



Asset Management Plan 2025

Town of Greater Napanee

March 2026



This Asset Management Plan was prepared by:



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

Key Statistics

\$563 m 2024 Replacement Cost of Asset Portfolio

\$75 k Replacement Cost of Infrastructure Per Household

64% Percentage of Assets in Fair or Better Condition

68% Percentage of Assets with Assessed Condition Data

\$3.19 m Annual Capital Infrastructure Deficit (PLOS)

5 Years Recommended Timeframe for Eliminating Annual PLOS Deficit (Tax-Funded Assets)

10 Years Recommended Timeframe for Eliminating Annual PLOS Deficit (Rate-Funded: Water Network)

20 Years Recommended Timeframe for Eliminating Annual PLOS Deficit (Rate-Funded: Sanitary Network)

1.22% Target Investment Rate (PLOS, year 10)

0.89% Actual Investment Rate

Table of Contents

1. Executive Summary.....	4
2. Introduction & Context.....	8
3. Portfolio Overview	22
4. Portfolio Risks & Growth Assumptions.....	29
5. Proposed Levels of Service.....	33
6. Financial Strategy	58
7. Recommendations & Key Considerations	72
Appendices	75
Appendix A: Road Network.....	76
Appendix B: Bridges & Culverts.....	83
Appendix C: Water Network	88
Appendix D: Sanitary Network.....	94
Appendix E: Stormwater Network.....	99
Appendix F: Buildings and Facilities	104
Appendix G: Parks and Land Improvements	109
Appendix H: Fleet	114
Appendix I: Machinery and Equipment	119
Appendix J: Infrastructure Report Card	124
Appendix K: 10-Year Capital Requirements	125
Appendix L: PLOS Scenario Comparison	129
Appendix M: Level of Service Maps & Photos	147
Appendix N: Risk Rating Criteria	156

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 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 proposed Level of Service (LOS) options and selects one considering risks, costs, and achievability of the options presented. Projected LOS over a ten-year period and the estimated costs and risks of delivery are outlined. Additionally, the Town's projected sustainable funding available and funding shortfalls to meet the proposed LOS are estimated. Strategies for addressing the funding gap are included. As detailed in Appendices A to I, the Town has identified their asset inventory and associated asset replacement cost, condition, and lifecycle management strategies. The 2025 AMP furthers the Town's asset management program by evaluating Proposed LOS options and selecting one with consideration for risk, affordability and achievability. This is fundamental to the Town of Greater Napanee's ability to effectively plan for its public infrastructure and the sustainable delivery of municipal services.

This AMP includes the following asset categories:



Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

With the development of this AMP the Town of Greater Napanee has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. This includes requirements for proposed levels of service and financial analysis to support.

1.3 Findings

To determine suitable proposed LOS options the 2026 resident budget survey results were reviewed and additional council and staff surveys were conducted. The 2026 resident budget survey explored residents' experience with municipal infrastructure, their infrastructure priorities, their desired service changes and their willingness to pay for changes in service levels. The council survey sought to understand what asset categories receive the most complaints, and what categories are of the highest priority for capital investment. It also explored council's preferences for financial strategies in infrastructure investment and management. Key findings indicated:

- Across all asset categories (except recreation) most respondents seek to maintain current service levels and almost no respondents seek to reduce service levels. The desire to enhance service levels is highest for recreation facilities (57%) followed by parks and trails (41%), and road maintenance (30%).
- Residents prioritize capital investment for parks and recreation or community facilities followed by road and bridge maintenance.
- A slight majority of residents do not support a tax increase but almost an equal amount does support modest increases. This indicates mixed sentiment over increased taxation levels to support infrastructure needs.
- While complaints to councilors from residents are rare, they are most often related to the road network. Staff responsiveness to complaints is usually deemed sufficient by councilors.
- Councilor identified capital investment priorities exist across several asset categories (road network bridges and culverts, stormwater network, fleet, sanitary network, and machinery and equipment) but they are highest within the road network and the fleet.
- Councilors prefer that any increased capital investment levels are allocated to priority asset categories first, and that increases range between 2-5% annually, with consideration for affordability constraints.
- Staff who work closely with the Town's assets indicated that across all asset categories staff identified that 2024 LOS should be *increased or maintained*; more often the response was to increase.

These survey findings were considered alongside key details about the Town's infrastructure assets, namely:

- The overall replacement cost of the asset categories included in this AMP totals \$563 million. To replace all assets at the end of their useful life and complete rehabilitations for the road network, the average annual capital requirement is \$17.2 million. This reflects optimal investment levels, without consideration for affordability constraints. Currently capital investment from sustainable sources is \$4.98 million.

- About two thirds (64%) of the Town’s infrastructure portfolio is in fair or better condition, with the remaining 36% in poor or worse condition (this is further detailed in Section 3: Portfolio Overview).

Considering all the above, the following three Proposed LOS options were selected, modelled, and evaluated:

Table 1: Proposed LOS Options

Scenario	Description
1: Current Investment Levels	Model the long-term impact of continuing with the current investment levels
2: Maintain Current Condition	Model investments required to maintain current condition levels (based on average conditions as of December 2024)
3: 2.5% annual Increase to Priority	Model a 2.5% annual funding increase from baseline levels for priority asset categories (Roads, Bridges, Fire, Fleet & Heavy Equipment), while maintaining current investment levels for all other asset categories.

Considering the risks, achievability, and affordability of each of these options, the Town selected scenario 3 (2.5% annual increase from baseline investment) for their tax funded assets and scenario 2 (maintain current condition) for their rate funded assets as the proposed LOS. In the long term, this is projected to result in a decline in asset conditions for tax funded assets and a general holding of conditions for rate funded assets.

A financial strategy to meet the required investment is detailed in Section 6. The key findings indicate capital investment must increase, especially for rate-funded assets. Considering the increase required, it is recommended to phase in the change over 5 years for tax funded assets and over 10 and 20 years respectively for the water and sanitary network. Debt reallocation is a strategy explored and considerations of existing reserve levels are noted. Reserve funds are especially important for tax-funded assets which are projected to decline in condition in the long-term based on the selected Proposed LOS. These projected declines in condition are anticipated to result in increased rates and severity of asset failure (further discussed in 5.3.1) which may result in unplanned asset failure and the need for immediate and emergent funding sources, such as reserve funds.

1.4 Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax/rate change required to eliminate the Town's infrastructure deficit based on a 5-year plan for tax funded assets¹, a 10-year plan for the water network, and a 20-year plan for the sanitary network:

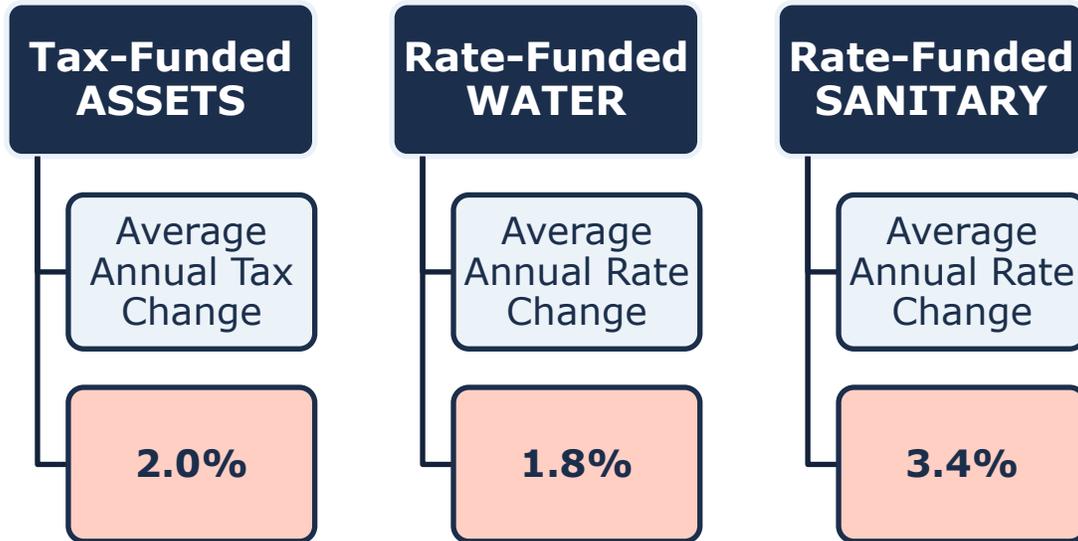


Figure 2 Proposed Tax/Rate Changes

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

- Continuously review, refine, and calibrate asset data. In particular:
 - a. Regularly review asset data and incorporate valuable information from reports and studies (i.e. OSIM, Road Needs Studies etc.) into the asset register
 - b. Work towards an internal assessment program. Ensure that the program identifies and documents a standard condition scale, associated definitions and reference examples, frequency of assessments and persons responsible for assessment completion, review, and update to the asset inventory.
 - c. Review the data review and update processes for other related data and information systems such as GIS. Identify opportunities to leverage, streamline, and align updates across systems.
- Consider advancing assessment programs that currently utilize a pass/fail rating criteria.
- Complete regular reviews and updates of replacement costs to improve the value and accuracy of projections.
- Regularly review actual LOS outputs and compare these to projections. Where there are significant differences, investigate the cause of them.
- Review the Asset Management Policy for its continued relevance, value, and clarity. Update the policy and ensure this is documented in a public manner to ensure compliance with O.Reg. 588/17

¹ It is recommended that in Year 10 or sooner the Town re-examine current funding relative to the identified needs in years 11-20 to determine additional tax revenue changes required.

2. Introduction & Context

2.1 Community Profile

The following tables details the Town of Greater Napanee’s 2021 Census population data and compares it with the same data for the Province of Ontario.

Census Characteristic	Town of Greater Napanee	Ontario
Population 2021	16,879	14,223,942
Population Change 2016-2021	6.2%	5.8%
Total Private Dwellings	7,461	5,929,250
Population Density	36.5/km ²	15.9/km ²
Land Area	462.30 km ²	892,411.76 km ²

Table 2 Town of Greater Napanee Community Profile

Greater Napanee is a lower-tier municipality in southeastern Ontario, serving as the county seat of Lennox and Addington County. Located along the picturesque Napanee River near the Bay of Quinte, the town offers a strategic position just 45 kilometers west of Kingston with direct access to Highway 401. This location provides a balance of small-town charm, heritage character, and proximity to regional urban centers.

Originally established as a Loyalist settlement in the late 18th century, the area grew into the Town of Napanee, which was incorporated in 1855. In 1998, the modern Town of Greater Napanee was formed through the amalgamation of the Town of Napanee and the Townships of Adolphustown, North Fredericksburgh, Richmond, and South Fredericksburgh. This unification created a larger, more diverse municipality with a shared identity rooted in history, agriculture, and regional leadership.

Greater Napanee’s rich heritage is reflected in historic landmarks such as the Allan Macpherson House, Old Hay Bay Church (Canada’s oldest surviving Methodist building), and the Lennox & Addington County Museum and Archives. The town’s historical connection to the Grand Trunk Railway and early milling industries helped establish it as a thriving centre for commerce and transportation.

Natural beauty is a defining feature of Greater Napanee. The Napanee River, expansive green spaces, conservation areas, and agricultural landscapes support a wide range of recreational and tourism opportunities, including boating, hiking, cycling, and golf. Seasonal attractions such as orchards, apiaries, and flower farms enhance the town’s appeal to both residents and visitors.

Economically, Greater Napanee has evolved from its industrial roots into a more diversified economy. While agriculture and light manufacturing—anchored by the Goodyear tire plant—remain significant, the community has seen growth in health care, retail, tourism, and public services. Its location between Kingston and Belleville expands employment and investment opportunities for commuters, entrepreneurs, and families.

The town is known for its inclusive community spirit and vibrant local culture. Festivals like the Music by the River at Conservation Parks, Movies in the Park, Canada Celebrations, and the Napanee Farmers Market foster a strong sense of belonging.

Greater Napanee continues to invest in sustainable infrastructure and long-term planning. Recent improvements include upgrades to roadways, water and sanitary systems, trail networks, and recreational facilities such as the Best and Bash Arena. Guided by strategic and asset management planning, the town is committed to maintaining reliable service delivery and enhancing quality of life for current and future generations.

2.2 Climate Change

The Town of Greater Napanee is expected to face several challenges due to climate change. According to Climatedata.ca, a collaboration supported by Environment and Climate Change Canada (ECCC), suggests the following trends for Casselman:

Higher Average Annual Temperature

- ◆ Between the years 1971 and 2000 the annual average temperature was 7.2 °C.
- ◆ Under a high emissions scenario, the annual average temperatures are projected to be 10 °C for the 2021-2050 period, 12 °C for the 2051-2080 period and 13.8 °C for 2070 to 2100

Increase in Total Annual Precipitation

- ◆ Under a high emissions scenario, annual precipitation in Greater Napanee is projected to increase by 12% between 2051-2080 period and by 17% by the end of the century.

Increased temperatures and annual precipitation are likely to impact the demands on infrastructure assets. For example, a higher incidence rate of flooding and an increased number of freeze-thaw cycles can have negative impacts of degradation of road network assets.

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 ratepayers receive from the asset portfolio.

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

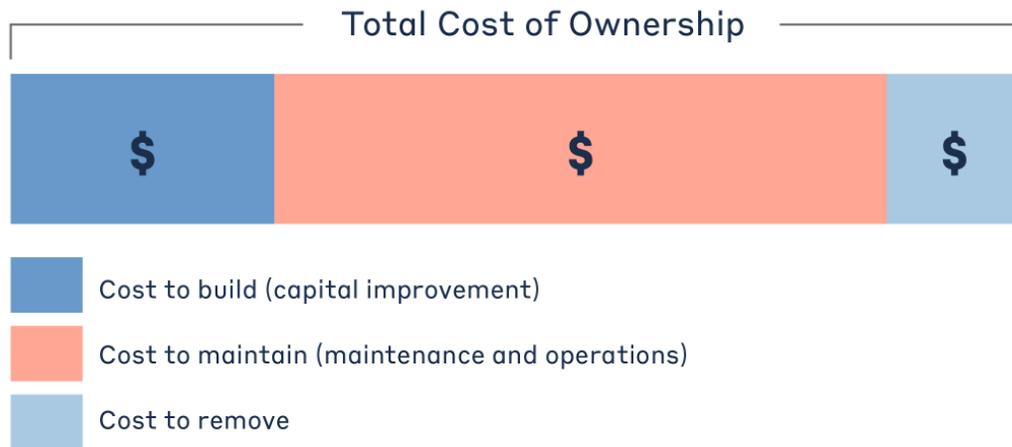


Figure 3 Total Cost of Asset Ownership

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 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, 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.

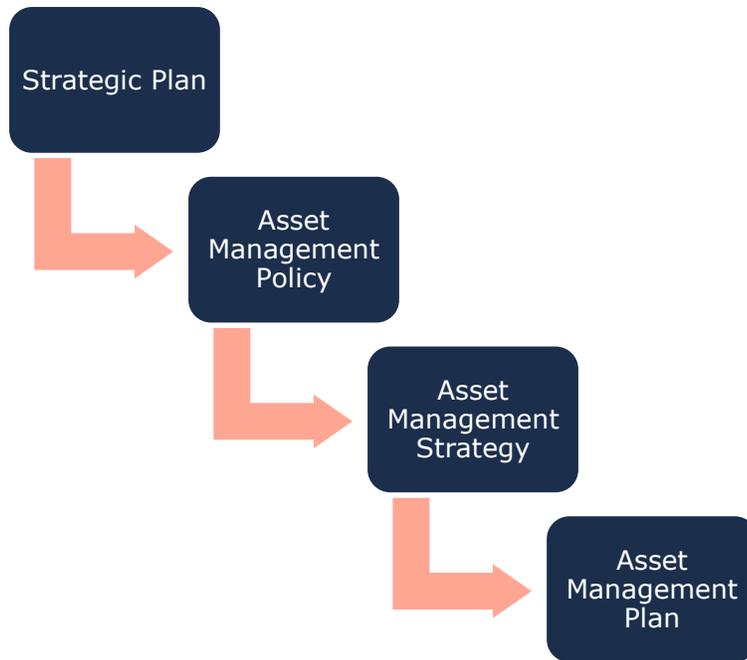


Figure 4 Foundational Asset Management Documents

Asset Management Policy

An asset management policy represents a statement of the principles guiding the Town’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.

In June of 2019 the Town of Greater Napanee adopted adopted a Strategic Asset Management Policy in accordance with Ontario Regulation 588/17.

The stated objectives of the policy are to:

- Provide a framework for implementing asset management to enable a consistent and strategic approach to all levels of the organization
- Demonstrate Council’s commitment to support the implementation of asset management methods that are consistent with their priorities and objectives
- Provide guidance to staff responsible for asset management
- Provide transparency and accountability and demonstrate the validity of decision-making process which combines strategic plans, budgets, service levels and risks

The policy provides a foundation for the development of an asset management program within the Municipality. It covers key components that define a comprehensive asset management policy:

- The policy’s objectives dictate the use of asset management practices to ensure all assets meet the agreed levels of service in the most efficient and effective manner.

- The policy commits to, where appropriate, incorporating asset management in the Municipality's other plans.
- There are formally defined roles and responsibilities of internal staff and stakeholders.

Asset Management Strategy

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

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

Asset Management Plan

The asset management plan (AMP) presents the outcomes of the Town'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 Town 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
<p>Maintenance</p> <p>Activities that prevent defects or deteriorations from occurring</p>	<p>\$</p>	<ul style="list-style-type: none"> ◆ Balancing limited resources between planned maintenance and reactive, emergency repairs and interventions; ◆ Diminishing returns associated with excessive maintenance activities, despite added costs; ◆ Intervention selected may not be optimal and may not extend the useful life as expected, leading to lower payoff and potential premature asset failure;
<p>Rehabilitation/ Renewal</p> <p>Activities that rectify defects or deficiencies that are already present and may be affecting asset performance</p>	<p>\$\$\$</p>	<ul style="list-style-type: none"> ◆ Useful life may not be extended as expected; ◆ May be costlier in the long run when assessed against full reconstruction or replacement; ◆ Loss or disruption of service, particularly for underground assets;
<p>Replacement/ Reconstruction</p> <p>Asset end-of-life activities that often involve the complete replacement of assets</p>	<p>\$\$\$\$\$</p>	<ul style="list-style-type: none"> ◆ Incorrect or unsafe disposal of existing asset; ◆ Costs associated with asset retirement obligations; ◆ Substantial exposure to high inflation and cost overruns; ◆ Replacements may not meet capacity needs for a larger population; ◆ Loss or disruption of service, particularly for underground assets;

Table 3 Lifecycle Management: Typical Lifecycle Interventions

The Town’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.

Formula to Assess Risk of Assets

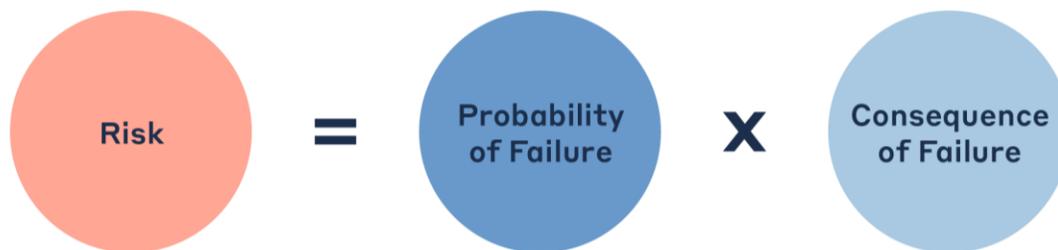


Figure 5 Risk Equations

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	Socio-political 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. They are summarized in Appendix N of this report.

Levels of Service

A level of service (LOS) is a measure of the services that the Town 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 Town measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For applicable core asset categories (roads, bridges & culverts, water, sanitary, stormwater) the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For non-core asset categories, the Town selected metrics and first reported on them in their 2024 compliant AMP.

Technical Levels of Service

Technical levels of service are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of the Town'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. For non-core asset categories, the Town selected metrics and first reported on them in their 2024 compliant AMP.

Current and Proposed Levels of Service

A current LOS reflects the community or technical LOS for (most often) a group of assets as of a defined *past* measurement date. In contrast, a Proposed LOS reflects the Municipality's goal for asset performance by a define *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.

Regardless of what the selected proposed LOS is, O. Reg 588/17 requires Municipalities to demonstrate the feasibility of the proposed LOS. This must consider the associated costs, risks, and impact of population and economic activity over the period (O. Reg. 588/17 6,2). Section 2.5 outlines O. Reg 588/17 2025 reporting requirements and how the Town of Greater Napanee meets them.

2.4 Scope & Methodology

2.4.1 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 Town. This baseline data represents a snapshot in time using the best available processes, data, and information at the Town. Future projections are based on the asset information as of the data effective date (December 2024) forecasted into the future. Forecasts are predicated on key asset information such as the estimated useful life (EUL), condition, and the expected rate of decline of each asset type over time. Strategic asset management planning is an ongoing and

dynamic process that requires continuous data updates and dedicated data management resources. Such data updates may change projected data outputs (e.g. projected condition).

2.4.2 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 the 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 Town incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.4.3 Estimated Service Life & Service Life Remaining

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



Figure 6 Service Life Remaining Calculation

2.4.4 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 Town can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

The diagram illustrates the formula for calculating the Target Reinvestment Rate. On the left, a dark blue rounded rectangle contains the text "TARGET Reinvestment Rate". To its right is a red circle containing a white equals sign. Further right is a light blue rounded rectangle containing the fraction "Annual Capital Requirement" over "Total Replacement Cost", with a horizontal line under the numerator.

Figure 7 Target Reinvestment Rate Calculation

The diagram illustrates the formula for calculating the Actual Reinvestment Rate. On the left, a dark blue rounded rectangle contains the text "ACTUAL Reinvestment Rate". To its right is a red circle containing a white equals sign. Further right is a light blue rounded rectangle containing the fraction "Annual Capital Funding" over "Total Replacement Cost", with a horizontal line under the numerator.

Figure 8 Actual Reinvestment Rate Calculation

2.4.5 Deriving Asset Condition

An incomplete or limited understanding of asset conditions 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 Town's asset portfolio. The table below outlines the condition rating system used most often in this AMP to determine asset conditions. 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	60-80
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40-60
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20-40
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	0-20

Table 5 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.

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

Figure 9 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines. This AMP meets the regulatory requirements of Phase III, 2025.

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

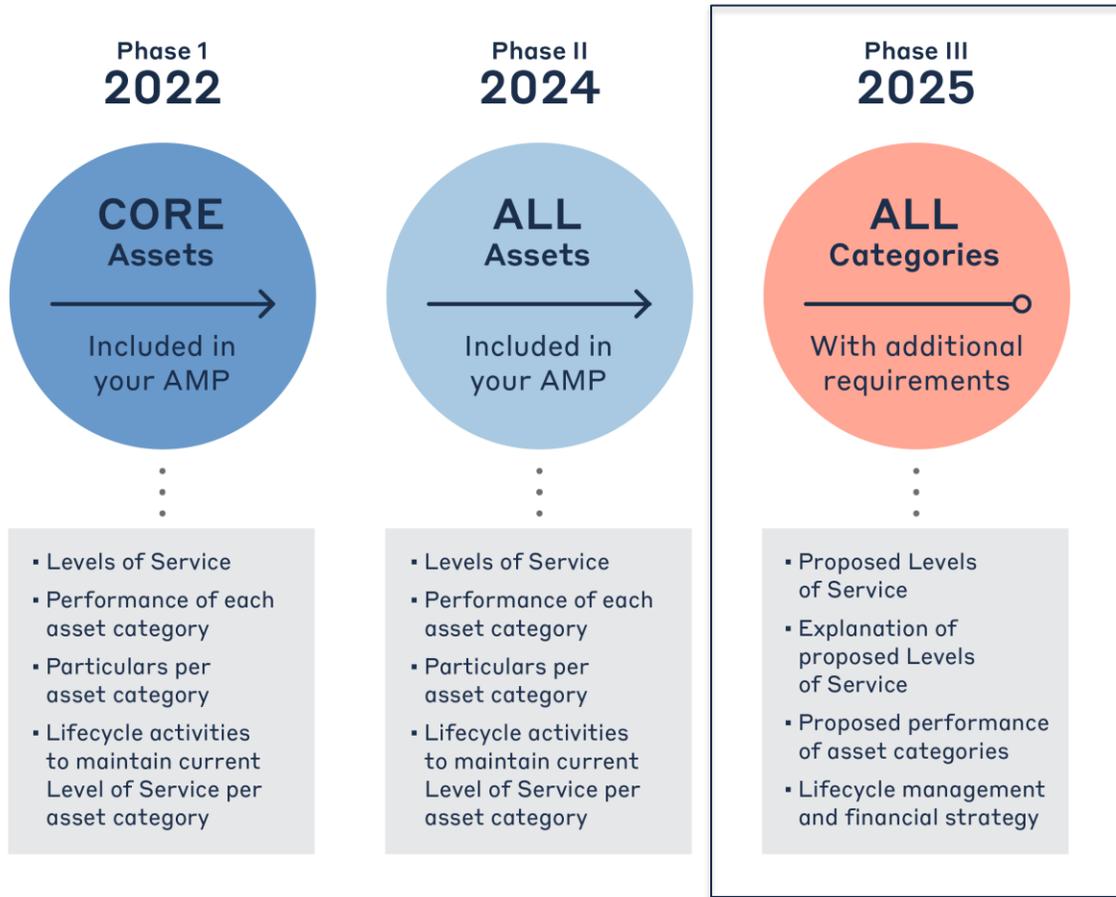


Figure 9 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

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

Table 6: O. Reg. 588/17 2025 Legislative Requirements

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Proposed LOS over 10 years for each asset category	6 (1) 1	4.2	Complete
Why Proposed LOS is Appropriate	6 (1) 2 (i., ii,iii,iv)	5.2.5	Complete
Proposed LOS 10-year Breakdown	6 (1) 3	5.2-5.3	Complete
Proposed LOS Lifecycle Management	6 (1) 4 (i.,A,B,C,D)	5.3.1	Complete
Proposed LOS Financial Strategy	6 (1) 4 (i.,D,ii.,iii.,iv.)	5.2.1	Complete
Proposed LOS Risk Management	6 (1), (B)	6	Complete

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Population & Economic Activity Considerations (Population =<25K)	6(1) 5.	4.2	Complete
Assumptions	6 (1) 7	2.4, Appendix A to I	Complete

3. Portfolio Overview

The following information summarizes the inventory, condition, age profiles, and other key performance indicators for the Town’s infrastructure portfolio. Further details by asset category are also available in Appendix A to I.

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. How assets are grouped in a hierarchy structure can impact how data is interpreted. Assets were structured to support meaningful, efficient reporting and analysis. Key category details are summarized at asset segment level.



Figure 10 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The nine asset categories analyzed in this Asset Management Plan have a total current replacement cost of \$563 million. This estimate was calculated using user-defined costing, 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 11 illustrates the replacement cost of each asset category; at 24% of the total portfolio, road network form the largest share of the Town’s asset portfolio, followed by water network at 23%.

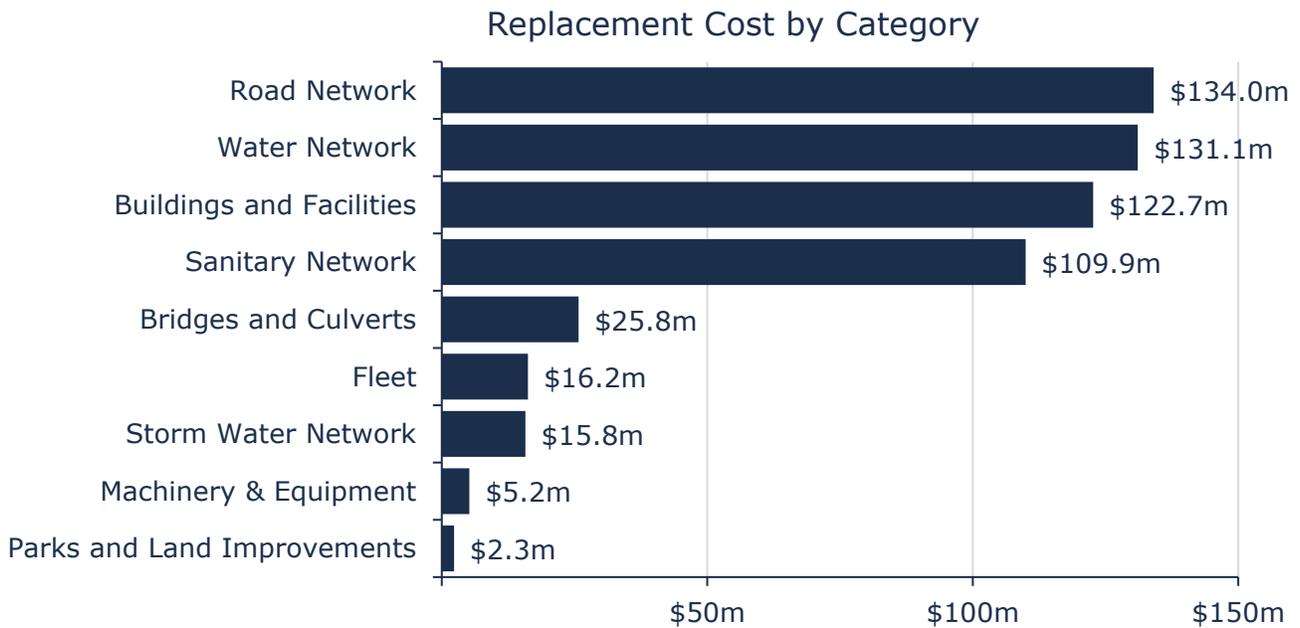


Figure 11 Current Replacement Cost by Asset Category

3.2.2 Condition of Asset Portfolio

Figure 12 and Figure 13 summarize asset conditions at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 64% of the Town’s infrastructure portfolio is in fair or better condition, with the remaining 36% in poor or worse condition. Typically, assets in poor or worse conditions 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 most categories except for fleet, and parks & land improvements. For all remaining assets, age was used as an approximation of condition for

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

Further, when assessed condition data was available, it was projected to current year-end (2024). This 'projected condition' can generate lower condition ratings than those established at the time of the condition assessment. The rate of this deterioration will also depend on lifecycle curves used to project conditions over time.

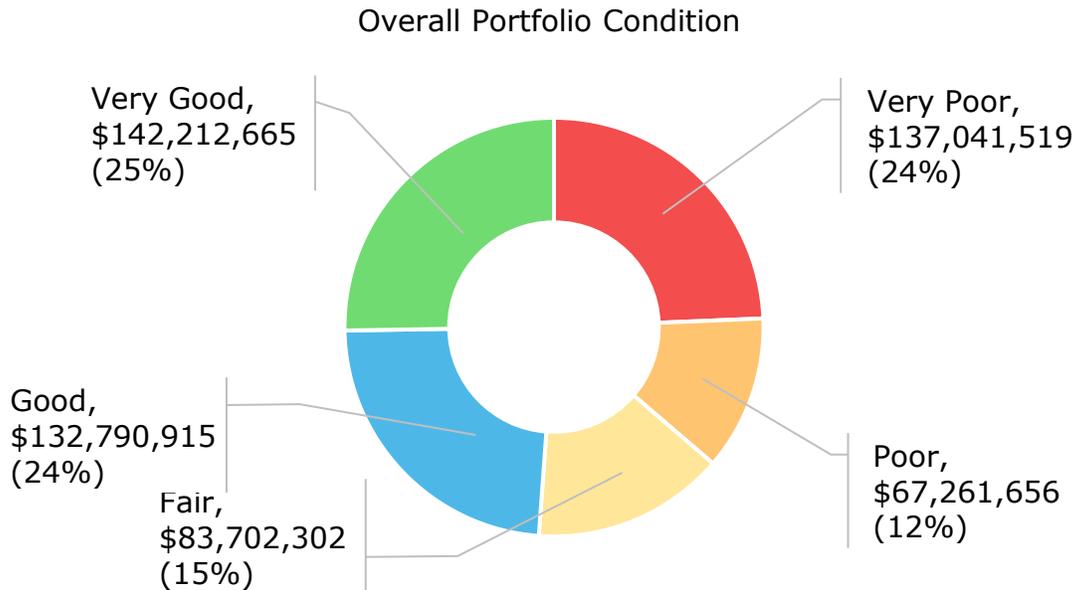
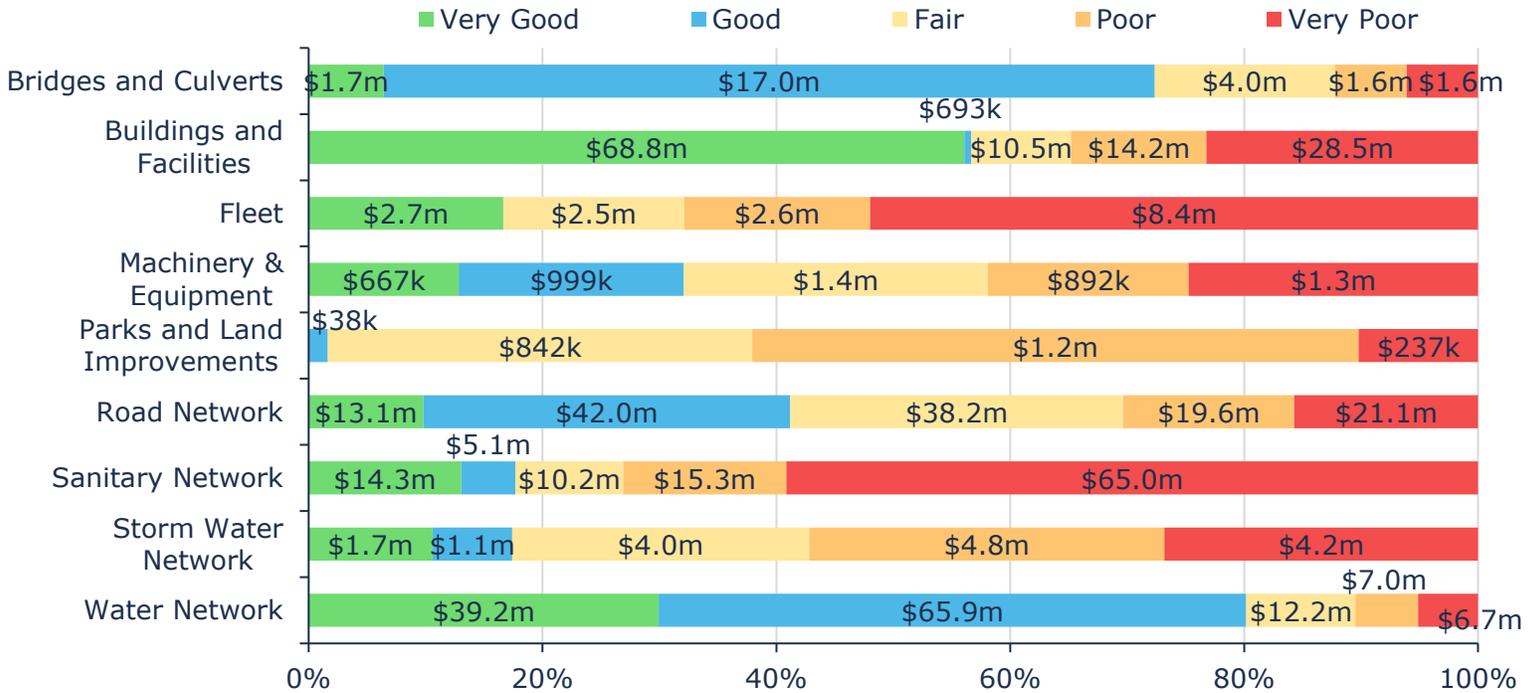


Figure 12 Asset Condition: Portfolio Overview

As further illustrated in Figure 13 at the category level, the majority of major, core infrastructure including roads, bridges, structural culverts, and water network assets are in fair or better condition, based on in-field condition assessment data.

Most buildings & facilities assets are also in fair or better condition, based on recent assessments. See Table 7 for details on how condition data was derived for each asset segment.



Value and Percentage of Asset Segments by Replacement Cost

Figure 13 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. Table 7 below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	HCB Roads	100%	2023 Staff assessments
	LCB ROads	100%	2023 Staff assessments
	Sidewalks	100%	2023 Staff assessments
	Streetights	0%	Age-based
Bridges & Culverts	Bridges	100%	2024 OSIM Report
	Structural Culverts		
Water Network	Facilities	13%	2022 assessments
	Hydrants	100%	2025 assessments

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
	Service Connections & Leads	9%	2025 assessments
	Water Mains	95%	2025 assessment
	Water Meters	0%	Age-based
	Water Valves	0%	Age-based
Sanitary Network	Facilities	15%	2022 assessments
	Manholes	0%	Age-based
	Sanitary Mains	97%	2025 assessments
Stormwater Network	Box Culverts	100%	2022 assessments
	Box Structure	0%	Age-based
	Catch Basin Lead	7%	2021 assessment
	Cross Culvert	33%	2022 assessments
	Entrance Culvert	57%	2022 assessments
	Stormwater Lateral	11%	2022 assessments
	Stormwater Main	6%	2022 assessments
Buildings and Facilities	Administration	30%	2022 assessments
	Community Services	100%	
	Fire	100%	
	Parks & Recreation	100%	
	Public Works	100%	
Parks and Land Improvements	All	0%	Age-Based
Fleet	All	0%	Age-Based
Machinery and Equipment	Fire	0%	Age-Based
	IT Assets	92%	2025 staff assessments
	Parks and Recreation	100%	2025 staff assessments
	Public Works	100%	2022 staff assessments

Table 7 Source of Condition Data

3.2.3 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, approximately 28% of the Town’s assets will require replacement within the next 10 years. This is based on all

assets at the end of their useful life however, and it does not reflect the proposed replacement schedule based on the selected Proposed LOS option.

Service Life Remaining by Category

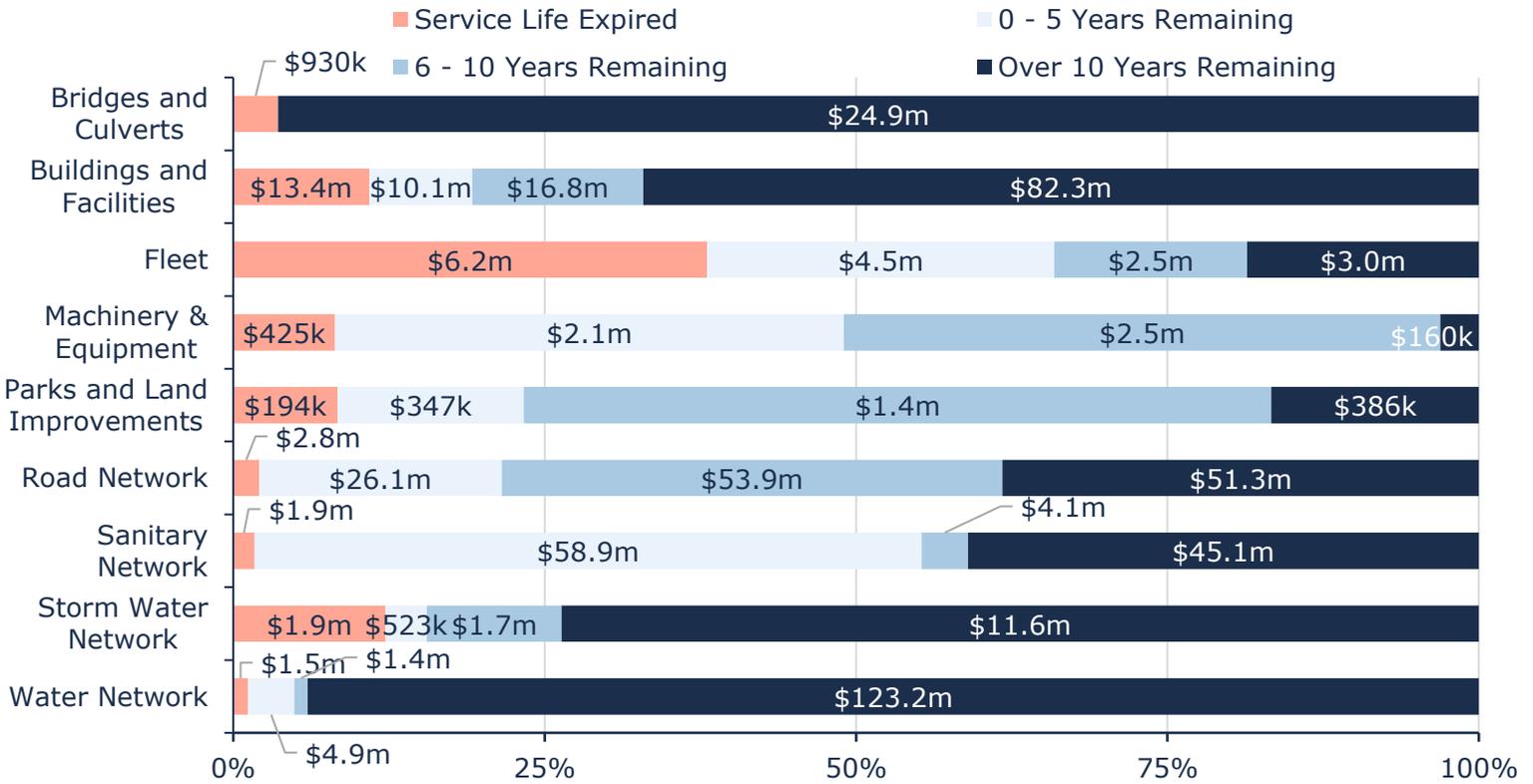


Figure 14 Service Life Remaining by Asset Category

3.2.4 Risk Matrix

Using the risk equation and preliminary risk models, Figure 15 shows how assets across the different asset categories are stratified within a risk matrix.



Figure 15 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 33% of the Town's assets, with a current replacement cost of approximately \$187.7 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 and are deemed most essential to the Town.

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 were 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 Town 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. Portfolio Risks & Growth Assumptions

4.1 Qualitative Risk

The Town has noted key trends, challenges, and risks to service delivery that they are currently facing. The most prominent qualitative risks across all asset categories are:

Aging Infrastructure & Capital Funding Strategies



Many assets in the Town are approaching the end of their useful life and are declining in condition. Affordability constraints limit the Town's ability to increase investment to the optimal level. Assets are projected to decline in condition despite increases in funding. Mitigating forecasted reductions will require investment from other sources such as grant and additional strategies such as asset disposal as noted in section 5.4.1

Infrastructure Design & Extreme Weather Events



Past designs of some municipal assets including facilities, bridges, and stormwater assets have impacted staff's ability to effectively manage assets under today's demands and weather patterns. As noted in section 5.4.2. some bridge assets have load restrictions as of their most recent inspections. Some storm assets have issues with surcharges during heavy rains, and some facility assets have some patterns of issues with wind damage and roof ice build-up. Staff will continue to monitor assets, especially during severe weather, and replace them with more appropriately design assets. Despite these mitigation efforts, this remains a general risk.

4.2 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 Town 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.

4.2.1 Greater Napanee Official Plan (Adoption Draft - May 2025)

The Town of Greater Napanee updated its Official Plan in 2025, replacing the 2014 plan, to establish a long-term policy framework to guide growth, land use, and infrastructure planning through to 2044. The Plan integrates community health, environmental protection, and economic well-being with physical development decisions across the municipality.

Key infrastructure and asset management priorities include:

- **Integrated Planning:** The Plan mandates that infrastructure planning be integrated with land use planning to ensure systems are available to meet current and projected growth needs.
- **Financial Viability:** A core objective is ensuring infrastructure is financially viable over its entire life cycle, supported by comprehensive asset management planning and a capital works forecast updated annually.
- **Optimizing Existing Assets:** The Town prioritizes optimizing existing infrastructure and public service facilities before considering the development of new systems.
- **Sustainable Servicing:** Development is primarily directed to urban areas with full municipal services. For large-scale projects, the Town requires preliminary engineering and servicing studies to address the long-term economic expansion of water, sewer, and storm systems.
- **Climate Resiliency:** Infrastructure design must now consider impacts from climate change, promoting "green infrastructure" and innovative stormwater management approaches to minimize long-term risks and costs.

4.2.2 Growth Analysis and Urban Land Needs Report – County of Lennox & Addington (2023)

The Growth Analysis and Urban Land Needs Report (September 2023) inform the County of Lennox & Addington’s Official Plan update by establishing long-term population, housing, and employment forecasts. Greater Napanee’s growth strategy conforms to these County-wide projections and provincial land-use requirements. Key details include:

Population Forecasts

As illustrated in Table 8 below, by 2051, Greater Napanee’s population is forecast to reach approximately 12,500 residents, an increase of 4,200 people from 2021.

Table 8: County of Lennox & Addington: Summary of Historical and Forecast Population by Local Municipality, 2001 to 2051

Characteristic	Loyalist	Greater Napanee	Stone Mills	Addington Highlands
Population 2001	15,139	15,702	7,623	2,492
Population 2021	17,943	17,300	8,021	2,597
Population Share 2021	39%	38%	17%	6%
Population 2051	27,600	21,500	9,600	3,200
Population Share 2051	45%	35%	16%	5%
Population Growth 2021-2051	9,657	4,200	1,579	603
Population Growth Share	60%	26%	10%	4%

Housing and Employment Forecasts

Greater Napanee is projected to add 2,021 permanent residential units by 2051, representing a significant increase over historical annual levels. During this same period, employment is forecast to rise by 2,309 jobs, bringing the total to 10,740.

4.3 Impact of Growth on Lifecycle Activities

As indicated in Table 8 above, Greater Napanee is expected to experience steady population and employment growth through 2051. This expansion necessitates an asset management strategy that moves beyond the simple maintenance of existing assets to consider anticipated future infrastructure changes due to growth. The Development Charges Background Study provides important insights into anticipated infrastructure impacts due to population growth.

Development Charges Background Study

In accordance with the Development Charges Act (D.C.A), 1997 the Town of Greater Napanee has identified the forecasted growth-related capital expenditures from new development based on a period of 10 years. Section 5(1) 6 of the D.C.A. provides that, "the increase in the need for service must be reduced by the extent to which an increase in service to meet the increased need would benefit existing development." Common examples of benefit to existing development include:

- Repair or unexpanded replacement of existing assets in need of repair
- Increase in average service level of quantity or quality
- Providing services where none previously existed
- The elimination of a chronic problem not created by growth

Based on these criteria the Development Charges Background Study has identified projects with benefit to existing development and determined their associated cost share. As these costs cannot be recovered from Development Charges they are considered a cost of growth, and they are factored in the proposed LOS cost forecasts and associated (i.e. financial) analysis completed herein. This meets the requirements of O.Reg. 588/17 section 6.i., which requires the identification of costs arising from growth.

A rolled-up version of the benefit to existing costs identified by tax-funded and rate-funded assets is summarized in Table 9 below. These costs have been factored into the financial analysis for the selected proposed LOS option. This is further detailed in Section 6.

Table 9: Infrastructure Growth Cost Estimates

Benefit to Existing: Infrastructure Growth Cost											
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Tax-Funded Assets	\$650 K	\$650 K	\$725 K	\$650 K	\$2.45 M	\$650 K	\$7.725 M				
Water Network	\$1.8 K	\$1.131 M	\$1.8 K	\$1.8 K	\$1.8 K	\$1.146 M					
Sanitary Network	\$6.147 M	\$3.133 M	\$1.710 M	\$20.078 M							

5. Proposed Levels of Service

5.1 Overview

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

Current LOS reflects the current community or technical LOS for (most often) a group of assets as of a defined *past* measurement date. In contrast, a Proposed LOS reflects the Municipality's *goal* for asset performance by a define *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.

The third iteration of municipal Asset Management Plans required under O. Reg. 588/17 requires the evaluation of Proposed LOS levels of service (LOS) that includes:

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 are achievable; and
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; and
3. Identification of proposed funding projected to be available.

Please note: Proposed Levels of Service within this 2025 AMP document focus on service levels related to infrastructure and general capital assets like roads, buildings, and machinery and equipment. The Town of Greater Napanee has established department service levels that are framed around department specific legislation (such as O.Reg 343/22 and O. Reg. 239/02) and primarily relate to minimum service standards for operational activities. Some examples of these are the frequency of road patrols and snow ploughing (governed by O. Reg. 239/02) or firefighting protection service standards (governed by O. Reg. 343/22) like fire suppression from the exterior of a building. An overview of service standards by department are available for public review [here](#).

5.2 Proposed LOS Options & Analysis

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

1. Strategic Plan Document Review
2. Resident Survey Analysis
3. Staff Survey Analysis

4. State of the Inventory Review and Consideration.

Key details from these four areas of focus are detailed below.

5.2.1 Strategic Plan

The Town of Greater Napanee's [Strategic Plan](#) is intended to guide the core element of the Town's identity and their future goals. It is built around its mission to:

Deliver an exceptional standard for sustainable municipal services and foster an engaged community for people and businesses.

While the plan is likely to be updated with the new term of Council, it does identify some infrastructure considerations of relevance to asset management in general. This includes the success factor of understanding infrastructure requirements to support service delivery. This goal is a foundational objective of asset management. Another important and relevant goal is the identification of efficient work processes with decisions informed by good information and associated systems. The objectives of asset management generally, and within the 2025 AMP, align and support the Town's broader strategic goals.

5.2.2 Resident Engagement

The Town of Greater Napanee issued a resident budget survey to inform 2026 budget decisions. The survey was open to the public to complete between September 20th, 2025, and October 29th, 2025. In total, 336 responses were received, representing a 4.5% household response rate. Except for ward 5, response rates were equally distributed by ward. Most respondents (64%) are long-time residents of Greater Napanee residing in the Town for more than 10 years, and almost all others have resided in the Town for between 1-5 years (17.3%) and 6-10 years (17.6%). In almost all cases (99.4%), respondents were over 18, with the majority between 65-75 (24.4%) followed by 55-64 (20.8%). This indicated that survey responses represented most municipal wards equally and most age groups were evenly represented.

The survey addressed residents' existing satisfaction levels, service level desires and investment priorities, and sentiments around current and potential future tax levels, all of relevance to determining suitable Proposed LOS. Key findings from the surveys are:

Existing Satisfaction levels:

Respondents were asked to assess the quality of service. Figure 16 summarizes responses and indicates that across most categories about one-third of respondents deem services "good". Recreation facilities had the highest rate of poor (24%) and very poor (12%) whereas fire protection had the highest rate of very good (37%).

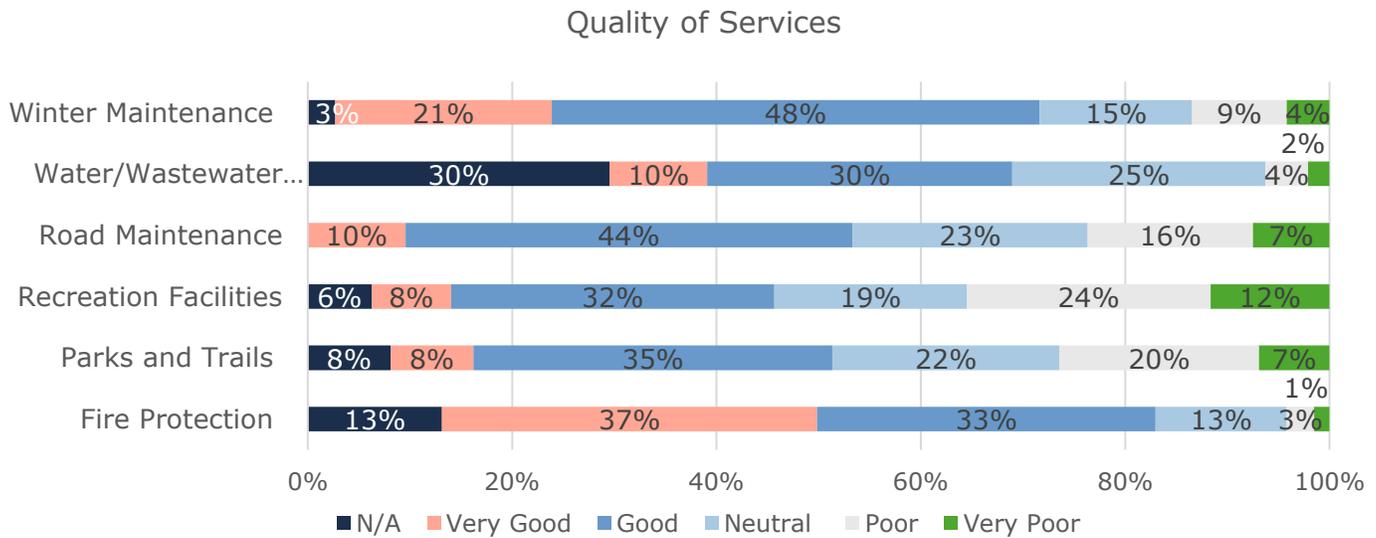


Figure 16: 2026 Budget Survey, Quality of Service

Service Level Desires and Priorities:

The survey also sought to determine whether residents desired service changes. As indicated in Figure 17 below across all asset categories (except recreation) most respondents seek to maintain current service levels and almost no respondents seek to reduce service levels. The desire to enhance service levels is highest for recreation facilities (57%) followed by parks and trails (41%), and road maintenance (30%).

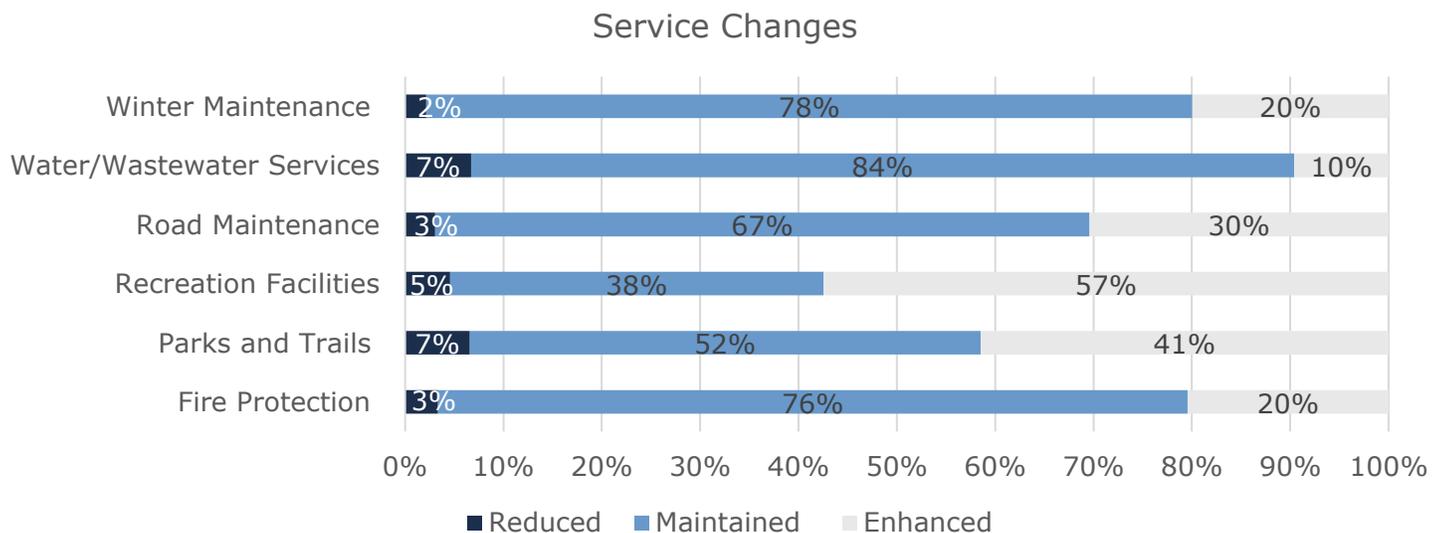


Figure 17: 2026 Budget Survey, Desired Service Changes

Priorities for capital projects were also explored in the budget survey. Respondents were asked to identify their top three priorities for capital investments. Similar patterns emerged, with most respondents identifying parks and recreation or community facilities (both 23%) as their priority followed by road and bridge maintenance (16%). This is summarized in Figure 18 below.

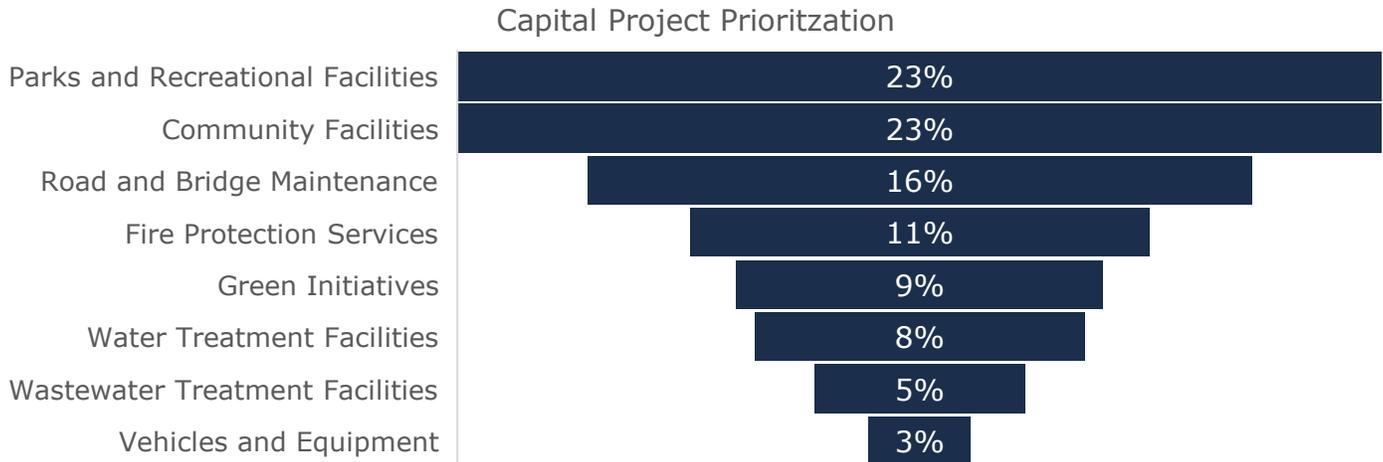


Figure 18: 2026 Budget Survey, Capital Project Prioritization

Current and Future Tax Levels:

Assets require investment throughout their lifespan. When establishing proposed LOS, it is important to understand what the investment requirements are and how willing residents' are to fund them. When asked how respondents feel about current level of property taxes, most indicated satisfaction with current levels (48.2%), however a notable percentage indicated current taxes are too high (41%).

How do you feel about the current level of property taxes?

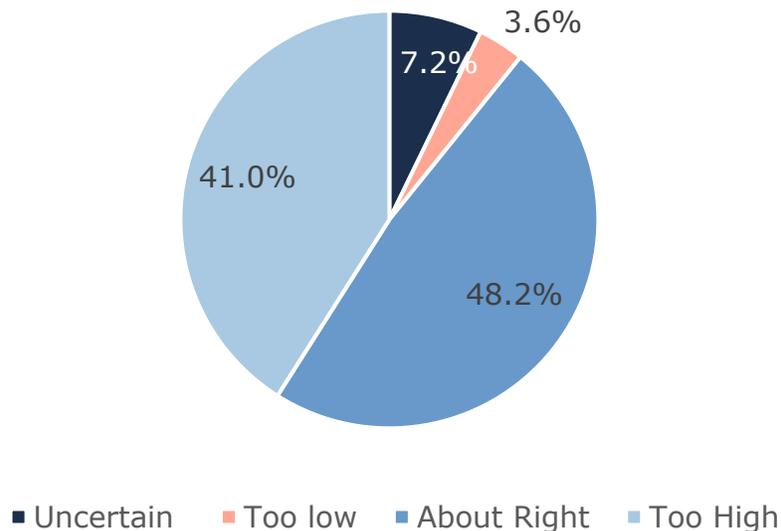


Figure 19: 2026 Budget Survey, Taxation Sentiment

A similar pattern emerged in response to the question: would you support a modest increase in property taxes if it means maintaining or enhancing the level of services provided by the municipality? As reflected in Figure 20 below, most respondents (45%) do not support a tax

increase but almost an equal amount (39%) does support modest increases. This indicates mixed sentiment over increased taxation levels to support infrastructure needs.

Would you support a modest tax increase?

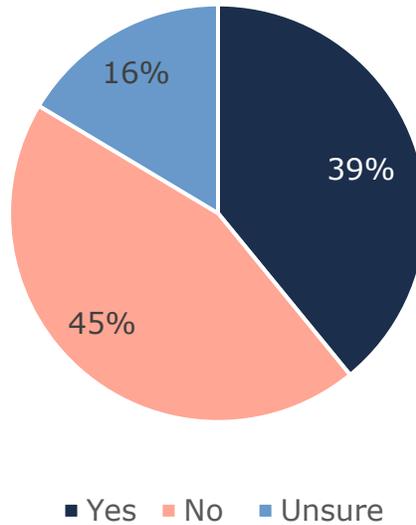


Figure 20: 2026 Budget Survey, Tax Increase Sentiment

5.2.3 Staff Engagement

Staff involved in the daily operations, capital planning, and capital projects for the Town of Greater Napanee were surveyed 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 from these surveys are:

- Most staff have moderate-to-high confidence in the data used to calculate current LOS.
- Except water and sanitary network categories all asset categories were identified to have insufficient resources (Staff and money).
- Sufficient resources were identified for water and sanitary network assets at this time, but noted increases would be required to support expansion projects.
- Across all asset categories staff identified that 2024 LOS should be *increased or maintained*; more often the response was to increase.
- Across multiple asset categories comments noted:
 - Budget limitations as a significant barrier
 - In many cases replacement budgets were the primary issue identified
 - In some cases, maintenance budgets were noted to be very high, in most cases deferred replacements were noted as the primary cause.

This indicates that the proposed LOS should be at least to maintain or to increase current service levels. Additionally, it indicates that operational considerations, especially regarding staffing levels, are recommended for consideration in operating budgets and associated long-term planning (i.e. hiring, duties etc.).

5.2.4 Council Engagement

Members of Greater Napanee’s Council (2022-2026 term) were also surveyed to inform Proposed LOS options. The survey sought to identify high-priority assets for capital reinvestment, gauge the tolerance for tax adjustments, and establish a balance between immediate resident expectations and the future sustainability of the Town’s service levels.

Figure 21 illustrates Council’s perception of resident complaint volumes across various asset categories. The data indicates that complaint levels are generally viewed as manageable, with most responses falling into the *Expected/Anticipated* or *Rarely Hear* categories, and zero respondents indicating there are “Too Many Complaints”.

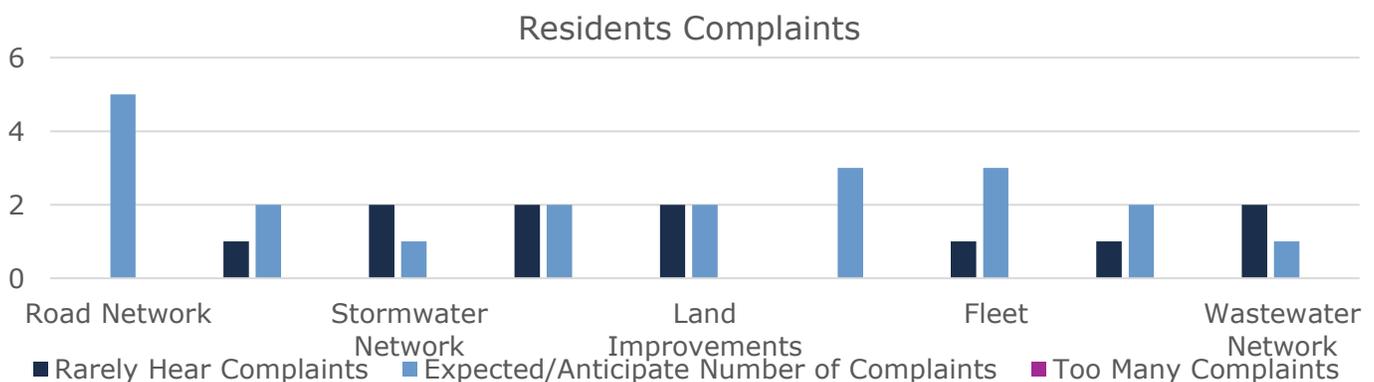


Figure 21: Residents’ Complaint Levels by Asset Category

Where complaints are received, council most often indicated staff responsiveness is sufficient. This is summarized in Figure 22 below. This indicates general effectiveness in operations as both the number of complaints received is considered at least at expected levels and most respondents identify staff responses to complaints as sufficient.

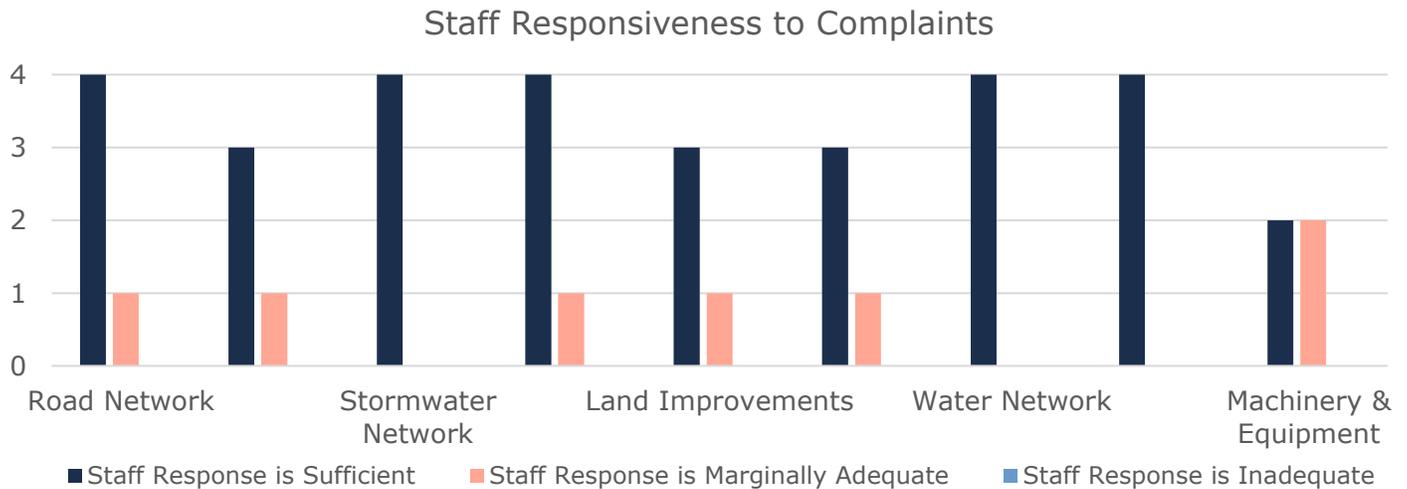


Figure 22: Staff responsiveness to complaints

Recognizing that the optimal level of funding is significantly less than the current funding available and that prioritization in investment is required, the survey sought to understand capital investment priorities. Figure 23 below outlines the capital priorities identified by Council. Fleet emerged as the clear First Priority, receiving the highest number of top-ranking votes, while the Road Network and Sanitary Network were frequently cited as second or third priorities. In conversation with staff, it was identified fleet’s high priority may have been due to recent deliberations surrounding emergency services fleet assets.

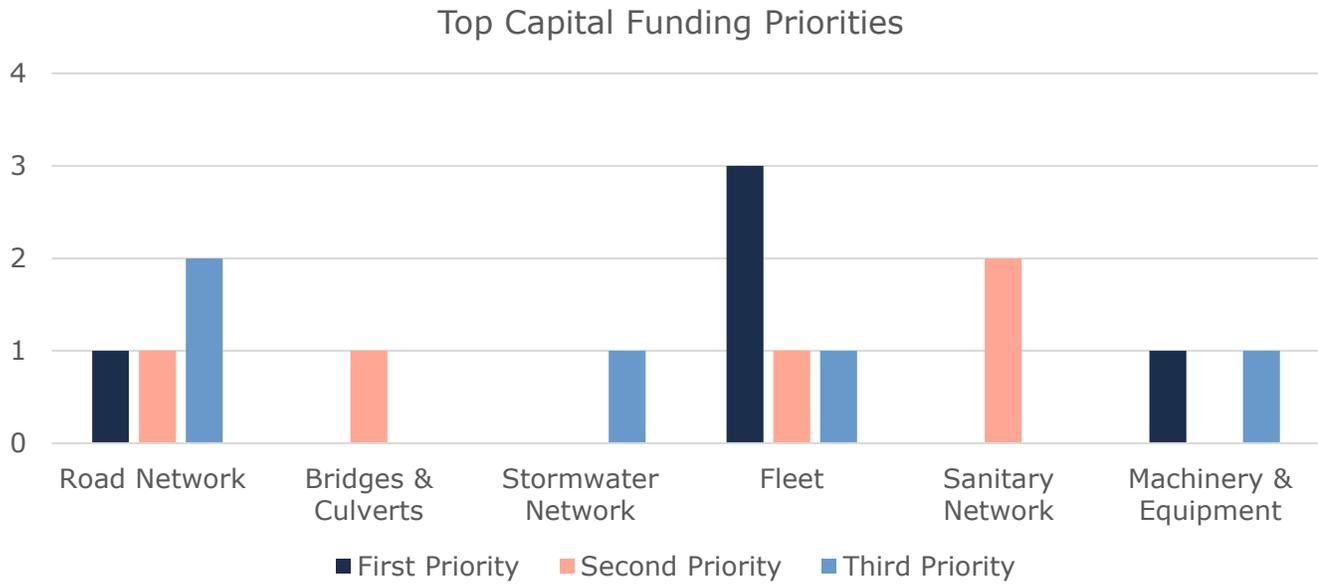


Figure 23: Top funding priorities

The survey also sought to understand councils preferred financial approach for changes in capital investment. As illustrated in Figure 24, 60% of Council prioritized a balance of investment needs with affordability considerations, while the remaining 40% supported meeting the target reinvestment rate only if accompanied by moderate taxation increases. This indicates the while council recognizes the need for increased investment they are limited by affordability constraints.

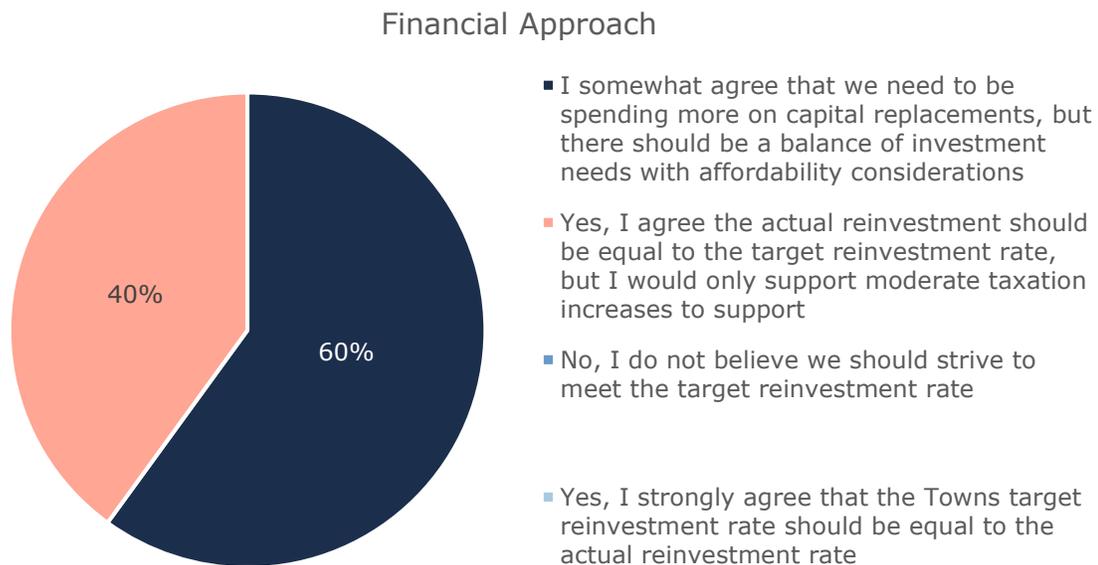


Figure 24: Financial Approach

When asked about the capital funding prioritization approach, 60% of Council favored a targeted strategy to increase funding to top priority asset categories first. This contrasts with the 40% who preferred to increase funding to all categories proportionally to ensure consistent benefits across the entire portfolio.

Capital Funding Prioritization Approach

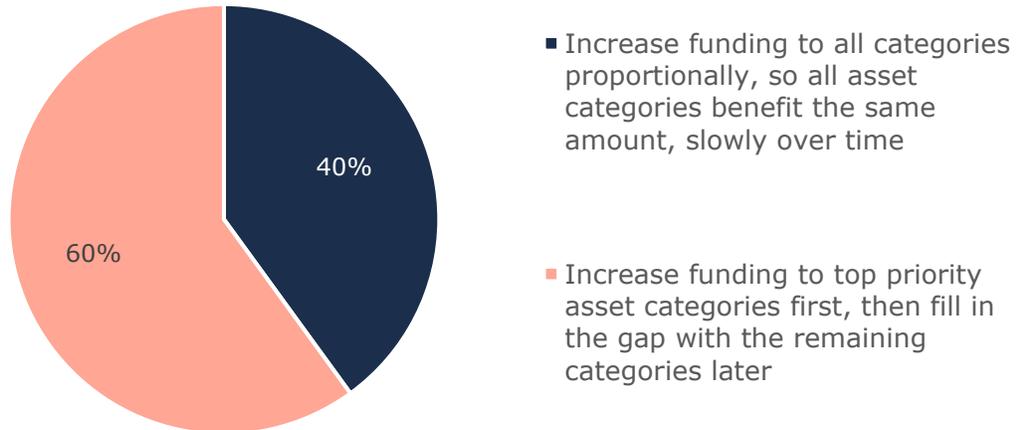


Figure 25: Capital Funding Prioritization Approach

The survey findings established that council recognize the need to increase investment, while also noting the constraints of affordability and considering a prioritization investment approach. Figure 26 displays Council’s tolerance for annual capital funding increases. All respondents indicated a willingness to increase taxes annually. A slight majority (60%) endorsed a rate of 4-5% per year to stabilize funding in approximately 10 years, while the remaining 40% preferred a more gradual approach of 2-3% per year over a 15-year horizon.

Capital Funding Increase Amounts

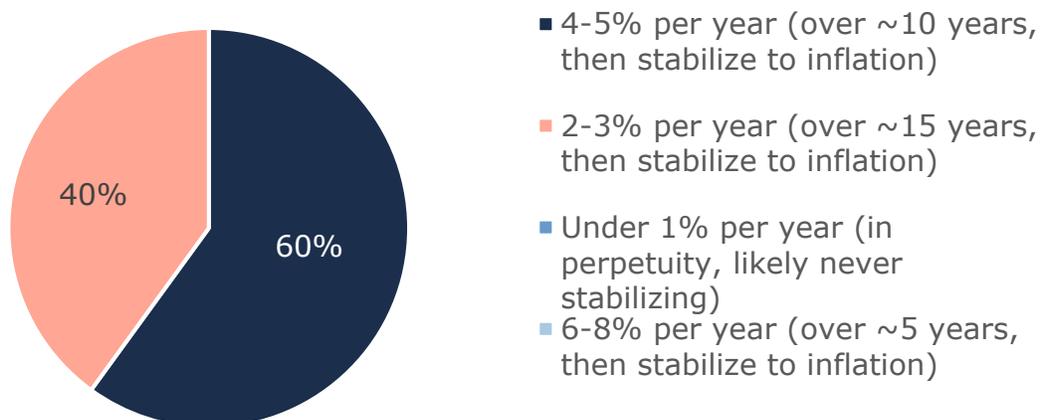
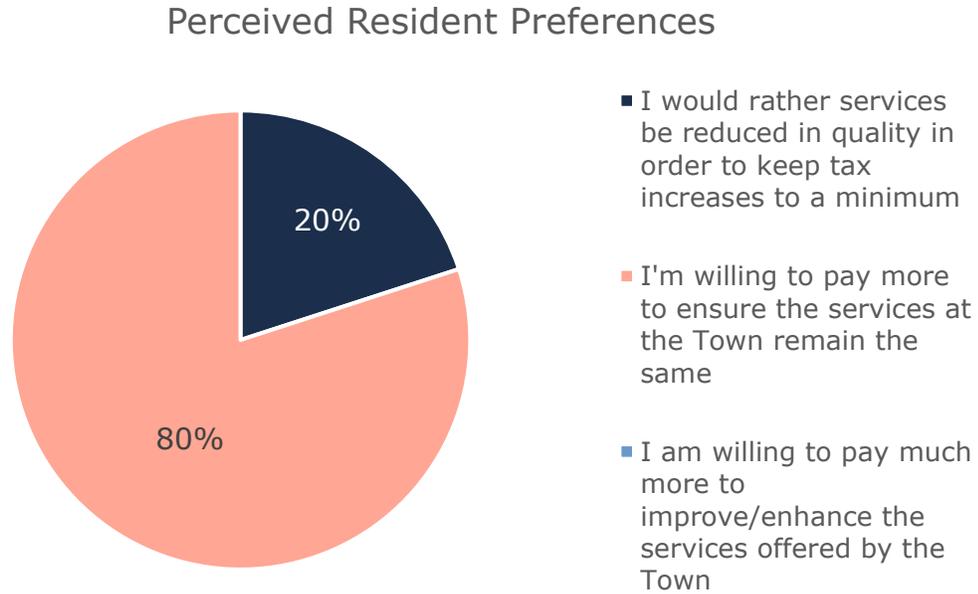


Figure 26: Preferences for increasing capital funding

Councils' desire to modestly increase taxes is supported by their assessment that most residents are willing to pay more to ensure the services at the Town remain the same. This is indicated in Figure 27 below.

Figure 27: Perceived resident preferences



5.2.5 State of the Inventory Review and Consideration.

As presented in section 3 and further detailed in Appendices A to I, the Town of Greater Napanee has a significant asset inventory with a total estimated replacement cost of over \$563 million. As of 2024-year end, the average condition of the portion was 54% and more than 64% of assets were in fair or better condition.

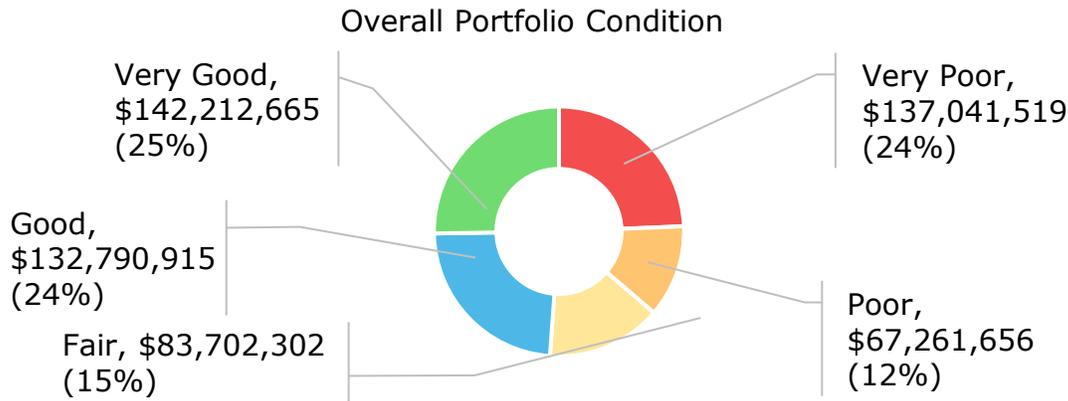


Figure 28: Portfolio Condition

An *optimal* average annual capital investment, which would enable the replacement of every single asset at the end of its useful life and the completion of recommended rehabilitations, is over \$17 million. This is significantly greater than current average annual capital funding of \$4,983,000.

Considering the average annual capital investment required compared to the current investment the condition of the portfolio is expected to decline over time. This is primarily due to many assets not being replaced at the end of their life, resulting in an increasing proportion of assets in use (and in poor condition) beyond their expected life.

5.2.6 Proposed LOS Options

Findings from the stakeholder surveys, strategic documents, and the state of the inventory, were consolidated, and a meeting was held with the Town to review and discuss findings.

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

Table 10: Proposed LOS Options

Scenario	Description
1: Current Investment Levels	Model the long-term impact of continuing with the current investment levels
2: Maintain Current Condition	Model investments required to maintain current condition levels (based on average conditions as of December 2024)
3: 2.5% annual Increase to Priority	Model a 2.5% annual funding increase from baseline levels for priority asset categories (Roads, Bridges, Fire, Fleet & Heavy Equipment), while maintaining current investment levels for all other asset categories.

5.3 Proposed LOS 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. Recall, the proposed LOS options are as follows:

Table 11: Proposed LOS Options

#	Scenario Description
1	Maintain Current Investment
2	Maintain Current Condition Levels
3	Targeted 2.5% annual for Roads, Bridges, Fire Fleet and Heavy Equipment, Maintain investment otherwise

Table 12: Risks Associated with PLOS Options

Risks Associated with Proposed LOS Options			
Scenar io(s)	Relative Severity	Risk Identified	Risk Defined
1	High	Reliance on Grants	Increased capital funding requirements are deemed not palatable to ratepayers and council does not approve budget levels. Therefore, additional investment required can only be funded by conditional grants, as they become available. While grants and senior government funding reduces the burden on rate payers, they are considered an unsustainable revenue source. The Town will be more vulnerable to changes in provincial and federal policy and funding programs.
2	Low		
3	Moderate		
1	High	Increased Infrastructure Backlog	The Town's current average annual capital investment is much less than the average annual capital requirement. Therefore, for many years assets are underfunded, and lifecycle management is not
2	Low		

Risks Associated with Proposed LOS Options			
Scenario(s)	Relative Severity	Risk Identified	Risk Defined
3	Moderate		optimal. Reduced and/or deferred lifecycle activities threaten reliability and increase the potential for costly (and unbudgeted) repairs to maintain service.
1	High	Increased Rate of Asset Failure	Underinvestment in assets will result in a lower average condition and an increased rate of asset failure. This will affect the reliability of infrastructure, and the quality of service provided.
2	Low		
3	Moderate		
1	High	Increased Severity of Asset Failure	Underinvestment in assets is correlated to an increased severity of asset failure. This may mean that assets are beyond the point of repair and require premature replacement. In some instances, this may result in a period where the Town does not have functional assets that are critical to their operations.
2	Low		
3	Moderate		
1	High	Negative Operational Impacts	Many of the Town's assets are critical enablers of operating activities within the Town. For example, fleet assets like ploughs ensure the streets are clear of snow, and fire fleet assets provide staff with access to emergencies. As assets decline in condition and are increasingly more likely to fail, the risk of not being able to effectively carry out critical work increases.
2	Low		
3	Moderate		
1	High	Liability	As assets decline in condition there is a general increase in liability risk to the Town. Liability increases due to an increased potential for asset failure due to declining conditions. This may impact the extent of work that can be completed and/or the quality of it. This could have impacts on compliance with other regulations such as O. Reg. 239/02 for municipal roadways or O. Reg 714/94 for fire safety gear.
2	Low		
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 M. Table 13 below summarizes the average risk scores for each proposed LOS option. Average risk and end risk are lowest for scenario 2: Maintain current condition. It is highest for scenario 1: maintain current investment; risks are slightly lower for scenario 3: Annual 2.5% increase for priority categories.

Table 13: Average Risk by Scenario

Scenario	Entry Risk	Average Risk	End Risk
1. Maintain Current Investment	10.86	16.62	18.32
2: Maintain Current Condition	10.77	12.15	11.96
3: Annual 2.5% increase for Priority	10.86	15.32	16.18

Risk and condition are dynamic and change over time. Each scenario has been modelled by asset category; Figure 29 below illustrates how condition scores are forecasted to change over time by scenario.

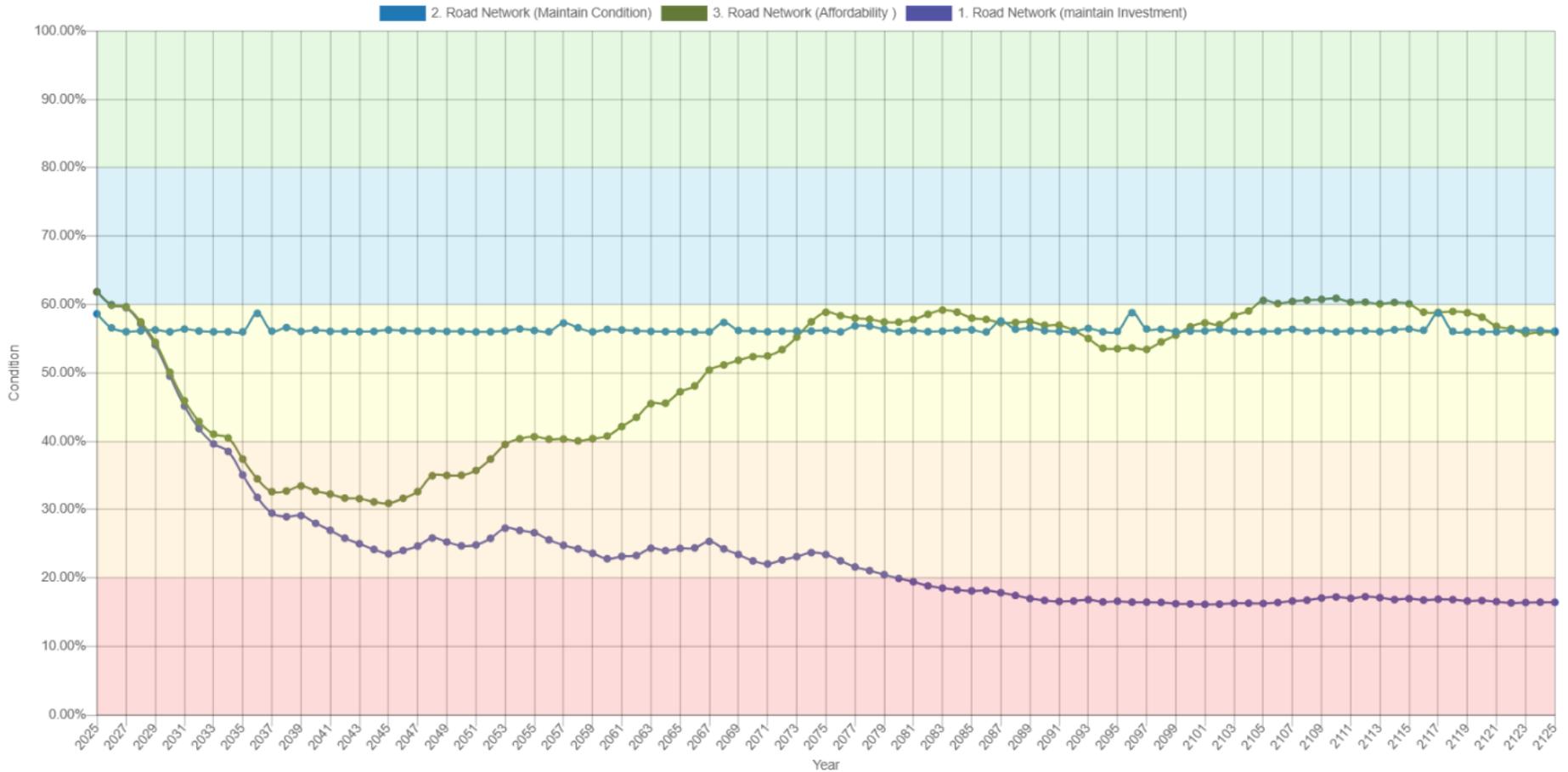


Figure 29: Road Network Proposed LOS Options Condition Projections

Typically, risk increases as condition decreases (and visa-versa). Figure 30 illustrates the projected risk profiles for the road network under three distinct scenarios. Scenario 1 results in the highest risk profile, showing a steady increase over the forecast period. In contrast, Scenario 2 maintains a consistent level of risk, while Scenario 3 depicts a variable trend where risk levels rise initially before decreasing over time.

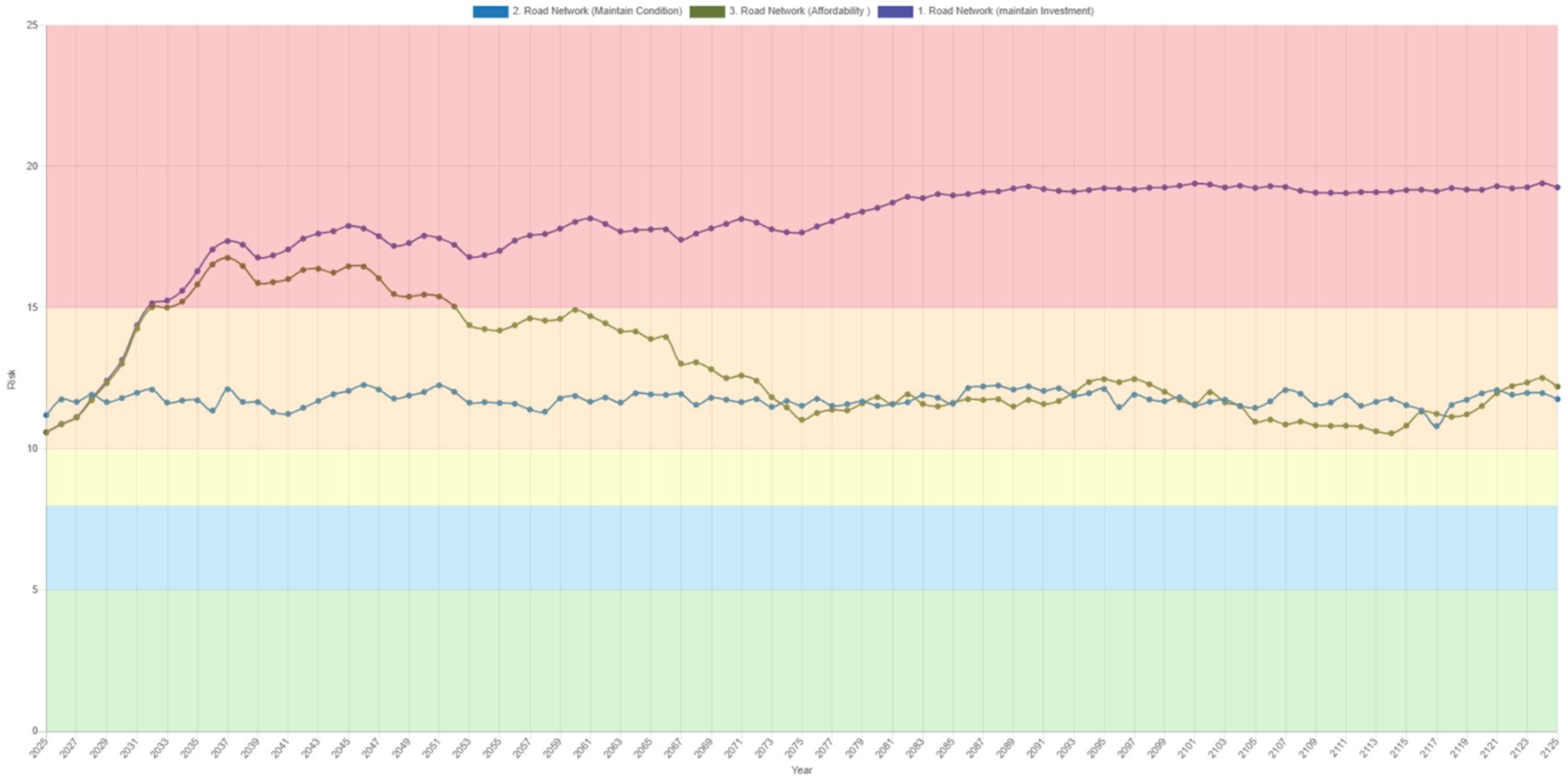


Figure 30: Road Network Risk by Scenario

Across all asset categories, the patterns between each of the scenarios are generally like those illustrated for the road network. Additional graphs are provided for reference in Appendix L: PLOS Scenario Comparison These patterns can be described as follows:

- Condition declines most rapidly under scenario 1: Maintain current investment. Across all asset categories average condition reaches very poor by 2060, or earlier.
- While condition declines under scenario 3: Affordability, the rate of decline is slower for the priority asset categories (fleet, bridges & Culverts, roads) and in the long-term condition begins to increase towards the original condition scores.
- Scenario 3: Maintain Condition provides the best outcomes in both condition and risk for all asset categories. While conditions naturally fluctuate over the period due to the lifecycle of assets, the end condition and the average conditions are close to the starting conditions. Similar patterns occur with risk scores.

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. Scenario 3 targets investment in priority asset categories while balancing the competing desires for affordability and asset performance and reliability. Scenario 1 does not target investment in priority categories but provides important understanding of future projected outcomes in condition and risk if current investment levels continue. Scenario 2 identifies the funding increase required to maintain condition, providing practical insights into the feasibility of supporting residents' goals.

Tax increases required are highest for scenario 2: Maintain current condition, second highest for Scenario 3: Annual 2.5% Increase for Priority Categories, and lowest for scenario 1: Maintain Current Investments. The same ranking occurs for rate funded assets. This is summarized in Table 14 below.

Table 14: Scenario Options, Affordability & Strategic Alignment

Scenario	Annual Service Level Deficit: Tax	Annual Service Level Deficit: Rate	Affordability Rank	Strategic Alignment
1. Maintain Current Investment	\$0	\$0	Most Affordable	Low
2: Maintain Current Condition	\$7,512,000	\$1,209,000	Least Affordable	Moderate
3: Annual 2.5% increase for Priority	\$1,597,000 ³	\$0	Mid Affordability	

5.3.3 Achievability

The Financial Strategy (Section 6) provides details into affordability analysis of the selected option. Some key considerations when reviewing all Proposed LOS options are:

- **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 Town staff to complete.
- **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) and oversee capital projects. It reflects the Town's modest administration staff complement and the many diverse duties and responsibilities that staff already hold.

³ Represents deficit at year 20.

Table 15: Achievability Factors of Proposed LOS Options

Scenario	Achievability Limitations		
	Resourcing	Sustained Council Support	Internal Capacity
1. Maintain Current Investment		Low	
2: Maintain Current Condition		High	
3: Annual 2.5% increase for Priority		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 Town of Greater Napanee selected the following:

Tax Funded Assets: Scenario 3: 2.5% annual increase to Priority Asset Categories

Rate Funded Assets: Scenario 2: Maintain Existing Conditions

5.4.1 Required Lifecycle Strategies

The following tables details the anticipated lifecycle strategy changes that are required to meet the proposed LOS:

Table 16: Lifecycle Strategies to Support Proposed LOS

Asset Category	Lifecycle Changes to Reach PLOS	AMP Section
Road Network		7.7
Bridges & Culverts		7.13
Water Network	Continuing with current lifecycle strategies as identified. Increase capital spending for priority asset categories. Consider asset disposal and procurement practices (discussed below) for all assets.	7.19
Sanitary Network		7.25
Stormwater Network		7.31
Buildings and Facilities		7.37
Parks and Land Improvements		7.43
Fleet		7.49
Machinery and Equipment		7.55

While projected future LOS metrics are anticipated to be met with increased capital spending as noted in Table 16 above, the Town of Greater Napanee has identified additional lifecycle strategies to further support and potentially improve future actual LOS metrics. These are:

- **Asset Disposals:** The Town intends to review the existing inventory of assets to identify assets that are candidates for disposal with no planned replacement. Reducing assets under ownership and thereby their annual capital requirement, allows investment to be reallocated to more critical assets. This improves the percentage of the Average Annual Requirement (AAR) funded and outcomes in condition and risk.
- **Procurement Policy:** The [Town's Procurement Policy](#) outlines processes, requirements, and goals of procurement. It advances a series of objectives that support prudent decisions, including:
 - To obtain the best value for the Town when procuring goods and service(s) and construction. Best value is based on technical merit and quality and may not be the lowest price. Best value may be based on the total lifecycle costs (overviewed 2.3.2) of the asset rather than the acquisition cost. Making asset acquisitions decisions with consideration of total lifecycle costing provides important financial cost efficiencies. This is another strategy that often increases the funds available to support assets and may positively impact the actual LOS metrics.

Changes to Community and Technical Levels of Service for Scenario 1

Greater Napanee anticipates that any changes to qualitative community levels of services will align with changes in technical levels of service. For example, if the average condition declines (a technical LOS) the community LOS would reflect a reduced condition as well.

5.4.2 Proposed LOS Over 10 Years

The proposed LOS is based on each asset category's metrics and the funding levels as discussed earlier. Table 17 below summarizes the proposed LOS overtime. The trend box indicates how the metric is projected to change over the 10-year period.

Table 17: Proposed LOS Metric, Average Condition

Category	% Condition	'24	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Average Condition ⁴													
Road Network	HCB Roads	59	62.27	58.42	56.44	54.72	50.16	48.18	46.60	41.38	35.95	31.17	Decreasing
	LCB Roads	52	62.85	60.83	56.74	52.23	45.01	39.73	41.84	47.21	45.94	40.38	Decreasing
Fleet	good or very good	16	23.51	24.02	24.30	5.96	4.27	3.50	4.26	2.39	2.41	1.73	Decreasing
	poor or very poor	67	62.05	63.43	73.35	74.90	74.58	76.28	92.16	95.22	94.51	94.42	Increasing
Machinery & Equipment	good or very good	32	25.88	11.78	6.12	3.61	3.41	3.11	3.75	3.89	3.69	3.34	Decreasing
	poor or very poor	42	53.36	69.44	74.86	74.34	90.41	93.08	94.03	95.26	94.37	94.21	Increasing
Parks and Land Improvements	good or very good	2	2.64	3.27	1.25	2.09	1.47	1.80	1.80	2.16	2.16	2.94	Decreasing
	poor or very poor	62	92.49	95.11	95.11	94.27	95.89	94.93	95.55	97.00	97.00	97.06	Increasing
Buildings & Facilities	good or very good	56	64.57	64.45	64.04	63.37	63.44	63.11	63.22	62.99	61.85	61.84	Decreasing
	poor or very poor	34	29.26	29.77	32.92	34.15	34.77	35.58	35.57	35.60	35.93	36.28	Increasing

⁴ Where metric is the percentage of asset in very good and good or poor and very poor, it is weighted by replacement cost. Please note percentage of assets in fair condition is not included and therefore reported values do not add to 100. Throughout all values are weighted by replacement cost.

Category	% Condition	'24	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Bridges and Culverts	Bridges	63	60	58	56	54	52	50	48	46	44	46	Decreasing
	Structural Culverts	71	67	65	63	61	59	57	55	53	51	49	Decreasing
Storm Network	good or very good	17	17.03	16.88	16.99	16.01	14.81	14.92	14.14	13.59	12.87	12.98	Decreasing
	poor or very poor	57	57.53	64.13	65.17	73.98	77.60	78.14	78.05	78.01	78.01	80.60	Increasing

Table 18: Proposed LOS Metrics, Capital Reinvestment Rate

Category	'24	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Capital Reinvestment Rate												
Road Network	1.72%	1.76%	1.80%	1.85%	1.89%	1.94%	1.99%	2.04%	2.09%	2.14%	2.20%	Increasing
Buildings and Facilities	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	Maintaining
Fleet	0.63%	0.65%	0.66%	0.68%	0.70%	0.71%	0.73%	0.75%	0.77%	0.79%	0.81%	Increasing
Machinery & Equipment	0.87%	0.89%	0.91%	0.93%	0.96%	0.98%	1.01%	1.03%	1.06%	1.08%	1.11%	
Parks and Land Improvements	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	0.49%	Maintaining
Bridges and Culverts	0.21%	0.21%	0.22%	0.22%	0.23%	0.24%	0.24%	0.25%	0.25%	0.26%	0.27%	Increasing

Category	'24	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Storm Network	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	
Water Network	0.92%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	Maintaining
Sanitary Network	0.85%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	

Table 19: Proposed LOS Metrics, Average Risk

Category	'24	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	Trend
Stormwater Network	7.13	7.35	7.35	7.46	7.49	7.54	7.77	7.90	8.17	8.25	8.32	8.42	
Buildings and Facilities	9.4	11.96	12.15	12.74	12.91	13.84	15.18	16.03	16.42	16.48	15.55	15.85	
Parks and Land Improvements	15.79	16.76	17.99	18.08	18.07	19.84	20.66	20.68	20.69	20.73	20.72	20.71	Increasing
Fleet	17.54	17.70	18.08	18.68	19.78	20.39	20.51	21.35	21.69	21.65	22.49	22.57	
Machinery and Equipment	9.3	11.27	12.37	12.61	13.12	14.08	14.24	14.77	14.78	14.79	14.80	14.76	

Table 20: Mandated LOS Metrics

Mandated LOS Metrics (Core Assets only)				
Category	Metric	2024	2025-2034	Trend
Road Network	Lane-km of arterial roads per land area (km/km ²)	N/A		
	Lane-km of collector roads per land area (km/km ²)	0.44 km/km ²	2024 levels +/- 5%	Maintain
	Lane-km of local roads per land area (km/km ²)	0.56 km/km ²	0.51 km/km ²	
Bridges & Culverts	% of bridges in the Town with loading or dimensional restrictions	13% ⁵	2024 levels +10-15%	Declining
	Average bridge condition index value for bridges in the Town	63%	46-60%	Declining
	Average bridge condition index value for structural culverts in the Town	71%	49-67%	Declining
Water Network	% of properties connected to the municipal water system	100% ⁶	2024 levels	Maintain
	% of properties where fire flow is available	100% ⁷		
	# 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	0-1	Maintain ⁸

⁵ % of bridges with load restrictions are calculated using load restriction data from the OSIM 2024 report and are weighted by replacement cost.

⁶ Within service boundary limits, Sandhurst Shores, and along County Road 8

⁷ Within service boundary limits, Sandhurst Shores, and along County Road 8

⁸ The Town works hard to ensure that adverse events like water main breaks and boil water advisories do not occur. These projections are based on historic performance with consideration that adverse events are not an impossibility.

Mandated LOS Metrics (Core Assets only)				
Category	Metric	2024	2025-2034	Trend
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	0	0-1	
	% of properties connected to the municipal sanitary system	100% ⁹	100%	
Sanitary Network	# of connection-days per year having sanitary backups compared to the total number of properties connected to the municipal sanitary system	1 at most	0-1	Maintain
	# of effluent violations per year due to sanitary discharge compared to the total number of properties connected to the municipal sanitary system	0	0-1	
Stormwater Network	% of properties in municipality resilient to a 100-year storm		TBD ¹⁰	
	% of the municipal storm sewer management system resilient to a 5-year storm			

⁹ Within service boundary limits, Sandhurst Shores, and along County Road 8.

¹⁰ Currently, the Town does not have accurate storm mapping to determine this metric. The Town intends to better understand this value in time.

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 Town of Greater Napanee to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

1. The financial requirements for:
 - a. Existing assets
 - b. Existing service levels
 - c. Requirements for contemplated changes in service levels (none identified in the 2024 AMP)
 - d. Requirements of anticipated growth (Refer back to 4.2)

This plan (2025 AMP) identifies the financial requirements to meet the identified proposed LOS. Like the 2024 AMP, 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 5.1) and additional financial impacts from economic and population growth. The financial plan considers and accounts for traditional and non-traditional sources of municipal funding, which are:

2. Use of traditional sources of municipal funds:
 - a. Tax levies
 - b. User fees
 - c. Debt
 - d. Development charges
3. Use of non-traditional sources of municipal funds:
 - a. Reallocated budgets
 - b. Partnerships
 - c. Procurement methods
4. Use of Senior Government Funds:
 - a. Canada Community-Building Fund (CCBF)
 - b. Annual grants

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

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

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

6.1 Proposed LOS: Annual Requirements & Capital Funding

6.1.1 Annual Requirements

The annual requirements represent the amount the Town should allocate annually to each asset category to meet the proposed LOS. For the Town of Greater Napanee, the proposed LOS provides for an annual capital investment increase of \$1,596,982 for tax funded assets and for water and sanitary assets respectively an increase of \$494,009 and \$715,446. For tax funded assets, this funding increase will result in funding 33% of the average annual requirement (AAR). Generally, this means that under this proposed LOS tax funded assets are being replaced later than recommended. However, it should be noted that this level of investment is an increase from the current level of investment (on average 21% AAR funded) and furthermore it is an increase for priority categories. This means that for priority asset categories (marked with an asterisks) the proposed LOS is still higher than it would be if existing levels of capital funding continued. This is summarized below:

Table 21: AAR Funded by Tax Funded Asset Category

Asset Category	Current AAR Funded	AAR Funded under PLOS
Road Network*	31%	51%
Buildings and Facilities	9%	9%
Fleet*	9%	15%
Machinery & Equipment*	9%	15%
Parks and Land Improvements	9%	9%
Bridges and Culverts*	9%	15%
Storm Network	9%	9%
Average	21%	33%

For rate funded assets, a similar dynamic occurs; the percentage of the AAR funded is significantly higher than current levels based on the selected Proposed LOS. This is summarized in Table 22 below.

Table 22: AAR Funded by Rate Funded Category

Asset Category	Current AAR Funded	AAR Funded under PLOS
Water	64%	90%
Sanitary Network	50%	89%

For many assets in the Road Network, Bridges and Culverts, Sanitary Network (facilities segment only), and the Water Network (facilities segment only), lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal in addition to asset replacement. The development of these strategies represents expert recommendations for asset renewals which in most cases extend the lifespan of the asset through improvements to condition. In many cases, these strategies provide a lower average annual cost when compared to a replacement only strategy. For most non-core asset categories, the annual requirement has been calculated based on a “replacement only” scenario, in which capital costs are only incurred at the construction and replacement of each asset

6.1.2 Funding Objective

We have developed a scenario that would enable Town of Greater Napanee to achieve full funding required to meet the proposed LOS within 1-20 years for the following assets:

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

Note: For the purposes of this AMP, we have excluded gravel roads since they are a perpetual maintenance asset and end of life replacement calculations do not normally apply. If gravel roads are maintained properly, they can theoretically have a limitless service life.

6.2 Financial Profile: Tax Funded Assets

6.2.1 Current Funding Position

The following tables show, by asset category, Greater Napanee’s average annual asset investment requirements, current funding positions, and funding increases required to achieve the proposed LOS funding levels by year 20¹¹.

Asset Category	AAR (PLOS)	Annual Funding Available				Annual Deficit
		Taxes	CCBF	OCIF	Total Available	PLOS
Road Network	3,768,255	657,214	520,209	1,122,233	2,299,656	1,468,598
Buildings and Facilities	308,814	308,814			308,814	
Fleet	167,723	102,357			102,357	65,367
Machinery & Equipment	73,821	45,051			45,051	28,770
Parks and Land Improvements	11,347	11,347			11,347	
Bridges and Culverts	87,875	53,627			53,627	34,247
Storm Network	21,589	21,589			21,589	
Total	4,439,424	1,200,000	520,209	1,122,233	2,842,442	1,596,983

Table 23 Annual Available Funding for Tax Funded Assets

The average annual investment requirement to meet the proposed LOS by year 20 for the above categories is \$4,439,424. Annual revenue currently allocated to these assets for capital purposes is \$2,842,442 leaving an annual deficit of \$1,596,983. Put differently, 64% of the investment required to meet the proposed LOS is currently available.

¹¹ Under this scenario the capital funding increases every year by an additional 2.5% from the previous year. For the purposes of financial analysis, the capital requirement is the funding needed by year 20.

6.2.2 Full Funding Requirements

The 2026 budgeted tax revenues are \$17,383,850. As illustrated in Table 24 below, without consideration of any other sources of revenue or cost containment strategies, full funding (by year 20) would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding (year 20)
Road Network	8.4%
Buildings and Facilities	No change required
Fleet	0.4%
Machinery & Equipment	0.2%
Parks and Land Improvements	No change required
Bridges and Culverts	0.2%
Storm Network	No change required
Total	9.2%

Table 24 Tax Increase Requirements for Full Funding

The following changes in costs over the next number of years should also be considered in the financial strategy:

- a) The Town of Greater Napanee is anticipated to incur capital costs associated with growth that are considered Benefits to Existing development and may not be funded by development charges. These costs must be funded through the taxation base. These estimates are defined in the [Town’s Development Charges Background Study](#) and noted in Table 25 below.
- b) The Town of Greater Napanee’s debt payments for these asset categories will be decreasing by \$140,744 in 2044.

Our recommendations include accounting for the Benefits to Existing Development and allocating future debt changes to the infrastructure deficit outlined above. The table below outlines the financial impacts of not reallocating and reallocating debt and presents several time-period options:

Table 25: Tax Base Funding Required without debt Reallocated

Time (Years)	Without Debt Reallocated			
	5	10	15	20
Infrastructure Deficit (PLOS) ¹²	700,405	700,405	1,121,055	\$1,596,983
Change in Debt Costs	N/A	N/A	N/A	N/A
Plus, Benefit to existing Growth Costs	\$1,025,000	\$852,000	\$611,667	\$573,438
Net Investment Required:	<u>1,725,405</u>	<u>1,552,905</u>	<u>1,732,722</u>	<u>2,170,420</u>
Tax Increase Required	9.9%	8.9%	10.0%	12.5%
Annually:	2.0%	0.9%	0.7%	0.6%

Table 26: Tax Base Funding Required with Debt Reallocation

Time (Years)	With Debt Reallocated			
	5	10	15	20
Infrastructure Deficit (PLOS) ¹³	700,405	700,405	1,121,055	\$1,596,983
Change in Debt Costs	0	0	0	140,744
Plus, Benefit to existing Growth Costs	\$1,025,000	\$852,000	\$611,667	\$573,438
Net Investment Required:	<u>1,725,405</u>	<u>1,552,905</u>	<u>1,732,722</u>	<u>2,029,676</u>
Tax Increase Required	9.9%	8.9%	10.0%	11.7%
Annually:	2.0%	0.9%	0.7%	0.6%

¹² Under this scenario investment levels increase by 2.5% each year. The infrastructure deficit represents the total increase required in years 10, 15, and 20 respectively. Funding levels required in years 5 and 10 are based on the 10-year investment requirement. This ensures that the projected outcomes in condition and risk by year 10 are met under each time period option (i.e. 5,10).

¹³ Under this scenario investment levels increase by 2.5% each year. The infrastructure deficit represents the total increase required in 20 years. This ensures that the projected outcomes in condition and risk by year 20 are met under each time period option (i.e. 5,10,15,20).

6.2.3 Financial Strategy Recommendations

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

- a) increasing tax revenues by 2% each year for the next 5 years solely for the purpose of phasing in the funding required to meet the Proposed LOS for the asset categories covered in this section of the AMP. In Year 10 re-examining the current funding relative to the identified needs in years 11-20 to determine additional tax revenue changes required. It is anticipated that annual tax rate increases between 0.6% and 0.7% will be required in years 11-20 to meet the proposed LOS.
- b) Upon debt expiration, reallocating debt payments to capital allocations.
- c) allocating the current CCBF and OCIF revenue as outlined previously.
- d) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
- e) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
- f) Considering other infrastructure strategies to further reduce the average annual requirement as noted under section 5.4.1. Reallocating any realized capital funding due to asset disposal to the remaining asset inventory.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment¹⁴.
2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes may be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

¹⁴ The Town 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.

6.3 Financial Profile: Rate Funded Assets

6.3.1 Current Funding Position

The following tables show, by asset category, Greater Napanee 's average annual asset investment requirements needed to meet the Proposed LOS, their current funding positions, and funding increases require.

Asset Category	AAR(PLOS)	Annual Funding Available				Annual Deficit
		Rates	CCBF	OCIF	Total Available	
Water Network	\$1,699,134	1,205,125	0	0	1,205,125	\$ 494,009
Sanitary Network	\$1,650,946	<u>935,500</u>	0	0	<u>935,500</u>	\$715,446
Total	\$3,350,080	<u>2,140,625</u>	0	0	<u>2,140,625</u>	\$1,209,455

Table 27 Annual Available Funding for Rate Funded Assets

The average annual investment requirement for the above categories is \$3,350,080. Annual revenue currently allocated to these assets for capital purposes is \$2,140,625 thousand leaving an annual deficit of \$1,209,455 million. Put differently, these infrastructure categories are currently funded at 63% of their investment required to meet the proposed LOS is currently available.

6.3.2 Full Funding Requirements

Averaging from 2022-2024, Greater Napanee had annual sanitary revenues of \$5,942,000 and annual water revenues of \$3,228,000. As illustrated in the table below, without consideration of any other sources of revenue, to achieve the funding required to meet the proposed LOS would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	15.3%
Sanitary Network	12.0%

Table 28 Rate Increase Requirements for Full Funding

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

Water Network				
	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit (PLOS)	494,009	494,009	494,009	494,009
Plus: Benefit to Existing	1,842	114,842	77,175	72,467
Debt Changes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net Deficit	<u>495,851</u>	<u>608,851</u>	<u>571,184</u>	<u>566,476</u>
Rate Increase Required	15.4%	18.9%	17.7%	17.5%
Annually:	2.9%	1.8%	1.1%	0.9%

Table 29 Water Rate Increase Options 5-20 Years

Sanitary Network				
	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit (PLOS)	715,446	715,446	715,446	715,446
Plus: Benefit to Existing	2,687,085	2,622,582	2,318,505	2,280,496
Debt Changes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net Deficit	3,402,531	3,338,028	3,033,951	2,995,942
Rate Increase Required	57.3%	56.2%	51.1%	50.4%
Annually:	15.5%	7.4%	4.6%	3.4%

Table 30 Sanitary Rate Increase Options 5-20 Years

6.3.3 Financial Strategy Recommendations

Considering the above information, we recommend the 10-year option for the Water Network and the 20-year option for the sanitary network. This involves full funding being achieved over 10 to 20 years by:

- a) increasing rate revenues by 1.8 % for water services and 3.4 % for sanitary services each year for the next 10 and 20 years respectively. This will enable the funding required to meet the Proposed LOS for the current asset inventory to be achieved within 10 and 20 years respectively.
- b) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
- c) Considering other infrastructure strategies to further reduce the average annual requirement as noted under section 5.4.1. Re-allocating any realized capital funding due to asset disposal to the remaining asset inventory. While opportunities to reduce asset inventory may be more limited for these asset categories, it remains a valuable exercise to explore.

Notes:

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

6.4 Use of Debt

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

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

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

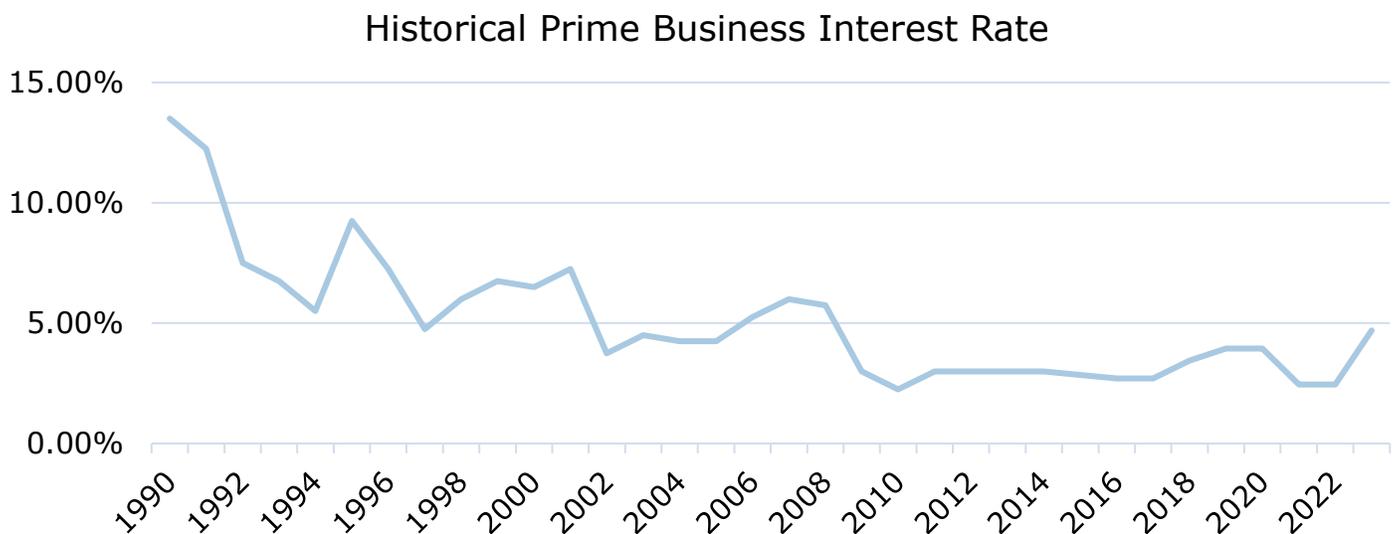


Figure 31 Historical Prime Rate

A change in 15-year rates from 5% to 7% would change the premium from 45% to 65%. Such a change would have a significant impact on a financial plan.

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a \$1 million project financed at 3.0%¹⁵ over 15 years would result in a 26% premium or \$260 thousand of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

Interest Rate	Number of Years Financed					
	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

Table 31 Interest Premiums Paid

The following tables outline how Greater Napanee has historically used debt for investing in the asset categories as listed. As of year-end 2024, there is currently \$2,196,346 debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of \$140,744, well within its provincially prescribed maximum of \$3.6 million.

By 2026, the Town of Greater Napanee is expected to incur additional debts due to a Sanitary expansion project. This will result in debt outstanding of \$16,955,900¹⁶ and corresponding principal and interest payments of \$1,043,315 to be funded by rates.

¹⁵ Current municipal Infrastructure Ontario rates for 15-year money are 4.03%.

¹⁶ This includes \$2,031,876 in existing debt related to the road network plus an additional \$14,924,000 in debt principle related to the sanitary expansion project. While the total debt incurred for the sanitary expansion project is \$25,000,000, 61% of it is covered by rates with the remaining 39% covered by development charges.

Asset Category	Debt Outstanding (2025 YE)	Use of Debt in the Last Five Years				
		2021	2022	2023	2024	2025
Road Network	2,115,230	2,426,861	2,352,104	2,275,285	2,196,346	2,115,230
Buildings and Facilities		1,234,245	716,356	181,916	0	0
Fleet		0	0	0	0	0
Machinery & Equipment		0	0	0	0	0
Parks and Land Improvements		0	0	0	0	0
Bridges and Culverts		0	0	0	0	0
Storm Network		0	0	0	0	0
Total Tax Funded	2,115,230	0	0	0	0	2,115,230
Water Network	0	0	0	0	0	0
Sanitary Network	0	0	0	0	0	0
Total Rate Funded	0	0	0	0	0	0

Table 32 Greater Napanee Use of Debt 2021-2025

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2026	2027	2028	2029	2030	2031	2036
Road Network	140,744	140,744	140,744	140,744	140,744	140,744	140,744
Buildings and Facilities	0	0	0	0	0	0	0
Fleet	0	0	0	0	0	0	0
Machinery & Equipment	0	0	0	0	0	0	0
Parks and Land Improvements	0	0	0	0	0	0	0
Bridges and Culverts	0	0	0	0	0	0	0
Storm Network	0	0	0	0	0	0	0
Total Tax Funded	140,744	140,744	140,744	140,744	140,744	140,744	140,744
Water Network	0	0	0	0	0	0	0
Sanitary Network	1,043,315	1,043,315	1,043,315	1,043,315	1,043,315	1,043,315	1,043,315
Total Rate Funded	1,043,315	1,043,315	1,043,315	1,043,315	1,043,315	1,043,315	1,043,315

Table 33 Greater Napanee Principal and Interest Payments

The revenue options outlined in this plan allow the Town of Greater Napanee to fully fund its long-term infrastructure requirements without further use of debt.

6.5 Use of Reserves

6.5.1 Available Reserves

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

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

By asset category, the table below outlines the details of the reserves currently available to Greater Napanee .

Asset Category	Balance at December 31, 2023
Road Network	
Buildings and Facilities	997,687
Fleet	141,021
Machinery & Equipment	
Parks and Land Improvements	
Bridges and Culverts	
Storm Network	
Total Tax Funded:	1,138,708
Water Network	3,950,794
Sanitary Network	3,950,794
Total Rate Funded:	7,901,588

Table 34 Greater Napanee Reserve Balances

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Town 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:

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

These reserves are available for use in applicable asset categories during the phase-in period to full proposed LOS funding. This coupled with Greater Napanee’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. Increasing tax revenues by 1.4% each year for the next 10 years solely for the purpose of phasing in the funding required to meet the Proposed LOS for the asset categories covered in this section of the AMP. As noted in Section 5.4, the selected Proposed LOS is to increase funding for priority categories, this does not maintain current conditions. Instead, conditions are projected to decline.
2. Increasing rate revenues of 1.8 % for water services and 3.4 % for sanitary services each year for the next 10 and 20 years respectively. This will enable the funding required to meet the Proposed LOS for the current asset inventory to be achieved within 10 and 20 years respectively.
3. Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
4. Considering other infrastructure strategies to further reduce the average annual requirement as noted under section 5.4.1. Re-allocating any realized capital funding due to asset disposal to the remaining asset inventory. While opportunities to reduce asset inventory may carry constraints, it remains a valuable exercise to explore.
5. It is anticipated, based on the selected Proposed LOS, that reserves funds will be increasingly utilized. Currently there are no dedicated reserve funds for several asset categories (road network, machinery and equipment, parks and land improvement, bridges & culverts). It is recommended that the Town explore creating dedicated reserve funds for these assets categories.

7.2 Asset Data

- 1 Continuously review, refine, and calibrate asset data including lifecycle and risk profiles to better reflect current state, actual practices and improve capital projections. In particular:
 - a. Regularly review asset data and incorporate valuable information from reports and studies (i.e. OSIM, Road Needs Studies etc.) into the asset register
 - b. Work towards an internal assessment program. Ensure that the program identifies and documents a standard condition scale, associated definitions and reference examples, frequency of assessments and persons responsible for assessment completion, review, and update to the asset inventory. Review capital forecasts, risks, and priorities for replacement based on any updates to asset condition.

- c. Review the data review and update processes for other related data and information systems such as GIS. Identify opportunities to leverage, streamline, and align updates across systems. This can provide efficiency in terms of time to complete data tasks and improvements to accuracy of informational outputs.
 - d. As assets are acquired or disposed, ensure that this is also reflected in the asset inventory.
- 2 Through this project it was identified that some assets are inspected based on pass/fail criterion only. While this provides benefits to confirm asset operability it is limited in terms of the value of the outputs provided. Consider expanding this assessment to be more specific in the condition evaluation. Resourcing considerations may require that only a portion of the network receive more detailed assessments each year, but this is still expected to provide enhanced value.
- 3 Replacement costs are dynamic and will change over time. Complete regular reviews and updates of replacement costs to improve the value and accuracy of projections. Recent comparable acquisitions are a good reference source for project costs. Additionally inflationary indexes, especially non-residential building CPI for example, can also be a helpful estimation aid.

7.3 Risk & Levels of Service

1. Levels of Service projections have been made based on the selected LOS scenario and the data as of December 2024. It is recommended that actual LOS metrics are reported each year of the forecast period to identify any differences in the actual and projected values. Where differences are material, there is benefit in understanding the cause of the differences.
2. Risk models and matrices can play an important role in identifying high-value assets, and developing an action plan which may include repair, rehabilitation, replacement, or further evaluation through condition assessments. As a result, project selection and the development of multi-year capital plans can become more strategic and objective. Initial models have been built into Citywide for all asset groups. These models reflect current data. As the data evolves and new attribute information is obtained, these models should also be refined and updated.
3. Staff should monitor evolving local, regional, and environmental trends to identify factors that may shape the demand and delivery of infrastructure programs. These can include population growth, and the nature of population growth; climate change and extreme weather events; and economic conditions and the local tax base. This data can also be used to review service level targets.

7.4 Asset Management Policy Review

1. O. Reg. 588/17 requires that the Town's Asset Management Policy be reviewed at least once every five years. The Town's asset management policy should be reviewed to ensure it remains accurate, relevant, and effective. At a minimum the review should be documented and consider the following:
 - a. Review date and documentation of public notification
 - b. Compliance with all 12 sections of the policy (Section 3 of O.Reg. 588/17)
 - c. Clarity of key components, especially consideration of Asset management in budget and financial planning (3,2), key principles (3,4), persons responsible for asset management (3,10), process to ensure alignment of asset management with key policy and associated plans (3,1,6,7).

Appendices

Appendix A: Road Network

The Town’s road network comprises the largest share of its infrastructure portfolio, with a current replacement cost of more than \$134 million, distributed primarily between HCB and LCB roads. The Town also owns and manages other supporting infrastructure and capital assets, including sidewalks, and streetlights.

7.5 Inventory & Valuation

Table 35 and Figure 32 below summarizes the quantity and current replacement cost of the Town’s various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
HCB Roads	71,268	Meters	\$63,573,251	Cost per Unit
LCB Roads	103,115	Meters	\$58,376,374	Cost per Unit
Sidewalks	53,418	Meters	\$10,416,468	Cost per Unit
Streetlights	747	Assets	\$1,680,750	Cost per Unit
TOTAL			\$134,046,843	

Table 35 Detailed Asset Inventory: Road Network

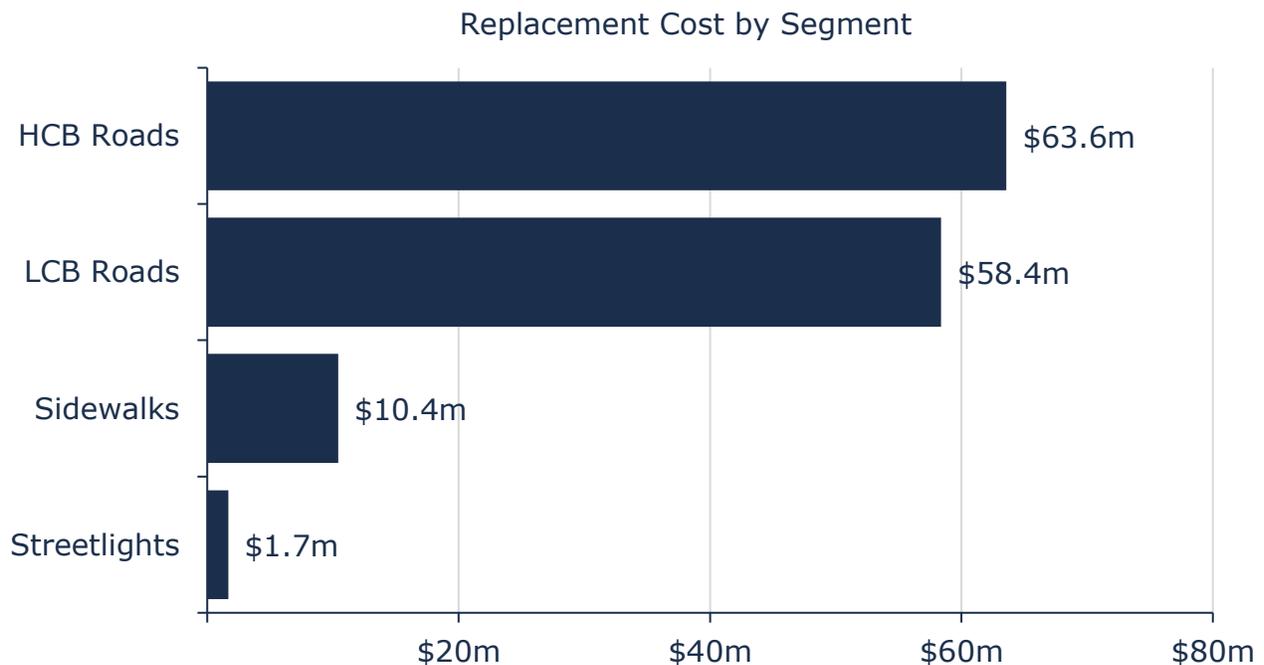


Figure 32 Portfolio Valuation: Road Network

7.6 Asset Condition

Figure 33 summarizes the replacement cost-weighted condition of the Town’s road network. Based on a combination of field inspection data and age, 69% of assets are in fair or better condition; the remaining 31% of assets are in poor to very poor condition.

Condition assessments were available for all paved roads and sidewalks, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remaining asset types.

Assets in poor or worse conditions 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 33, the majority of the Town’s road network assets are in fair or better condition.

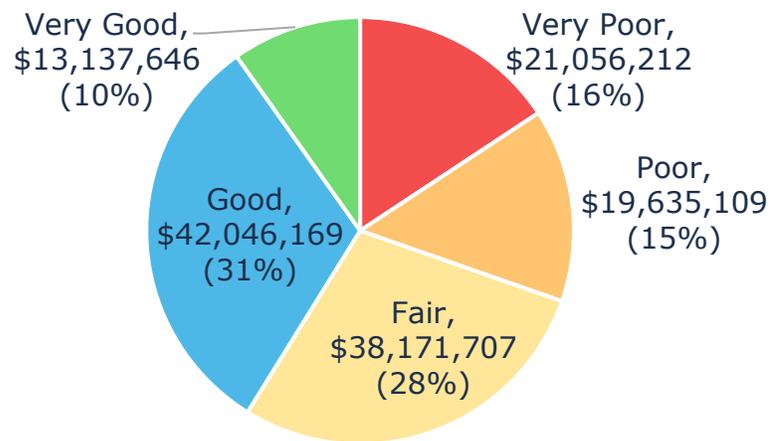


Figure 33 Asset Condition: Road Network Overall

As illustrated in Figure 34, based on condition assessments, the majority of the Town’s HCB and LCB roads are in fair or better condition.

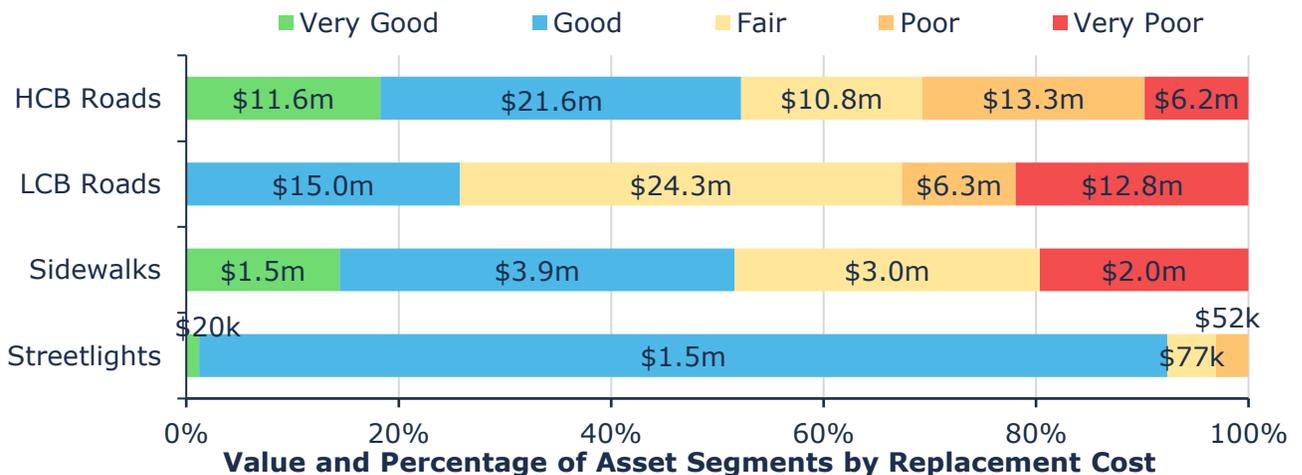


Figure 34 Asset Condition: Road Network by Segment

7.7 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 35 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.

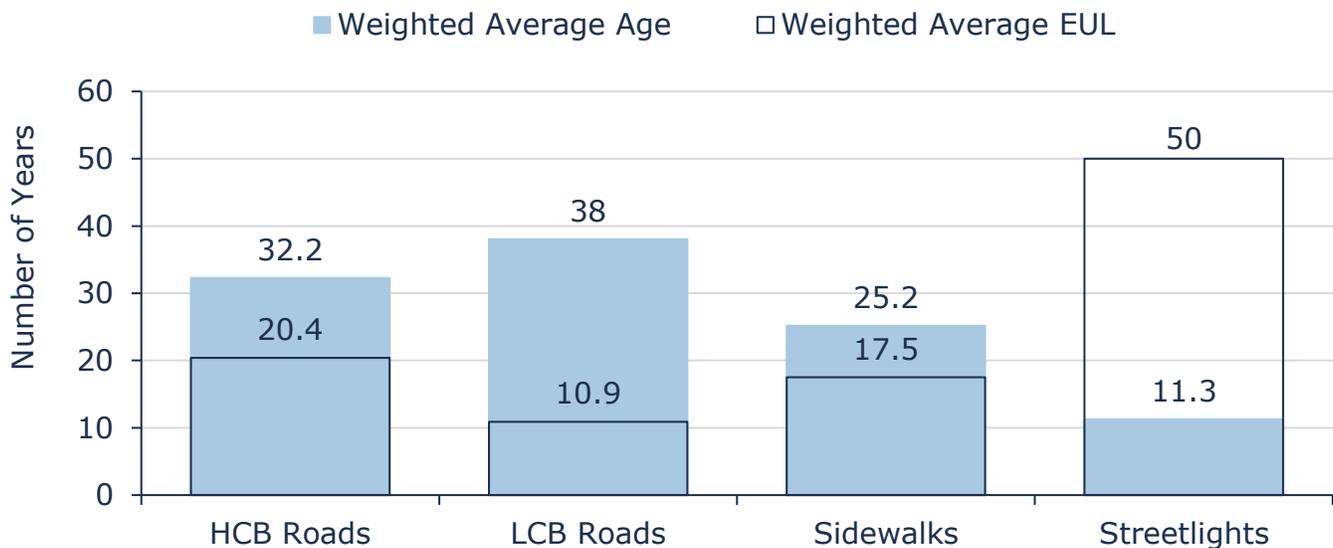


Figure 35 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that HCB roads, LCB Roads, and sidewalks continue to remain in service well beyond their expected useful life. Streetlights are in the early stages of their expected useful life.

Although asset age is an important measurement for long-term planning, condition assessments (available for HCB, LCB, and sidewalk segments) provide a more accurate indication of actual asset needs. Further, useful life estimates established as part of the PSAB 3150 implementation may not be accurate and may not reflect in-field asset performance.

7.8 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 asset’s characteristics, location, utilization, maintenance history and environment.

The following lifecycle strategies have been developed as a proactive approach to managing the lifecycle of HCB and LCB 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.

Paved Roads (HCB)		
Event Name	Event Class	Event Trigger
Rejuvenator	Maintenance	80 to 90 Condition (Repeating)
Crack Seal	Maintenance	80 to 85 Condition (Repeating)
Micro-Surfacing (Double)	Maintenance	70 to 80 Condition (Repeating)
Resurfacing (#1)	Rehabilitation	55 to 70 Condition
Rehabilitation	Rehabilitation	35 to 55 Condition
Resurfacing (#2)	Rehabilitation	55 to 70 Condition
Full Reconstruction	Replacement	35 to 35 Condition After Rehabilitation

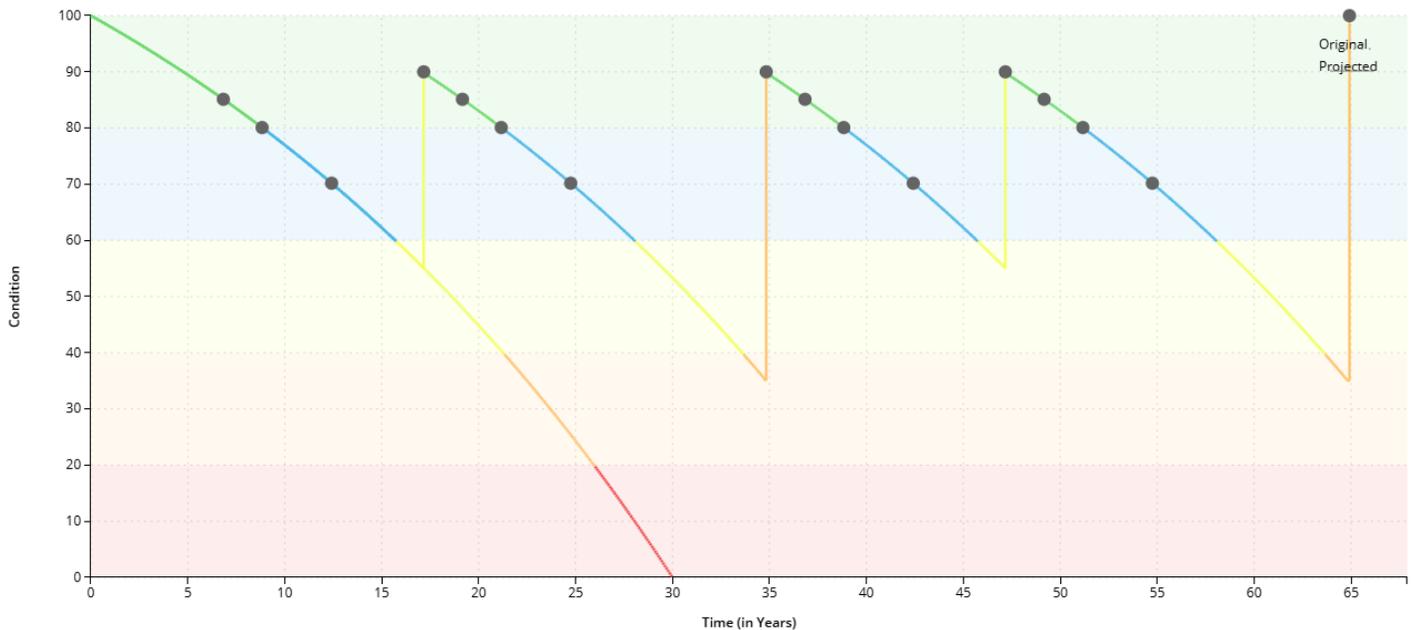


Table 36 Lifecycle Management Strategy: Road Network (HCB Roads)

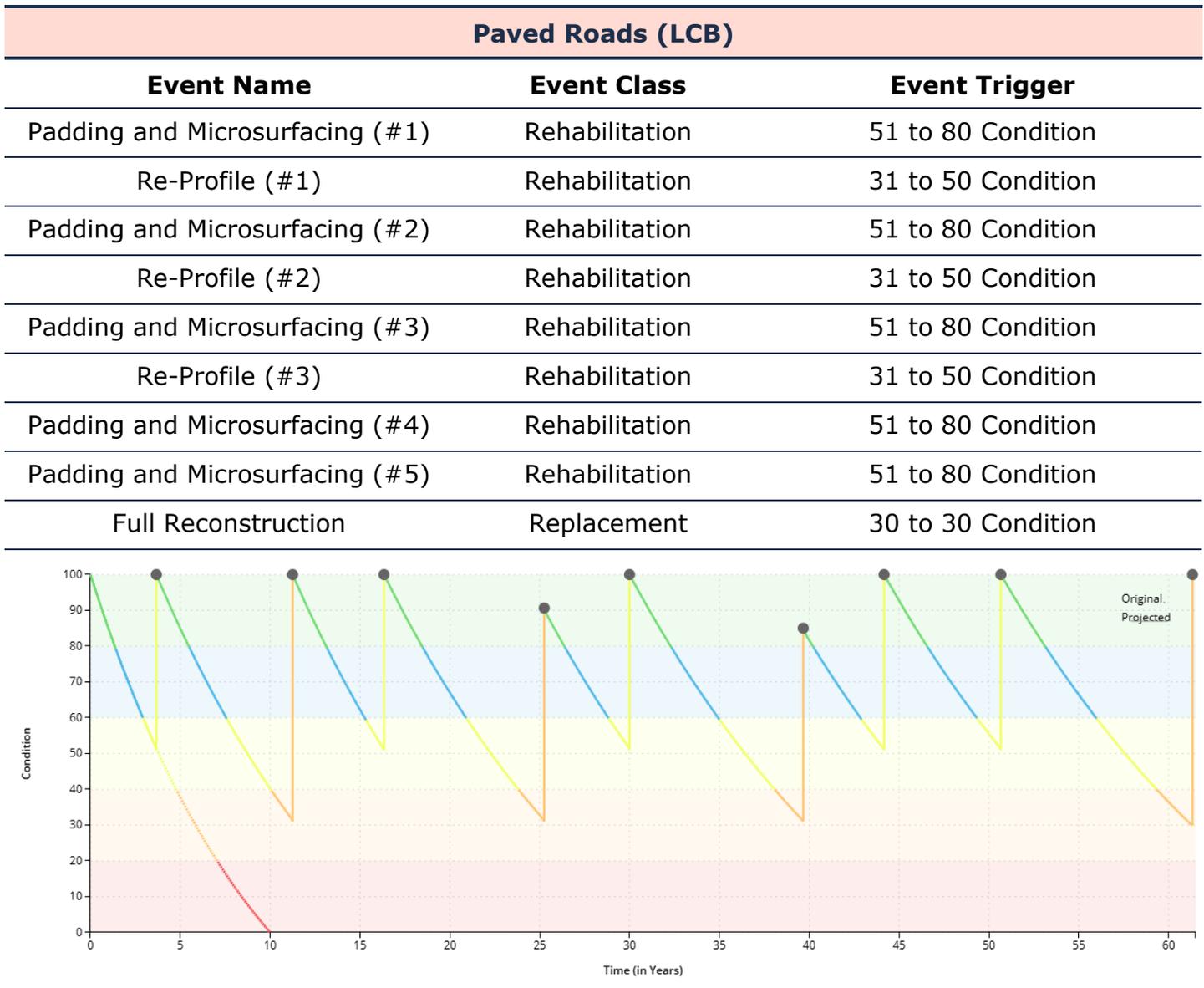


Table 37 Lifecycle Management Strategy: Road Network (LCB Roads)

The following table outlines the Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Inspection	In 2022, in partnership with the upper tier County of Lennox and Addington the Town developed an evaluation tool to be used through GIS to conduct road evaluations inhouse. The intention going forward is to complete assessments every 2 years.
Maintenance	Crack sealing is completed every five years for HCB roads. This will be triggered based on the road condition in the future.

Activity Type	Description of Current Strategy
	Micro surfacing, rejuvenation treatments and re-profiling are conducted as needed according to the road type and condition.
Rehabilitation	Single surface treatment is typically completed on a 7-year cycle for roads with less traffic and on a 6-year cycle for roads with medium traffic.
Replacement	Road network replacement is integrated with the replacement of water or sanitary assets when multiple issues exist.

Table 38 Lifecycle Management Strategy: Road Network

7.9 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.



Figure 36 Risk Matrix: Road Network

7.10 Levels of Service

The tables that follow summarize the Town’s community levels of service for the road network. The technical LOS is reported in section 5.4.2.

7.10.1 Community Levels of Service

The tables that follow summarize the Town’s community levels of service for the road network. The technical LOS is reported in section 5.4.2.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	A map of the road network is provided in Appendix M.
Quality	Description or images that illustrate the different levels of road class pavement condition	<p>The condition of paved road assets ranges from very good to very poor. On average, most roads are in fair condition as of December 2024. Figure 25 provides a breakdown of the condition distribution weighted by replacement cost. Condition ranges can generally be defined as follows:</p> <p>Very good: Well maintained, new or recently rehabilitated.</p> <p>Good: acceptable, generally approaching mid-stages of expected service life.</p> <p>Fair: signs of deterioration, some elements exhibit significant deficiencies.</p> <p>Poor: approaching end of service life, conditions are below standard.</p> <p>Very Poor: Near or beyond expected service life.</p>

Table 39 O. Reg. 588/17 Community Levels of Service: Road Network

Appendix B: Bridges & Culverts

The Town’s transportation network also includes bridges and structural culverts, with a current replacement cost of \$25.8 million.

7.11 Inventory & Valuation

Table 40 and Figure 37 summarize the quantity and current replacement cost of bridges and culverts. The Town owns and manages 24 bridges and 2 structural culverts.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	24	Assets	\$24,230,000	User-Defined
Structural Culverts	2	Meters	\$1,560,000	User-Defined
TOTAL			\$25,790,000	

Table 40 Detailed Asset Inventory: Bridges & Culverts

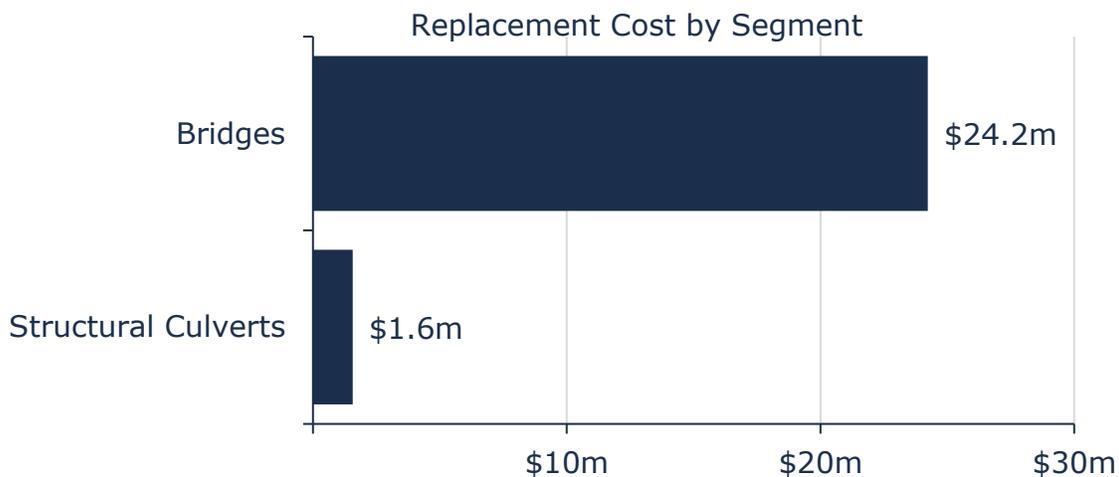


Figure 37 Portfolio Valuation: Bridges & Culverts

7.12 Asset Condition

Figure 38 summarizes the replacement cost-weighted condition of the Town’s bridges and culverts. Based on the Town’s recent Ontario Structures Inspection Manual (OSIM) assessments, 88% of bridges and 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. At 12% of the total bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

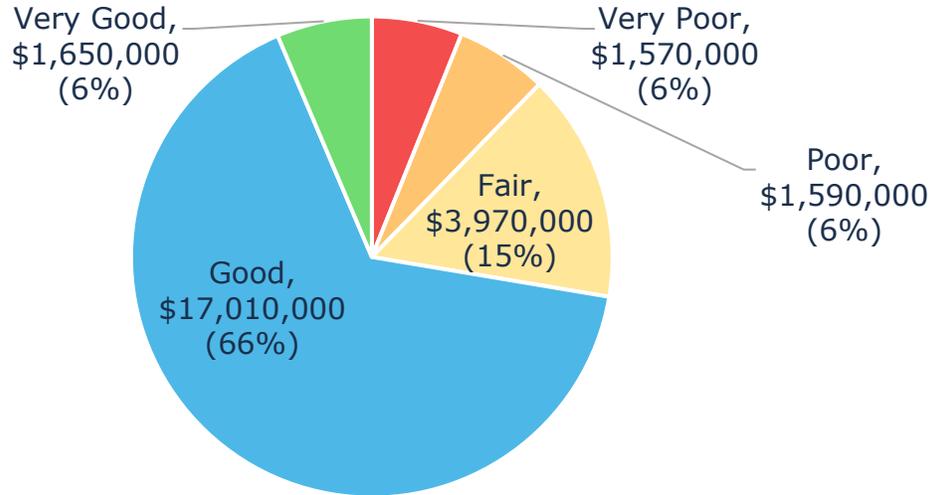


Figure 38 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 39, based on in-field condition assessments, \$3.2 million of bridge assets were assessed as being in poor condition. Bridges and structures with a poor or worse rating (i.e., a bridge condition index of less than 60) are not necessarily unsafe for regular use. The OSIM ratings are designed to identify repairs needed to elevate condition ratings to a fair or higher.

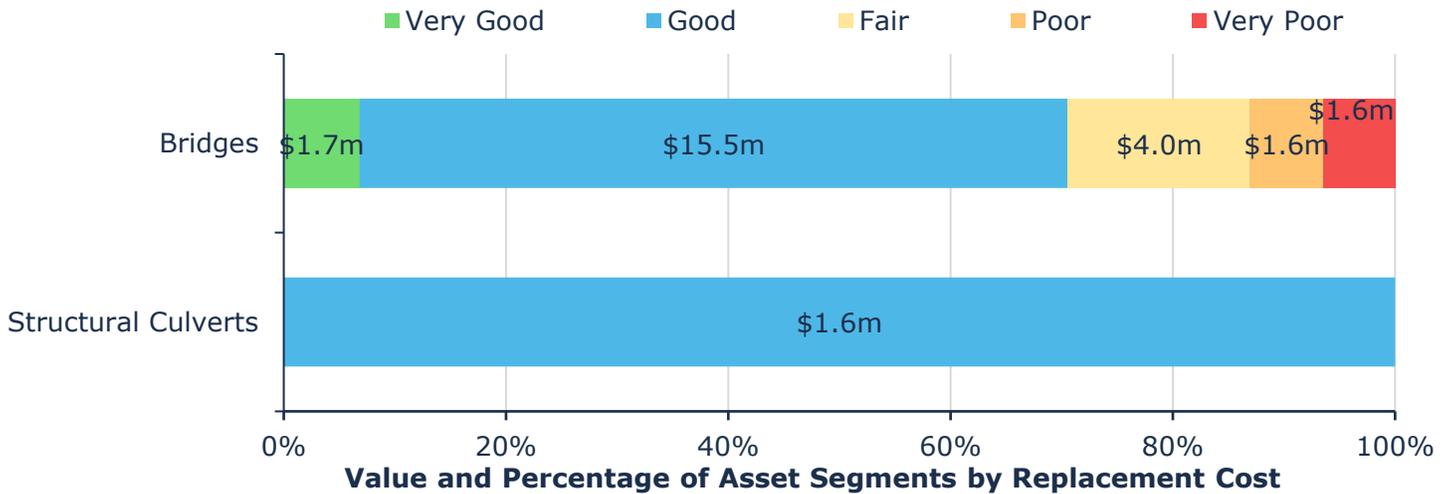


Figure 39 Asset Condition: Bridges & Culverts by Segment

7.13 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 40 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.

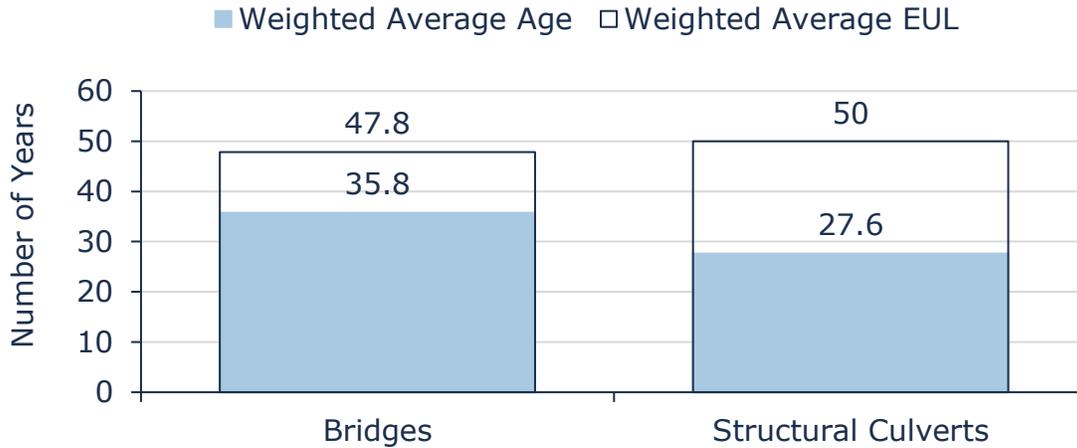


Figure 40 Estimated Useful Life vs. Asset Age: Bridges & Culverts

Age analysis reveals that on average, bridges are in later stages of their lifecycle, with an average age of 35.8 years against an average EUL of 47.8 years. On average, culverts are halfway through their lifecycle, with an average age of 27.6 years, against an average EUL of 50 years. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

7.14 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 Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Operations and Maintenance	Bridge deck cleaning, expansion joint cleaning, pressure flushing and deck washing are planned to be completed annually. However, these activities may be subject to budget constraints.
	Bridge Sealing is planned to be completed for 3 bridges per year.

Activity Type	Description of Current Strategy
Rehabilitation / Replacement	All lifecycle activities are driven by the results of mandated structural inspections completed according to the Ontario Structure Inspection Manual (OSIM). However, these activities may be subject to budget constraints.
Inspection	The most recent inspection report was completed in 2024.

Table 41 Lifecycle Management Strategy: Bridges & Culverts

7.15 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

<p>1 - 4 Very Low - (0%)</p>	<p>5 - 7 Low \$2,290,000 (9%)</p>	<p>8 - 9 Moderate - (0%)</p>	<p>10 - 14 High \$17,010,000 (66%)</p>	<p>15 - 25 Very High \$6,490,000 (25%)</p>
--	---	--	--	--

Figure 41 Risk Matrix: Bridges & Culverts

7.16 Levels of Service

The tables that follow summarize the Town’s current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17 as well as any additional performance measures that the Town has selected for this AMP.

7.16.1 Community Levels of Service

The tables that follow summarize the Town’s community levels of service for the road network. The technical LOS is reported in section 5.4.2.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Bridges and structural culverts are a key component of the municipal transportation network. Only four of the Town's structures have loading or dimensional restrictions meaning that most types of vehicles, including heavy transport, motor vehicles, emergency vehicles and cyclists can cross them without restriction.
Safe & Regulatory	Description of the OSIM inspection process	External contractor completes OSIM inspections every 2 years providing detailed condition information for the Town’s bridges and structural culverts.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	See Appendix M

Table 42 O. Reg. 588/17 Community Levels of Service: Bridges & Culverts

Appendix C: Water Network

The Public Works department is responsible for overseeing the Town’s water network with a total current replacement cost of approximately \$131 million. The department is responsible for the following:

- ◆ Sandhurst Shores Water Treatment Plant
- ◆ A.L. Dafoe Water Treatment Plant

7.17 Inventory & Valuation

Table 43 and Figure 42 summarize the quantity and current replacement cost of the Town’s various water network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Facilities	21,801	Square Meters	\$61,438,859	CPI
Hydrants	482	Assets	\$3,856,000	Cost per Unit
Service Connection & Leads	4,979	Meters	\$2,811,665	
Water Mains	88,192	Meters	\$58,609,984	
Water Meters	2,095	Meters	\$1,435,091	
Water Valves	3,256	Assets	\$2,915,504	
TOTAL			\$131,067,103	

Table 43 Detailed Asset Inventory: Water Network

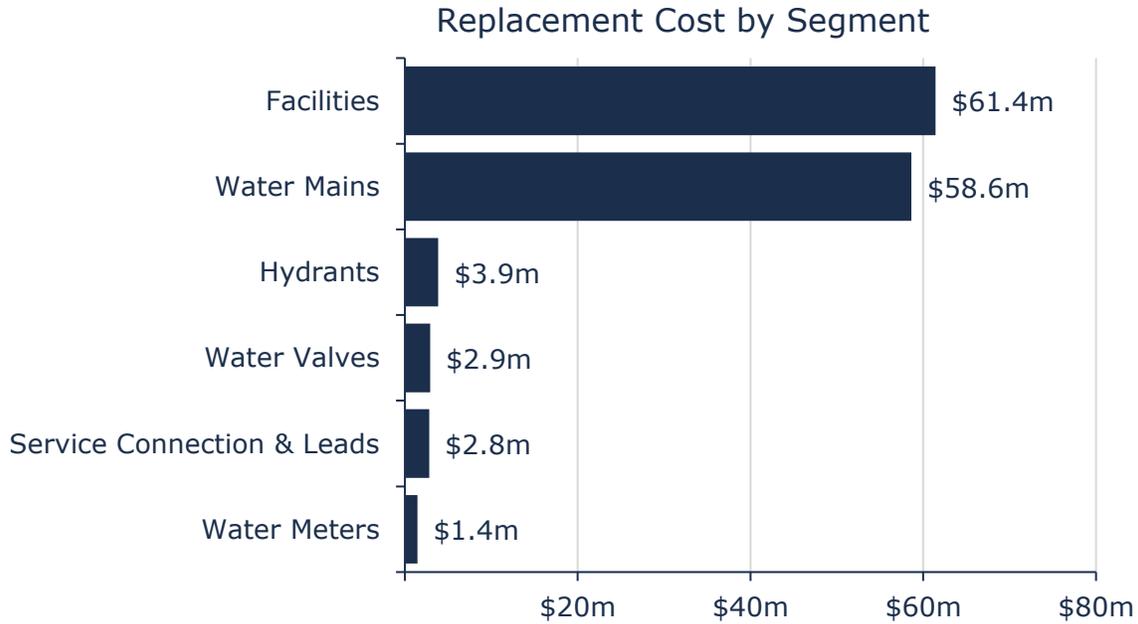


Figure 42 Portfolio Valuation: Water Network

7.18 Asset Condition

Figure 43 summarizes the replacement cost-weighted condition of the Town’s water network. Based on a combination of field inspection data and age, 90% of assets are in fair or better condition; the remaining 10% of assets are in poor to very poor condition.

Condition assessments were available for 13% of facilities, 100% of hydrants, 9% of service connections, 4% of Valves and 95% of watermains, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for water meters.

Assets in poor or worse conditions 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 43, the majority of the Town’s water network assets are in fair or better condition.

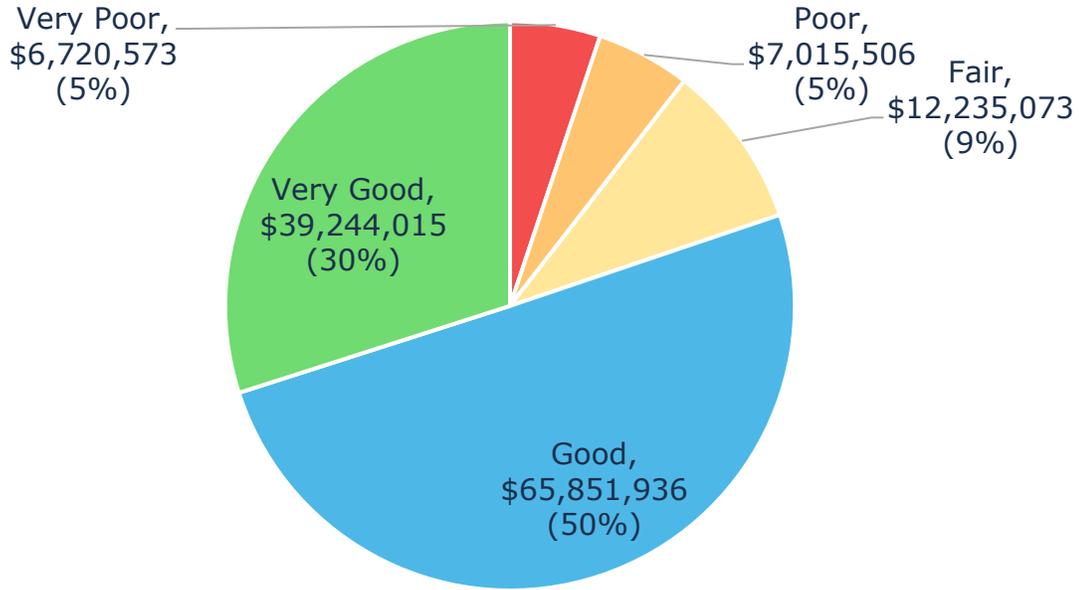


Figure 43 Asset Condition: Water Network Overall

As illustrated in Figure 44, based on condition assessments and age-based conditions, the majority of the Town’s water mains is in very good condition; however, approximately \$8.6 million worth of water facilities are in poor or worse condition.



Value and Percentage of Asset Segments by Replacement Cost

Figure 44 Asset Condition: Water Network by Segment

7.19 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 45 illustrates that all water network assets are well within their expected useful lives.

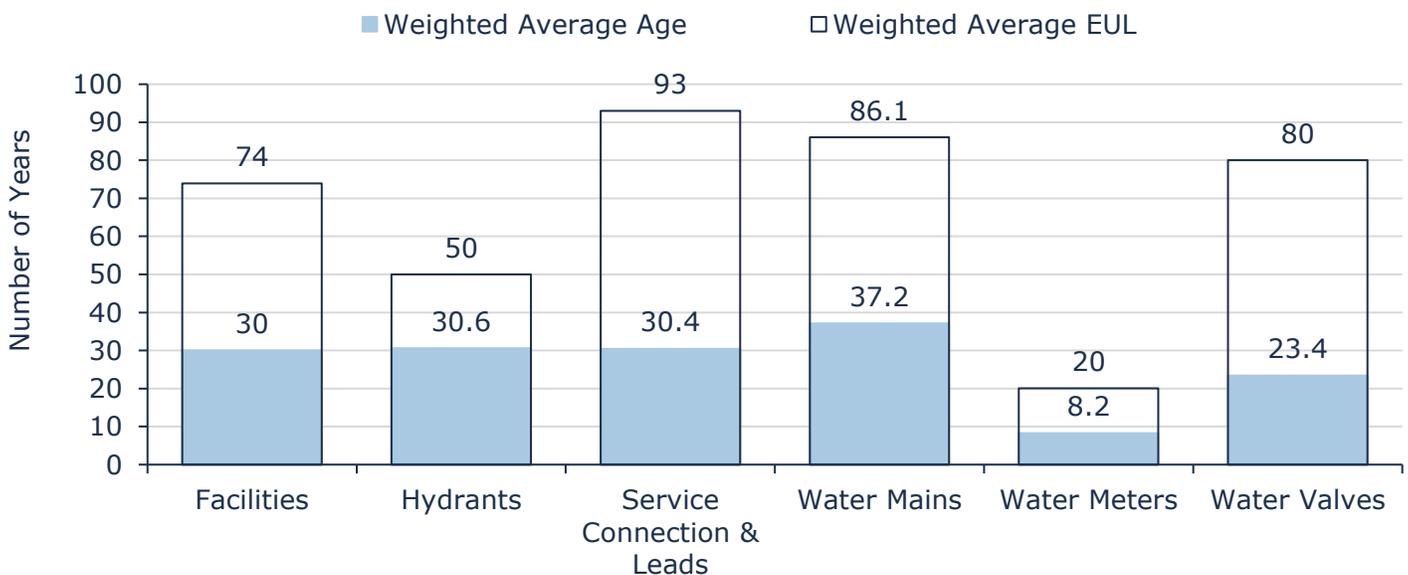


Figure 45 Estimated Useful Life vs. Asset Age: Water Network

7.20 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 Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance & Inspection	Hydrant flushing and watermain flushing are performed annually. Hydrant flow rating is conducted on a 4-year cycle.

Activity Type	Description of Current Strategy
Rehabilitation	Currently no rehabilitation program is in place for water network.
Replacement	The replacement of watermain is completed before it reaches its end-of-life.
	The water network replacement decisions consider break records and sufficiency of flow values. Wherever possible, water main replacements are integrated with the replacement of road network.

Table 44 Lifecycle Management Strategy: Water Network

7.21 Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and diameter. 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.



Figure 46 Risk Matrix: Water Network

7.22 Levels of Service

The tables that follow summarize the Town’s community levels of service for the water network. The technical LOS is reported in section 5.4.2.

7.22.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps of the user groups or areas of the	See Appendix M

Service Attribute	Qualitative Description	Current LOS (2024)
	<p>municipality that are connected to the municipal water system</p> <hr/> <p>Description, which may include maps of the user groups or areas of the municipality that have fire flow</p>	<p>See Appendix M.</p> <p>Every property within the Town service boundary and every property within Sandhurst Shores have access to fire flow. Fire flow is also available from the south limit of the service boundary to Lake Ontario along County Rd 8 (Raw water main).</p>
Reliability	Description of boil water advisories and service interruptions	No boil water advisories have been reported in the last 10 years

Table 45 O. Reg. 588/17 Community Levels of Service: Water Network

Appendix D: Sanitary Network

The sanitary network provides the essential service of sanitary collection, disposal, and treatment for the community, and has a current replacement value of over \$109 million.

7.23 Inventory & Valuation

Table 46 and Figure 47 summarizes the quantity and current replacement cost of the Town's various sanitary network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Facilities	36,787	Square Meters	\$69,570,413	CPI
Manholes	868	Assets	\$7,812,000	Cost per Unit
Sanitary Mains	61,927	Meters	\$32,559,104	Cost per Unit
TOTAL			\$109,941,517	

Table 46 Detailed Asset Inventory: Sanitary Network

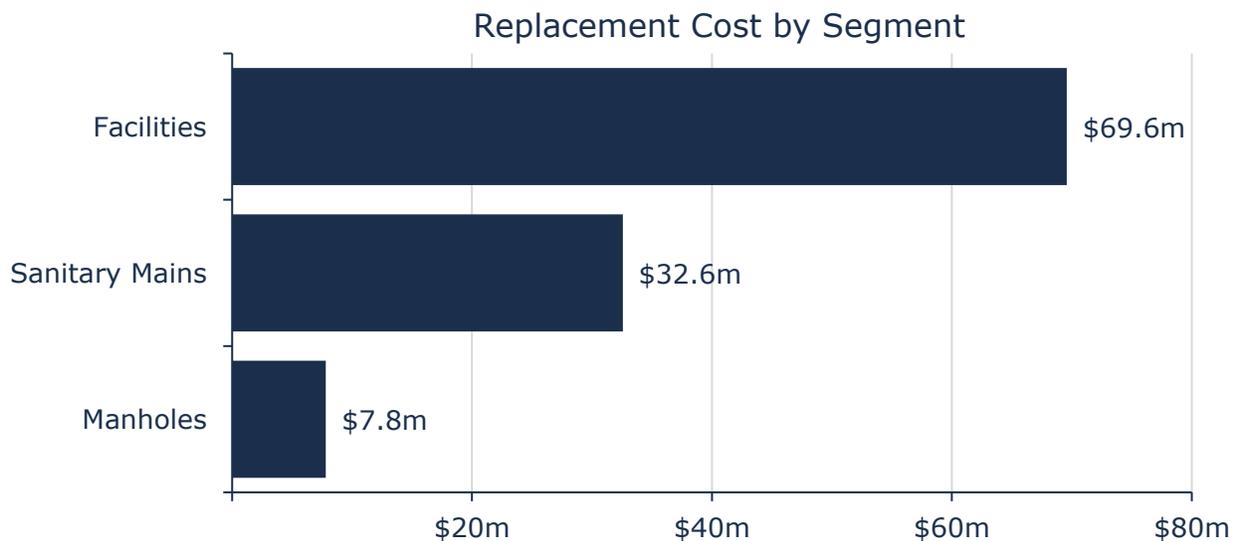


Figure 47 Portfolio Valuation: Sanitary Network

7.24 Asset Condition

Figure 48 summarizes the replacement cost-weighted condition of the Town's sanitary network. Based on a combination of field inspection data and age, 27% of assets are in fair or better condition; the remaining 73% of assets are in poor to very poor condition.

Condition assessments were available for 15% of sanitary facilities, and 97% of sanitary mains, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for manholes.

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 48 the majority of the Town’s sanitary network assets are in poor or very poor condition.

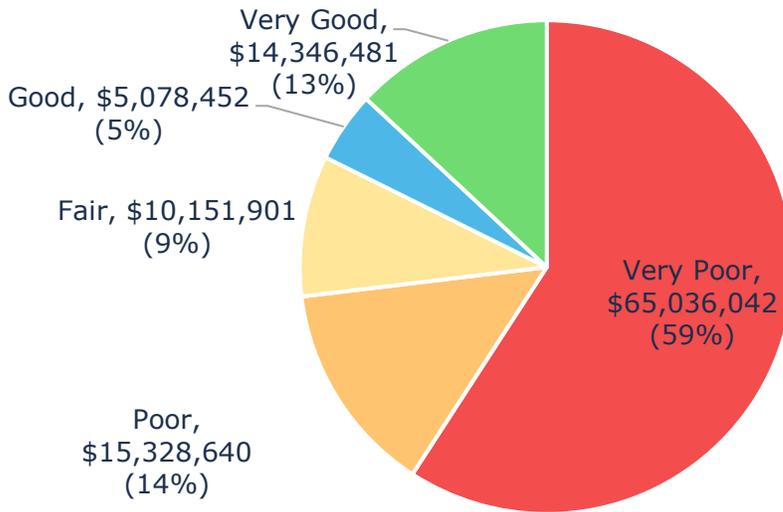


Figure 48 Asset Condition: Sanitary Network Overall

Figure 49 provides a detailed breakdown of condition by asset segments. As illustrated, the majority of the Town’s sanitary network assets sewer mains are in poor or worse condition.

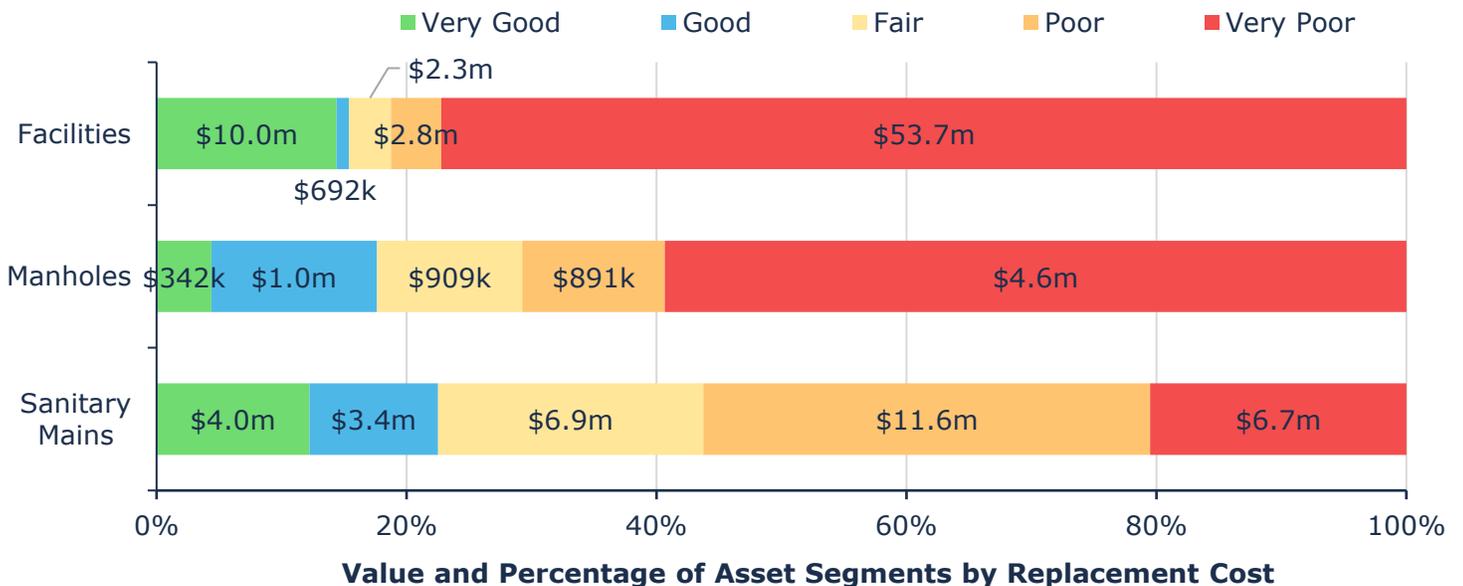


Figure 49 Asset Condition: Sanitary Network by Segment

7.25 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 50 illustrates that sanitary facilities have exceeded their estimated useful lives, whereas, manholes & sanitary mains are well-within their estimated useful lives.

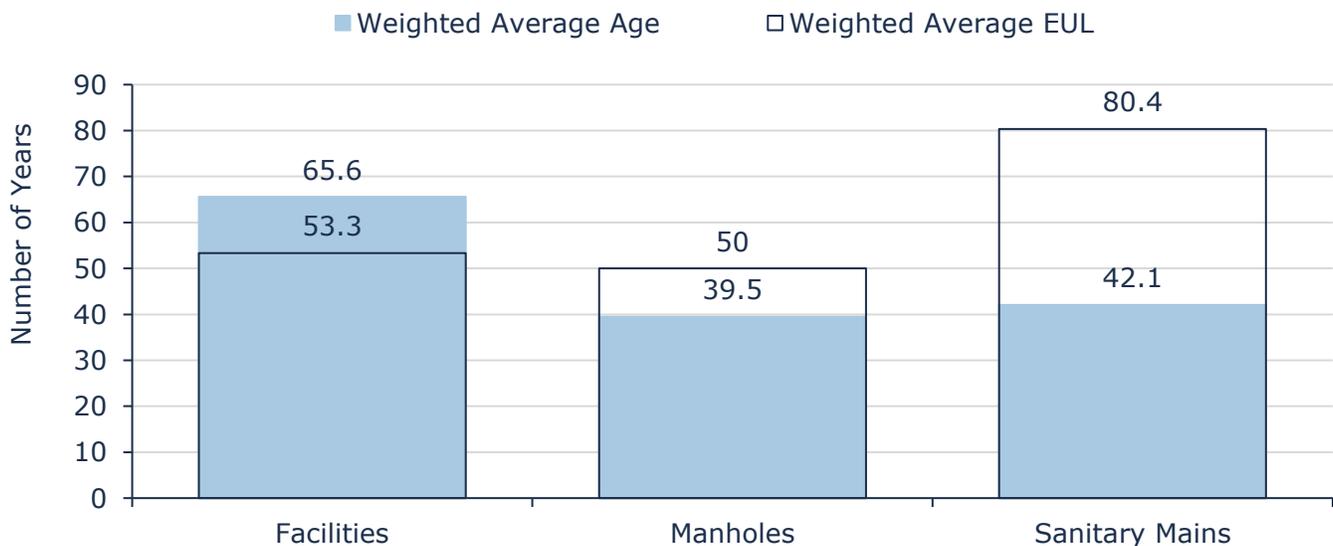


Figure 50 Estimated Useful Life vs. Asset Age: Sanitary Network

7.26 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 Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Main flushing is completed every 6 years for the entire network of mains. CCTV inspection is performed annually; on an average annula basis 3.5 KM of mains receive CCTV inspections.

Activity Type	Description of Current Strategy
Rehabilitation & Replacement	Currently no rehabilitation program is in place for sanitary network. Replacement and rehabilitation decisions consider CCTV inspection findings, failure history, infiltration, and/or requirement for upsizing due to development.

Table 47 Lifecycle Management Strategy: Sanitary Network

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. Regular condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

A summary of the 10-year replacement forecast can be found in Appendix K: 10-Year Capital Requirements.

7.27 Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and diameter. The risk ratings for assets without useful attribute data were calculated using only condition 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low \$13,816,454 (13%)	5 - 7 Low \$17,696,434 (16%)	8 - 9 Moderate \$8,092,947 (7%)	10 - 14 High \$10,393,632 (9%)	15 - 25 Very High \$59,942,049 (55%)
--	---	--	---	---

Figure 51 Risk Matrix: Sanitary Network

7.28 Levels of Service

The tables that follow summarize the Town’s community levels of service for the road network. The technical LOS is reported in section 5.4.2.

7.28.1 Community Levels of Service

The tables that follow summarize the Town’s community levels of service for the sanitary network. The technical LOS is reported in section 5.4.2.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal sanitary system	See Appendix M.
	Description of how combined sewers in the municipal sanitary system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	The Town does not own any combined sewers.
Reliability	Description of the frequency and volume of overflows in combined sewers in the municipal sanitary system that occur in habitable areas or beaches	The Town does not own any combined sewers.
	Description of how stormwater can get into sanitary sewers in the municipal sanitary system, causing sewage to overflow into streets or backup into homes	Inflow & Infiltration (I&I) happens between 10-20 times per year.
	Description of how sanitary sewers in the municipal sanitary system are designed to be resilient to stormwater infiltration	A monitoring program is in place. However, no physical upgrades have been employed yet.
	Description of the effluent that is discharged from sewage treatment plants in the municipal sanitary system	The discharged effluent meets all regulatory requirements for secondary and tertiary treatment.

Table 48 O. Reg. 588/17 Community Levels of Service: Sanitary Network

Appendix E: Stormwater Network

The Town’s stormwater network comprises sewer mains and other critical supporting capital assets with a total current replacement cost of approximately \$15.8 million. The Town is responsible for 13 kilometers of storm mains.

7.29 Inventory & Valuation

Table 49 and Figure 52 summarizes the quantity and current replacement cost of all stormwater network assets available in the Town’s asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Box Culverts	38	Assets	\$97,899	
Box Structure	410	Meters	\$1,198,806	
Catch Basin Lead	20	Meters	\$9,724	
Cross Culvert	5,080	Meters	\$3,096,759	Cost per Unit
Entrance Culvert	8,308	Meters	\$2,475,470	
Stormwater Lateral	347	Meters	\$214,879	
Stormwater Main	13,061	Meters	\$8,674,800	
TOTAL			\$15,768,337	

Table 49 Detailed Asset Inventory: Stormwater Network

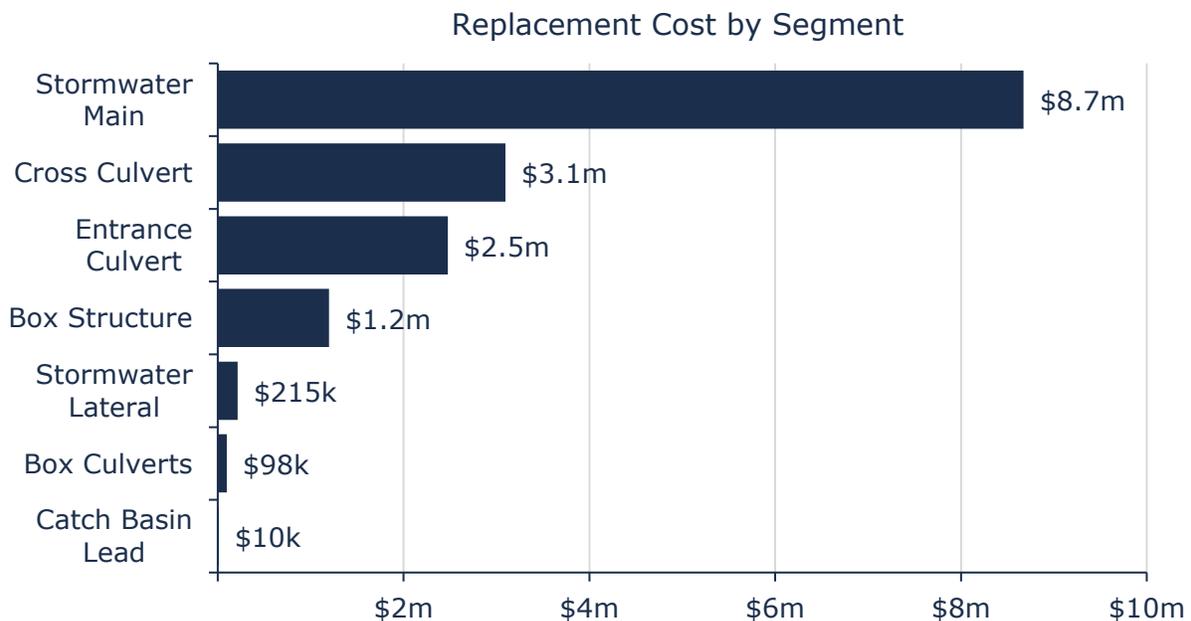


Figure 52 Portfolio Valuation: Stormwater Network

7.30 Asset Condition

Figure 53 summarizes the replacement cost-weighted condition of the Town’s stormwater network assets. Based on a combination of assessed data & age data, approximately 57% of assets are in poor to very poor 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.

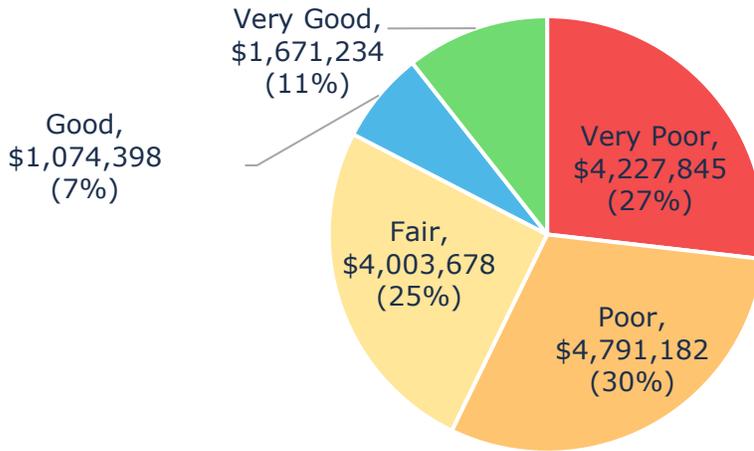


Figure 53 Asset Condition: Stormwater Network Overall

Figure 54 summarizes the condition of stormwater network assets by segments. The analysis illustrates that most stormwater assets are in poor or worse condition.

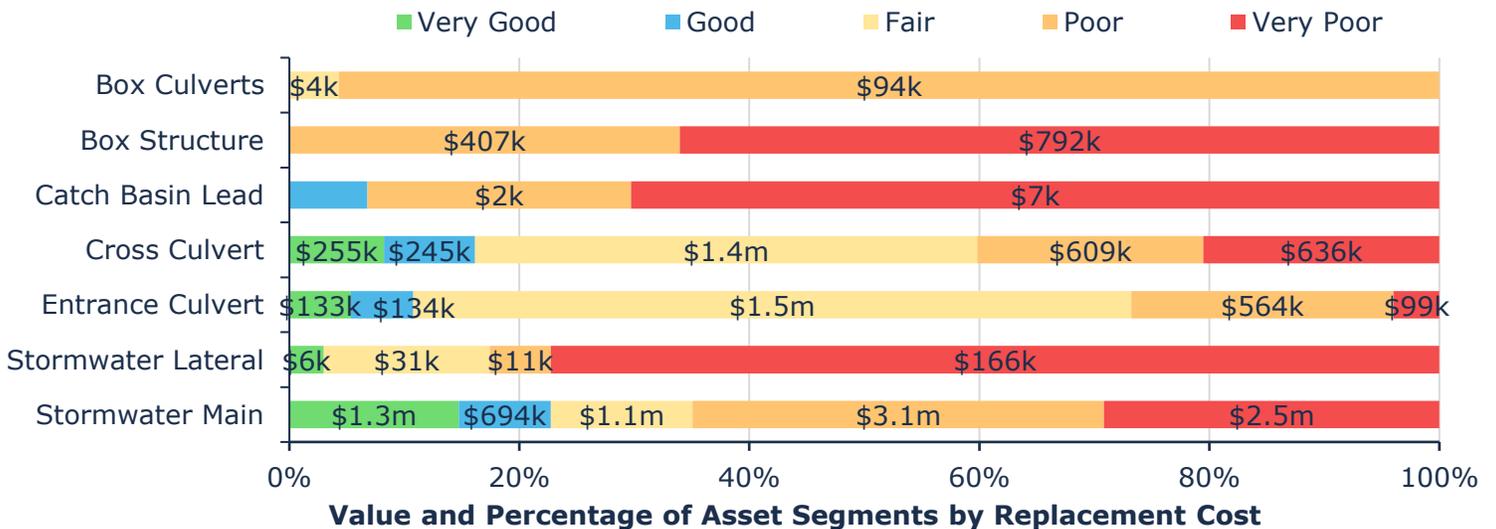


Figure 54 Asset Condition: Stormwater Network by Segment

7.31 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 55 illustrates that box culverts and box structure are beyond their estimated useful lives. Catch basins, cross culverts and stormwater laterals are rapidly approaching their expected lives. On the contrary, Entrance culverts and stormwater mains are well within their estimated useful lives.

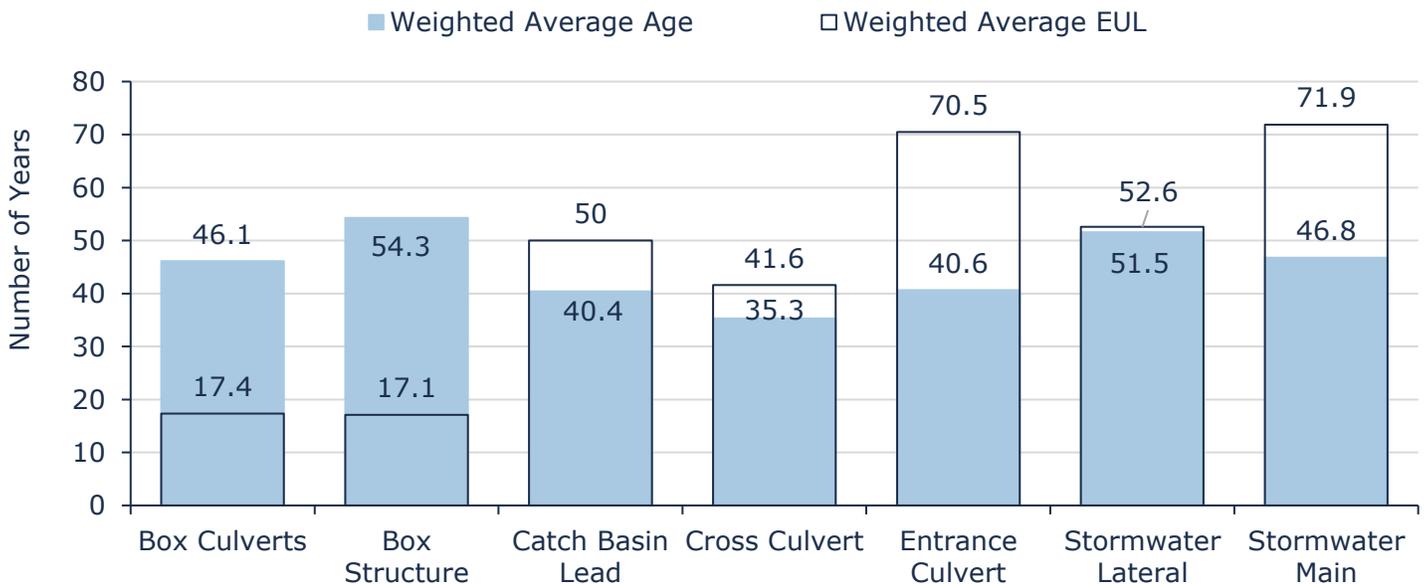


Figure 55 Estimated Useful Life vs. Asset Age: Stormwater Network

7.32 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 Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Catch basin and storm main flushing occur reactively on an as-needed basis. The town is planning to establish a flushing program with regular cycles for catch basin and storm mains.
Rehabilitation/ Replacement	Currently no rehabilitation program or renewal plan is in place for storm network. When reaching their end-of-life, watermain and catch basins are replaced with the roadway projects. When there is no associated roadway project replacement project, stormwater main replacements are generally only based on asset failure history.

Table 50 Lifecycle Management Strategy: Stormwater Network

7.33 Risk Analysis

The risk matrix below is generated using available asset data, including condition, and replacement costs. As no attribute data was available for storm assets, the risk ratings for assets were calculated using only these required, minimum asset fields.

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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

<p>1 - 4 Very Low \$7,521,563 (48%)</p>	<p>5 - 7 Low \$2,710,623 (17%)</p>	<p>8 - 9 Moderate \$1,086,328 (7%)</p>	<p>10 - 14 High \$1,848,529 (12%)</p>	<p>15 - 25 Very High \$2,601,293 (16%)</p>
---	--	--	---	--

Figure 56 Risk Matrix: Stormwater Network

In addition to asset level risk, the Town may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. These include:

- missed opportunities for cost savings and increases in lifecycle costs associated with more frequent asset maintenance.
- deferral of vital projects, or further lending and borrowing.
- accelerated asset deterioration and premature failure, which may lead to public health and safety hazards, and disruption of services to the Town’s residential and commercial base.

- a decline in public satisfaction with the Town’s service standards and the resulting reputational damage.
- Failure of stormwater assets can be particularly detrimental, causing excessive flooding, erosion, backups, road and bridge closures, environmental damage, and substantial property damage. Water quality may also be jeopardized, further exacerbating public health and safety challenges.

These changes in climate will lead to costlier lifecycle programs, including the need for more frequent condition assessments, increased maintenance, renewals, and replacements, and potential capacity upgrades of stormwater conveyance systems. Urban flood risks are also expected to increase. When relevant asset attribute is available to describe some of these vulnerabilities and asset characteristics, the data should be integrated with existing models.

7.34 Levels of Service

The tables that follow summarize the Town’s community levels of service for the stormwater network. The technical LOS is reported in section 5.4.2.

7.34.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include map, of the user groups or areas of the Town that are protected from flooding, including the extent of protection provided by the municipal storm water network	A map of the stormwater network is provided in Appendix M. The Town is working to assess the percentage of properties protected from flooding.

Table 51 O. Reg. 588/17 Community Levels of Service: Stormwater Network

Appendix F: Buildings and Facilities

The Town’s buildings & facilities portfolio includes fire stations, various administrative and public works facilities, and recreational assets. The total current replacement of buildings & facilities is estimated at more than \$122.6 million.

7.35 Inventory & Valuation

Table 52 and Figure 57 summarize the quantity and current replacement cost of all buildings assets available in the Town’s asset register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration	18,379	Square Meters	\$17,005,081	CPI
Community Services	77,467	Square Meters	\$24,062,146	
Fire	40,060	Square Meters	\$13,599,151	
Parks & Recreation	114,712	Square Meters	\$56,173,922	
Public Works	42,200	Square Meters	\$11,824,813	
TOTAL			\$122,665,113	

Table 52 Detailed Asset Inventory: Buildings and Facilities

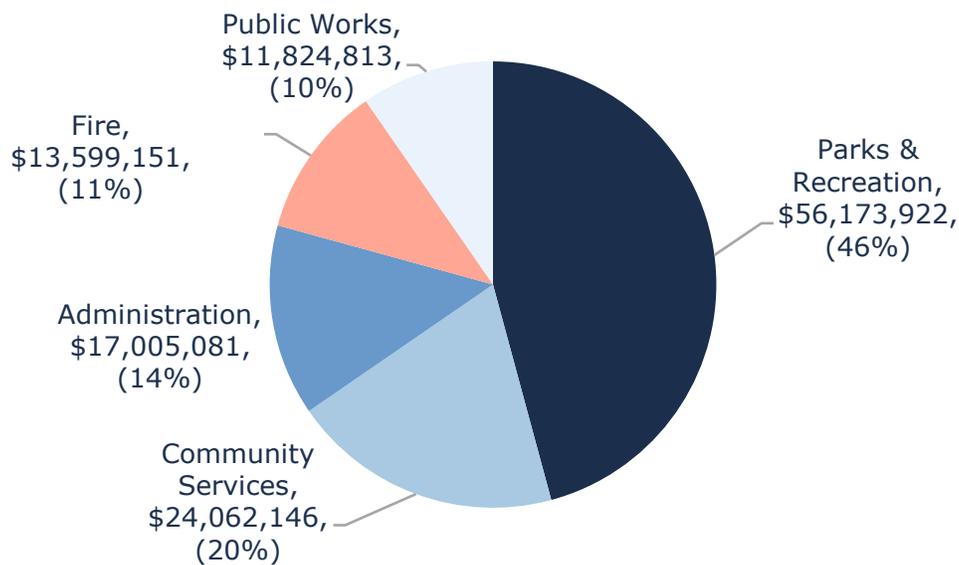


Figure 57 Portfolio Valuation: Buildings and Facilities

7.36 Asset Condition

Figure 62 summarizes the replacement cost-weighted condition of the Town’s buildings & facilities portfolio. Based on a combination of condition assessments and age data, 66% of buildings & facilities assets are in fair or better condition; however, 34% with a current replacement cost of more than \$42.7 million 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.

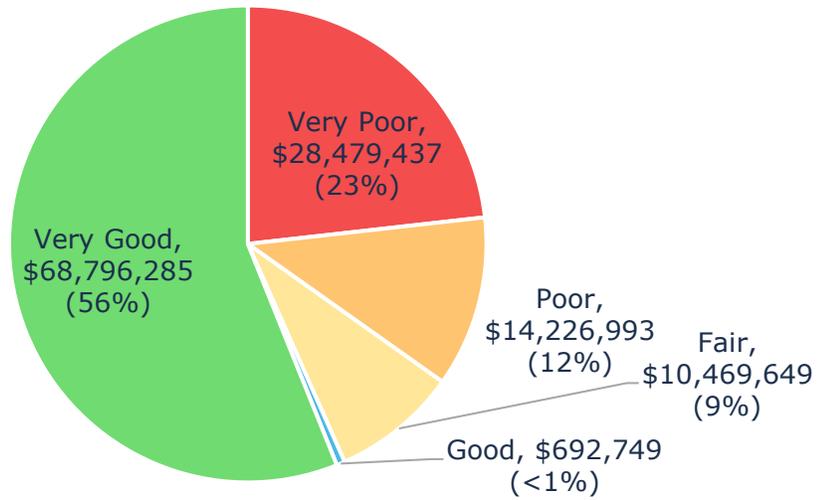


Figure 58 Asset Condition: Buildings and Facilities Overall

Figure 59 summarizes the age-based condition of buildings & facilities by each department. A substantial portion of administration & community services assets are in poor to worse condition.

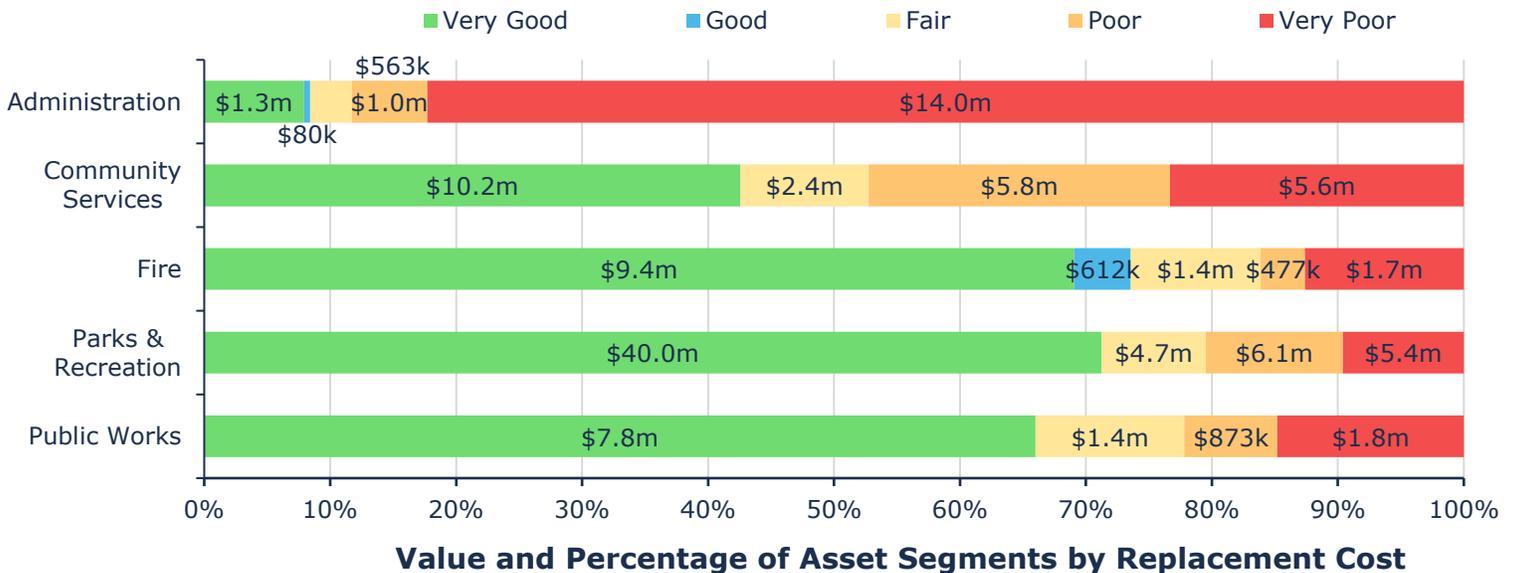


Figure 59 Asset Condition: Buildings and Facilities by Segment

7.37 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 60 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.

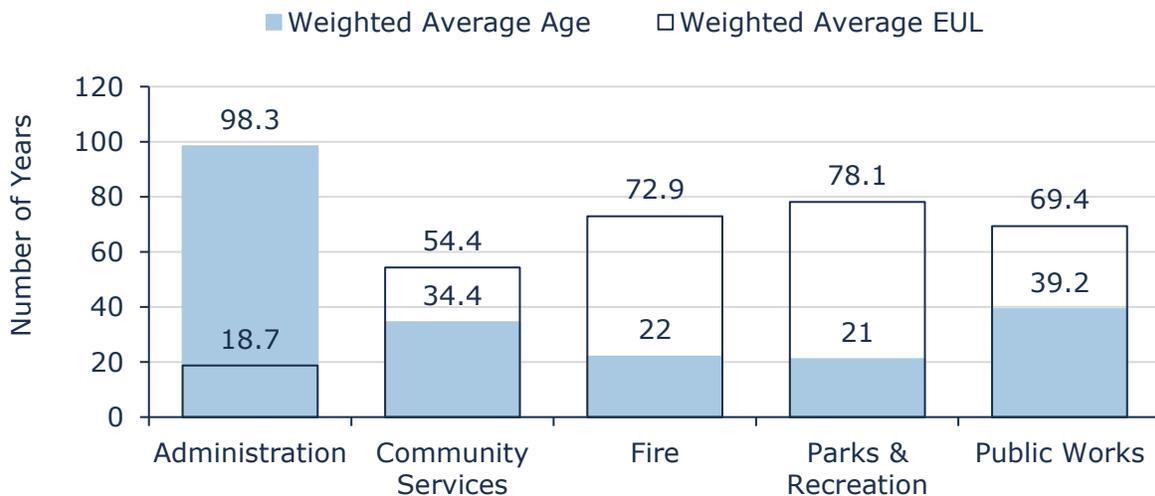


Figure 60 Estimated Useful Life vs. Asset Age: Buildings and Facilities

Age analysis reveals that administration facilities’ assets are well beyond their serviceable life. On the contrary, community services, fire, parks & recreation, and public works facilities are well within their estimated useful life.

7.38 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 53 outlines the Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	General maintenance and cleaning are performed daily.

Activity Type	Description of Current Strategy
	<p>Quartly HVAC routine maintenance is conducted by thrid-party contractors for their primary administration buidling (99 Advance Avenue), and semi-annually HVAC maintenance is completed for all other buildings.</p> <hr/> <p>Maintenance of refrigeration in the Arena is performaed regularly by a third-party.</p>
Rehabilitation/ Replacement	<p>Minor building, plubing and electrical deficiencies are repaired by internal staff while major rehabilitation are conducted by external contractors.</p> <hr/> <p>There are many preventative maintenance and rehabilitation activities conducted, however there is presently no fully funded rehabilitation schedule.</p> <hr/> <p>The Replacement and major rehabilitation recommendations of the buildings and facilities are informed by the Building Condition Assessment (BCA) completed by McIntosh Perry in 2022 or by the expertise of internal staff. In most years, not all recommendations are complete due to budget constraints.</p>

Table 53 Lifecycle Management Strategy: Buildings and Facilities

7.39 Risk Analysis

The risk matrix below is generated using available asset data, including condition and replacement costs. 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

<p>1 - 4 Very Low \$16,318,352 (13%)</p>	<p>5 - 7 Low \$65,121,134 (53%)</p>	<p>8 - 9 Moderate \$3,199,630 (3%)</p>	<p>10 - 14 High \$5,223,276 (4%)</p>	<p>15 - 25 Very High \$32,802,721 (27%)</p>
--	---	--	--	---

Figure 61 Risk Matrix: Buildings and Facilities

7.40 Levels of Service

The tables that follow summarize the Town’s community levels of service for building and facility assets. The technical LOS is reported in section 5.4.2.

7.40.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the current condition of municipal facilities and the plans that are in place to maintain or improve the provided level of service	A building condition assessment by external contractors was completed in 2022 for all buildings and facilities. This process is planned to take place every 5 years to update the condition and Facility Condition Index (FCI) values. Furthermore, health and safety inspection by internal staff is conducted on a bi-monthly basis

Table 54 Community Levels of Service: Buildings and Facilities

Appendix G: Parks and Land Improvements

The Town’s Parks and land improvements portfolio includes parking lots, parks, and various sports fields. The total current replacement of Parks and land improvements is estimated at approximately \$2.3 million.

7.41 Inventory & Valuation

Table 55 and Figure 62 summarize the quantity and current replacement cost of all Parks and land improvements assets available in the Town’s asset register. Paved areas account for the largest share of the Parks and land improvements asset group.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Benches	14	Assets	\$49,768	CPI
Grass Areas	1	Assets	\$449,783	
Paved Areas	11	Assets	\$1,106,543	
Planted Areas	2	Assets	\$398,267	
Recreation Areas	5	Assets	\$264,433	
Waste Receptacles	25	Assets	\$49,992	
TOTAL			\$2,318,786	

Table 55 Detailed Asset Inventory: Land Improvements

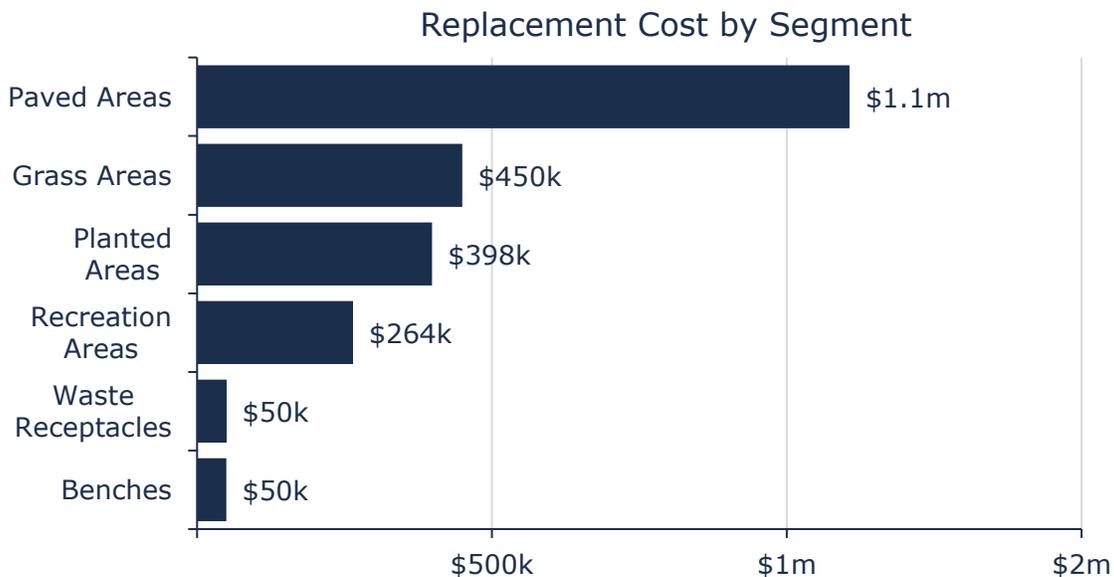


Figure 62 Portfolio Valuation: Parks and Land Improvements

7.42 Asset Condition

Figure 63 summarizes the replacement cost-weighted condition of the Town’s Parks and land improvements portfolio. Based on age data only, 38% of assets are in fair or better condition, the remaining 62% 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.

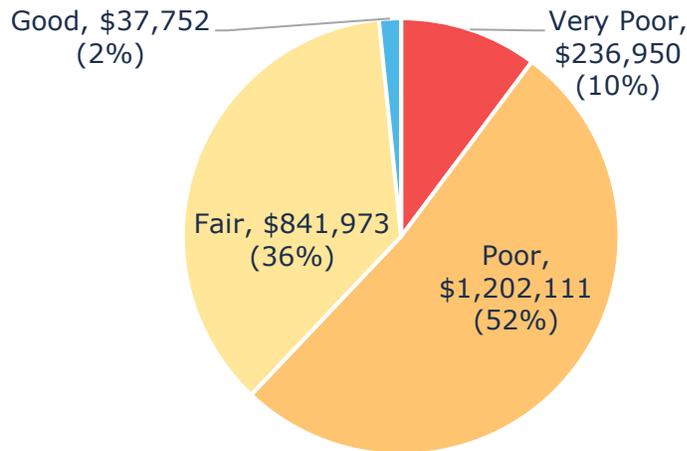


Figure 63 Asset Condition: Parks and Land Improvements Overall

Figure 64 summarizes the age-based condition of Parks and land improvements by each department. Assets in poor or worse condition are in all segments except grass areas.

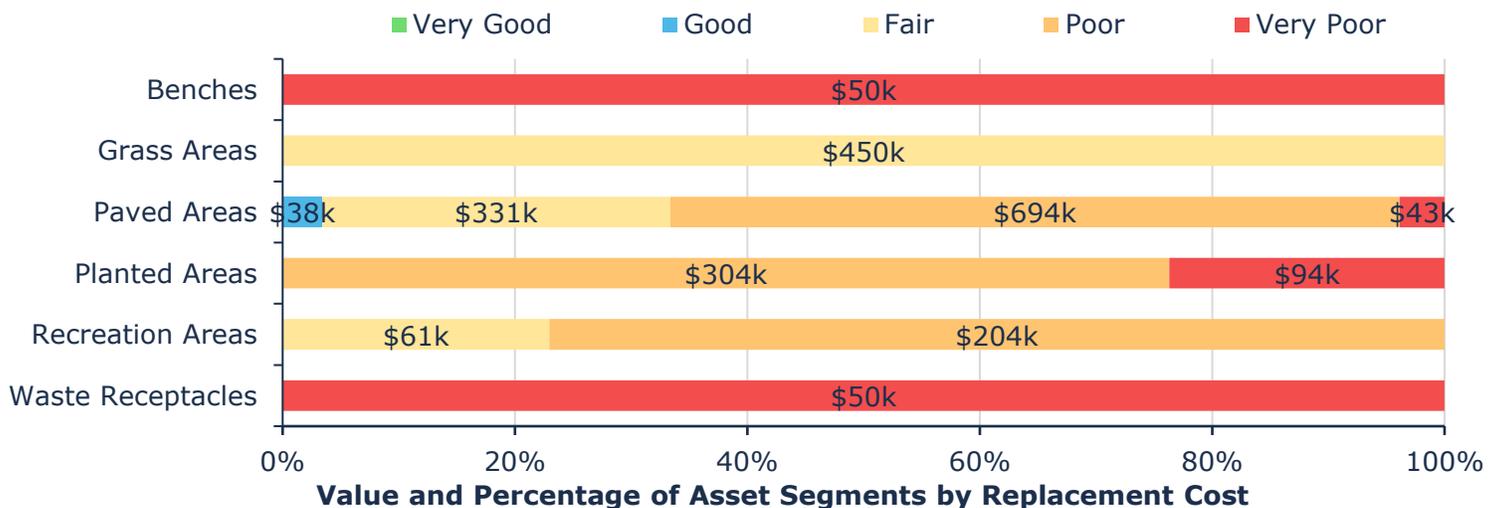


Figure 64 Asset Condition: Parks and Land Improvements by Segment

7.43 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 65 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.

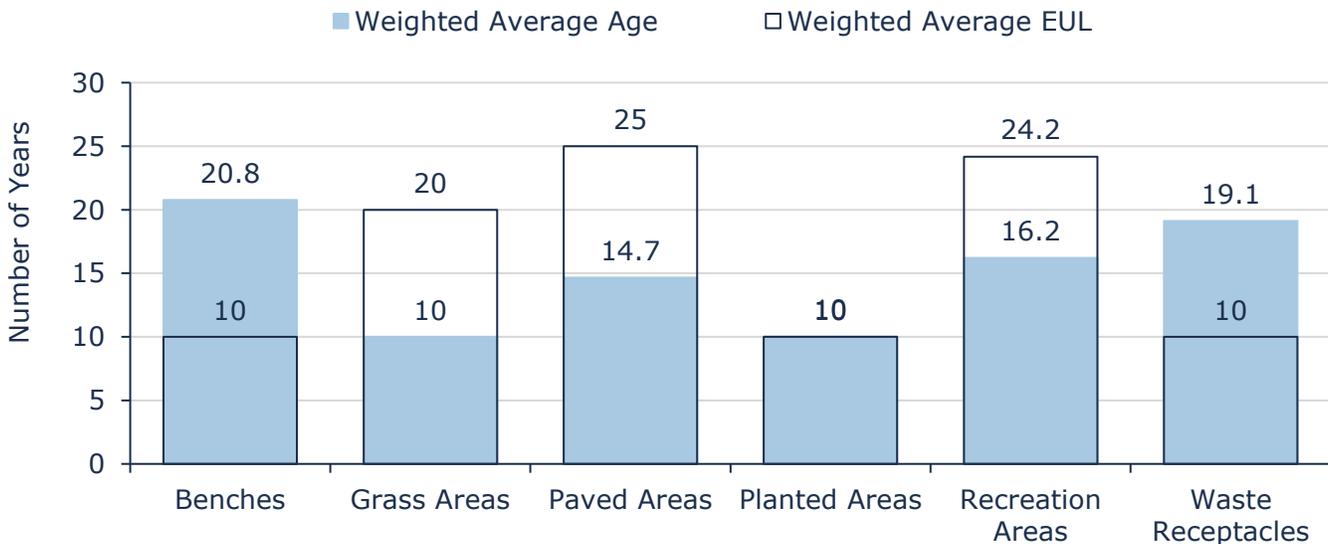


Figure 65 Estimated Useful Life vs. Asset Age: Parks and Land Improvements

Age analysis reveals that benches and waste receptacles are well beyond their expected useful lives. Moreover, planted areas have already approached their designed service life. Grass areas, paved areas, and recreation areas are well within their expected useful lives.

7.44 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 56 outlines the Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance & Rehabilitation	Visual inspections are completed on a weekly basis for all land improvement assets. Playground inspections are completed and documented on a monthly basis.

Activity Type	Description of Current Strategy
	Maintenance needs are determined based on visual inspections.
Replacement	Assets that fall under an operating budget are not replaced until they reach their end-of-life.
	Town staff complete condition assessments for capital assets before submitting the replacement request to council for funding.

Table 56 Lifecycle Management Strategy: Parks and Land Improvements

7.45 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low \$89,273 (4%)	5 - 7 Low \$163,885 (7%)	8 - 9 Moderate \$46,987 (2%)	10 - 14 High \$38,219 (2%)	15 - 25 Very High \$1,980,422 (85%)
---	---	---	---	--

Figure 66 Risk Matrix: Parks and Land Improvements

7.46 Levels of Service

The tables that follow summarize the Town’s community levels of service for the park and land improvement assets. The technical LOS is reported in section 5.4.2.

7.46.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the lifecycle activities (maintenance,	Park operation plan identifies all assets included in parks division, recreational trailer, and parking. Standard operating procedures are developed to maintain these

Service Attribute	Qualitative Description	Current LOS (2024)
	rehabilitation and replacement) performed on land improvement assets	assets. The location of these assets is known and identified in the park’s operations documents. A full inventory, including components of assets, is included in the park operations plan. There is also an inventory of cemetery assets. Legislation requirements (CSA) also help determine if assets should be replaced if they do not meet the requirements. Additionally, AODA needs are identified.

Table 57 Community Levels of Service: Parks and Land Improvements

Appendix H: Fleet

The Town’s Fleet portfolio includes 68 assets that support a variety of general and essential services, including public works, community & corporate, utilities and fire services. The total current replacement of Fleet is estimated at approximately \$16 million.

7.47 Inventory & Valuation

Table 58 summarizes the quantity and current replacement cost of all Fleet assets available in the Town’s asset register. Public works and fire services account for the largest share of the Fleet portfolio.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Community & Corporate	5	Assets	\$229,511	CPI
Facilities	7	Assets	\$487,046	
Fire	8	Assets	\$6,578,447	
Public Works	44	Assets	\$8,674,050	
Utilities	4	Assets	\$247,100	
TOTAL			\$16,216,154	

Table 58 Detailed Asset Inventory: Fleet

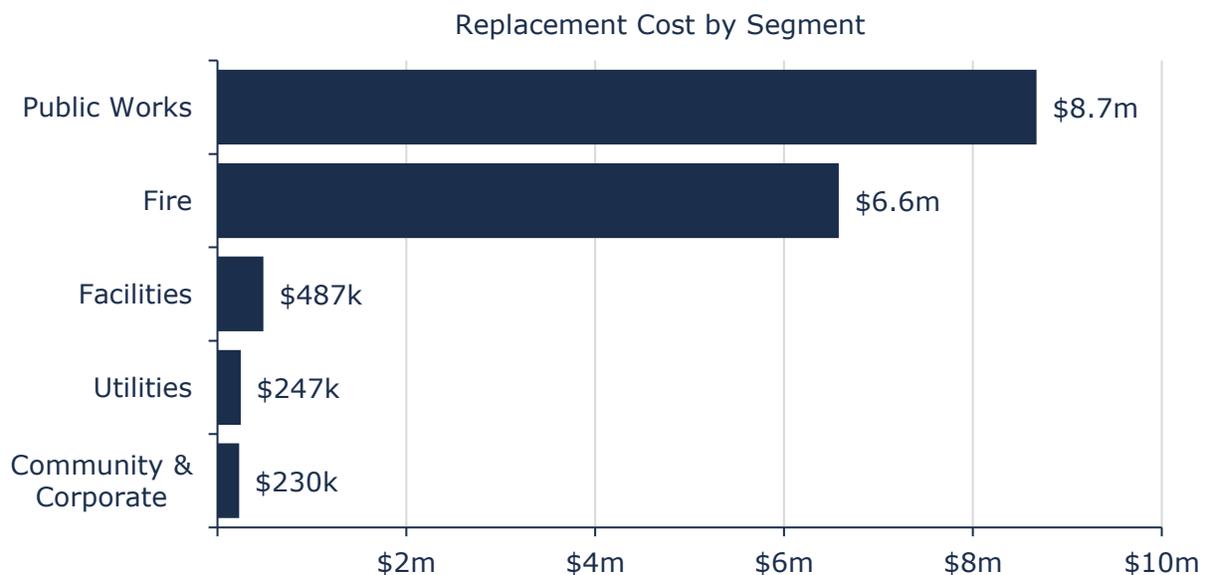


Figure 67 Portfolio Valuation: Fleet

7.48 Asset Condition

Figure 68 summarizes the replacement cost-weighted condition of the Town’s Fleet portfolio. Based primarily on age data, 32% of Fleet are in fair or better condition, with the remaining 68% 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.

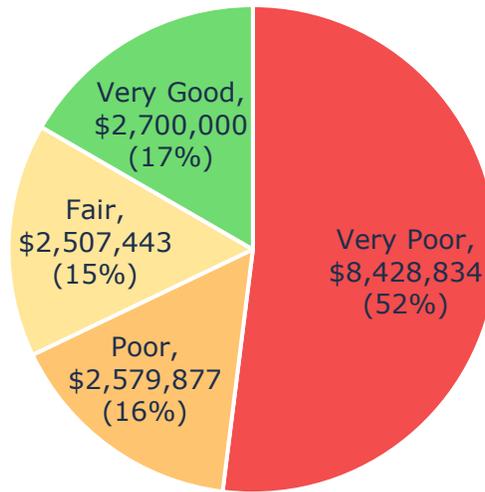


Figure 68 Asset Condition: Fleet Overall

Figure 69 summarizes the condition of Fleet by each department. The vast majority of vehicles that support critical services such as fire are in fair or better condition. Assets in poor or worse condition are concentrated in community & corporate, facilities, public works, and utilities.

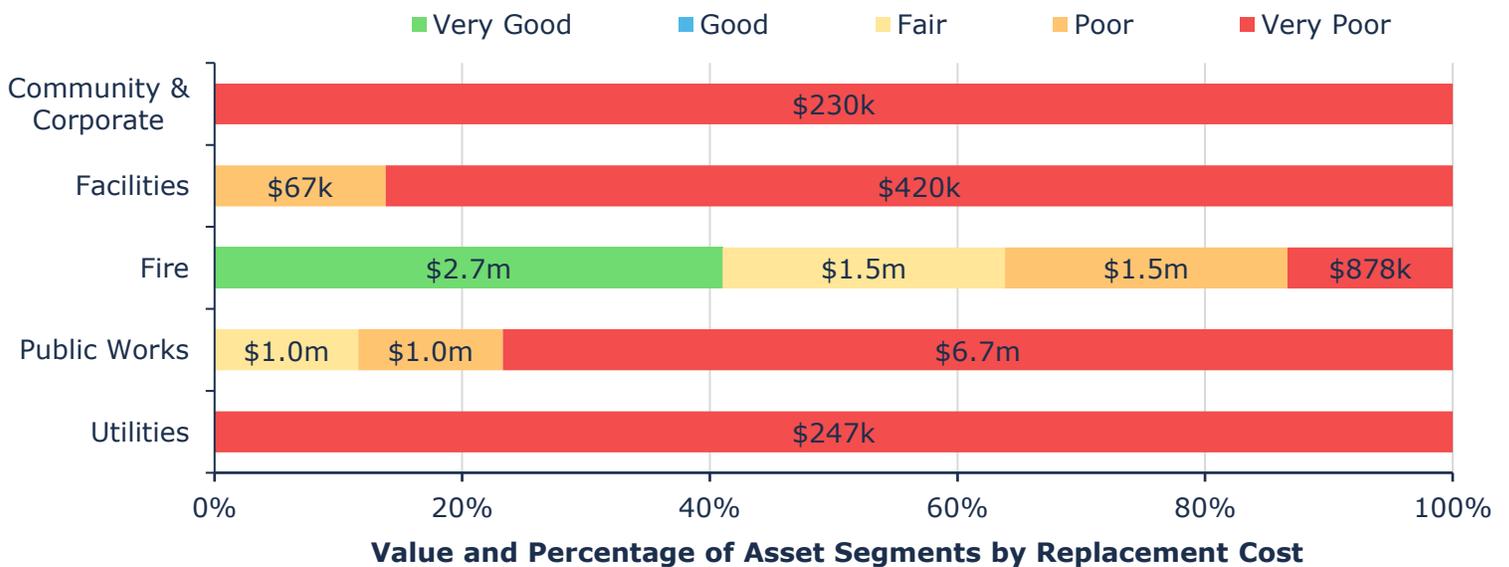


Figure 69 Asset Condition: Fleet by Segment

7.49 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 70 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.

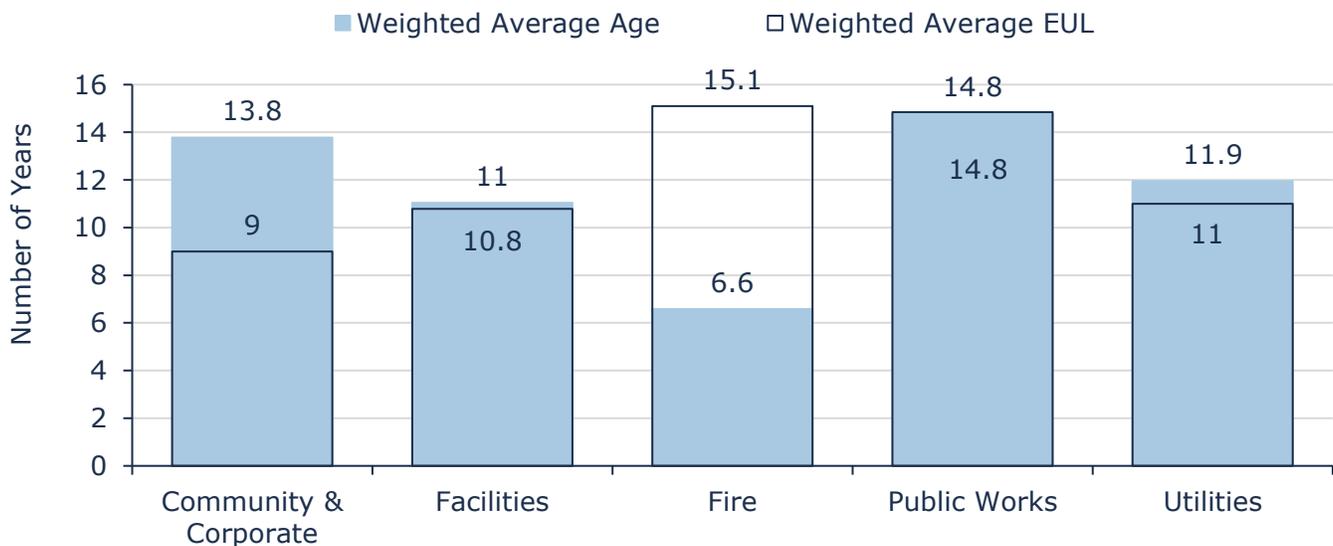


Figure 70 Estimated Useful Life vs. Asset Age: Fleet

Age analysis reveals that, on average, most fleet remain in service well beyond their established useful life except for fire fleet.

7.50 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 Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Oil changes and tire rotations are scheduled based on mileage.
Replacement	Vehicle replacements decisions are based on the asset’s condition, the age of the asset compared to the TCA based estimated useful life, and other regulatory standards.
	The Town regularly produces 10 year capital plans for vehicle renewal. Due to funding constraints, not all assets within the 10 year capital plan receive investment. As appropriate, vehicles in good condition may be in service beyond their useful life if they remain safe and functional to operate.

Table 59 Lifecycle Management Strategy: Fleet

7.51 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

<p>1 - 4 Very Low \$23,444 (<1%)</p>	<p>5 - 7 Low \$2,701,545 (17%)</p>	<p>8 - 9 Moderate \$204,913 (1%)</p>	<p>10 - 14 High \$548,691 (3%)</p>	<p>15 - 25 Very High \$12,737,561 (79%)</p>
---	--	--	--	---

Figure 71 Risk Matrix: Fleet

7.52 Levels of Service

The tables that follow summarize the Town’s community levels of service for fleet assets. The technical LOS is reported in section 5.4.2.

7.52.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the Fleet Management and Safety Program	Commercial vehicles meet minimum standards and undergo an inspection regular inspection. Staff have developed a 10-year asset replacement plan for vehicles

Table 60 Community Levels of Service: Fleet

Appendix I: Machinery and Equipment

The Town’s machinery & equipment portfolio supports a variety of general and essential services, including public works, IT, public works, parks & recreation, and fire. The total current replacement of machinery & equipment is estimated at approximately \$5.1 million.

7.53 Inventory & Valuation

Figure 72 summarizes the quantity and current replacement cost of all machinery & equipment assets available in the Town’s asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fire	986	Assets	\$1,410,640	CPI
IT Assets	292	Assets	\$260,390	User-Defined
Parks and Recreation	69	Assets	\$1,649,204	CPI
Public Works	70	Assets	\$1,874,971	CPI
TOTAL			\$5,195,205	

Table 61 Detailed Asset Inventory: Machinery and Equipment

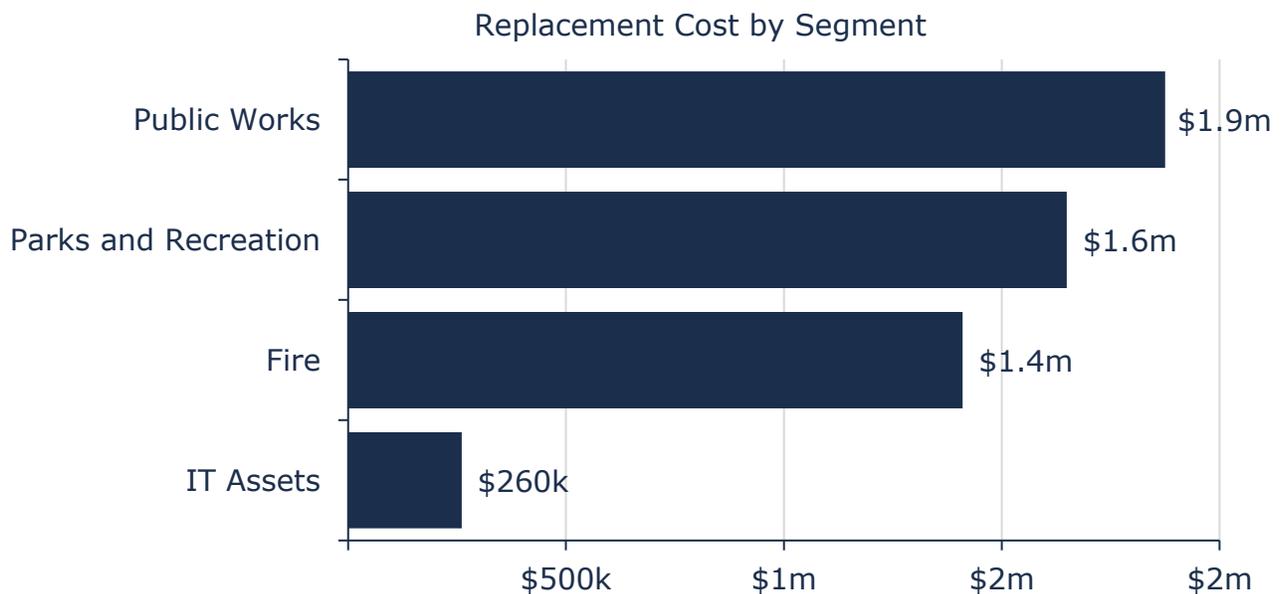


Figure 72 Portfolio Valuation: Machinery and Equipment

7.54 Asset Condition

Figure 73 summarizes the replacement cost-weighted condition of the Town’s machinery & equipment portfolio. Based on a combination of assessed condition and age data, 58% of assets are in fair or better condition; the remaining 42% 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.

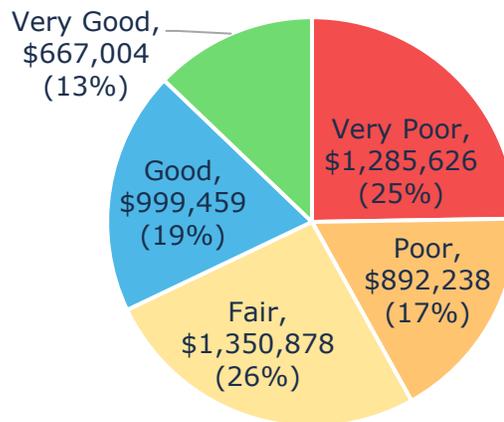


Figure 73 Asset Condition: Machinery and Equipment Overall

Figure 74 summarizes the age-based condition of machinery & equipment by each department. The majority of IT, and parks & recreation assets are in fair or better condition. Assets in poor or worse condition are concentrated primarily in fire and public works.

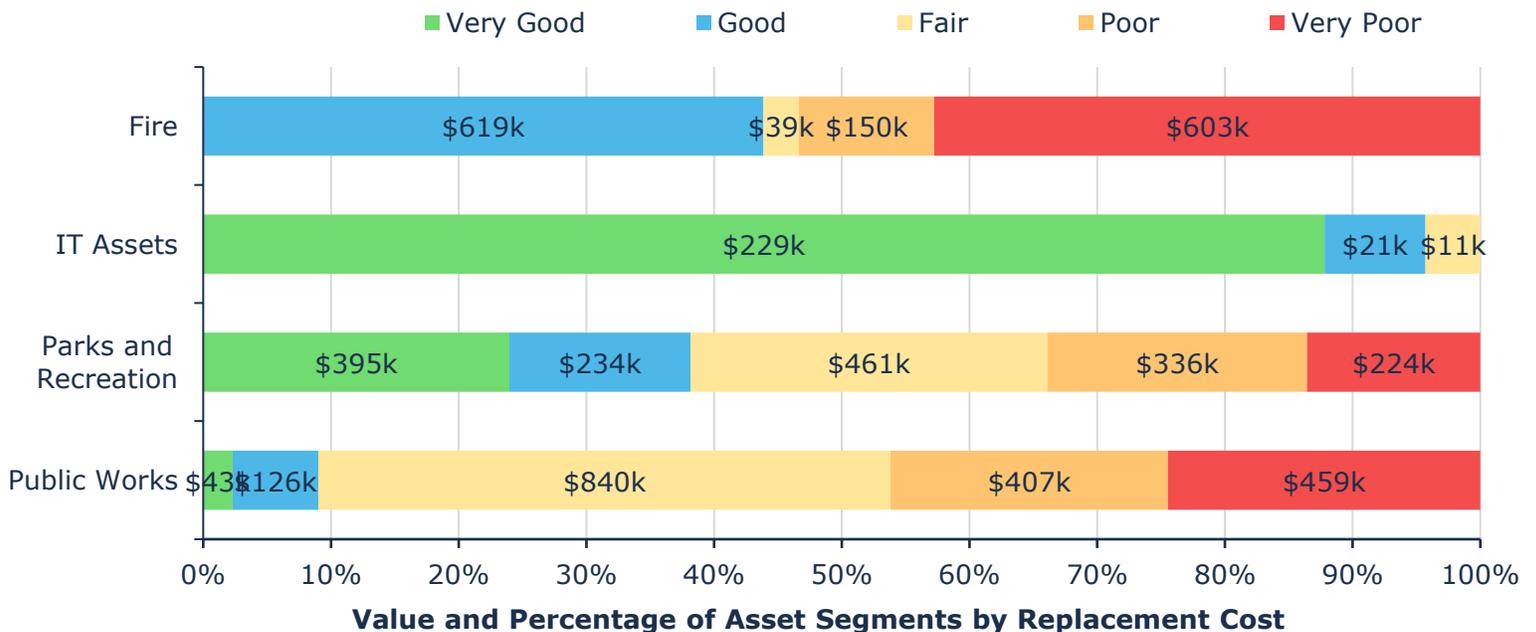


Figure 74 Asset Condition: Machinery and Equipment by Segment

7.55 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 75 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.

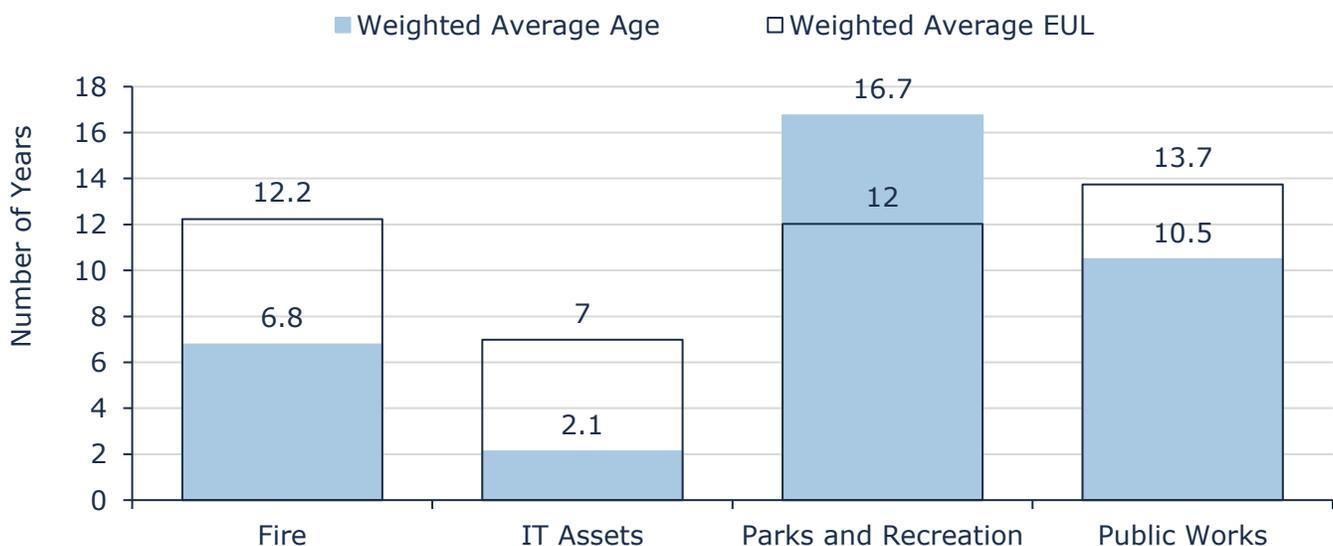


Figure 75 Estimated Useful Life vs. Asset Age: Machinery and Equipment

Age analysis reveals that fire, IT, and public works assets are within their expected useful lives. Parks and recreation assets remain in service beyond their expected useful lives.

7.56 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 Town’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Regular Maintenance or rehabilitation for machinery and equipment are conducted by the Town’s in-house mechanics
Replacement	The decision to replace an asset considers the remaining useful life, condition, and deficiencies identified
	The town has established a 10-year laptop, cellphone, and service replacement plan. When an asset is in good condition and functionality it may continue to be used past its useful life.

Table 62 Lifecycle Management Strategy: Machinery and Equipment

7.57 Risk Analysis

The risk matrix below is generated using available asset data, including condition 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 Town 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 Town’s Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low \$1,645,903 (32%)	5 - 7 Low \$836,288 (16%)	8 - 9 Moderate \$619,926 (12%)	10 - 14 High \$569,588 (11%)	15 - 25 Very High \$1,523,500 (29%)
---	--	---	---	--

Figure 76 Risk Matrix: Machinery and Equipment

7.58 Levels of Service

The tables that follow summarize the Town’s community levels of service for the machinery and equipment assets. The technical LOS is reported in section 5.4.2.

7.58.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on machinery and equipment assets	Some assets are run to failure. Furthermore, the service lives of these assets vary. Machinery and equipment are replaced on an as-needed basis.

Table 63 Community Levels of Service: Machinery and Equipment

Appendix J: Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition	Financial Capacity
Road Network	\$134.0 m	Fair	Annual Requirement (PLOS) ¹⁷ : \$3,768,255
			Funding Available: \$2,299,656
			Annual Deficit: -\$1,468,598
Bridges & Culverts	\$25.8 m	Good	Annual Requirement (PLOS): \$87,875
			Funding Available: \$53,627
			Annual Deficit: -\$34,247
Water Network	\$131.1 m	Good	Annual Requirement (PLOS): \$1,699,134
			Funding Available: \$1,205,125
			Annual Deficit: -\$494,009
Sanitary Network	\$109.9 m	Poor	Annual Requirement: \$1,650,946
			Funding Available: \$935,500
			Annual Deficit: -\$715,446
Stormwater Network	\$15.8 m	Poor	Annual Requirement (PLOS): \$21,589
			Funding Available: \$21,589
			Annual Deficit: -
Buildings and Facilities	\$122.7 m	Good	Annual Requirement: \$308,814
			Funding Available: \$308,814
			Annual Deficit: -
Parks and Land Improvements	\$2.3 m	Fair	Annual Requirement: \$11,347
			Funding Available: \$11,347
			Annual Deficit: -
Fleet	\$16.2 m	Poor	Annual Requirement: \$167,723
			Funding Available: \$102,357
			Annual Deficit: -\$65,367
Machinery and Equipment	\$5.2 m	Fair	Annual Requirement: \$73,821
			Funding Available: \$45,051
			Annual Deficit: -\$28,770

¹⁷ Under the Proposed LOS the annual requirement for tax funded assets increases each year. The annual requirement is based on funding required by year 10. For water network and sanitary network assets the annual requirement does not change over time. This statement applies throughout the above table.

Appendix K: 10-Year Capital Requirements

The financial requirements of the selected scenario reflect the total annual capital investment required. In some years, actual capital investments will be greater than or less than the annual capital investment required. The tables below indicate the annual capital allocation required based on the selected Proposed LOS, and the forecast capital replacements based on each asset category.

Table 64: 10-Year Capital Requirements (PLOS) - Road Network

Road Network											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	\$2.9m										
Total Forecasted Investment	\$2.4m	\$2.5m	\$2.5m	\$2.6m	\$2.7m	\$2.7m	\$2.8m	\$2.9m	\$2.9m	\$3.0m	\$3.1m

Table 65: 10-Year Capital Requirements (PLOS) - Bridges & Culverts

Bridges and Culverts											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	\$68.7k										
Total Forecasted Investment	-	-	-	-	-	-	-	-	-	-	\$508k

Table 66: 10-Year Capital Requirements (PLOS) - Water Network

Water Network											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						\$1.7m					
Total Forecasted Investment	\$2.6m	\$16k	-	\$2.9m	\$222k	\$2.4m	\$34k	\$157k	\$1.3m	\$199k	\$22.2m

Table 67: 10-Year Capital Requirements (PLOS) - Sanitary Network

Sanitary Sewer Network											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						\$1.65m					
Total Forecasted Investment	\$4.9m	\$513k	\$50.7m	-	-	-	-	-	-	-	-

Table 68: 10-Year Capital Requirements (PLOS) - Stormwater Network

Stormwater Network											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						\$21.6k					
Total Forecasted Investment	\$16k	\$18k	\$16k	\$18k	\$17k	\$17k	\$17k	\$17k	\$18k	\$17k	\$17k

Table 69: 10-Year Capital Requirements (PLOS) - Buildings & Facilities

Buildings & Facilities											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						\$308.8k					
Total Forecasted Investment	\$245k	\$245k	\$245k	\$245k	\$245k	\$245k	\$245k	\$245k	\$245k	\$245k	\$245k

Table 70: 10-Year Capital Requirements (PLOS) – Parks & Land Improvements

Parks & Land Improvements											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						\$11.3k					
Total Forecasted Investment	-	\$12k	\$12k	-	\$16k	-	\$18k	-	\$22k	-	\$15k

Table 71: 10-Year Capital Requirements (PLOS) - Fleet

Fleet											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						\$131k					
Total Forecasted Investment	\$64k	\$82k	\$82k	\$108k	\$67k	\$114k	\$67k	\$124k	\$82k	\$117k	\$82k

Table 72: 10-Year Capital Requirements (PLOS) – Machinery & Equipment

Machinery and Equipment											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation					\$57.7k						
Total Forecasted Investment	\$36k	\$37k	\$38k	\$38k	\$40k	\$40k	\$42k	\$43k	\$44k	\$45k	\$46k

Appendix L: PLOS Scenario Comparison

The following graphs illustrate how the average condition scores and average risks ratings are forecasted to change over time by scenario for each asset category. The purple dotted line represents scenario one (maintain investment), the blue dotted line represents scenario two (maintain condition) and the green dotted line represents scenario three (annual increase).

Road Network

Condition

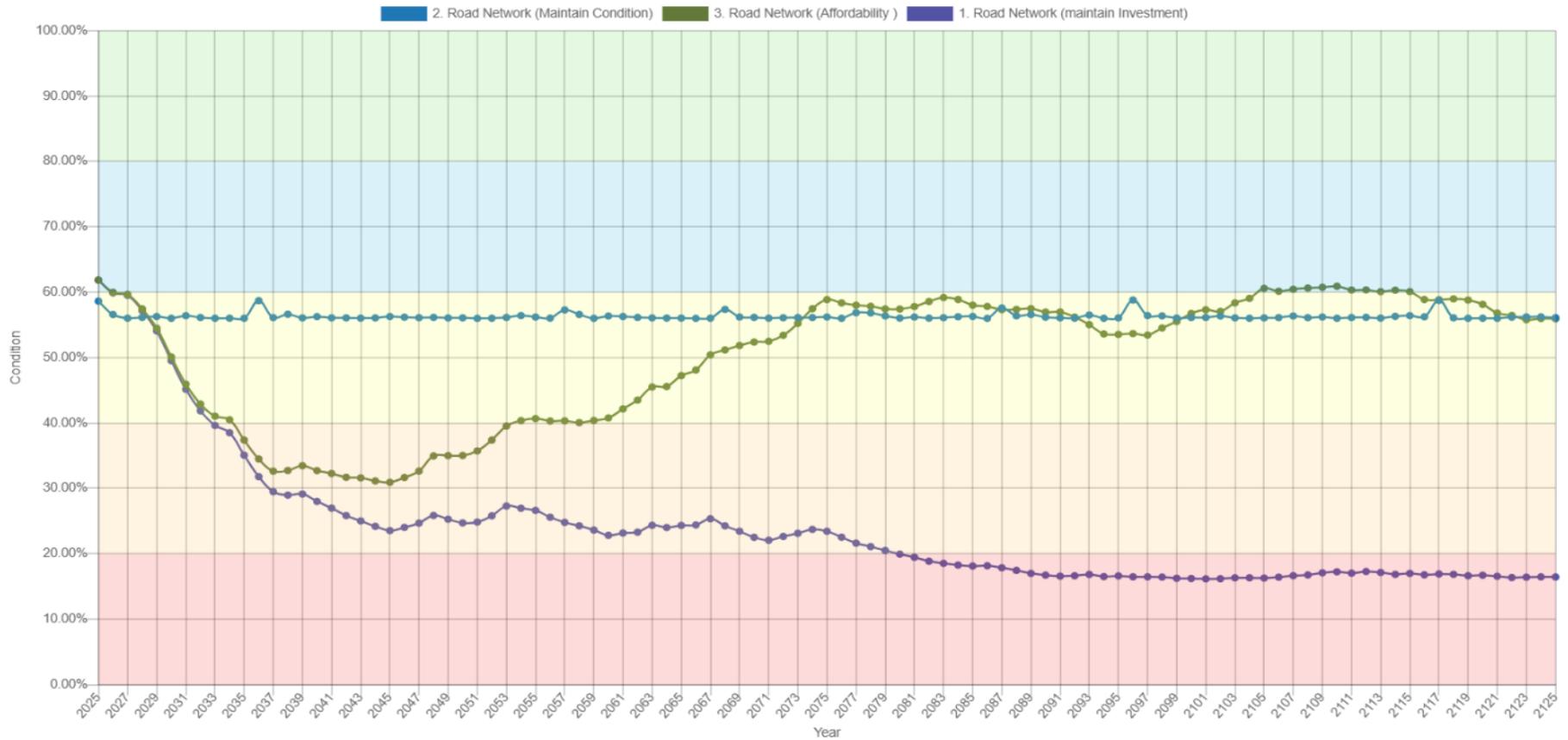


Figure 77: Road Network: Condition Forecast – PLOS Scenario Comparison

Risk

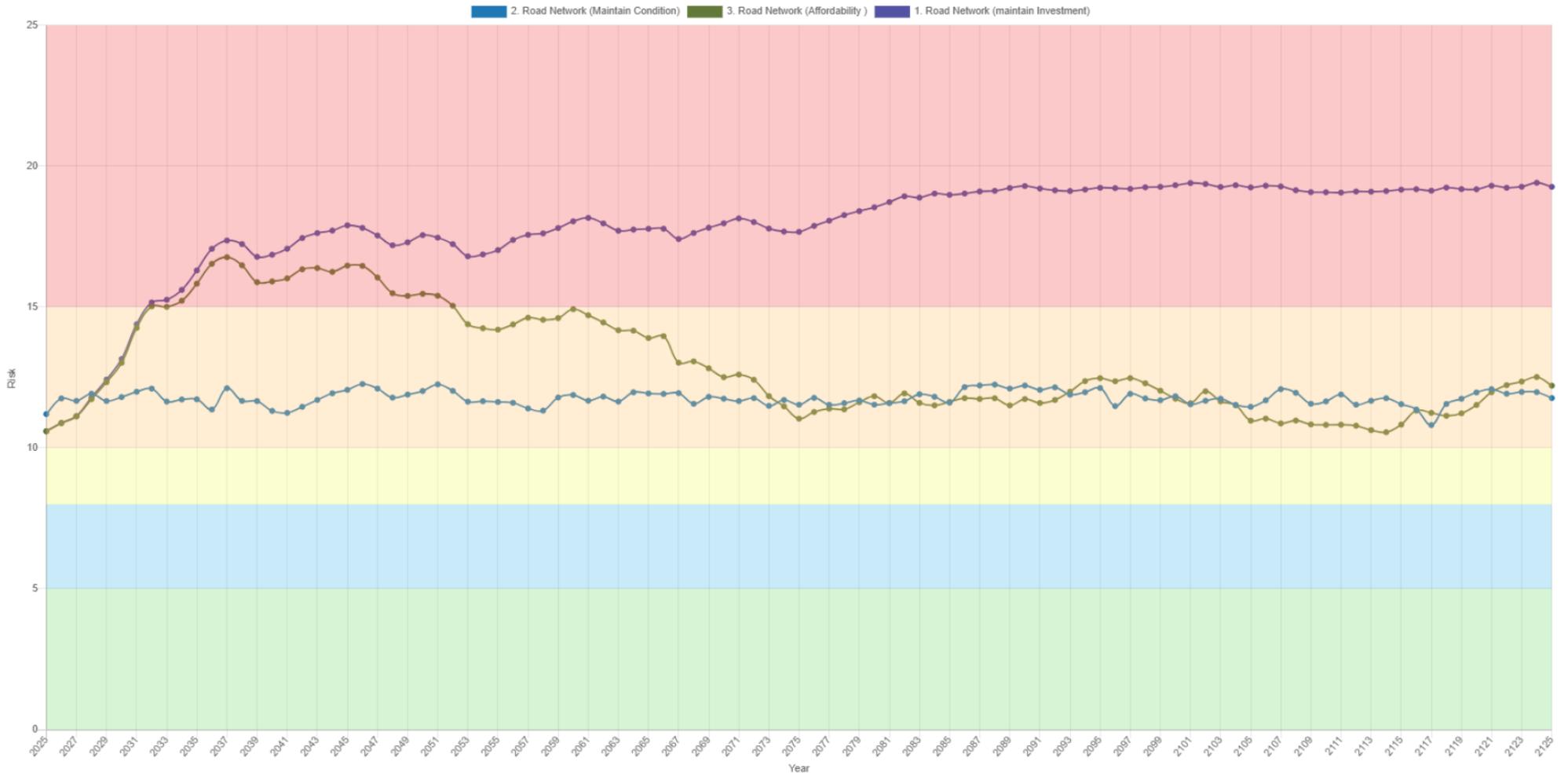


Figure 78: Road Network: Risk Forecast – PLOS Scenario Comparison

Bridges & Culverts

Condition

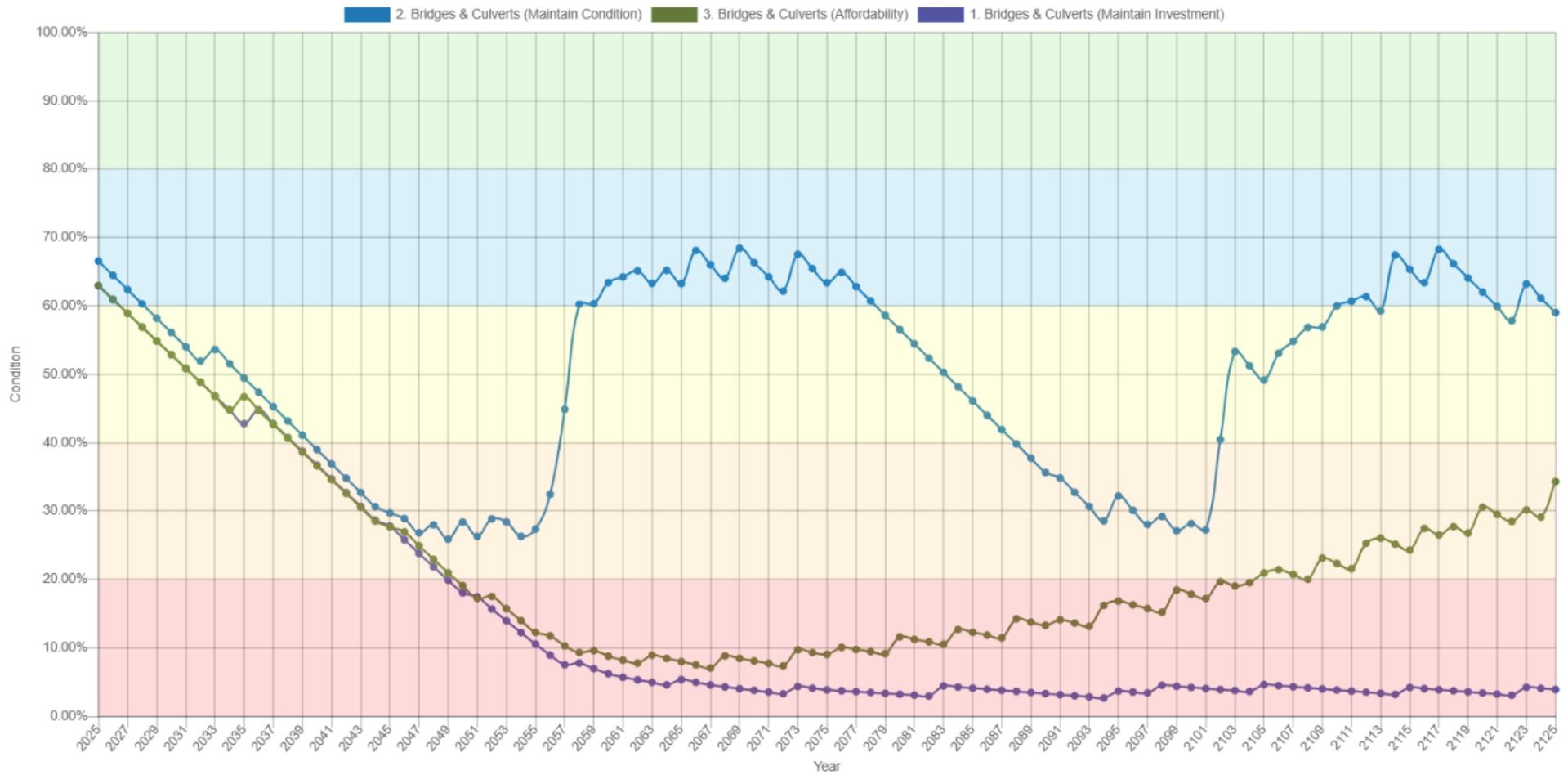


Figure 79: Bridges & Culverts: Condition Forecast – PLOS Scenario Comparison

Risk

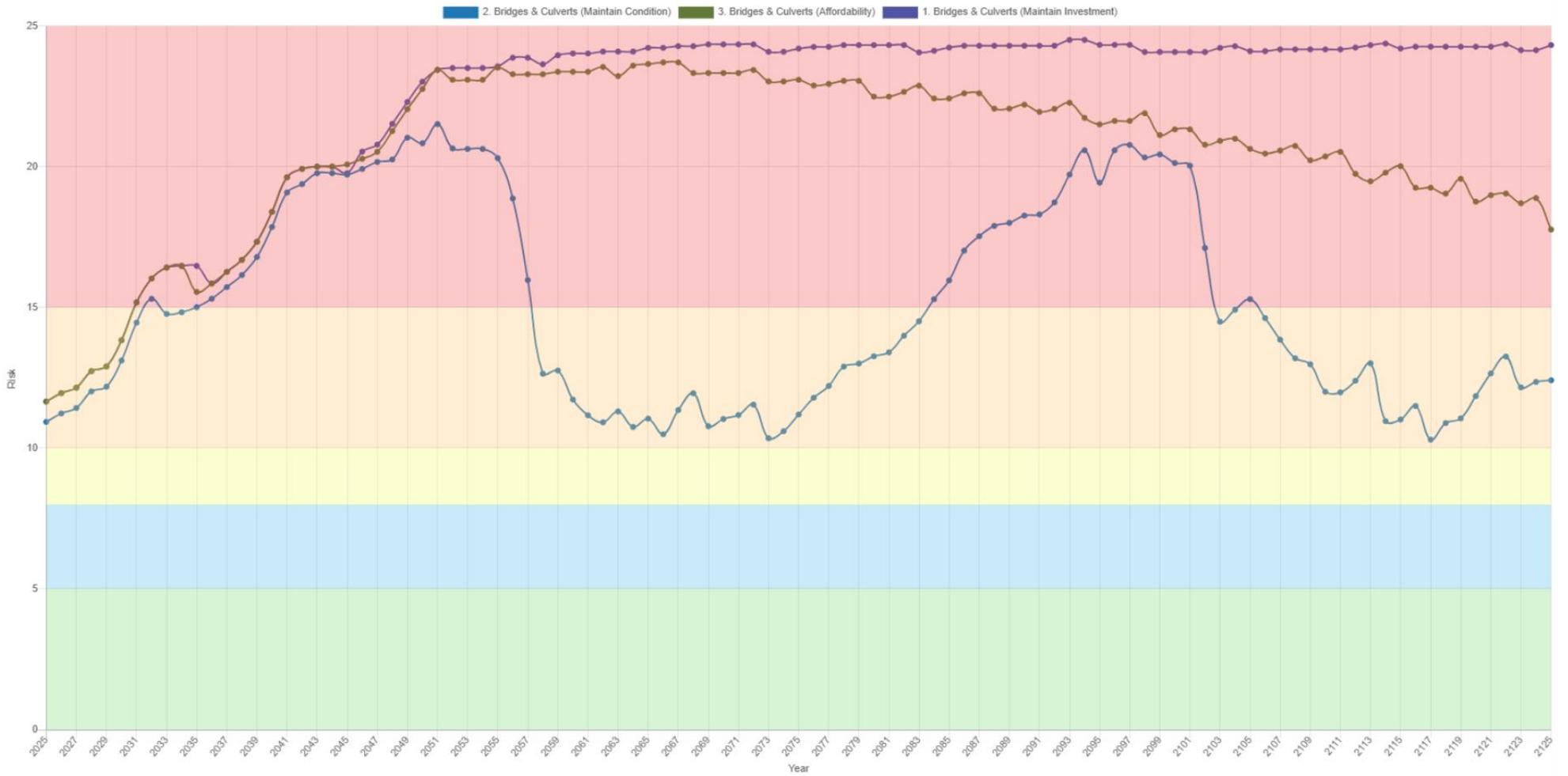


Figure 80: Bridges & Culverts: Risk Forecast – PLOS Scenario Comparison

Water Network

Condition

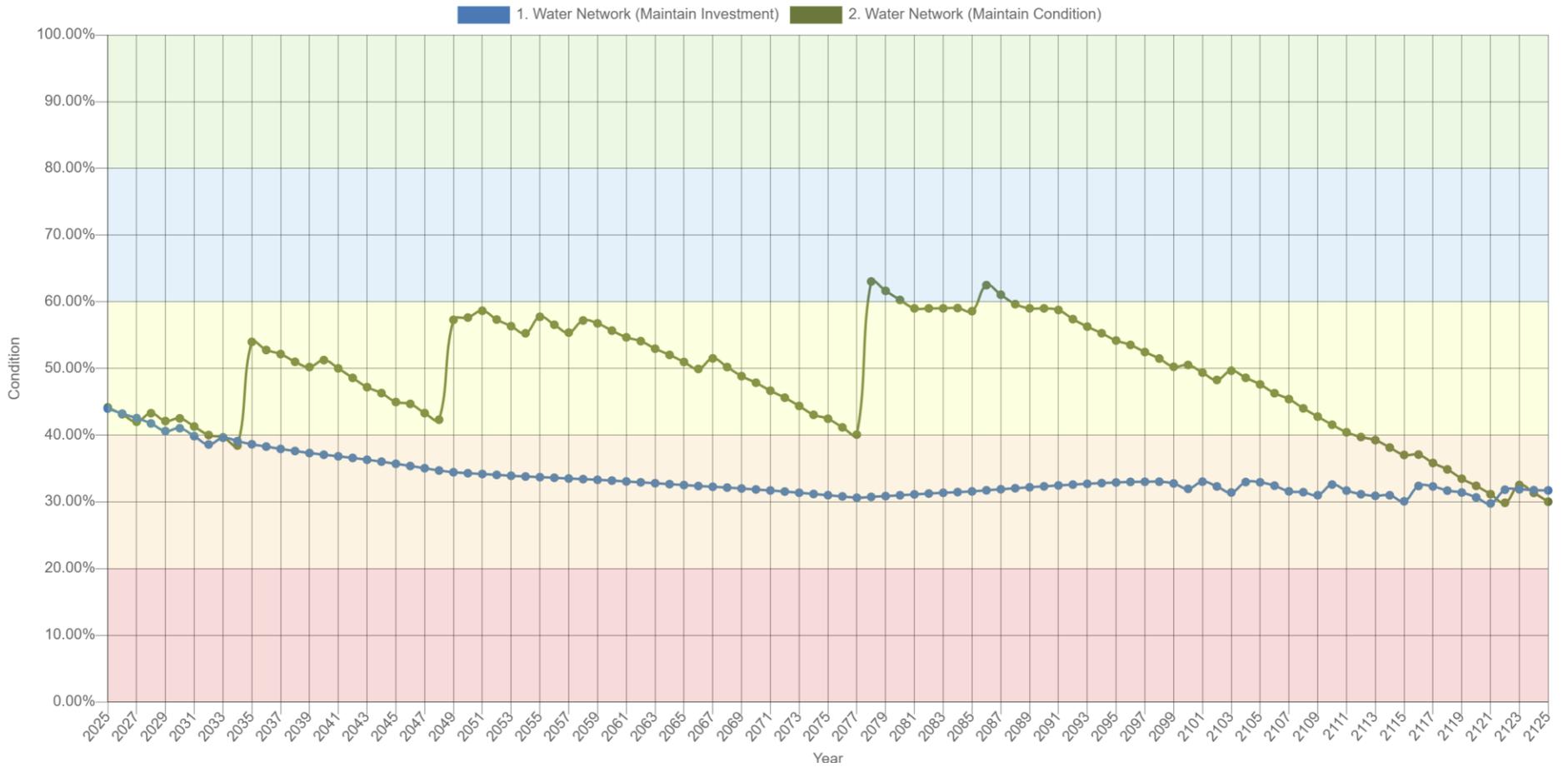


Figure 81: Water Network: Condition Forecast – PLOS Scenario Comparison

Risk

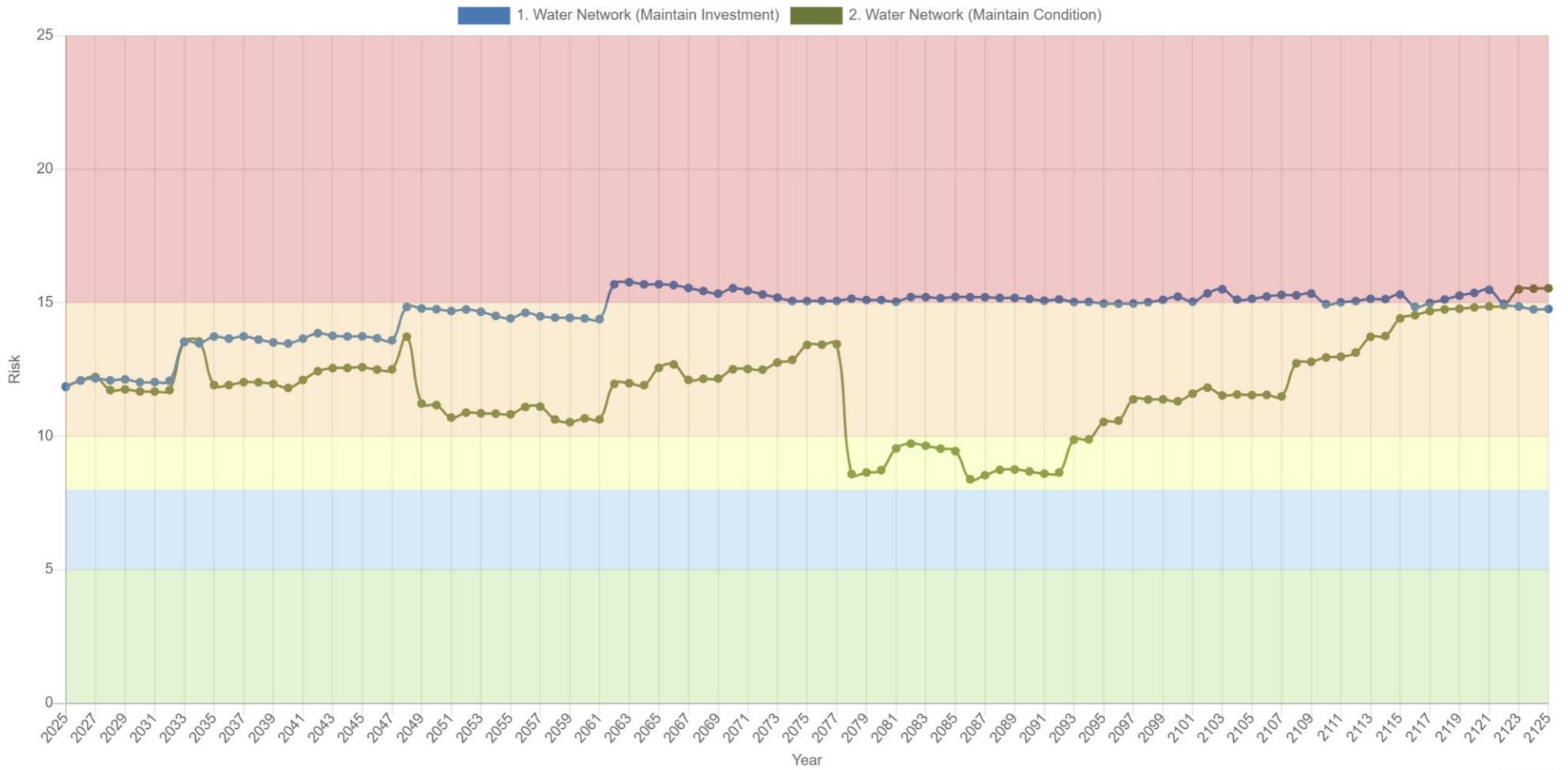


Figure 82: Water Network: Risk Forecast – PLOS Scenario Comparison

Sanitary Network Condition

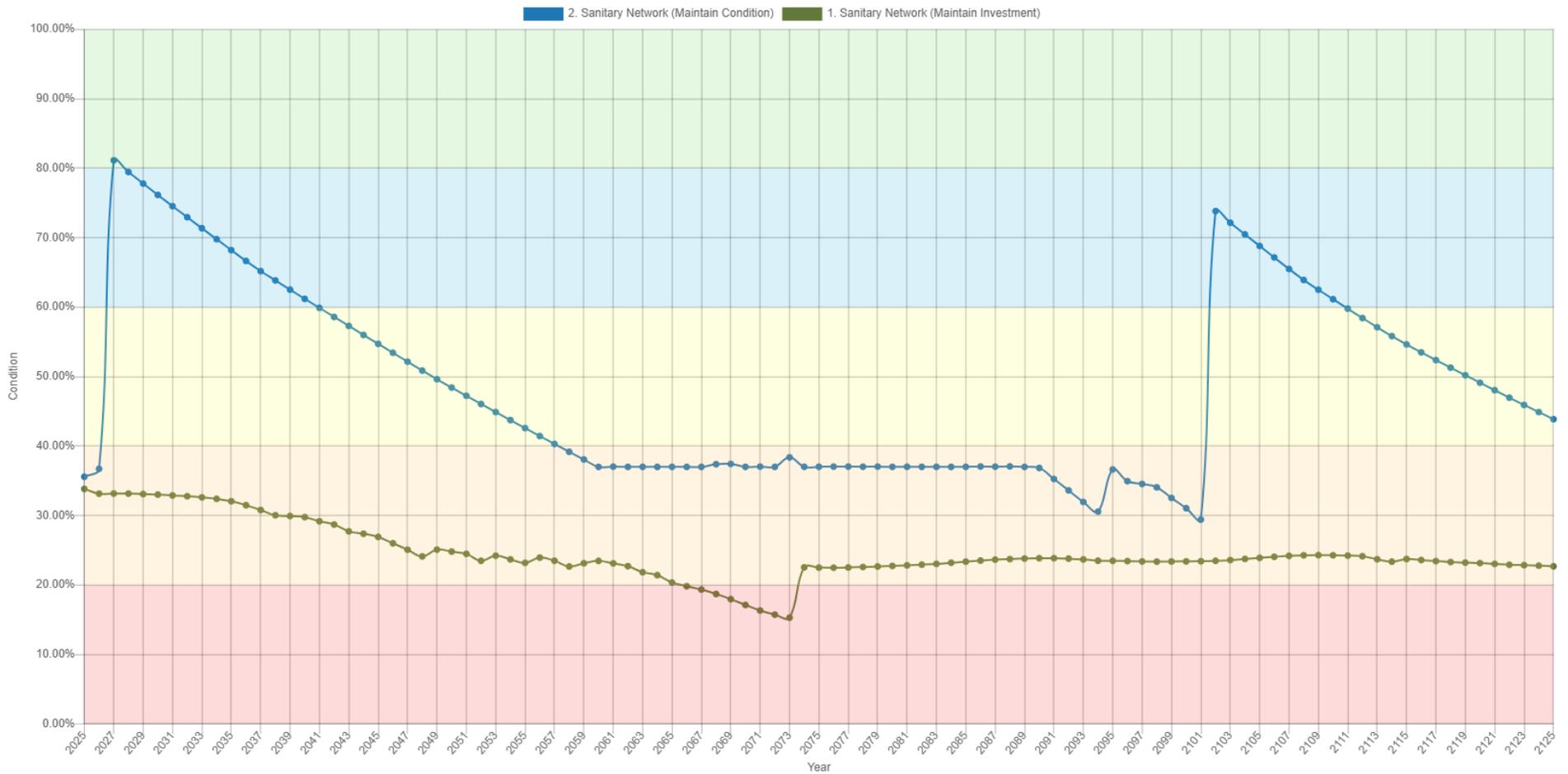


Figure 83: Sanitary Network: Condition Forecast – PLOS Scenario Comparison

Risk

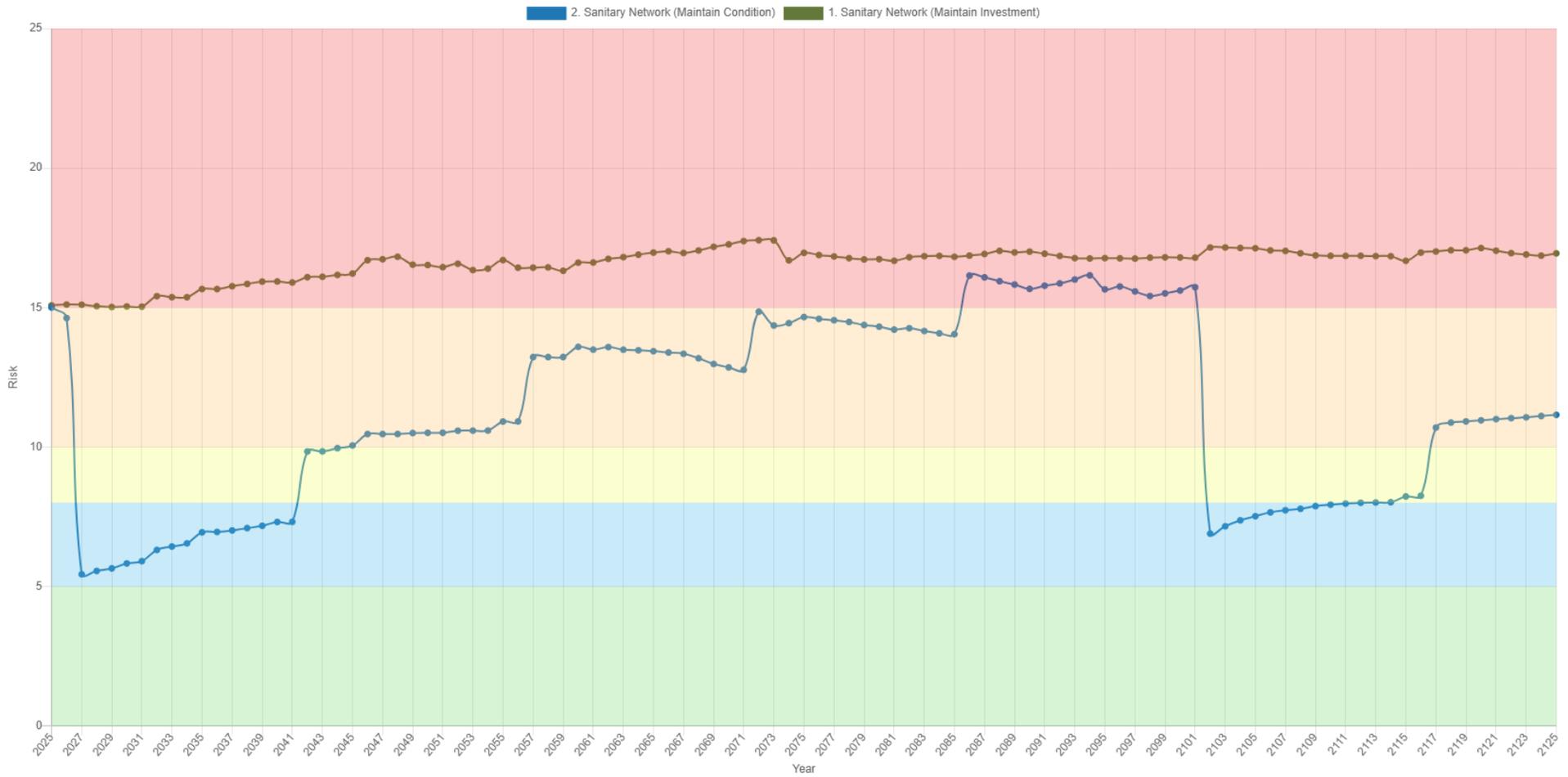


Figure 84: Sanitary Network: Risk Forecast – PLOS Scenario Comparison

Stormwater Network Condition

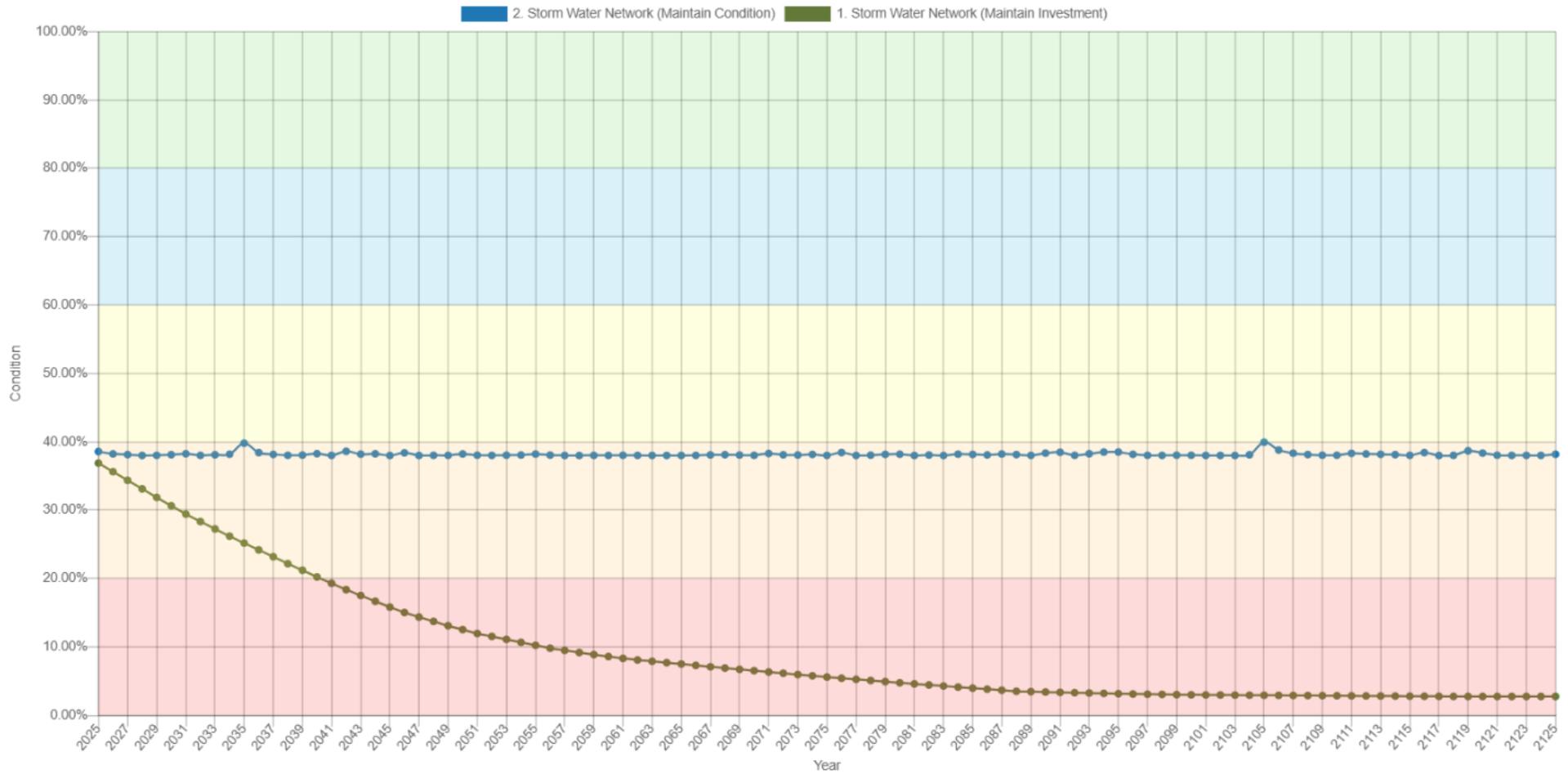


Figure 85: Stormwater Network: Condition Forecast – PLOS Scenario Comparison

Risk

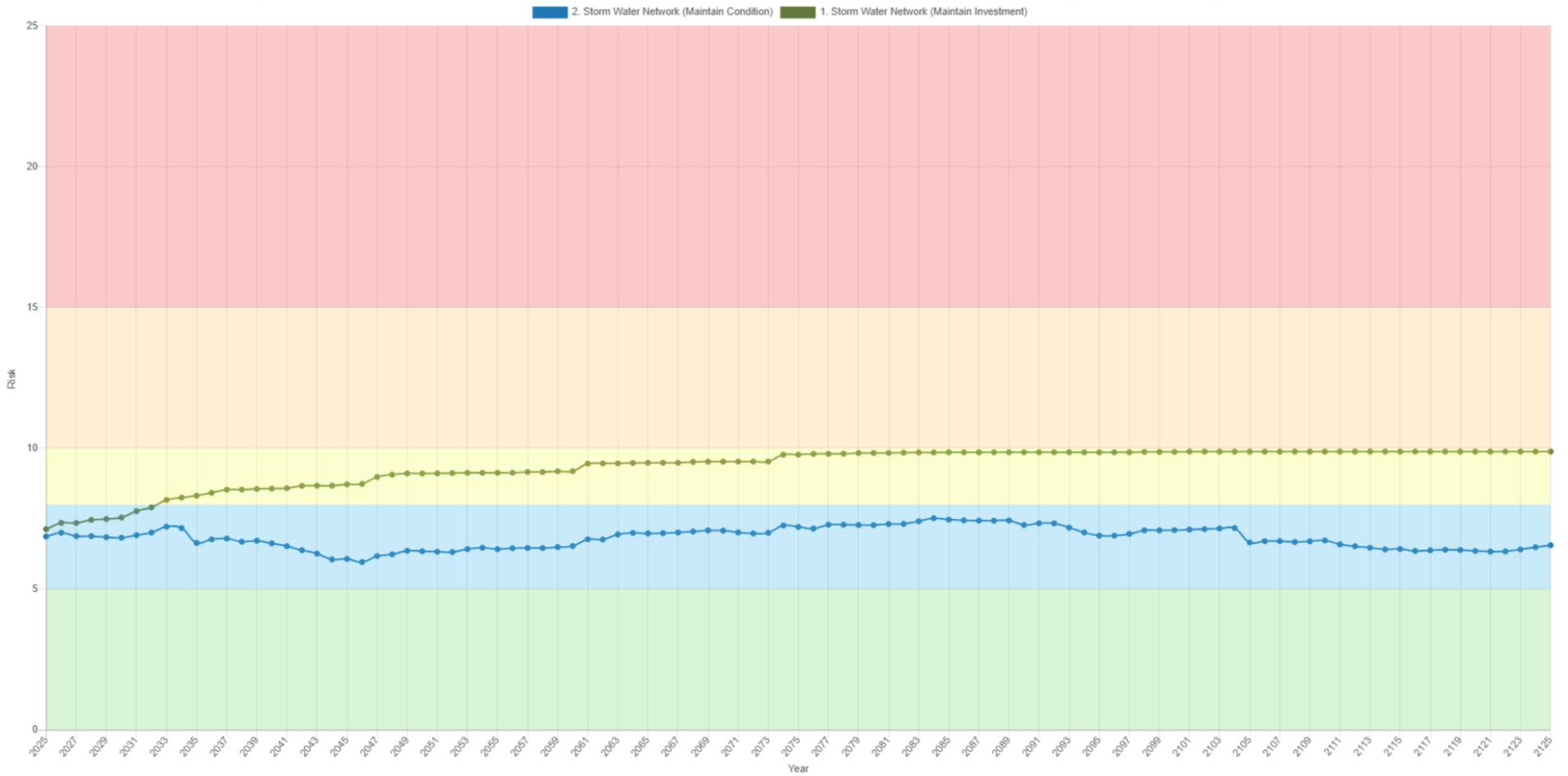


Figure 86: Stormwater Network: Risk Forecast – PLOS Scenario Comparison

Buildings & Facilities

Condition

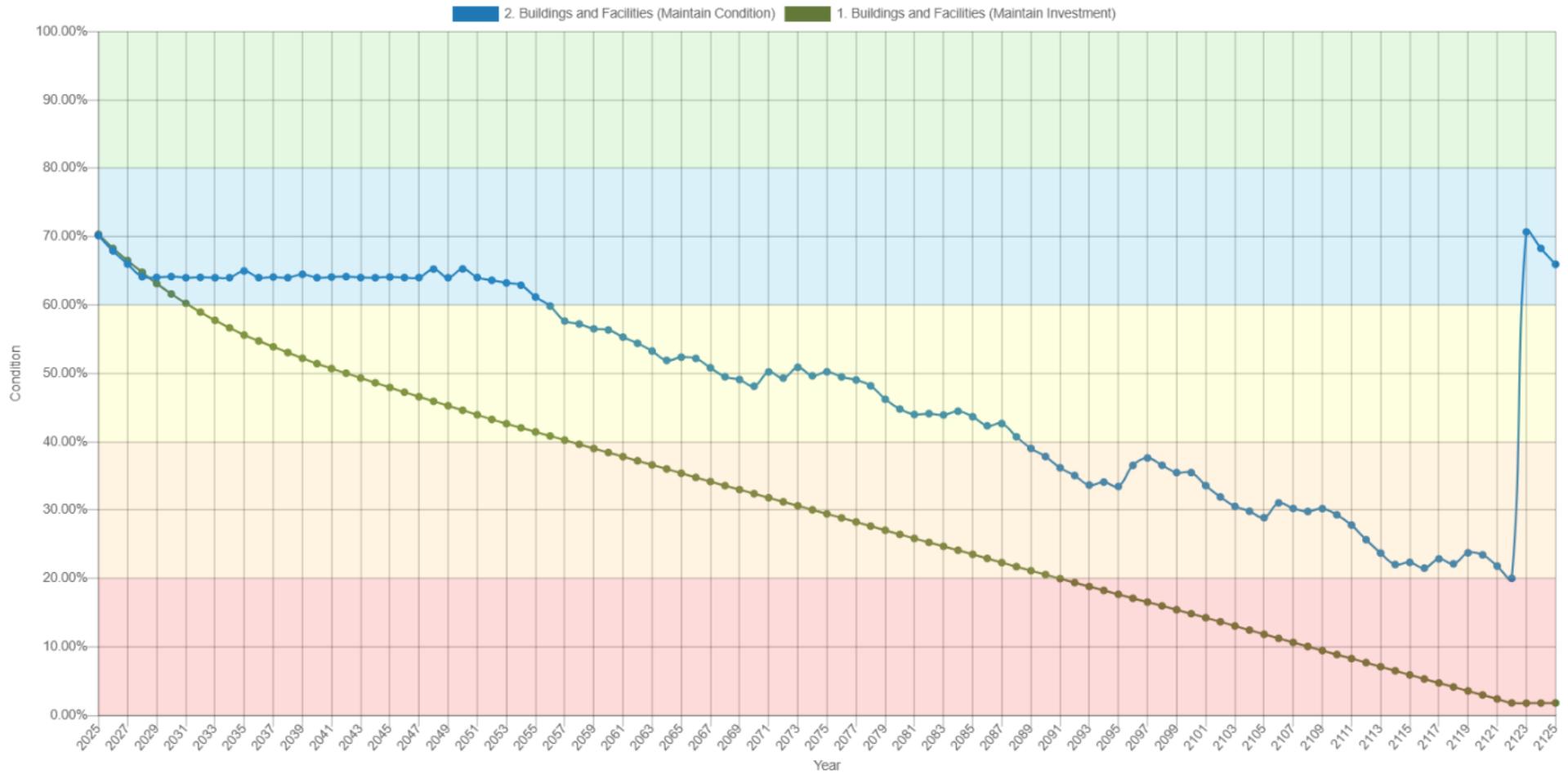


Figure 87: Buildings & Facilities: Condition Forecast – PLOS Scenario Comparison

Risk

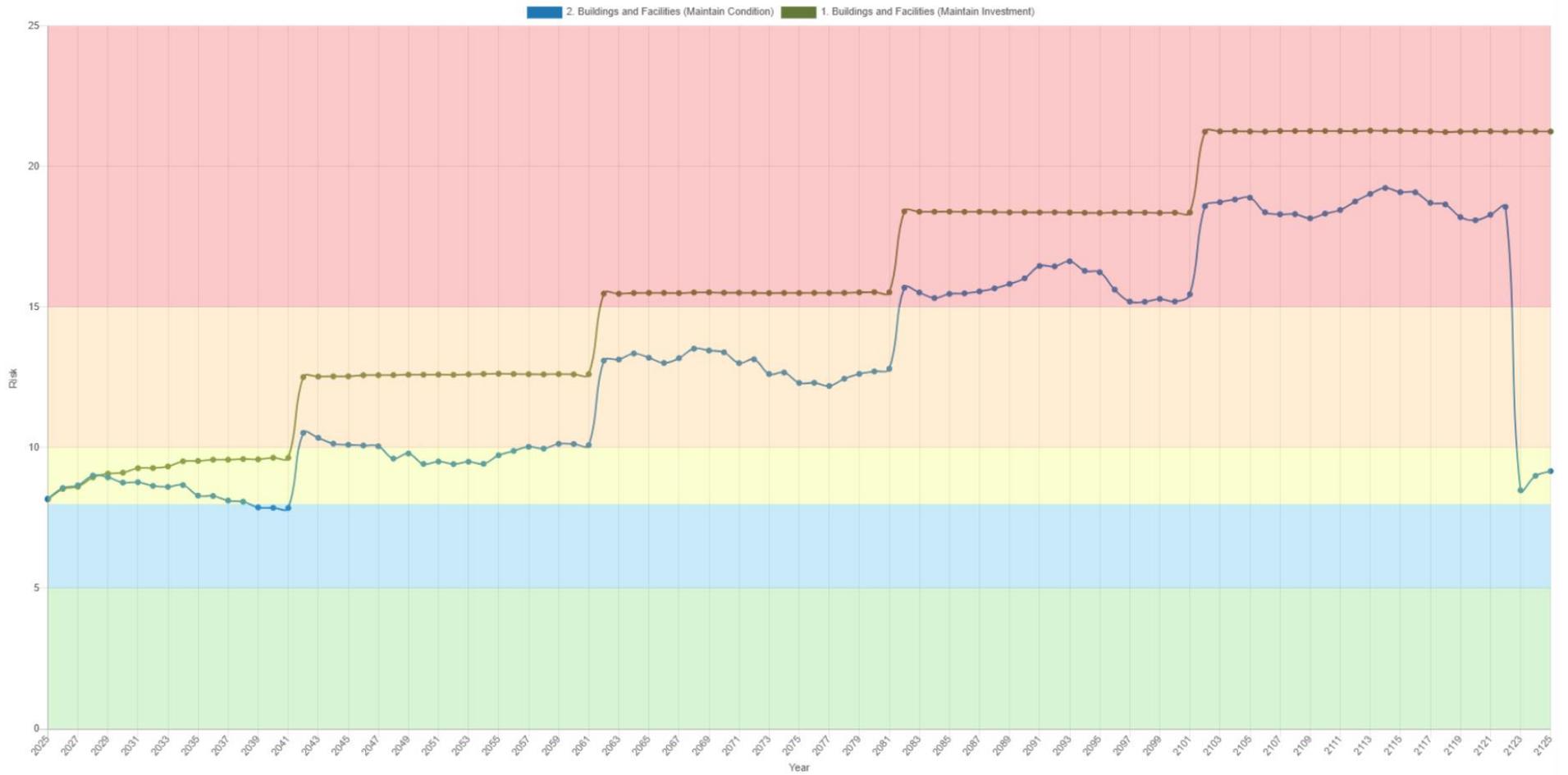


Figure 88: Buildings & Facilities: Risk Forecast – PLOS Scenario Comparison

Parks & Land Improvements

Condition

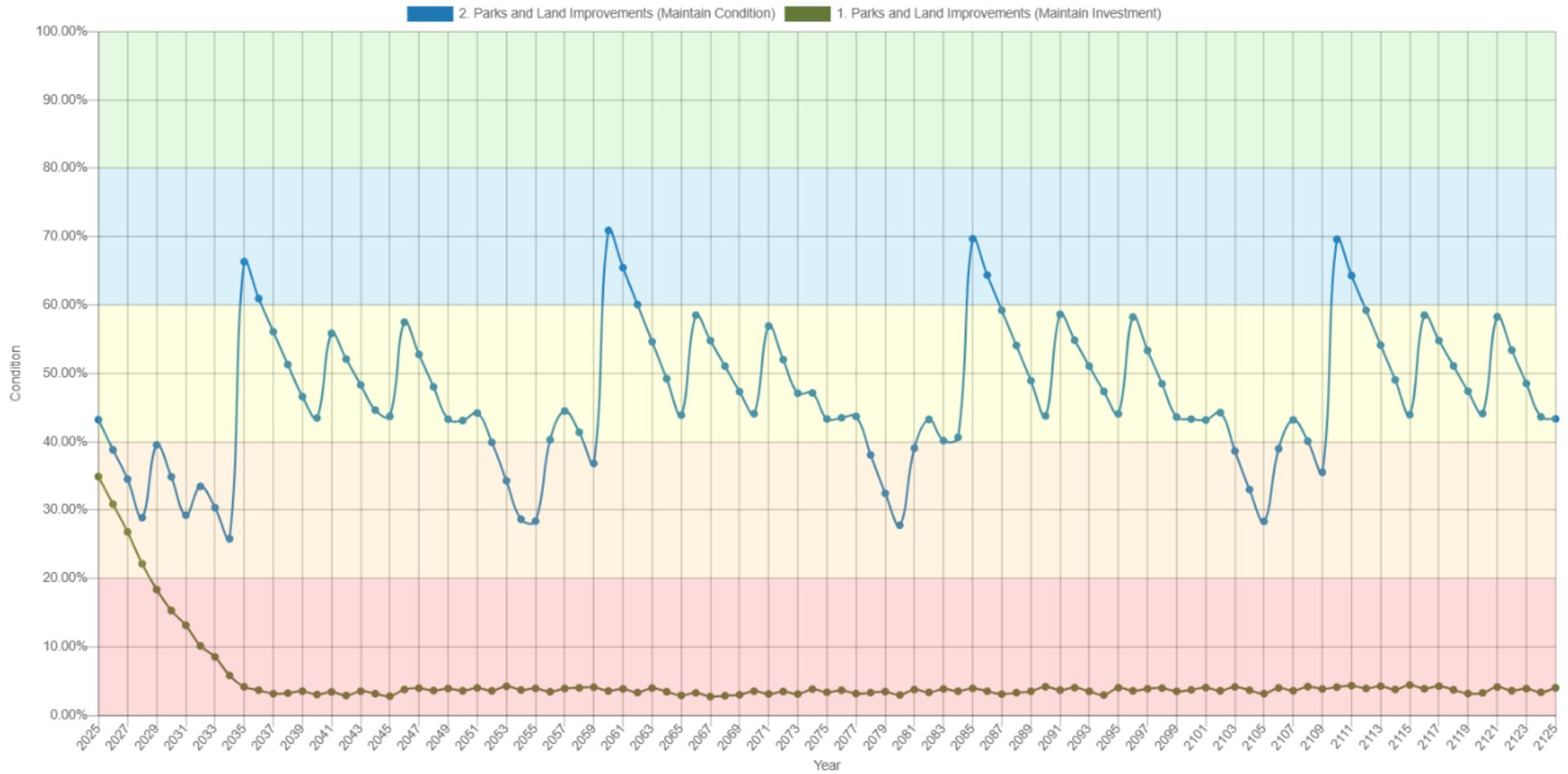


Figure 89: Parks & Land Improvements: Condition Forecast – PLOS Scenario Comparison

Risk

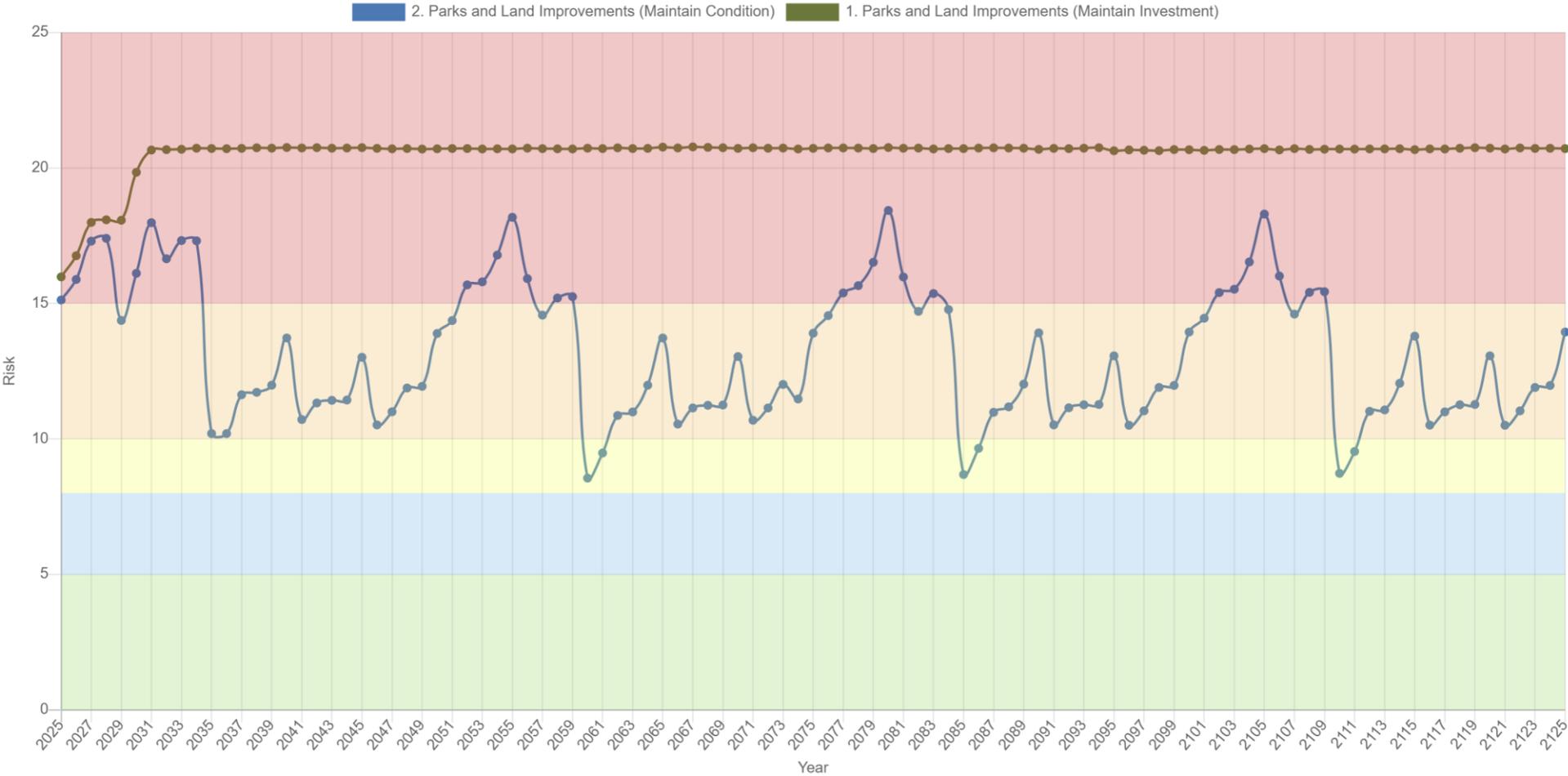


Figure 90: Parks & Land Improvements: Risk Forecast – PLOS Scenario Comparison

Fleet Condition

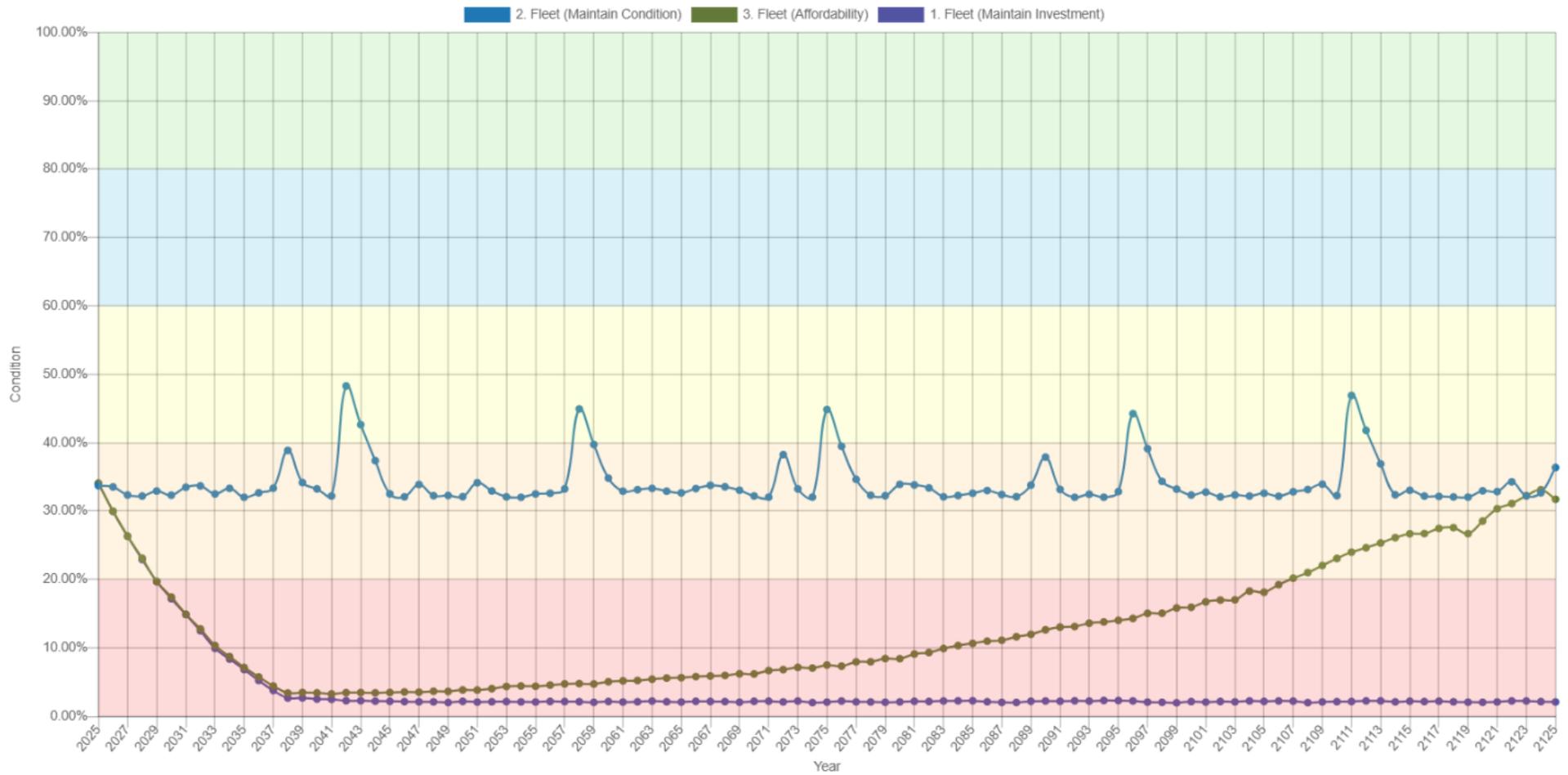


Figure 91: Fleet: Condition Forecast – PLOS Scenario Comparison

Risk

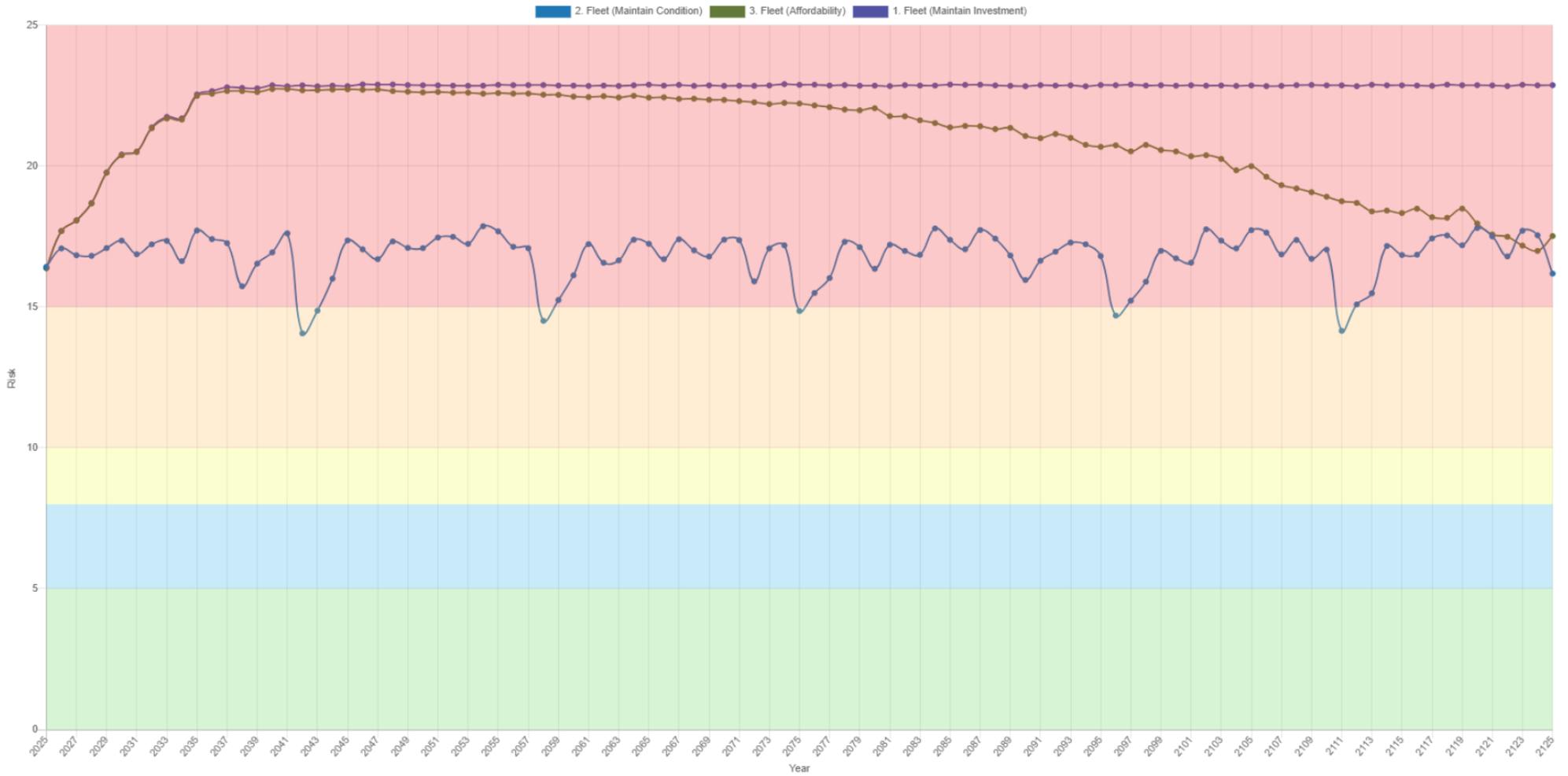


Figure 92: Fleet: Risk Forecast – PLOS Scenario Comparison

Machinery & Equipment Condition

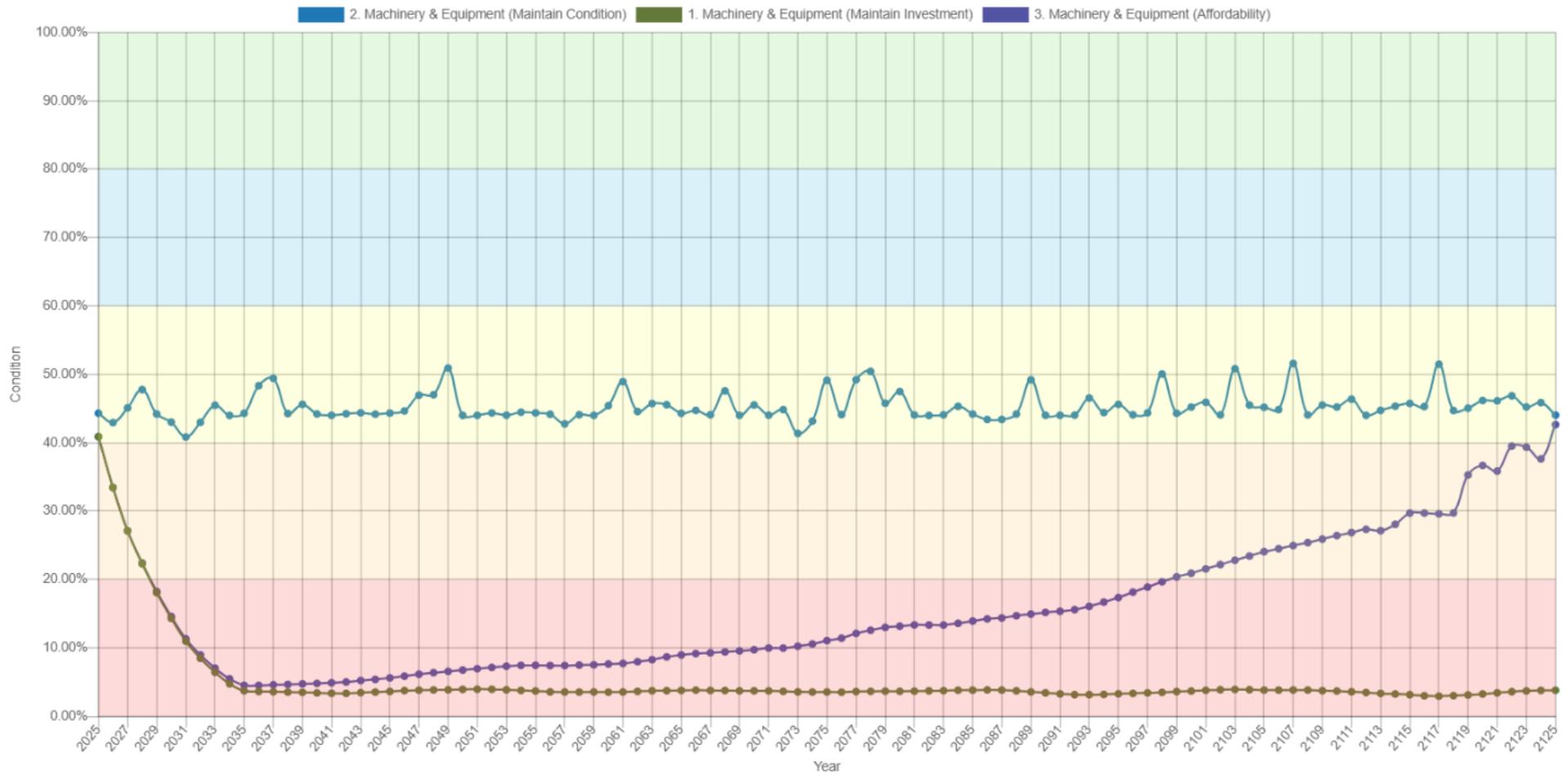


Figure 93: Machinery & Equipment: Condition Forecast – PLOS Scenario Comparison

Risk

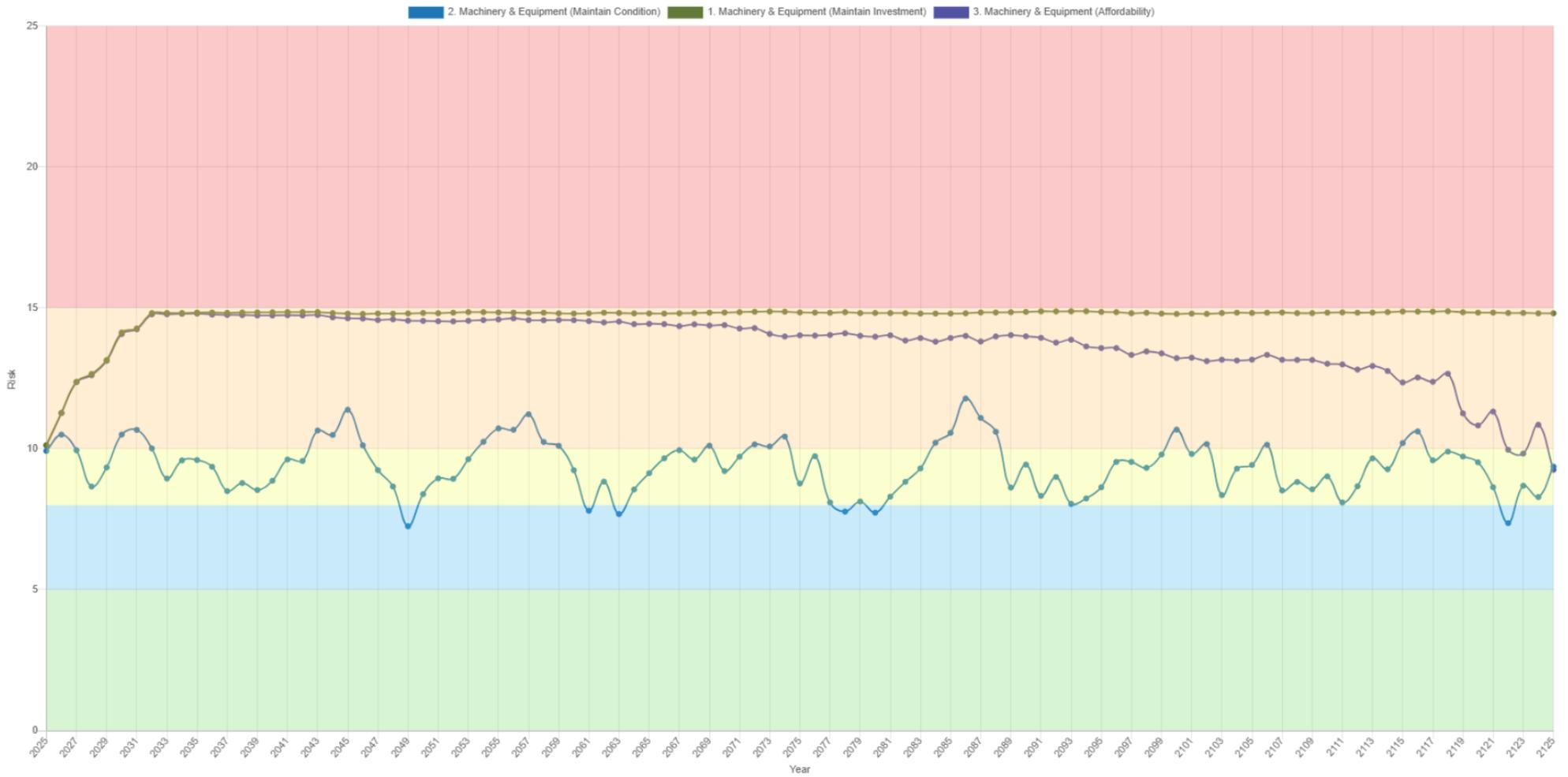


Figure 94: Machinery & Equipment: Risk Forecast – PLOS Scenario Comparison

Appendix M: Level of Service Maps & Photos

Example of a bridge in good condition – Manion Road Bridge – BCI: 68.29



North elevation



South elevation



Looking east over structure



Typical approach wearing surface



Typical deck soffit



Typical east abutment wall

Example of a bridge in fair condition – Pleasant Drive Bridge – BCI: 57.29



West elevation



Looking north over structure



Popout spalls along the deck soffit



Cracking and spalling along the edge of the deck soffit



Typical south expansion joint



Typical south abutment wall

Example of a bridge in very poor condition – Cheese Factory Road Bridge – BCI: 0



East elevation

Looking south over structure

Large hole through deck

Typical soffit with spalls and exposed rusted rebar

Spalling, cracking and staining along the abutment wall

Cracks in wingwall/abutment

Example of a culvert in good condition – Townline Road Culvert – BCI: 69.74



West elevation



Looking south over structure



Typical approach wearing surface



Perching of north barrel, with water flowing under structure

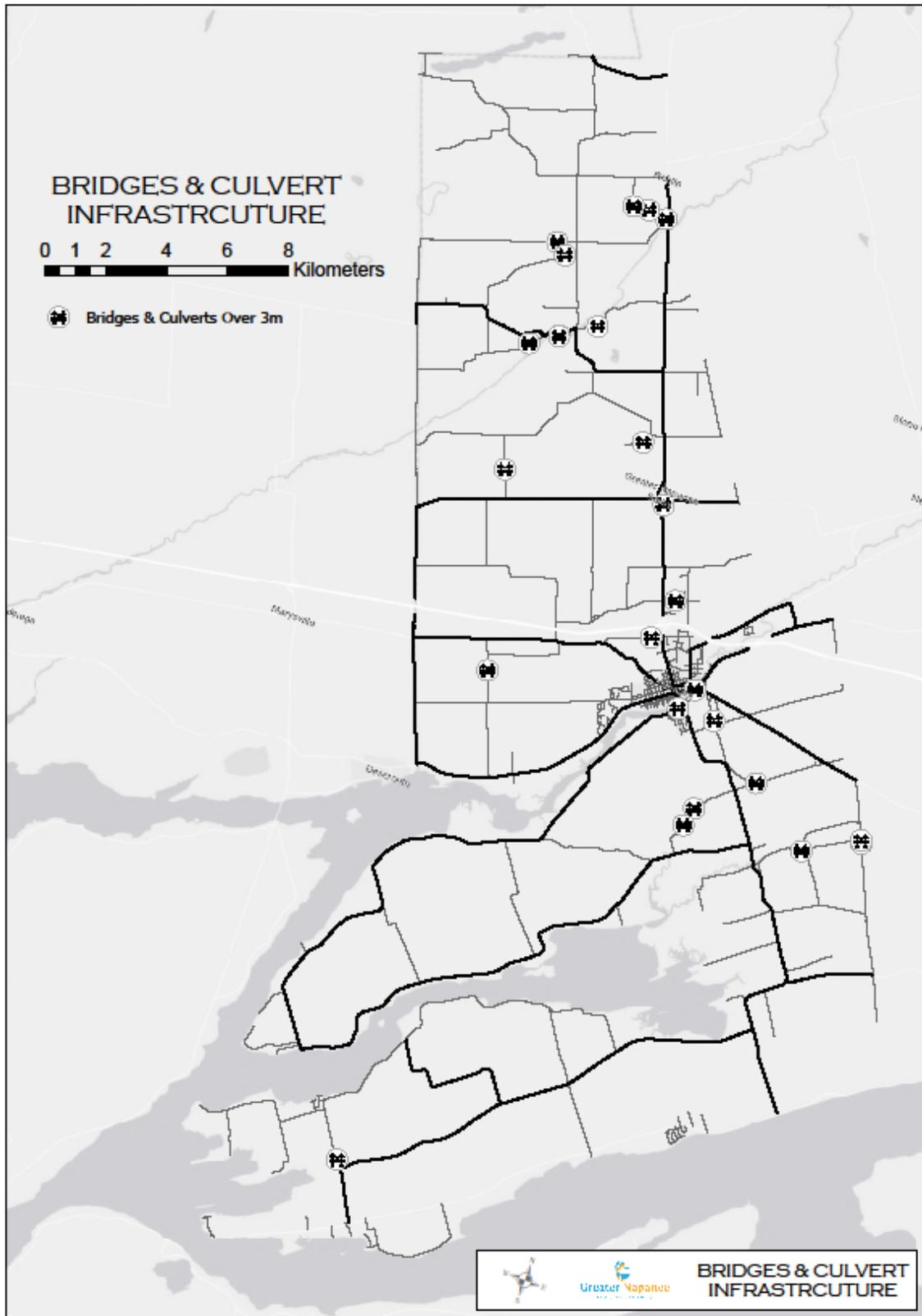


Debris/remainder of beaver dam in barrel

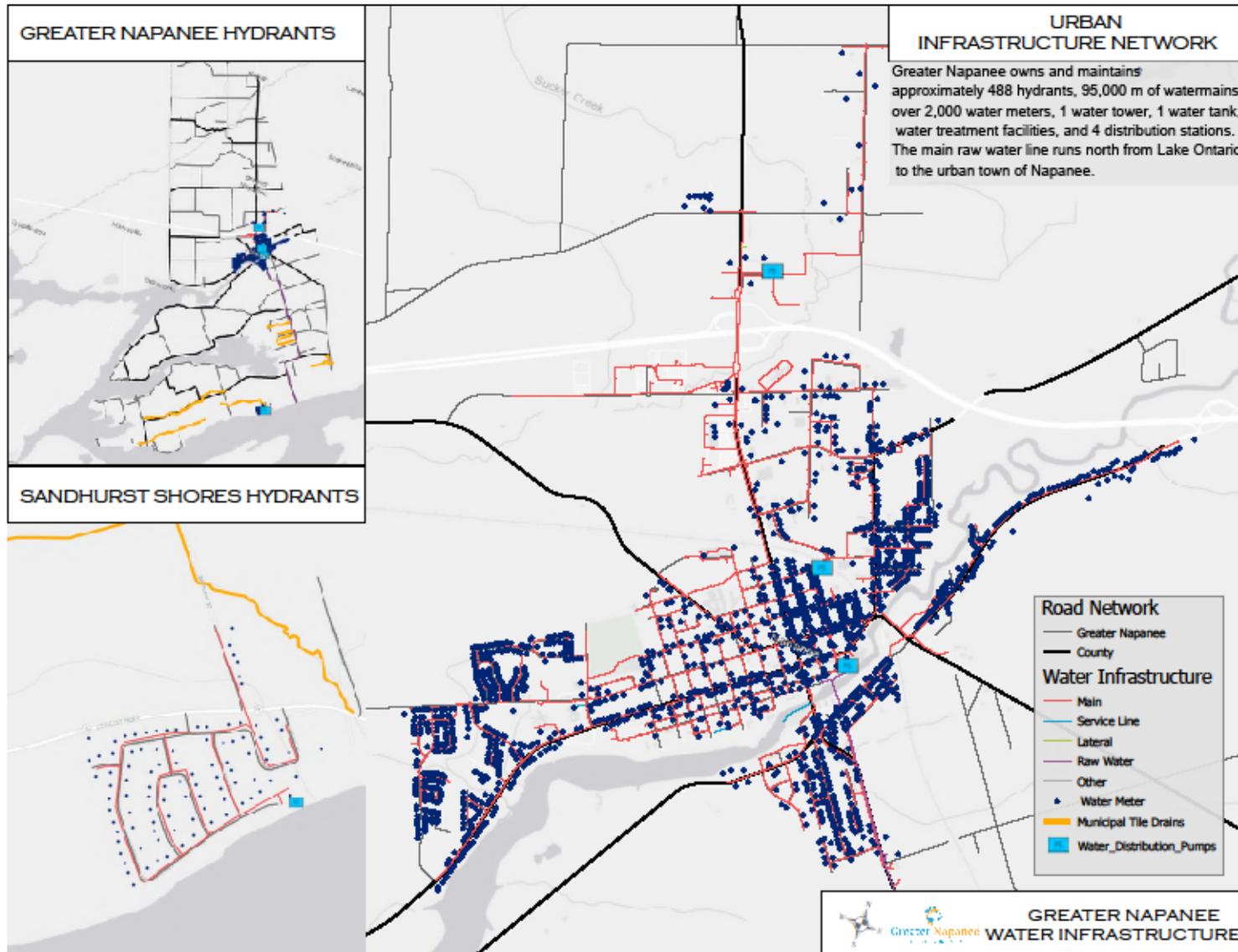


Separation/rotation in north barrel

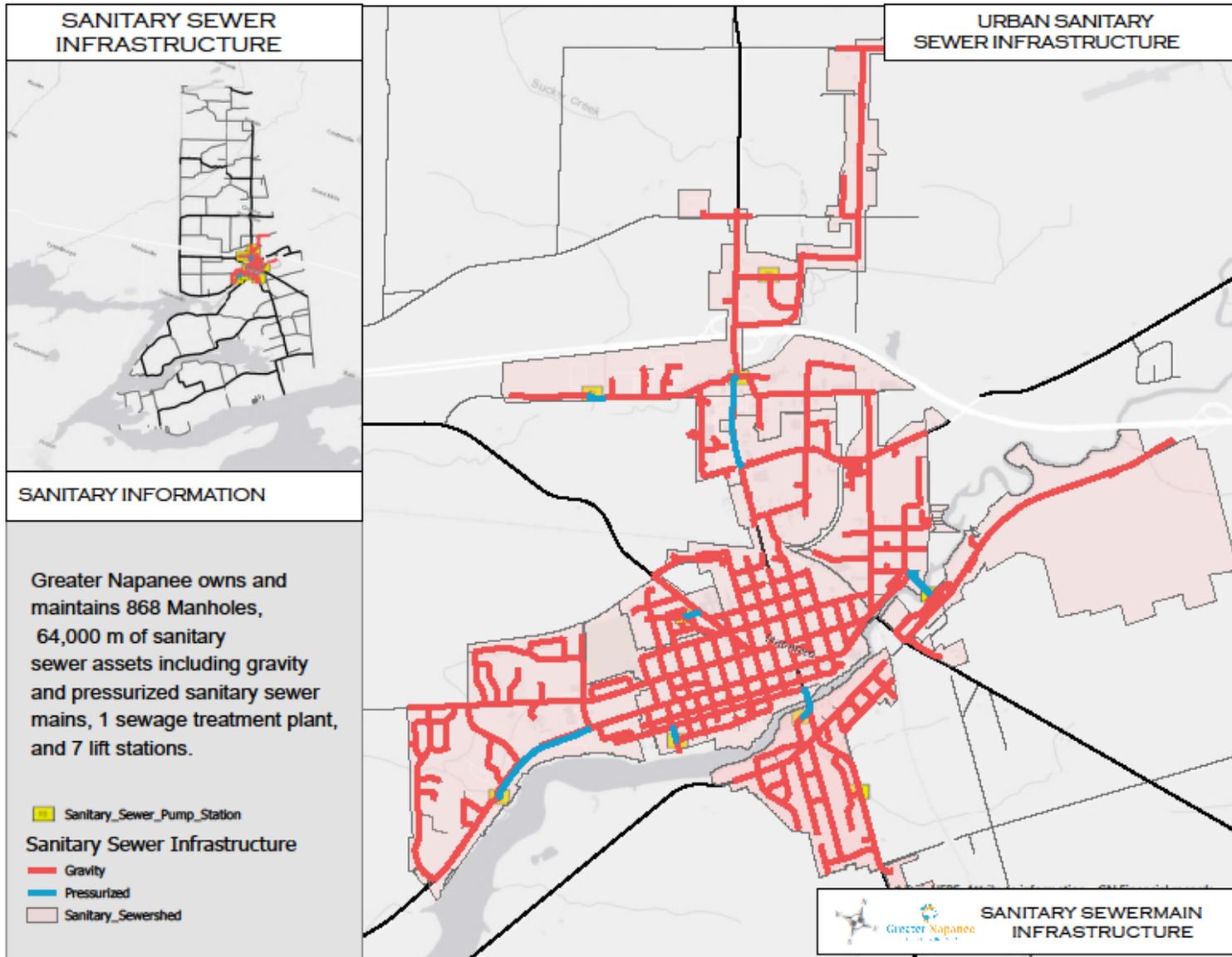
Bridges & Culverts Network Map



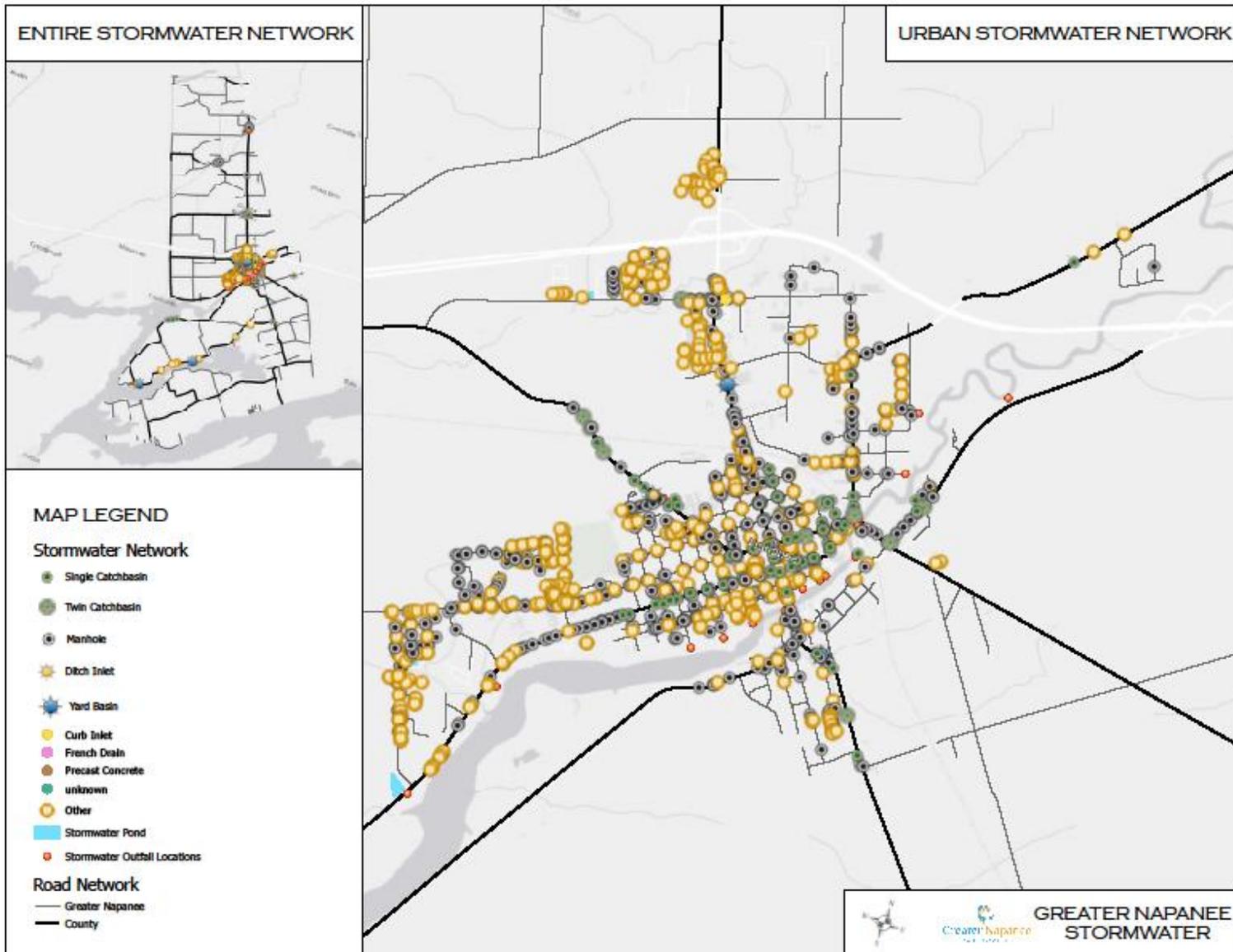
Water Network Map



Sanitary Network Map



Stormwater Network Map



Appendix N: Risk Rating Criteria

Probability of Failure:

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
All Assets	Economic (100%)	Condition (100%)	0-19	5
			20-39	4
			40-59	3
			60-79	2
			80-100	1

Consequence of Failure:

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Water Network (Mains)	Economic (80%)	Replacement Cost (100%)	\$0-25,000	1
			\$25,001-50,000	2
			\$50,001-100,000	3
			\$100,001-250,000	4
			\$250,001+	5
	Operational (20%)	Pipe Diameter (100%)	0-50	1
			51-100	2
			101-250	3
			250-400	4
			401+	5
Sanitary Network (Mains)	Economic (80%)	Replacement Cost (100%)	\$0-25,000	1
			\$25,001-50,000	2
			\$50,001-100,000	3
			\$100,001-250,000	4
			\$250,001+	5
	Operational (20%)	Pipe Diameter (100%)	0-150	1
			151-200	2
			201-300	3
			301-375	4
			375+	5
All Other Assets	Economic (100%)	Replacement Cost (100%)	\$0-25,000	1
			\$25,001-50,000	2
			\$50,001-100,000	3
			\$100,001-250,000	4
			\$250,001+	5