# Asset Management Plan 2025

MUNICIPALITY OF CENTRAL MANITOULIN

**September 2026**

psdcitywide

# Key Statistics

| | |
|---|---|
| **$96.9m** | 2024 Replacement Cost of Asset Portfolio |
| **$60.5k** | Replacement Cost of Infrastructure Per Household |
| **75%** | Percentage of Assets in Fair or Better Condition |
| **72%** | Percentage of Assets with Assessed Condition Data |
| **$2.9m** | Average Annual Requirement: Proposed LOS |
| **$1.8m** | Actual Funding Level (2024) |
| **5-10 Years** | Recommended Phase in Timeframe |



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# 1. Executive Summary

Municipal infrastructure delivers critical services that are foundational to the economic, social, and environmental health and growth of a community. The goal of asset management is to enable infrastructure to deliver an adequate Level of Service (LOS) in the most cost-effective manner. This involves the ongoing review and update of infrastructure information and data alongside the development and implementation of asset management strategies and long-term financial planning.

## 1.1 Scope

This Asset Management Plan (AMP) evaluates three proposed LOS options and selects one considering the risks, costs, and achievability of the options. It outlines the projected LOS over a ten-year period and the associated costs for delivery. The AMP also estimates the Municipality's sustainable funding, the average annual funding required to achieve the proposed LOS selected, and the funding shortfall. Strategies to address the identified funding shortfalls are provided.

As detailed in Appendices A to H, the Municipality has compiled its asset inventory, including replacement costs, condition assessments, and lifecycle management strategies, based on year-end 2024 data. The analysis completed in this plan is predicated on this asset inventory information.

This AMP has been developed in accordance with the 2025 requirements for Asset Management Planning in Ontario. The AMP advances the Municipality's asset management program by assessing proposed LOS options and selecting one that balances risk, affordability, and achievability. This AMP includes the following asset categories

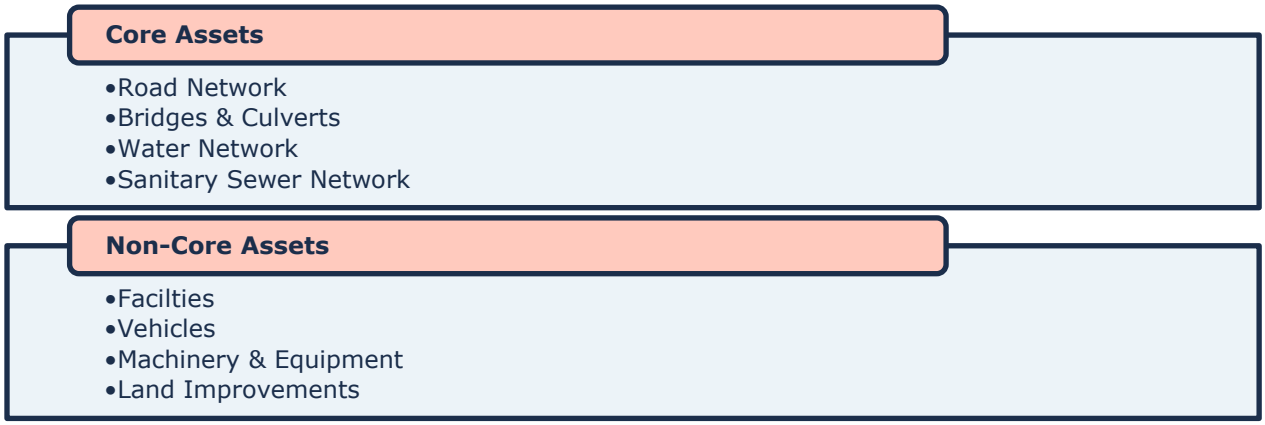



*Figure 1 Core and Non-Core Asset Categories*

## 1.2 O. Reg. 588/17 Compliance

With the development of this AMP, the Municipality has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. More details on compliance can be found in section 2.5.1 O. Reg. 588/17 Compliance Review.

## 1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals $96.9 million. Three-quarters (75%) of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 72% of assets. For the remaining 28% of assets, assessed condition data was unavailable. In lieu of assessed condition, asset age was used to approximate condition – a data gap that persists in most municipalities.

A focus on this AMP is to select proposed LOS options and evaluate them with consideration for their cost, risk, and achievability. To determine a suitable proposed LOS option, important asset information was reviewed alongside key input from the Strategic Plan, residents and staff. Especially pertinent details include:

- To replace every single asset when it reaches its Estimated Useful Life (EUL) and complete rehabilitations where they have been modelled, the average annual total capital investment requirement is $3.5 million. This represents funding 100% of asset requirements. Current capital investment from sustainable sources is about $1.8 million.
- Increased investment in core infrastructure is especially important to the Municipality.
- Like residents in many other municipalities, most local citizens desire to increase their level of service but simultaneously have a limited appetite to increase taxes and/or rates to support these infrastructure investments. Council, as elected representatives of the public, often places pressure on staff to reduce investment. While this may garner short-term savings, it is often at the expense of effective, prudent, and sustainable asset management decisions.
- A resident survey focused on facilities indicated that residents have recurring concerns about asset maintenance and generally supported the repair and maintenance of existing assets before building new ones. Other dominant themes included the importance of affordability, transparency and communication.

In consideration of the above, the following three proposed LOS options were selected, modelled, and evaluated.

*Table 1: Proposed LOS Options*

| Scenario # | Description |
|---|---|
| 1 (Maintain Current Investment) | Maintain Current Capital Funding Levels |
| 2 (100% AAR) | Reach 100% of the Average Annual Requirement (AAR) for every asset category within 5 years. |
| 3 (80% AAR) | Fund all asset categories to 80% of their AAR within 5 years. |

The three above noted scenarios were analyzed and the results were reviewed with senior leadership. Based on the information presented, staff recommended council endorse **Scenario 3 (80% AAR)** with investment increases phased in over a 5-year period for tax-funded and water network assets and a 10-year period for the sanitary network. 10 years, rather than 5 years, was selected for the sanitary network due to affordability considerations.

This selection represents the Municipality's current proposed LOS. A financial strategy to fund the investments required was developed and is presented in Section 6 of this report.

## 1.4 Recommendations

A financial strategy was developed to address the annual capital funding gap based on the selected proposed LOS. The following graphic shows the annual tax/rate change required to support the selected proposed LOS. These recommendations are based on a 5-year plan for the tax funded assets and the water network and a 10-year plan otherwise:

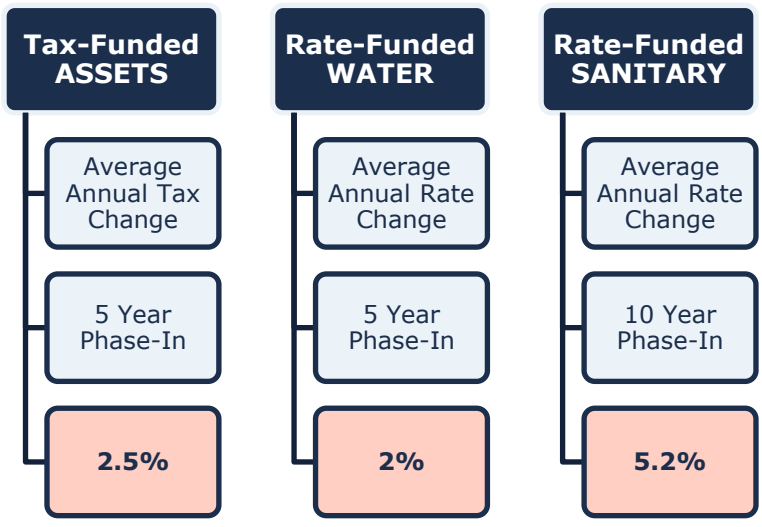



*Figure 2 Proposed Tax/Rate Changes*

# 2. Introduction & Context

## 2.1 Community Profile

| Census Characteristic | Municipality of Central Manitoulin | Ontario[1] |
|---|---|---|
| Population 2021 | 2,235 | 14,223,942 |
| Total Private Dwellings | 1,603 | 5,929,250 |
| Population Density | 5.2/km$^2$ | 15.9/km$^2$ |
| Land Area | 427.61 km$^2$ | 892,411.76 km$^2$ |

*Table 2 Municipality of Central Manitoulin Community Profile*

The Municipality of Central Manitoulin is a single-tier municipality, part of the Manitoulin District, which is located on Manitoulin Island, an island in northern Lake Huron.

Central Manitoulin was incorporated in 1998, as part of a provincial initiative in Ontario to streamline local governance by reducing administrative overhead and improving service efficiency. This involved amalgamating the former municipalities of Carnarvon, Campbell, and Sandfield with the Village of Mindemoya, aiming to enhance service delivery and coordination across Manitoulin Island.

The Municipality is characterized by its scenic beauty and diverse ecosystems, which include lakes, dense forests, and access to outdoor activities like hiking, fishing, and boating. The Municipality is also known for its strong sense of community with a variety of cultural events and festivals that celebrate its heritage and local arts. The area's rural charm combined with its natural beauty attracts both tourists and new residents looking for a quieter, scenic lifestyle.

Demand in Central Manitoulin is largely driven by tourism, leveraging its natural attractions and recreational activities. Seasonal visitors boost the economy through accommodations, dining, and retail. Additionally, the real estate market is fueled by retirees and urbanites seeking second homes, prompting a shift towards residential development and services for both seasonal and permanent residents, shaping the area's economic landscape. The infrastructure priorities for Central Manitoulin include enhancing community services and promoting economic development. Efforts focus on

[1] 2021 Census

intensifying and redeveloping existing settlement areas to efficiently use infrastructure, while preserving cultural and environmental integrity to sustain a balanced and sustainable community.

## 2.2 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 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.

### 2.2.1 Municipality of Central Manitoulin: Climate Profile

The Municipality of Central Manitoulin is located within the Manitoulin District. The Municipality is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme events. According to Climatedata.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – the Municipality of Central Manitoulin may experience the following trends:

**Higher Average Annual Temperature:**

- Between the years 1971 and 2000 the annual average temperature was 5.3 ºC
- Under a high emissions scenario, the average temperature is projected to rise to 8.2 °C by mid-century (2021–2050), 10.3 °C by 2080, and reach 12.0 °C by the end of the century (2071–2100)—an overall increase of approximately 6.7 °C.

**Increase in Total Annual Precipitation:**

- The historical average annual precipitation from 1971 to 2000 was 836 mm.
- Under the same high emissions scenario, precipitation levels are projected to increase by 13% for the 2051–2080 period and by 16% by the end of the century.

**Increase in Frequency of Extreme Weather Events:**

- It is expected that the frequency and severity of extreme weather events will change.
- In some areas, extreme weather events will occur with greater frequency and severity than others especially those impacted by Great Lake winds.

### 2.2.2 Lake Huron

The Great Lakes are one of the largest sources of fresh water on earth, containing 21 percent of the world's surface freshwater. There are 35 million people living in the Great Lakes watershed and Lake Huron is the second largest of the Great Lakes. The area of Lake Huron Watershed is approximately 131,100 km2. The physical impacts of climate change are most noticeable from flooding, extreme weather events such as windstorms and tornados, and/or rising water levels eroding shorelines and natural spaces. Erosion and flooding pose a threat to the surrounding built infrastructure such as park assets, bridges, and roads.

Communities, such as the Municipality of Central Manitoulin, located in the Great Lakes region may experience more severe windstorms or tornados due to climate change, causing damage to both the natural and built environment.

Public health and safety depend on the stability and predictability of the ecosystem in the Great Lakes watershed. The quality of water is threatened by anthropogenic climate change due to blue-green algae blooms, soil erosion, and agricultural, stormwater, and wastewater runoff. These phenomena put undue stress on regional water filtering and treatment

systems. The safety of the public is threatened by the physical impacts of flooding such as flooding and erosion. In some cases, homeowners located near the lakeshore are already at risk of losing their homes.

### 2.2.3 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 due to climate change impacts such as flooding, high heat, drought, and more frequent and intense storms.

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. The Community Energy and Emissions Plan (CEEP) for Central Manitoulin focuses on mitigating climate change by reducing greenhouse gas emissions by 50% by 2030 and aiming for a net-zero status by 2050. This plan emphasizes practical measures like improving energy efficiency, adopting renewable energy, minimizing vehicle emissions, and enhancing waste management practices. The objectives are designed to strengthen the community's resilience against climate change, enhance public health, protect natural biodiversity, and stimulate economic growth through sustainable practices.

## 2.3 Asset Management Overview

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 that the community receives.

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

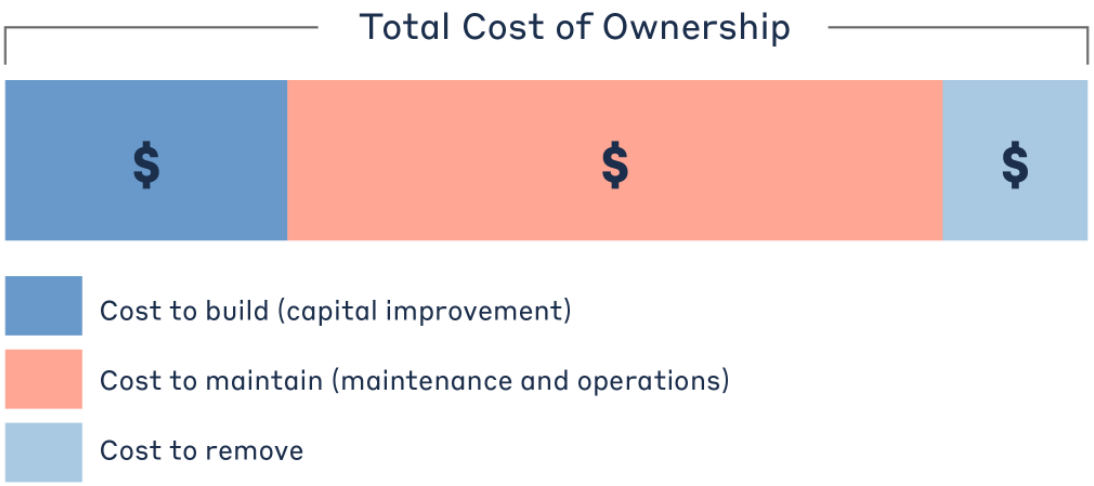



*Figure 3 Total Cost of Asset Ownership*

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 a 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.

### 2.3.1 Foundational Asset Management Documentation

The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan/Priorities, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

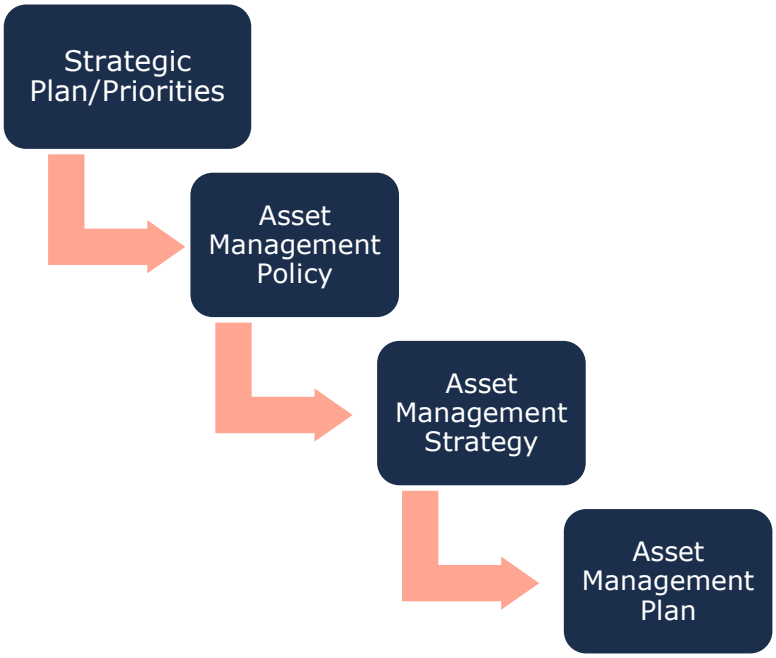



*Figure 4 Foundational Asset Management Documents*

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

### *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 Municipality most recently reviewed and approved its "Strategy Asset Management Policy" on January 15th, 2026, in accordance with Ontario Regulation 588/17.

The policy supports a range of principles including:

- Clear identification of infrastructure priorities to drive investment decisions.
- Decisions that are evidence-based and transparent and based on information that is publicly available.
- Decisions that promote community benefits such as improvement of public spaces within the community.

## *Strategic Plan*

The Municipality's 2025-2028 Strategic Plan serves as a practical blueprint to guide municipal decision-making, budgeting, and operations. The plan is designed to foster sustainable growth while preserving local identity, maintaining strong community relationships, and managing current pressures like housing demand and waste management. To keep municipal efforts focused and achievable, the Municipality has consolidated ten historical community themes into six core Strategic Goals: Infrastructure & Essential Services; Housing & Land Development; Waste Management; Community & Recreation; Economic Development; and Municipal Governance.

Physical infrastructure management is woven directly into the plan's goals to ensure municipal systems remain reliable, cost-effective, and prepared for future development. Specifically, it notes:

- **Water and Sewer Infrastructure:** A primary focus is assessing and maintaining accurate data on current water and sewer capacities. This data will feed directly into a new multi-year capital program designed to systematically address core replacement and maintenance needs.
- **Funding and Expansion:** The Municipality intends to actively pursue federal and provincial grants to finance the replacement and expansion of these core assets.
- **Integrating Infrastructure with Growth:** Future housing projects and land developments must be carefully coordinated to align with existing road, water, and sewer capacities so systems are not overloaded.
- **Waste Management Facilities:** The plan outlines a shift toward greater municipal oversight and cost control for waste. This includes evaluating long-term landfill capacity, exploring waste-to-energy options, and investigating local recycling opportunities specifically at the Monument Road site.
- **Recreation Facilities:** The Municipality will create a comprehensive Leisure and Recreation Plan. This plan will look five to ten years into the future to guide upgrades for public facilities, ensuring they adapt to changing demographics, including an aging population

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. While the Municipality does not have an Asset Management Strategy, many of the elements of one are within their Strategic Plan.

### *Asset Management Plan*

The asset management plan (AMP) presents the outcomes of the Municipality'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 Municipality to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

## 2.3.2 Key Concepts in Asset Management

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

### *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.

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.

| Lifecycle Activity | Cost | Typical Associated Risks |
|---|---|---|
| ***Maintenance***<br>Activities that prevent defects or deteriorations from occurring | **$** | • Balancing limited resources between planned maintenance and reactive, emergency repairs and interventions<br>• Diminishing returns associated with excessive maintenance activities, despite added costs<br>• Intervention selected may not be optimal and may not extend the useful life as expected, leading to lower payoff and potential premature asset failure; |
| ***Rehabilitation/ Renewal***<br>Activities that rectify existing defects or deficiencies that may be affecting asset performance | **$$$** | • Useful life may not be extended as expected<br>• May be costlier in the long run when assessed against full reconstruction or replacement<br>• Loss or disruption of service, particularly for underground assets; |
| ***Replacement/ Reconstruction***<br>Asset end-of-life activities that often involve the complete replacement of assets | **$$$$$** | • Incorrect or unsafe disposal of existing asset<br>• Costs associated with asset retirement obligations<br>• Substantial exposure to high inflation and cost overruns<br>• Replacements may not meet capacity needs for a larger population<br>• Loss or disruption of service, particularly for underground assets |

*Table 3 Lifecycle Management: Typical Lifecycle Interventions*

The Municipality's approach to lifecycle management is described within each asset category outlined in this AMP. Staff will continue to evolve and innovate current practices for developing and implementing proactive lifecycle strategies 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.

### *Risk & Criticality*

Asset risk and criticality are essential building blocks of asset management, integral in prioritizing projects and distributing funds where they are needed most based on a variety of factors. Assets in disrepair may fail to perform their intended function, pose substantial risk to the community, lead to unplanned expenditures, and create liability for the Municipality. In addition, some assets are simply more important to the community than others, based on their financial significance, their role in delivering essential services, the impact of their failure on public health and safety, and the extent to which they support a high quality of life for community stakeholders.

Risk is a product of two variables: the probability that an asset will fail, and the resulting consequences of that failure event. It can be a qualitative measurement, (i.e., low, medium, high) or quantitative measurement (i.e. 1-5), that can be used to rank assets and projects, identify appropriate lifecycle strategies, optimize short- and long-term budgets, minimize service disruptions, and maintain public health and safety.




*Figure 5 Risk Equations*

The approach used in this AMP relies on a quantitative measurement of risk associated with each asset. The probability and consequence of failure are each scored from 1 to 5, producing a minimum risk index of 1 for the lowest risk assets, and a maximum risk index of 25 for the highest risk assets.

#### Probability of Failure

Several factors can help decision-makers estimate the probability or likelihood of an asset's failure, including its condition, age, previous performance history, and exposure to extreme weather events, such as flooding and ice jams—both a growing concern for municipalities in Canada.

## Consequence of Failure

Estimating criticality also requires identifying the types of consequences that the organization and community may face from an asset's failure, and the magnitude of those consequences. Consequences of asset failure will vary across the infrastructure portfolio; the failure of some assets may result primarily in high direct financial cost but may pose limited risk to the community. Other assets may have a relatively minor financial value, but any downtime may pose significant health and safety hazards to residents.

Table 4 illustrates the various types of consequences that can be integrated in developing risk and criticality models for each asset category and segments within. We note that these consequences are common, but not exhaustive.

| Type of Consequence | Description |
|---|---|
| ***Direct Financial*** | Direct financial consequences are typically measured as the replacement costs of the asset(s) affected by the failure event, including interdependent infrastructure. |
| ***Economic*** | Economic impacts of asset failure may include disruption to local economic activity and commerce, business closures, service disruptions, etc. Whereas direct financial impacts can be seen immediately or estimated within hours or days, economic impacts can take weeks, months and years to emerge, and may persist for even longer. |
| ***Socio-political*** | Sociopolitical impacts are more difficult to quantify and may include inconvenience to the public and key community stakeholders, adverse media coverage, and reputational damage to the community and the Municipality. |
| ***Environmental*** | Environmental consequences can include pollution, erosion, sedimentation, habitat damage, etc. |
| ***Public Health and Safety*** | Adverse health and safety impacts may include injury or death, or impeded access to critical services. |
| ***Strategic*** | These include the effects of an asset's failure on the community's long-term strategic objectives, including economic development, business attraction, etc. |

*Table 4 Risk Analysis: Types of Consequences of Failure*

This AMP includes a preliminary 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.

These models have been built in Citywide for continued review, updates, and refinements.

## *Levels of Service*

A level of service (LOS) is a measure of the services that the Municipality is providing to the community and the nature and quality of those services. 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.

The Municipality measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service. This AMP includes those LOS that are required under O. Reg. 588/17 as well as any additional metrics the Municipality wishes to track.

### Community Levels of Service

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

### Technical Levels of Service

Technical LOS 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 Municipality's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

For core asset categories as applicable, the province, through O. Reg. 588/17, has also provided technical metrics that are required to be included in this AMP.

### Current and Proposed Levels of Service

Proposed LOS are targets for asset performance at a future date. Proposed LOS should be realistic and achievable within the timeframe outlined by the Municipality. 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 LOS have been established, the Municipality must identify a lifecycle management and financial strategy which allows these targets to be achieved.

### Core Values

The core values behind a LOS reflect the Municipality's commitment to delivering services that meet community needs in a fair, responsible, and sustainable way. These values help guide how infrastructure is managed and how service expectations are set. By aligning asset management decisions with these values, the Municipality can provide services that people trust. The table below summarizes common LOS values.

| Value | Description |
|---|---|
| Accessible | Services are available and accessible for customers who require them |
| Reliable | Services are provided with minimal service disruption and are available to customers in line with needs and expectations |
| Safe | Services are delivered such that they minimize health, safety, and security risks |
| Affordable | Services are delivered at an affordable cost for both the organization and customer |
| Sustainable | Services are designed to be used efficiently. Long-term plans are in place to ensure that they are available to all customers into the future |

*Table 5 Levels of Service: Common Core Values*

## 2.4 Scope & Methodology

### 2.4.1 Asset Categories for this AMP

This AMP is produced in compliance with O. Reg. 588/17's July 2025 deadline under the regulation. In alignment with regulatory requirements, the AMP summarizes the state of the infrastructure for the Municipality's asset portfolio, establishes LOS and the associated technical and customer-oriented key metrics, outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

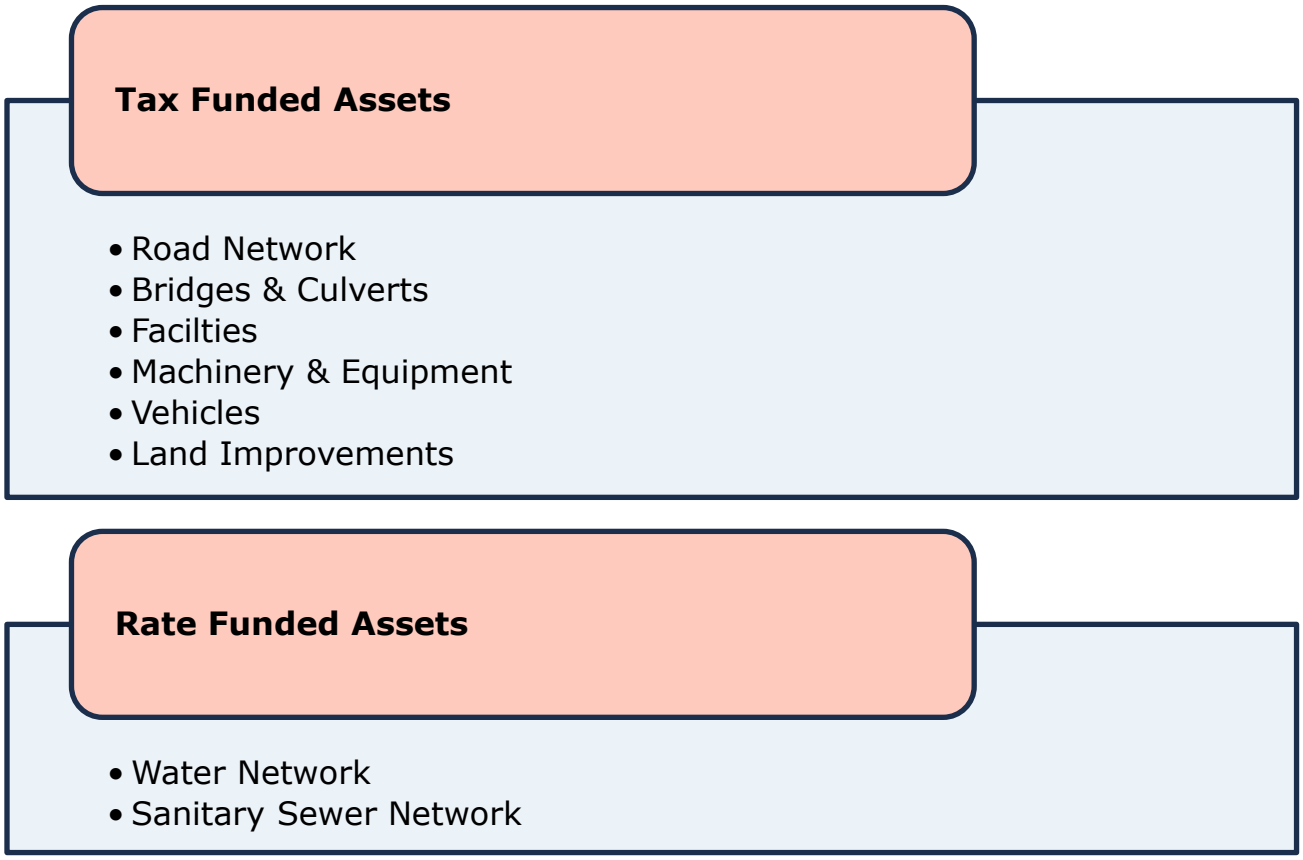



*Figure 6 Tax Funded and Rate Funded Asset Categories*

### 2.4.2 Data Effective Date

It is important to note that this plan is based on data as of **December 2024** therefore, it represents a snapshot in time using the best available processes, data, and information at the Municipality. Strategic asset management planning is an ongoing and dynamic process that requires continuous data updates and dedicated data management resources.

### 2.4.3 Deriving 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 Per 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 costs of the assets are 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 Municipality incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

### 2.4.4 Estimated Service Life & Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the Municipality 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 data and its EUL, the Municipality can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the Municipality can more accurately forecast when it will require replacement. The SLR is calculated as follows:




*Figure 7 Service Life Remaining Calculation*

### 2.4.5 Reinvestment 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 Municipality can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:




*Figure 8 Target Reinvestment Rate Calculation*

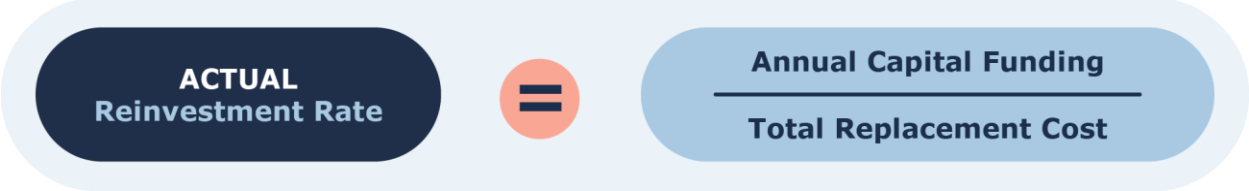



*Figure 9 Actual Reinvestment Rate Calculation*

### 2.4.6 Deriving 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 Municipality's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

| Condition | Description | Criteria | 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 | 60-79.9 |
| **Fair** | Requires attention | Signs of deterioration, some elements exhibit significant deficiencies | 40-59.9 |
| **Poor** | Increasing potential of affecting service | Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration | 20-39.9 |
| **Very Poor** | Unfit for sustained service | Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable | 0-19.9 |

*Table 6 Standard Condition Rating Scale*

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.

The table above summarizes the standard methodology for determining asset condition within this AMP. For those categories in which there is a different rating scale for condition assessment, they will be outlined within that category's "Current Approach to Condition Assessment" subsection. For instances where the scale is the same, only the approach for condition assessment will be outlined.

## 2.5 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)[2]. Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and

[2] O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure https://www.ontario.ca/laws/regulation/170588

reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

Figure 10 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines. This plan meets the phase III, 2025 requirements:

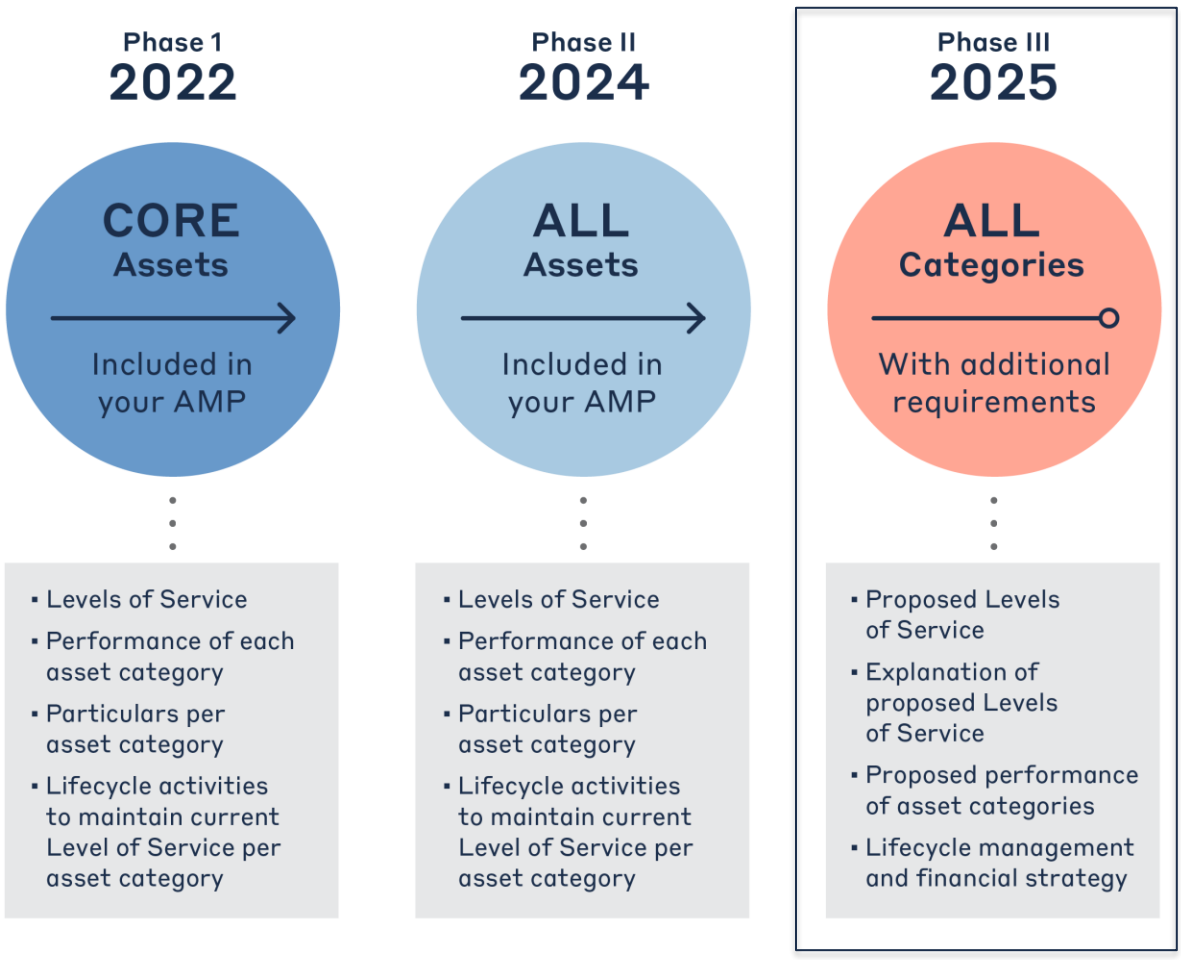



*Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines*

### 2.5.1 O. Reg. 588/17 Compliance Review

| Requirement | O. Reg. 588/17 Section | AMP Section Reference | Status |
|---|---|---|---|
| Summary of assets in each category | S.5(2), 3(i) | Appendix A to H | Complete |
| Replacement cost of assets in each category | S.5(2), 3(ii) | | |
| Average age of assets in each category | S.5(2), 3(iii) | | |
| Condition of core assets in each category | S.5(2), 3(iv) | | |
| Description of Municipality's approach to assessing the condition of assets in each category | S.5(2), 3(v) | | |
| Current and proposed levels of service in each category | S.5(2), 1(i-ii)<br>S.6 (1) | 5.4.3 | Complete |
| Why the proposed LOS is Appropriate | 6 (1) 2 (i., ii,iii,iv) | 5.3 | Complete |
| Proposed LOS Lifecycle Management | 6 (1) 4 (i., A, B, C, D) | 5.4.1 | Complete |
| Proposed LOS Risk Management | 6 (2), i | 5.4.2 | Complete |
| Performance measures in each category | S.5(2), 2<br>S. 6 (1), 2 | 5.4.3 | Complete |
| Lifecycle activities needed for proposed levels of service for 10 years | S.5(2), 4<br>S. 6 (1), 4 | 5.4.1 | Complete |
| Costs of providing lifecycle activities for 10 years | S.5(2), 4<br>S. 6 (1), 4 | Appendix L | Complete |
| Growth assumptions | S.5(2), 5(i-ii)<br>S.5(2), 6(i-vi) | 4-4.3 | Complete |

*Table 7 O. Reg. 588/17 Compliance Review*

# 3. Portfolio Overview

This section summarizes the inventory, condition, age profiles, and other key performance indicators for the Municipality's infrastructure portfolio. These details are also presented for each asset category in Appendix A to H.

## 3.1 Asset Hierarchy & Data Classification

Asset hierarchy explains the relationship between individual assets and their components, and a wider, more expansive network and system. Assets were structured to support meaningful, efficient reporting and analysis. Key category details are summarized at the asset segment level below.




*Figure 11 Asset Hierarchy and Data Classification*

## 3.2 Portfolio Overview

### 3.2.1 Total Replacement Cost of Asset Portfolio

The eight asset categories analyzed in this Asset Management Plan have a total current replacement cost of $96.9 million. This estimate was calculated using user-defined costing, cost per unit, as well as inflation of historical or original costs to current date. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 12 illustrates the replacement cost of each asset category.

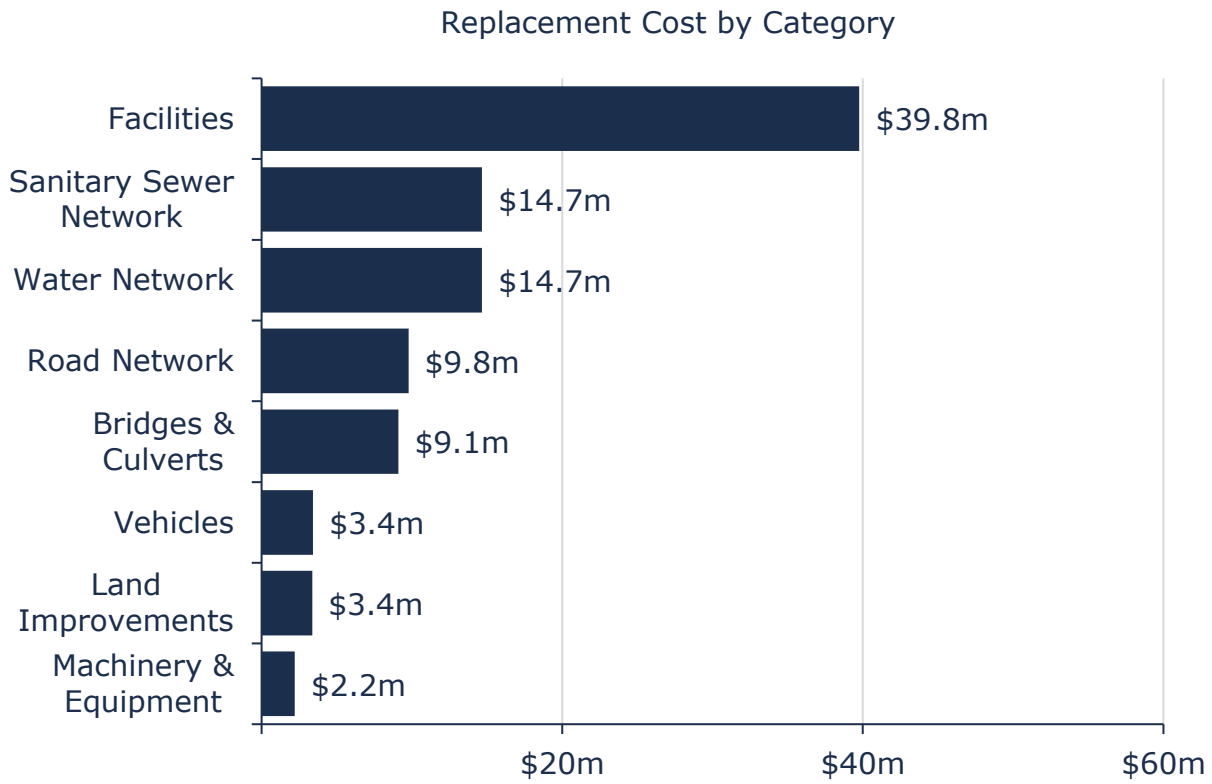



*Figure 12 Current Replacement Cost by Asset Category*

### 3.2.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps by comparing the target (based on 100% of AAR being funded; representing Scenario 2) to the current reinvestment rate. To meet the existing long-term capital requirements, the Municipality requires an annual capital investment of $3.5 million, for a target portfolio reinvestment rate of 3.61%. Currently, the annual investment from sustainable revenue sources is $1.79 million, for a current portfolio reinvestment rate of 1.85%. Target and current re-investment rates by asset category are detailed below.

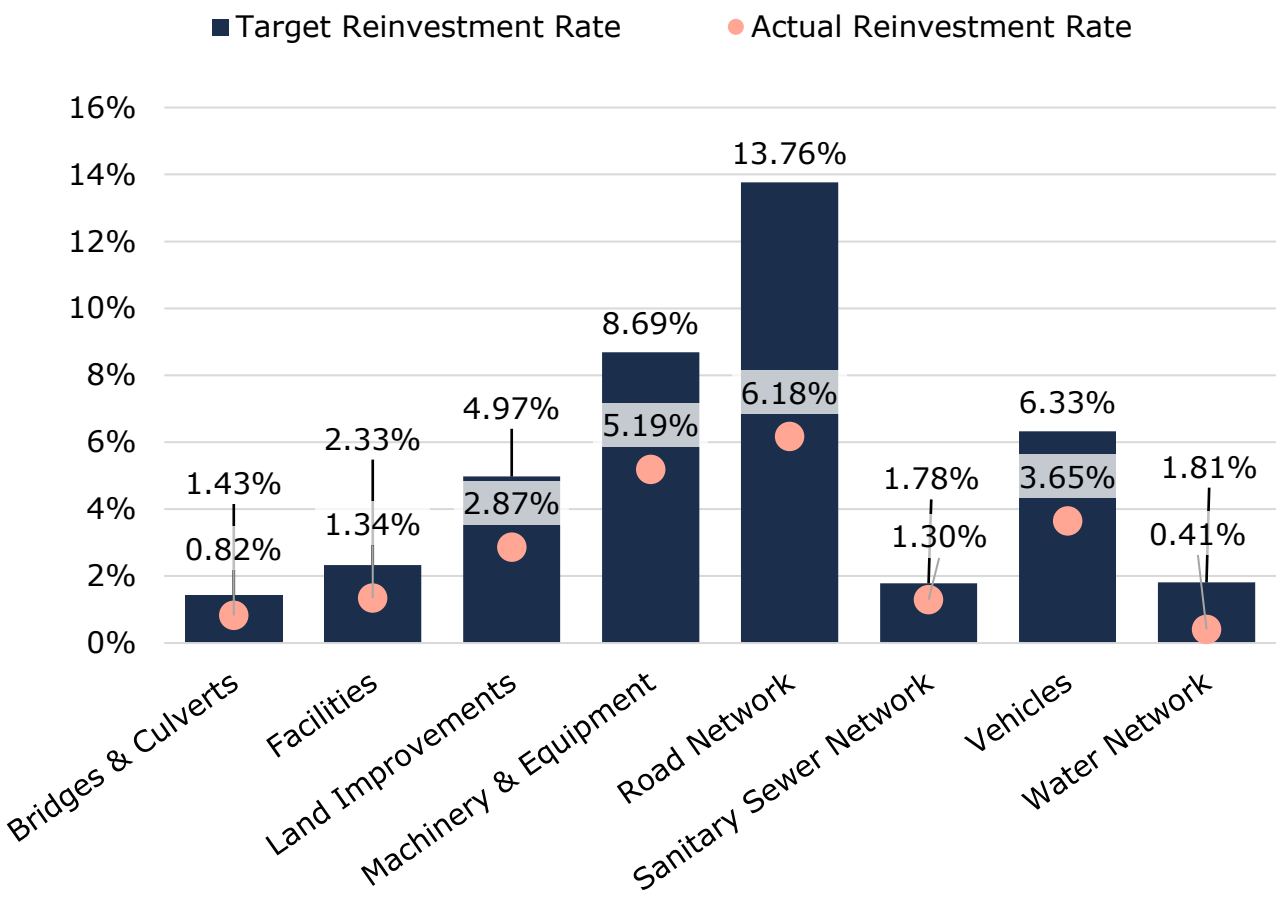



*Figure 13 Current Vs. Target Reinvestment Rate*

### 3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 75% of the Municipality's infrastructure portfolio is in fair or better condition, with the remaining 25% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

Similarly, assets in fair condition should be monitored for disrepair over the medium term. Keeping assets in fair or better condition is typically more cost-effective than addressing assets needs when they enter the latter stages of their lifecycle or decline to a lower condition rating, e.g., poor or worse.

Condition data was available for nearly three quarters (72%) of assets. For all remaining assets, age was used as an approximation of condition for most of

these assets. Age-based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

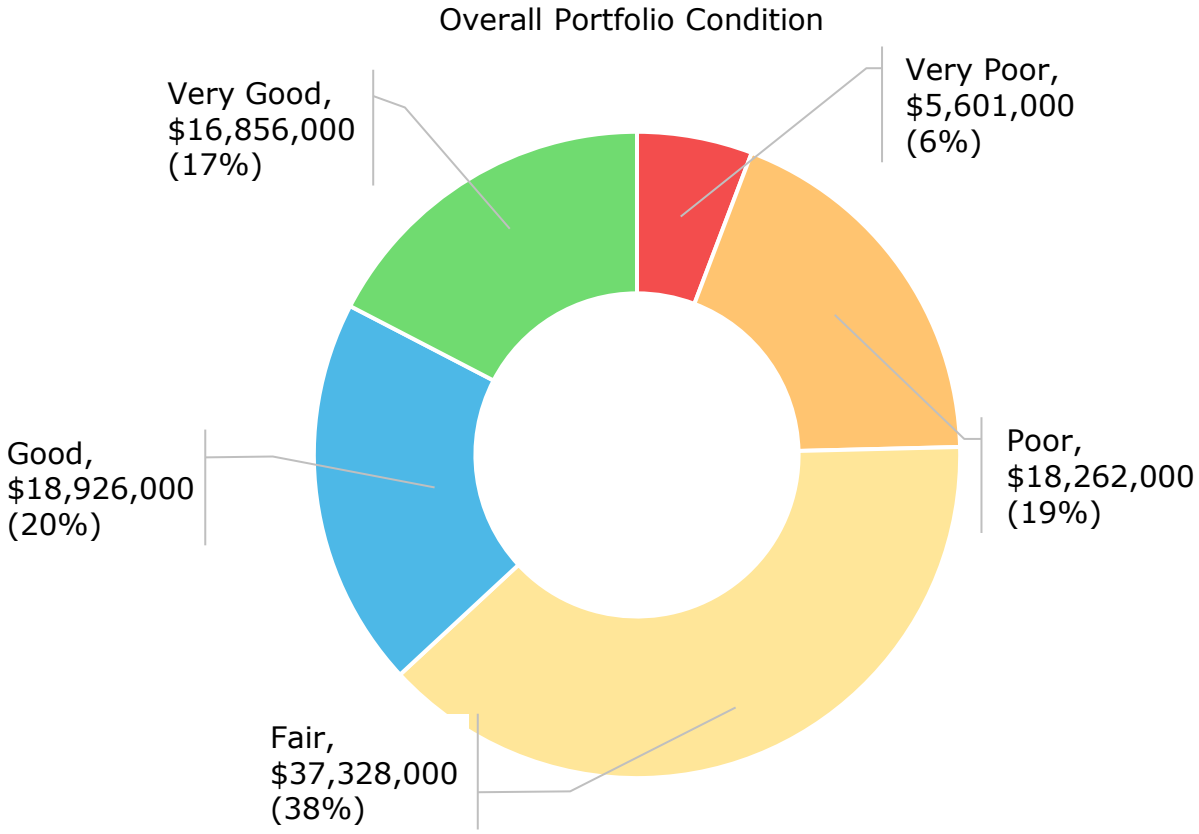



*Figure 14 Asset Condition: Portfolio Overview*

As further illustrated in Figure 15 at the category level, most core infrastructure is in fair or better condition. These findings are based on in-field condition assessment data and age-based condition projections. See Table 8 for details on how condition data was derived for each asset segment.

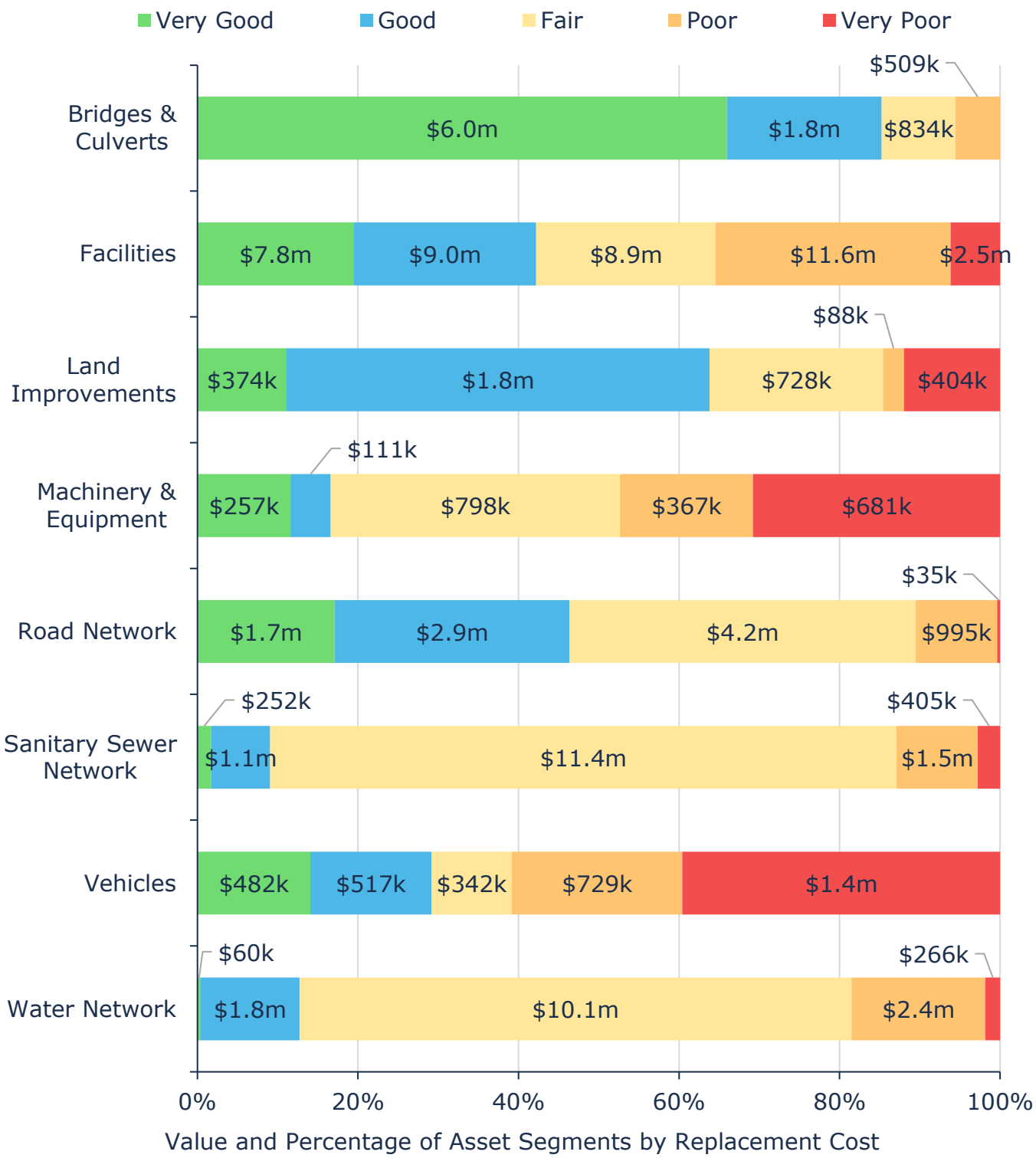



*Figure 15 Asset Condition by Asset Category*

### *Source of Condition Data*

This AMP relies on assessed condition for 72% of assets, based on and weighted by replacement cost. For the remaining assets, 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 | % of Assets with Assessed Condition | Source of Condition Data |
|---|---|---|
| Road Network | 92% | Staff Assessments |
| Bridges & Culverts | 94% | OSIM Report |
| Facilities | 97% | ABSI |
| Vehicles | 2% | Staff Assessments |
| Machinery & Equipment | 0% | N/A |
| Land Improvements | 100% | ABSI<br>Staff Assessments |
| Water Network | 36% | ABSI (treatment assets only) |
| Sanitary Sewer Network | 36% | ABSI (treatment assets only) |

*Table 8 Source of Condition Data*

### 3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 19% of the Municipality's assets will require replacement within the next 10 years (not accounting for asset replacement backlog).

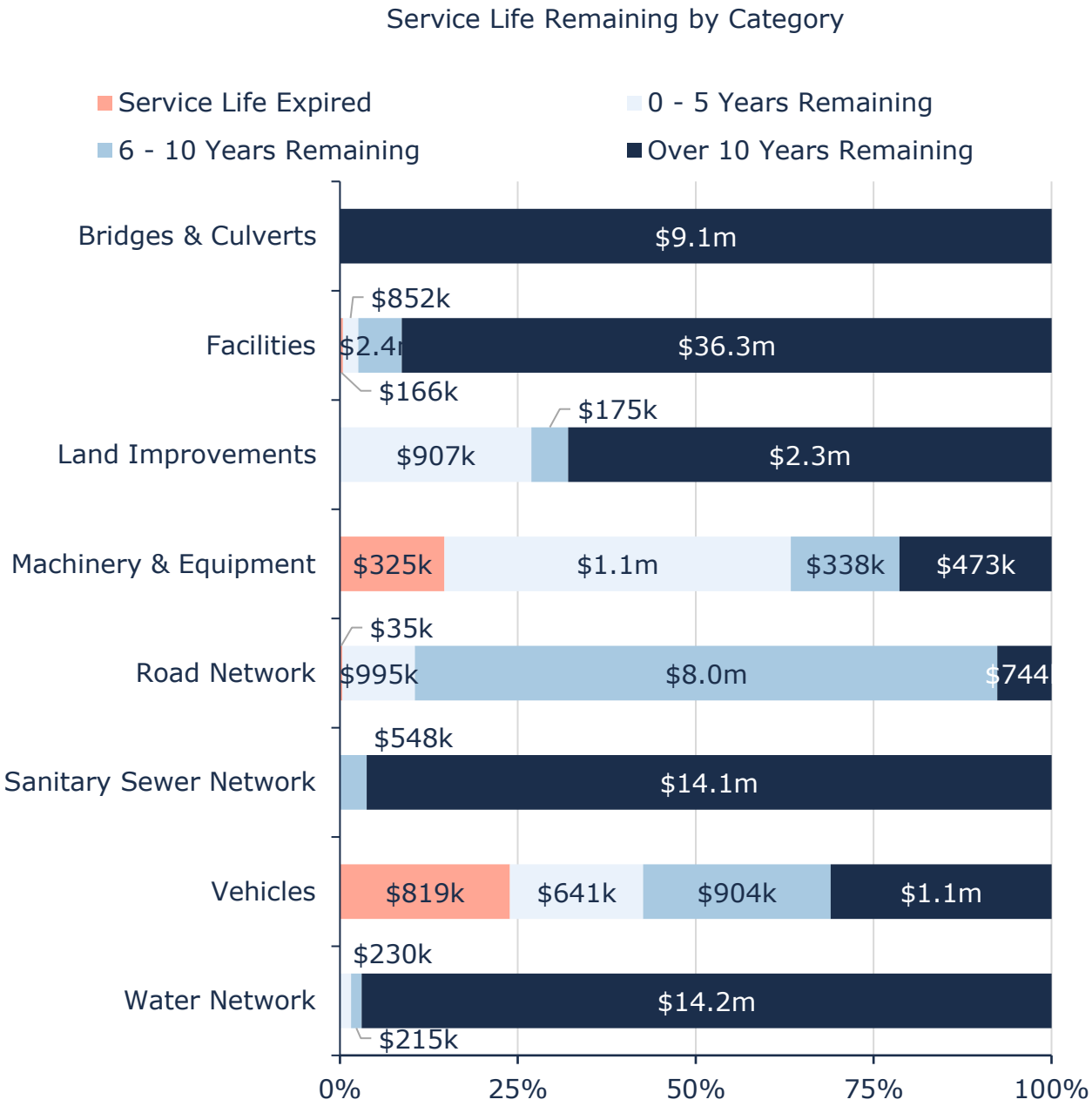



*Figure 16 Service Life Remaining Summary*

### 3.2.5 Risk Matrix

Figure 17 shows how the Municipality's assets across the different asset categories are stratified within a risk matrix.

| 1 - 4<br>**Very Low**<br>$34,658,000<br>(36%) | 5 - 7<br>**Low**<br>$28,777,000<br>(30%) | 8 - 9<br>**Moderate**<br>$8,968,000<br>(9%) | 10 - 14<br>**High**<br>$11,347,000<br>(12%) | 15 - 25<br>**Very High**<br>$13,224,000<br>(14%) |
|---|---|---|---|---|

*Figure 17 Risk Matrix: All Assets*

The analysis shows that based on current risk models, approximately 14% of the Municipality's assets, with a current replacement cost of approximately $13.2 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a high probability of failure based on available condition data and age-based estimates.

As new asset attribute information and condition assessment data are integrated with the asset register, asset risk ratings will evolve, resulting in a redistribution of assets within the risk matrix. Staff should also continue to calibrate risk models.

We caution that since risk ratings rely on many factors beyond an asset's physical condition or age; assets in a state of disrepair can sometimes be classified as low risk, despite their poor condition rating. In such cases, although the probability of failure for these assets may be high, their consequence of failure ratings was determined to be low based on the attributes used and the data available.

Similarly, assets with very high condition ratings can receive a moderate to high-risk rating despite a low probability of failure. These assets may be deemed as highly critical to the Municipality based on their costs, economic importance, social significance, and other factors. Continued calibration of an asset's criticality and regular data updates are needed to ensure these models more accurately reflect an asset's actual risk profile.

# 4. Growth

## 4.1 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 Municipality 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.

### 4.1.1 District of Manitoulin (October 2018)

The District of Manitoulin Official Plan, which includes the Municipality of Central Manitoulin among other municipalities, was adopted and approved by the Ministry of Municipal Affairs and Housing (MMAH) in 2018 and sets a planning horizon extending to the year 2036. Adopting a district-wide official plan instead of individual municipal plans provides a unified strategy for tackling regional issues like land use, infrastructure management, and environmental conservation.

The Official Plan aims to guide regional growth through sustainable land and resource use, coordinated infrastructure development, and environmental conservation. It focuses on enhancing community services and facilities, fostering economic development, and ensuring a diverse and affordable housing stock. Additionally, the plan emphasizes the preservation of cultural and heritage resources, ensuring that development respects the district's historical and environmental significance. These objectives collectively strive to create a cohesive, sustainable, and economically vibrant community across Manitoulin, including Central Manitoulin.

In terms of settlement area growth, the Official Plan aims to focus growth within designated settlement areas to maximize the use of existing infrastructure and public service facilities. It promotes intensification, infill, and redevelopment within these areas to accommodate projected population increases efficiently. This strategy supports a compact urban form, which helps preserve the surrounding rural character and natural resources, aligning with broader goals to maintain a balanced and sustainable community environment in Central Manitoulin.

The following table outlines the recorded population and private dwellings for Central Manitoulin, based on 2021 Census data.

*Table 9: Historic Population Values*

| Historical Figures | 1996 | 2001 | 2006 | 2011 | 2016 | 2021 |
|---|---|---|---|---|---|---|
| Population | 1,794 | 1,907 | 1,944 | 1,958 | 2,084 | 2,235 |
| Population Change | N/A | 6.3% | 1.9% | 0.7% | 6.4% | 7.2% |
| Private Dwellings | N/A | 1,473 | 1,552 | 1,541 | 1,629 | 1,603 |

The population forecasts for the settlement areas in Central Manitoulin had anticipated growth over a 20-year planning period. However, recent census data indicate variable population trends rather than a consistent rise. It is recommended that the Municipality consider the recent population data to appropriately update infrastructure priorities.

### 4.1.2 Conservation and Demand Management Plan (2019-2024)

The 2019–2024 Conservation & Demand Management (CDM) Plan contributes to sustainable growth by guiding infrastructure investment toward energy efficiency and operational cost savings. Key measures include:

- Retrofits and energy audits of high-consumption municipal buildings,
- Mandates for energy-efficient design in new capital projects,
- Staff and council engagement in conservation-oriented practices, and
- Evaluation of renewable energy potential (e.g., solar, wind, biogas) for future municipal use.

These strategies help reduce environmental impact while strengthening the Municipality's capacity to manage long-term service demands and utility costs. The CDM Plan supports the Strategic Plan's objectives related to climate adaptation, modern infrastructure, and financial sustainability.

## 4.2 Regional growth

In 2021 the Come North Conference Report was produced by FedNor and Government of Canada. The document describes short, medium, and long-term objectives for all communities in Northern Ontario as it relates to population growth.

According to the report all 11 Census Districts in Northern Ontario (Nipissing, Parry Sound, Manitoulin, Sudbury, Greater Sudbury, Timiskaming, Cochrane, Algoma, Thunder Bay, Rainy River, Kenora) are currently experiencing the following trends: population decline, population aging, or labour shortages.

The report highlights a risk of these communities becoming economically unsustainable unless population retention and attraction numbers improve. The risk is the result of the dependency ratio increasing. The dependency ratio is the ratio of working age population relative to non-working age (i.e. ages of 0 and 14 and 64 and older).

The goal is to achieve a dependency ratio of 0.5 or less. In 1996, every Census District was at or near the goal but by 2016, none were below and more than half had a ratio more than 0.6. The following graph displays the dependency ratio for each Census District in 1996 and 2016 along with a projected ratio for the year 2036. For Manitoulin, of which Central Manitoulin is a part, the 2036 projected dependency ratio is 1.0.

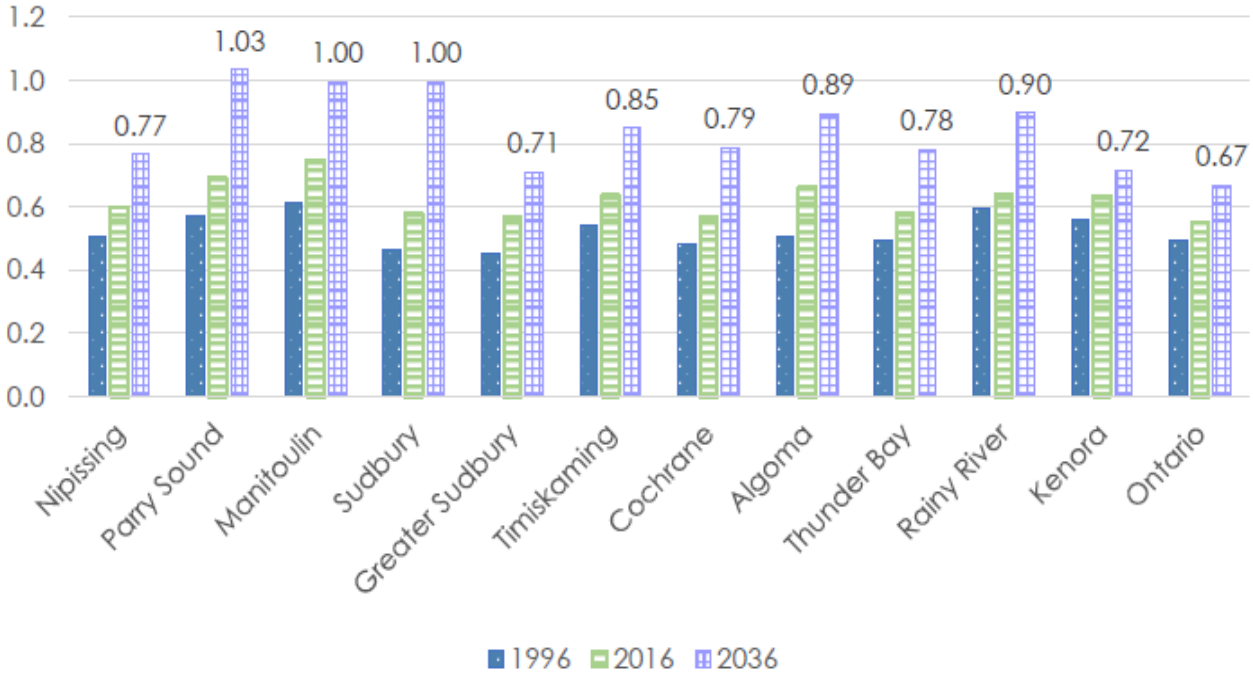



*Figure 18: Dependency Ratio 1996-2036*

The population trends overall in the Northern Ontario are in decline, although the Manitoulin District is showing a slight increase in population over the last 30 years. The following graph from the 2019 Manitoulin District report by the Northern Policy Institute, displays the population trends from 1986 to 2016.

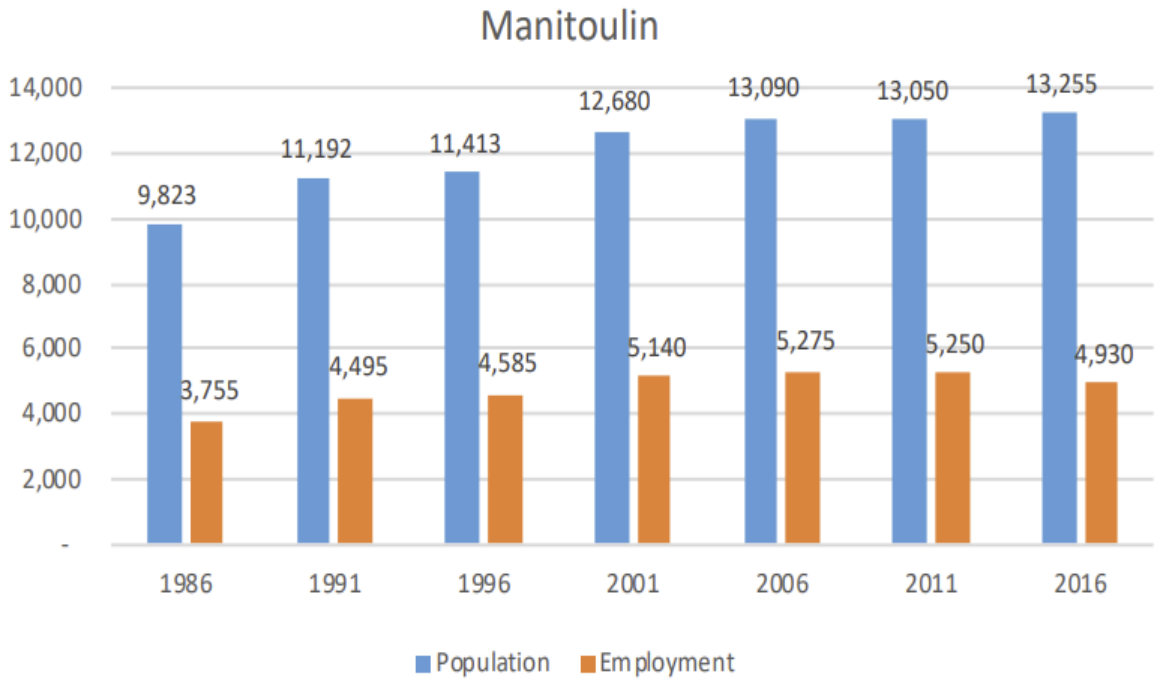



*Figure 19: Historic Population and Employment Values*

The following table, found in the same report, shows population projections in Northern Ontario for the years 2021 to 2041.

*Table 10: Northern Ontario Population Breakdown Projections*

| Year | Ages 0-19 | Ages 20-64 | Ages 65+ | Total |
|---|---|---|---|---|
| 2021 | 2,863 | 7,132 | 3,564 | 13,559 |
| 2026 | 2,881 | 6,727 | 4,063 | 13,671 |
| 2031 | 2,850 | 6,352 | 4,530 | 13,732 |
| 2036 | 2,842 | 6,159 | 4,760 | 13,761 |
| 2041 | 2,831 | 6,127 | 4,831 | 13,789 |

The most recent census data for the Manitoulin District from 2021 shows an increase in the population, reaching a total of 13,935, slightly above the projected value of 13,559. The 2021 census shows increases in the 20-to-64 year and 65 years and over age groups, while there was a decrease in population in the 0-to-19 age group, which slightly decreased the dependency ratio overall.

## 4.3 Impact of Growth on Lifecycle Activities

Population growth projections are modest in the coming years, and the Municipality does not anticipate major infrastructure expansion, or net new asset creation will be required to support population changes. Currently, the Municipality directs growth to existing settlement areas and addresses costs due to growth through building permit fees. The Municipality plans to continue this approach for the term of this plan. Considering this, growth costs borne by the tax and/or rate base are not anticipated and therefore not considered in this plan.

# 5. Proposed Levels of Service

## 5.1 Overview

### 5.1.1 O. Reg. 588/17 Proposed Levels of Service Requirements

Current Levels of Service (LOS) reflect the current technical LOS for (most often) a group of assets as of a defined *past* measurement date. In contrast, proposed LOS reflects the Municipality's *goal* for asset performance by a defined *future* date. It is important to note that O. Reg 588/17 does not dictate the proposed LOS values required. Meaning, a proposed LOS may be maintaining or even reducing current performance.

O. Reg. 588/17 requires Municipalities to report on proposed LOS, including an overview of the following:

1. Proposed LOS options (i.e. increase, decrease, or maintain current LOS) and the risks associated with these options.
2. How the proposed LOS may differ from current LOS.
3. Whether the proposed LOS is achievable.
4. The municipality's ability to afford proposed LOS.

Additionally, a lifecycle management and financial strategy to support the proposed LOS must be identified for a period of 10 years with specific reporting on:

1. Identification of lifecycle activities needed to provide the proposed LOS.
2. Annual costs over the next 10 years to achieve the proposed LOS.
3. Identification of proposed funding projected to be available.

## 5.2 Proposed LOS Options: Process & Considerations

To determine the proposed LOS for the Municipality, three suitable proposed LOS options were selected and analyzed. To identify suitable proposed LOS options to analyze, the following review process was conducted:

### 5.2.1 State of the Inventory

A review of the Municipality's inventory indicated that the average annual requirement (AAR)[3] is $3.5 million annually. A review of sustainable capital funding sources and amounts indicated that on average the Municipality is investing $1.8 million annually. Therefore, 51% of the AAR funding required is currently available.

[3] This is based on replacing every single asset when it reached the end of its Estimated Useful Life and completing rehabilitations where identified.

This indicates that current investment is significantly below 100% of the investment requirements and that in the long-term more assets are projected to decline in condition. Understanding the long-term implications of continuing with current investment alongside the exploration of other investment scenarios was deemed of value to the Municipality.

### 5.2.2 Strategic Plan: 2025-2028

The Municipality's recently completed Strategic Plan offers key insights into municipal priorities and strategies. This includes the recognition of the importance of planning for the Municipality's infrastructure, so it remains reliable, cost-effective, and prepared for the future. Specifically, the Plan highlights the following key details:




*Figure 20: Strategic Goal One (page 5 of the Plan)*

- A specific focus on water and sewer infrastructure and maintaining accurate data to support long-term management and capital planning activities.
- Development of multi-year capital programs that address infrastructure needs, especially core infrastructure.
- Increased assessment of leisure services and associated infrastructure assets to better align investment with community needs while providing short-and long-term planning details to support

In the context of proposed LOS, the Strategic Plan indicates the following key considerations and notes:

- Increased investment in core infrastructure is especially important to the Municipality
- Long-term planning to support the goals is required; proposed LOS provides valuable insights in this area
- The Municipality's data on their leisure assets provides good insights into condition. Future analysis on critical facilities based on determined need is expected to hold benefit

### 5.2.3 Public Engagement

The Municipality of Central Manitoulin conducted a public engagement survey to gather community perspectives on recreation facilities, programs, and future investment priorities. A copy of the survey is provided in Appendix I of the report. The survey received 322 responses in total, including 268 from residents and 54 from non-residents. Most respondents (93 percent) identified as year-round residents, and 85 percent were property owners. The average household size represented in the survey was 3.6 people, larger than the census average of 2.5, highlighting the strong role of families in the response base. Key details of relevance to proposed LOS options are summarized below.

- Most respondents indicated high levels of satisfaction and use of outdoor facilities while indoor facilities were slightly less positively viewed and less frequently utilized.
- Arenas were reported most utilized, however several concerns about their condition were noted.
- A large majority (78%) of respondents travel outside of the Municipality to access municipal recreational facilities. Most commonly this is due a lack of the desired facility type, limited booking availability, and/or higher quality facilities outside of the municipality.
- Respondents indicated a high priority for investment towards outdoor recreation assets such as trails, outdoor washrooms, and playgrounds.
- Across all categories, residents stressed the importance of ensuring affordability and pursuing external funding sources for major projects. Transparency and communication were also emphasized.

This indicates that increased investment to building and land improvements assets is generally desired, however affordability is a concern. Therefore, a balanced approach is most likely to be desired.

### 5.2.4 Staff Engagement

Staff involved in the daily operations, capital planning, and capital projects were engaged to better understand their assessment of the current performance of assets they work with and what service level changes they felt were appropriate. Key findings are:

- In some instances, the lack of a capital funding reserve has negatively impacted the Municipality’s ability to cost-effectively complete capital projects. For example, where project budget remains, they are unable to use it to complete additional scope outside of the original scope even if it comes at significant cost-saving and project timeline advantages. Ultimately, this results in higher overall costs than may otherwise be necessary.

- In some instances, capital investment is delayed due to funding limitations and assets degrade. This commonly occurs with road assets where rehabilitations can offer significant lifecycle advantages, but investment for them may not be accessible when needed.
- Like residents in many other municipalities, most local citizens desire to increase their level of service but simultaneously have a limited appetite to increase taxes and/or rates to support service enhancements. Council, as elected representatives of the public, often place pressure on staff to reduce investment. While this may garner short term savings, it is often at the expense of effective, prudent, and sustainable asset management decisions.

In the context of proposed LOS, staff engagement indicates that exploration of increased investment scenarios holds value. At the same time, scenarios that are reasonably palatable to ratepayers must be considered and financial strategies to support investment, like dedicated capital reserves, are also important.

### 5.2.5 Proposed LOS Options

Considering all the above, the following three scenarios were selected for analysis and consideration as a proposed LOS option:

*Table 11: PLOS Scenario Options*

| Scenario # | Description |
|---|---|
| 1 (Maintain Current Investment) | Maintain Current Capital Funding Levels. |
| 2 (100% AAR) | Reach 100% of the Average Annual Requirement (AAR) funded for every asset category within 5 years. |
| 3 (80% AAR) | Reach 80% of the Average Annual Requirement (AAR) funded for every asset category within 5 years. |

## 5.3 Proposed LOS Options: Analysis

Several key areas of consideration were deployed in the selection of the Proposed LOS. These primarily were:

1. Associated Risks
2. Affordability
3. Achievability

The proceeding sections outline the above noted considerations and analysis information.

### 5.3.1 Risks

Table 12 below details the qualitative risks associated with each of the proposed LOS options and the anticipated relative severity of each scenario. Please recall the scenarios are as follows:

- 1 (Maintain Current Investment)
- 2 (100% AAR)
- 3 (80% AAR)

*Table 12: Proposed LOS Option Risks*

| Risks Associated with Proposed LOS Options | | | |
|---|---|---|---|
| **Scenario** | **Severity** | **Risk** | **Defined** |
| 1 | High | Reliance on Grants | The proposed LOS option results in investment amounts being significantly less than requirements and the Municipality is reliant on conditional grants, as they become available. While grants and senior government funding reduce the burden on rate payers, they are considered an unsustainable revenue source and often have significant and limiting conditions (i.e. what projects that may be funded). |
| 2 | Low | | |
| 3 | Moderate | | |
| 1 | High | Infrastructure Backlog | The average annual capital investment is less than the average annual capital requirement. Therefore, for many years assets are insufficiently funded, and lifecycle management is not optimal. Reduced and/or deferred lifecycle activities threaten reliability and increase the potential for costly (and unbudgeted) repairs to maintain service. |
| 2 | Low | | |
| 3 | Moderate | | |
| 1 | High | Increased Rate & Severity of Asset Failure | Underinvestment in assets results in lower average condition and an increased rate of asset failure. This is expected to affect the reliability of infrastructure, and the quality of service provided. Increased operational demands are placed on staff which may become increasingly frequent and difficult to address. |
| 2 | Low | | |
| 3 | Moderate | | |

| Risks Associated with Proposed LOS Options | | | |
|---|---|---|---|
| **Scenario** | **Severity** | **Risk** | **Defined** |
| 1 | Low | Council Approval | Capital investment and associated budget investment decisions require council approval. Council members change over time and their propensity to support increased infrastructure investment can also be expected to change. Where increased funding levels are phased in, and consistent annual increases are required, there is a significant chance that the requisite increases are not consistently approved by council. This will most often result in less funding available than needed, posing significant challenge to the ability to meet the proposed LOS.<br>With an aging population and increasing portions of residents on fixed incomes, this is the most severe risk to the Municipality. |
| 2 | High | | |
| 3 | Moderate | | |

In addition to the above noted qualitative risks, there are measurable risks held by each asset. Risks are quantified based on the respective probability and consequence of asset failure models outlined in Appendix J.

Risk scores range from 1 to 25 with 25 being the highest level of risk and 1 being the lowest level of risk. Risks can be grouped into five levels based on their score. These levels and descriptions are described in Table 13 below:

*Table 13: Risk Score Ranges and Descriptions*

| Risk Level & Range | Risk Characteristics |
|---|---|
| Very Low: 1-4 | • Very low probability of failure, most often due to being in good or better condition.<br>• Very low consequence of failure, most often due to low replacement cost. May also consider asset type, size of population served, and/or health risks associated with asset failure.<br>• Routine monitoring generally sufficient management approach |
| Low: 5-7 | • Low probability of failure, most often due to being in good or better condition. |

| Risk Level & Range | Risk Characteristics |
|---|---|
| | • Low consequence of failure<br>• Routine monitoring with some introduction of proactive maintenance generally sufficient management approach |
| Moderate: 8-9 | • Moderate probability of failure is most often due to mid-ranking conditions and moderate consequences of failure considering replacement cost, scale and severity of impact.<br>• Proactive maintenance alongside increased attention to predict failure generally sufficient management approach. |
| High: 10-14 | • Typically, a moderate to high probability of failure due to assets being in fair or worse condition combined with a moderate to high consequence of failure due to replacement costs, scale and severity of impact, and nature of impacts.<br>• Rehabilitation required and generally a viable alternative to replacement as a management approach |
| Very High: 15-25 | • Typically, a high or very high probability of failure due to assets being in poor or very poor condition combined with a high or very high consequence of failure due to a significant replacement cost, large population impact, and high operational or health risks in the event of failure.<br>• Immediate actions such as asset replacement or significant rehabilitation required to reduce risks held |

Risk and condition are dynamic and change over time. Each scenario has been modelled by asset category; Figure 21 below illustrates how condition scores are forecasted to change over time by scenario for the bridges and culvert assets.

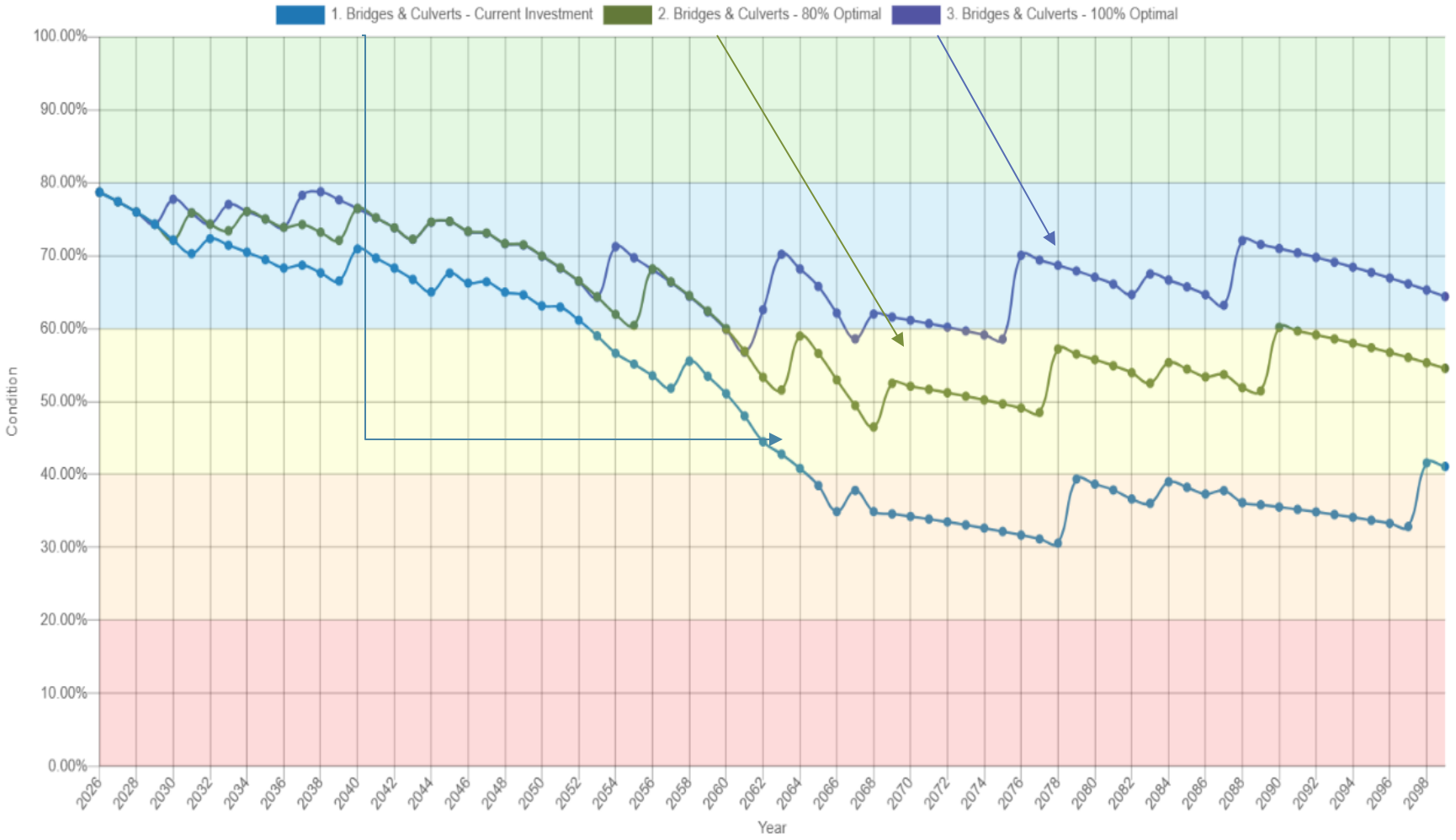



*Figure 21: Bridges & Culverts Projected Condition by Scenario*

Typically, risk increases as condition decreases (and vice versa). Figure 22 indicates that under scenario 1 (maintain funding) risk levels are highest. This is primarily due to assets remaining in service beyond their EUL and asset conditions declining as a result. In comparison, risks are much lower under scenario 3 (100% AAR funding) and mid ranking for scenario 2 (80% AAR funded).

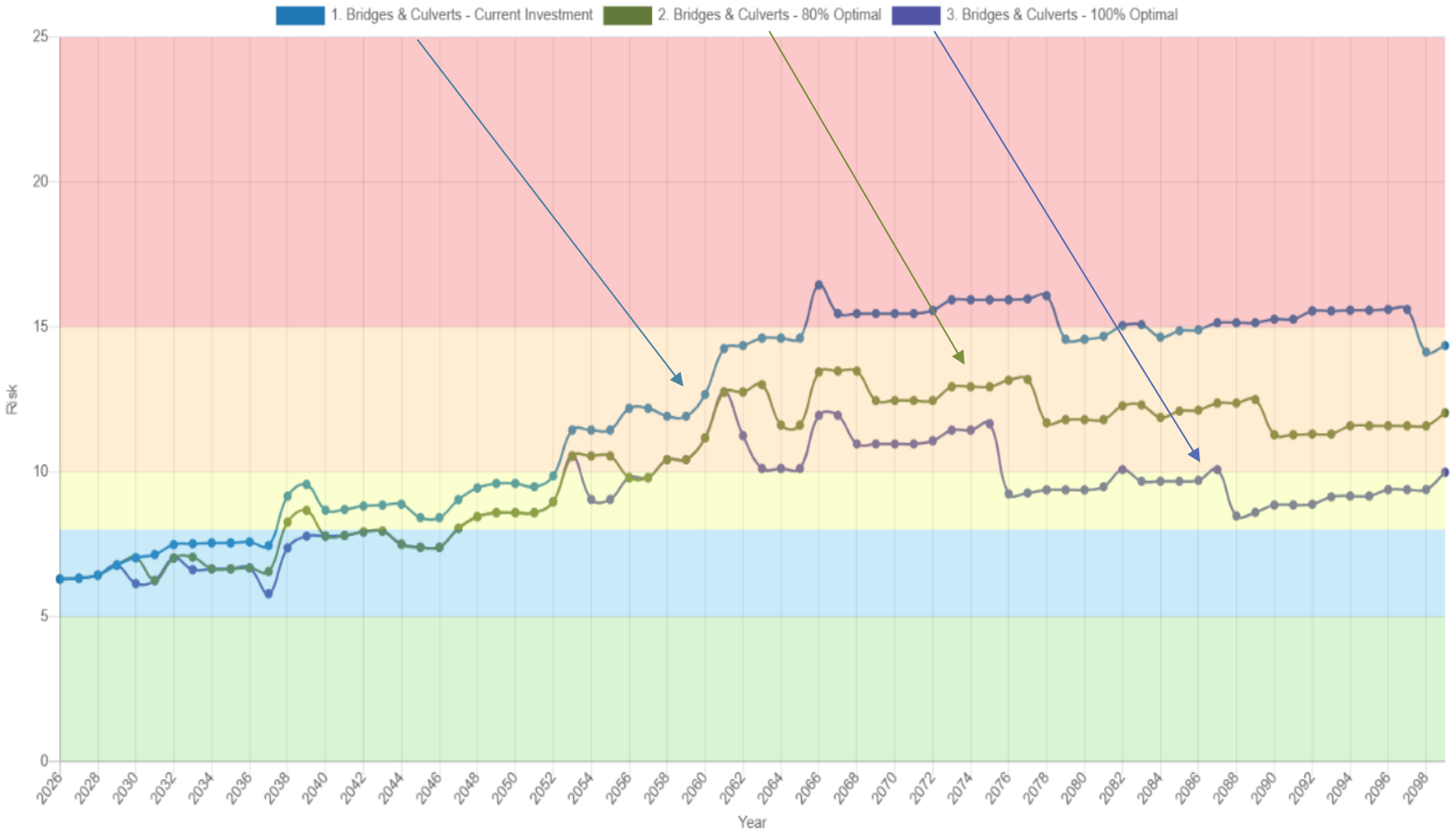



*Figure 22: Bridges & Culverts Risk Projections*

Across all asset categories, the patterns between each of the scenarios are generally like those illustrated for bridges and culverts. Additional graphs are provided for reference in Appendix K. These patterns can be described as follows:

- Conditions decline most significantly and rapidly under scenario 1 (current investment). In contrast, conditions tend to stay close to the starting condition under scenario 3 (100% AAR funding). Conditions decline under scenario 2 (80% AAR), but much less severely than scenario 1 (current investment).
- Risks increase most severely under scenario 1 (current investment). In contrast, risks are lowest under scenario 3 (100% AAR funding). This is most often due to assets being in better condition because there are sufficient funds to replace them when they reach their EUL. Scenario 2 (80% AAR) offers mid-ranking performance; risks are higher than scenario 3 (100% AAR funding) but lower than scenario 1 (current investment)

### 5.3.2 Affordability & Strategic Alignment

The discovery session provided several key insights that guided the proposed LOS options and considerations for affordability and strategic alignment. The selected scenarios reflect a spectrum of options that consider stakeholder input alongside asset information.

Tax and rate increases required are highest for scenario 2: 100% AAR, second highest for scenario 3: 80% of AAR and lowest for scenario 1: Maintain current investment. This is summarized in Table 14 below.

*Table 14: Scenario Affordability Comparison*

| Scenario | Annual Service Level Deficit: Tax | Annual Service Level Deficit: Rate | Affordability Rank |
|---|---|---|---|
| 1 (Maintain Current Investment) | No Deficit | | Most Affordable |
| 2 (100% AAR) | $1,435,000 | $277,000 | Least Affordable |
| 3 (80% AAR) | $838,000 | $172,000 | Mid-level Affordability |

The Financial Strategy (Section 6) provides a financial strategy to meet the selected proposed LOS.

### 5.3.3 Achievability

The following factors are noted barriers to the achievability of the proposed LOS options:

- **Resourcing to complete Capital Projects:** This refers to the ability to attract suitable, qualified, competitively priced and competently skilled contractors to complete capital projects where they are not within the capacity of Municipality staff to complete. Historically, this has been an issue and more recently it has been most pronounced for the road network.
- **Sustained Council Support:** This refers to the likelihood of obtaining council approval for the proposed LOS option and the associated capital investment required. It also considers the likelihood of consistent council approval over the phase in period as applicable.
- **Internal Capacity:** This refers to the additional burden of Municipal staff to administer (e.g. issue, review, and action requests for proposal, quotation etc.) and oversee capital projects. It reflects the Municipality's modest staff complement and the many diverse duties and responsibilities that staff already hold. Please note this constraint is mitigated using an investment phase in approach rather than a one-time increase.

The severity of each of these factors is summarized by scenario in Table 15 below.

*Table 15: Achievability Factors*

| Achievability Factors and Anticipated Severity | | | |
|---|---|---|---|
| **Scenario** | **Resourcing** | **Sustained Council Support** | **Internal Capacity** |
| 1 (Maintain Current Investment) | | Low | |
| 2 (100% AAR) | | High | |
| 3 (80% AAR) | | Moderate | |

## 5.4 Selected Proposed LOS

The three above noted scenarios were analyzed and results were reviewed, with consideration for achievability, risks, and affordability, the Municipality selected **Scenario 3 (80% AAR Funded)** as its proposed LOS. The financial strategy and 10-year capital forecasts reported herein reflect the selected scenarios.

**Scenario 3: Fund all asset categories to 80% of their Average Annual Requirement (AAR)**

**Appropriateness of Selection: Summary comments**

- Scenario 3 (80% Optimal Funding) provides significant increases in capital funding. In the long-term, this investment level is projected to result in gradual improvements in asset conditions and reductions in risk when compared with current investment levels (Scenario 1).
- The selection of Scenario 3 (80% Optimal Funding) balances affordability constraints and the need to invest in assets to achieve reasonable condition and risk outcomes. Where investment is phased in to target levels the increases are more affordable while also considering the practical constraints of resourcing the investment (i.e. associated procurement and project management requirements).

### 5.4.1 Required Lifecycle Strategies

For all asset categories a significant lifecycle change required to reach the proposed LOS is to increase annual capital allocations. Existing lifecycle management practices (as noted under reference information) should continue. Otherwise, lifecycle management strategies should be adopted or expanded as detailed in Table 16 below.

*Table 16: Lifecycle Strategies to Support Proposed LOS*

| Asset Category | Lifecycle Changes to Support PLOS | Reference Information |
|---|---|---|
| Road Network | • Increased capital investment to support proposed LOS<br>• Continued asset inspection and condition assessment. Monitoring of condition assessment trends to more effectively select and schedule lifecycle activities<br>• Ongoing exploration of rehabilitation alternatives to replacement, such as pipe relining. | See Appendix A |
| Bridges and Culverts | | See Appendix B |
| Water Network | | See Appendix C |
| Sanitary Sewer Network | | See Appendix D |
| Facilities | | See Appendix E |
| Land Improvements | | See Appendix H |
| Vehicles | | See Appendix F |
| Machinery & Equipment | | See Appendix G |

The annual capital investment requirements for a 10-year period are provided by asset category and as a portfolio total in Appendix K.

### 5.4.2 Risk Mitigation Strategies

As noted in section 5.3.1 Risk, the selected proposed LOS carries some risks. The Municipality has identified the following risk mitigation strategies. These are:

- **Rehabilitation Strategies:** Rehabilitation is often a more cost-effective approach to replacement, while still offering notable condition improvements. The Municipality believes there are opportunities to implement rehabilitation strategies specifically for bridges and structural culverts (identified through OSIMs), roads (identified through the Municipality's Roads Needs Study), and sanitary sewer and storm mains (via pipe relining also called trenchless rehabilitation). Further exploration of these opportunities may offer capital cost savings that would mitigate the funding deficit under this scenario.
- **Ongoing Report Integration:** The Municipality regularly commissions asset studies to better understand and validate the current state of the portfolio and investment requirements. The Municipality will continue integrating this information into their asset management system. This allows

for more dynamic decisions, predicated on the best information and expert recommendations.

- **Financial Strategies:** Recognizing that the selected scenario may result in increased rates of unexpected failure the Municipality will explore financial strategies to reduce risks by having funds available to resolve unexpected failures. These include long-term capital planning to identify cash-flow challenges and build capital reserves to supplement, and ongoing investment strategies of reserve funds as a strong fiscal management practice. Further, the Municipality will continue pursuit of grant funding opportunities wherever possible.
- **Request for a Capital Reserve Fund:** Currently any funds remaining after the completion of a capital project are not transferred to a capital reserve fund and are often transferred to a working fund (operational) reserve. In some instances, capital projects may have remaining budget, often due to contingency allowance that was not utilized or reduced project scope upon initiation. In some instances, the inability to retain remaining budget may incentive expenditures that could be better spent on another project or later (i.e. when condition decline merits investment). The Municipality is exploring amendments to better utilize allocated capital funding.

### 5.4.3 Proposed LOS Over 10 Years

The following tables reflect current LOS performance for the year 2024 and proposed LOS for a 10-year period thereafter. Comparing these LOS values over time will enable the Municipality to assess whether service performance and asset conditions are improving, stabilizing, or declining year-over-year.

### 5.4.4 Community Levels of Service

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

The Municipality anticipates that qualitative community LOS will change in this period in parallel with technical LOS. For example, if the average condition of assets declines, the community LOS, which describes condition, will reflect a lower average condition. All asset categories will see adjustments to their technical LOS over time, with most changes due to natural degradation of assets and the level of investment they receive.

*Table 17 Community Levels of Service*

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| **Road Network** | | |
| Scope | Description, which may include maps, of the road network in the municipality and its level of connectivity. | Appendix M: Level of Service Maps |
| Quality | Description or images that illustrate the different levels of road class pavement condition. | Refer to Appendix A; Asset Condition |
| **Bridges & Culverts** | | |
| Scope | Description of the traffic that is supported by municipal bridges (e.g., heavy transport rolling stock, motor rolling stock, emergency rolling stock, pedestrians, cyclists). | Bridges and structural culverts are a key component of the municipal transportation network. Three structures (one of which is co-owned with the neighboring municipality) have loading or dimensional restrictions meaning that |

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| | | vehicles that exceed the weight limit (10 tons) may not use the bridge. Otherwise, a variety of vehicles, including heavy transport, emergency vehicles, and cyclists can cross them without restriction. |
| Quality | Description or images of the condition of bridges and culverts and how this would affect use of the bridges. | Appendix M: Level of Service Maps |
| **Water Network** | | |
| Accessible & Reliable | Description, which may include maps of the user groups or areas of the municipality that are connected to the municipal water system. | Appendix M: Level of Service Maps |
| | Description, which may include maps, of the user groups or areas of the municipality that have fire flow | Appendix M: Level of Service Maps |
| Reliability | Description of boil water advisories and service interruptions. | There were no boil water advisories in 2024. |
| **Sanitary Sewer Network** | | |
| Scope | Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system. | Appendix M: Level of Service Maps |

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Safe & Regulatory | Description of how stormwater can get into sewers in the municipal wastewater system, causing sewage to overflow into streets or back up into homes. | Stormwater can enter sanitary sewers due to cracks in sanitary mains or through indirect connections (e.g. weeping tiles). In the case of heavy rainfall events, sanitary sewers may experience a volume of water and sewage that exceeds its designed capacity. In some cases, this can cause water and/or sewage to overflow backup into homes. The disconnection of weeping tiles from sanitary mains and the use of sump pumps and pits directing storm water to the storm drain system can help to reduce the chance of this occurring. |
| | Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration | The Municipality follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups. |
| Reliability | Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system | Effluent refers to water pollution that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants. |
| | Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes. | N/A: The Municipality does not have combined sewers |

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| | Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches. | |
| | **Facilities** | |
| Quality | Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts | Refer to Appendix E; Current Approach to Lifecycle Management |
| Scope | Description, which may include maps, of the types of facilities that the Municipality operates and maintains | Refer to Appendix E; Inventory and Valuation |
| | **Machinery & Equipment** | |
| Scope | Description or images of the types of equipment that the Municipality operates and the services that they help to provide to the community | Refer to Appendix G; Inventory and Valuation |
| Quality | Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts | Refer to Appendix G; Current Approach to Lifecycle Management |
| | **Vehicles** | |
| Scope | Description or images of the types of vehicles (e.g. light, medium and heavy-duty) that the Municipality operates and the services that they help to provide to the community | Refer to Appendix F; Inventory and Valuation |
| Quality | Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts | Refer to Appendix F; Current Approach to Lifecycle Management |

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| | **Land Improvements** | |
| Scope | Description, which may include maps, of the land improvements that the Municipality operates and maintains | Refer to Appendix H; Inventory and Valuation |
| Quality | Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts | Refer to Appendix H; Current Approach to Lifecycle Management |

### 5.4.5 Technical Levels of Service

The following table outlines the quantitative metrics that estimate the technical level of service provided by the Municipality's assets. Proposed LOS are reported based on Scenario 3 (80% Optimal) phased in over 5 years. Please note if the Municipality elects to go with a longer phase-in period the projected values are expected to be poorer than noted below. Conversely if the Municipality elects to go with a shorter phase-in period the projected values are expected to be better than noted below.

Please also note that some level of variation is expected between actual and below noted projected values due to potential differences in projected deterioration rates compared to actuals, unexpected natural events, and/or other factors (e.g. updated condition assessments). Further, the projections assume that the funding increases are successfully implemented throughout the period of analysis. If this does not occur, projected values are not expected to be realized.

*Table 18 Technical Levels of Service*

| Service Attribute | Technical Metric | Current LOS (2024) | Projected LOS (2026-2035) |
|---|---|---|---|
| **Road Network** | | | |
| Scope | Lane-km of local roads (MMS classes 5 and 6) per land area (km/km2)[4] | 410 Lane KM of roads.<br>Class 5 (70%)<br>Class 6 (30%) | Current +/- 5% |
| Quality | Average pavement condition index for paved roads in the municipality | 58% | ~70% (year 1) to ~42% (year 10) |
| **Bridges & Culverts** | | | |
| Scope | % of bridges in the municipality with loading or dimensional restrictions. | 17%[5] | Current +/- 5% |
| Quality | For bridges in the municipality, the average bridge condition index value. | 83% | ~78.6% (year 1) to ~74% (year 10)[6] |
| | For structural culverts in the municipality, the average bridge condition index value. | 58% | |

[4] Please note the Municipality only contains class 5 and 6 roads.
[5] As of the2024 OSIMs report a total of three bridges (one with 50% ownership with the neighboring municipality) had loading restrictions. The reported percentage is based on the replacement cost of the assets with loading restrictions.
[6]The proposed LOS model does not report out on culverts and bridges separately. The reported number represents an average of all bridges and culverts.

| Service Attribute | Technical Metric | Current LOS (2024) | Projected LOS (2026-2035) |
|---|---|---|---|
| **Water Network** | | | |
| Scope | Percentage of properties connected to the municipal water system | 4.4% | Current up to + 5% |
| | Percentage of properties where fire flow is available | 4.4[7] | Current up to + 5% |
| Reliability | Number of connection-days[8] per year due to water main breaks compared to the total number of properties connected to the municipal water system | 0 (No boil water advisories in 2024) | Current +/- 5%[9] |
| | Number 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 | 0 vs. 245 | Current +/- 5% |
| **Sanitary Sewer Network** | | | |
| Scope | % of properties connected to the municipal wastewater system | 4.4% | Current up to + 5% |
| Reliability | # of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system | The Municipality does not own combined sewers. | N/A |
| | # of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system | 0 | Current up to + 1-10 |
| | # of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system | 0 | Current up to + 1-10 |

[7] All Fire Hydrants have been tested for and meet fire flow capacity.
[8] "Connection-days" means the number of properties connected to a municipal system that are affected by a service issue, multiplied by the number of days on which those properties are affected by the service issue.
[9] The Municipality does not intend to have any adverse water or sanitary sewer events, but it can be anticipated that some may occur. Future projections consider this possibility.

| Service Attribute | Technical Metric | Current LOS (2024) | Projected LOS (2026-2035) |
|---|---|---|---|
| **Facilities** | | | |
| Quality | Average condition rating | 62% | ~58% (year 1) to ~47% (year 10) |
| **Machinery & Equipment** | | | |
| Quality | Average condition rating | 37% | ~62% (year 1) to ~50% (year 10) |
| **Vehicles** | | | |
| Quality | Average condition rating | 35% | ~41% (year 1) to ~34% (year 10) |
| **Land Improvements** | | | |
| Quality | Average condition rating | 61% | ~49% (year 1) to ~44% (year 10) |

# 6. Financial Strategy

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 the Municipality of Municipality of Central Manitoulin to identify the financial resources required and advance sustainable plans to support.

This plan identifies the financial requirements to meet the identified proposed LOS. It is based on the financial requirements for existing assets; however, the required funding is based on meeting the proposed LOS (as summarized in Section 6). The financial plan considers and accounts for traditional and non-traditional sources of municipal funding, which are:

- Use of traditional sources of municipal funds:
  - Tax levies
  - User fees
  - Debt
  - Development charges
- Use of non-traditional sources of municipal funds:
  - Reallocated budgets
  - Partnerships
  - Procurement methods
- Use of Senior Government Funds:
  - Build Community Strong Fund (Formerly CCBF)[10]
  - Annual grants (ex. OCIF)

Note: Periodic grants are normally not included due to Provincial requirements for firm commitments.

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 Municipality's approach to the following:

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

[10] This was formerly the Canada Community Building Fund (CCBF).

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

## 6.1 Proposed LOS: Annual Requirements & Capital Funding

### 6.1.1 Annual Requirements

The annual requirements represent the amount the Municipality should allocate annually to each asset category to meet the proposed LOS. For the Municipality of Central Manitoulin, the proposed LOS provides for an annual capital investment increase of $838,000 (rounded) for tax-funded assets, $22,000 for the water network and $149,000 for the sanitary sewer network.

Lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal for the LCB roads and building assets. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following compares the two different strategies:

- **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.
- **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 implementation of a proactive lifecycle strategy leads to potential annual cost avoidance and better overall performance. As the lifecycle strategy scenario represents the lowest cost option available to the Municipality, we have used these annual requirements in the development of the financial strategy.

### 6.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately $1.8 million towards capital projects per year. Given the annual capital requirement of $2.8 million, there is currently a funding gap of $1 million annually.

## 6.2 Funding Objective

We have developed a scenario that would enable Municipality of Central Manitoulin to achieve full funding within 1 to 20 years for the following assets:

- **Tax Funded Assets:** road network, bridges & culverts, facilities, vehicles, machinery & equipment, and land improvements

- **Rate-Funded Assets:** water network, and sanitary sewer network

## 6.3 Financial Profile: Tax Funded Assets

### 6.3.1 Current Funding Position

The following tables show, by asset category, Municipality of Central Manitoulin's annual investment requirements needed to meet the proposed LOS, their current funding positions, and funding increases required for tax-funded asset categories.

| Asset Category | AAR (PLOS,$) | Annual Funding Available ($) | | | | Annual Deficit ($) |
|---|---|---|---|---|---|---|
| | | Taxes | BCSF[11] | OCIF | Total Available | |
| Bridges & Culverts | 104,192 | 68,370 | | 6,723 | 75,092 | 29,100 |
| Facilities | 739,684 | 485,373 | | 47,725 | 533,098 | 206,587 |
| Land Improvements | 134,099 | 87,994 | | 8,652 | 96,646 | 37,452 |
| Machinery & Equipment | 159,436 | 104,620 | | 10,287 | 114,907 | 44,529 |
| Road Network | 1,076,000 | 411,037 | 152,248 | 40,416 | 603,701 | 472,299 |
| Vehicles | 173,555 | 113,885 | | 11,198 | 125,083 | 48,472 |
| **Total** | **2,386,966** | **1,271,279** | **152,248** | **125,000** | **1,548,527** | **838,439** |

*Table 19 Annual Available Funding for Tax Funded Assets*

The average annual investment requirement for the above categories is approximately $2,387,000. Annual revenue currently allocated to these assets for capital purposes is approximately $1,549,000 leaving an annual deficit of about $838,000. Put differently, these infrastructure categories are currently funded at 64% of their long-term requirements based on the selected proposed LOS.

### 6.3.2 Full Funding Requirements

In 2025, Municipality of Central Manitoulin had annual tax revenues of $7,005,000. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

[11] Please note that the Building Canda Strong Fund (BCSF) is formerly the Canada Community Building Fund (CCBF).

| Asset Category | Tax Change Required for Full Funding |
|---|---|
| Bridges & Culverts | 0.5% |
| Facilities | 3.2% |
| Land Improvements | 0.6% |
| Machinery & Equipment | 0.7% |
| Road Network | 7.3% |
| Vehicles | 0.8% |
| Total | **13.1%** |

*Table 20 Tax Increase Requirements for Full Funding*

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

| | 5 Years | 10 Years | 15 Years | 20 Years |
|---|---|---|---|---|
| Infrastructure Deficit ($) | 838,439 | 838,439 | 838,439 | 838,439 |
| Total Tax Increase Required | 13.0% | 13.0% | 13.0% | 13.0% |
| Annual Tax Increase Required | 2.5% | 1.3% | 0.9% | 0.7% |

*Table 21 Tax Increase Options 5-20 Years*

Debt reallocation strategies to improve the affordability of the selected proposed LOS were explored. It was identified that some existing debts are set to be paid off within the next 5 to 20 years. If these debt payments were reallocated to the funding deficit the tax increase required could be reduced. This is outlined in the table below:

*Table 22: Tax Rate Changes with Debt Reallocation*

| With Debt Reallocation | | | | |
|---|---|---|---|---|
| Infrastructure Deficit ($) | 838,439 | 838,439 | 838,439 | 838,439 |
| Change in Debt Costs | -334,153 | -360,131 | -360,131 | -360,131 |
| Resulting Infrastructure Deficit with Debt Reallocation | 504,286 | 478,308 | 478,308 | 478,308 |
| Total Tax Increase Required | 7.8% | 7.4% | 7.4% | 7.4% |
| Annual Tax Increase Required | 1.6% | 0.8% | 0.5% | 0.4% |

Discussions with finance staff indicated that the Municipality expects to incur additional debts in the future. Therefore, the above noted changes in debt costs are not expected to be realized. Considering this, the recommendations reflect the values in Table 21.

### 6.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 5-year option. This involves full funding being achieved over 5 years by:

- When realized, reallocating the debt cost reductions of $334,000 to the infrastructure deficit as outlined above
- Increasing tax revenues by 1.6% (or 2.5% without debt reallocation) each year for the next 5 years solely for the purpose of phasing in the funding required for the proposed levels of service for tax funded assets. If debt is not reallocated, and/or debt commitments change, increasing tax revenues by 2.5% each year for 5 years for the purpose of meeting the funding requirements of the proposed level of service.
- Adjusting tax revenue increases in future year(s) when allocations to capital expenditure exceed or fail to meet budgeted amounts
- Allocating the current BCSF and OCIF revenue as outlined previously
- Reallocating appropriate revenue from categories in a surplus position to those in a deficit position, when applicable
- Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in

Notes:

- 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.[12]
- 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. Alternatively, Municipality's should consider a downward revision of certain service levels.

[12] The Municipality 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.

## 6.4 Financial Profile: Rate Funded Assets

### 6.4.1 Current Funding Position

The following tables show, by asset category, Central Manitoulin's average annual asset investment requirements, current funding positions, and funding increases required to meet the proposed LOS.

| Asset Category | AAR (PLOS, $) | Annual Funding Available ($) | | | | Annual Deficit |
|---|---|---|---|---|---|---|
| | | Rates | OCIF | To Operations | Total Available | |
| Water Network | 212,450 | 226,266 | 121,120 | -157,343 | 190,043 | 22,407 |
| Sanitary Sewer Network | 209,221 | 226,282 | 0 | -166,215 | 60,067 | 149,153 |
| **Total** | **421,671** | **452,548** | **121,120** | **-323,558** | **250,110** | **171,561** |

*Table 23 Annual Available Funding for Rate Funded Assets*

The average annual investment requirement for the above categories is $422,000 (rounded). Annual revenue currently allocated to these assets for capital purposes is $250,000 (rounded) leaving an annual deficit of $172,000. Put differently, these infrastructure categories are currently funded at 59% of the annual investment required for the selected proposed LOS.

### 6.4.2 Full Funding Requirements

In 2025, the Municipality of Central Manitoulin had annual water and sanitary revenues of $226,266 and $226,282 respectively. As illustrated in the table below, without consideration of any other sources of revenue, to meet the investment required for the proposed LOS the following rate change would be required.

| Asset Category | Rate Change Required for Full Funding |
|---|---|
| Water Network | 33.4% |
| Sanitary Sewer Network | 89.0% |

*Table 24 Rate Increase Requirements for Full Funding*

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

Please note that there are currently no debts held for water or sanitary sewer network assets, therefore debt reallocation is not included in the table below.

| Water Network | | | | |
|---|---|---|---|---|
| | **5 Years** | **10 Years** | **15 Years** | **20 Years** |
| Infrastructure Deficit | 22,407 | 22,407 | 22,407 | 22,407 |
| Total Rate Increase Required | 9.9% | 9.9% | 9.9% | 9.9% |
| **Annually:** | 2.0% | 1.0% | 0.7% | 0.5% |

*Table 25 Water Rate Increase Options 5-20 Years*

| Sanitary Sewer Network | | | | |
|---|---|---|---|---|
| | **5 Years** | **10 Years** | **15 Years** | **20 Years** |
| Infrastructure Deficit | 149,154 | 149,154 | 149,154 | 149,154 |
| Total Rate Increase Required | 65.9% | 65.9% | 65.9% | 65.9% |
| **Annually:** | 10.7% | 5.2% | 3.5% | 2.6% |

*Table 26 Sanitary Rate Increase Options 5-20 Years*

### 6.4.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 5-year option for the water network and the 10-year option for the sanitary sewer network. This involves full funding being achieved over 5 and 10 years respectively by:

- increasing rate revenues by 5.2% for sanitary services each year for the next 10 years and increasing water rate revenues by 2% each year for the next 5 years solely for the purpose of phasing in full funding to meet the annual capital investment requirements for the proposed level of service.
- increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

- 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.
- We realize that raising rate revenues for infrastructure purposes may be difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure. Alternatively, municipalities should consider a downward revision of certain service levels.
- Any increase in rates required for operations would be in addition to the above recommendations.

Although this option meets the capital funding requirements for the proposed LOS in 5 years for the water network and 10 years for the sanitary sewer network and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

## 6.5 Use of Debt

The following tables outline how Municipality of Central Manitoulin has historically used debt for investing in the asset categories as listed. As of 2025, total debt outstanding for the assets covered in this AMP $1,264,000 (rounded) with corresponding principal and interest payments of $546,000 (2024), well within its provincially prescribed maximum of $1,394,000.[13]

Please note there are currently no debts held for water or sanitary sewer network assets. Please also note that road network and vehicle debts were paid off by 2027 and therefore principal and Interest payments for these categories are not reported in Table 28 below.

| Asset Category | 2025 YE | Use of Debt in the Last Five Years | | | |
|---|---|---|---|---|---|
| | | 2021 | 2022 | 2023 | 2024 |
| Bridges & Culverts | 202,050 | 535,080 | 486,315 | 318,222 | 261,387 |
| Facilities | 201,041 | 738,615 | 602,574 | 466,533 | 330,492 |
| Land Improvements | 0 | 165,000 | 105,000 | 52,500 | 22,500 |
| Machinery & Equipment | 817,348 | 846,917 | 1,077,978 | 907,242 | 744,975 |
| Road Network | 29,167 | 264,167 | 194,167 | 129,167 | 79,167 |
| Vehicles | 14,123 | 51,733 | 120,011 | 75,701 | 40,112 |
| **Total Tax Funded** | **1,263,730** | **2,601,512** | **2,586,045** | **1,949,365** | **1,478,632** |

*Table 27: Use of Debt 2021-2025*

[13] Schedule 81, as per 2023 FIR

| Asset Category | Principal & Interest Payments in the Next Ten Years | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2027** | **2028** | **2029** | **2030** | **2031** | **2032** | **2036** |
| Bridges & Culverts | 71,062 | 15,436 | 7,568 | 0 | 0 | 0 | 0 |
| Facilities | 99,741 | 8,062 | 0 | 0 | 0 | 0 | 0 |
| Land Improvements | 0 | | | | | | |
| Machinery & Equipment | 189,328 | 165,970 | 135,823 | 95,943 | 63,544 | 25,979 | 0 |
| Road Network | 0 | | | | | | 0 |
| Vehicles | 0 | | | | | | |
| **Total Tax Funded** | **360,131** | **189,468** | **143,391** | **95,943** | **63,544** | **25,979** | 0 |

*Table 28: Principal and Interest Payments*

The revenue options outlined in this plan allow Municipality of Central Manitoulin to fully fund its long-term infrastructure requirements without further use of debt.

## 6.6 Use of Reserves

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

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

By asset category, the table below outlines the details of the reserves available as of December 2024 to the Municipality of Central Manitoulin. Please note reserve balances have been allocated based on the asset categories they are eligible to fund rather than by reserve fund name as is often reported.

| Asset Category | Reserve Balances |
|---|---|
| Bridges & Culverts | 18,290 |
| Facilities | 866,873 |

| Asset Category | Reserve Balances |
|---|---|
| Land Improvements | 373,539 |
| Machinery & Equipment | 27,987 |
| Road Network | 109,956 |
| Vehicles | 30,465 |
| **Total Tax Funded:** | **1,427,111** |
| Water Network | 389,877 |
| Sanitary Sewer Network | 383,950 |
| **Total Rate Funded:** | **773,827** |
| **Grand Total** | **$2,200,937** |

*Table 29: Reserve Balances*

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

- breadth of services provided
- age and condition of infrastructure
- use and level of debt
- economic conditions and outlook
- internal reserve and debt policies

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Municipality of Central Manitoulin'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.

# 7. Recommendations & Key Considerations

## 7.1 Financial Strategies

1. Increase capital funding to assets so that the selected proposed LOS (80% AAR Funded) can be achieved. Considering the risks associated with extended phase-in periods alongside affordability constraints, the following is recommended:
    a. Increasing taxes by 2.5% (or 1.6% with debt reallocation) per year over a period of 5 years;
    b. Increasing water rates by 2% per year over a period of 5 years; and
    c. Increasing sanitary sewer rates by 5.2% per year over a period of 10 years.

2. Continued allocation of OCIF and BCSF funding as previously outlined.

3. Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

4. Continue to apply for project specific grant funding to supplement sustainable funding sources.

5. As noted in Section 5.4.2. it is recommended that the Municipality consider adjustments to their capital project policies to allow for remaining capital budgets to be transferred to a capital reserve fund. This allows for capital funds to be used more effectively and better supports long-term capital planning and sustainability.

6. Based on the selected proposed LOS (80% AAR funded), asset investments will in some cases require prioritization. The projected cash flows indicate that some asset categories will have surplus funding available in some years. Staff may wish to review the criticality of investment and reallocate funding from less critical asset categories to more critical asset categories. This process may consider risk scores as a method of prioritization. Adjustments to existing financial and capital budget policies may be necessary to support this investment and allocation strategy.

## 7.2 Asset Data

1. Continuously review, refine, and calibrate asset data to improve accuracy. In particular:
    a. Bi-annual bridge and culvert inspections can be expected to result in revised condition, replacement cost, and rehabilitation recommendations. These should be updated in the asset registry as they are completed. The next assessment is anticipated for completion in 2026. Recommended capital rehabilitations should be captured and appended to assets as lifecycle

events.

b. Regularly review and update asset replacement costs to ensure that forecasted investment requirements are based on the best and most recent estimates.
c. When procuring any asset study consider if there are any additional data points of value to collect and incorporate into the asset registry. Such data points may include risk model criteria, data to assist in asset operations (e.g. locational reference data), and/or general asset information otherwise (i.e. attributes). Evaluate the cost-benefit of data collection.

2. Ensure that all internal assessments are completed in a standardized and uniform manner based on a clearly documented condition scale which includes descriptions and references examples. Implement the program with a regular schedule, standardized data collection and upload process, and assigned responsibilities. Consider the collection of photographs to support assessment details and the includes those photos within the asset registry
3. Explore procurement of CCTV pipe assessments to obtain assessed condition data for sanitary mains. Assessed condition is typically much more accurate than age-based condition, providing a more accurate overview of current conditions and directing investment for replacement and rehabilitation more effectively.

## 7.3 Risk & Levels of Service

1. Risk models can play an important role in identifying high criticality assets and determining appropriate risk mitigation measures. Risk mitigations include the acceptance of risk, the reduction of risk through capital investments, or the removal of risk through asset disposal. Initial risk models have been built into Citywide for all asset groups. These models reflect current data. As the data evolves, review the risk models to determine if adjustments are of benefit.

2. The proposed LOS has been selected, and the projected LOS is noted within. Each year, measure the current LOS and compare it with the projected LOS. Where there is a material difference, work to understand the cause of it, and, as appropriate, implement mitigation measures.

## 7.4 Legislative Compliance

1. Municipalities are required to complete an annual review of their progress implementing their asset management plan by July 1$^{st}$ starting the year after the plan is completed (i.e. by July 2027 in this case). This review must address the following:
    a. Municipality's progress implementing its AMP
    b. Factors impeding the ability to implement the AMP
    c. Strategy to address the factors identified in clause (b)

It is recommended that the Municipality begin planning for their annual review in early 2027.

# Appendices

# Appendix A: Road Network

## Inventory & Valuation

Table 30 summarizes the quantity, unit of measure, total replacement cost, and primary replacement cost method of each asset segment in the municipality's road network inventory.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Signs | 1 | Assets | $34,956 | CPI |
| Streetlights | 141 | Assets | $743,775 | User-Defined |
| Surface Treated Roads | 126 | Length (km) | $8,997,046 | Cost per Unit |
| | **Total** | | **$9,775,777** | |

*Table 30 Detailed Asset Inventory: Road Network*

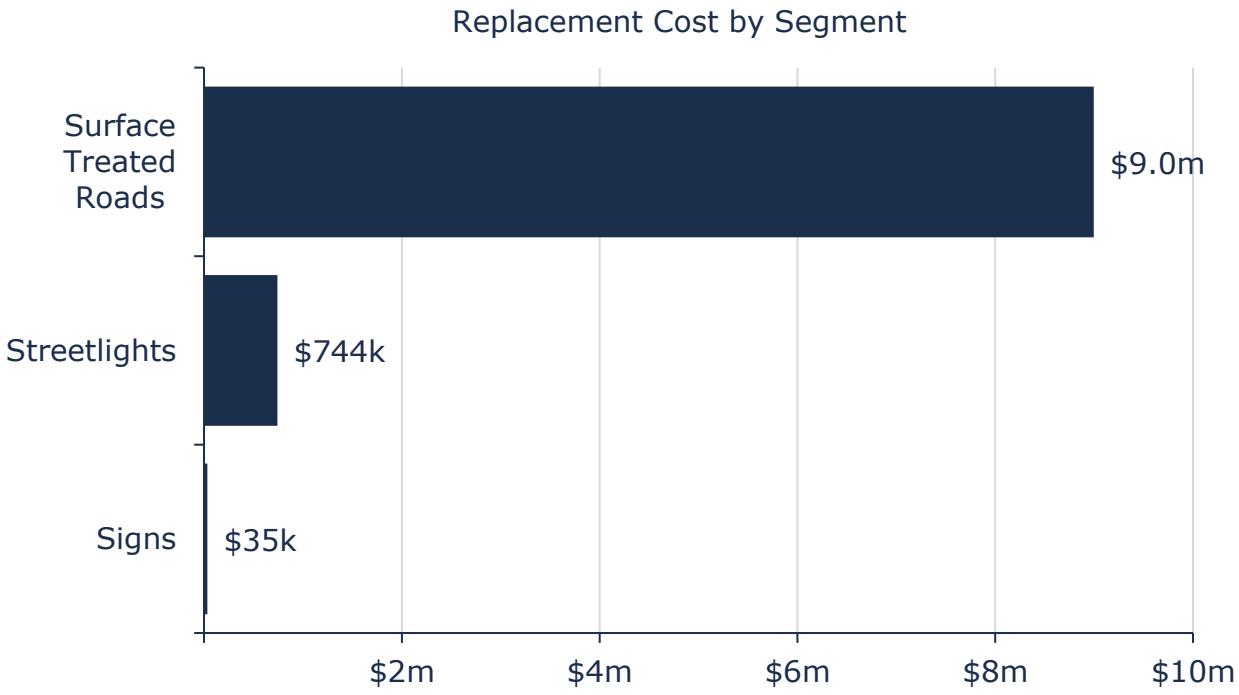



*Figure 23 Portfolio Valuation: Road Network*

## Asset Condition

Figure 24 summarizes the replacement cost-weighted condition of the Municipality's road network. Based on a combination of field inspection data and age, 89% of assets are in fair or better condition; the remaining 11% of assets are in poor to very poor condition. Condition assessments were available for 100% of surface treated roads, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 24, most municipality road network assets are in fair or better condition.

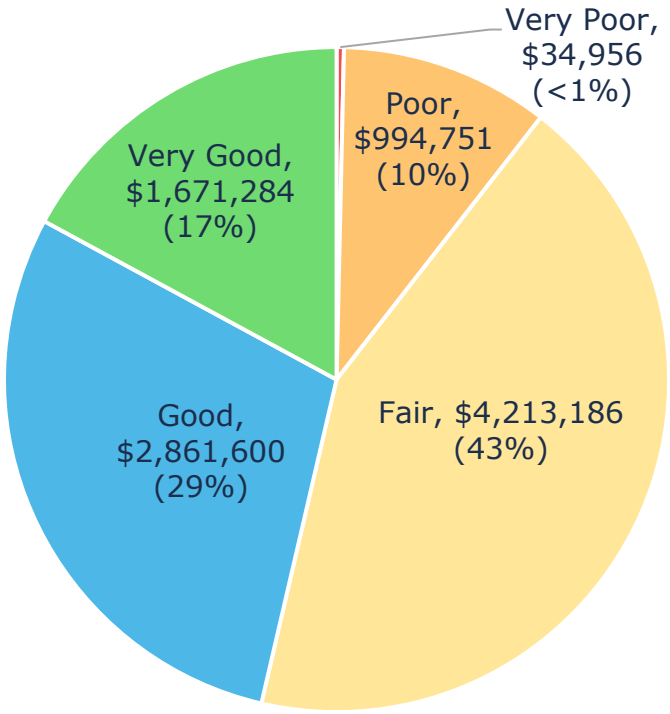



*Figure 24 Asset Condition: Road Network Overall*

As illustrated in Figure 25, based on condition assessments, the majority of the Municipality's Road network is in fair or better condition.

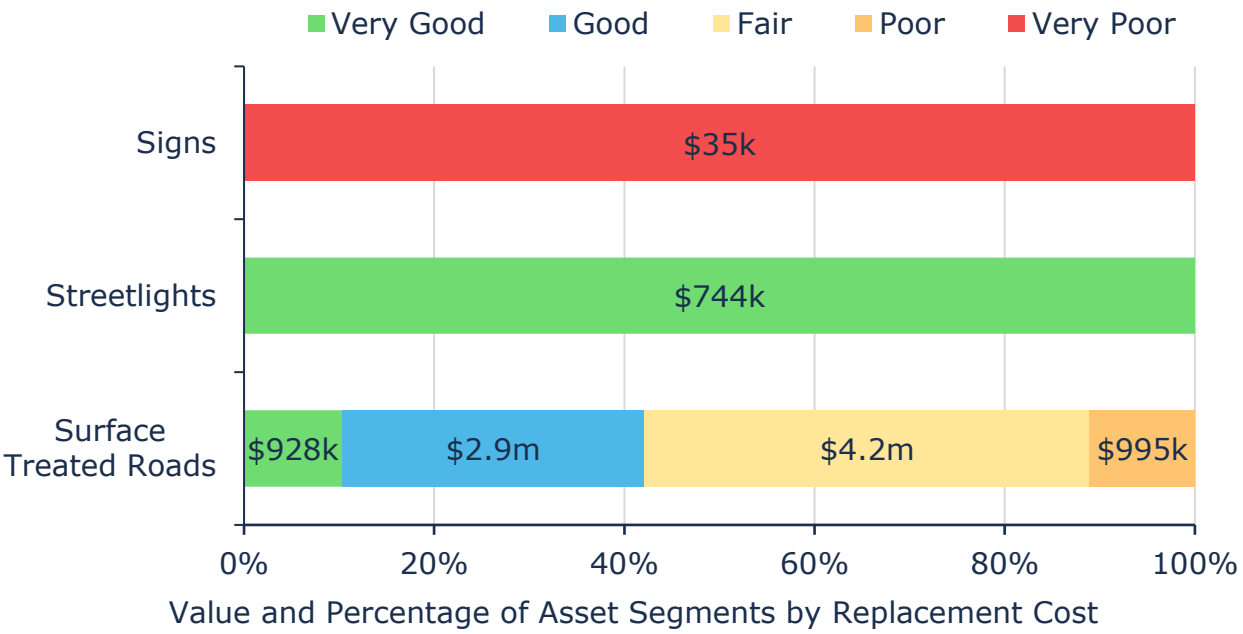



*Figure 25 Asset Condition: Road Network by Segment*

### 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 Municipality's current approach:

- Road assets are internally assessed, on an ad hoc basis
- The Municipality is in the process of implementing plans to increase internal assessment frequency for paved surfaces
- Streetlights and signs are assessed every two years, while sidewalks are assessed annually. The condition of sidewalks is inspected according to Ontario Regulation 239/02 – Minimum Maintenance Standards (MMS), and streetlights are visually inspected for pole and structure condition. Condition findings strongly influence capital investment decisions.

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential long-term replacement spikes.

Figure 26 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.[14]

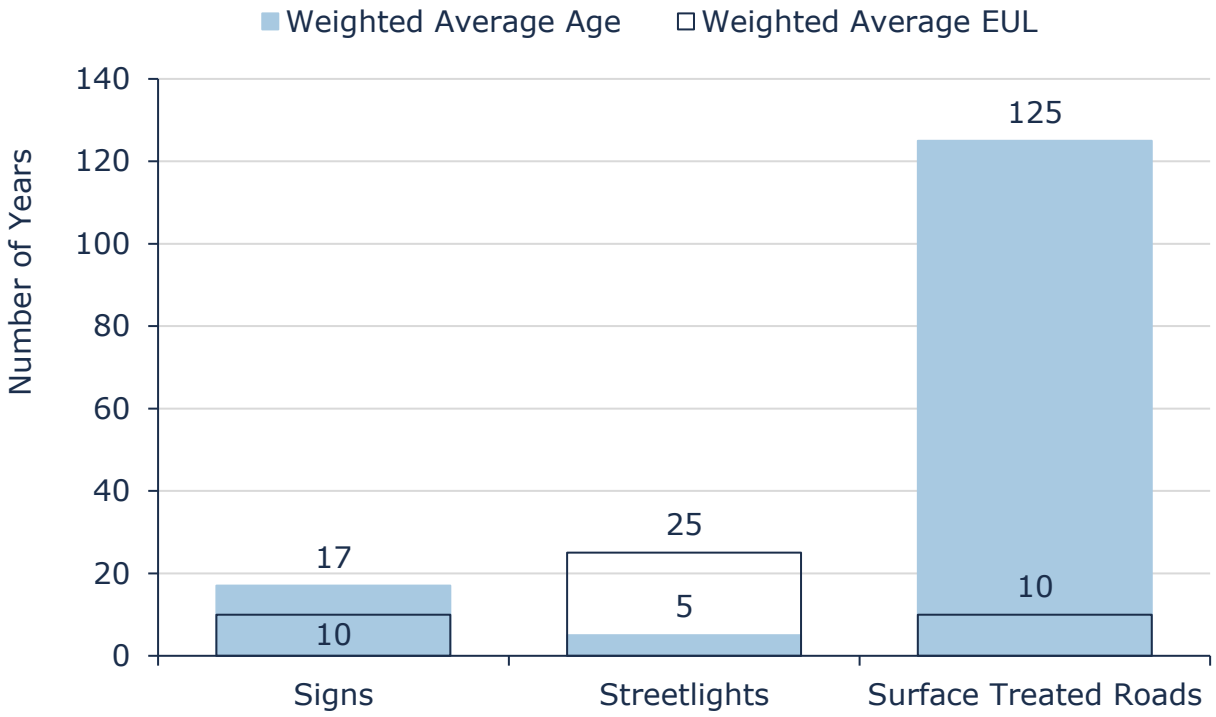



*Figure 26 Estimated Useful Life vs. Asset Age: Road Network*

Although asset age is an important measurement for long-term planning, condition assessments provide a more accurate indication of actual asset needs.

## Current Approach to Lifecycle Management

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.

[14] The Municipality's database does not have any information regarding in-service dates. Consequently, the infographic below indicates that the Municipality's Surface Treated Roads are older than its respective EUL. It is highly recommended that the Municipality allocate resources to improve its asset register data.

The following lifecycle strategy has been developed as a proactive approach to managing the lifecycle of surface treated roads. Instead of allowing the roads to deteriorate until replacement is required, strategic rehabilitation is expected to extend the service life of roads at a lower total cost.

The following schedules outline the events taken by the Municipality in its care of Road Network:

| Surface Treated Roads (LCB) | | |
|---|---|---|
| **Event Name** | **Event Class** | **Event Trigger** |
| Overlay / Single Surface Treatment | Rehabilitation | 60 to 70 condition |
| Double Surface Treatment 1 | Rehabilitation | 50 to 60 condition |
| Double Surface Treatment 2 | Rehabilitation | 50 to 60 condition |
| Full Reconstruction | Replacement | 0 to 50 condition |

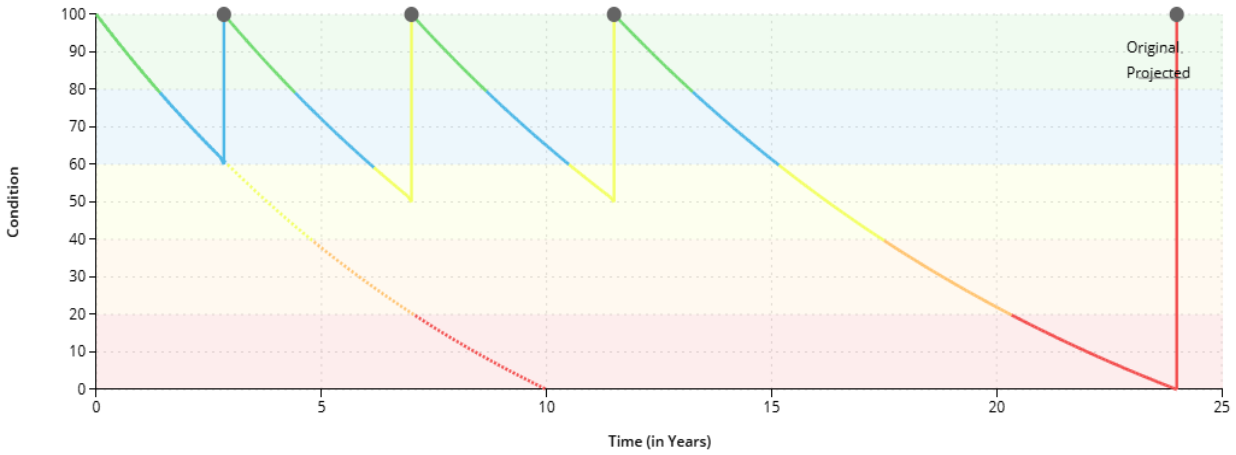



*Table 31 Lifecycle Management Strategy: Road Network (Surface Treated Roads - LCB)*

This lifecycle management strategy extends the projected lifespan of LCB roads from 10 years to about 24 years through strategic rehabilitation events occurring in approximately years 3, 8, and 12. This strategic rehabilitation strategy is supported by other general maintenance, inspection, and investment considerations as summarized in the following table.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Maintenance includes LCB cold patch repair, general deficiency repair, surface cleaning, inspections, shoulder vegetation growth management, and periodic resurfacing |
| | Routine inspections are completed bi-weekly, with more intensive activities like resurfacing scheduled as needed based on road class and usage |
| | Maintenance is initiated in response to surface irregularities, sub-surface deficiencies, and deterioration of supporting infrastructure |
| Rehabilitation | Rehabilitation efforts include surface treatment, fresh gravel application, and structural repairs to extend the life of road infrastructure |
| | Rehabilitation is typically initiated every four years, adjusted based on vehicle and equipment traffic frequency on the roads |
| Replacement | Replacement is considered when rehabilitation is no longer deemed effective, particularly when the main roadbed structure cannot support further repair activities |
| | Assets are prioritized for replacement when the road surface can no longer be effectively maintained through rehabilitation, indicating that a full reconstruction is required |

*Table 32 Lifecycle Management Strategy: Road Network*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, and road class. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Road Network risk model.

| 1 - 4<br>**Very Low**<br>$5,261,599<br>(54%) | 5 - 7<br>**Low**<br>$3,257,143<br>(33%) | 8 - 9<br>**Moderate**<br>$870,744<br>(9%) | 10 - 14<br>**High**<br>$351,334<br>(4%) | 15 - 25<br>**Very High**<br>$34,956<br>(<1%) |
|---|---|---|---|---|

*Figure 27 Risk Matrix: Road Network*

# Appendix B: Bridges & Culverts

## Inventory & Valuation

Table 33 summarizes the quantity, unit of measure, total replacement cost, and primary replacement cost method of each asset segment in the Municipality's bridges & culverts.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Bridges | 11 | Assets | $8,117,287 | User-Defined |
| Culverts | 2 | Assets | $468,450 | User-Defined |
| Pedestrian Bridges | 2 | Assets | $516,983 | User-Defined |
| **TOTAL** | | | **$9,102,720** | |

*Table 33 Detailed Asset Inventory: Bridges & Culverts*

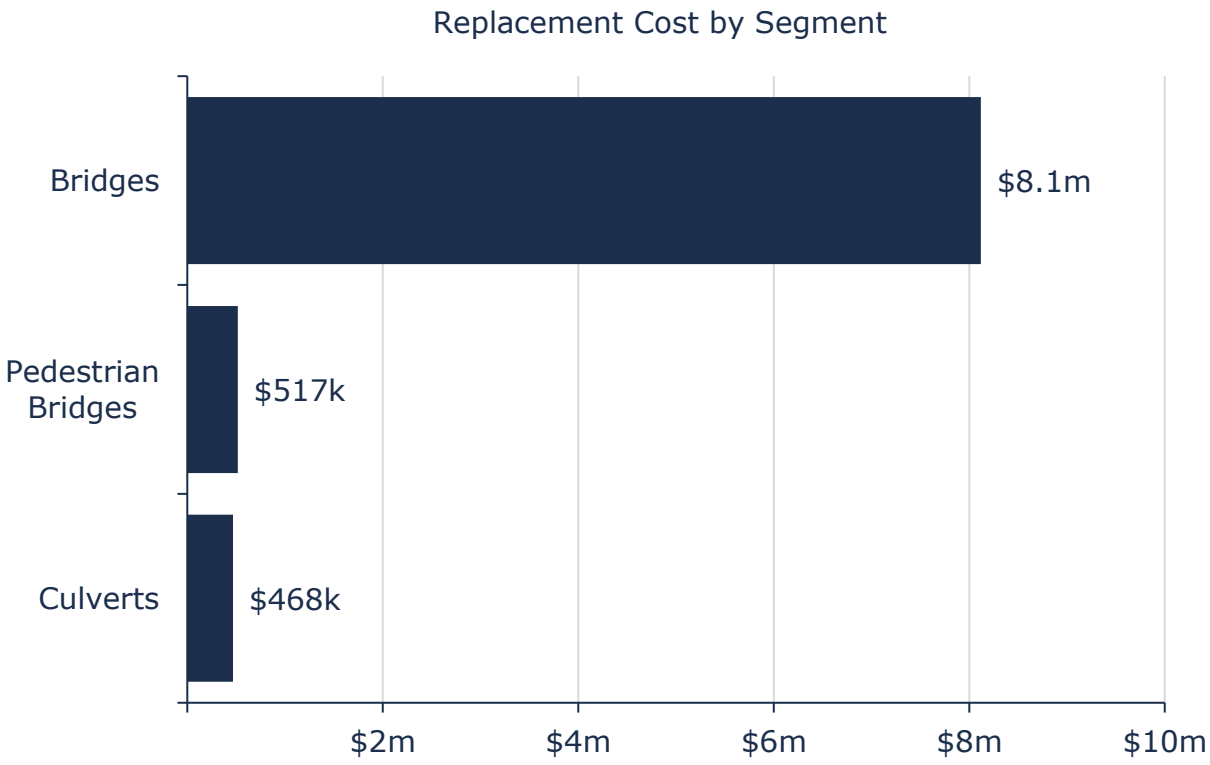



*Figure 28 Portfolio Valuation: Bridges & Culverts*

## Asset Condition

Figure 29 summarizes the replacement cost-weighted condition of the Municipality's bridges and culverts. Based on the Municipality's latest Ontario Structures Inspection Manual (OSIM) assessments, 94% bridges and structural culverts are in fair or better condition. Some elements or components of these structures may be candidates for replacement or rehabilitation in the medium term and should be monitored for further degradation in condition.

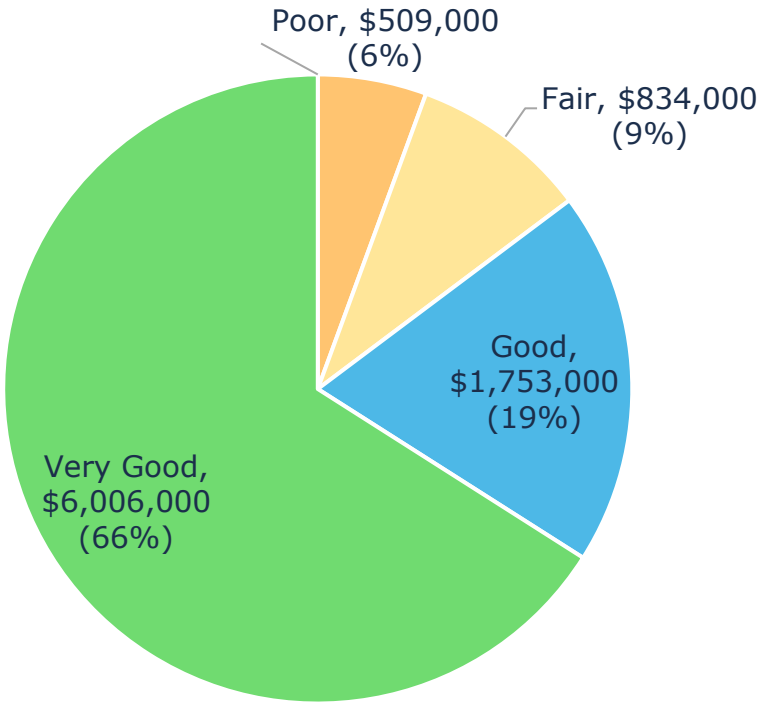



*Figure 29 Asset Condition: Bridges & Culverts Overall*

As illustrated in Figure 30, based on condition assessments, the majority of the Municipality's bridges & culverts are in fair or better condition.

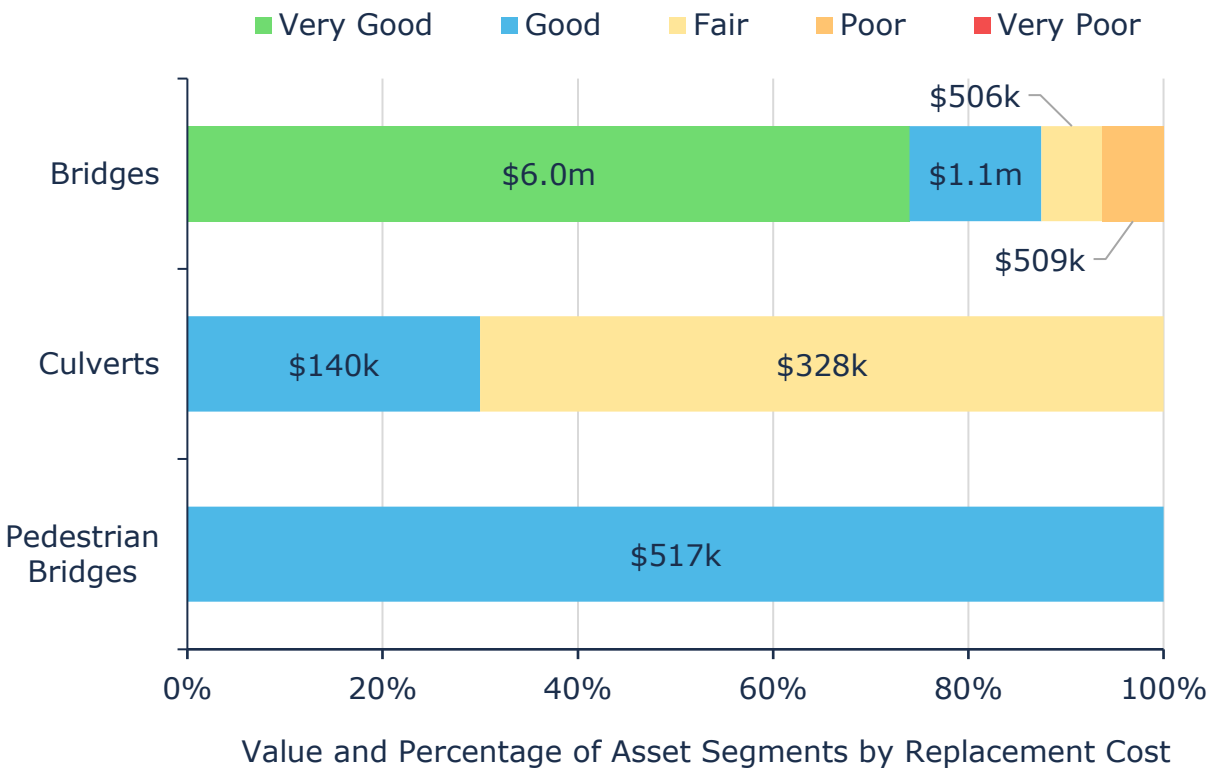



*Figure 30 Asset Condition: Bridges & Culverts by Segment*

### 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 Municipality's current approach:

- Condition assessments of all bridges and culverts with a span greater than or equal to 3 meters are completed every year in accordance with the Ontario Structure Inspection Manual (OSIM)
- The last formal assessment was conducted in 2024, with the next scheduled OSIM to be completed in 2026. Assessments are conducted by external engineering consultants.

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its

intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 31 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

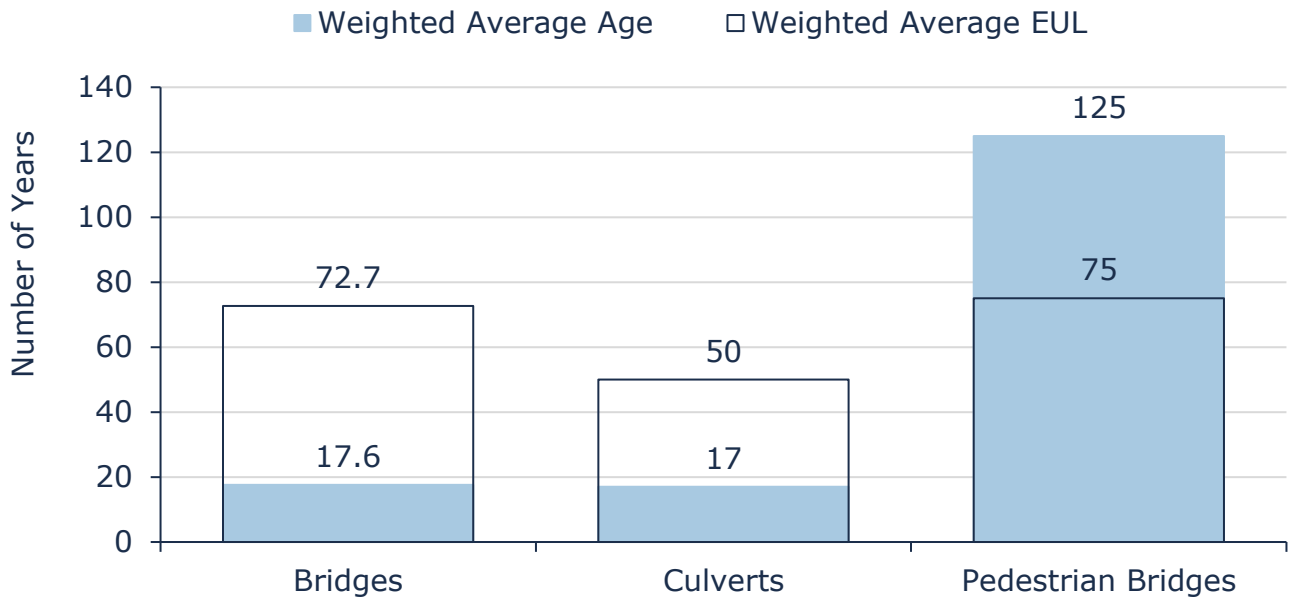



*Figure 31 Estimated Useful Life vs. Asset Age: Bridges & Culverts*[15]

## Current Approach to Lifecycle Management

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 Municipality's current lifecycle management strategy.

[15] The Municipality's database does not have any information regarding in-service dates. Consequently, the infographic below indicates that the Municipality's Pedestrian Bridges are older than its respective EUL. It is highly recommended that the Municipality allocate resources to improve its asset register data.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance, Rehabilitation and Replacement | Maintenance activities include annual springtime pressure washer cleaning to remove winter residues, summer vegetation removal, and addressing any issues identified in OSIM reports |
| | All lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM) |
| Inspection | The most recent inspection report was completed in 2024. The next inspection is planned for 2026 |

*Table 34 Lifecycle Management Strategy: Bridges & Culverts*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition and replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Bridges & Culverts risk model.

| 1 - 4<br>**Very Low** | 5 - 7<br>**Low** | 8 - 9<br>**Moderate** | 10 - 14<br>**High** | 15 - 25<br>**Very High** |
|---|---|---|---|---|
| $3,377,436<br>(37%) | $4,339,171<br>(48%) | $876,825<br>(10%) | $509,288<br>(6%) | -<br>(0%) |

*Figure 32 Risk Matrix: Bridges & Culverts*

# Appendix C: Water Network

## Inventory & Valuation

Table 35 summarizes the quantity and current replacement cost of the Municipality's various water network assets as managed in its primary asset management register, Citywide.

| Segment | Quantity (Components) | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Hydrants | 54 | Assets | $607,500 | Cost per Unit |
| Valves | 45 | Assets | $123,750 | Cost per Unit |
| Water Treatment Plant | 32,330 | Area (sq ft) | $5,268,135 | User-Defined |
| Watermains | 7,872 | Length (m) | $8,658,650 | Cost per Unit |
| **TOTAL** | | | **$14,658,035** | |

*Table 35 Detailed Asset Inventory: Water Network*

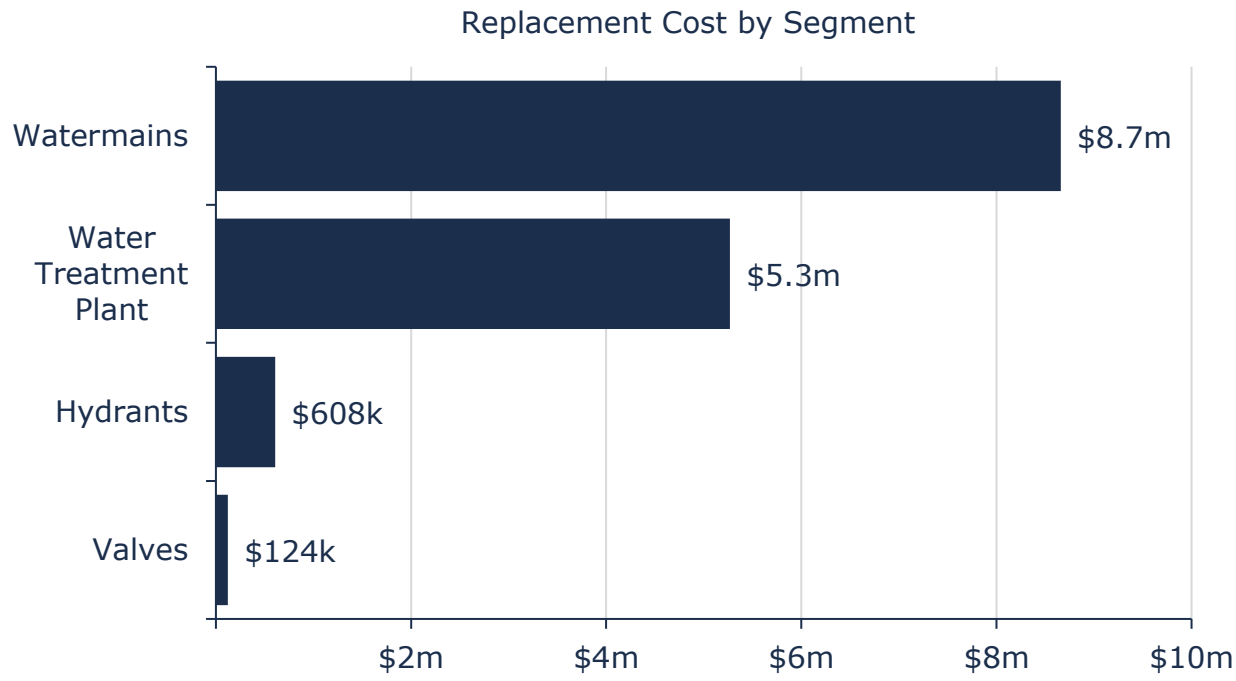



*Figure 33 Portfolio Valuation: Water Network*

## Asset Condition

Figure 34 summarizes the replacement cost-weighted condition of the Municipality's water network. Based on a combination of field inspection data and age, 81% of assets are in fair or better condition; the remaining 19% of assets are in poor to very poor condition. Condition assessments were available for 36% of assets in the category.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

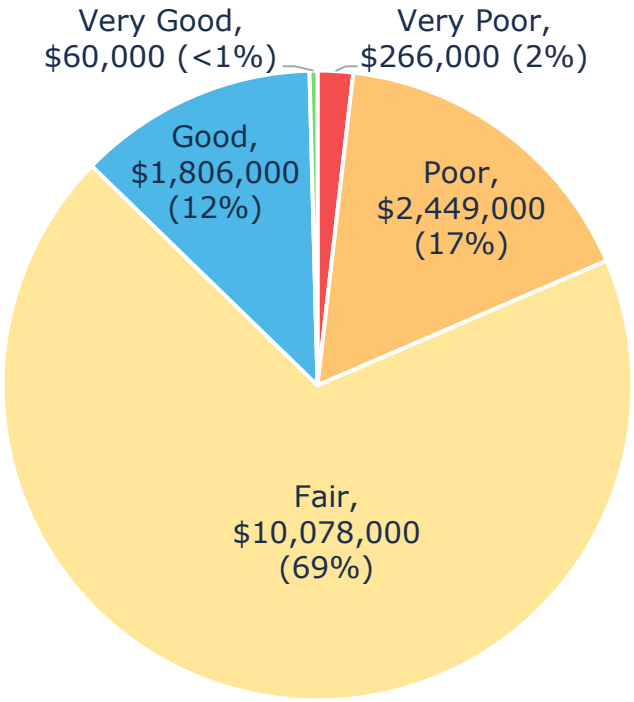



*Figure 34 Asset Condition: Water Network Overall*

As illustrated in Figure 35, 81% of the Municipality's water network assets are in fair or better condition, this figure is comprised of the water treatment plant and watermains, hydrants and valves are in poor or worse condition.

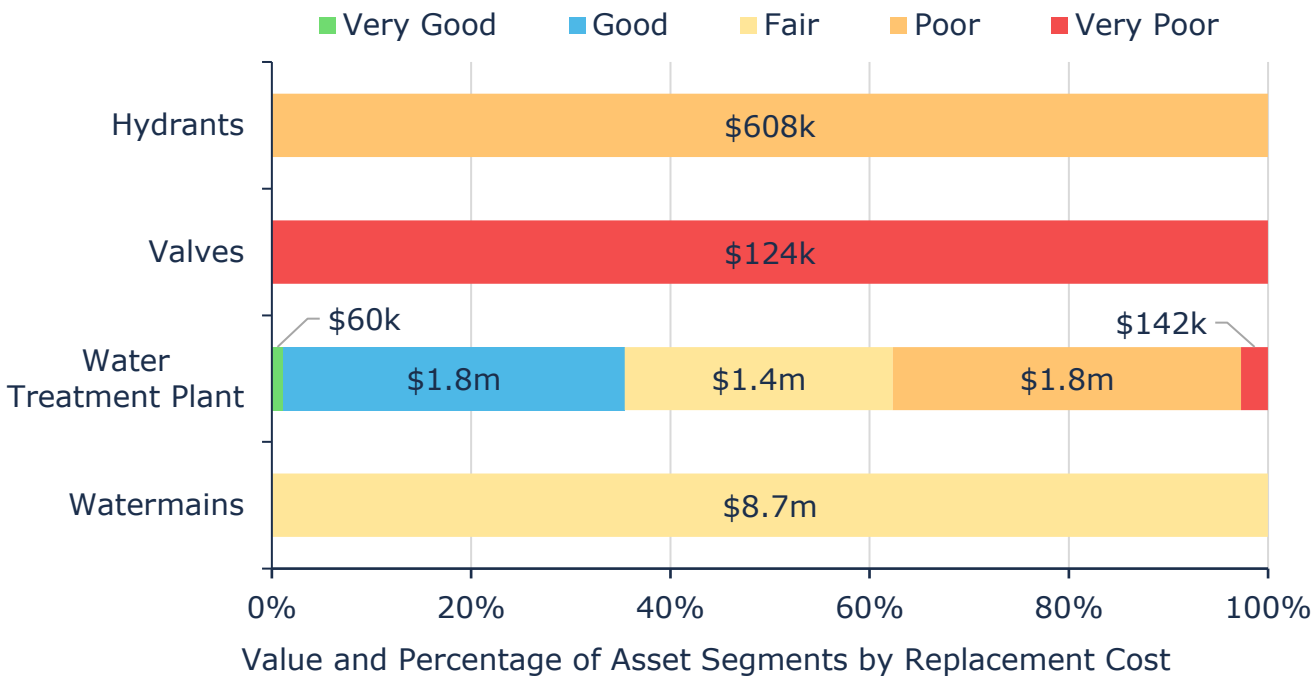



*Figure 35 Asset Condition: Water Network by Segment*

### 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 Municipality's current approach:

- Staff rely on the age of the asset and number of breaks of watermains to determine the projected condition of assets
- The current assessment program includes hydrants and valves but does not extend to service connections
- CCTV inspections have never been performed on the water system. This method is not utilized unless specific issues necessitate an inspection
- While there are no pumping stations within the water system, treatment assets are inspected by a third party (OCWA)

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets

age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential long-term replacement spikes.

Figure 36 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

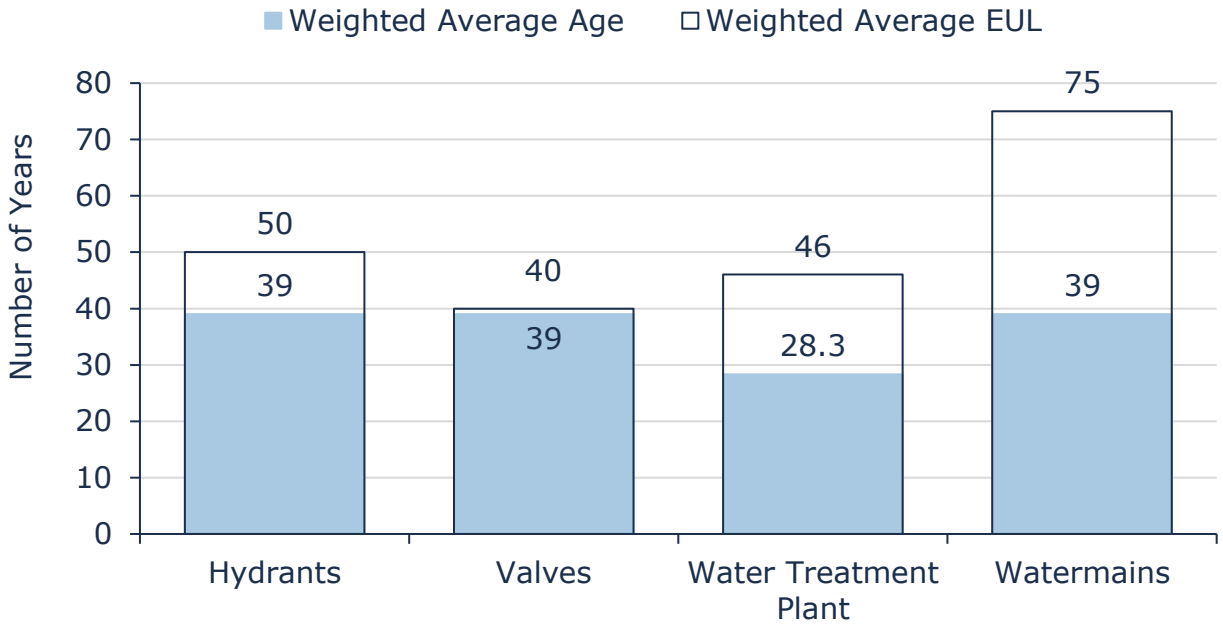



*Figure 36 Estimated Useful Life vs. Asset Age: Water Network*

## Current Approach to Lifecycle Management

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 Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance /Rehabilitation | OCWA conducts qualitative assessments annually, identifying assets that need repair or replacement based on their physical condition |
| | Detailed readings for flow capacity are systematically recorded |
| | Fire flow testing is completed through external contractors, providing comprehensive reports for each hydrant, on a biennial basis |
| | Cathodic protection is implemented whenever there is access to the main pipe during repair and maintenance |
| | Corrosion inhibitor, specifically zinc polyphosphate is applied to mitigate corrosion-related issues |
| Rehabilitation | Rehabilitation strategies for water mains involve relining, with a relining program to be implemented in the future |
| Replacement | Asset replacement decisions are multifaceted and can be triggered by factors such as watermain breaks and leaks, fire flow and pressure requirements, unidirectional flushing results, resident complaints, and the recommendations of engineering services in conjunction with reconstruction projects |
| | Replacement activities for watermains are conducted and prioritized with the replacement of other underground infrastructure, to best streamline projects |

*Table 36 Lifecycle Management Strategy: Water Network*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, traffic data, and road class. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Water Network risk model.

| 1 - 4<br>**Very Low** | 5 - 7<br>**Low** | 8 - 9<br>**Moderate** | 10 - 14<br>**High** | 15 - 25<br>**Very High** |
|---|---|---|---|---|
| $5,639,480<br>(38%) | $5,688,905<br>(39%) | $847,400<br>(6%) | $992,250<br>(7%) | $1,490,000<br>(10%) |

*Figure 37 Risk Matrix: Water Network*

# Appendix D: Sanitary Sewer Network

## Inventory & Valuation

Table 37 summarizes the quantity and current replacement cost of the Municipality's various sanitary sewer network assets as managed in its primary asset management register, Citywide.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Force Mains | 2,054 | Length (m) | $1,848,420 | Cost per Unit |
| Gravity Mains | 7,290 | Length (m) | $6,561,315 | Cost per Unit |
| Manholes | 76 | Assets | $912,760 | Cost per Unit |
| Pumping Stations | 1,817 | Area (sq ft) | $304,900 | User-Defined |
| Sewage Treatment Plant | 27,771 | Area (sq ft) | $5,034,365 | User-Defined |
| **TOTAL** | | | **$14,661,760** | |

*Table 37 Detailed Asset Inventory: Sanitary Sewer Network*

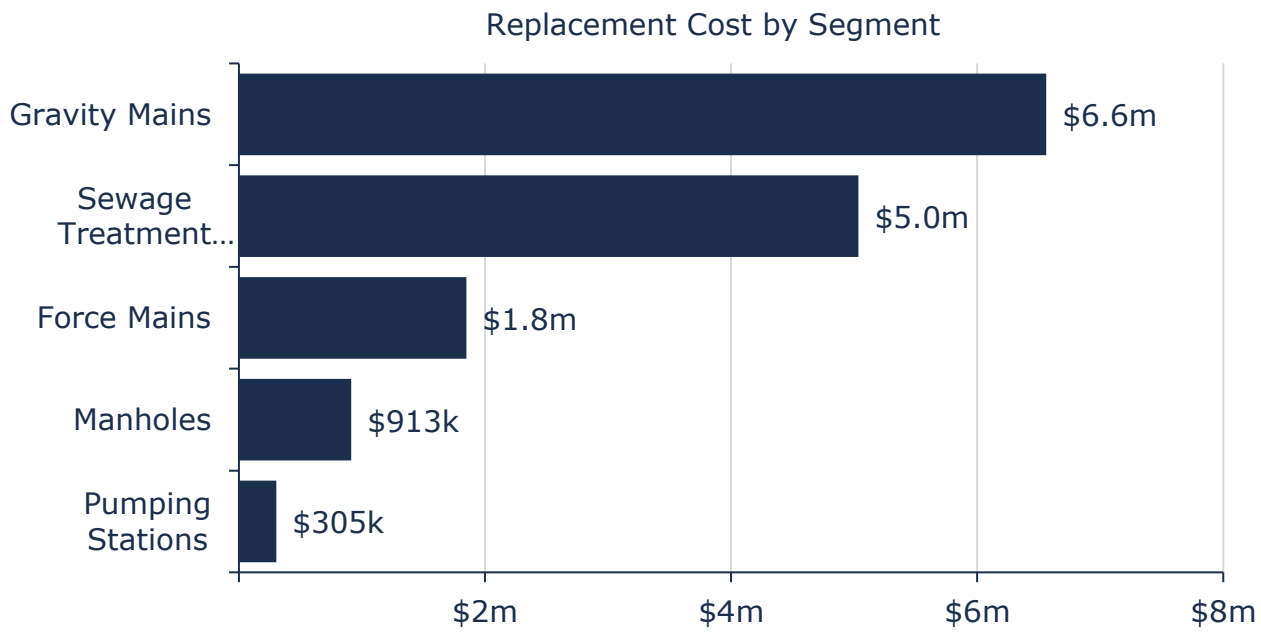



*Figure 38 Portfolio Valuation: Sanitary Sewer Network*

## Asset Condition

Figure 39 summarizes the replacement cost-weighted condition of the Municipality's sanitary sewer network. Based on a combination of field inspection data and age, 87% of assets are in fair or better condition; the remaining 13% of assets are in poor to very poor condition. Condition assessments were available for 36% of sanitary sewer network assets, based on replacement cost.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated Figure 39 in most the Municipality's Sanitary Sewer System assets are in fair or better condition.

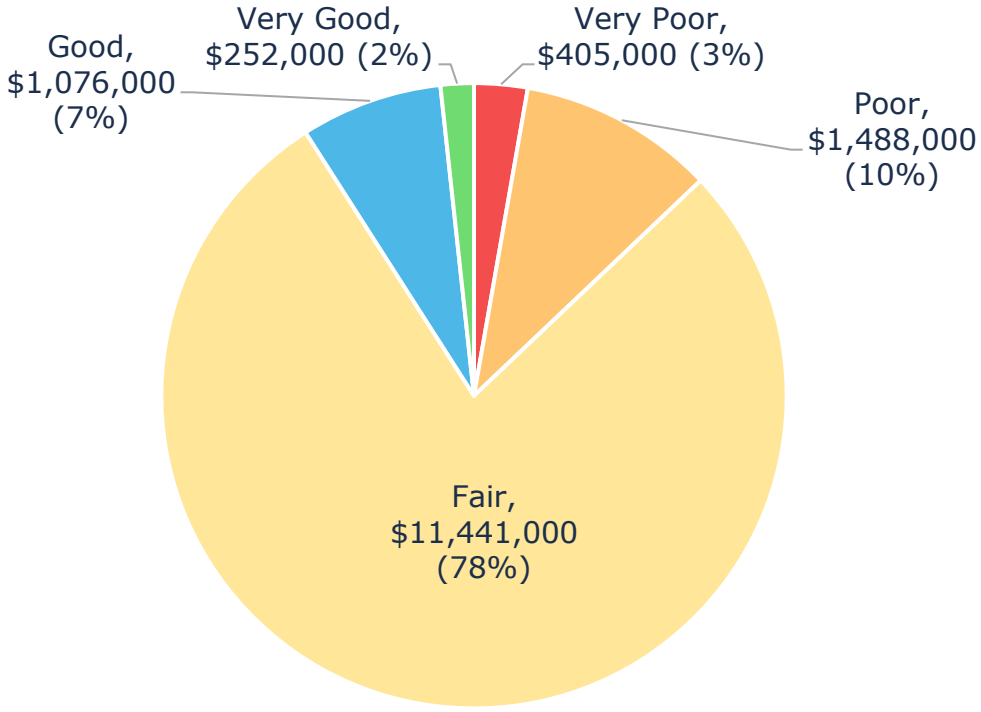



*Figure 39 Asset Condition: Sanitary Sewer Network Overall*

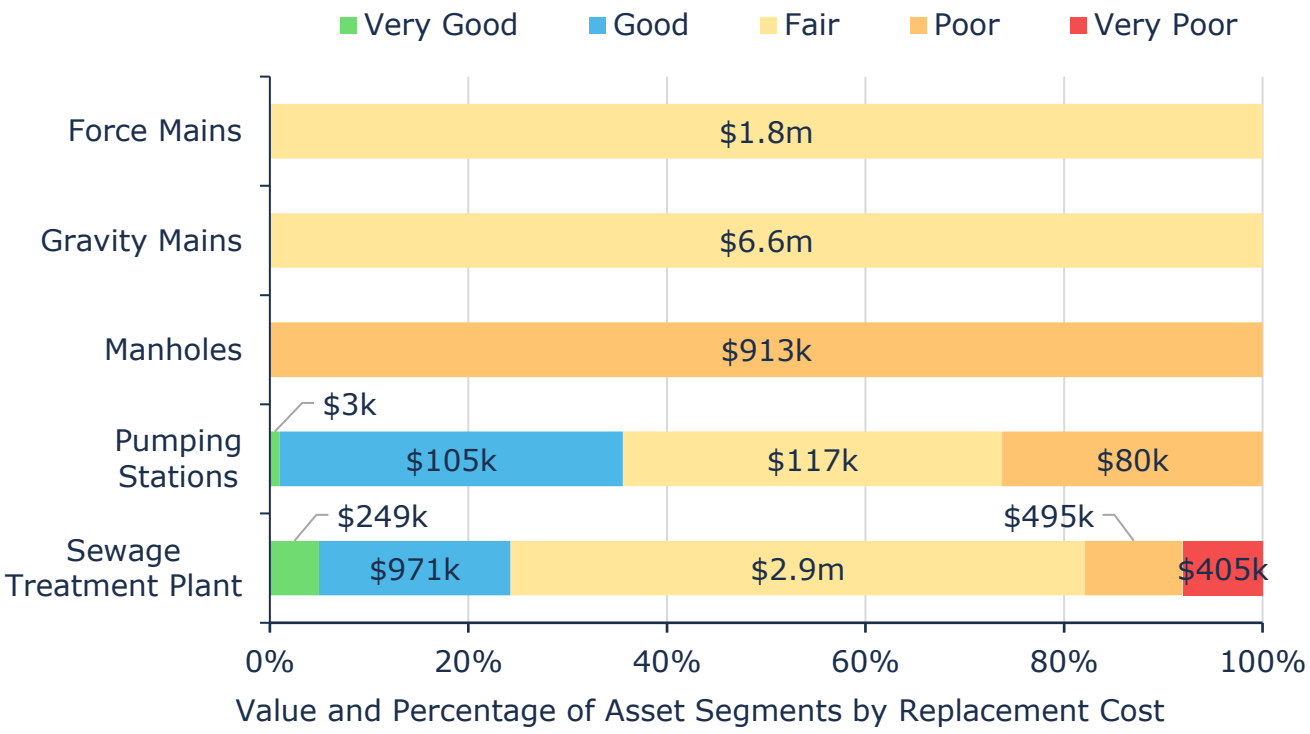



*Figure 40 Asset Condition: Sanitary Sewer Network by Segment*

### 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 Municipality's current approach:

- CCTV inspections are conducted but in a reactive nature, not as a regular preventative measure. Inspections are only performed when specific issues are reported within the network
- Inspections of pumping stations and treatment assets are carried out by third-party organizations (OCWA)
- The current condition assessment program performed by internal staff is limited and covers only manholes within the network

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its

intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential long-term replacement spikes.

Figure 41 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets. Overall, all sanitary assets are well within their expected useful life, with sewer mains and manholes being the oldest but still far from end of life.

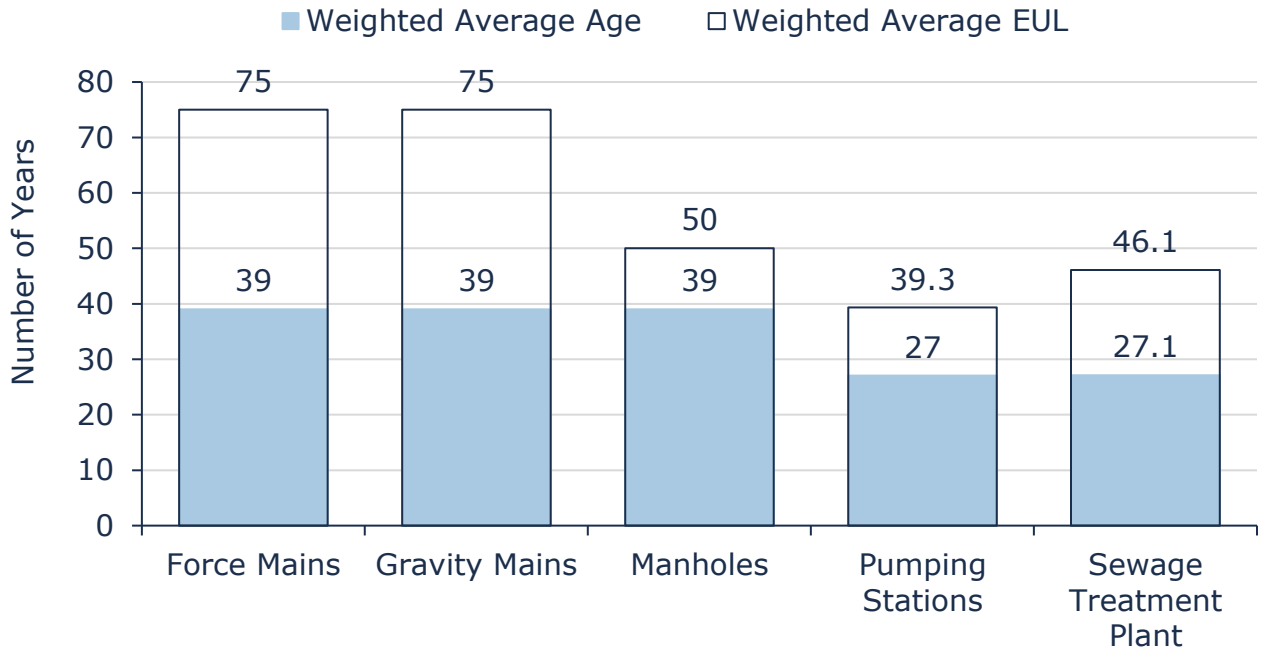



*Figure 41 Estimated Useful Life vs. Asset Age: Sanitary Sewer System*

## Current Approach to Lifecycle Management

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 Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance / Rehabilitation | OCWA provides qualitative annual assessments, listing assets that require repair or replacement based on physical inspections |
| Rehabilitation/ Replacement | Replacement activities for mains are conducted and prioritized with the replacement of other underground infrastructure and impacted roads |

*Table 38 Lifecycle Management Strategy: Sanitary Sewer Network*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, traffic data, and road class. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Sanitary Sewer risk model.

| 1 - 4<br>**Very Low**<br>$9,370,095<br>(64%) | 5 - 7<br>**Low**<br>$1,832,265<br>(12%) | 8 - 9<br>**Moderate**<br>$2,236,750<br>(15%) | 10 - 14<br>**High**<br>$947,650<br>(6%) | 15 - 25<br>**Very High**<br>$275,000<br>(2%) |
|---|---|---|---|---|

*Figure 42 Risk Matrix: Sanitary Sewer System*

# Appendix E: Facilities

## Inventory & Valuation

Table 39 summarizes the quantity and current replacement cost of all Facilities assets available in the Municipality's asset register. Facilities assets are componentized. The quantity listed represents the number of asset records currently available for each department.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| General Government | 110 | Assets | $2,723,605 | User-Defined |
| Protection Services | 216 | Assets | $5,399,540 | User-Defined |
| Recreation & Cultural Services[16] | 623 | Assets | $31,194,259 | User-Defined |
| Transportation Services | 11 | Assets | $447,602 | User-Defined |
| **TOTAL** | | | **$39,765,006** | |

*Table 39 Detailed Asset Inventory: Facilities*

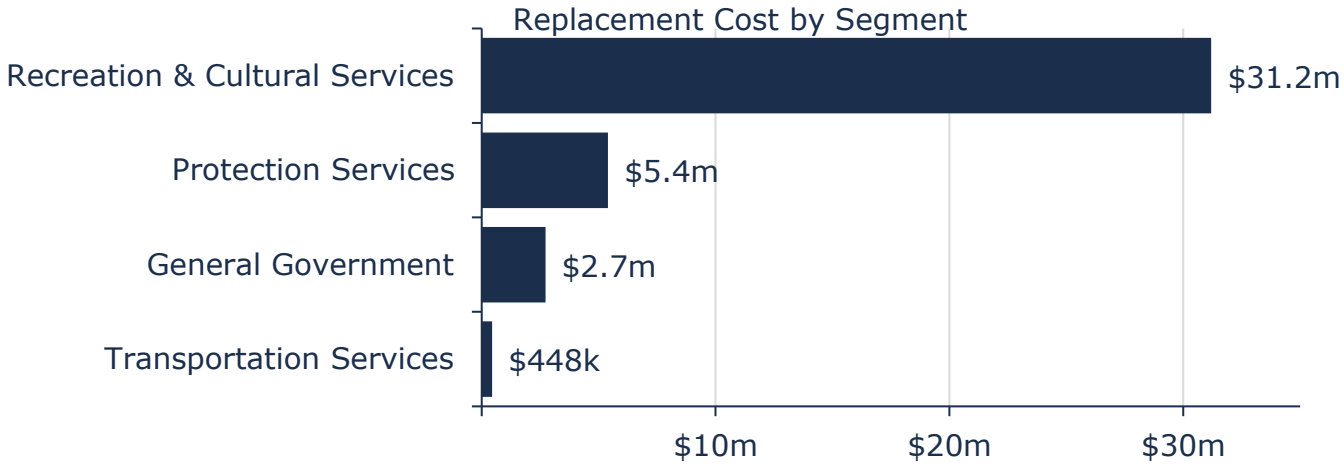



*Figure 43 Portfolio Valuation: Facilities*

[16] Upon finalization of this report the Municipality acquired Trinity United Church and also identified that data updates for Mindemoya Hall are required. These will occur in 2027 but are not currently reflected in the data herein.

## Asset Condition

Figure 44 summarizes the replacement cost-weighted condition of the Municipality's Facilities portfolio. Based on assessment data, 65% of Facilities assets are in fair or better condition. Aspects of some of these assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. 97% of Facilities had assessed condition ratings available.

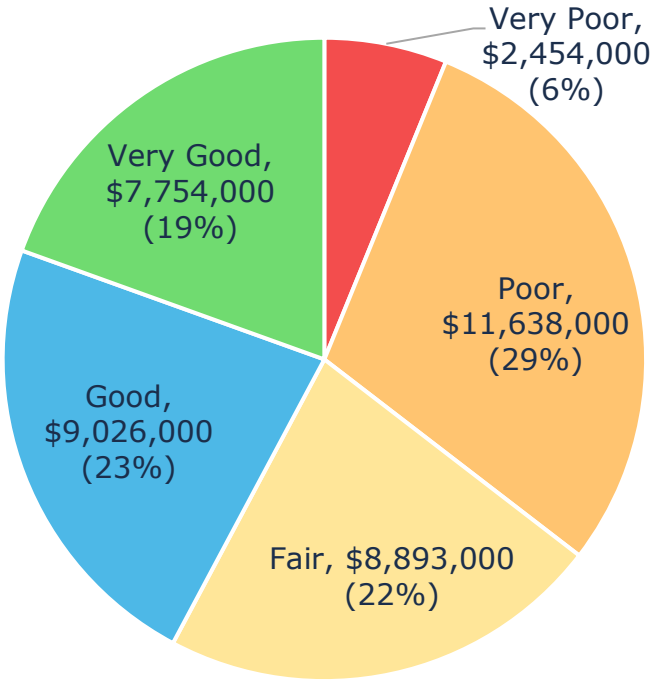



*Figure 44 Asset Condition: Facilities Overall*

Figure 45 summarizes the age-based condition of Facilities by each department. Overall, based on the information available, this asset category is in a very healthy state.

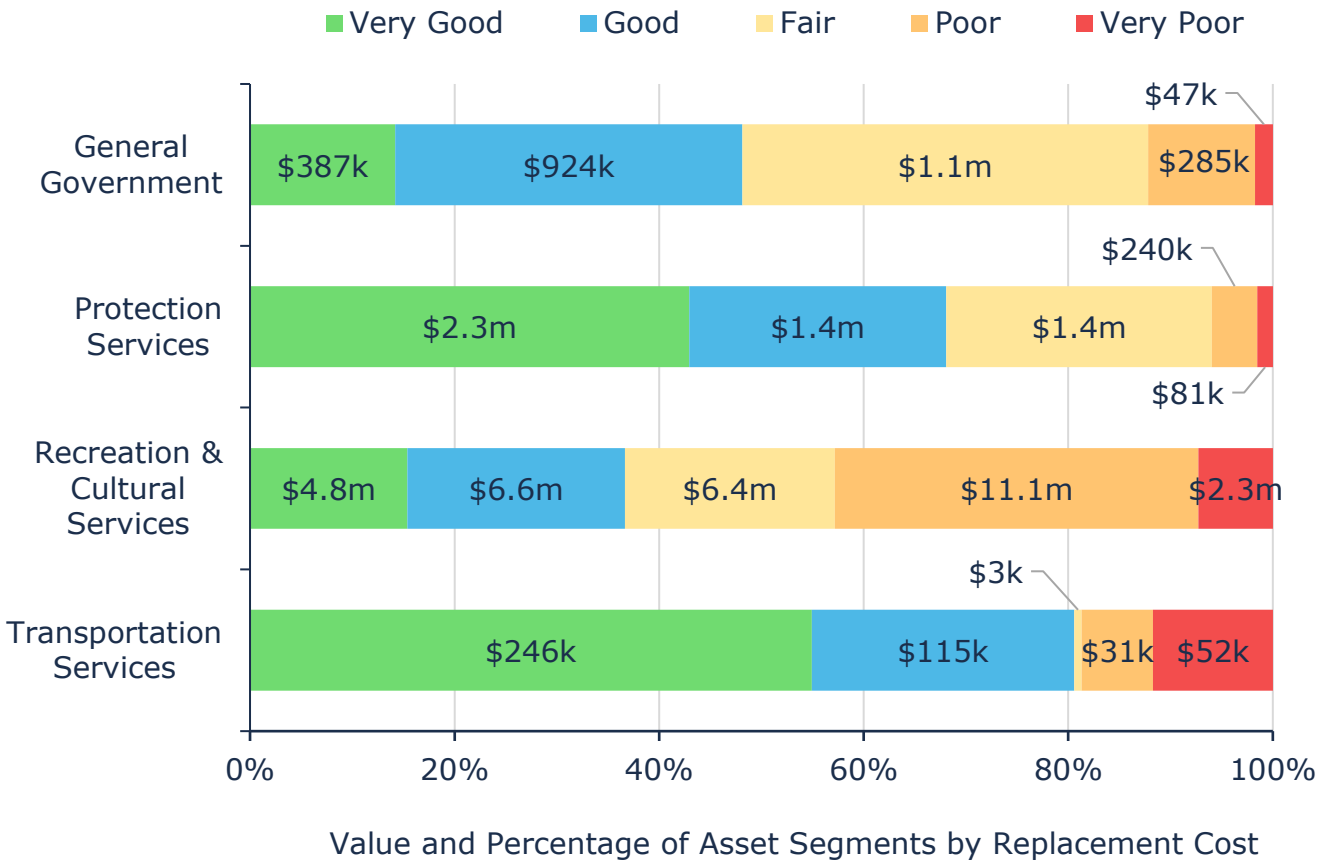



*Figure 45 Asset Condition: Facilities by Segment*

Facilities assets are unique in that they rarely require the need for replacement based solely on condition. It is typical that, in addition to condition, other factors, such as capacity, will impact the asset's ability to serve the purpose originally intended.

### 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 Municipality's current approach:

- Comprehensive building condition assessments (BCAs) are primarily conducted by external consultants and have been completed in 2022 and in 2024
- Safety walks are conducted annually for all buildings to ensure ongoing safety and compliance

- Maintenance staff perform monthly internal walkthroughs to identify maintenance needs or deficiencies for budget planning and maintenance scheduling

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 46 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

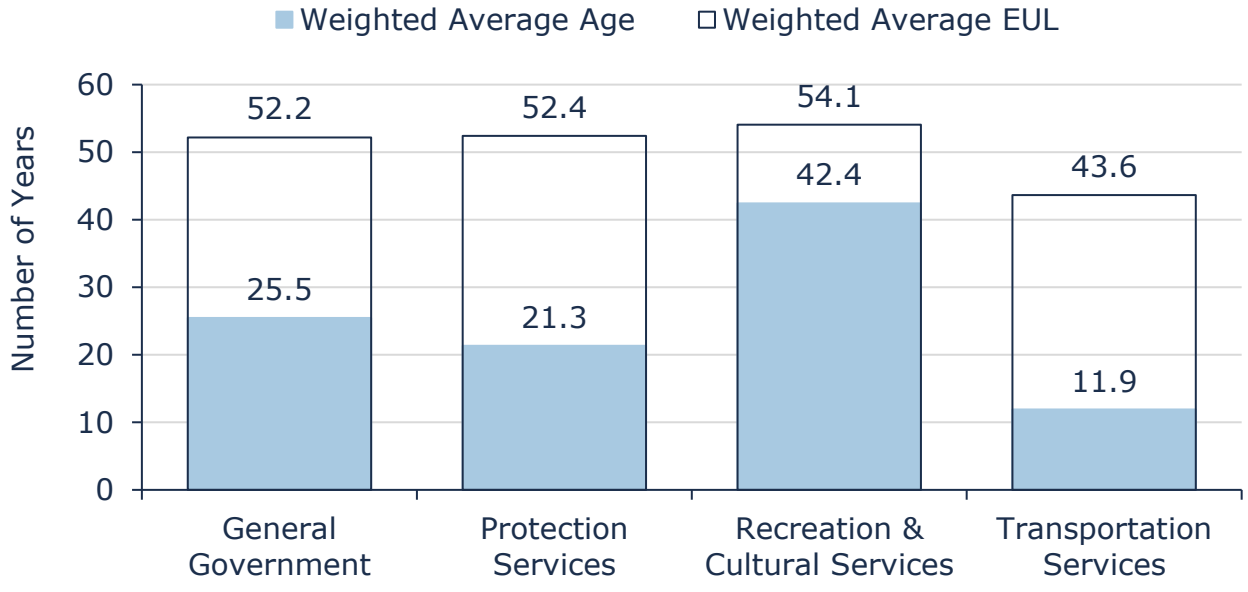



*Figure 46 Estimated Useful Life vs. Asset Age: Facilities*

## Current Approach to Lifecycle Management

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.

Table 40 outlines the Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance / Rehabilitation | Biannual checks of doors, windows, emergency lighting, annual HVAC/furnace inspections, heating systems, dehumidification units, and general building upkeep such as painting, patching, and floor maintenance |
| | Routine maintenance is conducted twice a year to identify any deficiencies, with minor repairs made as needed, especially prior to any facility rentals |
| | Maintenance actions are initiated by daily building checks, monthly inspections, and any complaints or concerns raised by staff or the public |
| | Based on the Building Condition Assessment (BCA), activities include roof replacements, oil tank and furnace replacements, masonry work, and septic tank inspections, all to meet AODA, TSSA, or building code requirements |
| Replacement | Replacement is considered when an asset is no longer serviceable or cost-effective while also considering the risk of potential failures (e.g., lack of heating in winter or a leaking roof during rainy seasons) |

*Table 40 Lifecycle Management Strategy: Facilities*

## Risk Analysis

The risk matrix below is generated using available asset data, including service life remaining, replacement costs, and building department. The risk ratings for assets without useful attribute data were calculated using only age, service life remaining, and their replacement costs.

The matrix classifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure

and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Facilities risk model.

| 1 - 4<br>**Very Low**<br>$9,322,392<br>(23%) | 5 - 7<br>**Low**<br>$11,877,265<br>(30%) | 8 - 9<br>**Moderate**<br>$2,900,074<br>(7%) | 10 - 14<br>**High**<br>$6,454,850<br>(16%) | 15 - 25<br>**Very High**<br>$9,210,425<br>(23%) |
|---|---|---|---|---|

*Figure 47 Risk Matrix: Facilities*

# Appendix F: Vehicles

## Inventory & Valuation

Table 41 summarizes the quantity and current replacement cost of all vehicle assets available in the Municipality's asset register.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Protection Services | 7 | Assets | $1,642,055 | CPI |
| Recreational & Cultural Services | 4 | Assets | $239,000 | User-Defined |
| Transportation Services | 11 | Assets | $1,546,012 | CPI |
| **TOTAL** | | | **$3,427,067** | |

*Table 41 Detailed Asset Inventory: Vehicles*

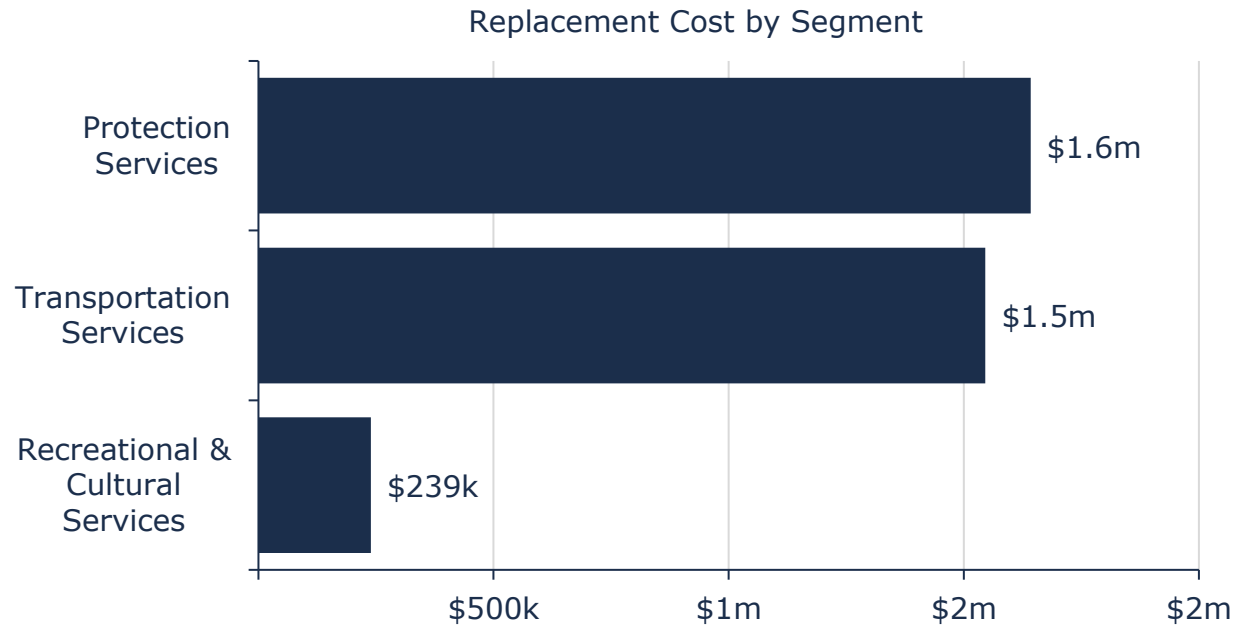



*Figure 48 Portfolio Valuation: Vehicles*

## Asset Condition

Figure 49 summarizes the replacement cost-weighted condition of the Municipality's vehicles portfolio. Based primarily on assessment data, 39% of vehicles are in fair or better condition, with the remaining 61% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. Condition data was available for only 2% of vehicles, based on replacement costs.

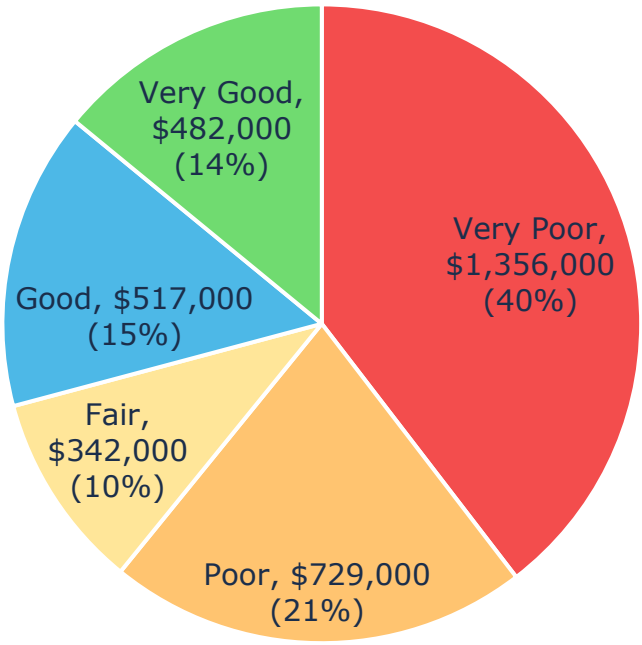



*Figure 49 Asset Condition: Vehicles Overall*

Figure 50 summarizes the condition of vehicles by use case. Except for protection services assets, most vehicles across all other asset segments are in poor or worse condition.

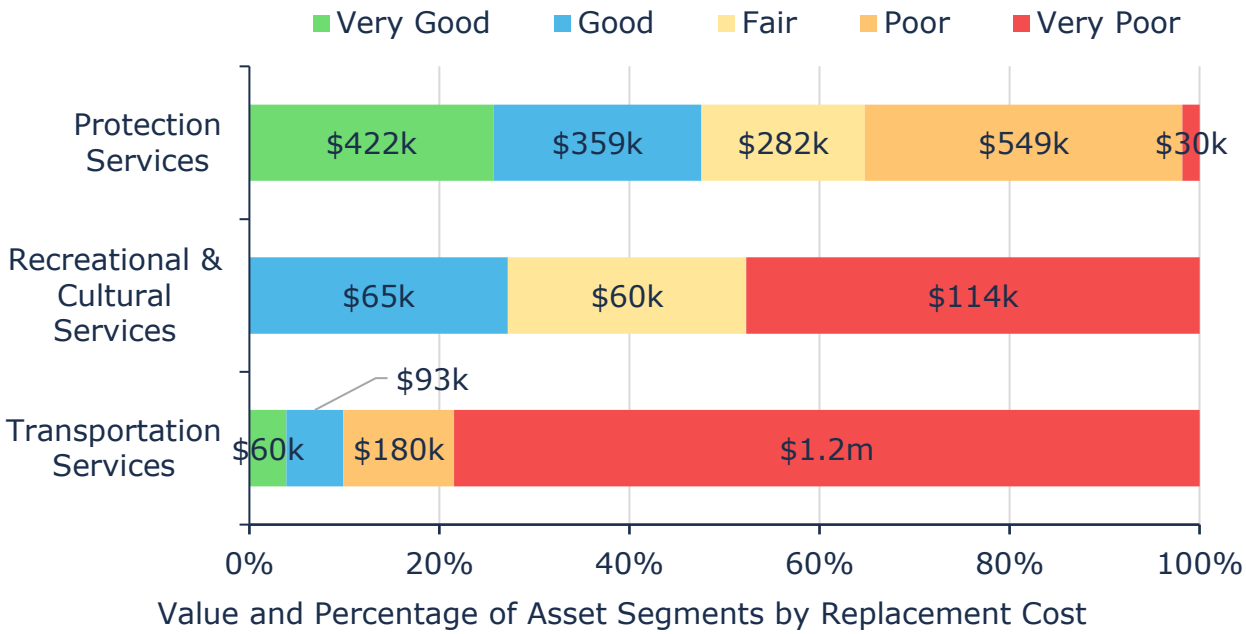



*Figure 50 Asset Condition: Vehicles by Segment*

### 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 Municipality's current approach:

- Internal inspections are conducted daily, before usage, with deficiencies reported
- the Municipality intends on formalizing its internal condition assessment protocols by recording and updating its asset management register

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment

programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 51 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

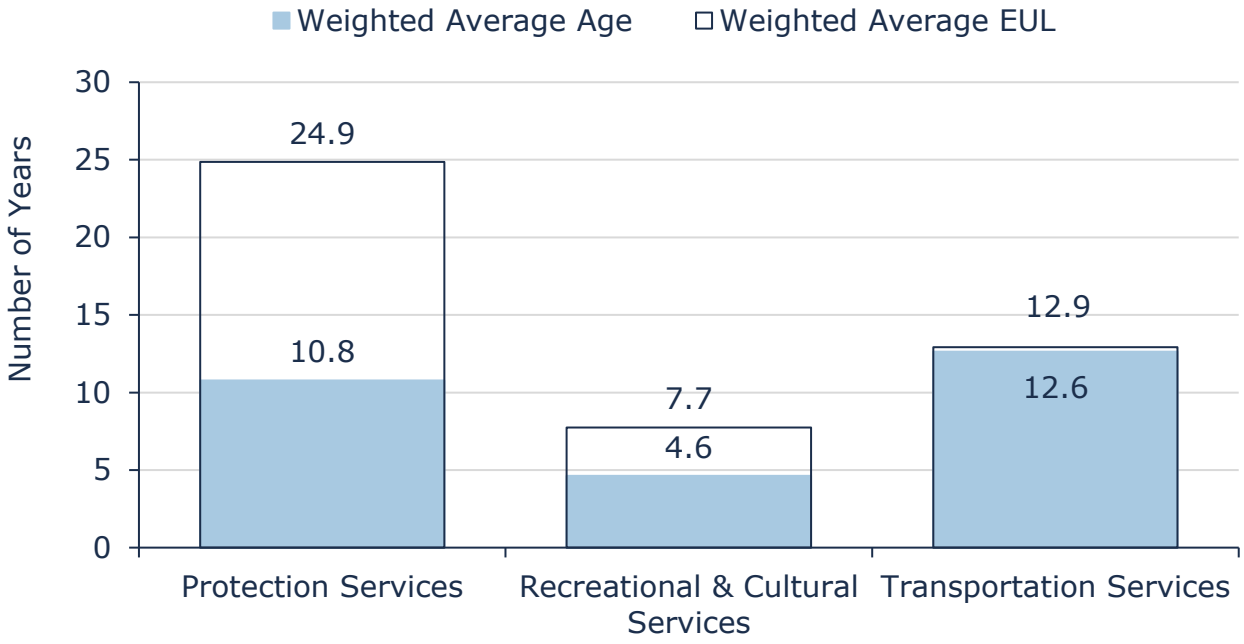



*Figure 51 Estimated Useful Life vs. Asset Age: Vehicles*

## Current Approach to Lifecycle Management

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 Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance/ Rehabilitation | Daily circle checks and documentation of inspections, regular servicing intervals, and annual safety inspections for heavy equipment are performed |
| | Inspections are conducted daily, with deficiencies reported and repaired in a timely manner |

| Activity Type | Description of Current Strategy |
|---|---|
| | Rehabilitation includes undercoating and oil spraying, along with sanding and touch-up painting to reduce corrosion on aging vehicles or components |
| Replacement | Replacement is considered based on the total years a vehicle has been in service, assessing the cost-effectiveness of new or used vehicle purchases when added to the fleet |

*Table 42 Lifecycle Management Strategy: Vehicles*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, and department or service area. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Vehicles risk model.

| 1 - 4<br>Very Low | 5 - 7<br>Low | 8 - 9<br>Moderate | 10 - 14<br>High | 15 - 25<br>Very High |
|---|---|---|---|---|
| $546,777<br>(16%) | $593,759<br>(17%) | -<br>(0%) | $563,106<br>(16%) | $1,723,425<br>(50%) |

*Figure 52 Risk Matrix: Vehicles*

# Appendix G: Machinery & Equipment

## Inventory & Valuation

Table 43 summarizes the quantity and current replacement cost of all machinery & equipment assets available in the Municipality's asset register.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| General Government | 3 | Assets | $46,522 | CPI |
| Protection Services | 5 | Assets | $258,510 | CPI |
| Recreational & Cultural Services | 29 | Assets | $501,773 | CPI |
| Transportation Services | 13 | Assets | $1,406,513 | CPI |
| **TOTAL** | | | **$2,213,318** | |

*Table 43 Detailed Asset Inventory: Machinery & Equipment*

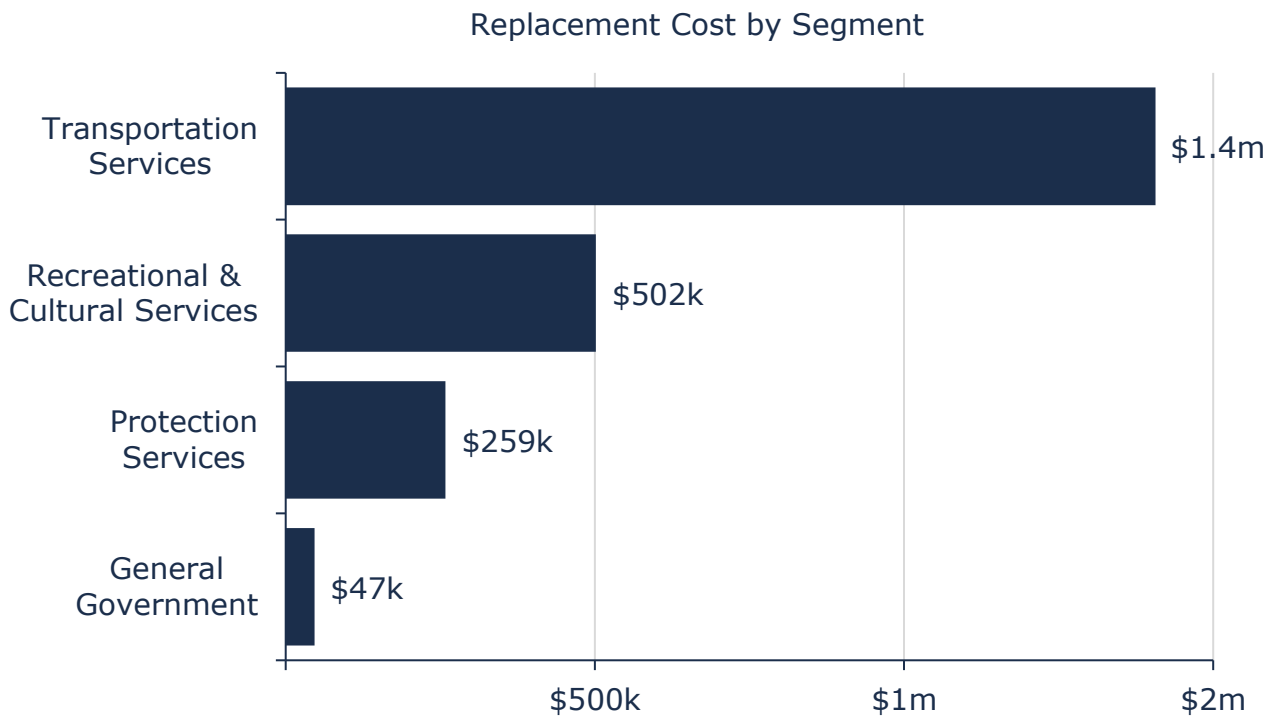



*Figure 53 Portfolio Valuation: Machinery & Equipment*

## Asset Condition

Figure 54 summarizes the replacement cost-weighted condition of the Municipality's equipment portfolio. Based on age data, 53% of assets are in fair or better condition; the remaining 47% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

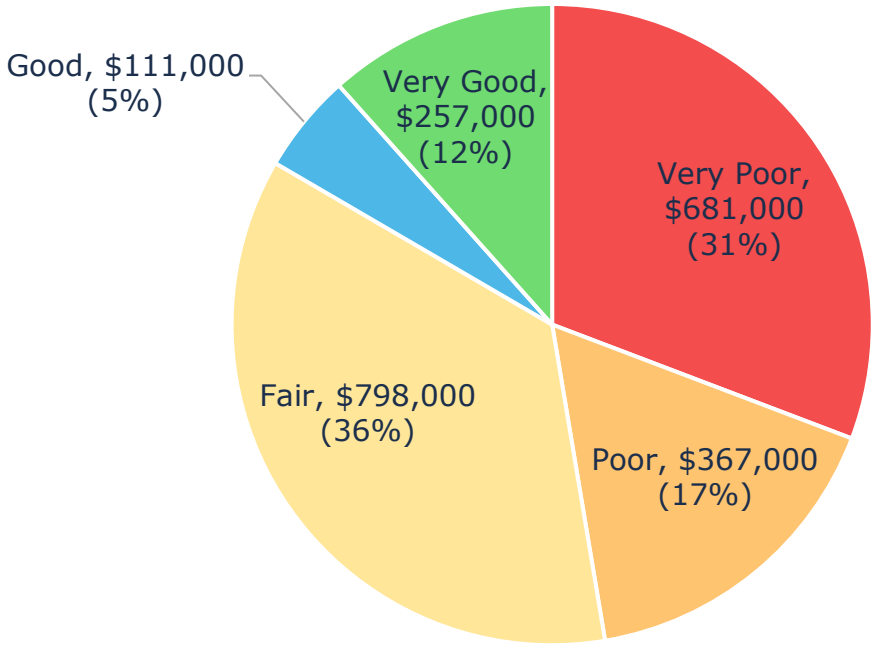



*Figure 54 Asset Condition: Machinery & Equipment Overall*

Figure 55 summarizes the age-based condition of machinery and equipment by each department. Most assets in poor or worse condition are concentrated in the general government and protection services segment.

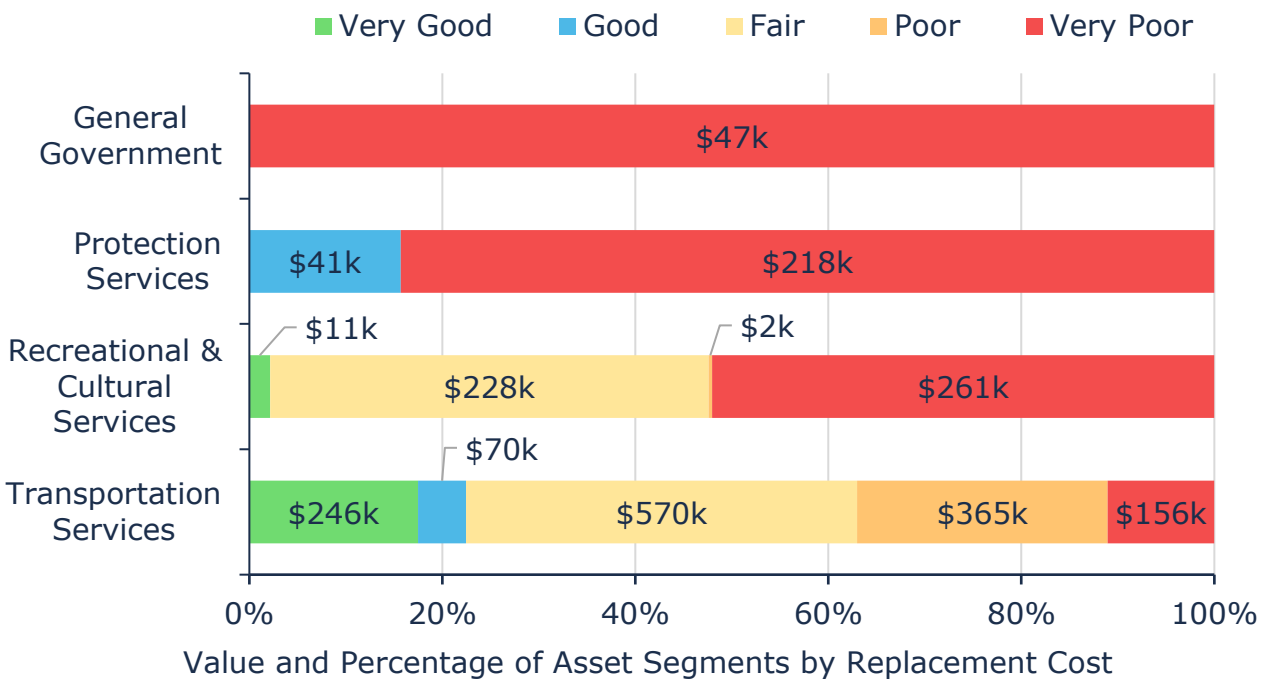



*Figure 55 Asset Condition: Equipment by Segment*

### 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 Municipality's current approach:

- Machinery and equipment are assessed annually to determine their ongoing value and utility
- All assessments are conducted internally by the municipality's staff, ensuring familiarity with the equipment and consistency in the evaluation process

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 56 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

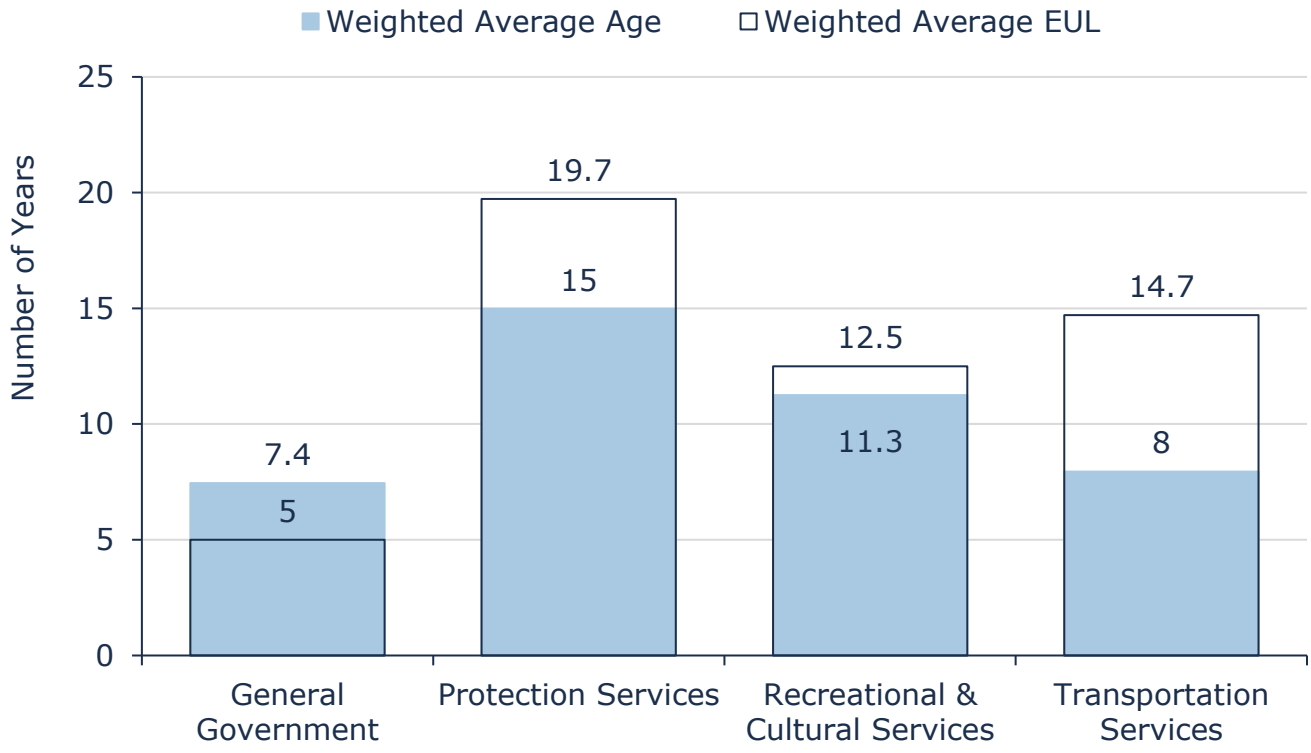



*Figure 56 Estimated Useful Life vs. Asset Age: Machinery & Equipment*

## Current Approach to Lifecycle Management

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 Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance/ Rehabilitation | Routine maintenance includes daily inspections, adherence to manufacturers' lubrication recommendations, scheduled oil changes, and regular maintenance servicing to ensure optimal operation |
| | Daily circle checks and adherence to manufacturers' service schedules, which are monitored using hour meters on each piece of equipment |
| | Larger equipment, such as ice resurfacers and zero-turn lawnmowers, undergoes comprehensive annual services to maintain functionality and safety |
| | Rehabilitation efforts include undercoat and oil spray, touch-up painting, and replacing components like guards, bushings, and bearings as necessary to prolong equipment life |
| | Rehabilitation activities are based on findings from annual inspections, ensuring each piece of equipment maintains a reliable level of service through targeted interventions |
| Replacement | Replacement is considered when equipment shows signs of end-of-life symptoms or when maintenance becomes cost-prohibitive, assessed during annual reviews before the next budget cycle |

*Table 44 Lifecycle Management Strategy: Machinery & Equipment*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, and replacement costs. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality’s Asset Management Database (Citywide Assets). See Appendix I for an overview of the Machinery & Equipment risk model.

| 1 - 4<br>**Very Low**<br>$309,298<br>(14%) | 5 - 7<br>**Low**<br>$445,919<br>(20%) | 8 - 9<br>**Moderate**<br>$226,589<br>(10%) | 10 - 14<br>**High**<br>$1,022,509<br>(46%) | 15 - 25<br>**Very High**<br>$209,003<br>(9%) |
|---|---|---|---|---|

Figure 57 Risk Matrix: Machinery & Equipment

# Appendix H: Land Improvements

## Inventory & Valuation

Table 45 summarizes the quantity and current replacement cost of all land improvements assets available in the Municipality's asset register.

| Segment | Quantity (Components) | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Beaches | 13 | Assets | $31,081 | User-Defined |
| Cemetery | 10 | Assets | $215,000 | User-Defined |
| Docks / Boat Launches | 25 | Assets | $886,868 | User-Defined |
| Parks & Sports Fields | 18 | Assets | $826,499 | User-Defined |
| Pavilion | 12,185 | Area (sq ft) | $583,250 | User-Defined |
| Playgrounds | 4 | Assets | $827,264 | User-Defined |
| **TOTAL** | | | **$3,369,962** | |

*Table 45 Detailed Asset Inventory: Land Improvements*

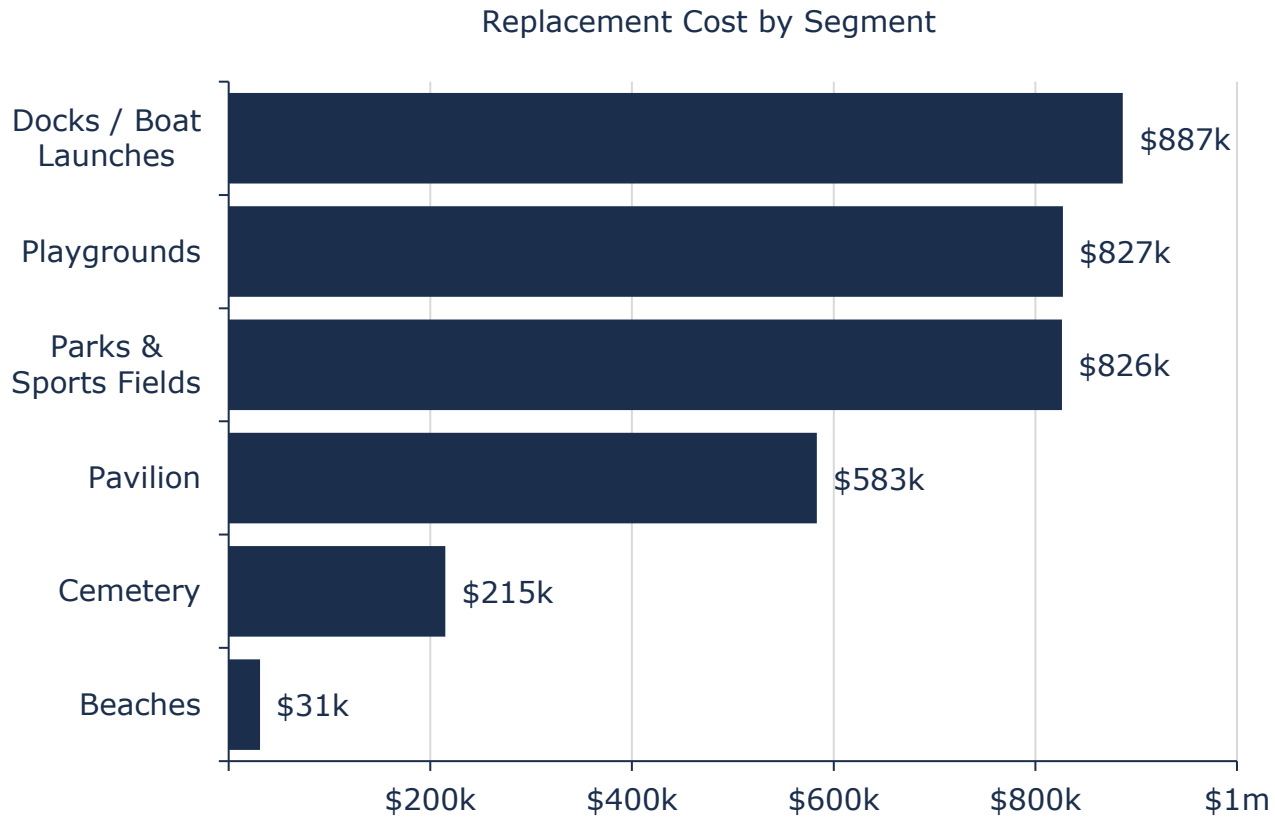



*Figure 58 Portfolio Valuation: Land Improvements*

## Asset Condition

Figure 59 summarizes the replacement cost-weighted condition of the Municipality's land improvements portfolio. Based on assessed condition, 85% of assets are in fair or better condition; the remaining 15% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

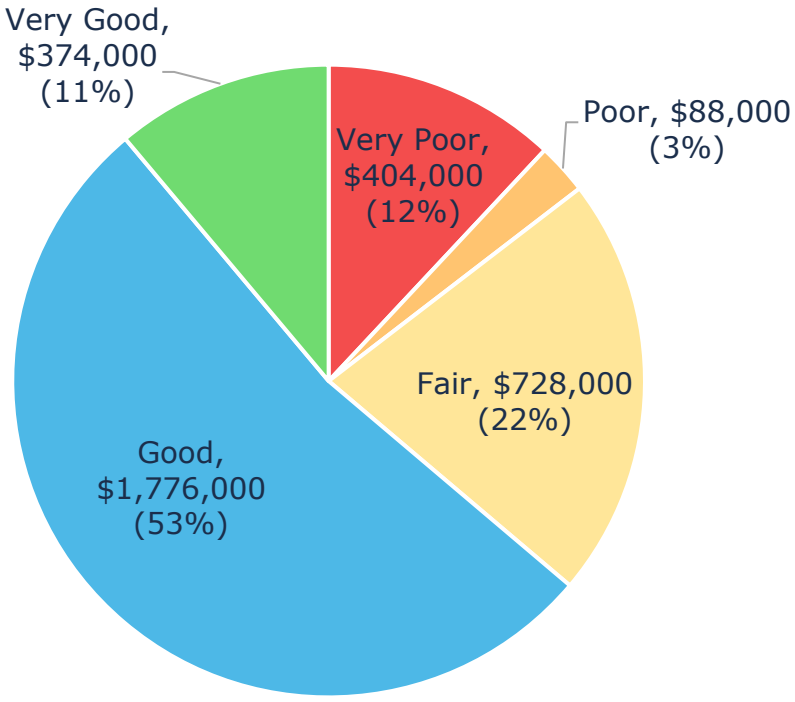



*Figure 59 Asset Condition: Land Improvements Overall*

Figure 60 summarizes the age-based condition of land improvements by each department. The land improvements category is generally in a healthy state with the assets in poor or worse condition being concentrated mainly (by replacement cost) in parks & sports fields.

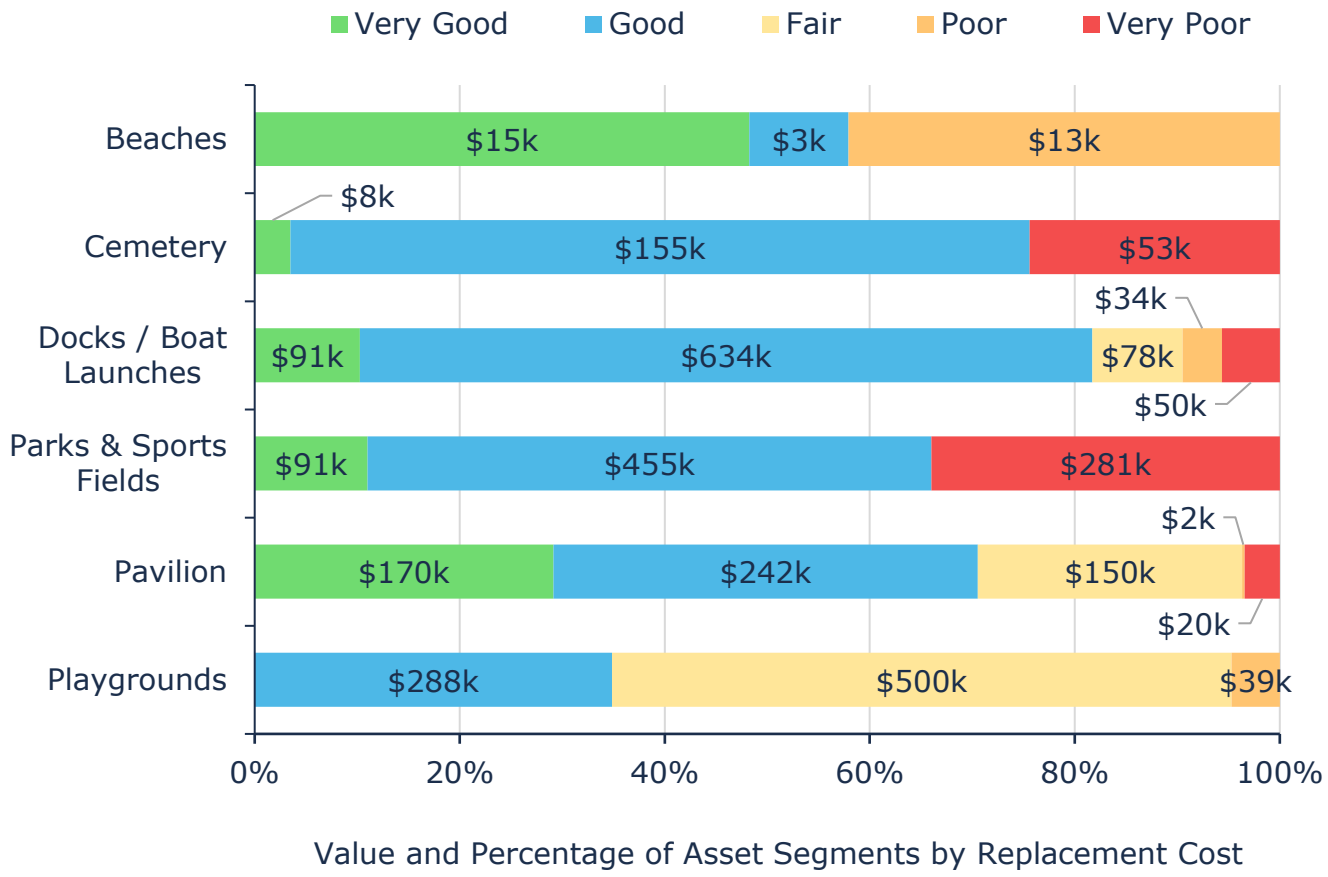



*Figure 60 Asset Condition: Land Improvements by Segment*

### 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 Municipality's current approach:

- Land improvements and parks have specific inspection schedules for different assets. Wags Woods Trail is inspected monthly, while all other trails are inspected in the Spring and Summer.
- Boat launches, parks, picnic locations, and beach areas are inspected at least twice a week during the operational seasons each year

## Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and the percentage of EUL consumed. The EUL is the serviceable lifespan of an asset during which it can continue to fulfil its intended purpose and provide value to users, safely and efficiently. As assets age, their

performance diminishes, often more rapidly as they approach the end of their design life.

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

Figure 61 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

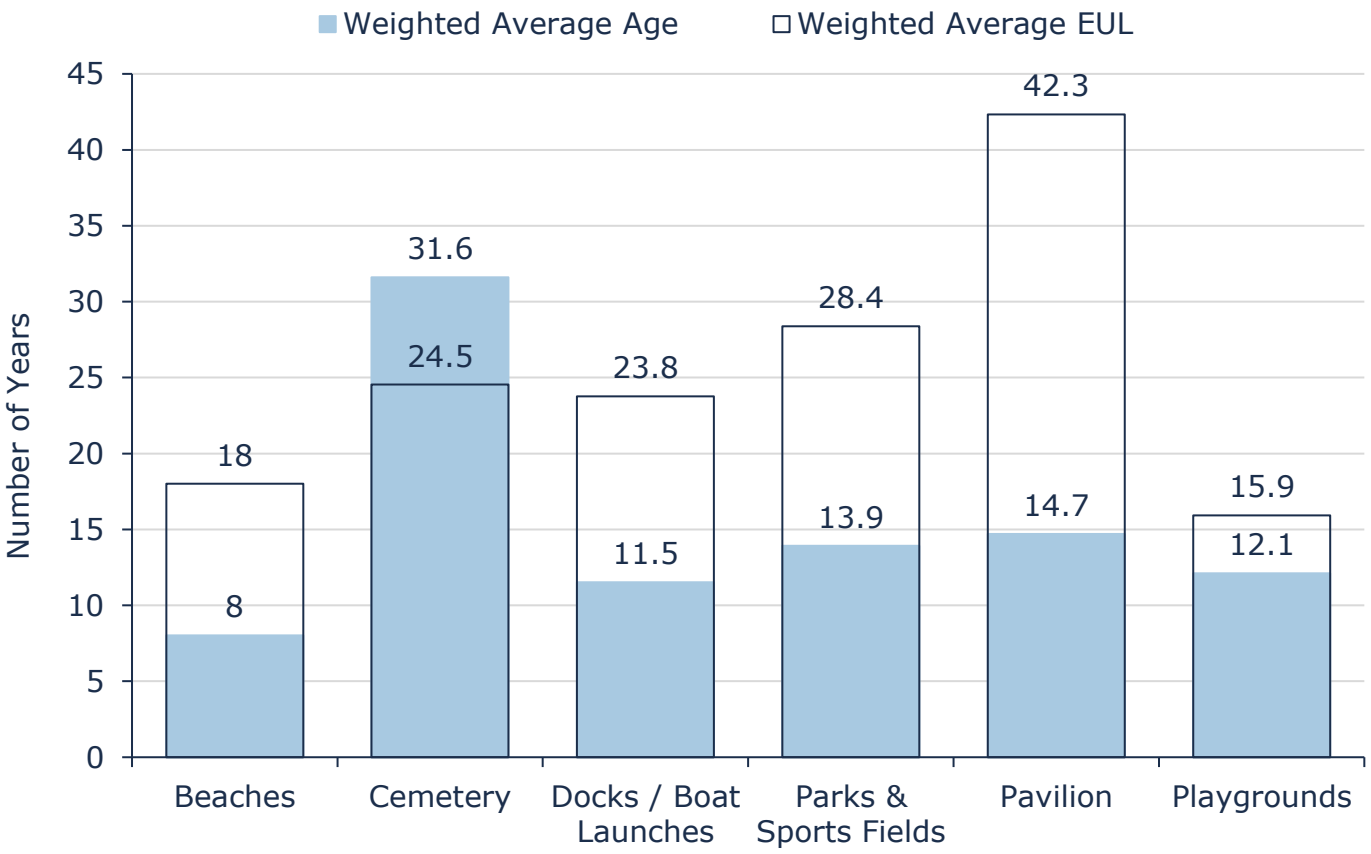



*Figure 61 Estimated Useful Life vs. Asset Age: Land Improvements*

## Current Approach to Lifecycle Management

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 Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance & Rehabilitation | Maintenance activities include routine brushing, trimming of trees with the help of a certified arborist, and the cleaning of trails on a scheduled basis |
| | Inspections are conducted weekly and monthly, with cleaning and minor repairs performed as needed based on findings |
| | Rehabilitation activities include touch-up painting, replacing decking on ramps, picnic tables, and boat launches as identified during inspections |
| Replacement | Replacement is considered when an asset's condition has deteriorated significantly, and maintenance or rehabilitation is no longer cost-effective |

*Table 46 Lifecycle Management Strategy: Land Improvements*

## Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, and replacement costs. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure; each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See Appendix I for an overview of the Land Improvements risk model.

| 1 - 4<br>**Very Low**<br>$830,459<br>(25%) | 5 - 7<br>**Low**<br>$742,998<br>(22%) | 8 - 9<br>**Moderate**<br>$1,009,319<br>(30%) | 10 - 14<br>**High**<br>$506,186<br>(15%) | 15 - 25<br>**Very High**<br>$281,000<br>(8%) |
|---|---|---|---|---|

*Figure 62 Risk Matrix: Land Improvements*

# Appendix I: Resident Survey

## Community & Recreation Infrastructure Review - HAVE YOUR SAY!

### Central Manitoulin Community & Recreation Infrastructure Review




The Municipality of Central Manitoulin is undertaking municipal community and recreation infrastructure review to guide future directions in planning recreational facilities and services.

Reviewing municipal recreation facilities and services requires an understanding of the local community context, including current and potential future uses of the community halls and arenas, parks and outdoor facilities; level of community satisfaction with the existing recreation facilities and services; as well as current and future recreation needs of the Central Manitoulin community.

**We want to hear from you! When thinking about your municipal recreation facilities what do you think the municipality should improve, invest in, and offer over the next 10-20 years.** Your input is important to ensure this review reflects the future of municipal infrastructure and services meet the needs of residents.

Your responses are considered CONFIDENTIAL – no individual respondents will be identified publicly through the results. This survey should take about 15-20 minutes of your time.

Survey will be open from April 29 to May 31,

2025. Thank you!

## Community & Recreation Infrastructure Review - HAVE YOUR SAY!

### A Bit About You

* 1. Do you live in the Municipality of Central Manitoulin?

- ◯ Yes
- ◯ No, I live in a different municipality. Please tell us where you live.

* 2. Where do you live in the Municipality of Central Manitoulin?

- ◯ Big Lake
- ◯ Mindemoya
- ◯ Providence Bay
- ◯ Spring Bay
- ◯ Sandfield
- ◯ Other. Please specify or provide your postal code:

* 3. What best describes you/your household?

| | Own a property | Rent | Neither (e.g., visit relatives/friends, etc.) |
|---|---|---|---|
| I am a year-round resident | ◯ | ◯ | ◯ |
| I am a seasonal resident | ◯ | ◯ | ◯ |

Other (please specify)

## Community & Recreation Infrastructure Review - HAVE YOUR SAY!

### A Bit About You

* 4. How many people are there in your household, including you, and what are their ages? *Please select all that apply.*

| | 1 | 2 | 3 | 4 | 5+ |
|---|---|---|---|---|---|
| 0-10 years | ○ | ○ | ○ | ○ | ○ |
| 11-17 years | ○ | ○ | ○ | ○ | ○ |
| 18-24 years | ○ | ○ | ○ | ○ | ○ |
| 25-44 years | ○ | ○ | ○ | ○ | ○ |
| 45-64 years | ○ | ○ | ○ | ○ | ○ |
| 65+ years | ○ | ○ | ○ | ○ | ○ |

Other (please specify)

5. Are you, or members of your household, currently involved with any sport, recreation, community user groups/clubs in the Municipality of Central Manitoulin?

- ○ No
- ○ Yes, please specify which group(s):

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**INDOOR COMMUNITY & RECREATION FACILITIES**

* 6. Over the past year, have you, or other members of your household, participated in activities, programs, or events at any of the **community halls and/or museums** in Central Manitoulin?

- ◯ Yes
- ◯ No

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**INDOOR FACILITIES: Community Halls & Museums**

* 7. In general, how satisfied are you with the quality of the municipal **community halls and museums** that you use? Consider their amenities (e.g., activity/meeting spaces, kitchen, accessibility (stairs, elevators), washrooms, storage, etc.), condition and maintenance.

| | Satisfied | Unsatisfied | I do not use this facility |
|---|---|---|---|
| The Mindemoya Hall | ○ | ○ | ○ |
| Providence Bay Hall | ○ | ○ | ○ |
| Spring Bay Hall | ○ | ○ | ○ |
| Sandfield Hall | ○ | ○ | ○ |
| The Discovery Centre (Providence Bay) | ○ | ○ | ○ |
| Welcome Centre/Pioneer Museum | ○ | ○ | ○ |

Other (please specify)

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**INDOOR FACILITIES: Community Halls & Museums**

8. You indicated that you are **not satisfied with or do not use one or more community halls or museums**. Please provide more details about what you would like to see changed. Please comment on any facility(ies) you would like to see improved.

| | |
|---|---|
| The Mindemoya Hall | |
| Providence Bay Hall | |
| Spring Bay Hall | |
| Sandfield Hall | |
| The Discovery Centre (Providence Bay) | |
| Welcome Centre/Pioneer Museum | |

9. If there are any additional comments about needed improvements for the **community halls and/or museums**, please tell us:

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**ARENAS: Mindemoya Arena**

* 10. Over the past three years, have you, or other members of your household, participated in activities, programs, events, or been a spectator at the **J.H. Burt Memorial Arena in Mindemoya (Mindemoya Arena)**?

- ◯ Yes
- ◯ No

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**ARENAS: Mindemoya Arena**

The J.H. Burt Memorial Arena in Mindemoya features an ice rink, Zamboni room, kitchenette, offices, a concession area, washrooms, and service and storage/archive rooms.

* 11. Please share your experiences of using the **Mindemoya Arena - let us know how satisfied you are with the arena amenities:**

| | Satisfied | Neutral | Unsatisfied |
|---|---|---|---|
| Quality of ice | ○ | ○ | ○ |
| Ice surface size | ○ | ○ | ○ |
| Quality of dry floor when the ice is out the floor | ○ | ○ | ○ |
| Quality of amenities (e.g., washrooms, common spaces) | ○ | ○ | ○ |
| Changeroom size/quality | ○ | ○ | ○ |
| Changeroom quantity | ○ | ○ | ○ |
| Spectator seating | ○ | ○ | ○ |
| Facility temperature | ○ | ○ | ○ |
| Quality of sound system | ○ | ○ | ○ |
| Accessibility (building entrance, changerooms, ice surface, washrooms, etc.) | ○ | ○ | ○ |
| Parking (convenience, availability, etc.) | ○ | ○ | ○ |
| Other | ○ | ○ | ○ |

Other (please specify)

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**ARENAS: Mindemoya Arena**

12. You indicated that you are not satisfied with the quality of the following amenities at the Mindemoya Arena, please share your suggestions for improvement:

| | |
|---|---|
| Quality of ice | |
| Ice surface size | |
| Quality of dry floor when the ice is out the floor | |
| Quality of amenities (e.g., washrooms, common spaces) | |
| Changeroom size/quality | |
| Changeroom quantity | |
| Spectator seating | |
| Facility temperature | |
| Quality of sound system | |
| Accessibility (building entrance, changerooms, ice surface, washrooms, etc.) | |
| Parking (convenience, availability, etc.) | |
| Other | |

13. Please add other amenities that you would like to see improved or provide any other comments about the **Mindemoya Arena**:

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**ARENAS: Providence Bay Arena**

* 14. Over the past three years, have you, or other members of your household, participated in activities, programs, events, or been a spectator at the **Providence Bay War Memorial Community Arena (Providence Bay Arena)**?

- ◯ Yes
- ◯ No

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**ARENAS: Providence Bay Arena**

The Providence Bay War Memorial Community Arena features one ice pad, 4 dressing rooms, shower facilities, upstairs rental space for meetings, small commercial kitchen/canteen area, and spectator viewing area.

* 15. Please share your experiences of using the **Providence Bay Arena - let us know how satisfied you are with the arena amenities**:

| | Satisfied | Neutral | Unsatisfied |
|---|---|---|---|
| Quality of ice | ○ | ○ | ○ |
| Ice surface size | ○ | ○ | ○ |
| Quality of dry floor when the ice is out the floor | ○ | ○ | ○ |
| Quality of amenities (e.g., washrooms, common spaces, viewing area, etc.) | ○ | ○ | ○ |
| Changeroom size/quality | ○ | ○ | ○ |
| Changeroom quantity | ○ | ○ | ○ |
| Spectator seating | ○ | ○ | ○ |
| Facility temperature | ○ | ○ | ○ |
| Quality of sound system | ○ | ○ | ○ |
| Accessibility (building entrance, changerooms, ice surface, washrooms, etc.) | ○ | ○ | ○ |
| Parking (convenience, availability, etc.) | ○ | ○ | ○ |
| Other | ○ | ○ | ○ |

Other (please specify)

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**ARENAS: Providence Bay Arena**

16. You indicated that you are not satisfied with the quality of the following arena amenities, please share your suggestions for improvement:

| | |
|---|---|
| Quality of ice | |
| Ice surface size | |
| Quality of dry floor when the ice is out the floor | |
| Quality of amenities (e.g., washrooms, common spaces) | |
| Changeroom size/quality | |
| Changeroom quantity | |
| Spectator seating | |
| Facility temperature | |
| Quality of sound system | |
| Accessibility (building entrance, changerooms, ice surface, washrooms, etc.) | |
| Parking (convenience, availability, etc.) | |
| Other | |

17. Please add other amenities that you would like to see improved or provide any other comments about the **Providence Bay Arena**:

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**FUTURE PRIORITIES: Indoor Facilities**

* 18. What are your **top 5 priorities for investments related to INDOOR RECREATION FACILITIES over the next 10 years**? This may include development of new facilities and additional/improvements to existing facilities.
***Please note that you will be able to identify only 5 items from the list that are of highest priority to you identifying them from Priority 1 to 5, where 1 is the highest priority.***

| | Priority 1 | Priority 2 | Priority 3 | Priority 4 | Priority 5 |
|---|---|---|---|---|---|
| Indoor Pool | ○ | ○ | ○ | ○ | ○ |
| Indoor Ice (Existing Arenas) | ○ | ○ | ○ | ○ | ○ |
| Indoor Ice (New Arena) | ○ | ○ | ○ | ○ | ○ |
| Community Spaces | ○ | ○ | ○ | ○ | ○ |
| Gymnasium | ○ | ○ | ○ | ○ | ○ |
| Multi-Sport Court (e.g., pickleball, basketball) | ○ | ○ | ○ | ○ | ○ |
| Indoor Walking Track | ○ | ○ | ○ | ○ | ○ |
| Indoor Turf Facility | ○ | ○ | ○ | ○ | ○ |
| Kitchen | ○ | ○ | ○ | ○ | ○ |
| Concession Stand | ○ | ○ | ○ | ○ | ○ |
| Accessible Facility (for People of Diverse Abilities) | ○ | ○ | ○ | ○ | ○ |
| Equipment | ○ | ○ | ○ | ○ | ○ |
| More Municipal Programming at the Facilities | ○ | ○ | ○ | ○ | ○ |

Other (please specify)

19. If you would like to add other comments or suggestions for future improvements to the **indoor facilities** or provide a comment, please use the space below:




**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

## FUTURE OF THE INDOOR RECREATION FACILITIES & ARENAS

20. Do you think the Municipality should plan for the future replacement of one or both of the existing arenas?

- ◯ Yes
- ◯ No
- ◯ I'm not sure / undecided
- ◯ Other (please specify)

21. Please indicate your preference regarding future planning for the arenas. Would you like to see the Municipality:

- ◯ Maintain arenas in Mindemoya and Providence Bay (invest in upgrades)
- ◯ Build a new multi-use facility, where indoor ice is combined with other uses (e.g., gymnasium, indoor sport courts, community spaces) and decommission certain facilities that are at end of useful life.
- ◯ Collaborate with another municipality to build a new regional multi-use facility that would serve residents of Central Manitoulin and neighboring municipalities
- ◯ Other, please provide more detail
- ◯ Close/repurpose one arena to maintain current level of service at the other
- ◯ I'm not sure / undecided
- ◯ None of the above

22. Please provide any comments or clarifications to the previous question about your preferences regarding the future planning for the indoor facilities and arenas.

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**FUTURE OF THE INDOOR RECREATION FACILITIES & ARENAS**

* 23. Would you be willing to partner with another community if a new multi-use facility was to be constructed in the Municipality of Central Manitoulin?

- ◯ Yes
- ◯ No
- ◯ I'm not sure / undecided

* 24. Would you be willing to partner with another community if a new multi-use facility was to be constructed outside of the Municipality of Central Manitoulin?

- ◯ Yes
- ◯ No
- ◯ I'm not sure / undecided

25. Please provide any comments to the previous question about your preferences regarding the future planning for the indoor facilities and arenas.

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**OUTDOOR FACILITIES**

* 26. In a typical year, do you, or other members of your household, use **municipal parks** and/or participate in activities, events, or be a spectator at any **outdoor municipal recreation facility/facilities**?

*This includes sport fields/courts, public beaches and boat launches, and playgrounds*

- ◯ Yes
- ◯ No

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**OUTDOOR RECREATION FACILITIES: Utilization**

27. Which of the following **OUTDOOR FACILITIES** have you or members of your household used in the past year? *Please check all that apply.*

**Parks, Trails & Playgrounds**

- [ ] Mindemoya Memorial Park (the Old School Park) – Between 6062 and 6032 Highway 542
- [ ] Sandfield Park - 25 Hutchinson Road
- [ ] Mindemoya Playground Purple Park – Behind 6062 Highway 542
- [ ] Spring Bay Hall Playground – 9298 Highway 542
- [ ] Annie McNichol Playground at Providence Bay Beach – 24 Mutchmor Street
- [ ] Wagg's Woods Trail - 1 Thorne Street, Mindemoya
- [ ] Other (please specify)

- [ ] None of the above

28. **Sport Fields and Courts**

- [ ] Mindemoya Baseball Field – 6032 Highway 542
- [ ] Providence Bay Baseball Field – 5143 Highway 551
- [ ] Spring Bay Baseball Field – 9298 Highway 542
- [ ] Mindemoya Tennis Court - 6032 Highway 542 – behind community centre
- [ ] Mindemoya Park Pavilion (Lion's Club Pavilion) – Behind 6062 Highway 542
- [ ] Other (please specify)

- [ ] None of the above

## Public Beaches

- [ ] Providence Bay Beach – 24 Mutchmor Street
- [ ] Providence Bay Boardwalk – 24 Mutchmor Street
- [ ] Providence Bay Beach Changehouse – 23 Mutchmor Street
- [ ] Hill Road Beach (Idyll Glen Beach) – 281 Hill Road
- [ ] Old 551 Beach - 184 Ketchankookem Trail
- [ ] Government Dock Beach – 10 Will-O-Wisp Way
- [ ] Government Dock Beach Swim Raft – 10 Will-O-Wisp (in the water)
- [ ] Monument Road Beach – 1646 Monument Road
- [ ] Mindemoya Beach Washroom/Canteen – 10 Will-O-Wisp Way
- [ ] Other (please specify)

- [ ] None of the above

## Public Docks and Boat Launches

- [ ] Mindemoya Government Dock and Boat Launch – 10 Will-O-Wisp Way
- [ ] Big Lake Boat Launch - 4513 Highway 542
- [ ] Kagawong Lake Boat Launch - 148 Perivale Road West
- [ ] Sandfield Dock (Lake Manitou Boat Launch) - 25 Hutchinson Road
- [ ] Lake Mindemoya Boat Launch - 10 Will-O-Wisp Way
- [ ] Lake Mindemoya Boat Launch (Near Stanley Park) - 1552 Monument Road
- [ ] Windfall Lake Boat Launch - 570 Dial Road
- [ ] Other (please specify)

- [ ] None of the above

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**OUTDOOR RECREATION FACILITIES: Level of Satisfaction**

* 31. In general, how satisfied are you with the quality of the following outdoor recreation facilities that you use in Central Manitoulin? Consider their amenities, condition and maintenance.

| | Satisfied | Unsatisfied | I do not use these facilities |
|---|---|---|---|
| Parks (in general) | ○ | ○ | ○ |
| Baseball Fields | ○ | ○ | ○ |
| Tennis Court | ○ | ○ | ○ |
| Pickleball Court | ○ | ○ | ○ |
| Playgrounds | ○ | ○ | ○ |
| Public Beaches | ○ | ○ | ○ |
| Public Docks and Boat Launches | ○ | ○ | ○ |
| Boardwalk | ○ | ○ | ○ |
| Trails | ○ | ○ | ○ |
| Other (Please specify the type of facility below) | ○ | ○ | ○ |

Other (please specify)

32. Are there any improvements to parks or outdoor recreation facilities that would increase your interest/access to recreation and sport programs? If so, please tell us:

*Please remember to be specific about which facility requires improvement.*

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**OUTDOOR RECREATION FACILITIES: Future Priorities**

33. What are your **top 3 priorities for investments related to OUTDOOR RECREATION FACILITIES over the next 10 years**? This may include development of new facilities and additional/improvements to existing facilities. Please be specific.

Priority 1

Priority 2

Priority 3

34. If you would like to add other comments or suggestions for future improvements to the OUTDOOR FACILITIES or provide a comment, please use the space below:

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

## RECREATION FACILITIES OUTSIDE OF THE MUNICIPALITY

* 35. Do you travel outside of Central Manitoulin to use indoor or outdoor recreation facilities, parks or trails?

- ◯ Yes
- ◯ No

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

Copy of page: **RECREATION FACILITIES OUTSIDE OF THE MUNICIPALITY**

* 36. Which type of facilities do you use the most outside of the Municipality of Central Manitoulin? *Please select all that apply.*

- [ ] Halls/Community Centres
- [ ] Arenas
- [ ] Indoor Pools
- [ ] Gym/Fitness centre
- [ ] Indoor Turf Field
- [ ] Ball Diamonds
- [ ] Soccer Fields
- [ ] Tennis / Pickleball Courts
- [ ] Basketball Courts
- [ ] Splash Pads
- [ ] Parks and/or Trails
- [ ] Public Beaches
- [ ] Boat Launches
- [ ] Dog Parks (Off-leash Areas)
- [ ] Other (please specify)

- [ ] None of the above

* 37. Please tell us why you use facilities and parks outside of the Municipality.

*Please check all that apply.*

- [ ] Availability (ability to book sufficient time/space; access parks or trails)
- [ ] These types of facilities are not offered in Central Manitoulin
- [ ] Range of programming at the facility to meet my or my household's needs
- [ ] Convenience of location
- [ ] Affordability of programs and/or facility rentals
- [ ] Overall quality functionality of the facility for your needs (including its amenities such as spectator viewing areas)
- [ ] Other (please specify)
- [ ] None of the above

38. If you have any additional comments, please use the space below:

**Community & Recreation Infrastructure Review - HAVE YOUR SAY!**

**RECREATION PROGRAMS**

* 39. Do you currently participate in recreation programs, activities or events offered by the Municipality of Central Manitoulin?

- ◯ No
- ◯ Yes (please specify up to 3 programs that are top priority for you)

40. In your opinion, what are the top 3 programs or events that the Municipality should be providing to its residents (beyond those already offered)?

Priority 1

Priority 2

Priority 3




## Community & Recreation Infrastructure Review - HAVE YOUR SAY!

**THANK YOU!**

Thank you for completing this survey!

Your input is important to ensure that the Community & Recreation Infrastructure Review reflects views and priorities of the Central Manitoulin community.

For more information and updates please visit the Municipality's webpage.

If you have any questions or concerns about this survey, please contact:
Sierra Planning and Management at info@sierraplan.com

41. If there are any other comments you would like to include for consideration to the Parks and Recreation Master Plan, please use this space:

# Appendix J: Risk Models

LCB Roads

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 70%) | Asset Condition | 0-19 | 5 - Almost Certain |
| | | 20-39 | 4 - Likely |
| | | 40-59 | 3 - Possible |
| | | 60-79 | 2 - Unlikely |
| | | 80-100 | 1 - Rare |
| Economic (Weight: 30%) | Service Life Remaining (%) | 0-9.9 | 5 - Almost Certain |
| | | 10-19.9 | 4 - Likely |
| | | 20-29.9 | 3 - Possible |
| | | 30-39.9 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| Consequence of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Economic (Weight: 70%) | Replacement Cost ($) | >$1,000,000 | 5 – Severe |
| | | <$500,000 | 4 – Major |
| | | <$350,000 | 3 - Moderate |
| | | <$250,000 | 2 – Minor |
| | | <$100,000 | 1 – Insignificant |
| Operational (Weight: 30%) | Traffic Range (50%) | 200-399 | 3 - Moderate |
| | | 50-199 | 2 – Minor |
| | | 0-49 | 1 – Insignificant |
| | Roadside Environment (50%) | Urban | 5 – Severe |
| | | Suburban | 3 - Moderate |
| | | Rural | 1 – Insignificant |

Road Appurtenances

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 70%) | Asset Condition | 0-19.9 | 5 - Almost Certain |
| | | 20-39.9 | 4 - Likely |
| | | 40-59.9 | 3 - Possible |
| | | 60-79.9 | 2 - Unlikely |
| | | 80-100 | 1 - Rare |
| Economic (Weight: 30%) | Service Life Remaining (%) | 0-9.9 | 5 - Almost Certain |
| | | 10-19.9 | 4 - Likely |
| | | 20-29.9 | 3 - Possible |
| | | 30-39.9 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| Consequence of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial (Weight: 100%) | Replacement Cost ($) | >$250,000 | 5 – Severe |
| | | <$150,001 | 4 – Major |
| | | <$50,001 | 3 - Moderate |
| | | <$25,001 | 2 – Minor |
| | | <$10,000 | 1 – Insignificant |

Bridges & Culverts

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 70%) | Asset Condition | 0-19 | 5 - Almost Certain |
| | | 20-39 | 4 - Likely |
| | | 40-59 | 3 - Possible |
| | | 60-79 | 2 - Unlikely |
| | | 80-100 | 1 - Rare |
| Economic (Weight: 30%) | Service Life Remaining (%) | 0-9.9 | 5 - Almost Certain |
| | | 10-19.9 | 4 - Likely |
| | | 20-29.9 | 3 - Possible |
| | | 30-39.9 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| Consequence of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial (Weight: 100%) | Replacement Cost ($) | >$2,000,000 | 5 – Severe |
| | | <$1,000,001 | 4 – Major |
| | | <$500,001 | 3 - Moderate |
| | | <$250,001 | 2 – Minor |
| | | <$100,000 | 1 – Insignificant |

Water Mains

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 100%) | Asset Condition (Weight: 70%) | 0-19 | 5 - Almost Certain |
| | | 20-39 | 4 - Likely |
| | | 40-64 | 3 - Possible |
| | | 65-89 | 2 - Unlikely |
| | | 90-100 | 1 - Rare |
| | Service Life Remaining (%) (Weight: 30%) | 0-9 | 5 - Almost Certain |
| | | 10-19 | 4 - Likely |
| | | 20-29 | 3 - Possible |
| | | 30-39 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| **Consequence of Failure** | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial (Weight: 60%) | Replacement Cost ($) | >$2,000,000 | 5 - Severe |
| | | <$1,000,001 | 4 - Major |
| | | <$500,001 | 3 - Moderate |
| | | <$250,001 | 2 - Minor |
| | | <$100,000 | 1 - Insignificant |
| Operational (Weight: 40%) | Pipe Diameter (mm) | 250 | 4 - Major |
| | | 200 | 3 - Moderate |
| | | 150 | 2 - Minor |

Sanitary Mains

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Functional (Weight: 70%) | Asset Condition | 0-19 | 5 - Almost Certain |
| | | 20-39 | 4 - Likely |
| | | 40-59 | 3 - Possible |
| | | 60-79 | 2 - Unlikely |
| | | 80-100 | 1 - Rare |
| Structural (Weight: 30%) | Service Life Remaining (%) | 0-9 | 5 - Almost Certain |
| | | 10-19 | 4 - Likely |
| | | 20-29 | 3 - Possible |
| | | 30-39 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| **Consequence of Failure** | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial (Weight: 100%) | Replacement Cost ($) | >$2,000,000 | 5 - Severe |
| | | <$1,000,001 | 4 - Major |
| | | <$500,001 | 3 - Moderate |
| | | <$250,001 | 2 - Minor |
| | | <$100,000 | 1 - Insignificant |
| | Pipe Diameter (mm) | 375 | 4 - Major |
| | | 300 | 3 - Moderate |
| | | 200 | 2 - Minor |

Buildings

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 70%) | Asset Condition | 0-1 | 5 - Almost Certain |
| | | 1.1-2 | 4 - Likely |
| | | 2.1-3 | 3 - Possible |
| | | 3.1-4 | 2 - Unlikely |
| | | 4.1-5 | 1 - Rare |
| Economic (Weight: 30%) | Service Life Remaining (%) | 0-9.9 | 5 - Almost Certain |
| | | 10-19.9 | 4 - Likely |
| | | 20-29.9 | 3 - Possible |
| | | 30-39.9 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| Consequence of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial (Weight: 45%) | Replacement Cost | >$1,000,000 | 5 - Severe |
| | | <$200,001 | 4 - Major |
| | | <$100,001 | 3 - Moderate |
| | | <$50,001 | 2 - Minor |
| | | <$25,000 | 1 - Insignificant |
| Operational (Weight: 35%) | Level 1- Major Group | Substructure, Services | 5 - Severe |
| | | Shell | 4 - Major |
| | | Special Construction & Demolition | 3 - Moderate |
| | | Interiors, Sitework | 2 - Minor |
| | | Equipment & Furnishings | 1 - Insignificant |
| Strategic (Weight: 20%) | AMP Segment | Protection Services | 4 - Major |
| | | Transportation Services | 3 - Moderate |
| | | Recreation & Cultural Services | 2 - Minor |
| | | General Government | 1 - Insignificant |

Land Improvements, Sanitary Sewer (Non-Linear) & Water (Non-Linear)

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 70%) | Asset Condition | 0-19.9 | 5 - Almost Certain |
| | | 20-39.9 | 4 - Likely |
| | | 40-59.9 | 3 - Possible |
| | | 60-79.9 | 2 - Unlikely |
| | | 80-100 | 1 - Rare |
| Economic (Weight: 25%) | Service Life Remaining (%) | 0-9.9 | 5 - Almost Certain |
| | | 10-19.9 | 4 - Likely |
| | | 20-29.9 | 3 - Possible |
| | | 30-39.9 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| Consequence of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial 100% | Replacement Cost | >$500,000 | 5 - Severe |
| | | <$200,001 | 4 - Major |
| | | <$100,001 | 3 - Moderate |
| | | <$50,001 | 2 - Minor |
| | | <$25,000 | 1 - Insignificant |

Machinery & Equipment & Vehicles

| Probability of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/ Range** | **Score** |
| Economic (Weight: 70%) | Asset Condition | 0-19.9 | 5 - Almost Certain |
| | | 20-39.9 | 4 - Likely |
| | | 40-59.9 | 3 - Possible |
| | | 60-79.9 | 2 - Unlikely |
| | | 80-100 | 1 - Rare |
| Economic (Weight: 25%) | Service Life Remaining (%) | 0-9.9 | 5 - Almost Certain |
| | | 10-19.9 | 4 - Likely |
| | | 20-29.9 | 3 - Possible |
| | | 30-39.9 | 2 - Unlikely |
| | | 40-100 | 1 - Rare |

| Consequence of Failure | | | |
|---|---|---|---|
| **Criteria** | **Sub-Criteria** | **Value/Range** | **Score** |
| Financial (Weight: 70%) | Replacement Cost | >$500,000 | 5 - Severe |
| | | <$200,001 | 4 - Major |
| | | <$100,001 | 3 - Moderate |
| | | <$50,001 | 2 - Minor |
| | | <$25,000 | 1 - Insignificant |
| Strategic (Weight: 30%) | AMP Segment | Protection Services | 4 - Major |
| | | Transportation Services | 3 - Moderate |
| | | Recreation & Cultural Services | 2 - Minor |
| | | General Government | 1 - Insignificant |

# Appendix K: Proposed LOS Scenario Comparison Graphs

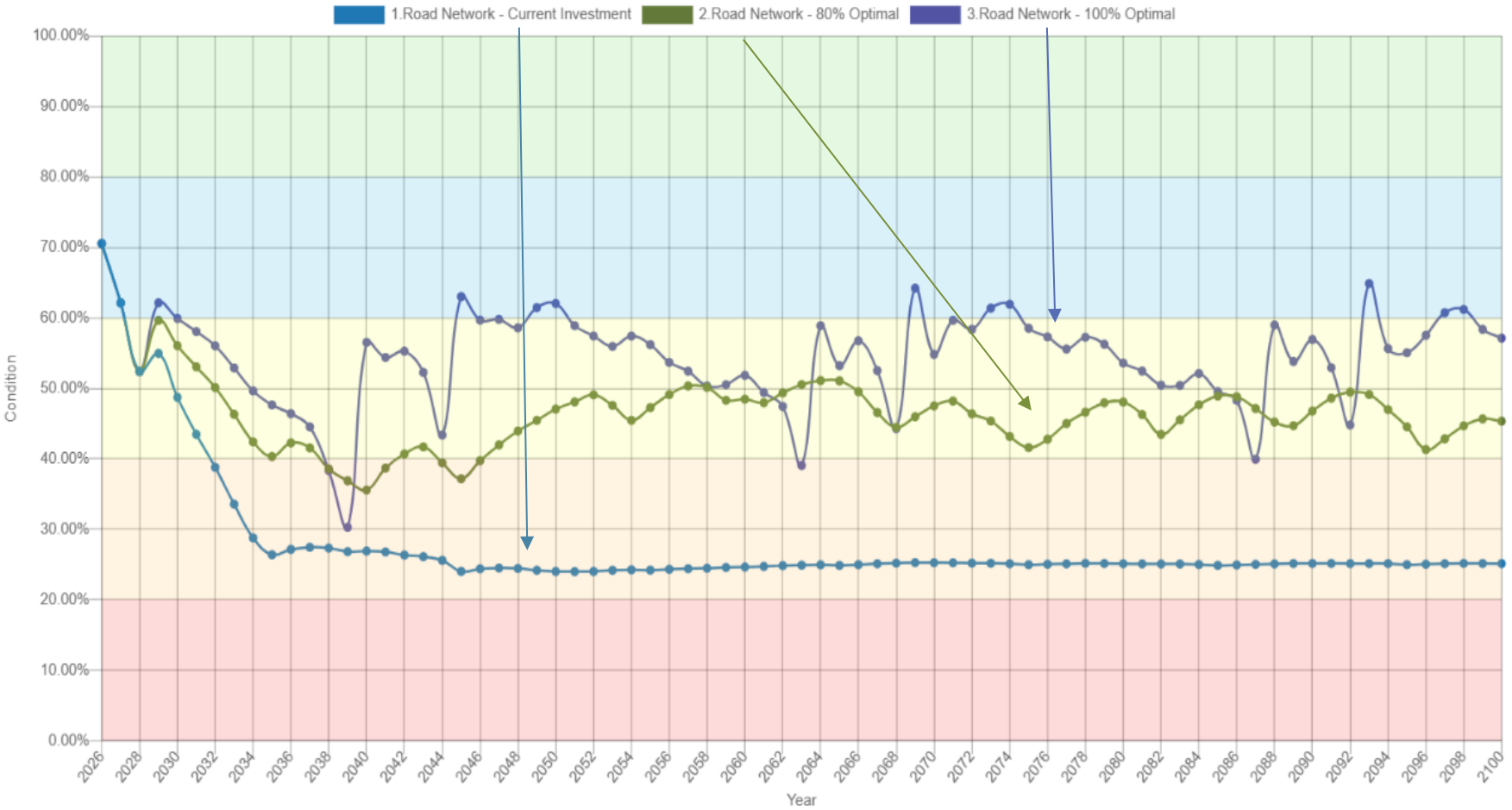



*Figure 63: Road Network Condition Scenario Comparisons*

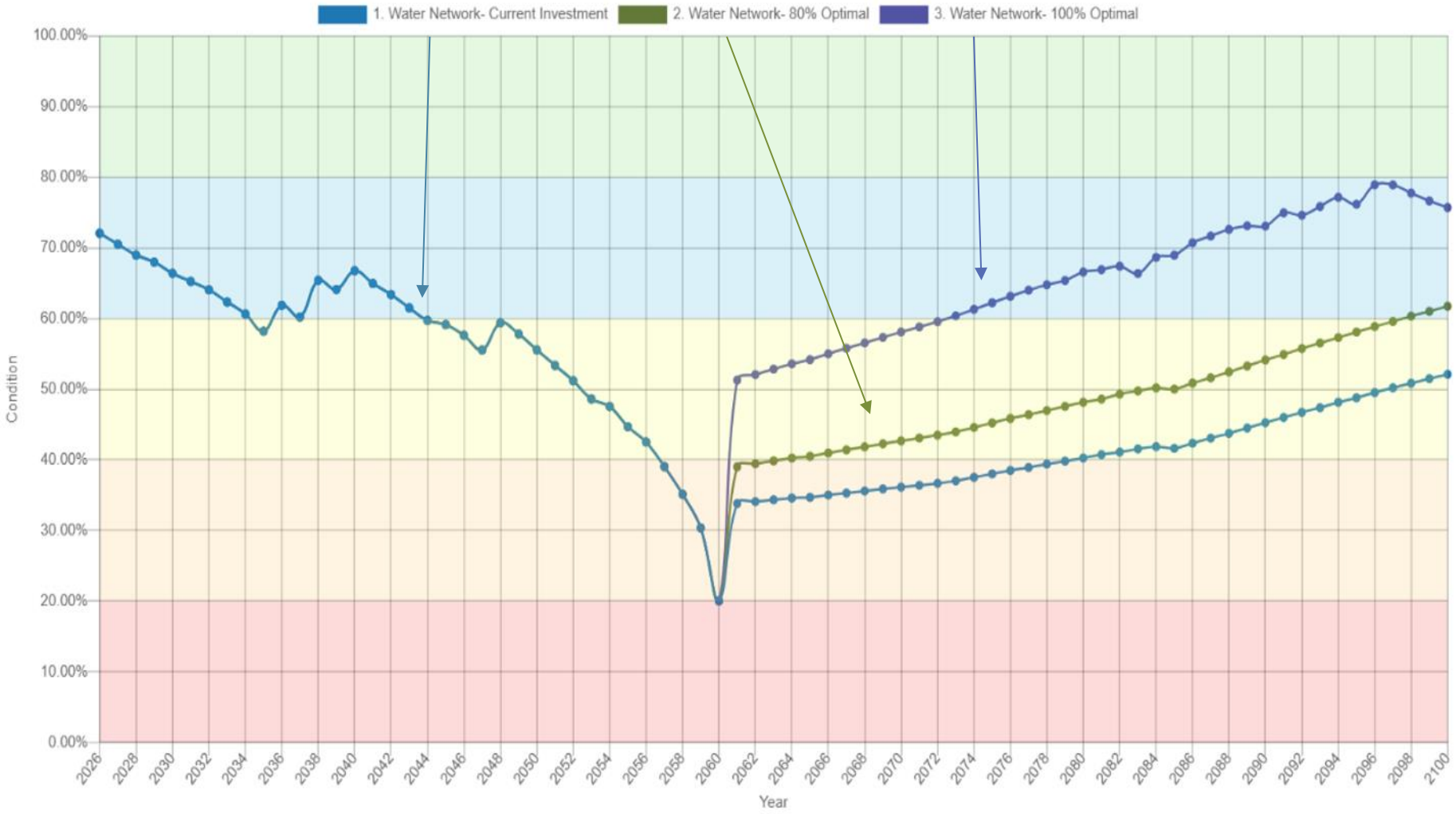



*Figure 64: Water Network Condition Scenario Comparisons*

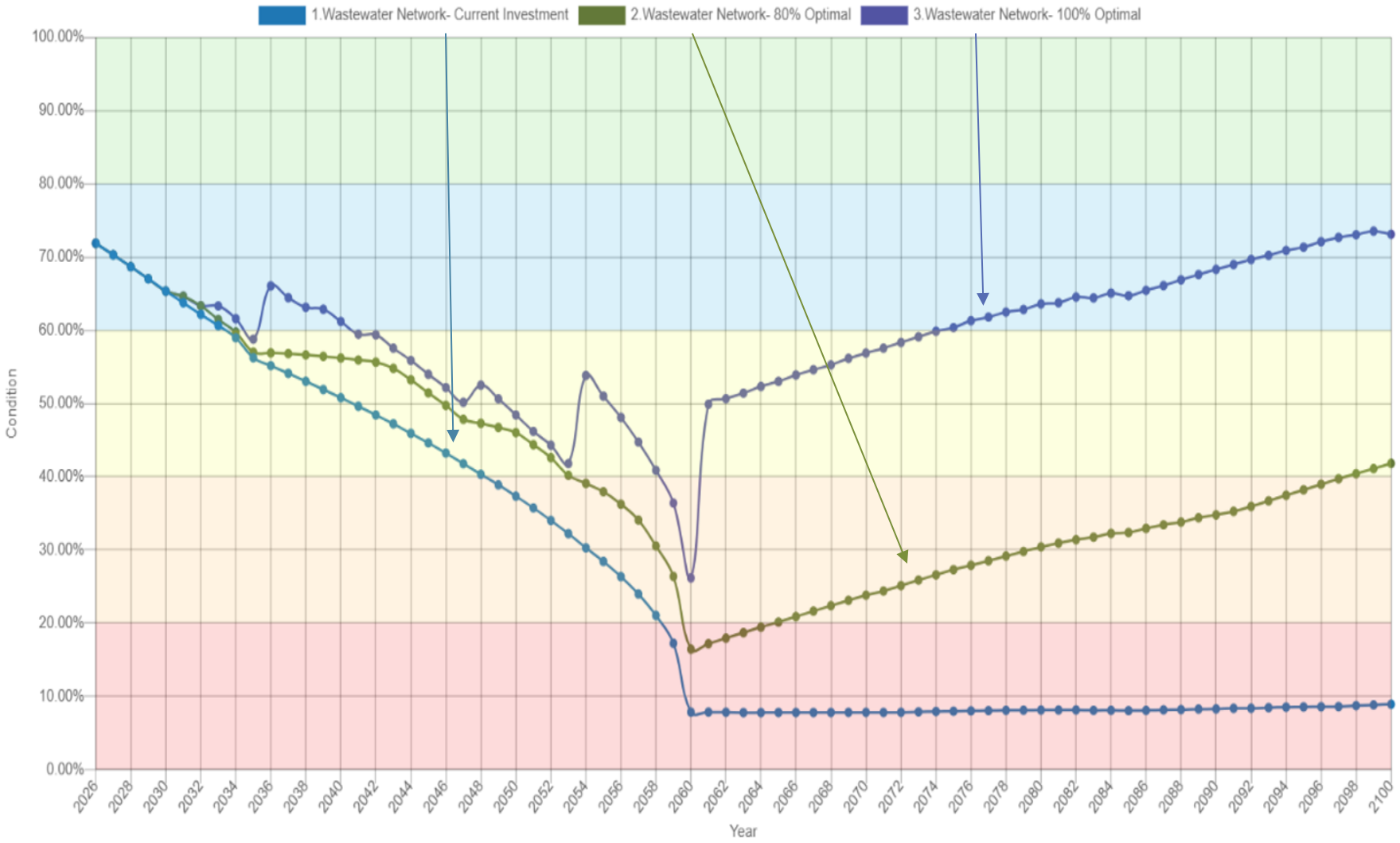



*Figure 65: Sanitary Sewer Network Condition Scenario Comparisons*

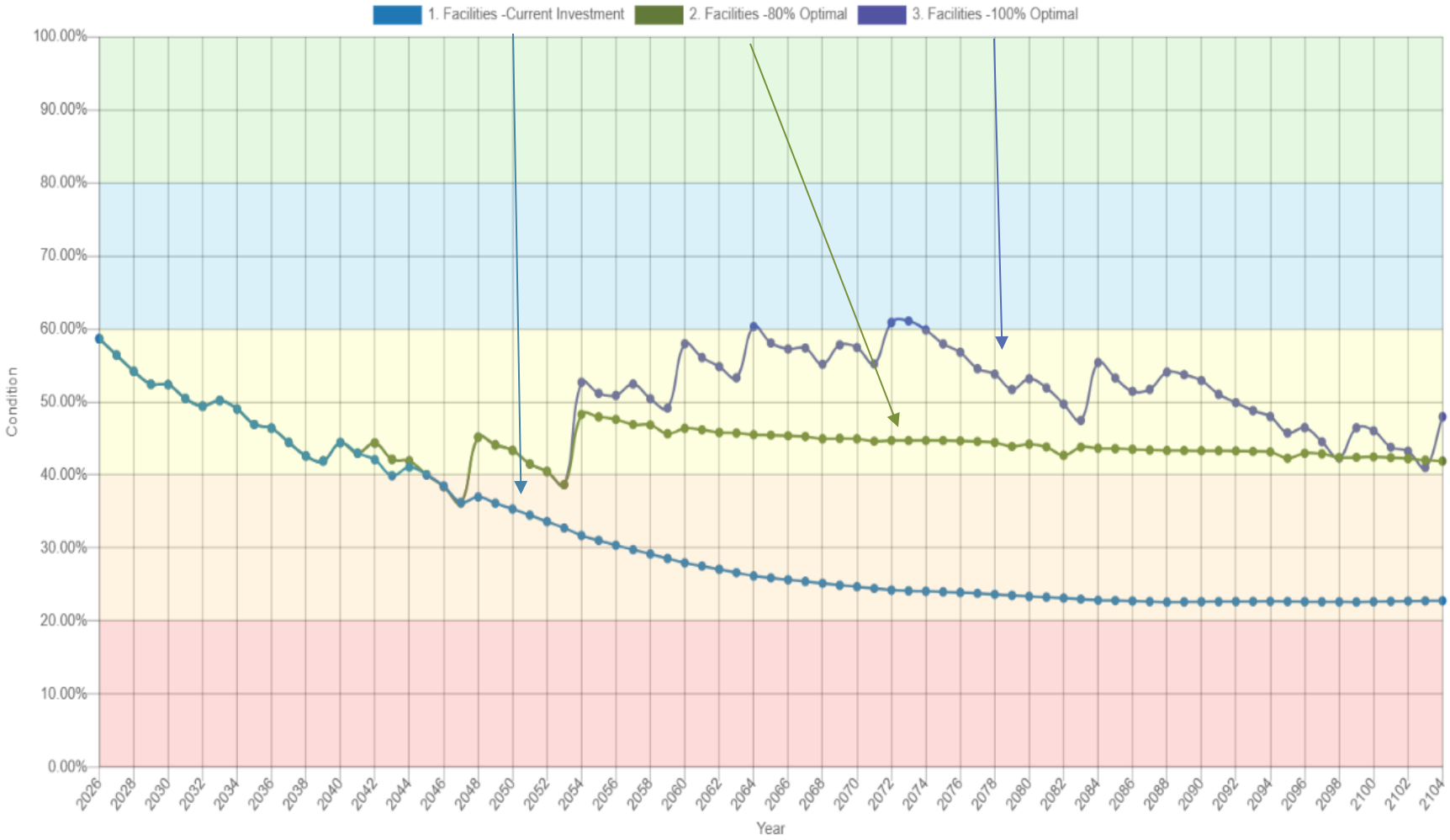



*Figure 66: Facilities Condition Scenario Comparisons*

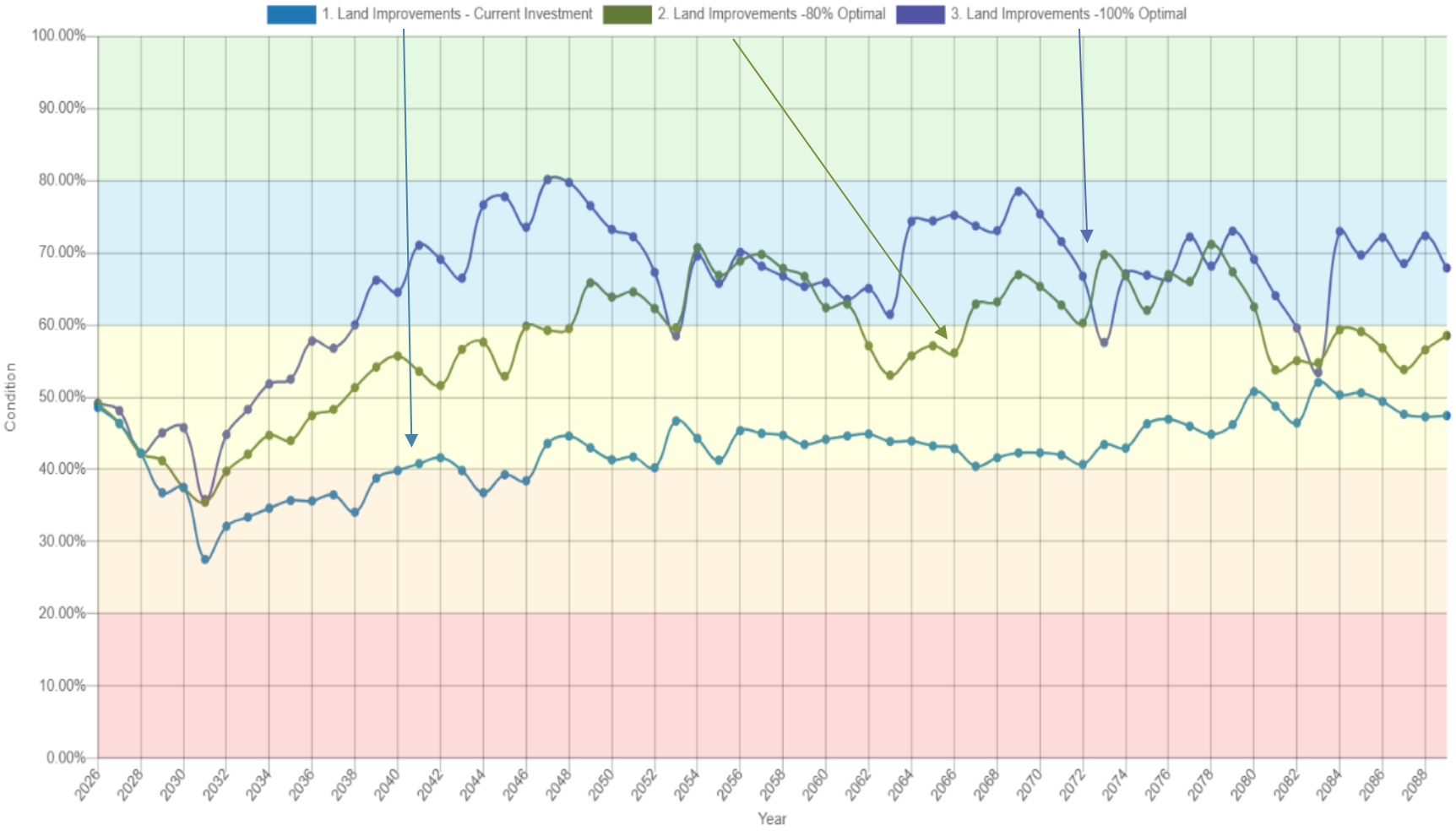



*Figure 67: Land Improvements Condition Scenario Comparisons*

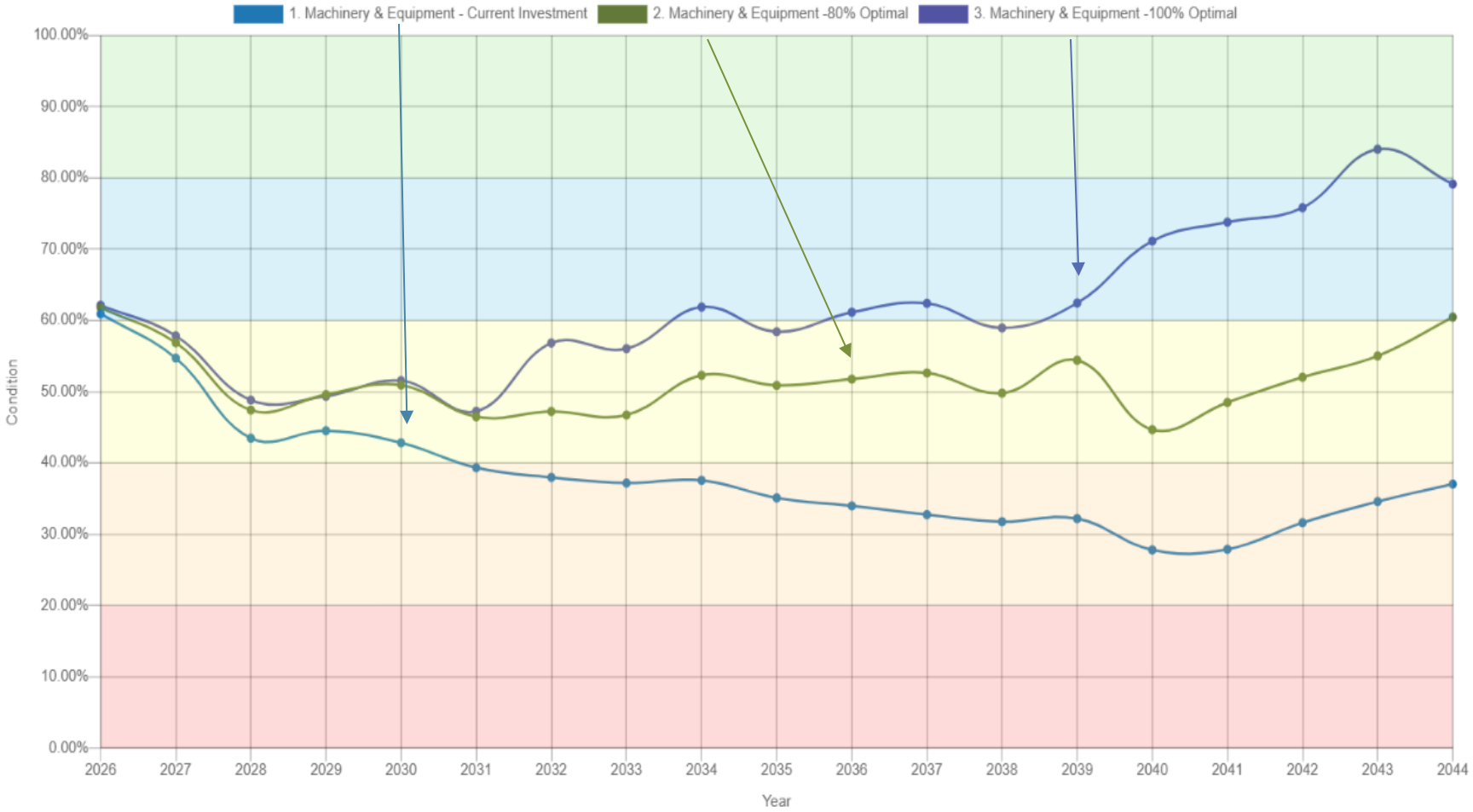



*Figure 68: Machinery & Equipment Condition Scenario Comparisons*

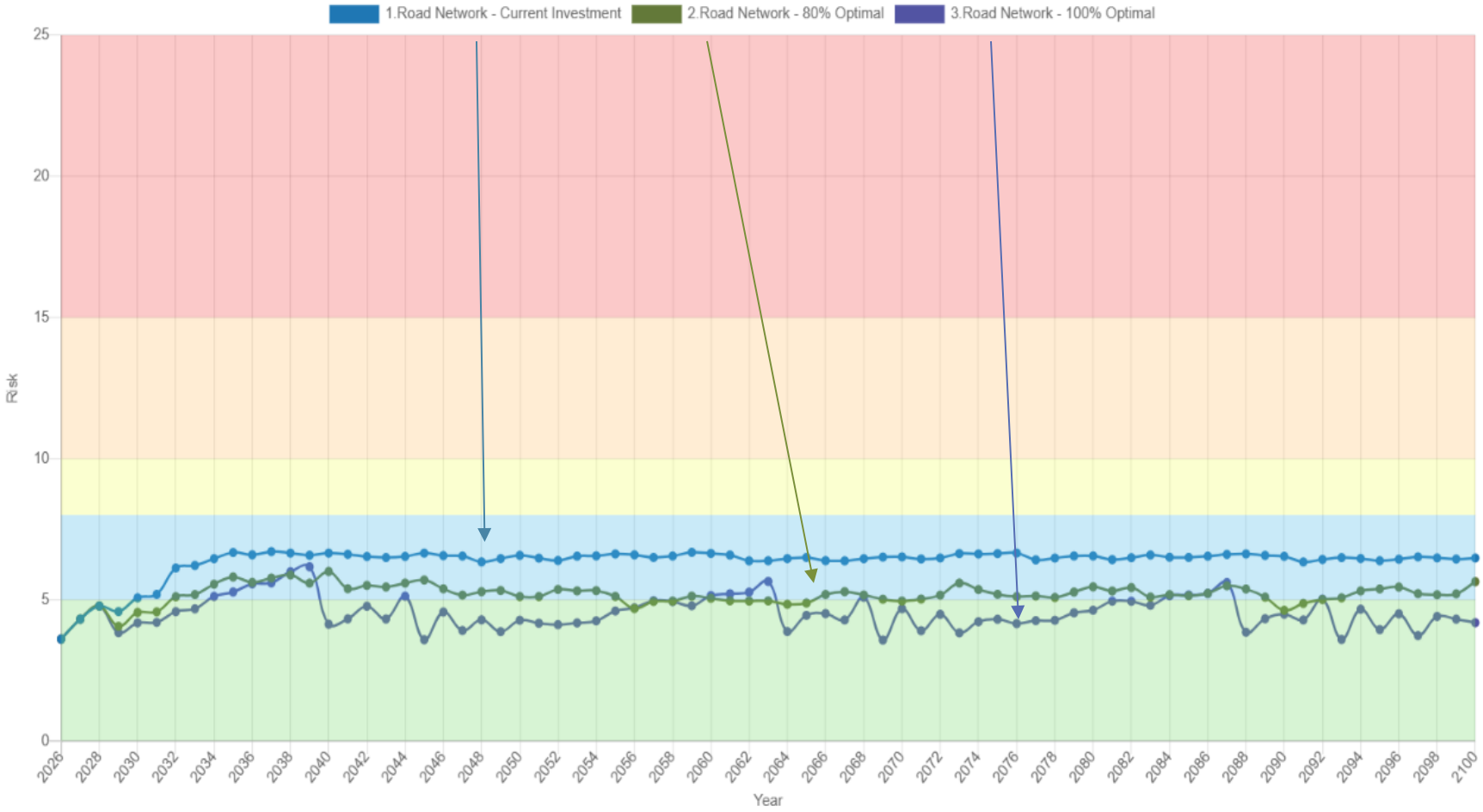



*Figure 69: Road Network Risk Scenario Comparison*

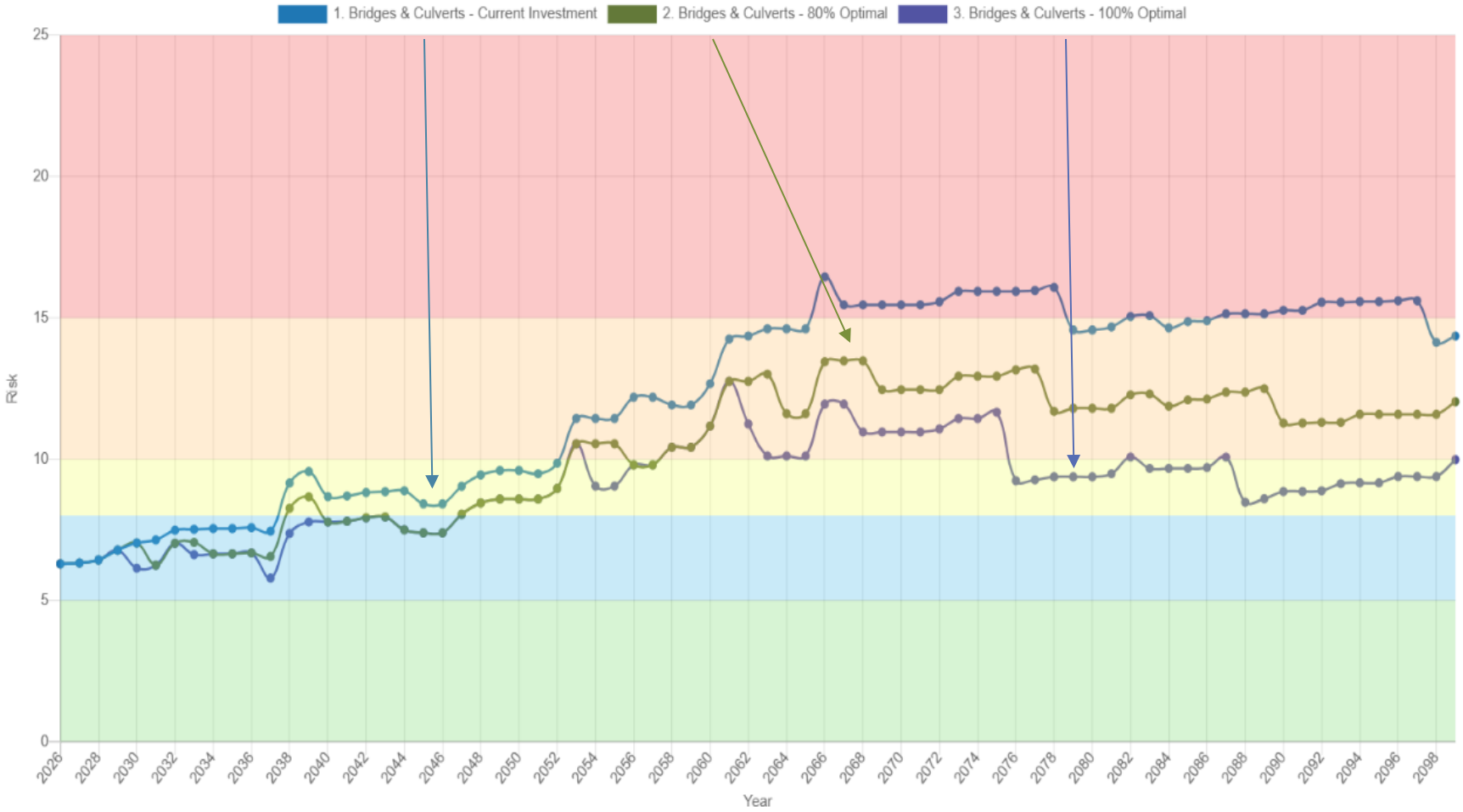



*Figure 70: Bridges & Culverts Risk Scenario Comparison*

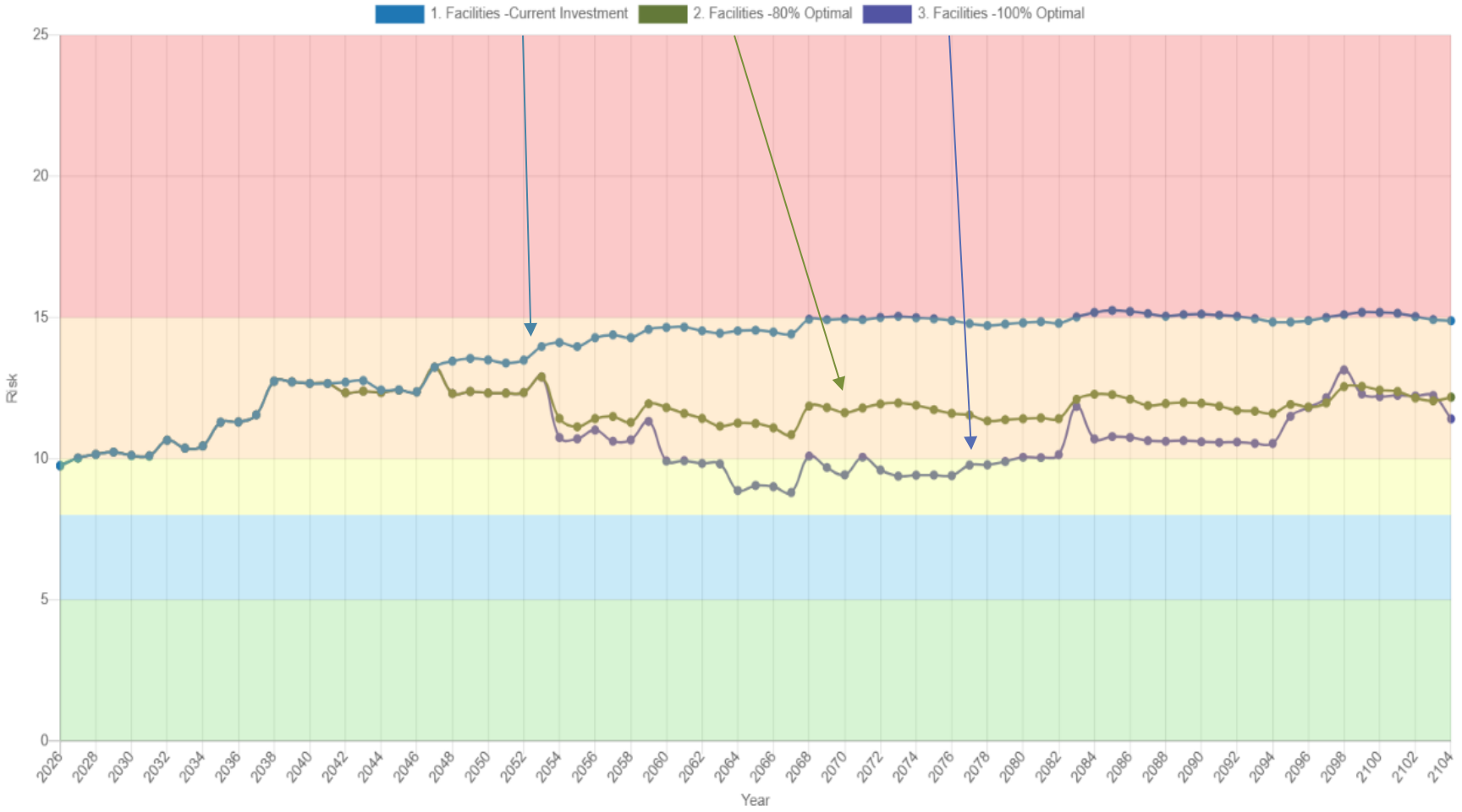



*Figure 71: Facilities Risk Scenario Comparison*

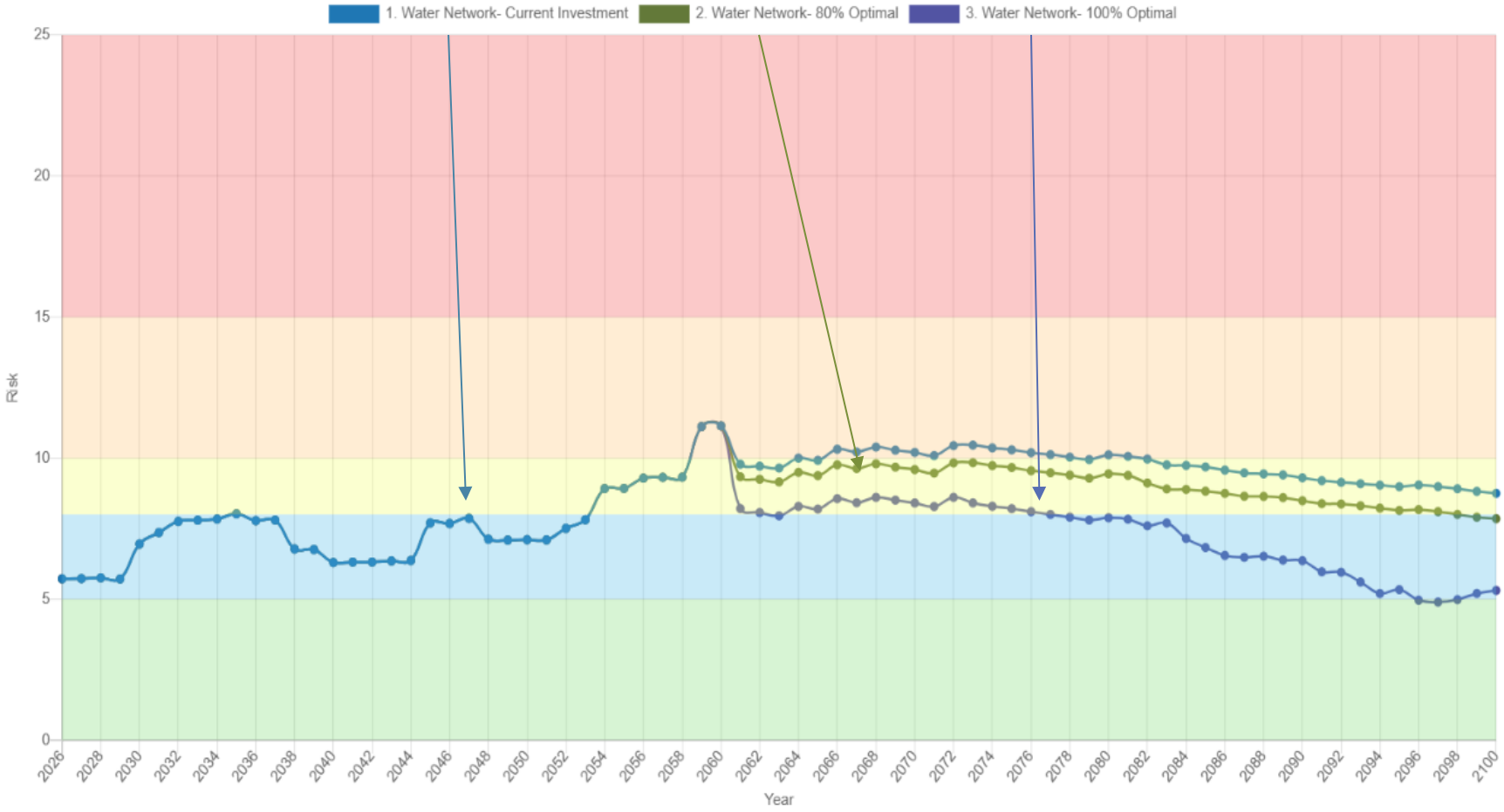



*Figure 72: Water Network Risk Scenario Comparison*

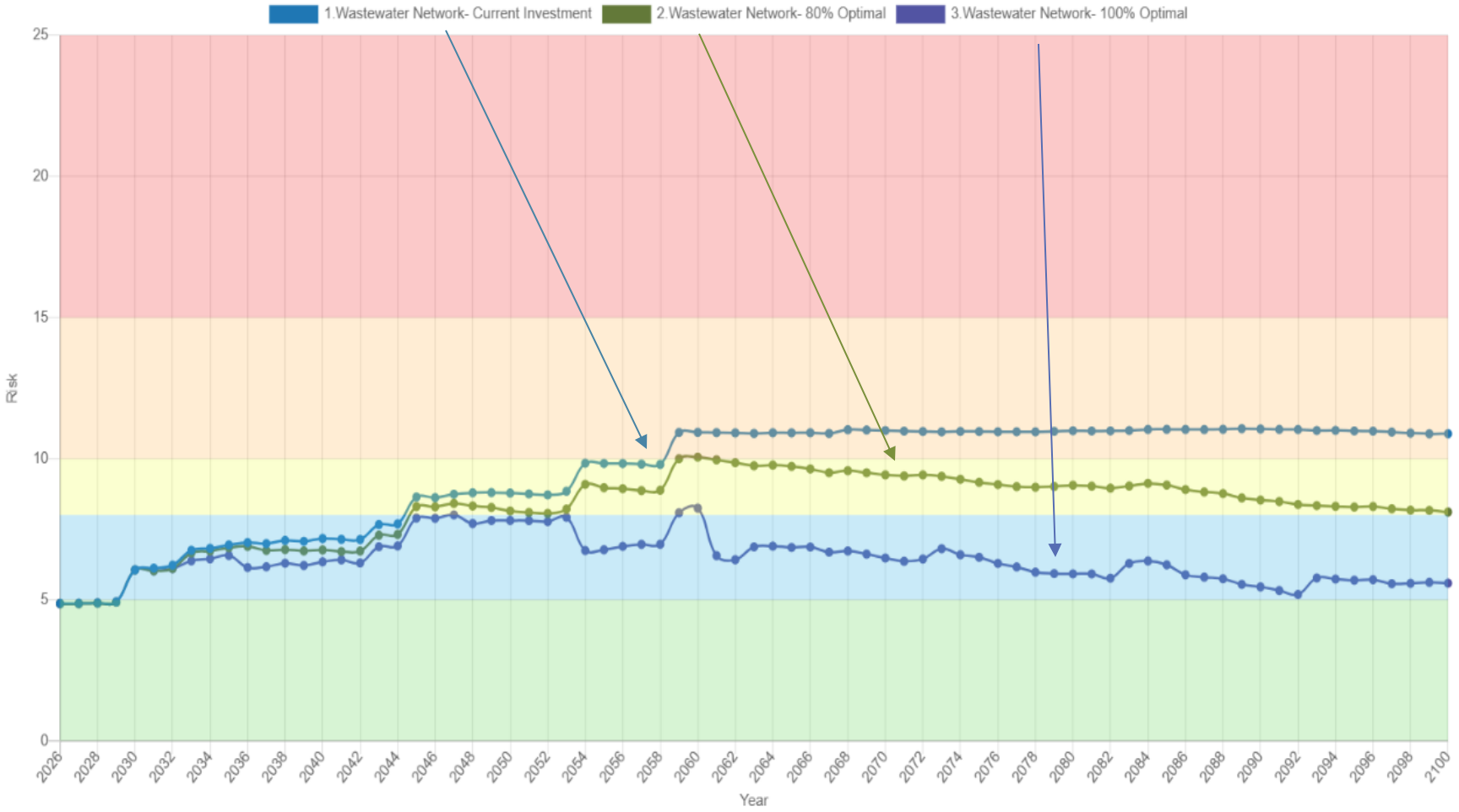



*Figure 73: Sanitary Sewer Network Risk Scenario Comparison*

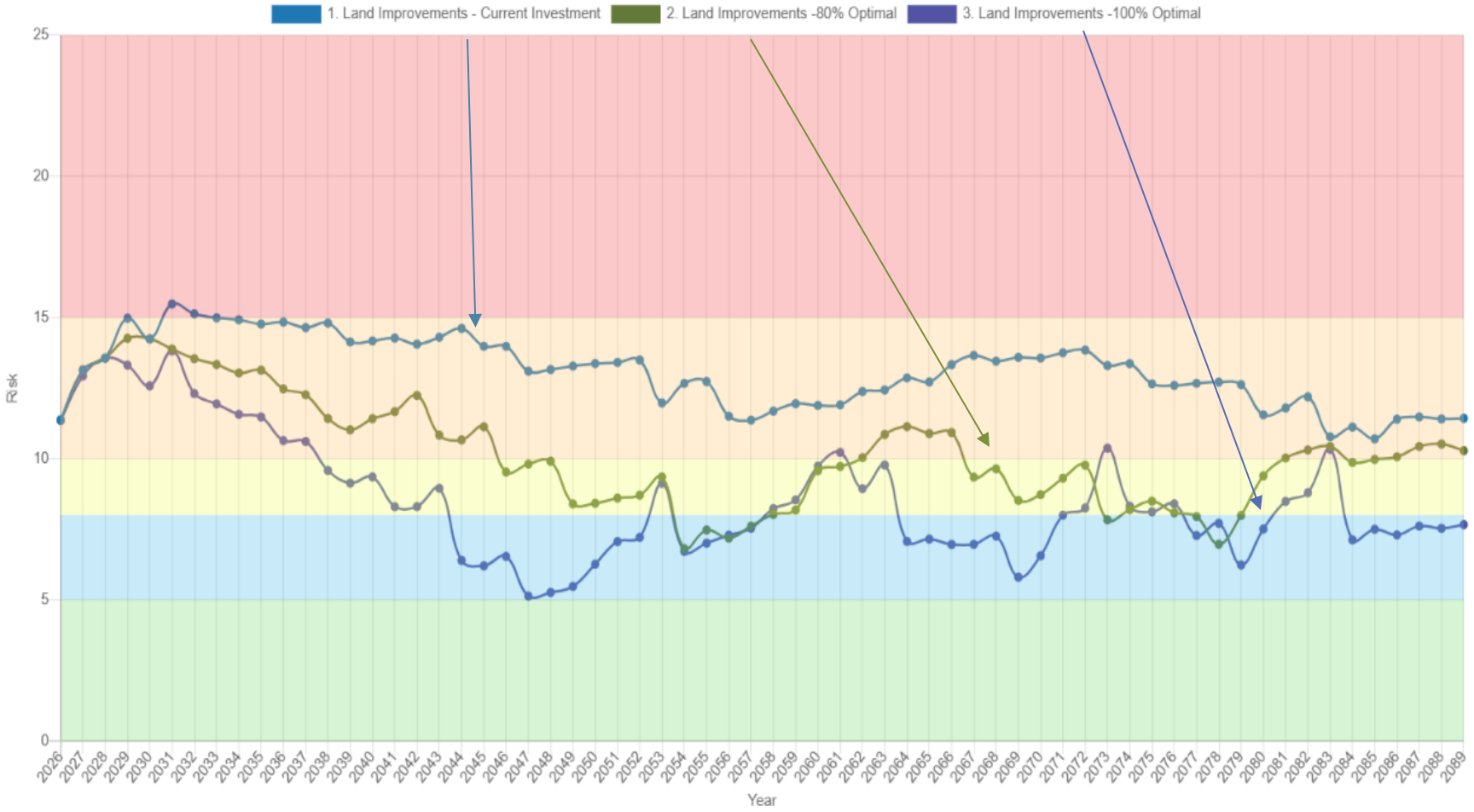



*Figure 74: Land Improvements Risk Scenario Comparison*

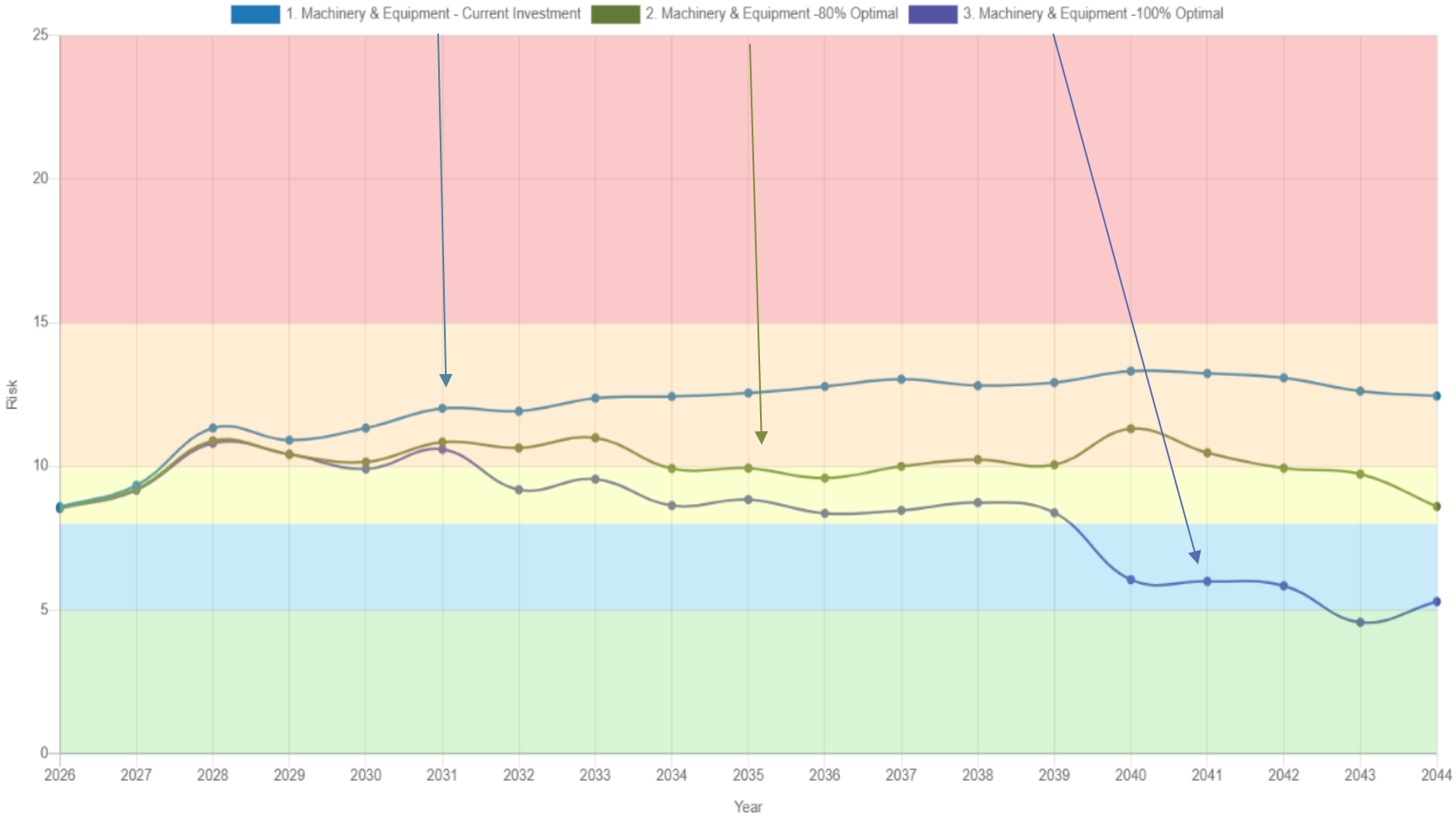



*Figure 75: Machinery & Equipment Risk Scenario Comparison*

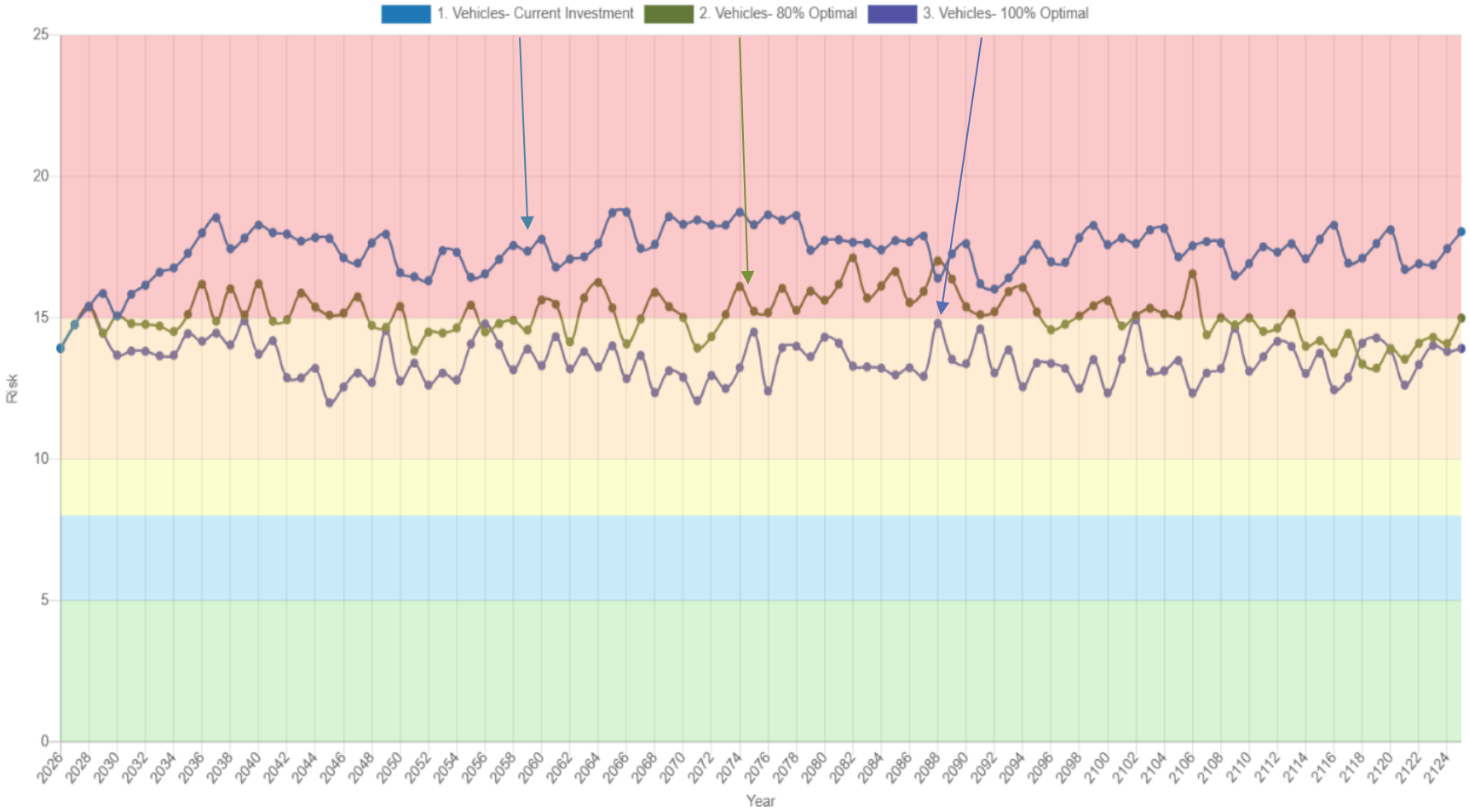



*Figure 76: Vehicles Risk Scenario Comparison*

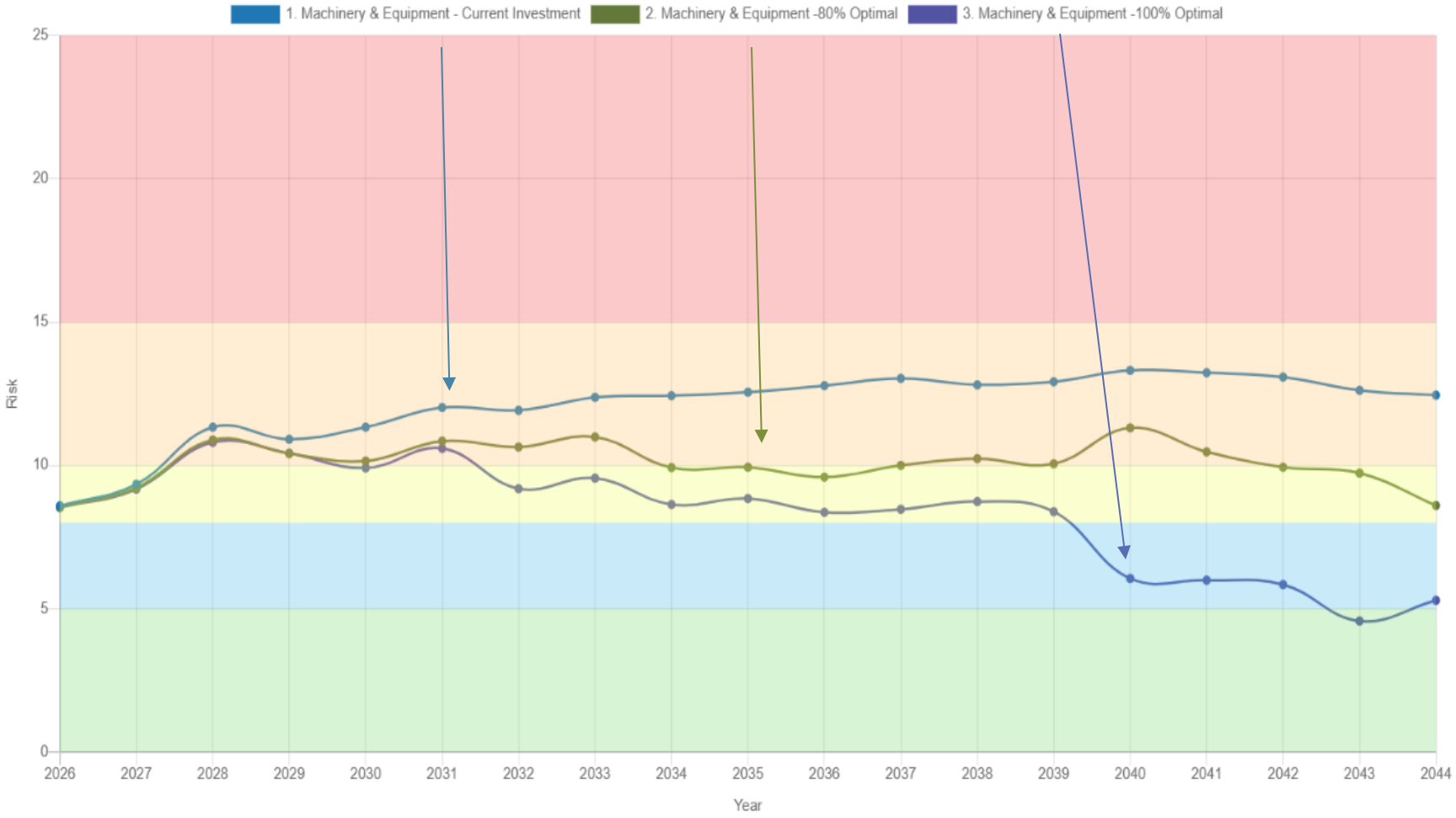



*Figure 77: Machinery & Equipment Risk Scenario Comparison*

# Appendix L: 10 Year Capital Forecast

The financial requirements for scenario 1: 80% AAR funded are summarized in the table below. In some years, actual capital investments will be greater than or less than the funds allocated. These funds are to be carried forward in future years to allow for larger expenditures where needed.

| Annual Capital Investment (in 000s,$) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Category** | **2026** | **2027** | **2028** | **2029** | **2030** | **2031** | **2032** | **2033** | **2034** | **2035** |
| Road Network | 113k | 347k | 96k | 2,601k | 1,079k | 1,076k | 1,072k | 1,077k | 1,076k | 1,078k |
| Bridges & Culverts | - | - | - | - | - | 509k | - | - | 328k | - |
| Water Network | - | - | 9k | 92k | 12k | 79k | 84k | 15k | 32k | - |
| Sanitary Sewer Network | - | - | - | - | 3k | 151k | 76k | - | 44k | - |
| Facilities | 166k | - | 11k | 190k | 867k | 143k | 469k | 1,207k | 428k | 51k |
| Land Improvements | 103k | 72k | 63k | 150k | 35k | 270k | 185k | 126k | 139k | 37k |
| Vehicles | 107k | 120k | 48k | 272k | - | 373k | 125k | 259k | 137k | 120k |
| Machinery & Equipment | 125k | 136k | 149k | 135k | 184k | 99k | 133k | 125k | 219k | 147k |
| Total | 613k | 675k | 376k | 3,439k | 2,179k | 2,701k | 2,143k | 2,809k | 2,403k | 1,433k |

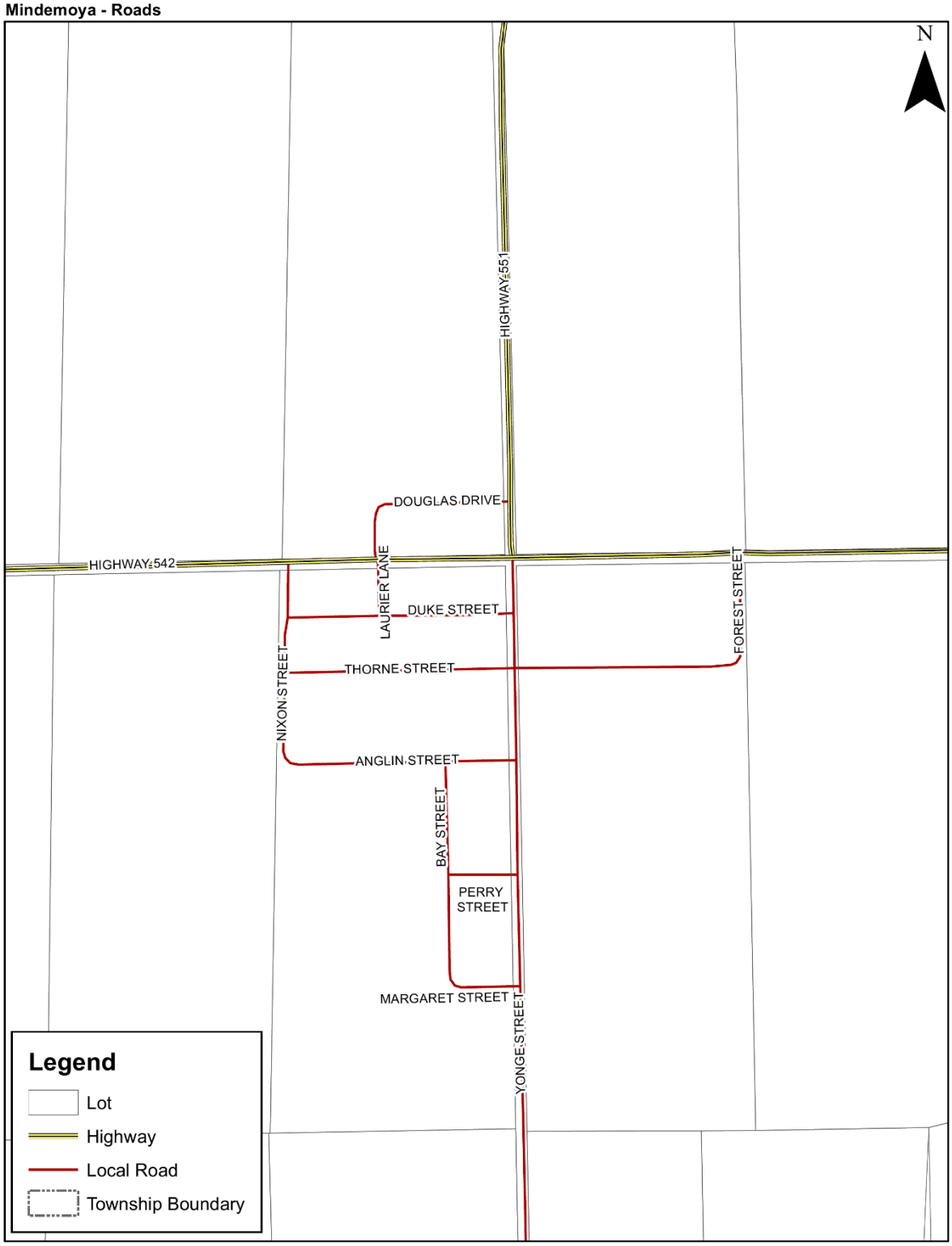
*Figure 78: System Generated Proposed LOS 10 Year Capital Investment Forecast: All Categories*

# Appendix M: Level of Service Maps & Photos

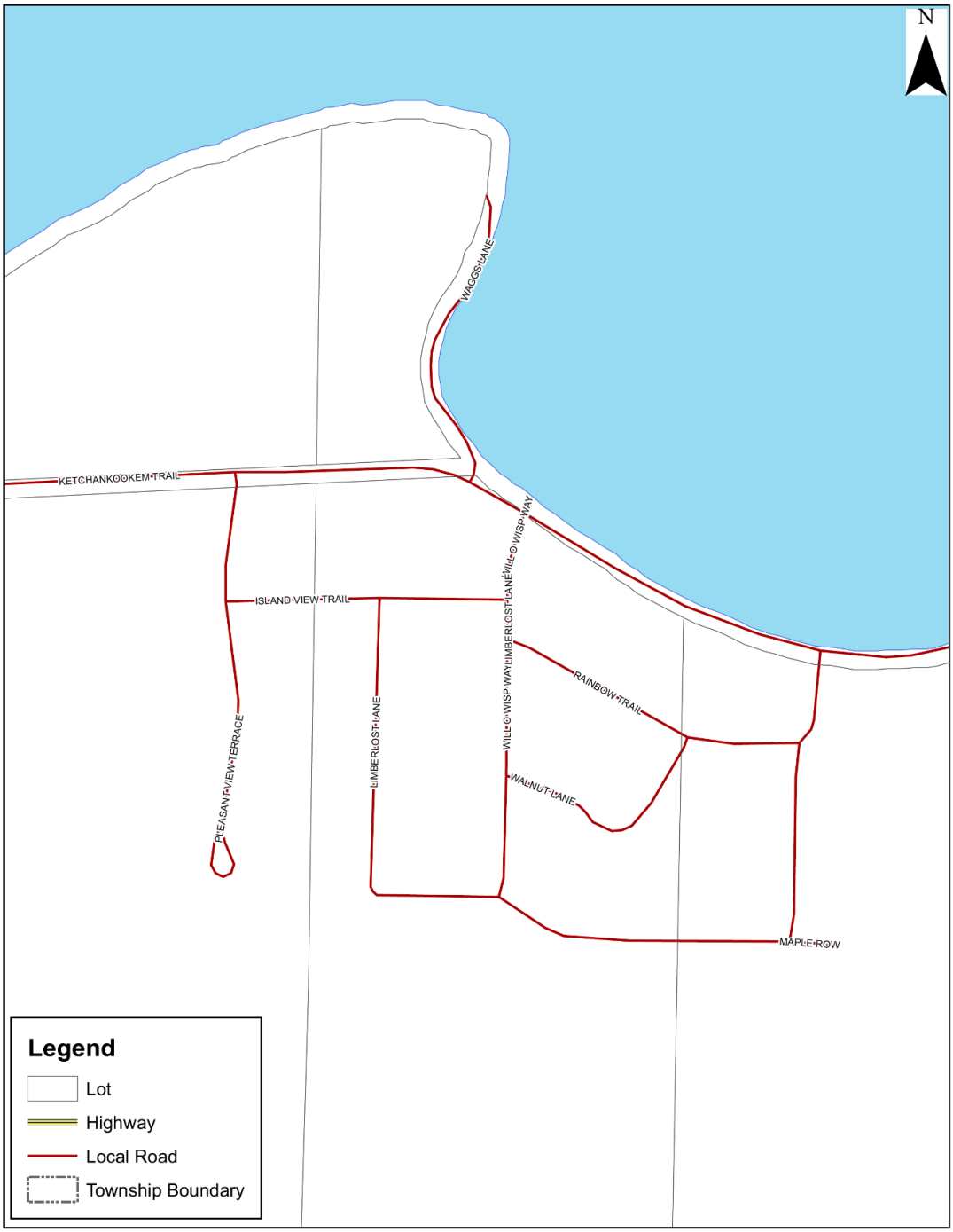
## Road Network Maps



**Mindemoya - Roads**



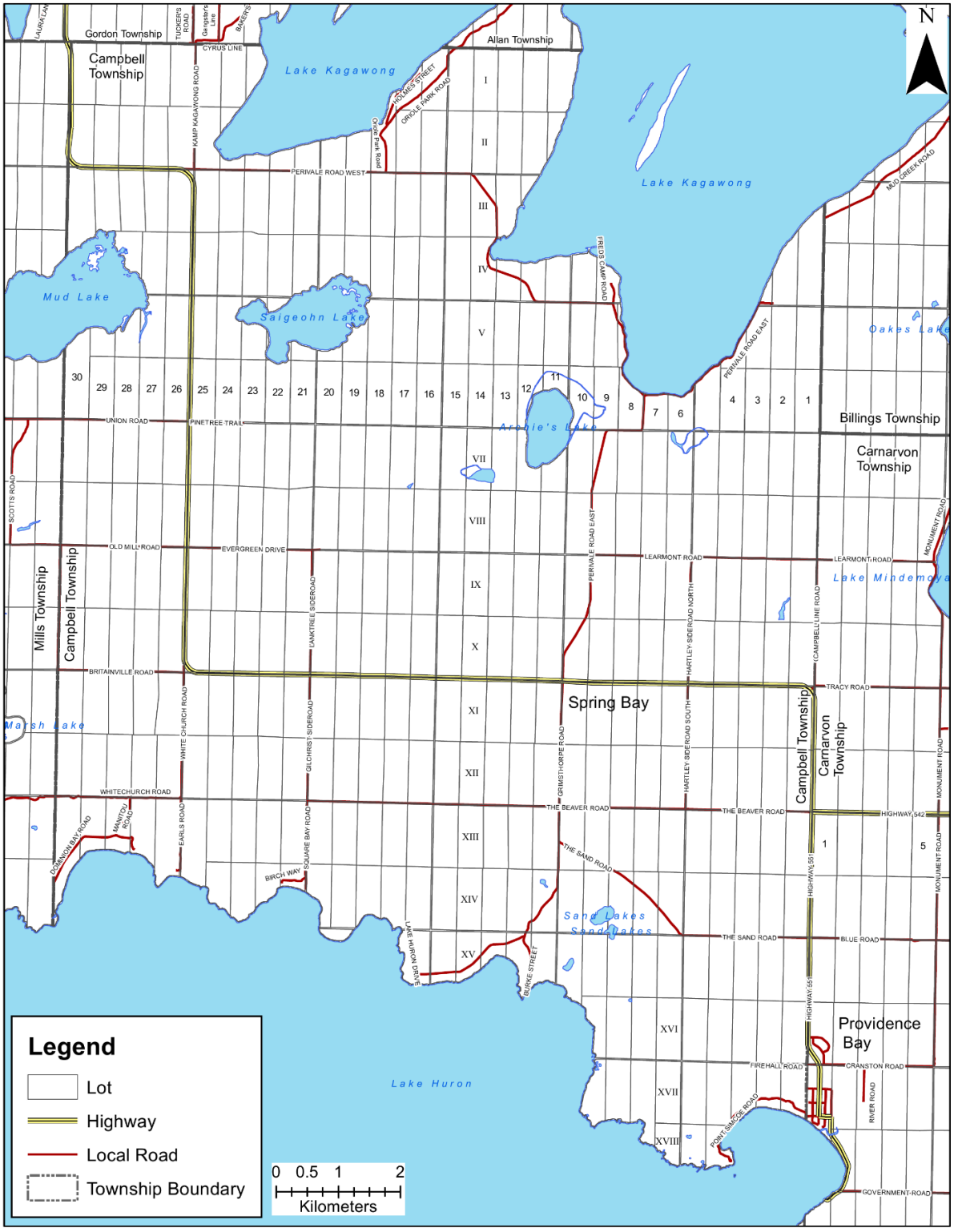
**Ketchankookem Trail Area Roads**



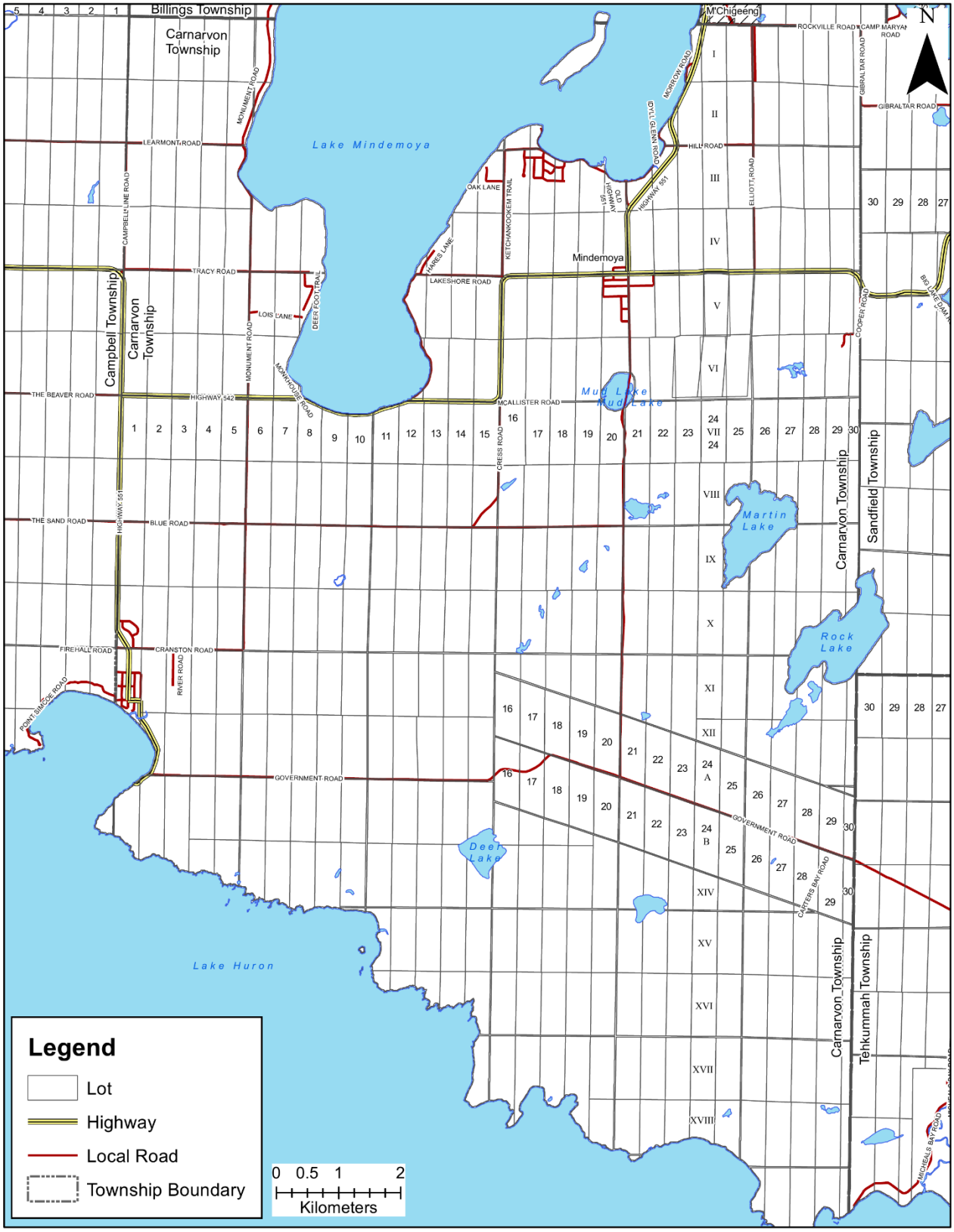
psdcitywide

## Lots & Concessions Maps

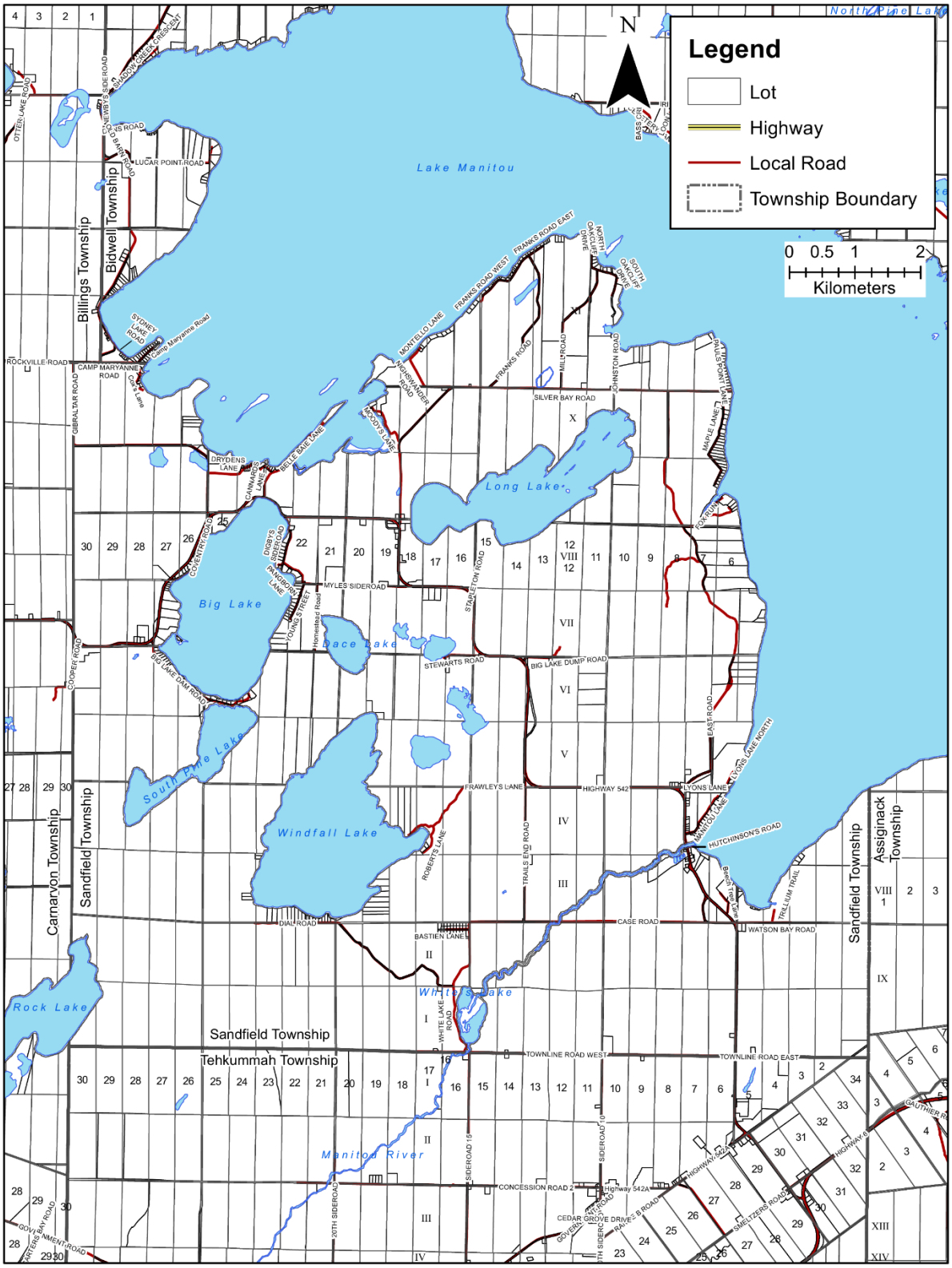
**CAMPBELL TOWNSHIP - LOTS AND CONCESSIONS**



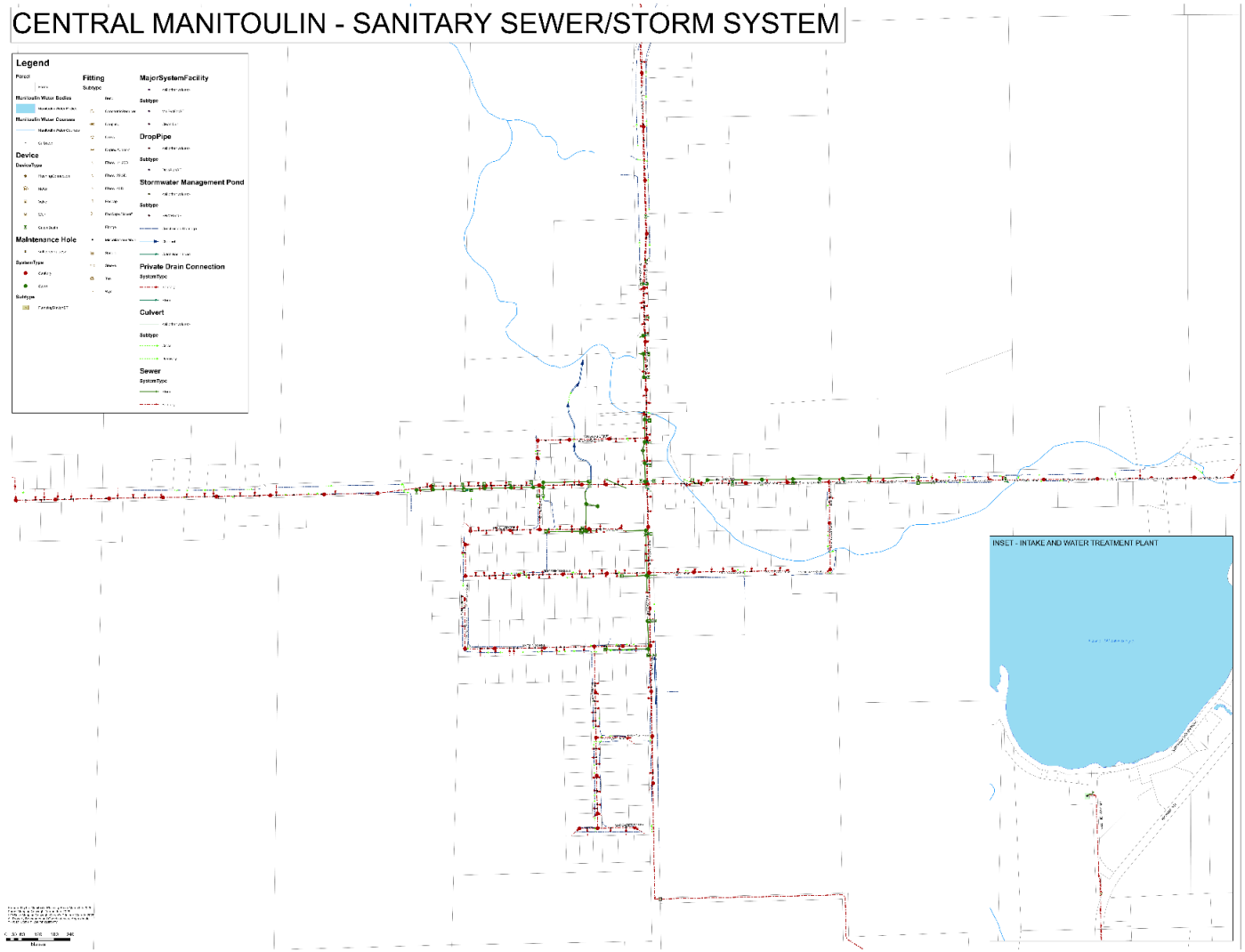
**CARNARVON TOWNSHIP - LOTS AND CONCESSIONS**



**SANDFIELD TOWNSHIP - LOTS AND CONCESSIONS**



## Sanitary Sewer Map



## Water Network Map

