projects.

Lifecycle and Maintenance Strategy

The current approach, consisting of preventative maintenance and complete repairs as needed, was confirmed as appropriate given the Township's size and resources. The strategy balances affordability with reliability, though major capital projects require external funding support.

Level of Service – As per 2024 AMP

1. **% of Buildings in fair or better condition**
    - Current:22%
    - Desired Change: Current Level is Satisfactory for the Community
    - Rationale: The Township lacks the resources to significantly extend the overall lifecycle of its buildings. Preventative maintenance should be undertaken where it is financially feasible, and available funding opportunities should be pursued for major capital repairs. A phased approach can be taken by planning the repairs in successive stages.

Additional Levels of Service Recommendations

- Seek funding opportunities for large-scale capital renovations.
- Break major capital projects into phases where possible to align with Township financial capacity.

Vehicles

Reliability

Vehicle reliability was reported as requiring improvement, with a need for better routine maintenance. Overall condition was described as "Decent," though vehicles are not cleaned or washed frequently. Responsiveness to vehicle issues is strong, as staff rely on vehicles for daily operations.

Resourcing

Resources were reported as adequate. The Township has enough staff and financial capacity to maintain vehicles and replace them as needed.

Lifecycle and Maintenance Strategy

The current lifecycle approach, including regular service, was agreed to be appropriate. Vehicles typically accrue lower mileage per year due to the Township's size, which reduces wear and extends their useful life. Age-based condition assessments were confirmed as sufficient for evaluating vehicles.

Level of Service – As per 2024 AMP

1. **% of Vehicles in fair or better condition**
    - Current: 38%
    - Desired Change: Current Level is Satisfactory
    - Rationale: Vehicles accumulate limited mileage per year due to the smaller size of the Township, resulting in less wear and longer service life

Additional Levels of Service Recommendations

- Transition to hybrid or electric vehicle replacements in future procurement cycles to enhance sustainability.

Land Improvements

Reliability

The Township was described as "Very Responsive," with repair issues typically addressed once faults are identified, unless significant resources are required.

Resourcing

Resources were reported as generally adequate. Projects up to $250,000 can be funded, but larger works may need to be deferred, phased, or result in other capital projects being postponed.

Lifecycle and Maintenance Strategy

Age-based condition assessments were reported as sufficient for this portfolio. Monthly inspections are conducted, allowing the Township to identify necessary repairs and act accordingly. Maintenance and replacements are completed as required.

Level of Service – As per 2024 AMP

1. **% of Land Improvements in fair or better condition**
    - Current: 73%
    - Desired Change: Current Level is Satisfactory
    - Rationale: Monthly inspections ensure reliability within financial means

Additional Levels of Service Recommendations

- None

Machinery and Equipment

Reliability

The availability and reliability of Township-owned machinery and equipment was rated as "Generally Satisfied." The Township manages equipment effectively to minimize service disruptions, with replacements carried out as required.

Resourcing

Resources were reported as adequate, with some funds available or can be budgeted in future years for maintenance and replacement.

Lifecycle and Maintenance Strategy

The current lifecycle approach was confirmed as appropriate for the Township's size. Routine maintenance is completed to reduce breakdowns, while replacements are undertaken as required. This strategy balances resource constraints with service reliability.

Level of Service – As per 2024 AMP

1. **% of Machinery and Equipment in fair or better condition**
    - Current: 19%
    - Desired Change: Current Level is Satisfactory
    - Rationale: Maintenance programs reduce breakdowns; replacements are manageable within Township's size and resources

Additional Levels of Service Recommendations

- Set aside additional funds annually for future replacements to reduce the financial burden of capital purchases.

Furniture and Office Equipment

Reliability

The availability and reliability of Township-owned office equipment and furniture was rated as "Satisfied. New equipment or furniture is purchased as needed to maintain service delivery.

Resourcing

Resources were reported as adequate. Equipment and furniture are budgeted for annually, with costs typically minimal and affordable within Township means.

Lifecycle and Maintenance Strategy

The current lifecycle approach of replacing items as needed was confirmed as the most feasible and financially optimal for the Township's size. This ensures that service delivery is not disrupted, while minimizing unnecessary costs.

Level of Service – As per 2024 AMP

1. **% of Furniture and Office Equipment in fair or better condition**
    - Current: 30%
    - Desired Change: Current Level is Right for the Community
    - Rationale: Equipment is functioning well and does not require replacement unless breakdown occurs

Additional Levels of Service Recommendations

- Replace assets only as required, as the current stock is in good condition and expected to remain serviceable for several years.

Sanitary Sewer Network

Reliability

No backup or overflow events were reported in the past year, with the Township experiencing 0–2 backups per year on average. Preventative measures are in place to minimize these occurrences. Odor issues exist at the main facility, and actions have been taken to mitigate the problem. Overall, sanitary sewer services were rated as "Consistently Reliable," with the system operating well within its designed capacity.

Resourcing

Resources were reported as inadequate to fully sustain long-term needs. The Township requires an additional $100,000 annually to adequately maintain sanitary sewer assets.

Lifecycle and Maintenance Strategy

The current lifecycle approach was reported as effective. Annual inspections and flushing are carried out, and assets are maintained in fair condition. Age-based condition assessments were confirmed as sufficient, with all assets aging in line with expectations.

Level of Service – As per Staff Feedback

1. **% of properties connected to the municipal sanitary sewer system**
    - Current: 81%
    - Desired Change: Current Level is Satisfactory for the Community
    - Rationale: The sewer system in good condition and routine maintenance is completed as required.
2. **System reliability and capacity**
    - Desired Change: Current Level is Satisfactory for the Community
    - Rationale: The sanitary sewer system is designed for much larger capacity and current operations are occurring within the designed capacity. While few back up events happen annually, preventative actions have been taken to mitigate their occurrences. Moreover, there are no effluent violations in the Township.

Additional Levels of Service Recommendations

- Secure additional annual funding of approximately $100,000 to ensure adequate maintenance and long-term sustainability of the network.
- Monitor and implement further mitigation measures to address odor issues at the main facility.

Water Network

Reliability

Main breaks are rare, with only 1–3 occurrences per year. Staff respond quickly to reported issues, typically arriving on site within a few hours to reduce property damage and water loss.

Resourcing

Resources were reported as adequate. The Township has sufficient financial and human resources to maintain the water network in a reliable manner.

Lifecycle and Maintenance Strategy

The age-based condition approach was confirmed as appropriate for the Township’s size, and valves are noted as being at roughly double their expected useful life despite harsh winters. Routine maintenance is completed as required, and water relining is carried out annually where needed.

Level of Service – As per 2024 AMP

1. **% of properties connected to the municipal water system**

- Current: 82%
- Desired Change: Current Level is Right for the Community

2. **% of properties where fire flow is available**
    - Current: 82%
    - Desired Change: Current Level is Satisfactory for the Community
3. **# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system**
    - Current: Boil water advisory is usually rare. in 2024 and 2025, there was 0 boil water advisories.
    - Desired Change: Current Level is Right for the Community
4. **# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system**
    - Current: 1
    - Desired Change: Current Level is Right for the Community
    - Rationale: The Township has minimal line breaks.

Additional Levels of Service Recommendations

- None