



Asset Management Plan 2025

Township of Rideau Lakes

November 2025



This Asset Management Plan was prepared by:



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

Key Statistics

\$128 m	2024 Replacement Cost of Asset Portfolio
\$18.9 k	Replacement Cost of Infrastructure Per Household
77%	Percentage of Assets in Fair or Better Condition
61%	Percentage of Assets with Assessed Condition Data
\$816k	Annual Capital Infrastructure Deficit
5 Years	Recommended Timeframe to reach Proposed Levels of Service
4.05%	Target Investment Rate to meet Proposed Levels of Service
3.41%	Actual Investment Rate

Table of Contents

1. Executive Summary.....	4
2. Introduction & Context.....	6
Portfolio Overview.....	21
3. State of the Infrastructure	22
Proposed Levels of Service	30
4. Proposed Levels of Service Analysis.....	31
5. Roads.....	37
6. Bridges & Culverts.....	50
7. Storm System	61
Category Analysis: Non-Core Assets	71
8. Buildings.....	72
9. Land Improvements.....	82
10. Vehicles	92
11. Equipment	102
Strategies	112
12. Growth	113
13. Financial Strategy	115
14. Recommendations & Key Considerations	126
Appendices	128
Appendix A – Infrastructure Report Card	129
Appendix B – 10-Year Capital Requirements.....	130
Appendix C – Level of Service Maps & Photos	135
Appendix D – Risk Rating Criteria	142
Appendix E - Inventory.....	151

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

This AMP includes the following asset categories:

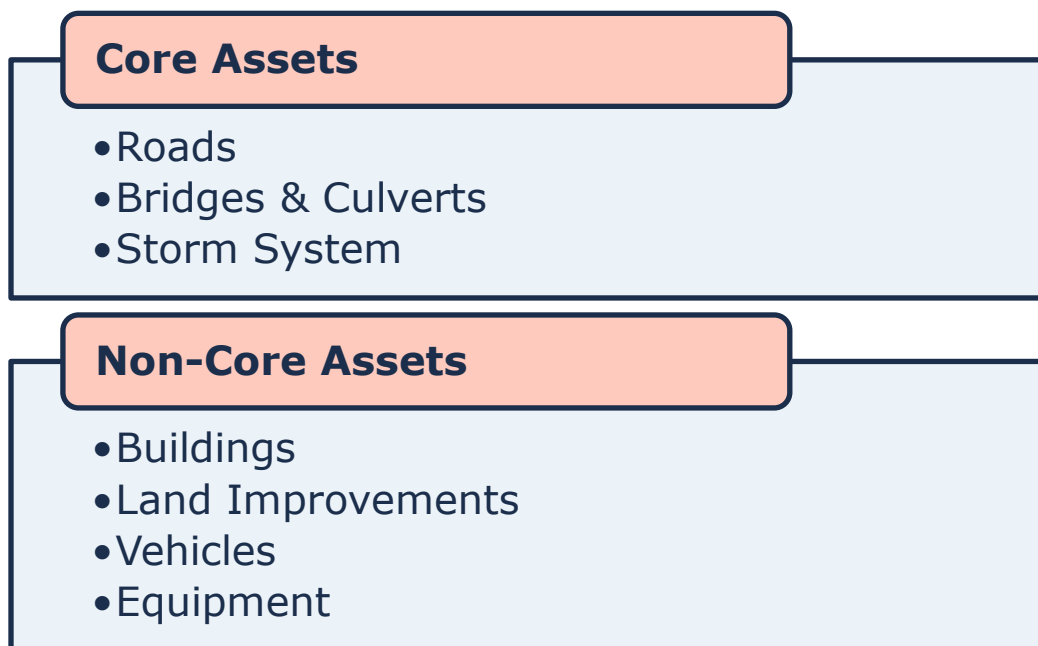


Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

With the development of this AMP the Township of Rideau Lakes has achieved compliance with 2025, requirements under O. Reg. 588/17. This includes requirements for proposed levels of service and inventory reporting for all asset categories.

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals \$128 million. 77% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 61% of assets. For the remaining 39% of assets, assessed condition data was unavailable, and asset age was used to approximate condition, a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

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

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Township's average annual capital requirement totals \$5.2 million. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately \$4.38 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of \$816 thousand.

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

1.4 Targeted Financial Recommendation

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax change required to eliminate the Township's infrastructure deficit based on a 5-year plan. Further details are provided in *Section 13 Financial Strategy*.

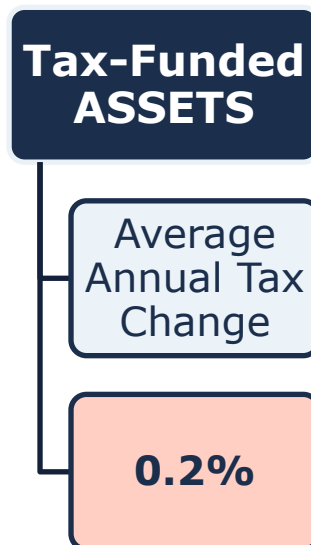


Figure 2 Proposed Tax/Rate Changes

2. Introduction & Context

2.1 Community Profile

Census Characteristic	Township of Rideau Lakes ¹	Ontario
Population 2021	10,883	14,223,942
Population Change 2016-2021	5.4%	5.8%
Total Private Dwellings	6,781	5,929,250
Population Density	15.3/km ²	15.9/km ²
Land Area	711.81 km ²	892,411.76 km ²

Table 1 Township of Rideau Lakes Community Profile

Located in the United Counties of Leeds and Grenville in Eastern Ontario, the Township of Rideau Lakes is a vibrant rural municipality within Ontario's scenic Great Waterway Region. Anchored by the UNESCO designated Rideau Canal, the Township is defined by its rich cultural heritage, thriving communities, and exceptional natural beauty, featuring 37 lakes and more than 868 to 1,013 km of shoreline, as of the most recent 2025 mapping updates.

Just a short drive from Ottawa and Kingston, Rideau Lakes is made up of a collection of hamlets and villages, each offering a unique identity and experience:

- Portland serves as a gateway to Big Rideau Lake and is a popular destination for boaters and lakefront recreation.
- Newboro is a renowned fishing destination and features boutique shopping and accommodations.
- Chaffey's Lock is known for its peaceful water access and historic lockstation, one of the most picturesque on the Rideau Canal.
- Delta is home to the Old Stone Mill, a National Historic Site of Canada built in 1810, and hosts well-loved events like the Maple Syrup Festival.
- Elgin, the Township's commercial hub, provides local shopping, services, and community gathering spaces.

Rideau Lakes supports a rural lifestyle while fostering community engagement, tourism, and a growing local economy based on agriculture, small business, seasonal tourism, and heritage based experiences. The 2025 Community Profile emphasizes a strong sense of identity among residents and a collaborative approach to local planning and sustainability.

¹ StatsCan (2021 Census Profile – Rideau Lakes, Township)

Nature lovers will find countless opportunities for recreation, with abundant access to water, forests, and trails. Popular activities include:

- Fishing for bass, pike, walleye, trout, and perch.
- Birdwatching in conservation areas and along shoreline trails.
- Hiking and cycling on the Rideau and Cataraqui Trails, both of which run through the Township.

Cultural and historical preservation are cornerstones of local identity. The Municipal Heritage Advisory Committee and numerous local museums support education and tourism through guided tours, walking maps, and preservation of historical landmarks. The region's Indigenous roots, canal-era settlements, and early farming communities are all reflected in its built heritage and oral history.

The Township also takes pride in its designation as Ontario's Daffodil Capital, with more than 28,000 daffodils planted across its communities, adding a burst of color each spring and symbolizing community pride and beautification efforts.

With its blend of history, nature, and a strong sense of place, the Township of Rideau Lakes offers a welcoming and enriching environment for residents, visitors, and future generations.

2.2 Climate Change

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

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

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

2.2.1 Rideau Lakes Climate Profile

The Township of Rideau Lakes is located in Eastern Ontario within the United Counties of Leeds and Grenville. The Township is expected to experience significant impacts from climate change in the coming decades, including increasing average temperatures, greater annual precipitation, and shifts in seasonal weather patterns. According to ClimateData.ca, a collaboration supported by Environment and Climate Change Canada (ECCC), the following trends are projected for the Township of Rideau Lakes under a high emissions scenario:

Higher Average Annual Temperature:

- Between 1971 and 2000, the annual average temperature was 6.4 °C.
- For the 2021–2050 period, the annual average temperature is projected to rise to 9.3 °C.
- For the 2051–2080 period, the annual average temperature is projected to reach 11.3 °C.
- For the final 30 years of this century (2071–2100), the average temperature may increase to 13.1 °C.

Increase in Total Annual Precipitation:

- The average annual precipitation between 1971 and 2000 was 905 mm.
- For the 2051–2080 period, precipitation is projected to increase by 11%.
- By the end of the century (2071–2100), total annual precipitation is projected to be 16% higher than the 1971–2000 baseline.

Seasonal and Monthly Variability:

- While annual averages provide a general indication of change, seasonal and monthly precipitation patterns may vary significantly. These shifts may result in wetter winters and springs, and potentially drier summers, contributing to periods of both localized flooding and drought stress.

2.2.2 Integration of Climate Change and Asset Management

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

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

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.

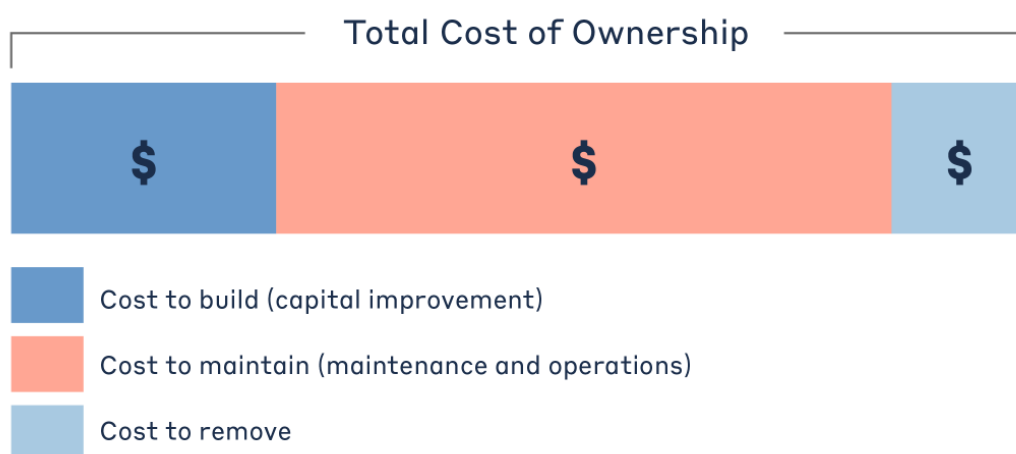


Figure 3 Total Cost of Asset Ownership

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.

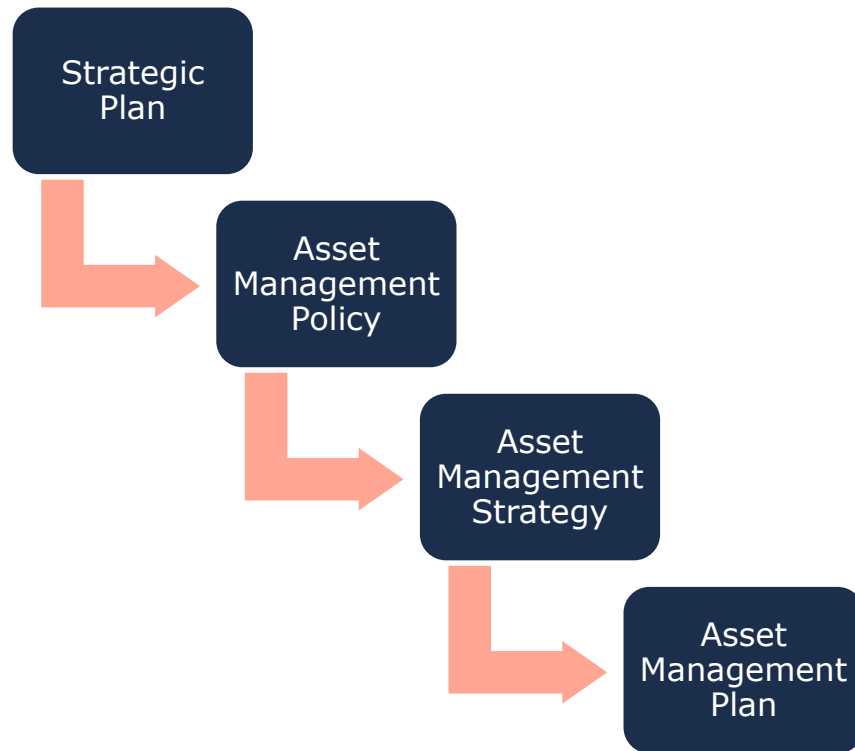


Figure 4 Foundational Asset Management Documents

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

Asset Management Policy

An asset management policy represents a statement of the principles guiding the Township'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. It outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. The Township adopted Bylaw No 2019-41 "Adopt a Strategic Asset Management Policy" on July 2, 2019.

The adoption of the policy is an important step towards integrating the Township's strategic mission, vision, and goals with its asset management program, and ensuring that critical municipal infrastructure assets and vital services are maintained and provided to the community in a reliable, sustainable manner.

By using sound asset management practices, the Township will work to ensure that all municipal infrastructure assets meet expected performance levels and continues to provide desired service levels in the most efficient and effective manner. This policy demonstrates an organization wide commitment to the good stewardship of municipal infrastructure assets and is intended to improve accountability and transparency to the community through the adoption of best practices regarding asset management planning.

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 a municipality plans to achieve asset management objectives through planned activities and decision-making criteria.

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

Asset Management Plan

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

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

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

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 asset's characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

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

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

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

Lifecycle Activity	Cost	Typical Associated Risks
Maintenance Activities that prevent defects or deteriorations from occurring	\$	♦ 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;
Rehabilitation/Renewal Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	\$\$\$	♦ 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;
Replacement/Reconstruction Asset end-of-life activities that often involve the complete replacement of assets	\$\$\$\$\$	♦ 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 2 Lifecycle Management: Typical Lifecycle Interventions

The Township'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

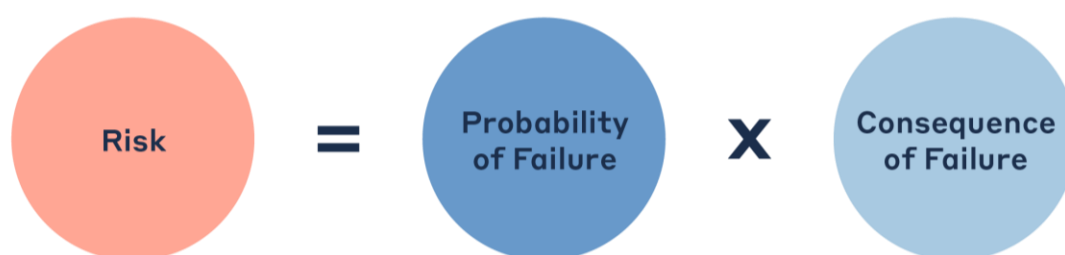


Figure 5 Risk Equations

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 3 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 3 Risk Analysis: Types of Consequences of Failure

This AMP includes a preliminary evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets. These models have been built in Citywide for continued review, updates, and refinements.

Levels of Service

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

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories as applicable (Roads, Bridges & Culverts, and Stormwater) the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP.

Technical Levels of Service

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

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

Current and Proposed Levels of Service

Current LOS are the past performance metrics of an asset category up until present day. In contrast, Proposed LOS looks toward the municipality's goal for asset performance by a defined future date.

It is important to note that O. Reg 588/17 does not dictate which proposed LOS metrics municipality's need to strive for. A proposed LOS will be very specific to each community's resident desires, political goals, and financial capacity. This can range from increasing service levels and costs, to maintaining or even reducing current performance in order to mitigate future cost increases. Regardless of the proposed LOS chosen, O. Reg 588/17 requires municipalities to demonstrate the achievability of their selected metrics.

2.4 Scope & Methodology

2.4.1 Asset Categories for this AMP

This asset management plan for the Township of Rideau Lakes is produced in compliance with O. Reg. 588/17. The 2025 deadline under the regulation, the third of three AMPs requires analysis of core and non-core asset categories, as well as proposed service levels and how to fund them.

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



Figure 6 Tax Funded and Rate Funded Asset Categories

2.4.2 Data Effective Date

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

2.4.3 Deriving Replacement Costs

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

User-Defined Cost and Cost Per Unit

Based on costs provided by municipal staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience.

Cost Inflation / CPI Tables

Historical costs of the assets are inflated based on Consumer Price Index or Non-Residential Building Construction Price Index.

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the Township incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.4.4 Estimated Service Life & Service Life Remaining

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

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



Figure 7 Service Life Remaining Calculation

2.4.5 Reinvestment Rate

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

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

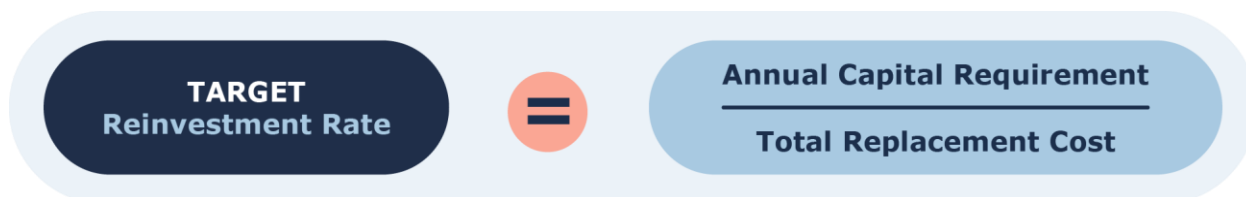


Figure 8 Target Reinvestment Rate Calculation

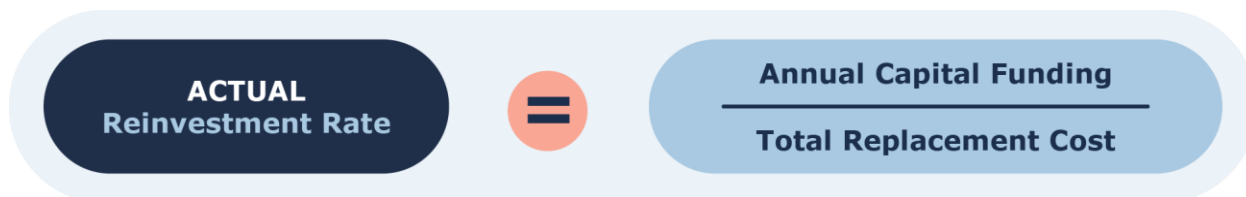


Figure 9 Actual Reinvestment Rate Calculation

2.4.6 Deriving Asset Condition

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

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Township's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

Condition	Description	Criteria	Service Life Remaining (%)
Very Good	Fit for the future	Well maintained, good condition, new or recently rehabilitated	80-100
Good	Adequate for now	Acceptable, generally approaching mid-stage of expected service life	60-80
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 4 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 10 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

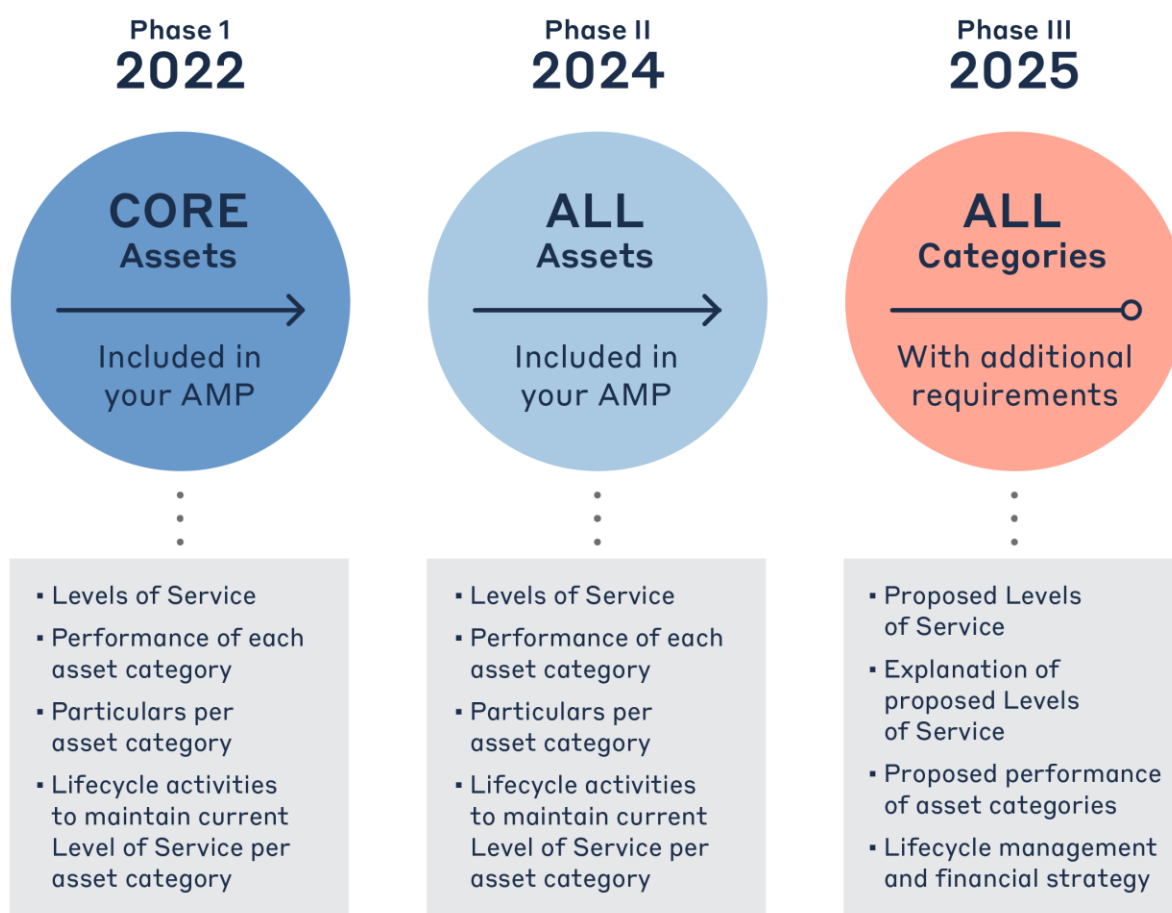


Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

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

2.5.1 O. Reg. 588/17 Compliance Review

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	5.1 – 11.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	5.1 – 11.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	5.3 – 11.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	5.2 – 11.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	5.4 – 11.4	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	5.7 – 11.7	Complete
Current performance measures in each category	S.5(2), 2	5.7 – 11.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	5.4 – 11.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	5.5 – 11.5	Complete
Growth considerations	S.6(1), 5	12.1 – 12.2	Complete
Proposed levels of service for each category for next 10 years	S.6(1), 1(i-ii)	5.8 – 11.8	Complete
Explanation of appropriateness of proposed levels of service	S.6(1), 2(i-iv)	4.2	Complete
Lifecycle management activities for proposed levels of service	S.6(1), 4(i)	4.2	Complete
10-year capital costs for proposed levels of service	S.6(1), 4(ii)	Appendix B	Complete
Annual funding availability projections	S.6(1), 4(iii)	4.2	Complete

Table 5 O. Reg. 588/17 Compliance Review

Portfolio Overview

3. State of the Infrastructure

The state of the infrastructure (SOTI) summarizes the inventory, condition, age profiles, and other key performance indicators for the Township's infrastructure portfolio. These details are presented for all asset categories.

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.

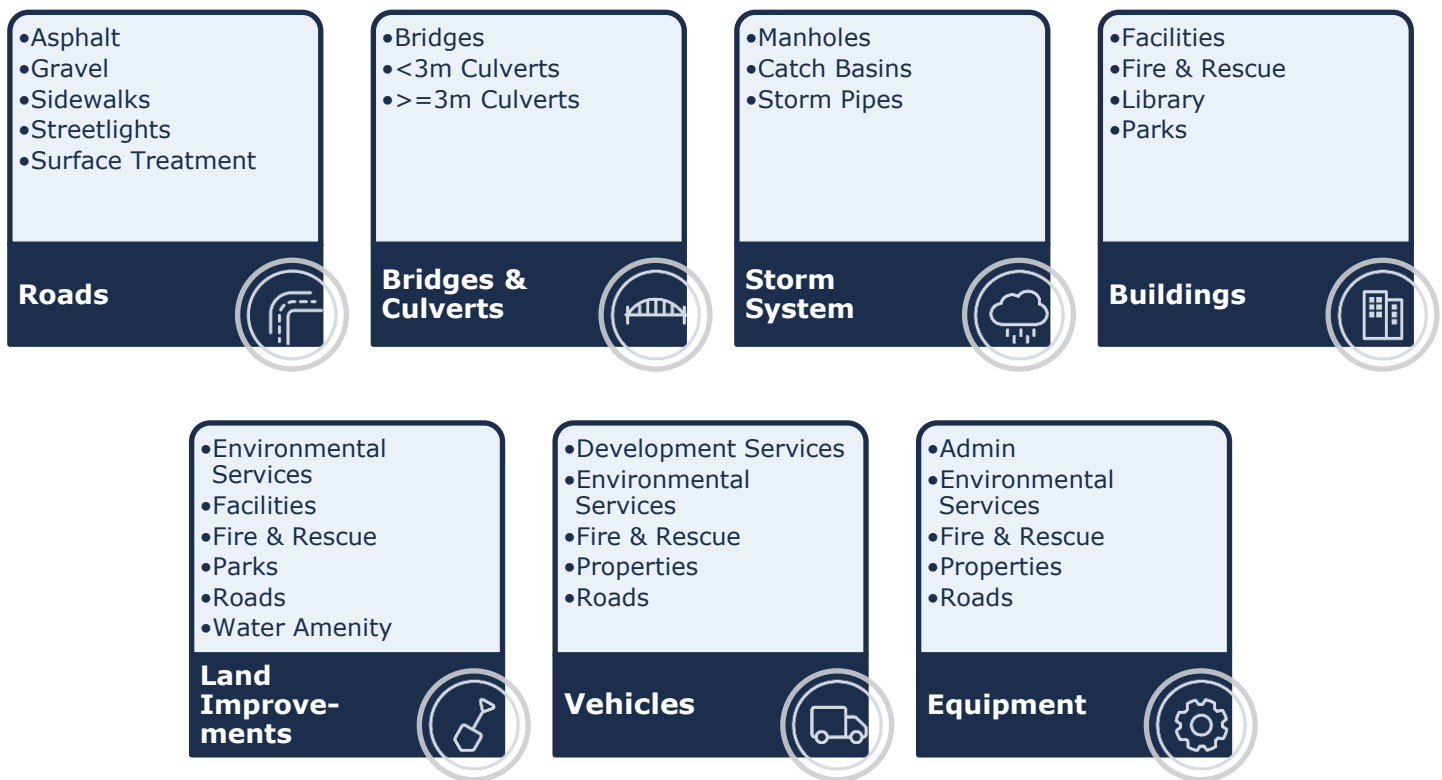


Figure 11 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The seven asset categories analyzed in this Asset Management Plan have a total current replacement cost of \$128 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 12 illustrates the replacement cost of each asset category; at 41% of the total portfolio, Roads form the largest share of the Township's asset portfolio, followed by Buildings at 21%.

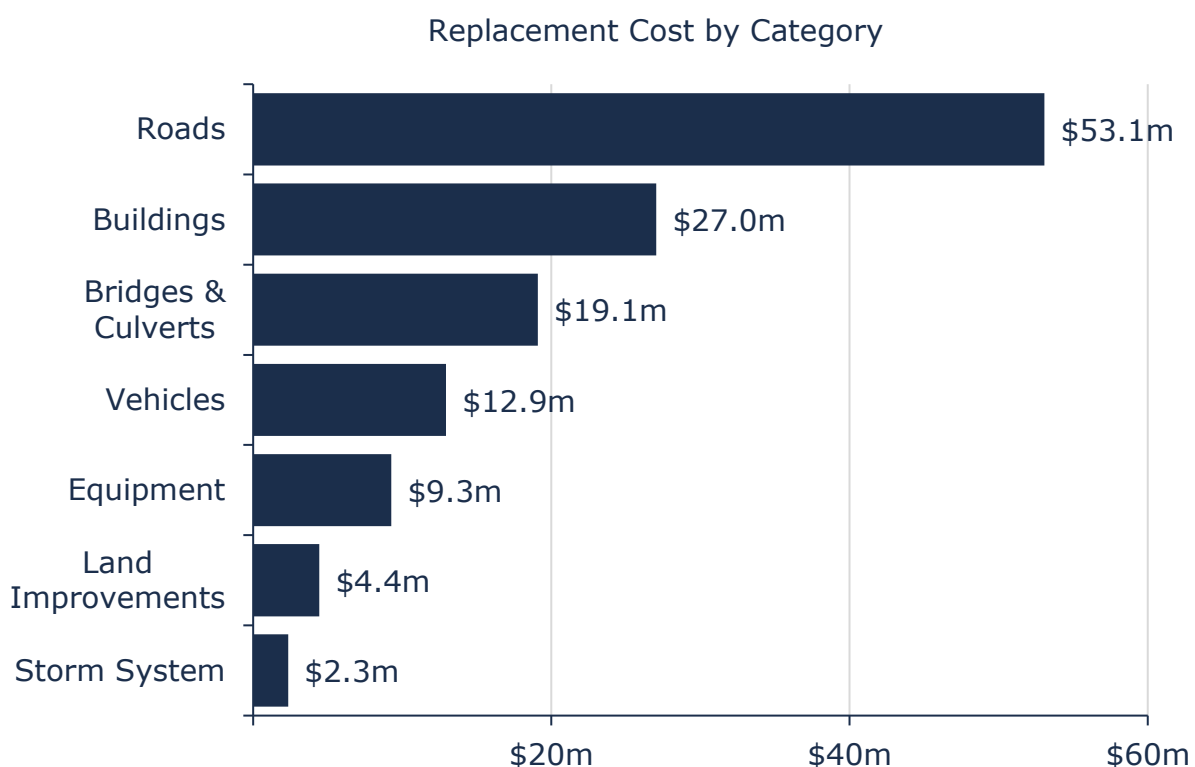


Figure 12 Current Replacement Cost by Asset Category

3.2.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps by comparing the target to the current reinvestment rate. To meet the existing long-term capital requirements, the Township requires an annual capital investment of \$5.2 million, for a target portfolio reinvestment rate of 4.05%. Currently, annual investment from sustainable revenue sources is \$4.38 million, for a current portfolio reinvestment rate of 3.41%. Target and current re-investment rates by asset category are detailed below.

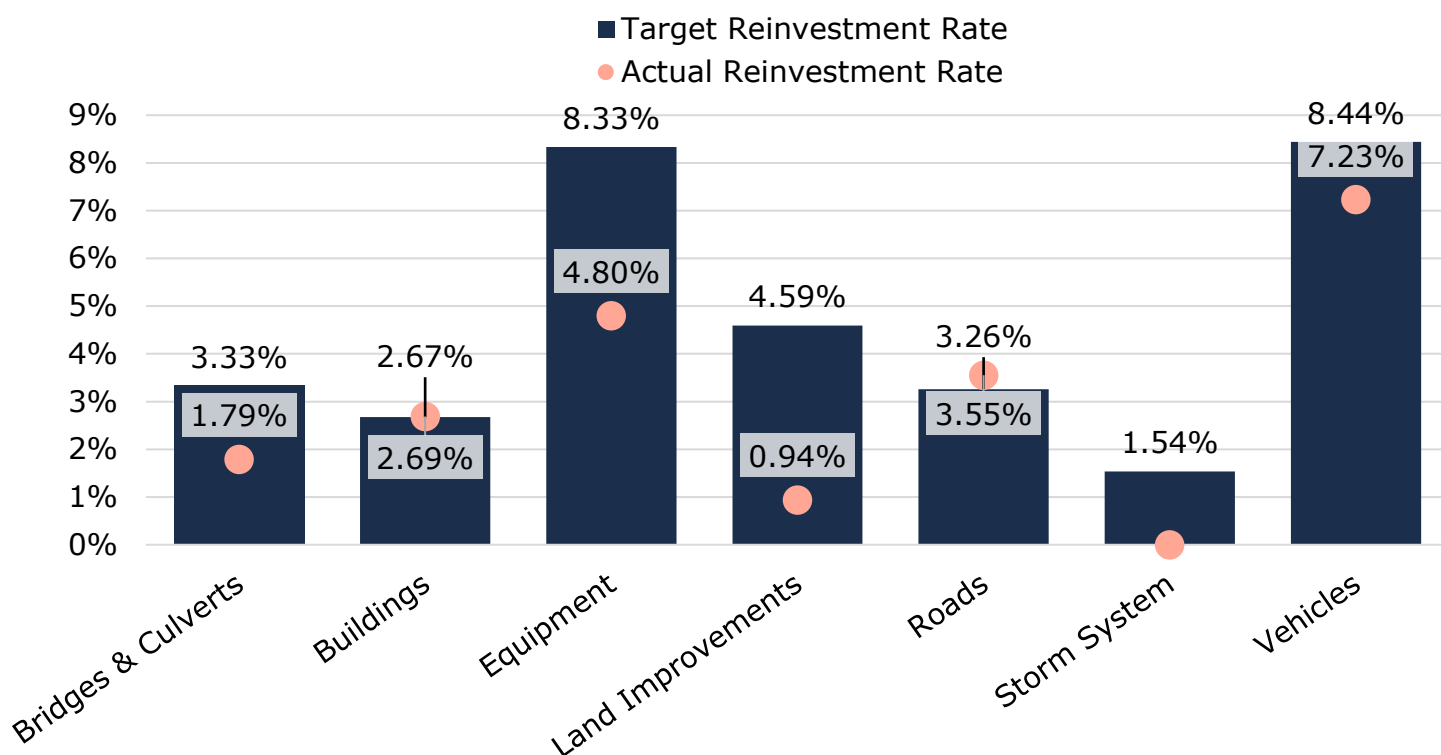


Figure 13 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 77% of the Township's infrastructure portfolio is in fair or better condition, with the remaining 23% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction. Similarly, assets in fair condition should be monitored for disrepair over the medium term. Keeping assets in fair or better condition is typically more cost effective than addressing assets needs when they enter the latter stages of their lifecycle or decline to a lower condition rating, e.g., poor or worse.

Condition data was available for majority of the roads, bridges & culverts, and buildings, with limited data available for some of the other asset categories. 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 past assessed condition data was available, it was projected to the current year end (2024). This 'projected condition' can generate lower condition ratings than those established at the time of the original condition assessment. The rate of this deterioration will also depend on lifecycle curves used to project condition over time.

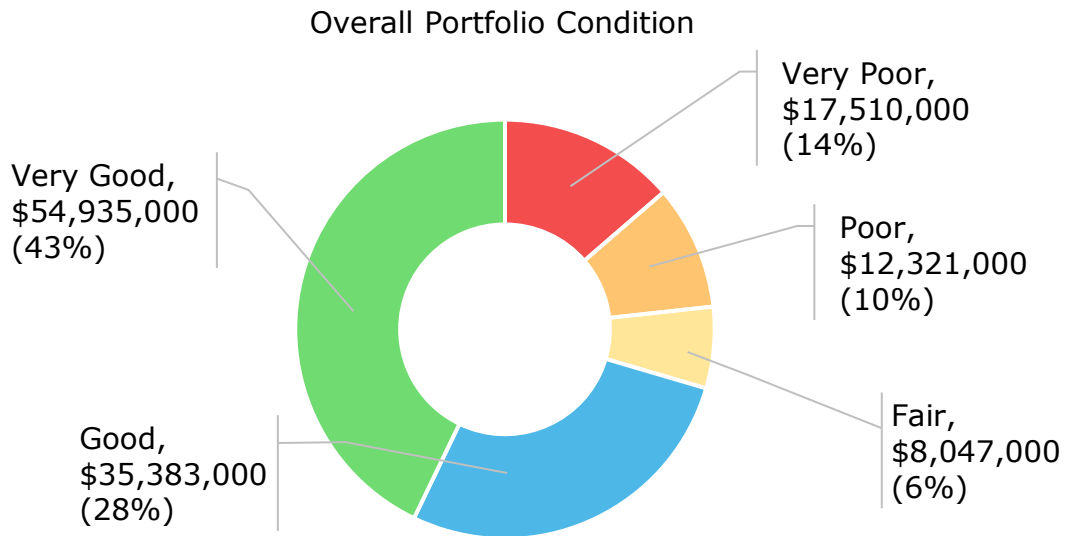
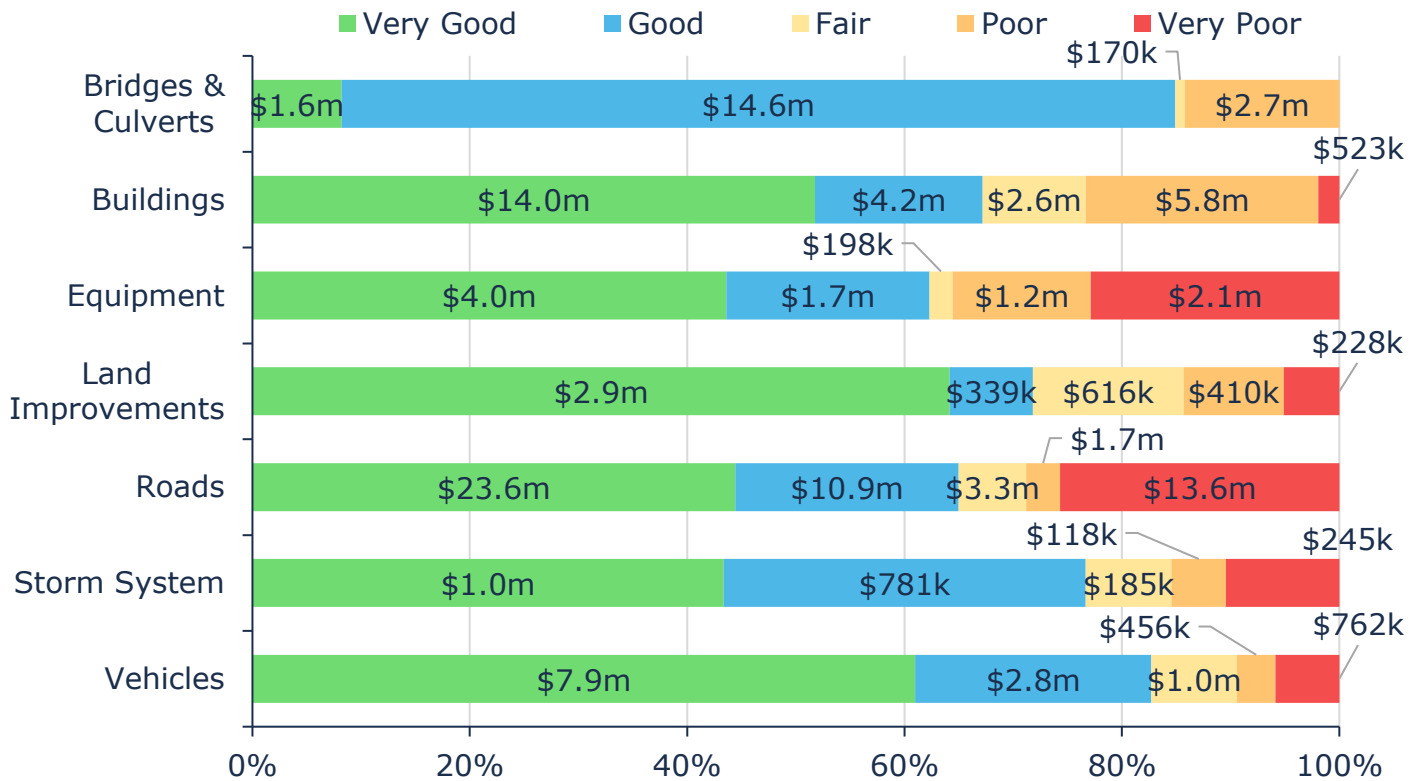


Figure 14 Asset Condition: Portfolio Overview

As further illustrated in Figure 15 at the category level, the majority of assets in each category are in fair or better condition, based on in-field condition assessment data. See Table 6 for details on how condition data was derived for each asset segment.



Value and Percentage of Asset Segments by Replacement Cost

Figure 15 Asset Condition by Asset Category

As outlined previously, buildings and facilities are not fully componentized into their individual major elements and components. This limits the validity of current condition estimates as they are presented only at the 'parent' asset level, such as 'Fire Hall', or 'Community Hall'.

Source of Condition Data

This AMP relies on assessed condition for 61% 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 6 below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Condition	Source of Condition Data
Roads	Asphalt	92%	Road Needs Study
	Surface Treatment	99%	Staff Assessments
	Sidewalks	57%	Staff Assessments
Bridges & Culverts	Bridges Structural Culverts	100%	OSIM Report
Storm System	All	32%	Eng Assessments
Buildings	All	53%	Staff Assessments
Land Improvements	All	40%	Staff Assessments
Vehicles	All	19%	Staff Assessments
Equipment	All	36%	Staff Assessments

Table 6 Source of Condition Data

3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 52% of the Township's assets will require replacement within the next 10 years. Refer to Appendix B – 10-Year Capital Requirements.

Service Life Remaining by Category

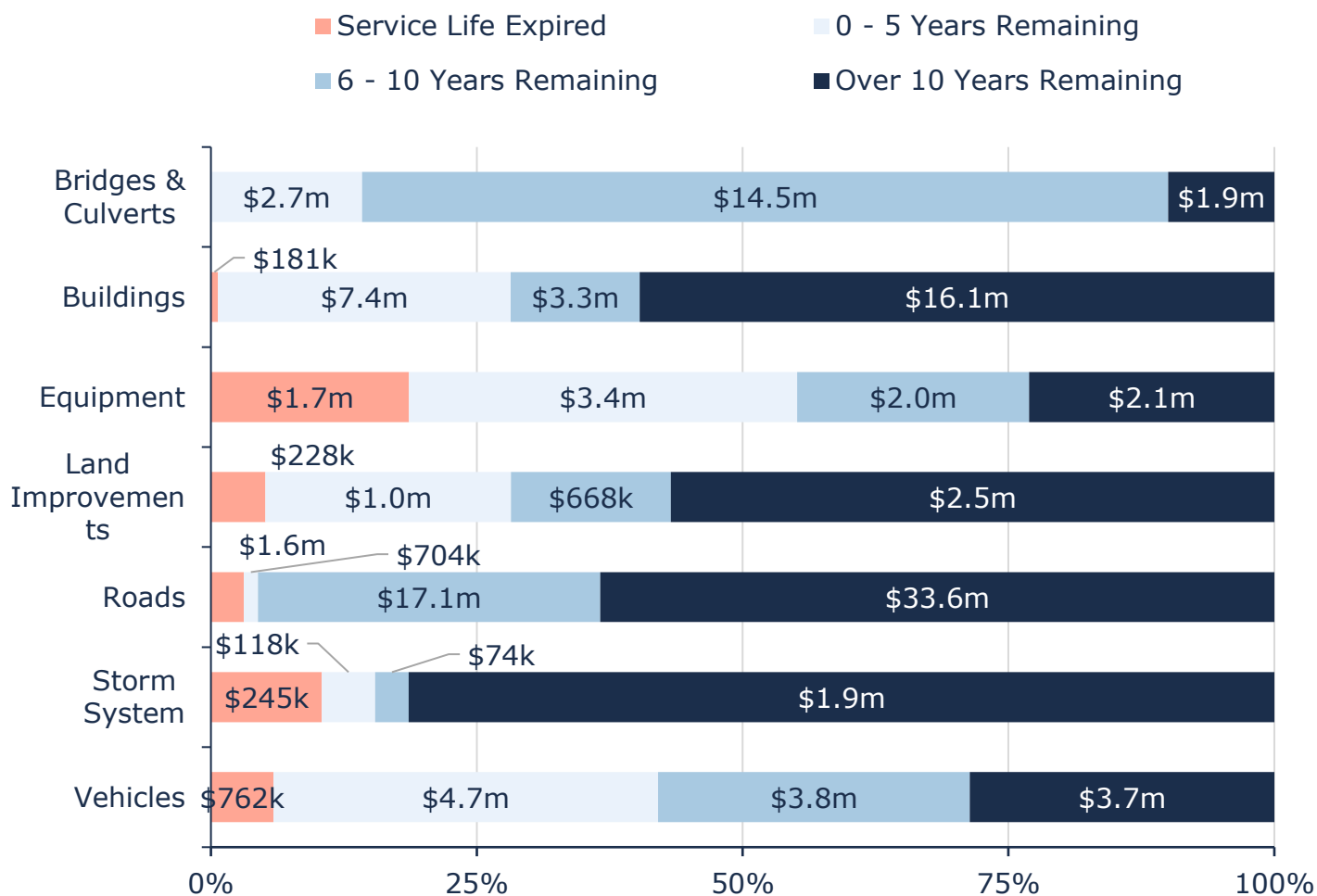


Figure 16 Service Life Remaining by Asset Category

3.2.5 Risk Matrix

Using the risk equation and preliminary risk models, Figure 17 shows how assets across the different asset categories are stratified within a risk matrix.

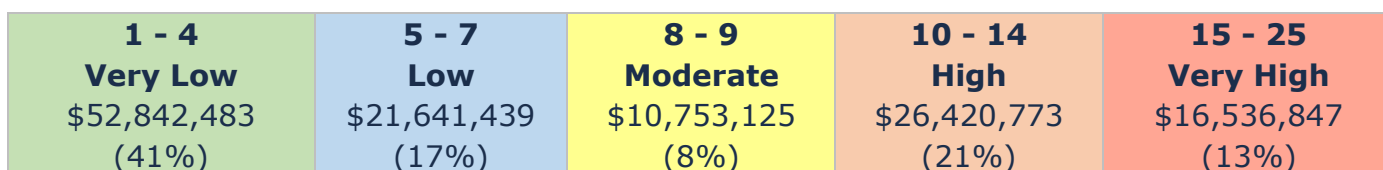


Figure 17 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 13% of the Township's assets, with a current replacement cost of approximately \$16.5 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 were considered to be most essential to the Township.

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 Township 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.

3.2.6 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 18 below illustrates the cyclical short, medium and long-term infrastructure replacement requirements for all asset categories analyzed in this AMP over a 70-year time horizon. On average, \$5.2 million is required each year to remain current with capital replacement needs for the Township's asset portfolio (red dotted line). Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise. This figure relies on age and available condition data.

The chart also illustrates a backlog of more than \$4.8 million, comprising assets that remain in service beyond their estimated useful life. It is unlikely that all such assets are in a state of disrepair, requiring immediate replacements. This makes continued and expanded targeted and consistent condition assessments integral. Risk frameworks, proactive lifecycle strategies, and levels of service targets can then be used to prioritize projects, continuously refine estimates for both backlogs and ongoing capital needs, and help select the right treatment for each asset. In addition, more effective componentization of buildings will improve these projections, including backlog estimates.

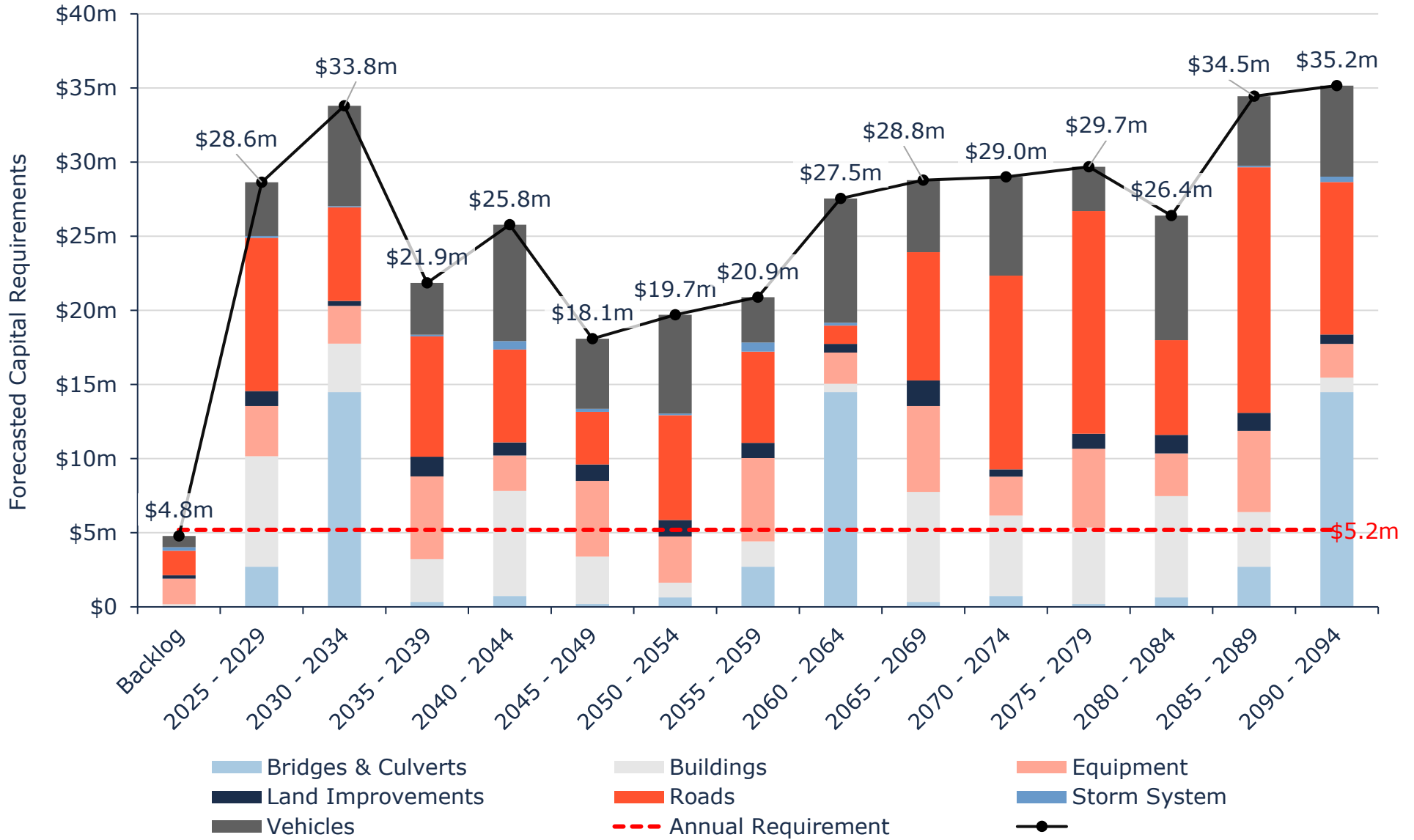


Figure 18 Capital Replacement Needs: Portfolio Overview 2025-2094

Proposed Levels of Service

4. Proposed Levels of Service Analysis

4.1 Overview

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

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

- ◆ Proposed LOS options (i.e. increase, decrease, or maintain current LOS) and the risks associated with these options.
- ◆ How the proposed LOS may differ from current LOS.
- ◆ Whether the proposed LOS are achievable; and
- ◆ 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:

- ◆ Identification of lifecycle activities needed to provide the proposed LOS.
- ◆ Annual costs over the next 10 years to achieve the proposed LOS; and
- ◆ Identification of proposed funding projected to be available.

4.1.2 Considerations

Proposed LOS for the Township have been developed through comprehensive engagement with Township staff. In order to achieve any target LOS goal, careful consideration of the following should be given to the following:

Financial Impact Assessments

- ◆ Assess historical expenditures/budget patterns to gauge feasibility of increasing budgets to achieve increased service levels
- ◆ Consider implications of LOS adjustments on other services and other infrastructure programs (i.e. trade-offs)

Infrastructure Condition Assessments

- ◆ Regularly assess the condition of critical infrastructure components
- ◆ Use standardized condition assessment protocols (where possible) to quantify the state of the infrastructure
- ◆ Identify non-critical components where maintenance could potentially be deferred without causing severe degradation
- ◆ Use current condition metrics as benchmarks to gauge feasibility of large adjustments to LOS

Service Metrics

- ◆ Measure user satisfaction, response times, and other relevant indicators for specific services

Service Impact Assessments

- ◆ Evaluate potential impacts on user satisfaction and service delivery due to changes in infrastructure condition

Key Lifecycle Activities

- ◆ Implement routine maintenance and inspections to ensure infrastructure reaches its optimal useful life
- ◆ Monitor and optimize operational processes for efficiency
- ◆ Regularly review and update preventive maintenance schedules
- ◆ Prioritize critical infrastructure components for maintenance
- ◆ Implement cost-saving measures without compromising safety or compliance
- ◆ Develop strategies for managing and communicating service impacts to stakeholders
- ◆ Invest in technology and process improvements to enhance maintenance efficiency
- ◆ Upgrade critical infrastructure components to improve overall reliability
- ◆ Explore opportunities for innovation and efficiency gains

Risk Management

- ◆ Identify potential risks to infrastructure and service quality resulting from adjusted service levels
- ◆ Develop contingency plans to address unforeseen challenges without compromising service quality
- ◆ Monitor performance closely to ensure that the target investment translates to the desired infrastructure condition

Infrastructure Condition Enhancements

- ◆ Identify areas for improvement and increased maintenance to enhance overall infrastructure condition

Timelines

- ◆ Although O. Reg. 588/17 requires evaluation of expenditures for a 10-year period in pursuit of proposed LOS, it does not require municipalities to achieve the LOS within this 10-year timeframe (ex. a municipality may have a goal to reach X% condition by 2050, the AMP is required to review the first 10 years of the strategy to reach this goal)
- ◆ Careful consideration should be given to setting realistic targets for when proposed service levels can be achieved.

Stakeholder Engagement

- ◆ It is recommended to ensure adjustments to LOS are not made in isolation and without consultation of various stakeholders. This could include, but is not limited to:
 - ◆ Department Heads/Infrastructure Managers
 - ◆ Residents
 - ◆ Service Users
 - ◆ Council
- ◆ Efforts should be made to communicate changes to LOS transparently to all affected stakeholders

Flexibility

- ◆ Priorities may change over time due to a variety of factors, such as:
 - ◆ Financial state of the municipality
 - ◆ Availability of grants
 - ◆ Significant increases or decreases in population
 - ◆ Changes in political priorities
 - ◆ Changes in resident priorities
 - ◆ New technologies
 - ◆ Changes in legislation
- ◆ Any proposed changes to LOS should be flexible and able to adapt to changes listed above, and other unforeseen circumstances

4.2 Proposed Levels of Service Considerations

In developing potential scenarios to inform the Township's proposed level of service, an assessment of current funding levels and asset performance was undertaken. The analysis determined that the Township is presently funding 84% of its Average Annual Requirement (AAR), as detailed further in Section 13: Financial Strategy.

The Township's asset portfolio is also performing well, with 77% of assets included in this Asset Management Plan assessed to be in fair or better condition. These findings indicate a strong overall position in both financial sustainability and asset condition.

Given this foundation, the logical and strategic approach is to target a fully funded (100%) position as the Township's proposed level of service. This target can be achieved with only a minimal annual increase of 0.2%, primarily through the reallocation of existing debt payments and implementation of the recommended financial strategy.

Accordingly, only one scenario, the Full Funding scenario, has been advanced for analysis, as it represents a prudent, achievable, and sustainable path forward. The associated financial implications, projected asset condition outcomes, and risk considerations are outlined in the sections that follow.

4.2.1 Selected Proposed Level of Service: Achieving Full Funding in 5 Years

The Township has adopted a proposed level of service designed to achieve full funding within five years through a measured and sustainable approach. The scenario assumes a gradual 0.2% annual tax increase, enabling the Township to reach and maintain 100% of the recommended funding level by the end of the planning period

Lifecycle Changes Required for Proposed Level of Service

To achieve the proposed level of service, a review of the Township's current lifecycle strategies was completed. The assessment found that no changes are required across any asset category, as current practices are sufficient to sustain asset performance and support the targeted funding level. Details of each asset category's lifecycle approach are provided in the table below, with reference to the relevant sections of this Plan. Future updates to the AMP should include a closer review of lifecycle strategies to identify potential long-term cost savings and efficiencies.

Asset Category	Lifecycle Changes to Reach PLOS	AMP Section
Roads	No lifecycle changes, annual capital spending increase only	5.4 Current Approach to Lifecycle Management
Bridges & Culverts	No lifecycle changes, annual capital spending increase only	6.4 Current Approach to Lifecycle Management
Storm System	No lifecycle changes, annual capital spending increase only	7.4 Current Approach to Lifecycle Management
Buildings	No lifecycle changes, annual capital spending increase only	8.4 Current Approach to Lifecycle Management
Land Improvements	No lifecycle changes, annual capital spending increase only	9.4 Current Approach to Lifecycle Management
Vehicles	No lifecycle changes, annual capital spending increase only	10.4 Current Approach to Lifecycle Management
Equipment	No lifecycle changes, annual capital spending increase only	11.4 Current Approach to Lifecycle Management

Figure 19 PLOS Lifecycle Strategy Changes

Affordability/Achievability of the Proposed Level of Service

Reaching full funding over the proposed time period of 5 years will require an increase of 0.2% in tax revenue. This is a strong position for the Township to be in and is a modest projected increase. With the recommended implementation timeframe of 5 years, tax revenue would be increased gradually from \$14.59 million to \$14.73 million, Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 10 years for proposed level of service is indicated in the table below:

Categories	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax-Funded	\$5.0m	\$5.0m	\$5.1m	\$5.1m	\$5.1m	\$5.2m	\$5.2m	\$5.2m	\$5.3m	\$5.3m
Total	\$5.0m	\$5.0m	\$5.1m	\$5.1m	\$5.1m	\$5.2m	\$5.2m	\$5.2m	\$5.3m	\$5.3m

Table 7 Available Capital Funding Over Next 10 Years

The table above incorporates both current and future expenditure requirements necessary to achieve and maintain the proposed levels of service. Attaining this balance requires a combination of ongoing capital investment and strategic reserve contributions to ensure that future renewal and replacement activities can be financed as needed. For certain asset categories with extended service lives and limited asset inventories, such as bridges, there may be years with minimal or no capital expenditures. These periods, however, do not eliminate the need for continued funding. Consistent annual allocations to reserves are essential to maintain

financial readiness and ensure adequate funding is available to support upcoming lifecycle renewal events.

A further breakdown of projected capital expenditures for the proposed level of service, by asset category, can be found in Appendix B – 10-Year Capital Requirements.

It is important to note that an AMP is a dynamic document which should be reviewed regularly to ensure up-to-date information is incorporated including accurate replacement costs, changes in inventory, changes in available funding sources, and reflection on progress made on previous recommendations.

Changes to Community and Technical Levels of Service for the Proposed Level of Service

The Township of Rideau Lakes does not anticipate any changes to qualitative community levels of services for any of the asset categories included within this AMP. All asset categories will see adjustments to their technical levels of service over time, particularly relating to capital reinvestment rate and average condition of assets. Refer to each asset category for more details.

Risks Associated with the Proposed Level of Service

While the Township's plan to achieve full funding within five years is sound, there are a few key risks to monitor. For the proposed level of service the following risks have been identified:

- ◆ Increased infrastructure backlog
 - ◆ While mitigating the impact of financial increases on residents and businesses, taking 5 years to reach the targeted funding levels means 5 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
- ◆ Revenue Shortfalls
 - ◆ Tax revenues may be lower than projected due to changes in assessment values or economic conditions, potentially delaying full funding. This risk can be mitigated through regular revenue monitoring, adjustment of the funding strategy as required, and maintaining contingency reserves.
- ◆ Unexpected Asset Failure or Cost Increases
 - ◆ Unplanned maintenance, catastrophic asset failures, or higher than anticipated capital costs could divert funds from planned investments. Mitigation includes ongoing asset condition monitoring, periodic updates to lifecycle strategies, and ensuring reserve contributions are sufficient to cover unforeseen expenditures.
- ◆ Stakeholder or Community Resistance
 - ◆ Limited acceptance of the proposed annual tax increases could affect implementation of the full funding strategy. This risk can be managed through transparent communication with stakeholders, clearly explaining the rationale for incremental increases, and highlighting the long-term benefits of achieving full funding

Appropriateness of the Proposed Level of Service to Meet the Township's Needs

Given the Township's strong current position in both funding and asset condition, the logical and strategic path forward is to target a fully funded position as the proposed level of service. This approach aligns with the Township's long-term financial sustainability objectives and ensures the continued delivery of reliable and cost effective services to the community.

By implementing a modest 0.2% annual tax increase, the Township can achieve a fully funded position within five years. This incremental and measured approach provides a sustainable path to aligning annual investments with the Township's long-term asset renewal requirements. The strategy minimizes financial impacts on residents while supporting continued service reliability and asset performance. Achieving a fully funded position within this timeframe demonstrates the Township's commitment to proactive financial planning and the sustainable delivery of services to the community. This approach potentially positions the Township in a position where reliance on grant funding is reduced.

5. Roads

The Township's roads network comprises the largest share of its infrastructure portfolio, with a current replacement cost of more than \$53 million, distributed primarily between paved and unpaved roads. The Township also owns and manages other supporting infrastructure and capital assets, including sidewalks, and streetlights.

5.1 Inventory & Valuation

Table 8 summarizes the current replacement cost of the Township's various roads assets as managed in its primary asset management register, Citywide.

Segment	Replacement Cost	Primary Replacement Cost Method
Asphalt	\$10,906,024	CPI
Gravel	\$16,128,757	CPI
Sidewalks	\$3,839,988	CPI
Streetlights	\$357,169	CPI
Surface Treatment	\$21,837,287	CPI
TOTAL	\$53,069,225	

Table 8 Detailed Asset Inventory: Roads

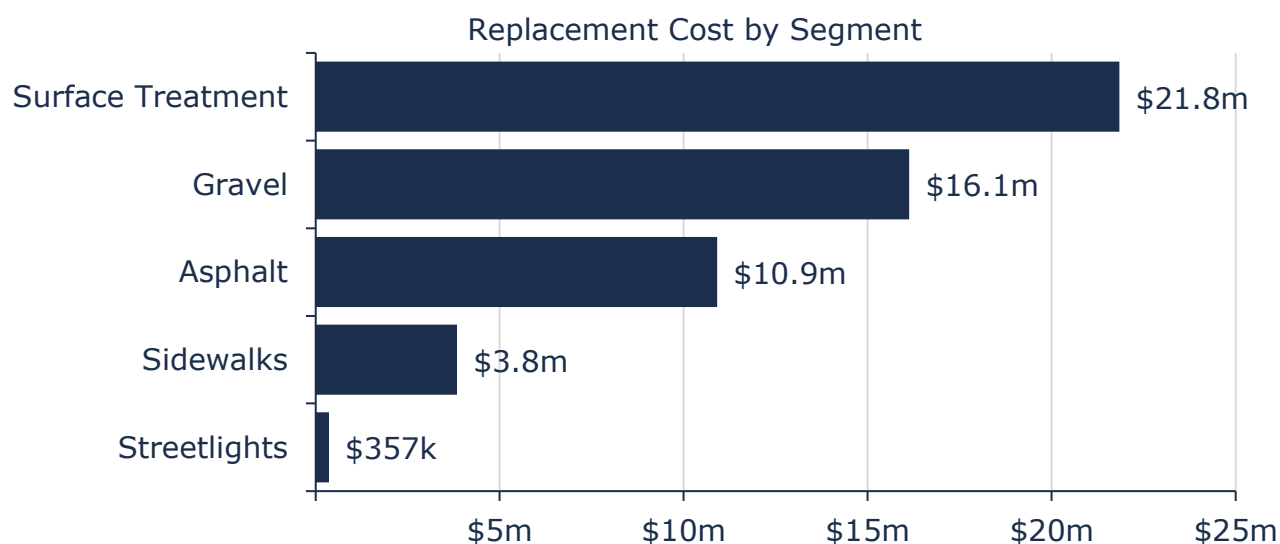


Figure 20 Portfolio Valuation: Roads

5.2 Asset Condition

Figure 21 summarizes the replacement cost-weighted condition of the Township's roads. Based on a combination of field inspection data and age, 71% of assets are in fair or better condition; the remaining 29% of assets are in poor to very poor condition. Condition assessments were available for 92% of paved roads and 26% of unpaved roads, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 21, the majority of the Township's roads assets are in fair or better condition.

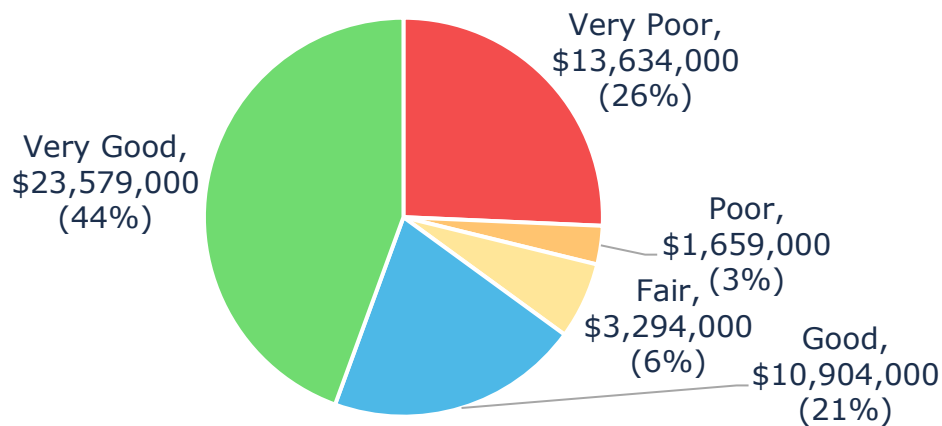


Figure 21 Asset Condition: Roads Overall

As illustrated in Figure 22, based on condition assessments, the majority of the Township's paved roads are in fair or better condition.

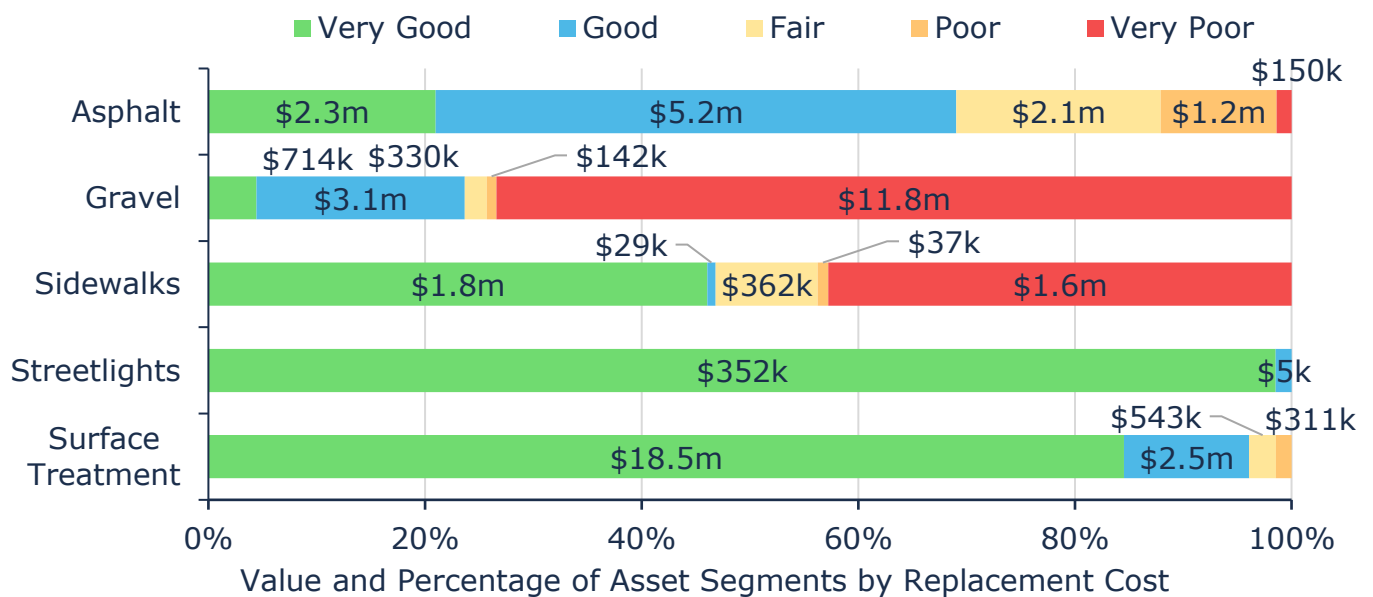


Figure 22 Asset Condition: Roads by Segment

5.3 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 23 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.

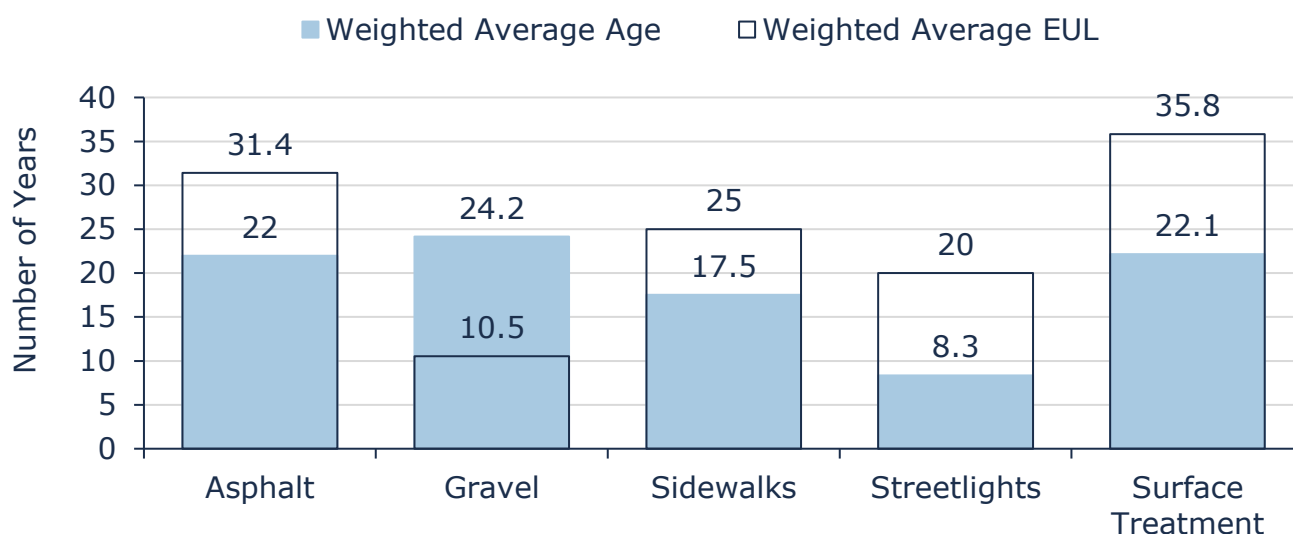


Figure 23 Estimated Useful Life vs. Asset Age: Roads

Age analysis indicates that several road related assets are beyond or nearing the end of their expected useful lives. Gravel roads (24.2 years vs. 10.5 EUL) and asphalt roads (22 years vs. 31.4 EUL) are aging assets requiring near term reinvestment. Sidewalks and surface treatment roads are also progressing through their lifecycle, with average ages of 17.5 and 22.1 years respectively. Only streetlights, at 8.3 years, remain early in their lifecycle relative to their 20-year EUL.

Although asset age is an important measurement for long-term planning, condition assessments 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.

5.4 Current Approach to Lifecycle Management

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

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

Asphalt Roads		
Event Name	Event Class	Event Trigger
Crack Sealing	Preventative Maintenance	9 years 11 months
Tight Blade & Micro Surfacing	Preventative Maintenance	20 Years 1 Month
Asphalt Resurfacing	Rehabilitation	36 Years 2 Months
Full Reconstruction	Replacement	66 Years 2 Months

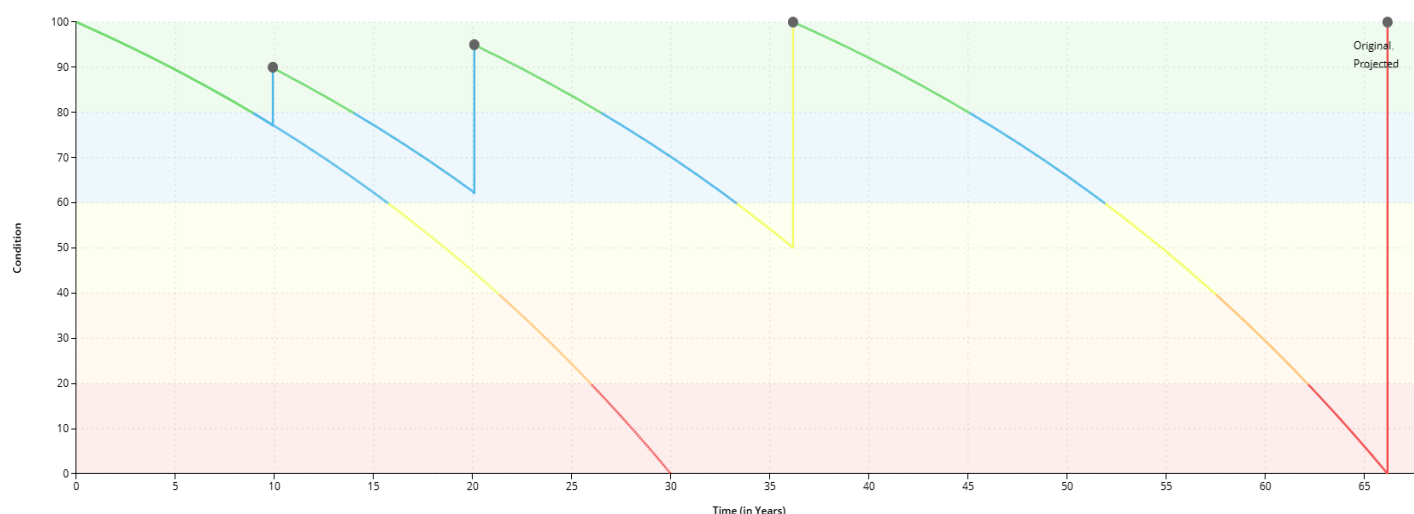


Table 9 Lifecycle Management Strategy: Roads (Asphalt Roads)

Surface Treated Roads

Event Name	Event Class	Event Trigger
Single Surface Treatment (SST)	Rehabilitation	6,12,18,24,30 Years
Double Surface Treatment	Rehabilitation	36 Years 2 Months
Full Reconstruction	Replacement	72 Years 2 Months

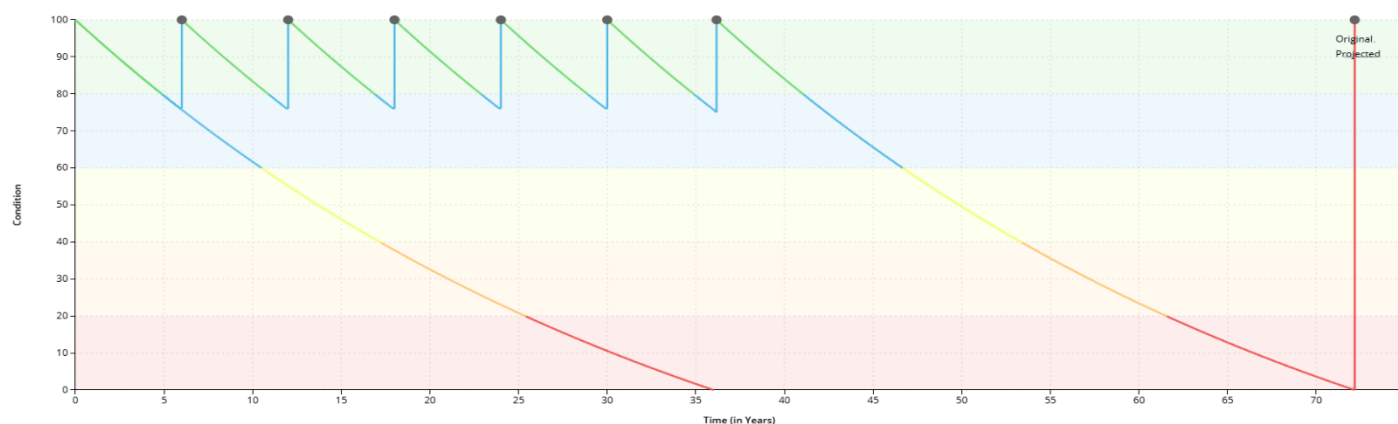


Table 10 Lifecycle Management Strategy: Roads (Surface Treated Roads)

Gravel Roads (2 year)

Event Name	Event Class	Event Trigger
Gravel Resurfacing	Preventative Maintenance	Repeat every 2 Years 25 times
Full Reconstruction	Replacement	60 Years

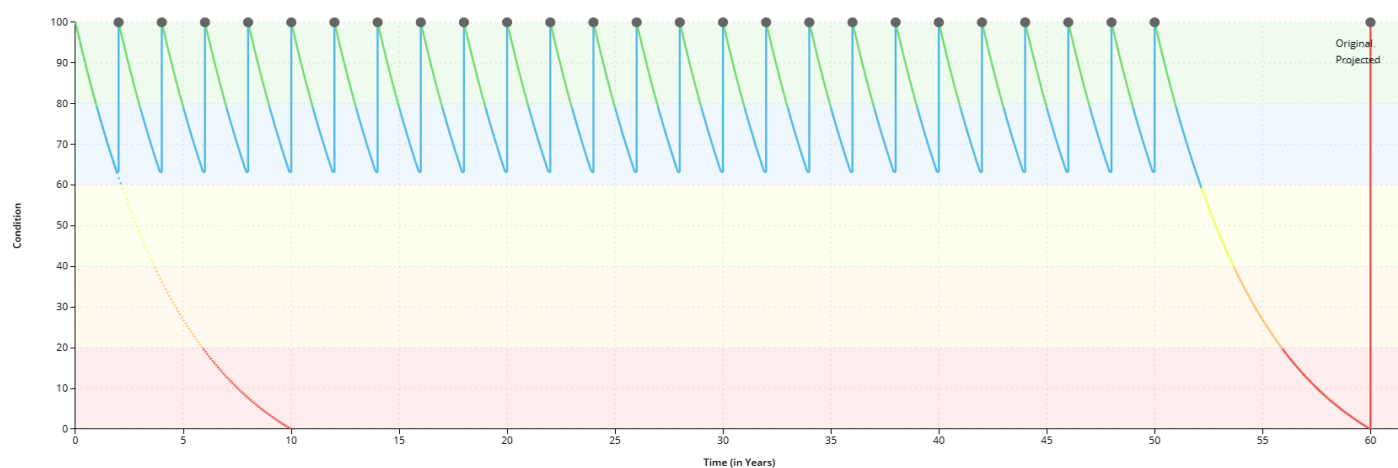


Table 11 Lifecycle Management Strategy: Roads (Gravel 2 year)

Gravel Roads (3 year)



Table 12 Lifecycle Management Strategy: Roads (Gravel 3 year)

Gravel Roads (Agreement)



Table 13 Lifecycle Management Strategy: Roads (Gravel Agreement)

5.5 Forecasted Long-Term Replacement Needs

Figure 24 illustrates the cyclical short, medium and long-term infrastructure rehabilitation and replacement requirements for the Township's roads. This analysis was run until 2094 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total \$1.7 million for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The forecasted capital requirements for roads show large fluctuations over time, with early peaks in 2025–2029 at \$10.3M (driven by backlog) and later surges in 2070–2074 (\$13.1M), 2075–2079 (\$15.0M), and 2085–2089 (\$16.6M). Surface treatment is the dominant cost driver, followed by gravel and asphalt renewals. The lowest demand occurs in 2065–2069 at \$1.2M.

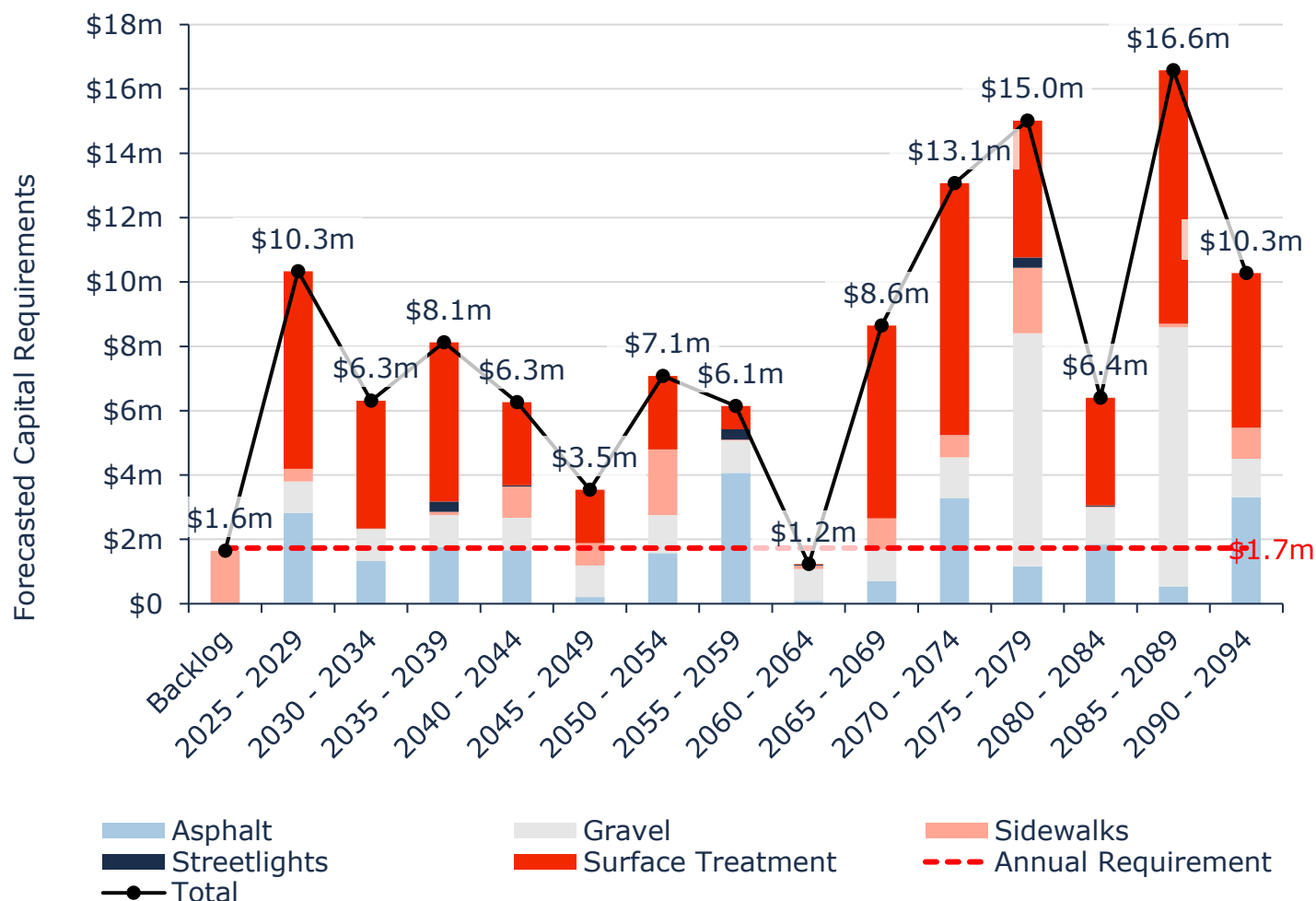


Figure 24 Forecasted Capital Replacement Needs: Roads 2025-2094

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 pavement 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 B – 10-Year Capital Requirements.

5.6 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 Township 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 Township’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 \$27,241,288 (51%)	5 - 7 Low \$12,276,145 (23%)	8 - 9 Moderate \$6,102,959 (11%)	10 - 14 High \$6,545,334 (12%)	15 - 25 Very High \$903,499 (2%)
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Figure 25 Risk Matrix: Roads

5.7 Levels of Service

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

5.7.1 Community Levels of Service

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	See Appendix C
Quality	Description or images that illustrate the different levels of road class pavement condition	All roads are a class 5 or 6 as described in the MMS. Condition is assessed from 0 – 100

Table 14 O. Reg. 588/17 Community Levels of Service: Roads

5.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km ²)	0 km/km ²
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km ²)	0.0 km/km ²
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km ²)	1.29 km/km ²
Quality	Average pavement condition index for paved roads in the Township	Surface Treated Roads: 88% Asphalt Roads: 65%
	Average surface condition for unpaved roads in the Township (e.g. excellent, good, fair, poor)	Very Poor

Table 15 O. Reg. 588/17 Technical Levels of Service: Roads

5.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS.

The table below and graphs explain the proposed level of service scenario that was analyzed for the roads. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

5.8.1 Proposed Level of Service Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Roads category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	83.3%	69.5%	4.59	7.04	\$1,730,000	3.26%	0.2%

Table 16 Roads: Proposed Level of Service Analysis

Projected Condition

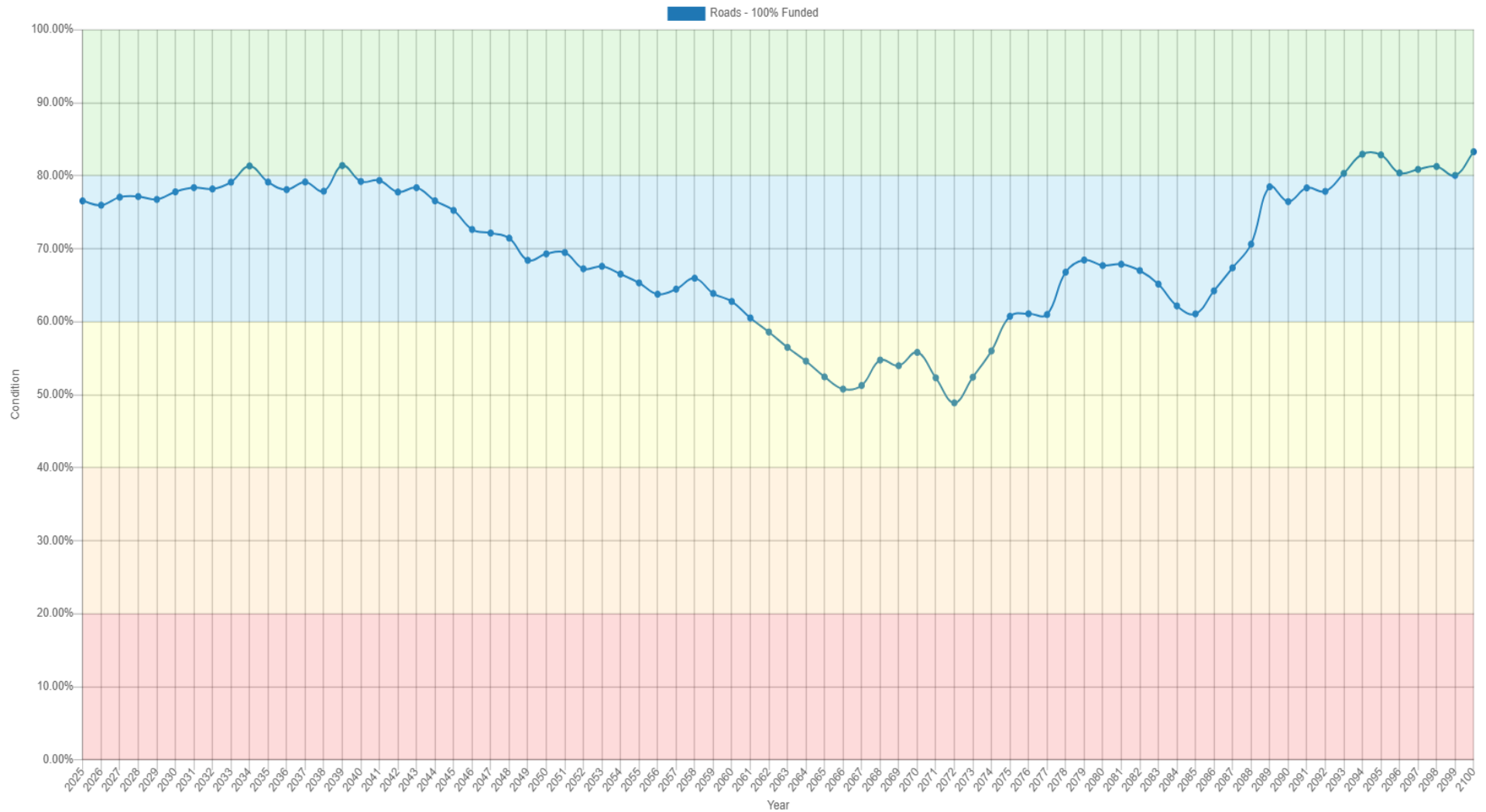


Figure 26 Roads PLOS Scenario Condition Result

Projected Risk

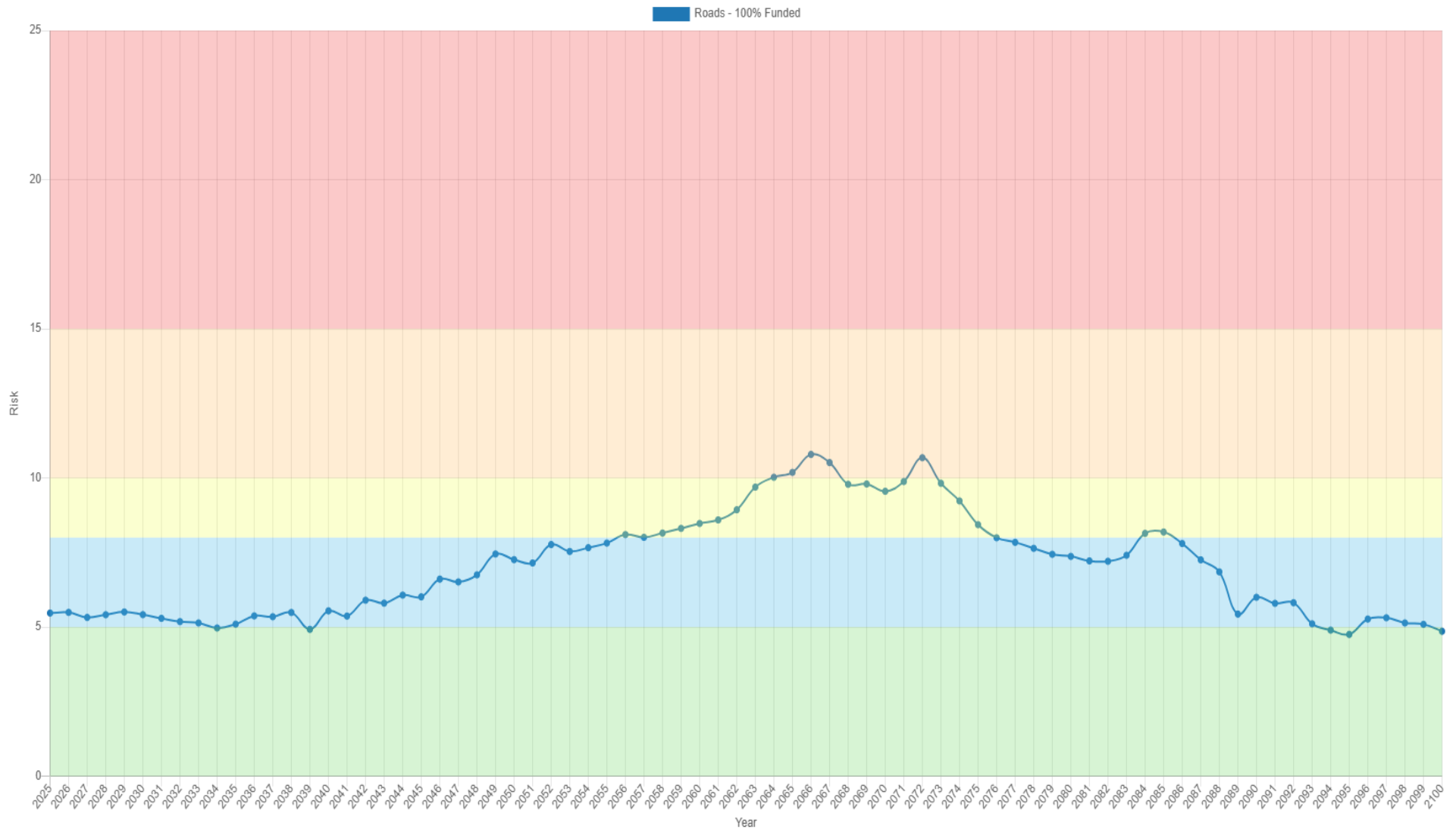


Figure 27 PLOS Scenario Risk Result

5.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. *Proposed Levels of Service Analysis*, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the roads if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m
Projected Capital Spending	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m
Funding Deficit	-	-	-	-	-	-	-	-	-	-
Target Reinvestment Rate	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
Projected Reinvestment Rate	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%

Table 17 Roads 10-year PLOS Financial Projections

Based on the current analysis for this asset management plan, it was found that the current level investment into the road network was meeting or exceeding the projected average annual requirement. Therefore, the table above does not show any increases in the target capital spending or reinvestment rate.

6. Bridges & Culverts

The Township's transportation network also includes bridges and structural culverts, with a current replacement cost of \$19 million.

6.1 Inventory & Valuation

Table 18 summarizes the current replacement costs of bridges and culverts. The Township currently owns and maintains 38 bridge assets.

Segment	Replacement Cost	Primary Replacement Cost Method
<3m Culverts	\$1,854,158	CPI
>=3m Culverts	\$9,650,000	User-Defined
Bridges	\$7,590,000	User-Defined
TOTAL	\$19,094,158	

Table 18 Detailed Asset Inventory: Bridges & Culverts

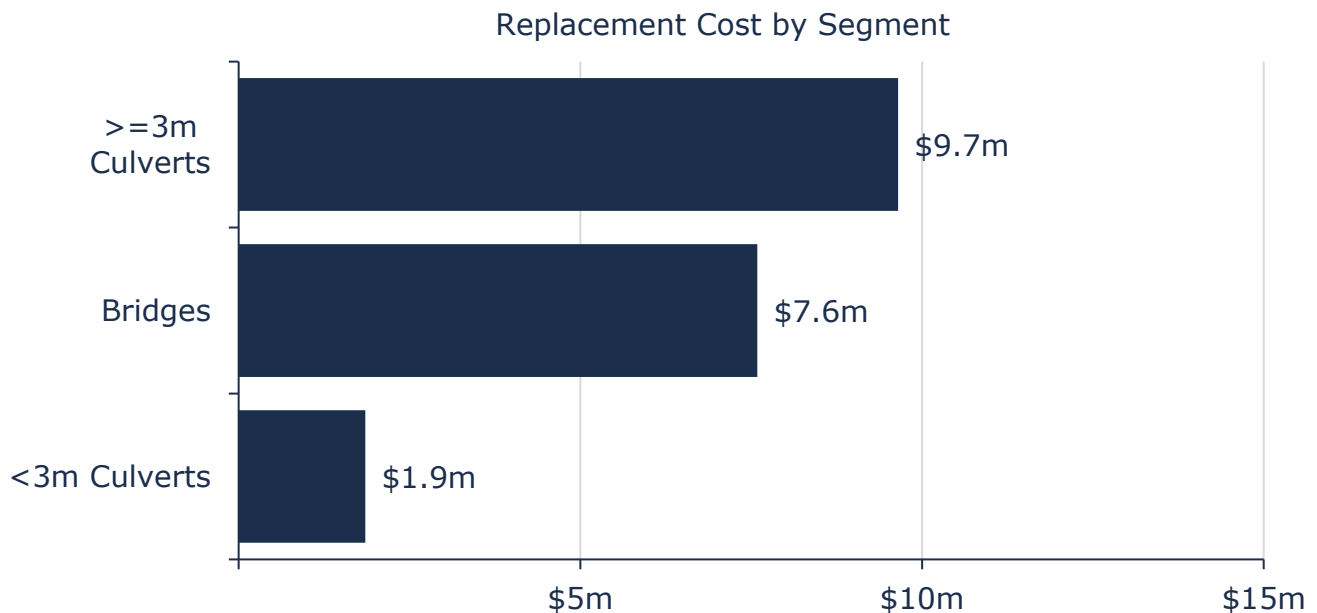


Figure 28 Portfolio Valuation: Bridges & Culverts

6.2 Asset Condition

Figure 29 summarizes the replacement cost-weighted condition of the Township's bridges and culverts. Based on the Township's recent Ontario Structures Inspection Manual (OSIM) assessments, 86% 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 14% of the total bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

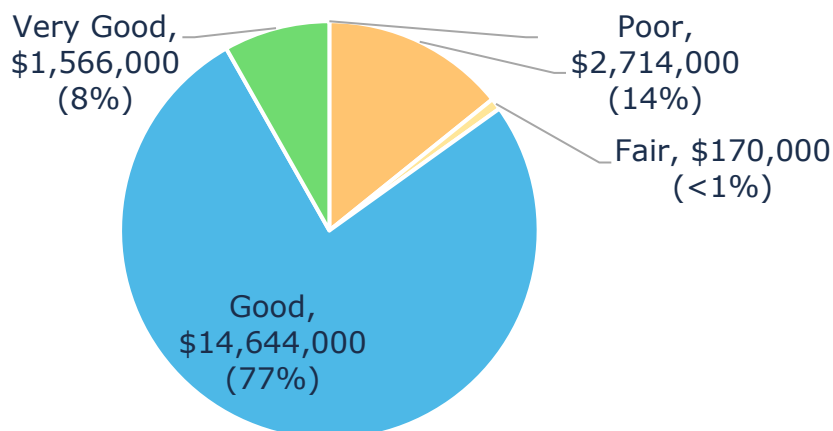


Figure 29 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 30, based on in-field condition assessments, \$1.5 million of bridge assets were assessed as being in poor condition. Similarly, 34% of structural culverts, with a current replacement cost of \$1.1 million were identified as poor or worse. 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.

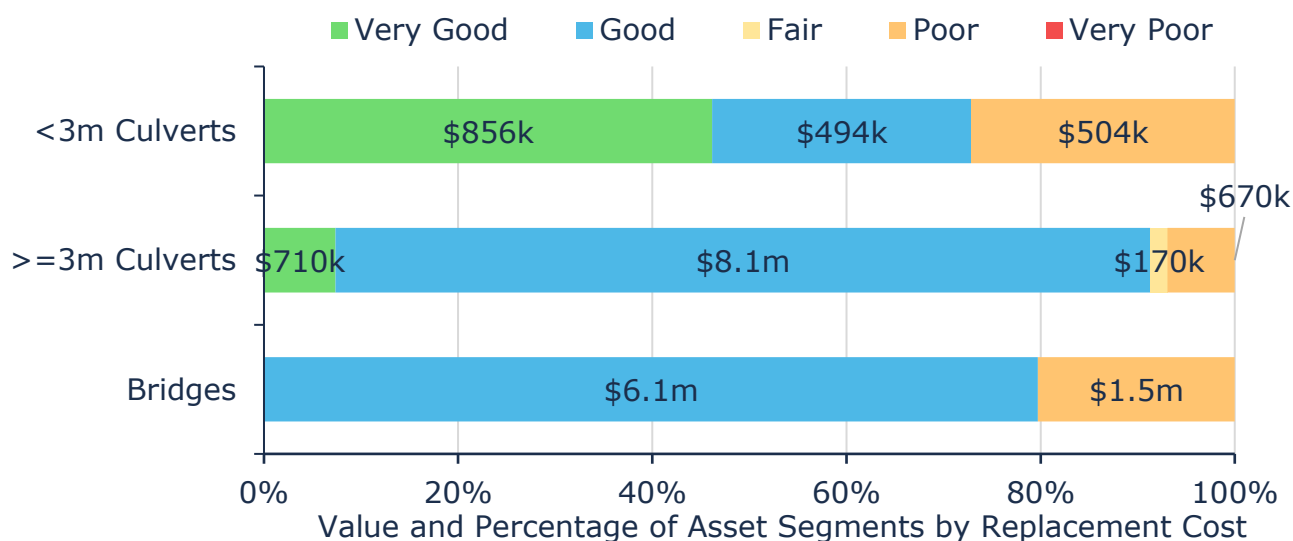


Figure 30 Asset Condition: Bridges & Culverts by Segment

6.3 Age Profile

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

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

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

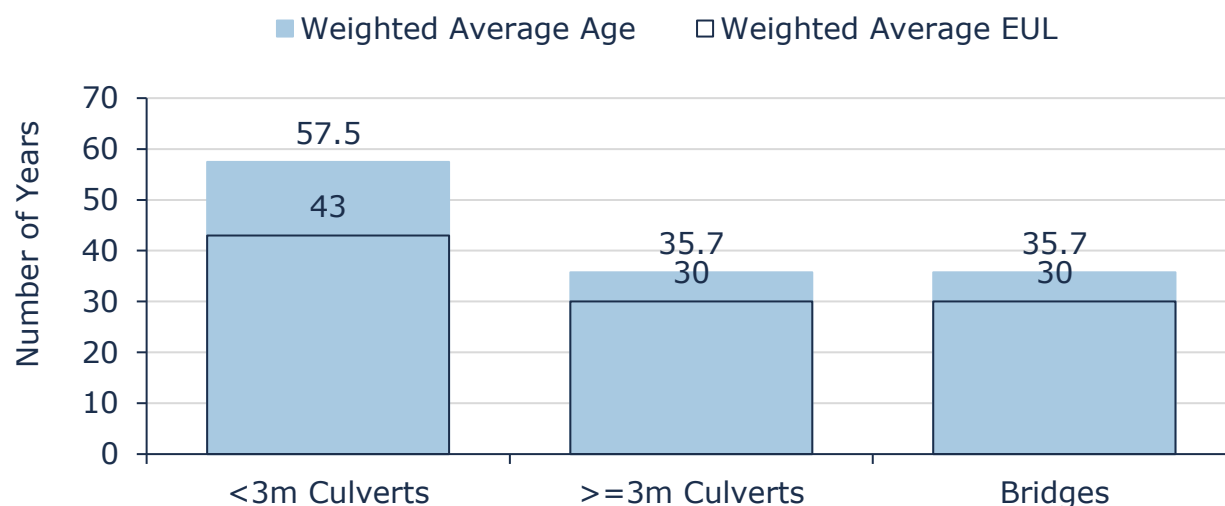


Figure 31 Estimated Useful Life vs. Asset Age: Bridges & Culverts

The age profile indicates that culverts under 3 meters have a weighted average age of 57.5 years compared to a weighted average expected useful life (EUL) of 43 years, meaning they are, on average, well past their intended service life. Larger culverts (≥ 3 meters) and bridges both have a weighted average age of 35.7 years and an EUL of 30 years, also indicating they have exceeded their expected useful lives.

6.4 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 Township’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation / Replacement	All lifecycle activities are driven by the results of mandated structural inspections completed according to the OSIM
Inspection	The most recent inspection report was completed in 2023 by Jewell Engineering

Table 19 Lifecycle Management Strategy: Bridges & Culverts

6.5 Forecasted Long-Term Replacement Needs

Figure 32 illustrates the cyclical short, medium and long-term infrastructure rehabilitation and replacement requirements for the Township’s bridges and culverts. This analysis was run until 2054 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township’s primary asset management system and asset register. The Township’s average annual requirements (red dotted line) for bridges and culverts total \$636,000. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The forecast shows significant capital needs concentrated in the early decades, with the largest requirement of \$14.5M in 2030–2034, primarily for bridges and large culverts. Another notable peak occurs in 2025–2029 at \$2.7M. Beyond 2035, requirements drop considerably, with all subsequent periods falling at or below the \$636k annual requirement. These projections and estimates are based on asset replacement costs, age analysis, and condition data. They are designed to provide a long-term, portfolio level overview of capital needs and should be used to support improved financial planning over several decades.

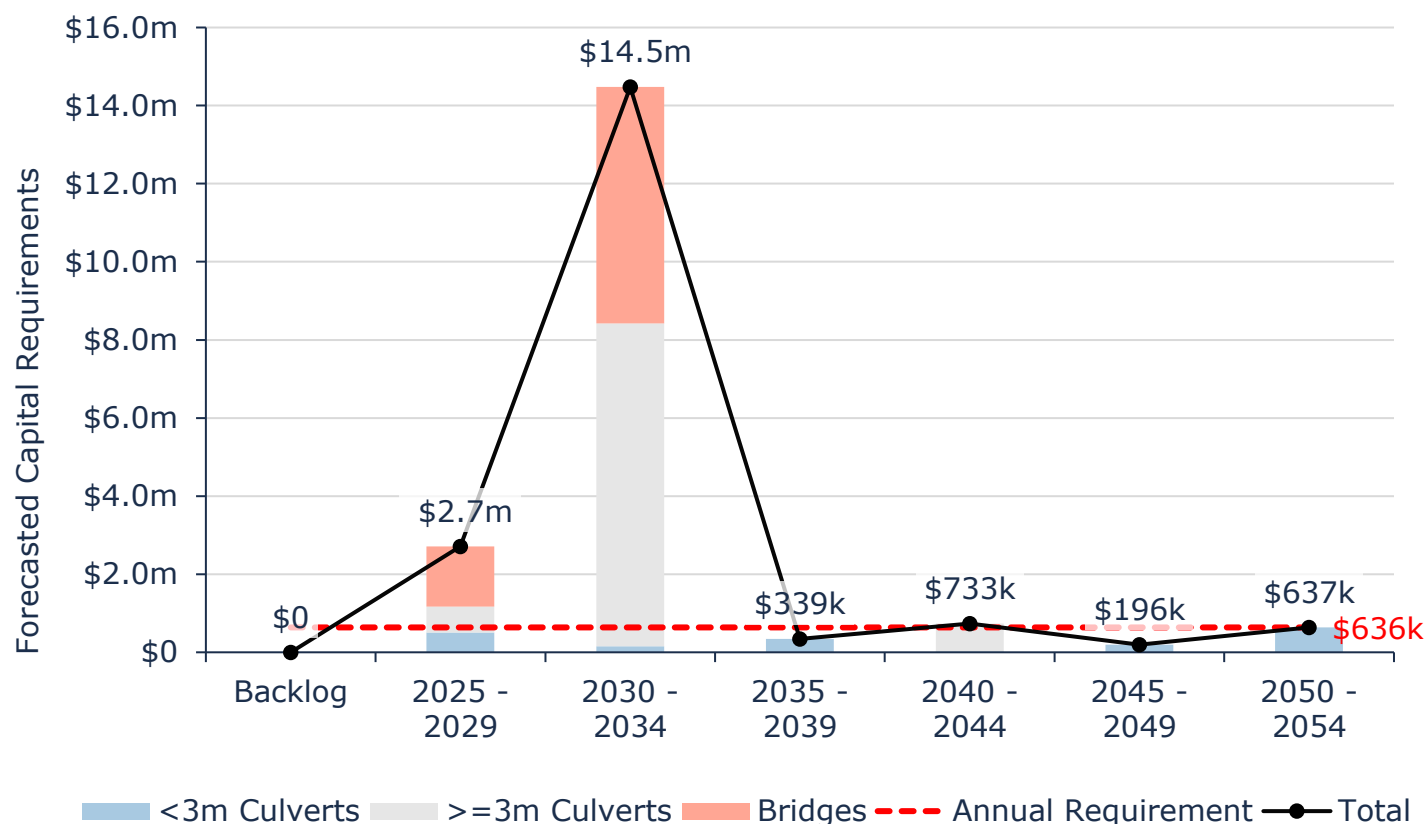


Figure 32 Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2054

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. OSIM 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 B – 10-Year Capital Requirements.

6.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, and culvert size. 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 Township 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 Township'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 \$856,199 (4%)	5 - 7 Low \$1,454,186 (8%)	8 - 9 Moderate \$1,220,000 (6%)	10 - 14 High \$11,283,773 (59%)	15 - 25 Very High \$4,280,000 (22%)
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Figure 33 Risk Matrix: Bridges & Culverts

In addition to asset level risk, the Township may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. An asset's criticality rating, determined by the nature and magnitude of the consequences of its potential failure should be used to prioritize projects.

6.7 Levels of Service

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

6.7.1 Community Levels of Service

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)	None of the Township's structures have loading or dimensional restrictions meaning that most types of vehicles, including heavy transport, emergency vehicles, and cyclists can cross them without restriction.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	See Appendix C – Level of Service Maps & Photos

Table 20 O. Reg. 588/17 Community Levels of Service: Bridges & Culverts

6.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of bridges in the Township with loading or dimensional restrictions	0%
Quality	Average bridge condition index value for bridges in the Township	59%
	Average bridge condition index value for structural culverts in the Township	Good

Table 21 O. Reg. 588/17 Technical Levels of Service: Bridges & Culverts

6.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS.

The table below and graphs explain the proposed level of service scenario that was analyzed for the bridges & culverts. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

6.8.1 PLOS Scenarios Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Bridges & Culverts category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	64%	67%	13.0	9.9	\$636,000	3.33%	0.2%

Table 22 Bridges & Culverts Proposed Level of Service Analysis

Projected Condition

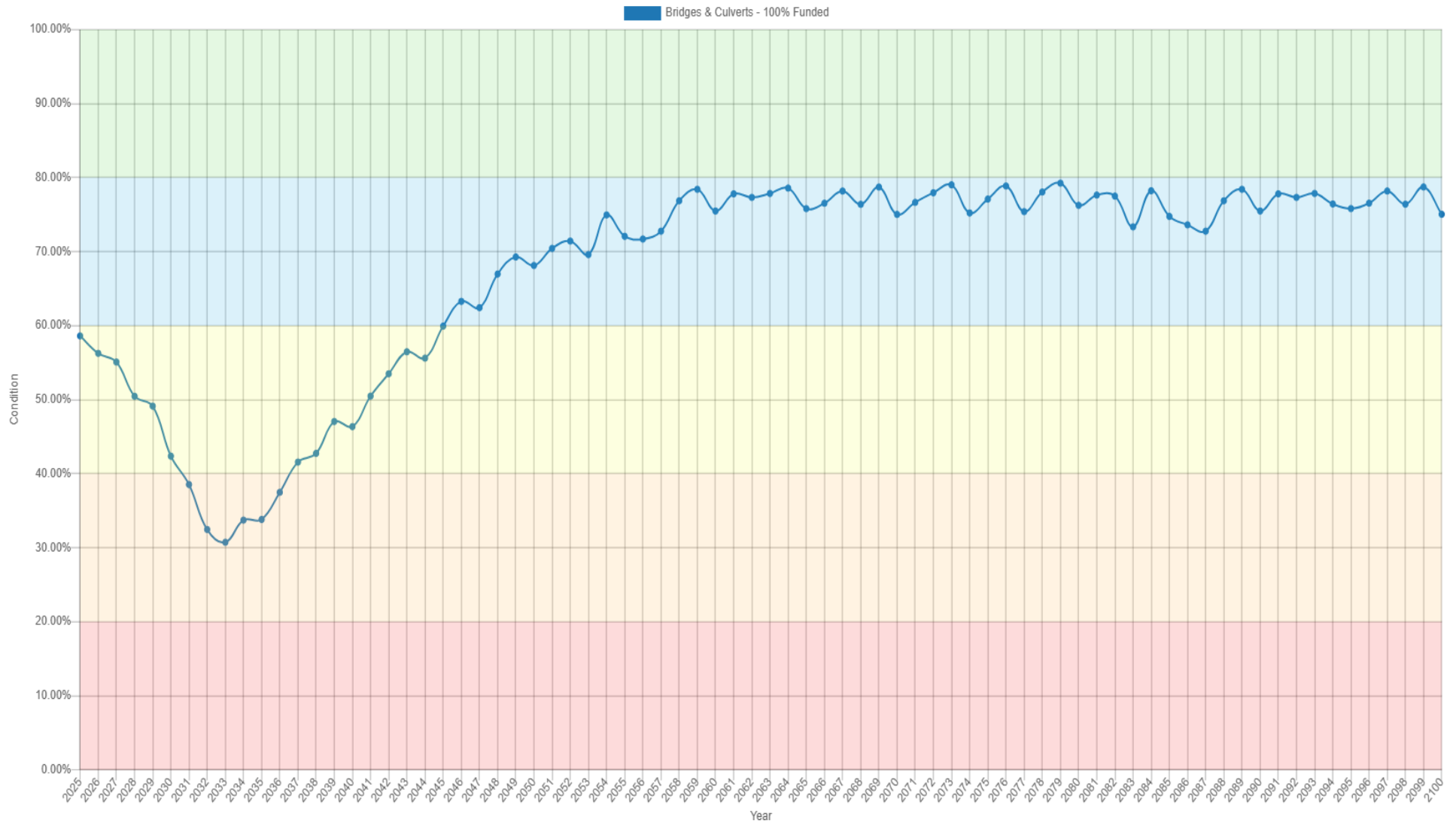


Figure 34 Bridges & Culverts PLOS Scenario Condition Results

Projected Risk

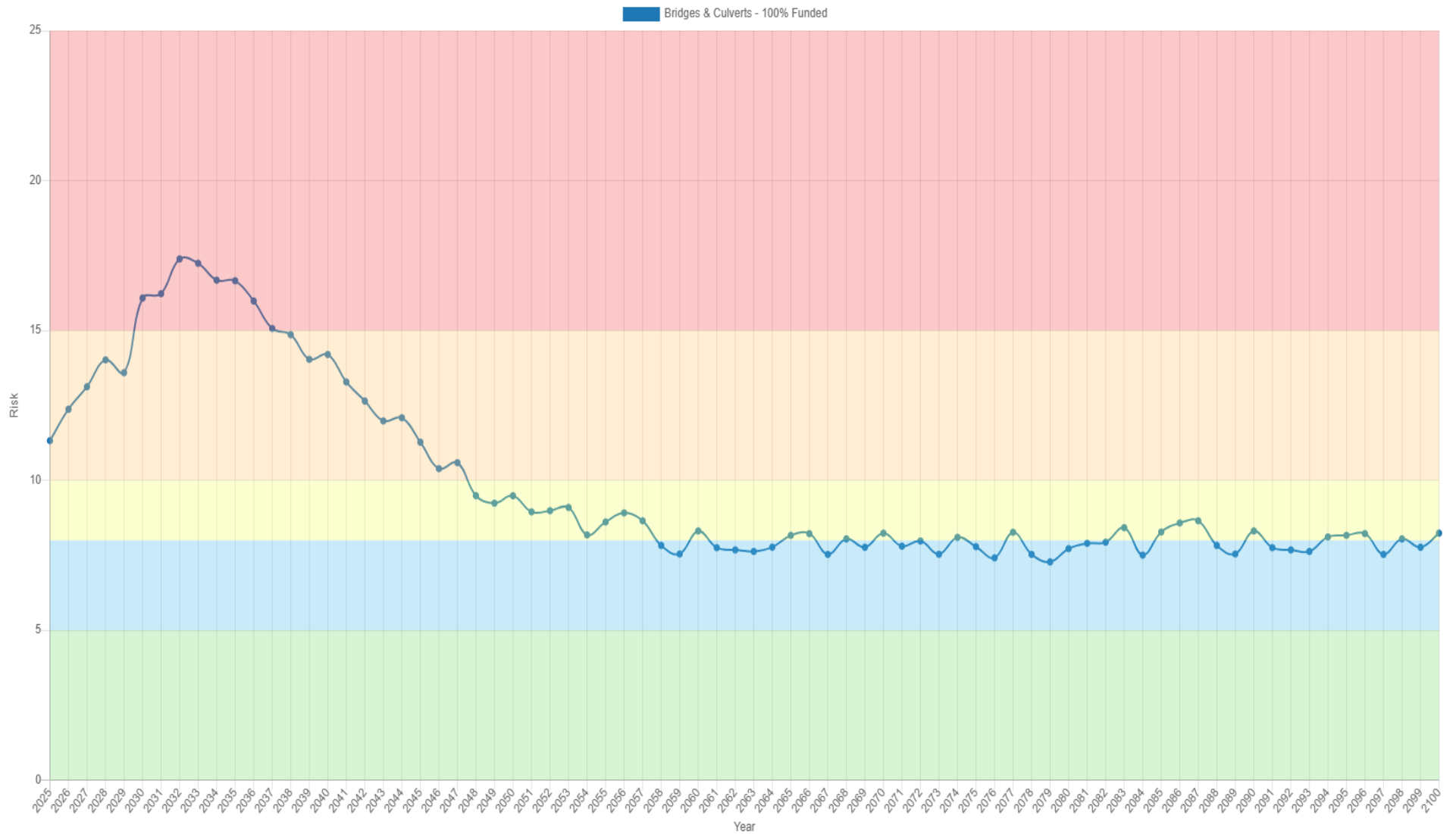


Figure 35 Bridges & Culverts PLOS Scenario Risk Results

6.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. Proposed Levels of Service Analysis, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the bridges & culverts if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$636k	\$636k	\$636k	\$636k	\$636k	\$636k	\$636k	\$636k	\$636k	\$636k
Projected Capital Spending	\$582k	\$591k	\$600k	\$609k	\$636k	\$636k	\$636k	\$636k	\$636k	\$636k
Funding Deficit	\$54k	\$45k	\$36k	\$27k	-	-	-	-	-	-
Target Reinvestment Rate	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
Projected Reinvestment Rate	3.0%	3.1%	3.1%	3.2%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%

Table 23 Bridges & Culverts 10-Year PLOS Financial Projections

7. Storm System

The Township's storm system comprises storm pipes and other critical supporting capital assets with a total current replacement cost of approximately \$2.3 million.

7.1 Inventory & Valuation

Table 24 summarizes the current replacement cost of all storm system assets available in the Township's asset register.

Segment	Replacement Cost	Primary Replacement Cost Method
Catch Basins	\$269,892	CPI
Manholes	\$351,247	CPI
Storm Pipes	\$1,724,896	CPI
TOTAL	\$2,346,035	

Table 24 Detailed Asset Inventory: Storm System

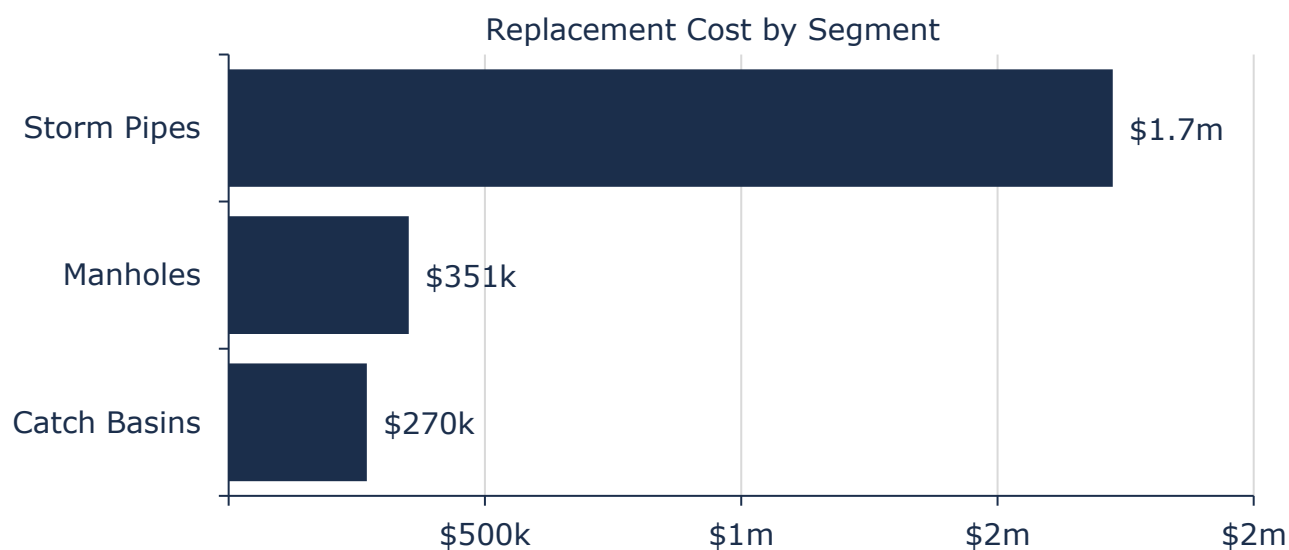


Figure 36 Portfolio Valuation: Storm System

7.2 Asset Condition

Figure 37 summarizes the replacement cost-weighted condition of the Township's storm system assets. Based on condition assessment and age data, approximately 15% 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.

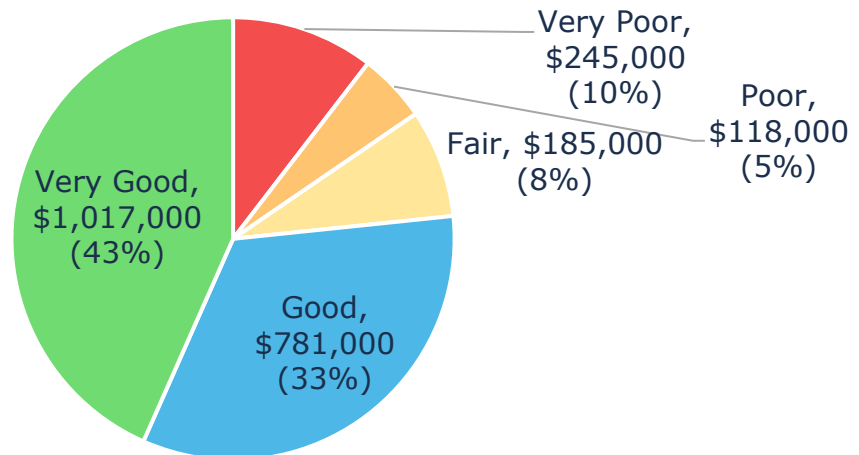


Figure 37 Asset Condition: Storm System Overall

Figure 38 summarizes the condition of storm system assets. The analysis illustrates that the majority of storm system assets are in fair or better condition. However, 37% of manholes, with a current replacement cost of \$129,000, are in poor or worse condition.

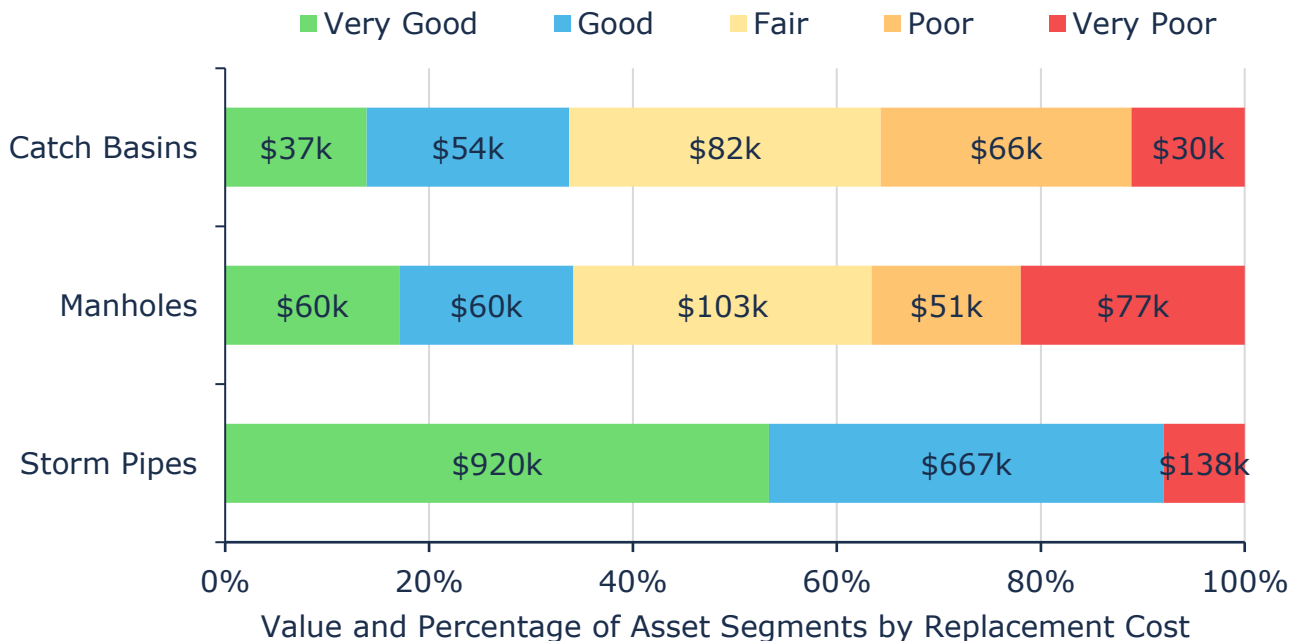


Figure 38 Asset Condition: Storm System by Segment

7.3 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 39 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.

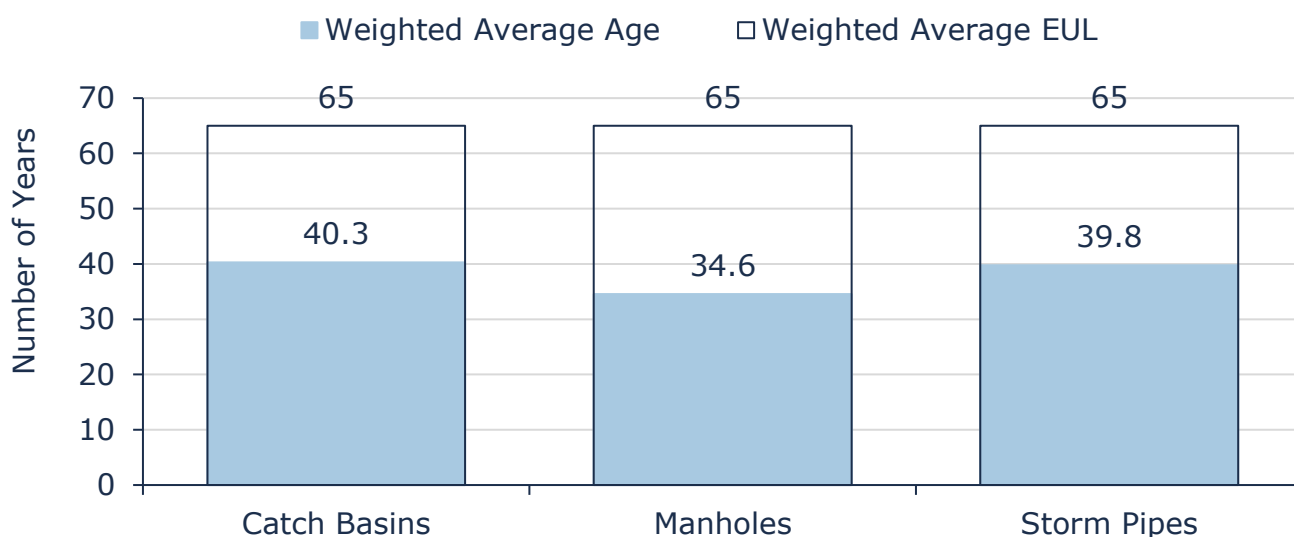


Figure 39 Estimated Useful Life vs. Asset Age: Storm System

The age profile indicates that all three stormwater asset types—catch basins, manholes, and storm pipes—share an estimated useful life (EUL) of 65 years. Weighted average ages are 40.3 years for catch basins, 34.6 years for manholes, and 39.8 years for storm pipes. This suggests that each asset group has already consumed over half of its service life, with catch basins and storm pipes nearing two-thirds of their expected lifespan, while manholes are in relatively better condition.

Age profiles and CCTV inspections will help to identify mains in need of replacements and/or upgrades. Extensions to EULs for mains may also be considered based on performance history to date.

7.4 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 Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Primary activities include catch basin cleaning and storm main flushing, the entire system is done every 5 years CCTV inspections and cleaning is completed as budget becomes available and this information will be used to drive forward rehabilitation and replacement plans
Rehabilitation	Trenchless re-lining has the potential to reduce total lifecycle costs but would require a formal condition assessment program to determine viability
Replacement	Without the availability of up to date condition assessment information replacement activities are purely reactive in nature

Table 25 Lifecycle Management Strategy: Storm System

7.5 Forecasted Long-Term Replacement Needs

Figure 40 illustrates the cyclical short, medium and long-term infrastructure replacement requirements for the Township's storm system assets. This analysis was run until 2089 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total \$36,000 for all assets in the storm system. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates that the capital requirements start with a \$245k backlog, followed by a steady flow of needs through the first half of the forecast. Peaks occur in 2040–2044 and 2060–2064, reaching \$577k and \$628k respectively, primarily due to storm pipe replacements. While some periods in the early forecast present moderate investment needs, several intervals show sharp spikes well above the \$36k annual requirement. After 2064, requirements drop to zero for more than a decade before a small rise in the final period (2085–2089).

These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio level overview of capital needs and should be used to support improved financial planning over several decades.

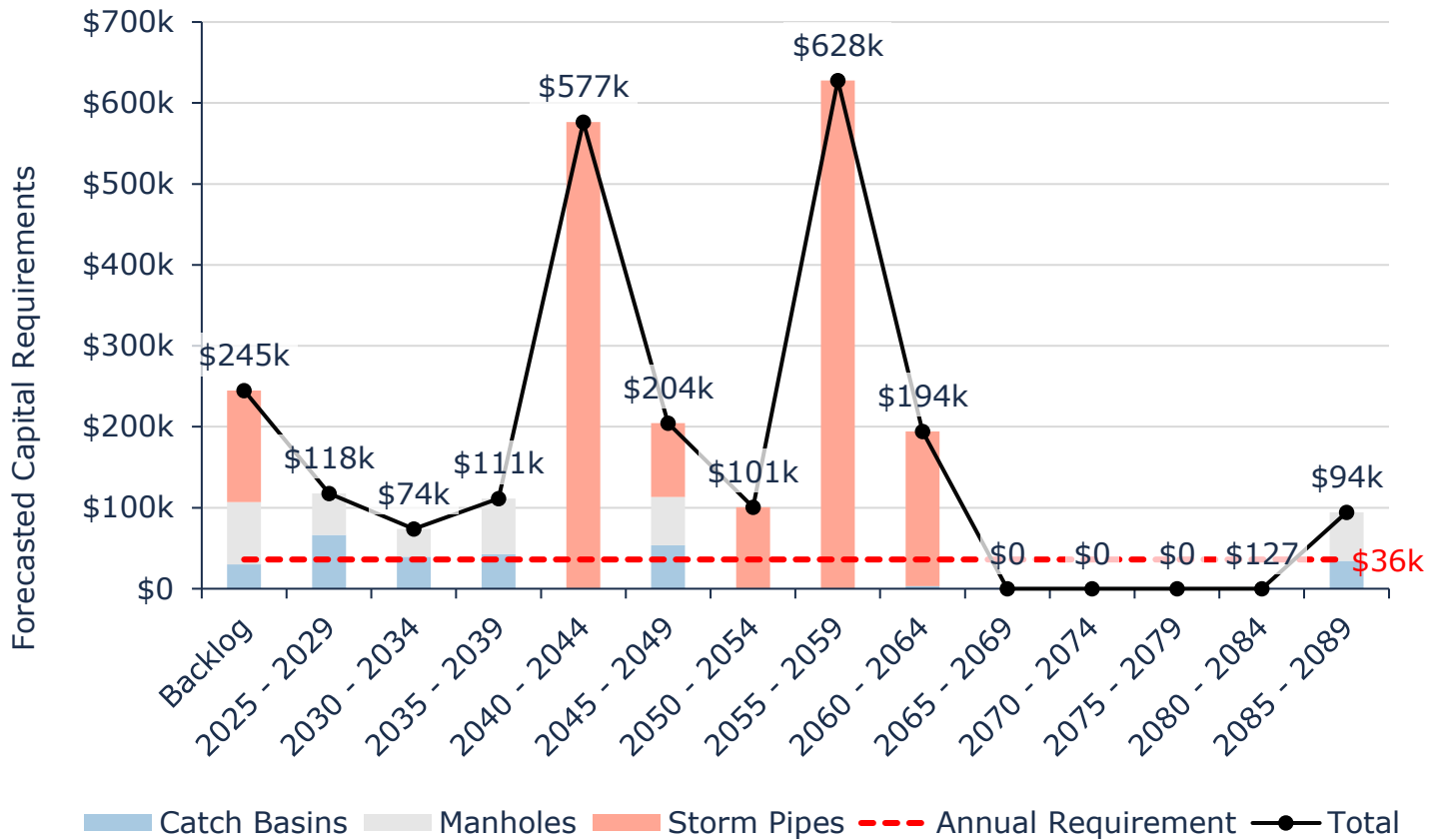


Figure 40 Forecasted Capital Replacement Needs Storm System 2025-2089

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. 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 B – 10-Year Capital Requirements.

7.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, 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 Township 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 Township'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 \$2,346,035 (100%)	5 - 7 Low - (0%)	8 - 9 Moderate - (0%)	10 - 14 High - (0%)	15 - 25 Very High - (0%)
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Figure 41 Risk Matrix: Storm System

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

7.7 Levels of Service

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

7.7.1 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 municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater system	See Appendix C

Table 26 O. Reg. 588/17 Community Levels of Service: Storm System

7.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties in municipality designed to be resilient to a 100-year storm	0% ³
	% of the municipal stormwater management system designed to be resilient to a 5-year storm	0%

Table 27 O. Reg. 588/17 Technical Levels of Service: Storm System

³ Currently the Township does not have the data and information to support providing a value for these metrics. The Township will explore the availability of supporting information from local conservation authorities and the recent Delta flood study to establish a more accurate baseline.

7.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS.

The tables below and graphs explain the proposed levels of service scenario that was analyzed for the storm system. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

7.8.1 Proposed Level of Service Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Storm System category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	65.6%	60%	2.3	4.2	\$36,000	1.54%	0.2%

Table 28 Storm System Proposed Level of Service Analysis

Projected Condition

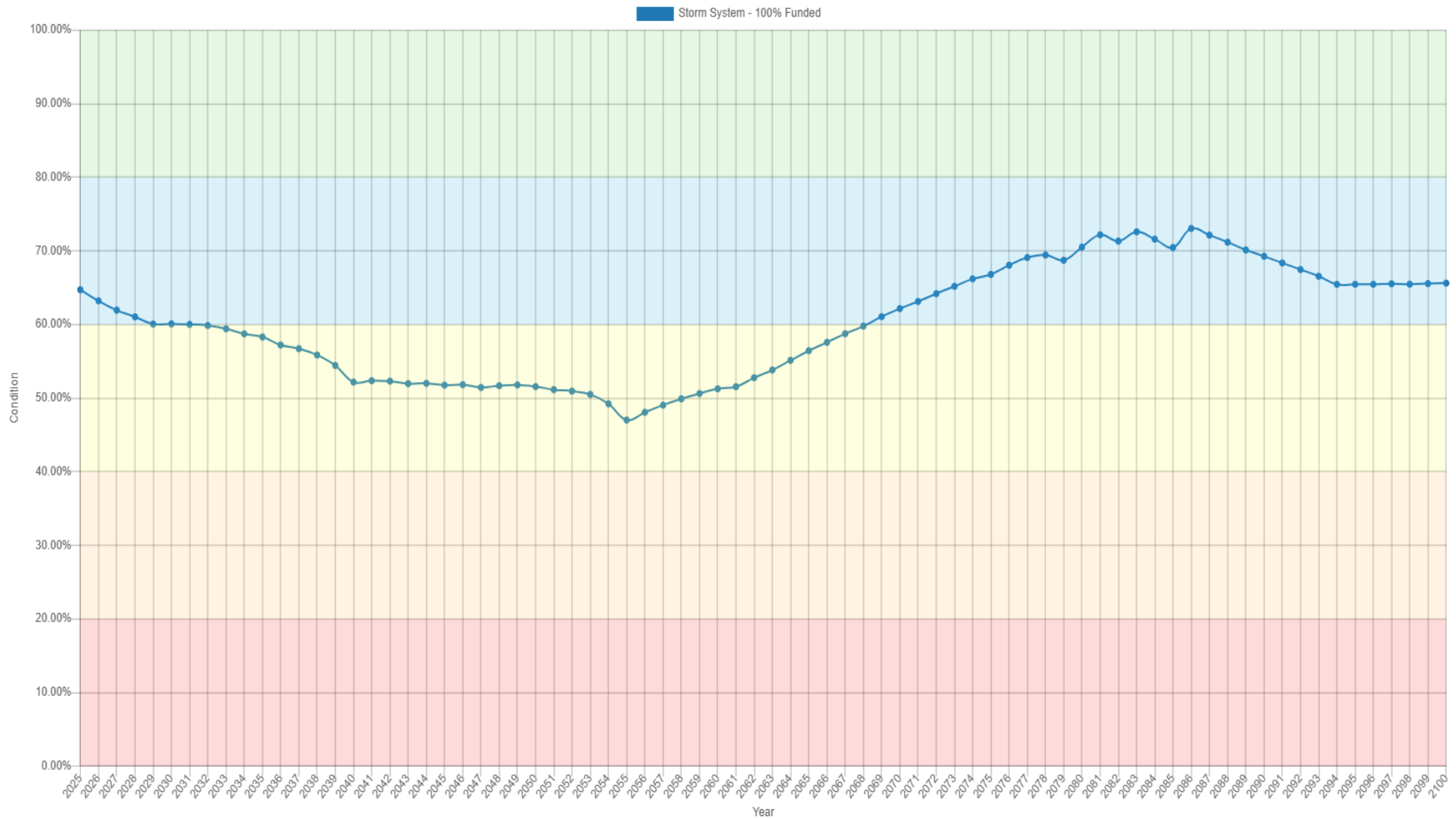


Figure 42 Storm System PLOS Scenario Condition Results

Projected Risk

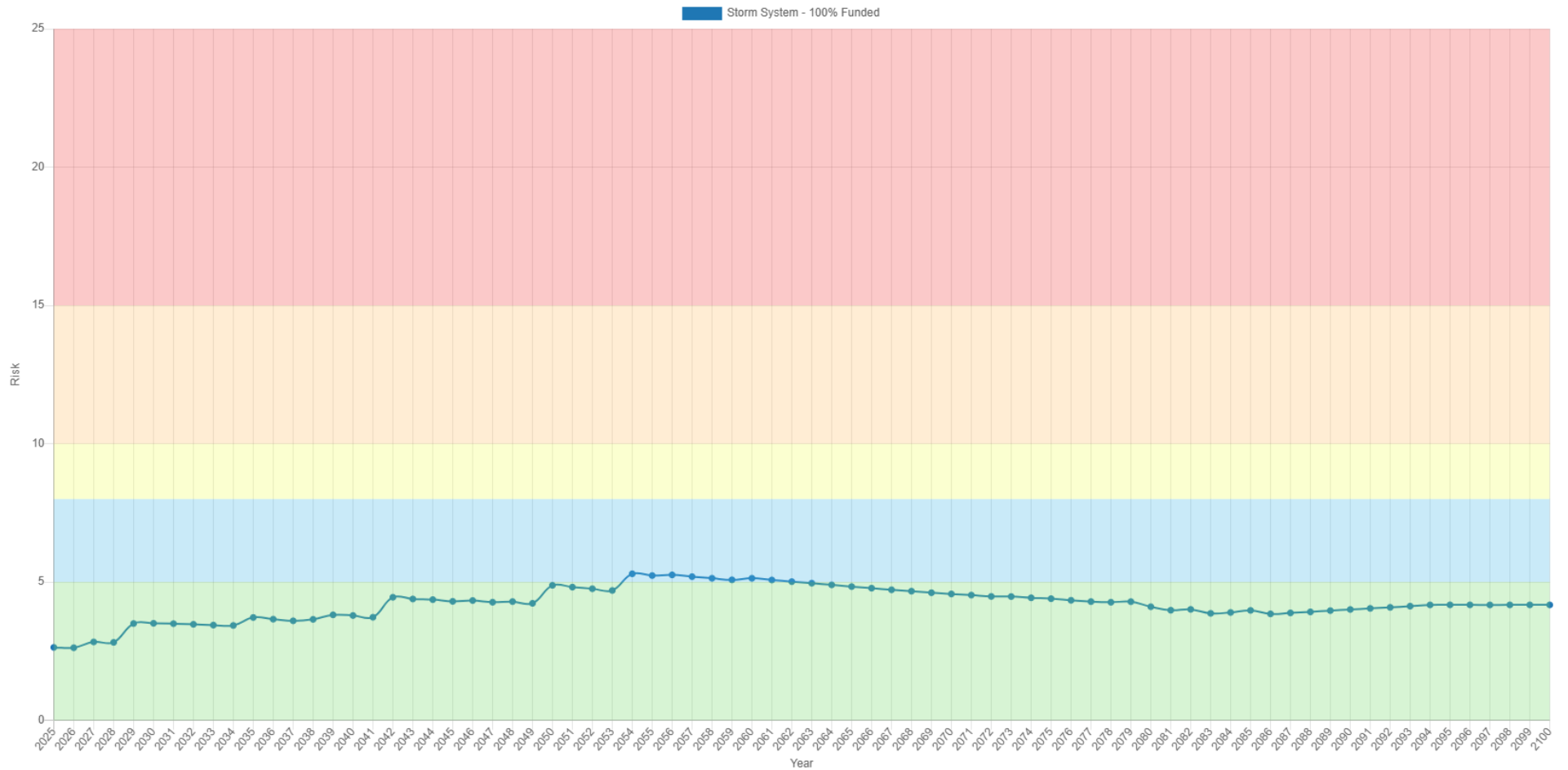


Figure 43 Storm System PLOS Scenario Risk Results

7.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. Proposed Levels of Service Analysis, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the storm system if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$36k	\$36k	\$36k	\$36k	\$36k	\$36k	\$36k	\$36k	\$36k	\$36k
Projected Capital Spending	\$29k	\$31k	\$32k	\$33k	\$36k	\$36k	\$36k	\$36k	\$36k	\$36k
Funding Deficit	\$7k	\$5k	\$4k	\$3k	-	-	-	-	-	-
Target Reinvestment Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Projected Reinvestment Rate	1.3%	1.3%	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%

Table 29 Storm System 10-Year PLOS Financial Projections

Category Analysis: Non-Core Assets

8. Buildings

The Township's buildings portfolio includes fire stations, libraries and recreational assets. The total current replacement of buildings is estimated at more than \$27 million.

8.1 Inventory & Valuation

Table 30 summarizes the current replacement cost of all building assets available in the Township's asset register.

Segment	Replacement Cost	Primary Replacement Cost Method
Facilities	\$22,376,208	User-Defined
Fire & Rescue	\$2,063,042	CPI
Library	\$1,493,321	User-Defined
Parks	\$1,100,767	CPI
TOTAL	\$27,033,338	

Table 30 Detailed Asset Inventory: Buildings

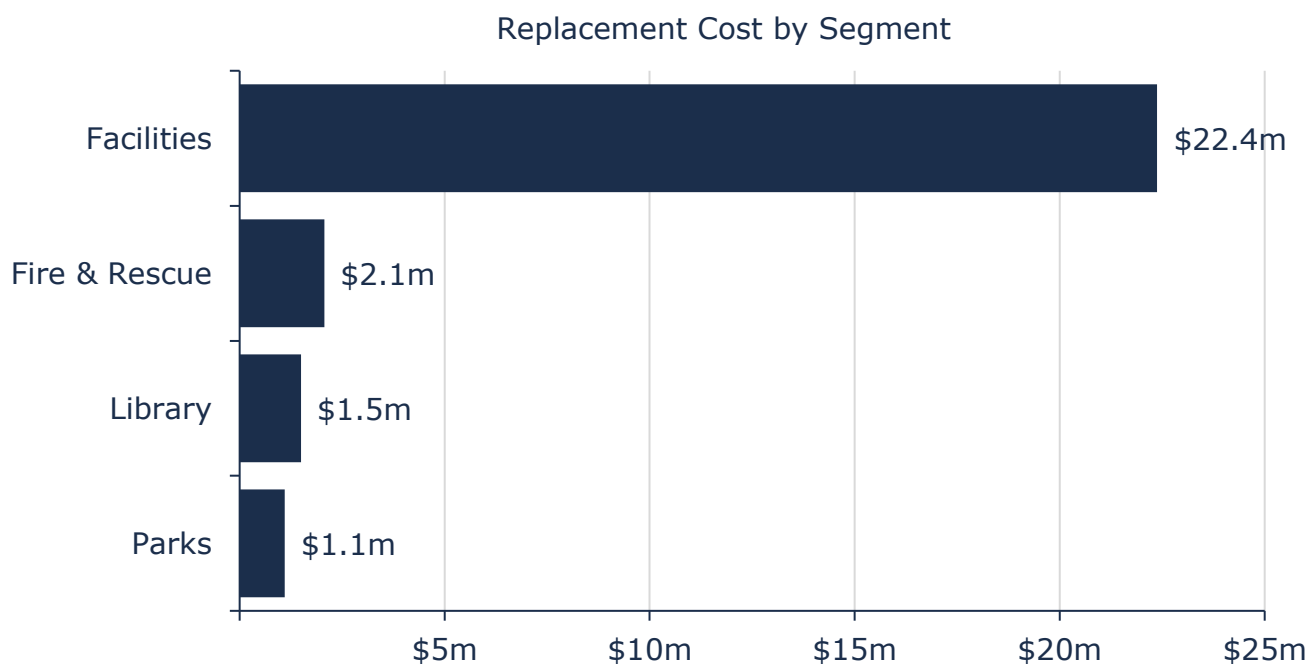


Figure 44 Portfolio Valuation: Buildings

8.2 Asset Condition

Figure 45 summarizes the replacement cost-weighted condition of the Township's buildings portfolio. Based on condition assessment and age data, 77% of buildings assets are in fair or better condition; however, 23%, with a current replacement cost of more than \$6.3 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. As buildings are not fully componentized, condition data is presented only at the site level, rather than at the individual element or component level within each building.

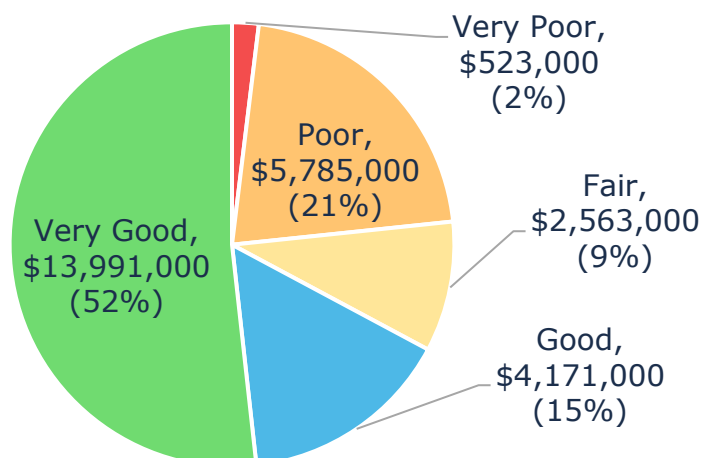


Figure 45 Asset Condition: Buildings Overall

Figure 46 summarizes the condition of buildings by each department. 26% of facilities and 35% of Parks with replacement cost of \$5.7 million, and \$381,000 respectively are in poor or worse condition. However, in the absence of componentization, this data has limited value. Componentization of assets and integration of condition assessments will provide a more accurate and reliable estimation of the condition of various facilities.

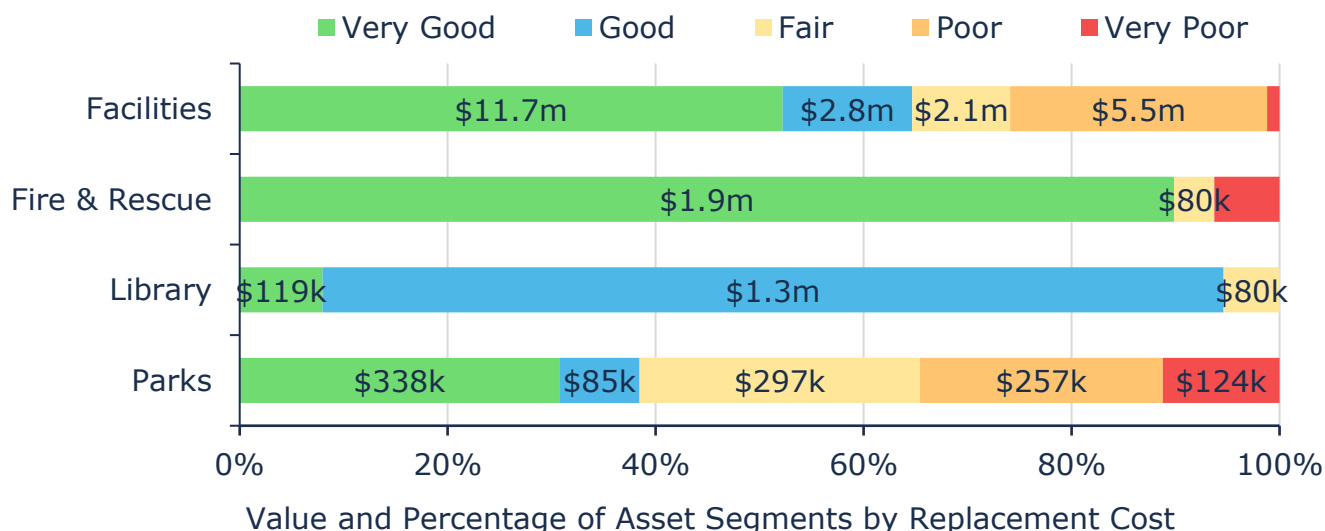


Figure 46 Asset Condition: Buildings by Segment

8.3 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 47 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.

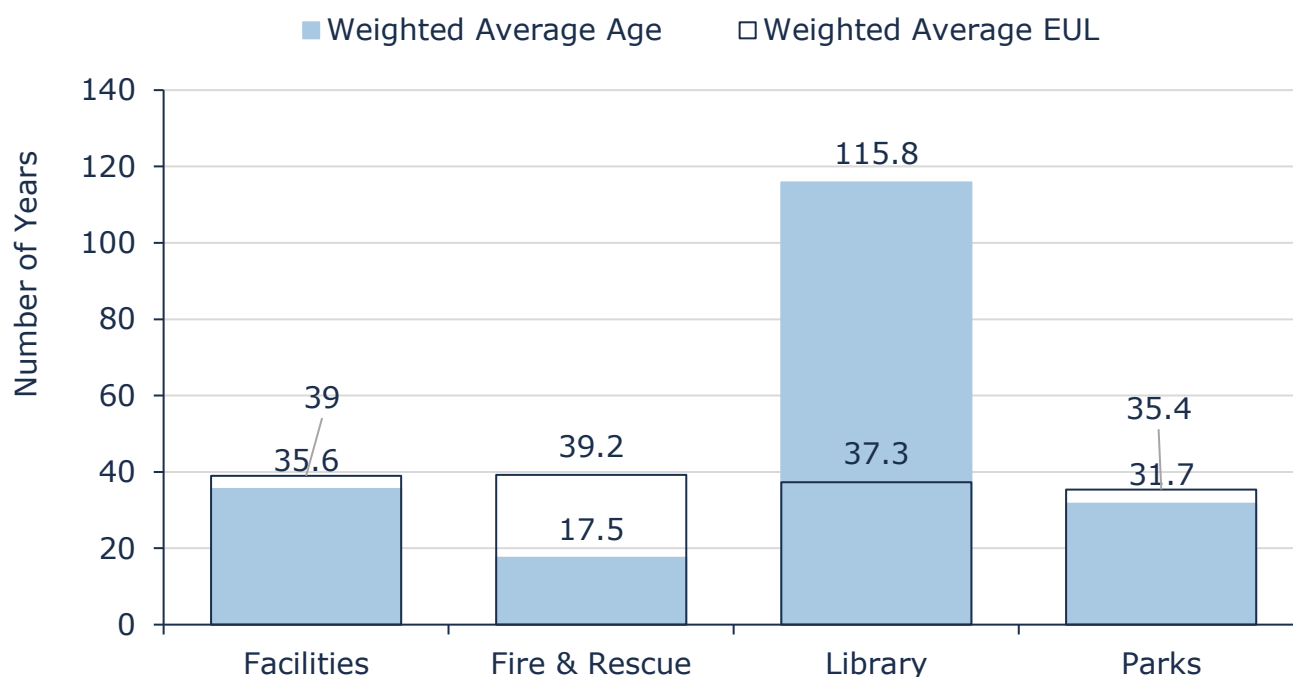


Figure 47 Estimated Useful Life vs. Asset Age: Buildings

The age profile indicates that Facilities average 35.6 years against a 39-year EUL, while Parks average 31.7 years against 35.4 years. Fire & Rescue buildings are notably younger, with an average age of 17.5 years compared to 39.2 years. The library stands out with an average age of 115.8 years against an EUL of 37.3 years, indicating it is well beyond its expected service life and may require significant reinvestment.

Once again, this analysis presented only at the site level, rather than at the individual element or component level. Useful and meaningful age analysis for buildings is entirely predicated on effective componentization.

8.4 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 31 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Municipal buildings are subject to regular inspections to identify health & safety requirements as well as structural deficiencies that require additional attention
	The maintenance of buildings is dealt with on a case by case basis
Replacement	As a supplement to the knowledge and expertise of municipal staff the Township regularly works with contractors
	Assessments are completed strategically as buildings approach their end of life to determine whether replacement or rehabilitation is appropriate

Table 31 Lifecycle Management Strategy: Buildings

8.5 Forecasted Long-Term Replacement Needs

Figure 48 illustrates the cyclical short, medium and long-term infrastructure replacement requirements for the Township's buildings portfolio. This analysis was run until 2079 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total \$722,000 for all buildings. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to begin with a \$181k backlog, followed by major peaks in 2025–2029 (\$7.4M), 2040–2044 (\$7.1M), and 2065–2069 (\$7.4M), driven primarily by large Facility reinvestments. Additional high expenditure periods occur in 2030–2034 (\$3.3M), 2045–2049 (\$3.2M), 2070–2074 (\$5.4M), and 2075–2079 (\$5.2M) with smaller spikes in intermediate years.

These projections and estimates are based on current asset records, their replacement costs, and age analysis. They are designed to provide a long-term, portfolio level overview of capital needs and should be used to support improved financial planning over several decades.



Figure 48 Forecasted Capital Replacement Needs Buildings 2025-2079

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. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements. In the case of buildings and facilities, detailed componentization is necessary to develop more reliable lifecycle forecasts that reflect the needs of individual elements and components.

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

8.6 Risk Analysis

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

The matrix classifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the

highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township 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 Township'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 \$9,409,567 (35%)	5 - 7 Low \$4,247,055 (16%)	8 - 9 Moderate \$1,508,293 (6%)	10 - 14 High \$5,815,333 (22%)	15 - 25 Very High \$6,053,090 (22%)
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Figure 49 Risk Matrix: Buildings

8.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

8.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Accessible & Reliable	List of facilities that meet accessibility standards and any work that has been undertaken to achieve alignment	REHMC - accessible library + washrooms Delta Library - Accessible ramp Morton Hall - Accessible ramp + washrooms Newboro Hall - Accessible Washrooms EMC - Accessible washrooms + entrances Chantry office - Accessible washrooms + doors
Safe & Regulatory	Description of monthly and annual facilities inspection process	Monthly safety checks - first aid/defib/mechanical/generators

Table 32 Community Levels of Service: Buildings

8.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Sustainability	Capital Reinvestment Rate	2.69%

Table 33 Technical Levels of Service: Buildings

8.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS. The table and graphs below explain the proposed levels of service scenario that was analyzed for buildings. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

8.8.1 Proposed Level of Service Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Buildings category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	67.5%	67.8%	9.5	9.2	\$722,000	2.67%	0.2%

Table 34 Buildings Proposed Level of Service Analysis

Projected Condition

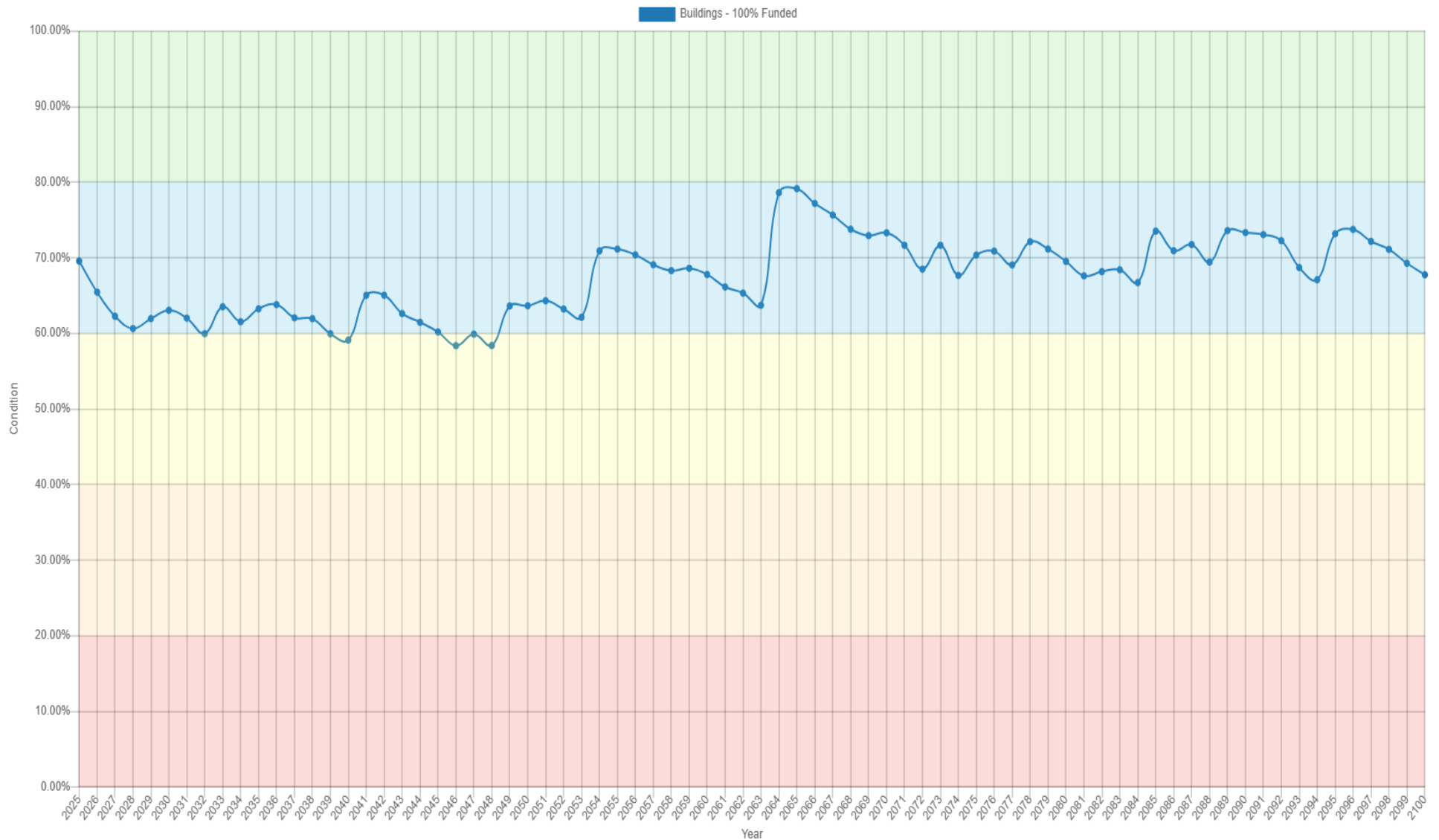


Figure 50 Buildings PLOS Scenario Condition Results

Projected Risk

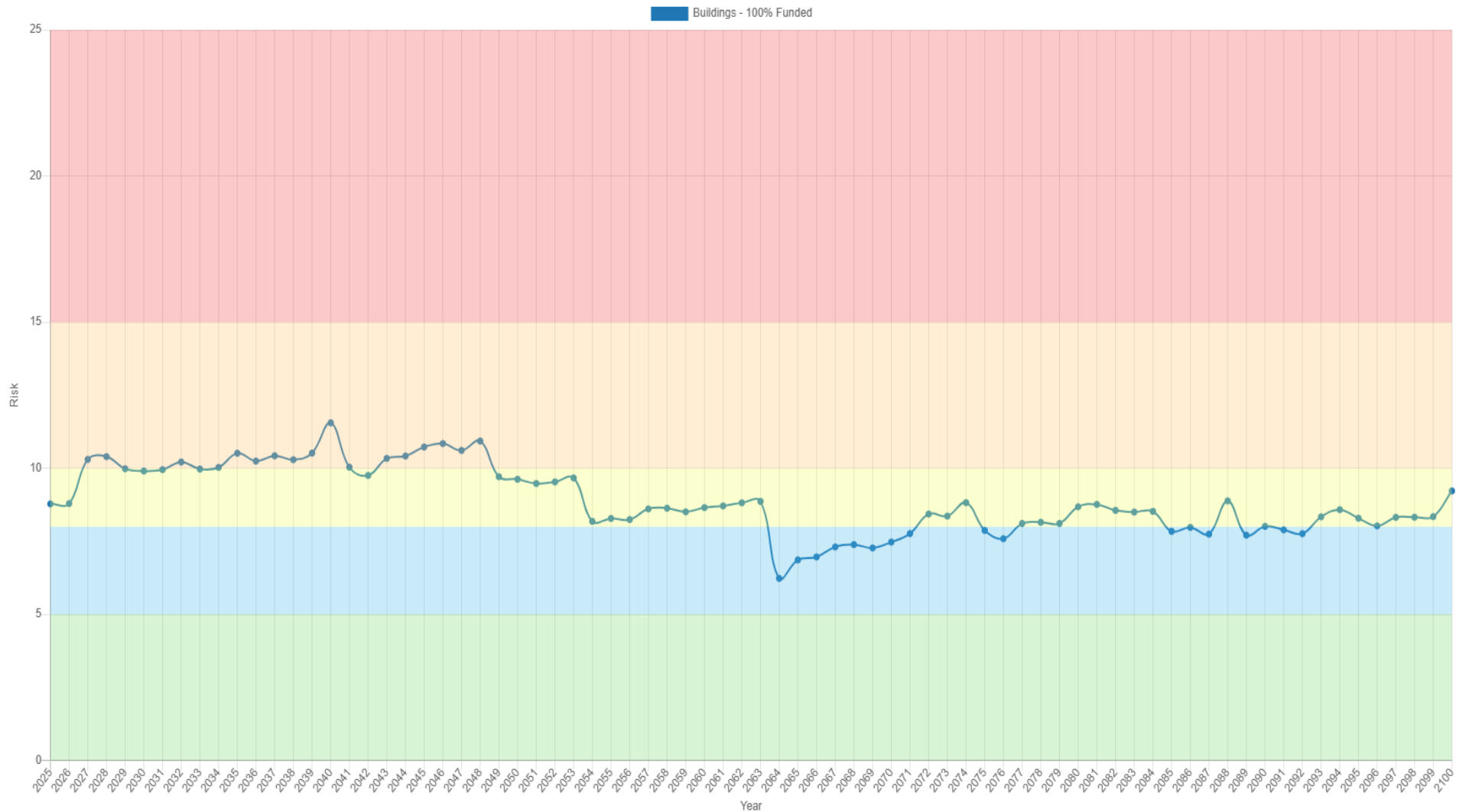


Figure 51 Buildings PLOS Scenario Risk Results

8.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. Proposed Levels of Service Analysis, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the asset within the buildings category if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k
Projected Capital Spending	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k	\$722k
Funding Deficit	-	-	-	-	-	-	-	-	-	-
Target Reinvestment Rate	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
Projected Reinvestment Rate	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%

Table 35 Buildings 10-Year PLOS Financial Projections

Based on the current analysis for this asset management plan, it was found that the current level investment into the buildings category was meeting or exceeding the projected average annual requirement. Therefore, the table above does not show any increases in the target capital spending or reinvestment rate. This is based on the current lifecycle strategies, events and end of life replacements identified within the asset database. This should be continually reviewed and updated, especially in the case of building where the inventory is not componentized and therefore can misrepresent the current needs.

9. Land Improvements

The Township's land improvements portfolio includes environmental services, facilities, fire & rescue, parks, roads, and water amenities.. The total current replacement of land improvements is estimated at approximately \$4.4 million.

9.1 Inventory & Valuation

Table 36 summarizes the current replacement cost of all land improvements assets available in the Township's asset register.

Segment	Replacement Cost	Primary Replacement Cost Method
Environmental Services	\$427,021	CPI
Facilities	\$1,182,138	CPI
Fire & Rescue	\$135,617	CPI
Parks	\$1,271,275	CPI
Roads	\$85,536	User-Defined
Water Amenity	\$1,342,042	User-Defined
TOTAL	\$4,443,629	

Table 36 Detailed Asset Inventory: Land Improvements

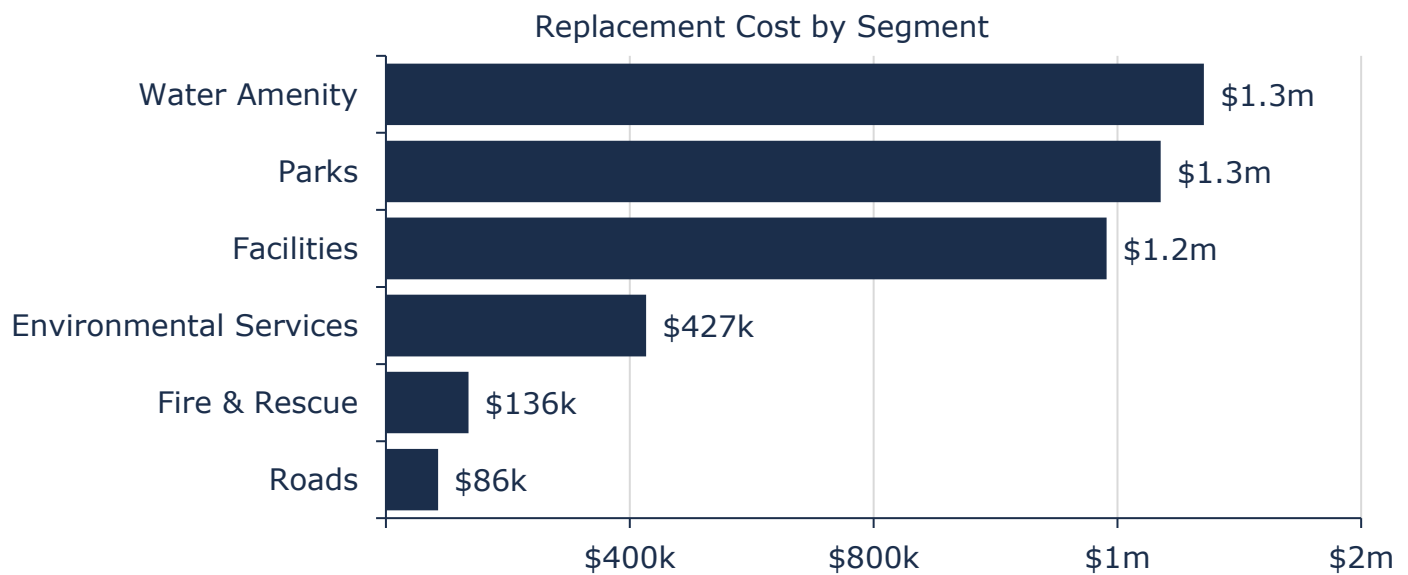


Figure 52 Portfolio Valuation: Land Improvements

9.2 Asset Condition

Figure 53 summarizes the replacement cost-weighted condition of the Township's land improvements portfolio. Based on condition assessment and age data, 86% of assets are in fair or better condition, the remaining 14% 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.

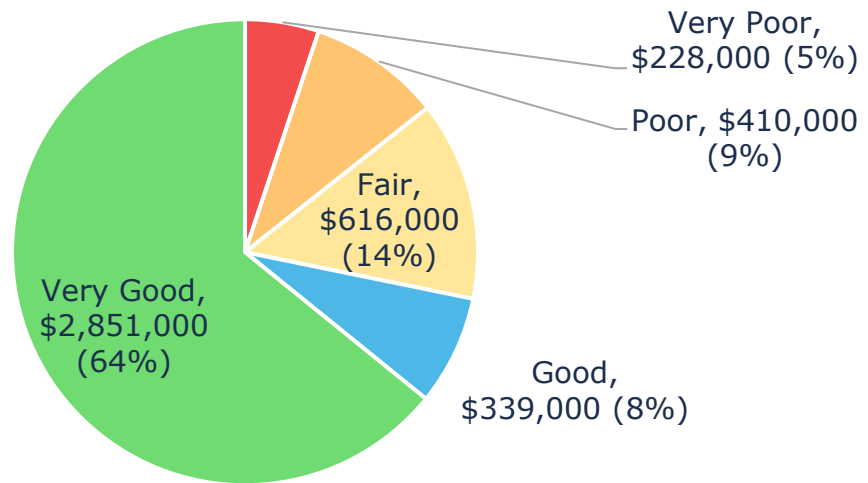


Figure 53 Asset Condition: Land Improvements Overall

Figure 54 summarizes the condition of land improvements by each department. Assets in poor or worse condition are concentrated primarily in facilities, parks, and roads.

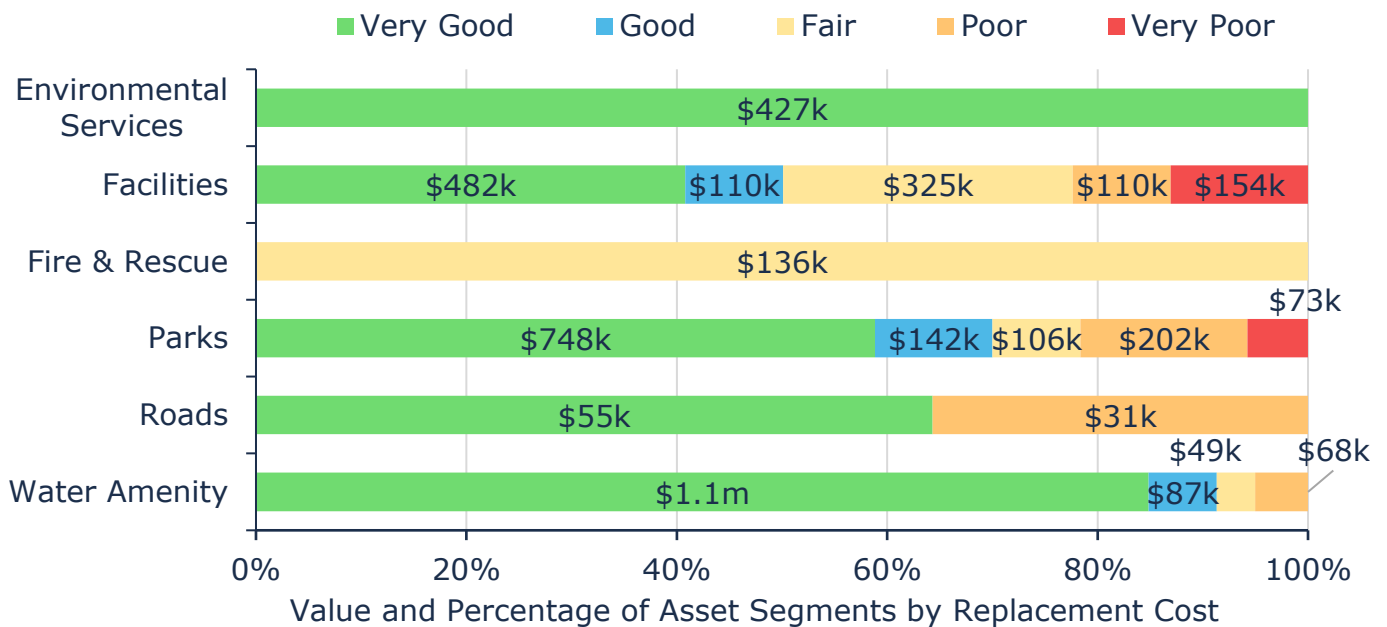


Figure 54 Asset Condition: Land Improvements by Segment

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

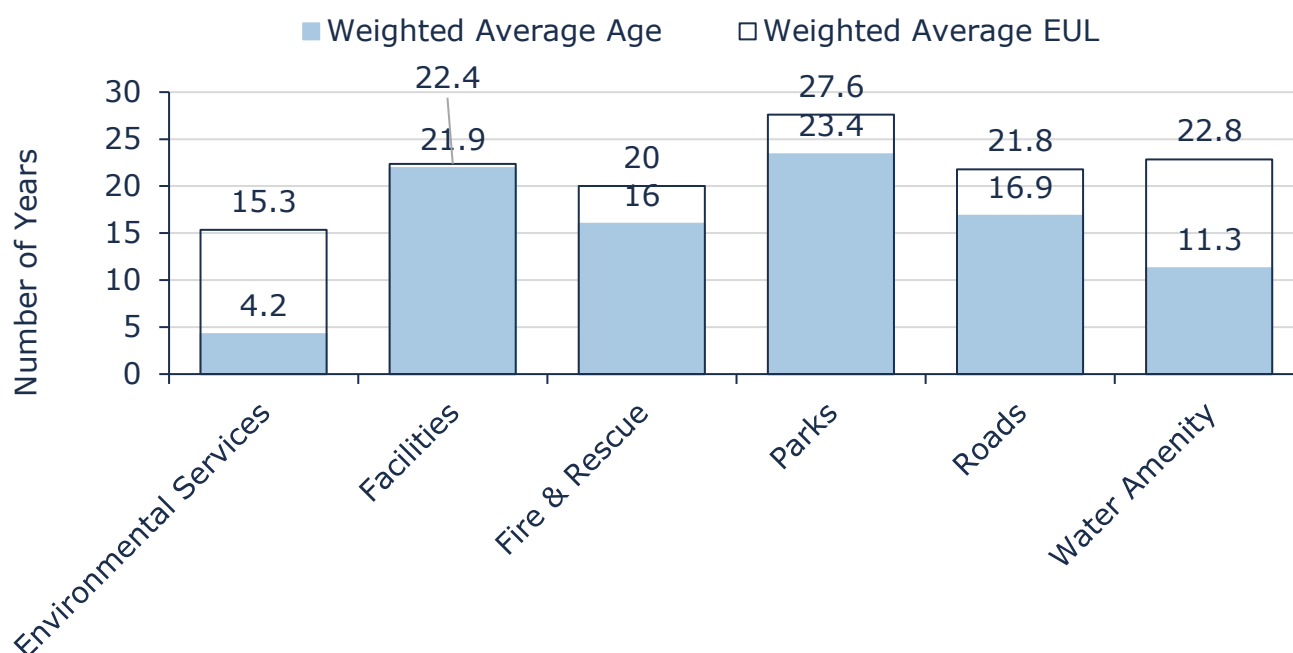


Figure 55 Estimated Useful Life vs. Asset Age: Land Improvements

Age analysis indicates that all asset categories are within their expected useful lives. Environmental Services assets have a weighted average age of 4.2 years compared to an EUL of 15.3 years. Facilities average 21.9 years against 22.4 years, and Fire & Rescue assets average 16 years against 20 years. Parks have the highest average age at 23.4 years, approaching their EUL of 27.6 years. Roads average 16.9 years against 21.8 years, while Water Amenities average 11.3 years compared to 22.8 years.

9.4 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 37 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation & Replacement	The Land improvements asset category includes several unique asset types and lifecycle requirements are dealt with on a case-by-case basis

Table 37 Lifecycle Management Strategy: Land Improvements

9.5 Forecasted Long-Term Replacement Needs

Figure 56 illustrates the cyclical short, medium and long-term infrastructure replacement requirements for the Township's land improvements portfolio. This analysis was run until 2079 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total \$204,000 for all land improvements. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to vary over the analysis period, starting with a \$228k backlog. Peaks in capital requirements occur in 2025–2029 (\$1.0M), 2035–2039 (\$1.3M), and 2065–2069 (\$1.7M), driven largely by investments in Facilities, Parks, and Water Amenities. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio level overview of capital needs and should be used to support improved financial planning over several decades.

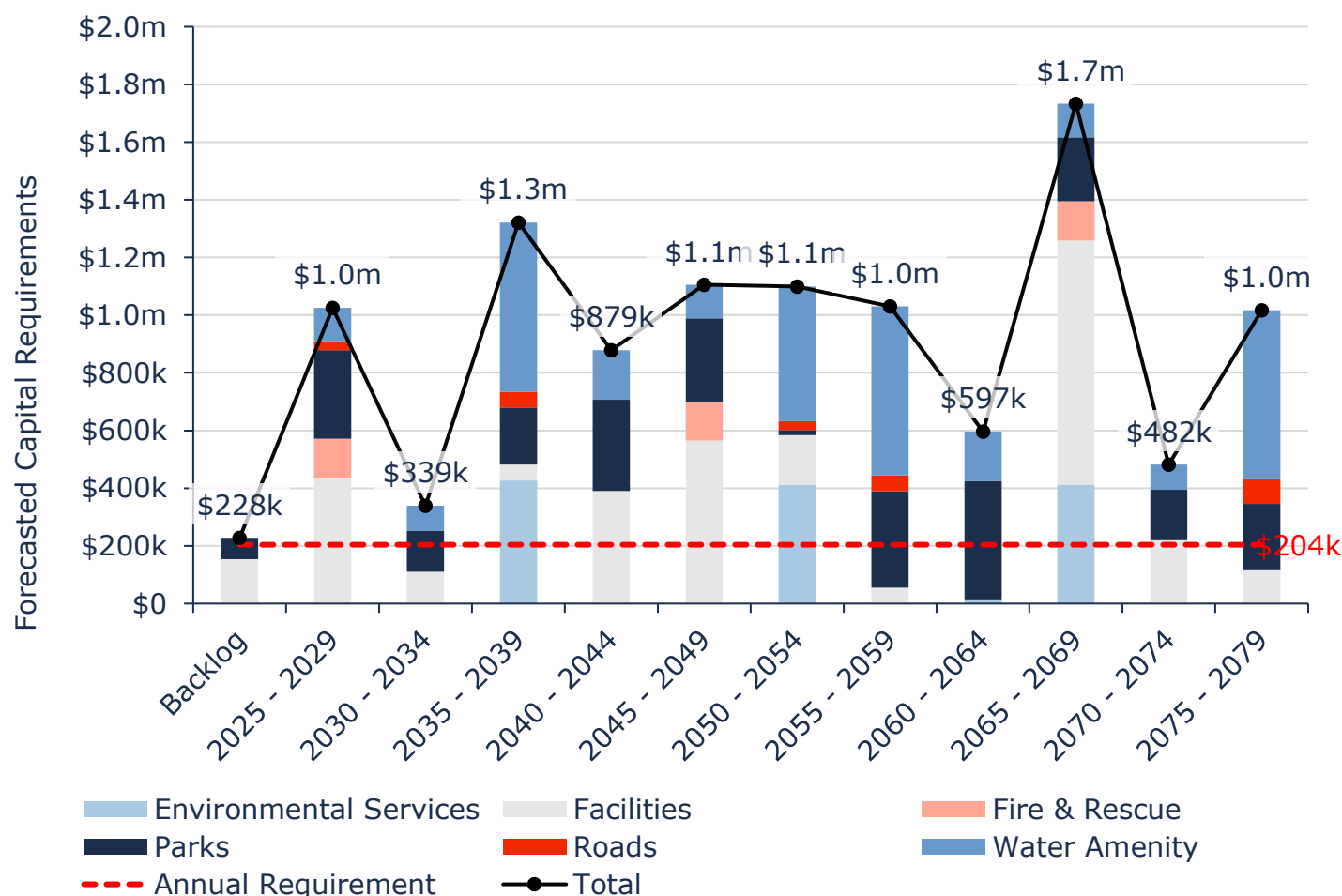


Figure 56 Forecasted Capital Replacement Needs: Land Improvements 2025-2079

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. In addition, 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 B – 10-Year Capital Requirements.

9.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, and department. 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 Township 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 Township'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 \$2,881,662 (65%)	5 - 7 Low \$461,227 (10%)	8 - 9 Moderate \$486,279 (11%)	10 - 14 High \$614,461 (14%)	15 - 25 Very High - (0%)
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Figure 57 Risk Matrix: Land Improvements

9.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

9.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Safe	Description of the playground equipment inspection program, any best practices being utilized	1 certified CPSI inspector who completes annual inspections
Accessible & Regulatory	Description of the process to ensure AODA standards are being considered and implemented in new or replacement capital projects	Capital projects will have an AODA review component included in the design process

Table 38 Community Levels of Service: Land Improvements

9.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Sustainability	Capital reinvestment rate	0.94%

Table 39 Technical Levels of Service: Land Improvements

9.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS. The table and graphs below explain the proposed level of service scenario that was analyzed for buildings. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

9.8.1 Proposed Level of Service Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Land Improvements category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	76.9%	74%	5.3	5.4	\$204,000	4.6%	0.2%

Table 40 Land Improvements Proposed Level of Service Analysis

Projected Condition

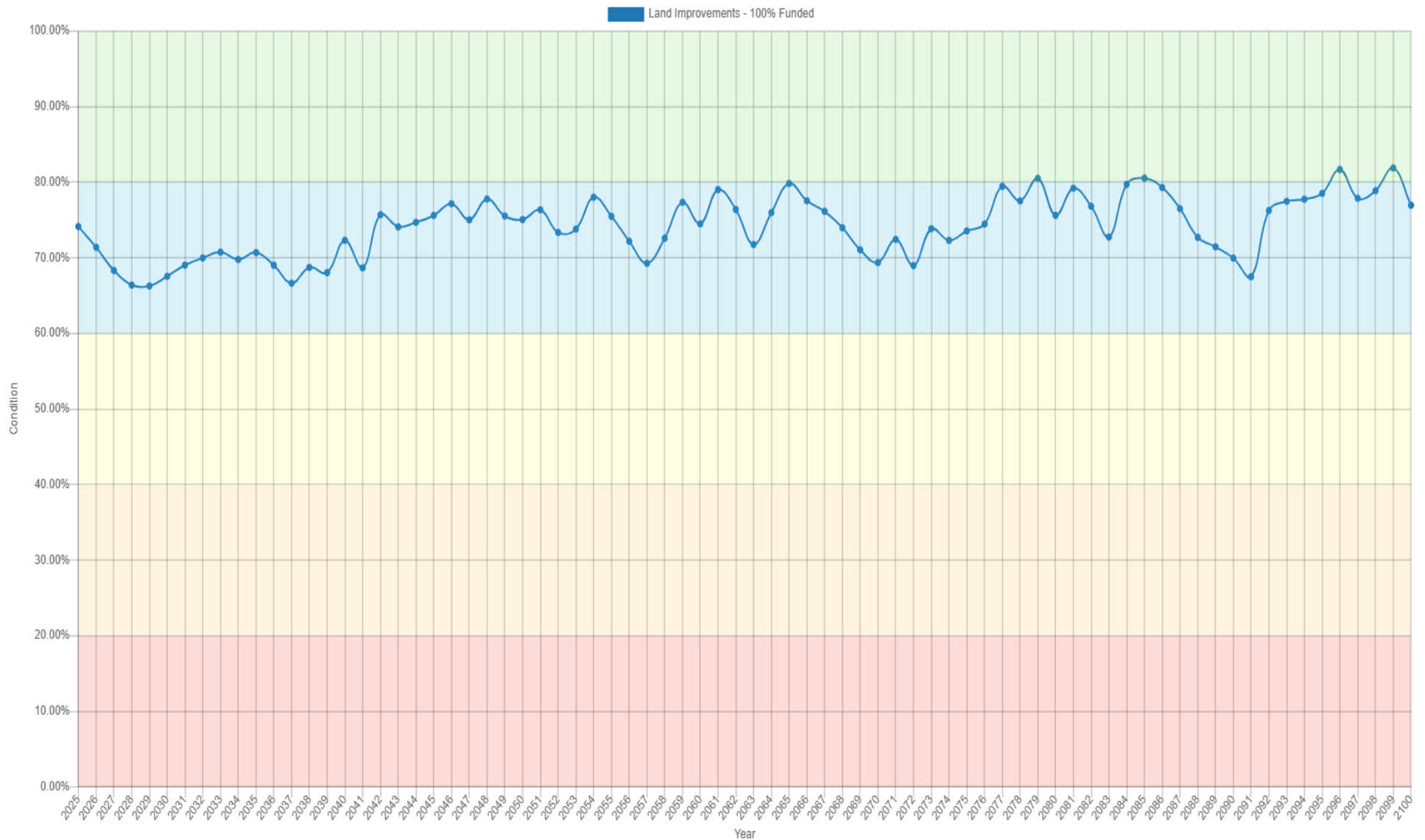


Figure 58 Land Improvements PLOS Scenario Condition Results

Projected Risk

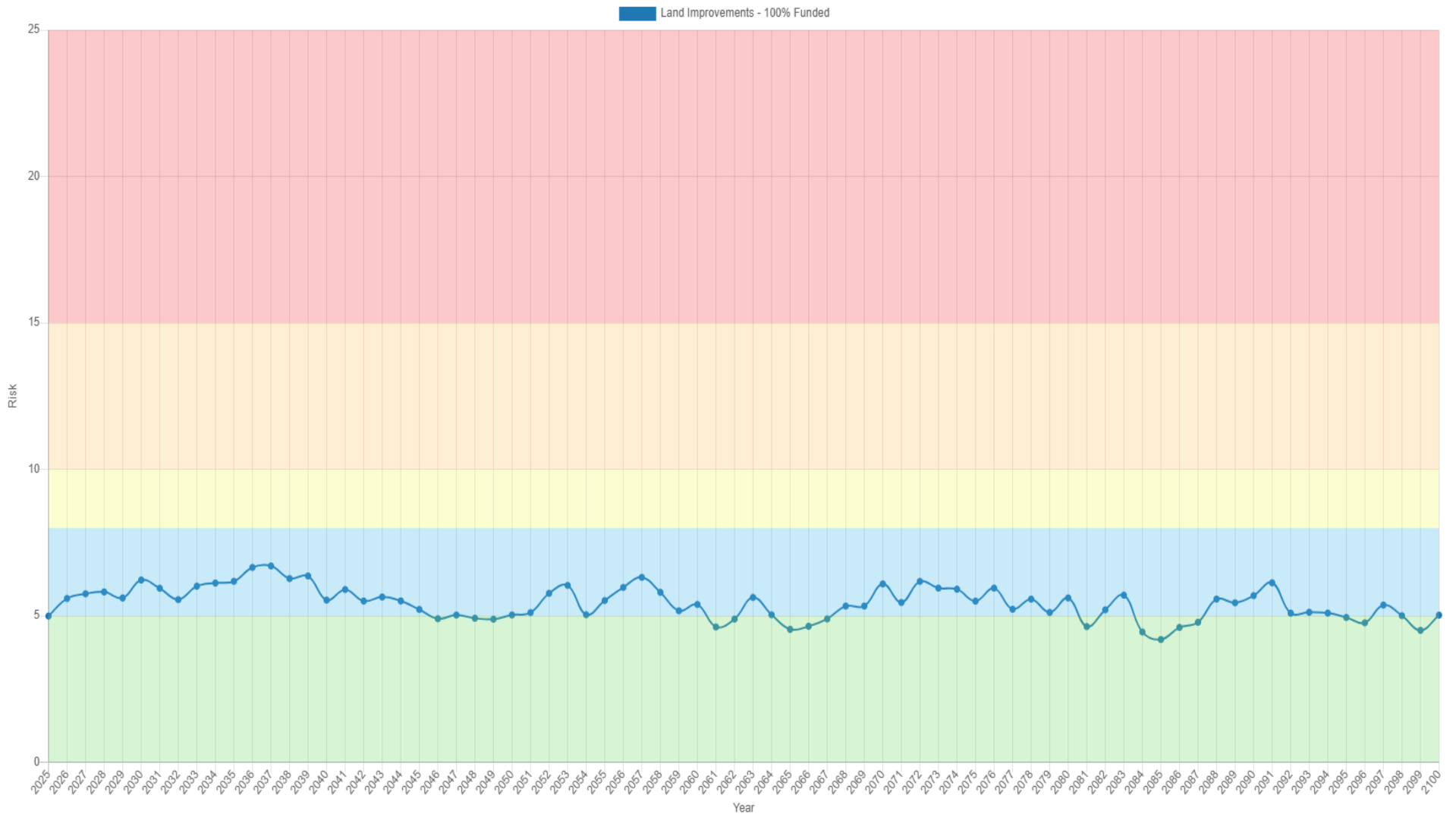


Figure 59 Land Improvements PLOS Scenario Risk Results

9.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. Proposed Levels of Service Analysis, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the asset within the buildings category if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$204k	\$204k	\$204k	\$204k	\$204k	\$204k	\$204k	\$204k	\$204k	\$204k
Projected Capital Spending	\$174k	\$179k	\$184k	\$189k	\$204k	\$204k	\$204k	\$204k	\$204k	\$204k
Funding Deficit	\$30k	\$25k	\$20k	\$15k	-	-	-	-	-	-
Target Reinvestment Rate	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%
Projected Reinvestment Rate	3.9%	4.0%	4.1%	4.3%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%

Table 41 Land Improvements 10-Year PLOS Financial Projections

10. Vehicles

The Township's vehicles portfolio includes 45 assets that support a variety of general and essential services, including Development Services, Environmental Services, Fire & Rescue, Properties, Roads. The total current replacement of vehicles is estimated at approximately \$12.9 million.

10.1 Inventory & Valuation

Table 42 summarizes the current replacement cost of all vehicles assets available in the Township's asset register. Assets within the Fire and Rescue segment account for the largest share of the vehicles portfolio.

Segment	Replacement Cost	Primary Replacement Cost Method
Development Services	\$124,172	CPI
Environmental Services	\$1,052,000	User-Defined
Fire & Rescue	\$7,072,013	User-Defined
Properties	\$478,315	CPI
Roads	\$4,210,000	User-Defined
TOTAL	\$12,936,500	

Table 42 Detailed Asset Inventory: Vehicles

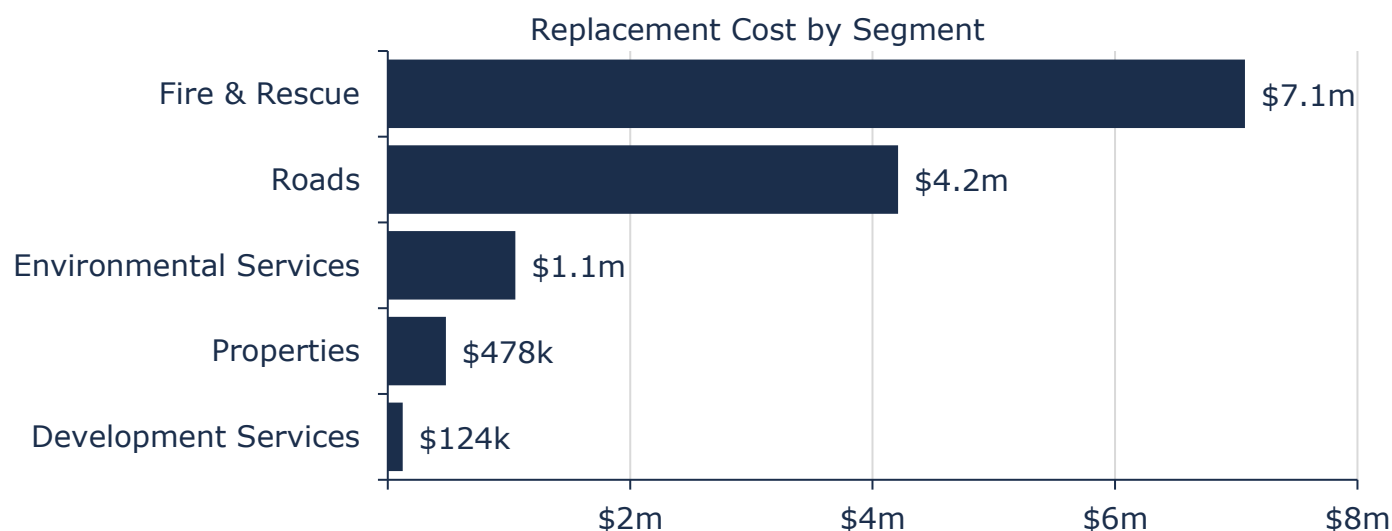


Figure 60 Portfolio Valuation: Vehicles

10.2 Asset Condition

Figure 61 summarizes the replacement cost-weighted condition of the Township's vehicles portfolio. Based on assessed condition and age data, 91% of vehicles are in fair or better condition, with the remaining 9% in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. Condition data was available for 19% of vehicles, based on replacement costs; age was used to estimate condition for the remaining 81% of assets.

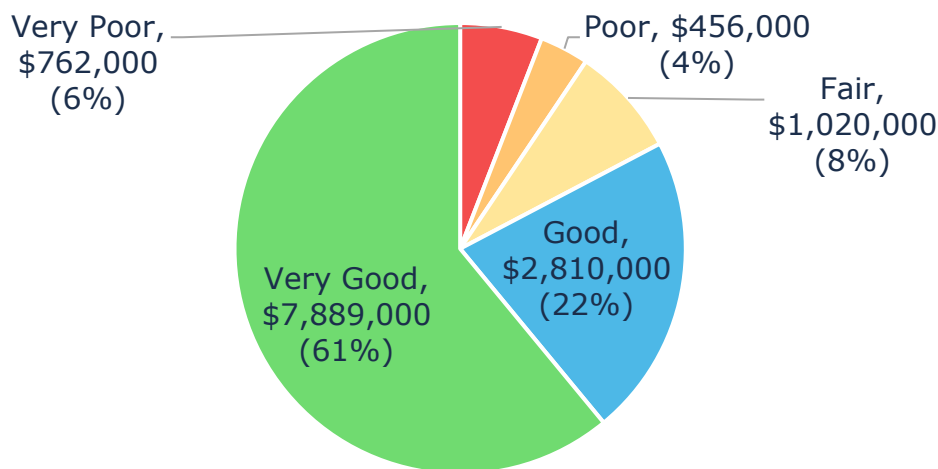


Figure 61 Asset Condition: Vehicles Overall

Figure 62 summarizes the condition of vehicles by each department. The vast majority of vehicles are in fair or better condition. Assets in poor or worse condition are concentrated primarily in properties and environmental services.

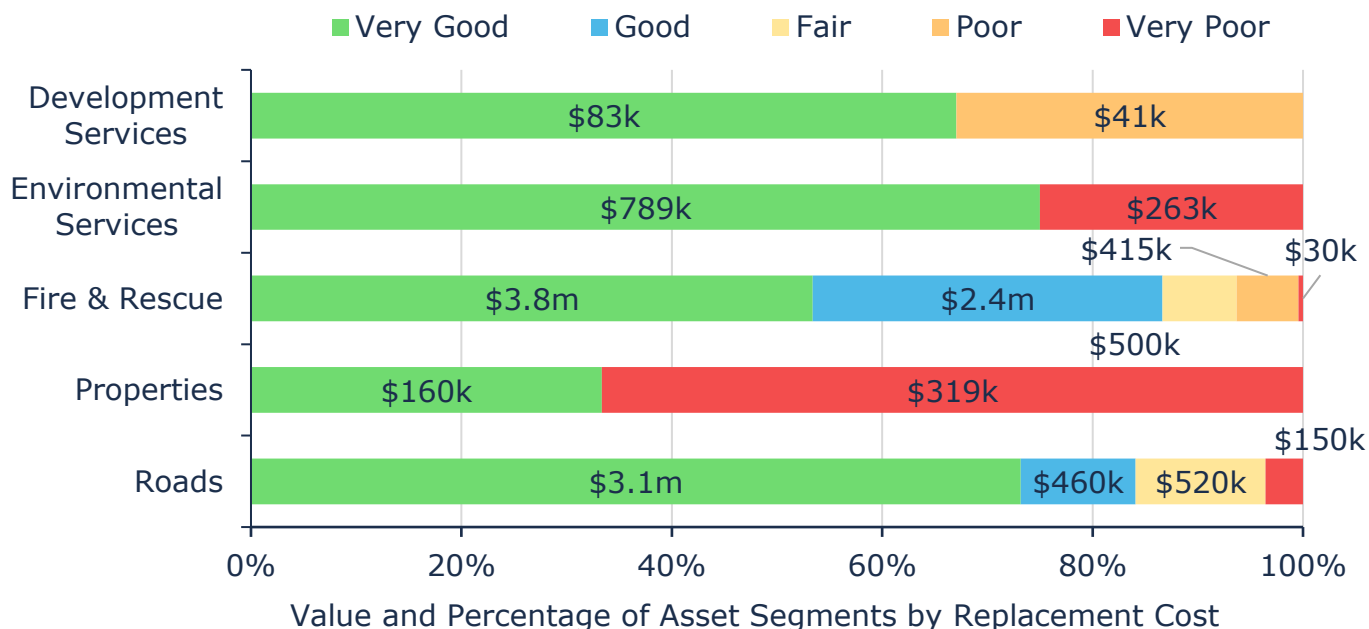


Figure 62 Asset Condition: Vehicles by Segment

10.3 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 63 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.

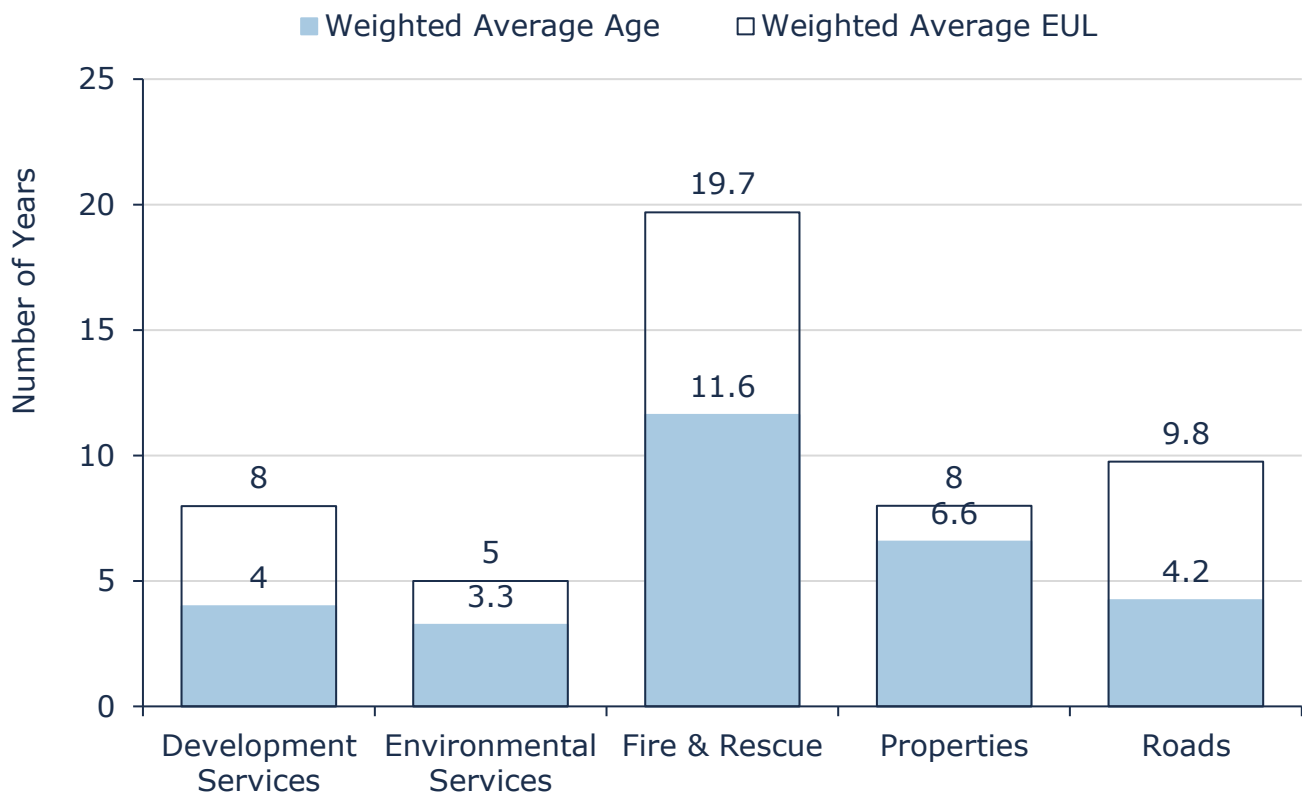


Figure 63 Estimated Useful Life vs. Asset Age: Vehicles

Age analysis reveals that most asset categories are relatively early in their lifecycle. Fire & Rescue assets have the highest average age at 11.6 years, compared to an expected useful life (EUL) of 19.7 years. Roads average 4.2 years with an EUL of 9.8 years. Development Services average 4 years (EUL 8), Properties 6.6 years (EUL 8), and Environmental Services 3.3 years (EUL 5), all remaining well within their service life.

10.4 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 Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	Visual inspections completed and documented daily; fluids inspected at every fuel stop; tires inspected monthly; rust prevention coating
	Every 4,000-7,000km includes an inspection and oil changed
	Annual preventative maintenance activities include system components check and additional detailed inspections (CVOR annual inspection-licensed mechanic)
Replacement	Vehicle replacements are based on age, kilometers and annual repair costs are taken into consideration when determining appropriate treatment options

Table 43 Lifecycle Management Strategy: Vehicles

10.5 Forecasted Long-Term Replacement Needs

Figure 64 illustrates the cyclical short, medium and long-term infrastructure replacement requirements for the Township's vehicles portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total \$1.1 million for all vehicles. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to peak at \$6.8 million in 2030–2034 and \$7.8 million in 2040–2044, with smaller spikes of \$3.6 million in 2025–2029 and \$3.5 million in 2035–2039. A backlog of approximately \$762k is identified at the start of the forecast period. Roads and Fire & Rescue assets represent the largest share of projected costs, with Environmental Services and Properties contributing smaller portions.

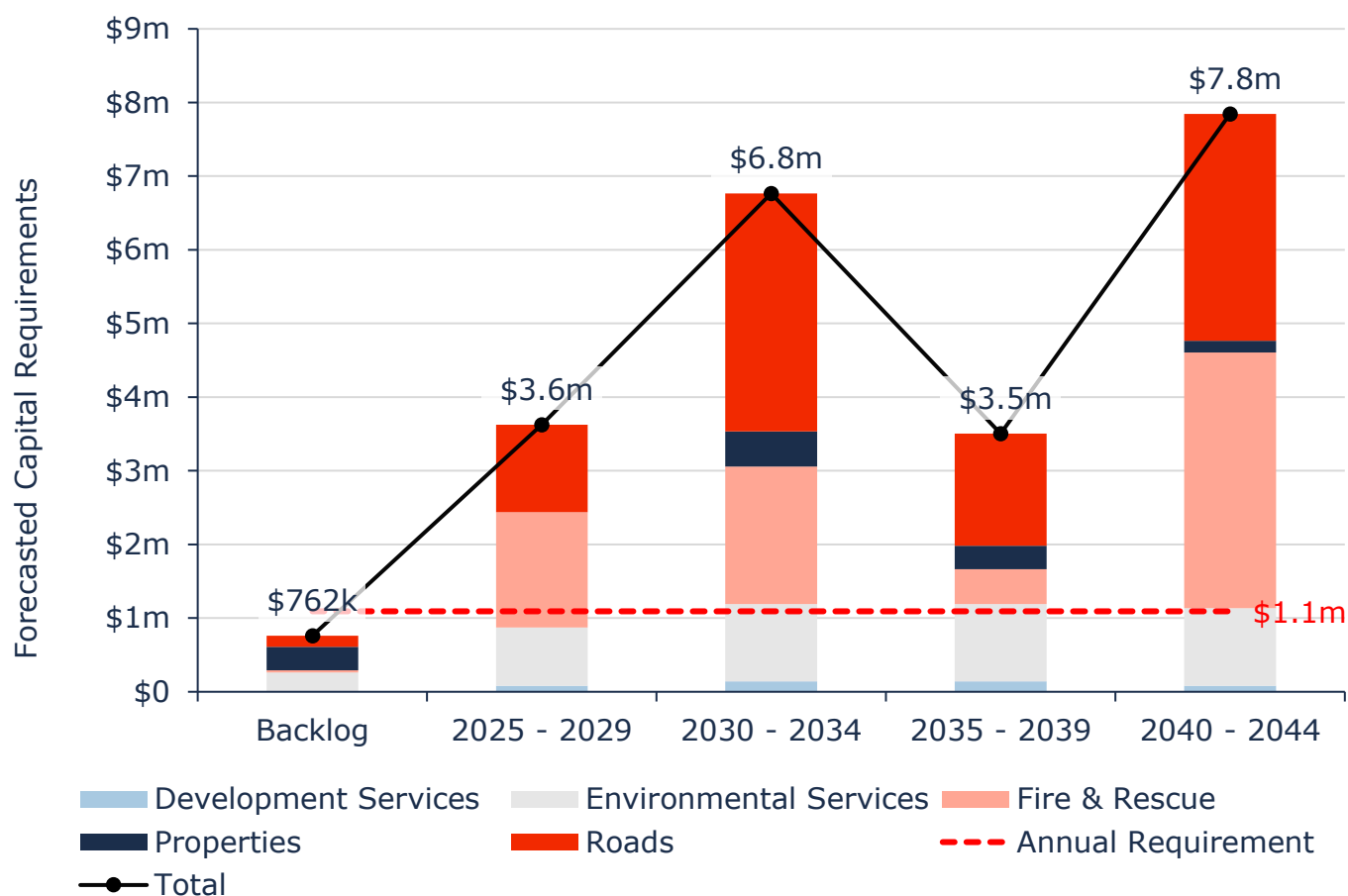


Figure 64 Forecasted Capital Replacement Needs: Vehicles 2025-2044

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. In addition, 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 B – 10-Year Capital Requirements.

10.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Township 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 Township'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 \$5,729,685 (44%)	5 - 7 Low \$2,200,000 (17%)	8 - 9 Moderate \$870,000 (7%)	10 - 14 High \$1,341,787 (10%)	15 - 25 Very High \$2,795,028 (22%)
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Figure 65 Risk Matrix: Vehicles

10.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

10.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Safe & Reliable	Description of the Fleet Management and Safety Program	- Daily inspection of vehicles required prior to use - deficiencies reported and actioned - inspection training provided - Operator Training required when necessary
Sustainable	Description of the current condition of municipal vehicles and the plans that are in place to maintain or improve the provided level of service	The average condition of the municipal fleet is good. The plan is to monitor, review and establish metrics

Table 44 Community Levels of Service: Vehicles

10.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Overall average condition of vehicles	Good
Sustainability	Capital reinvestment rate	7.2%

Table 45 Technical Levels of Service: Vehicles

10.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS. The table and graphs below explain the proposed level of service scenario that was analyzed for the Vehicle assets. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

10.8.1 Proposed Levels of Service Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Vehicles category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	74.9%	76%	8.8	7.9	\$1,092,000	8.4%	0.2%

Table 46 Vehicles Proposed Level of Service Analysis

Projected Condition

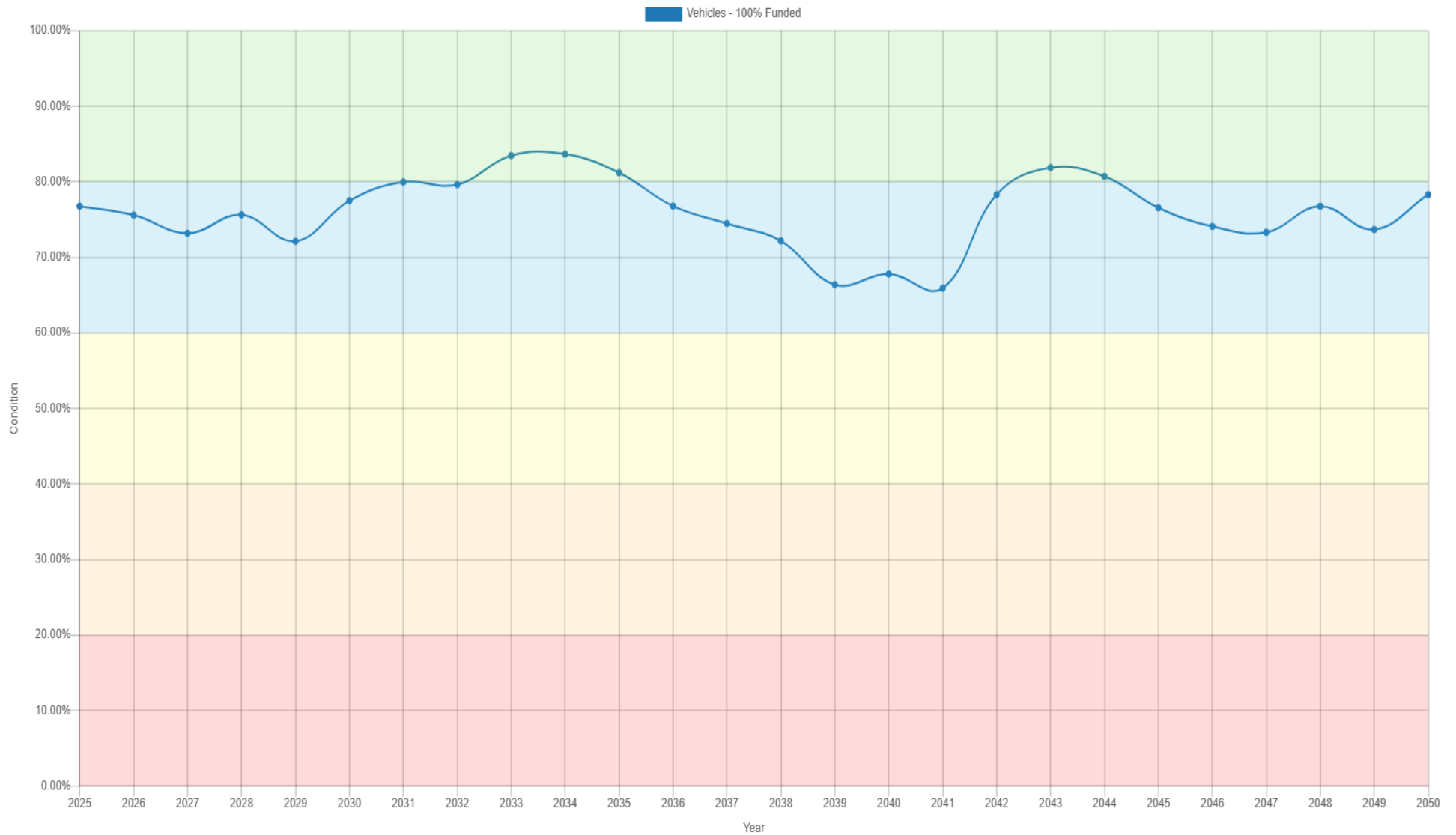


Figure 66 Vehicles PLOS Scenario Condition Result

Projected Risk

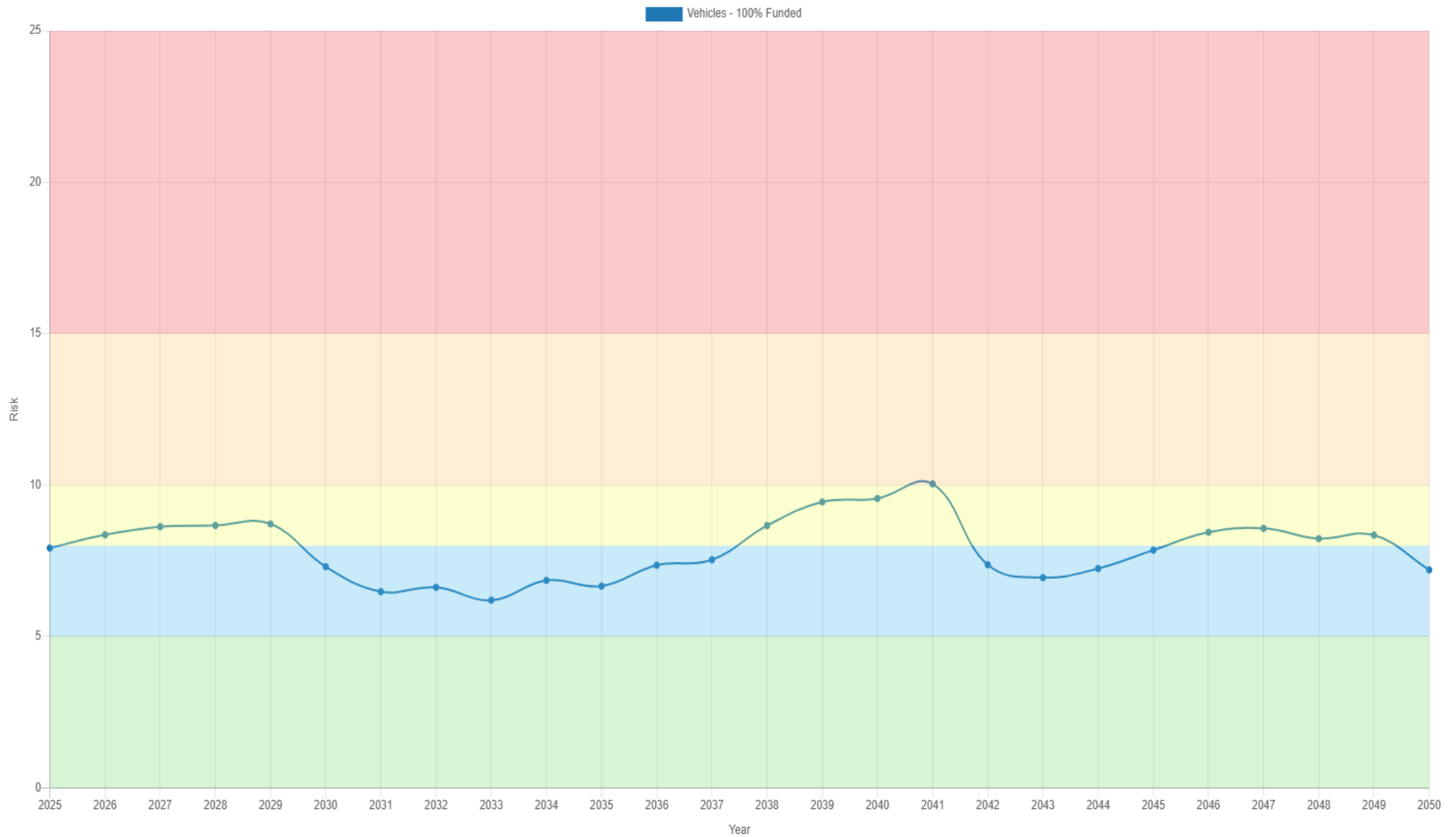


Figure 67 Vehicles PLOS Scenario Risk Result

10.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. Proposed Levels of Service Analysis, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the asset within the vehicles category if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m
Projected Capital Spending	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m	\$1.1m
Funding Deficit	\$29k	\$24k	\$19k	\$14k	-	-	-	-	-	-
Target Reinvestment Rate	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%
Projected Reinvestment Rate	8.2%	8.3%	8.3%	8.3%	8.4%	8.4%	8.4%	8.4%	8.4%	8.4%

Table 47 Vehicles 10-Year PLOS Financial Projections

11. Equipment

The Township's equipment portfolio includes 1,606 pooled assets that support a variety of general and essential services, including recreation and environmental services. The total current replacement of equipment is estimated at approximately \$9.2 million.

11.1 Inventory & Valuation

Figure 68 summarizes the current replacement cost of all equipment assets available in the Township's asset register.

Segment	Replacement Cost	Primary Replacement Cost Method
Admin	\$362,536	CPI
Environmental Services	\$812,693	User-Defined
Fire & Rescue	\$2,972,709	CPI
Properties	\$1,933,754	CPI
Roads	\$3,190,090	User-Defined
TOTAL	\$9,271,782	

Table 48 Detailed Asset Inventory: Equipment

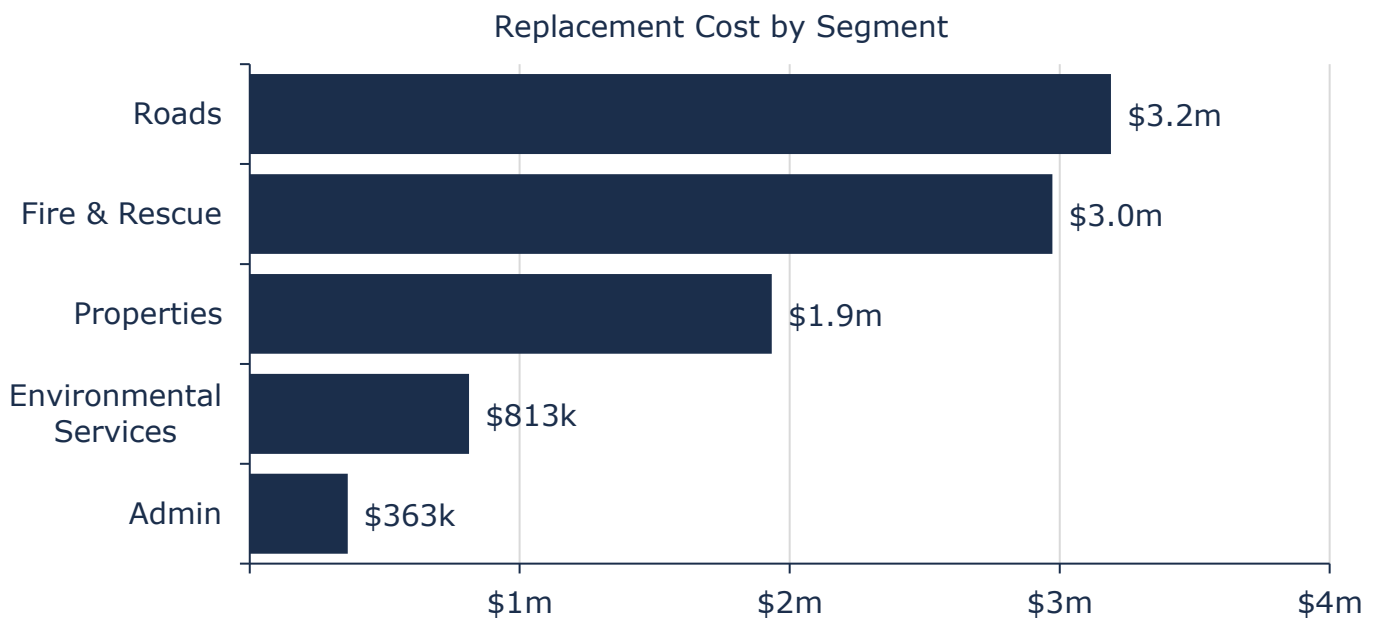


Figure 68 Portfolio Valuation: Equipment

11.2 Asset Condition

Figure 69 summarizes the replacement cost-weighted condition of the Township's equipment portfolio. Based on condition assessment and age data, 64% of assets are in fair or better condition; the remaining 36% 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.

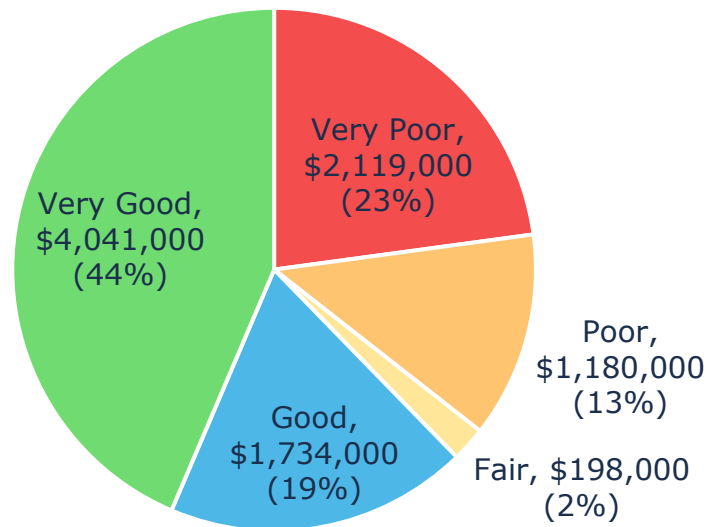
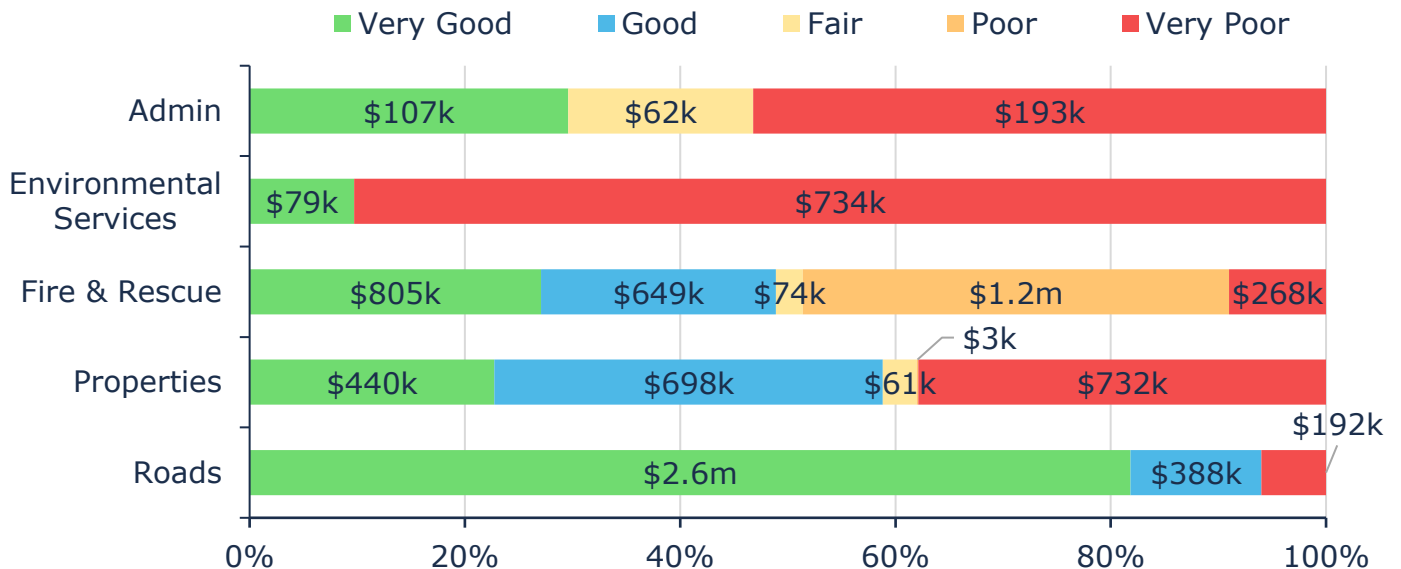


Figure 69 Asset Condition: Equipment Overall

Figure 70 summarizes the age-based condition of equipment by each department. The majority of assets that support fire services and roads are in fair or better condition. Assets in poor or worse condition are concentrated primarily in admin, environmental services, and properties.



Value and Percentage of Asset Segments by Replacement Cost

Figure 70 Asset Condition: Equipment by Segment

11.3 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 71 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.

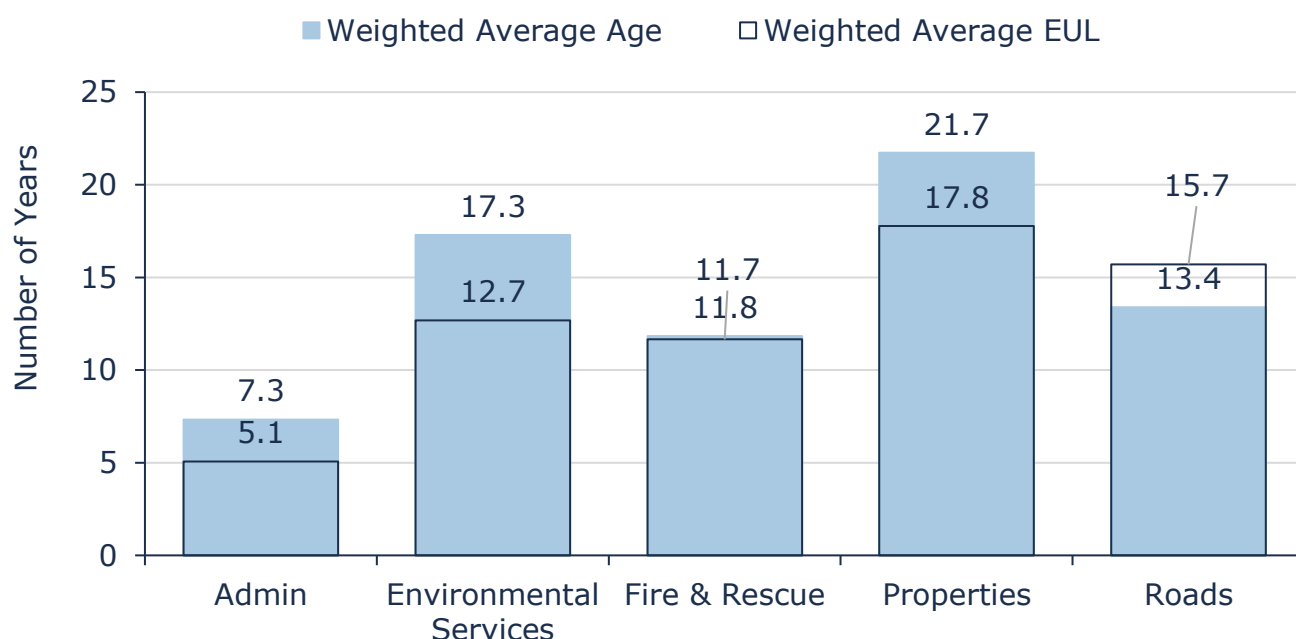


Figure 71 Estimated Useful Life vs. Asset Age: Equipment

Age analysis reveals that most categories are already beyond their expected life: Administration averages 7.3 years (EUL 5.1), Environmental Services 17.3 (EUL 12.7), Fire & Rescue 11.8 (EUL 11.7), and Properties 21.7 (EUL 17.8), indicating overdue or near-term renewals. Roads are the exception, averaging 13.4 years against an EUL of 15.7, suggesting some remaining service life.

11.4 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 Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Maintenance program varies by department
	Fire Protection Services equipment is subject to a much more rigorous inspection and maintenance program compared to most other departments
	Machinery and equipment is maintained according to manufacturer recommended actions and supplemented by the expertise of municipal staff
Replacement	The replacement of machinery and equipment depends on deficiencies identified by operators that may impact their ability to complete required tasks

Table 49 Lifecycle Management Strategy: Equipment

11.5 Forecasted Long-Term Replacement Needs

Figure 72 illustrates the cyclical short, medium and long-term infrastructure replacement requirements for the Township's equipment portfolio. This analysis was run until 2054 to capture at least one iteration of replacement for the longest lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total \$773,000 for all equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The forecasted capital requirements indicate a total backlog of approximately \$1.7 million, with annual needs fluctuating significantly across the planning horizon. Peak funding pressures are projected for 2035–2039 (\$5.6 million) and 2045–2049 (\$5.1 million), primarily driven by substantial Roads and Fire & Rescue replacements. Lower but still notable spikes occur in 2025–2029 (\$3.4 million) and 2050–2054 (\$3.1 million).

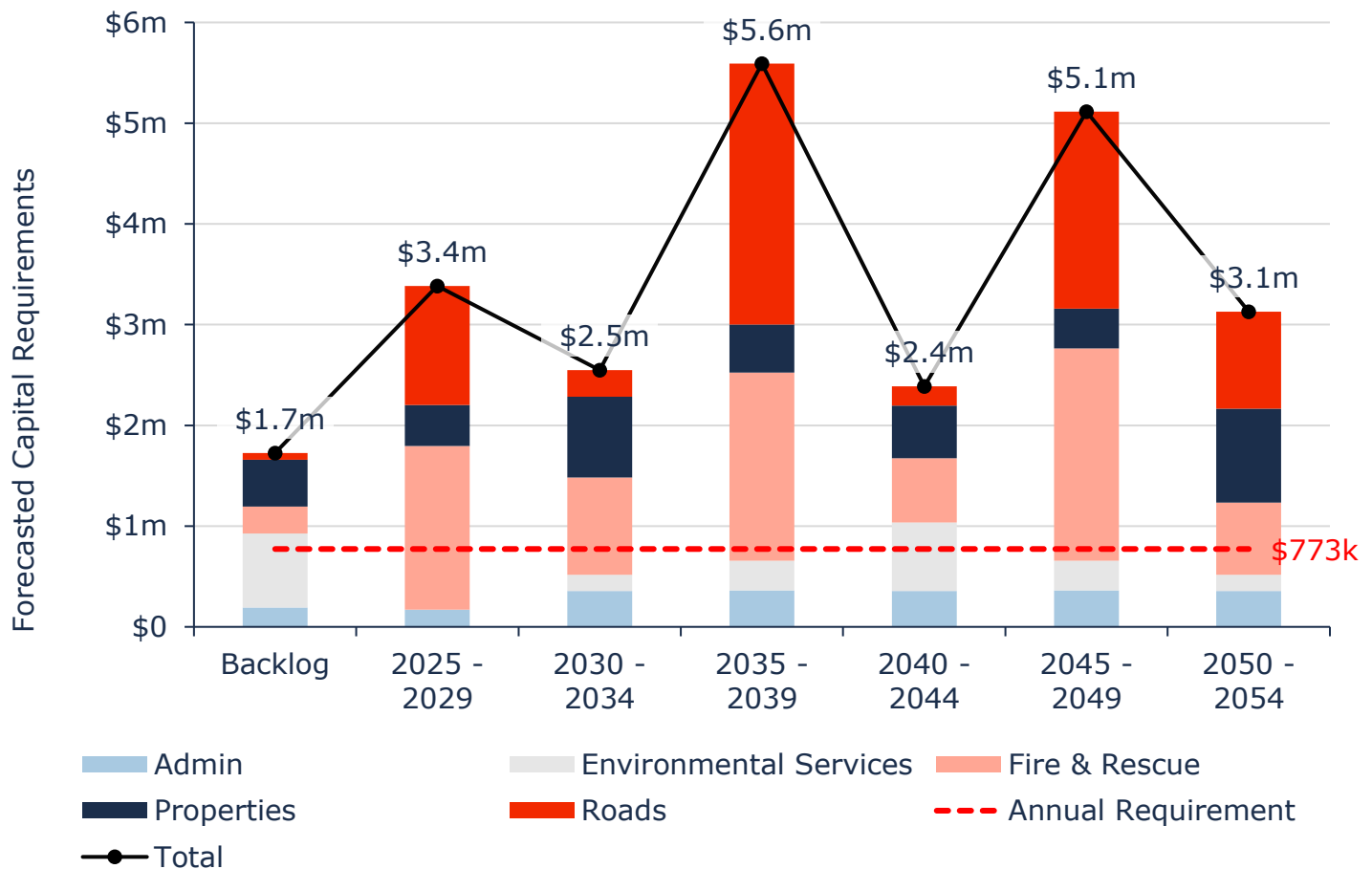


Figure 72 Forecasted Capital Replacement Needs: Equipment 2025-2054

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. In addition, 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 B – 10-Year Capital Requirements.

11.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, operational risk. 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 Township 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 Township'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 \$4,378,047 (47%)	5 - 7 Low \$1,002,826 (11%)	8 - 9 Moderate \$565,594 (6%)	10 - 14 High \$820,085 (9%)	15 - 25 Very High \$2,505,230 (27%)
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Figure 73 Risk Matrix: Equipment

11.7 Levels of Service

The tables that follow summarize the Township's current levels of service. There are no specifically prescribed KPIs under Ontario Regulation 588/17 for non-core assets, therefore the KPIs below represent performance measures that the Township has selected for this AMP.

11.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Safe & Reliable	Description of the machinery & equipment inspection process and any licensing requirements for operators	Equipment Training given prior to staff using equipment
Sustainable	Description of the current condition of machinery & equipment and the plans that are in place to maintain or improve the provided level of service	The average condition of the machinery and equipment is fair. The plan is to continue to monitor, review and establish metrics

Table 50 Community Levels of Service: Equipment

11.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of equipment	Fair
Sustainability	Capital reinvestment rate	4.8%

Table 51 Technical Levels of Service: Equipment

11.8 Proposed Levels of Service

As per O. Reg. 588/17, by July 1, 2025, municipalities are required to consider proposed levels of service (PLOS), discuss the associated risks and long-term sustainability of these service levels, and explain the Township's ability to afford the PLOS. The table and graphs below explain the proposed level of service scenario that was analyzed for the Equipment assets. Further PLOS analysis at the portfolio level can be found in Section 4. *Proposed Levels of Service Analysis*.

11.8.1 Proposed Level of Service Analysis and Results

As discussed in section 4, the Township has chosen to move forward in achieving a fully funded position. This scenario is projected over a 5 year period and assumes gradual tax increases stabilizing at 100% in year 5. To achieve this an annual increase of 0.2% is required.

The following table outlines the results of the analysis and the projected impacts to the asset within the Equipment category.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	59.2%	62%	8.6	8.1	\$773,000	8.3%	0.2%

Table 52 Equipment Proposed Level of Service Analysis

Projected Condition

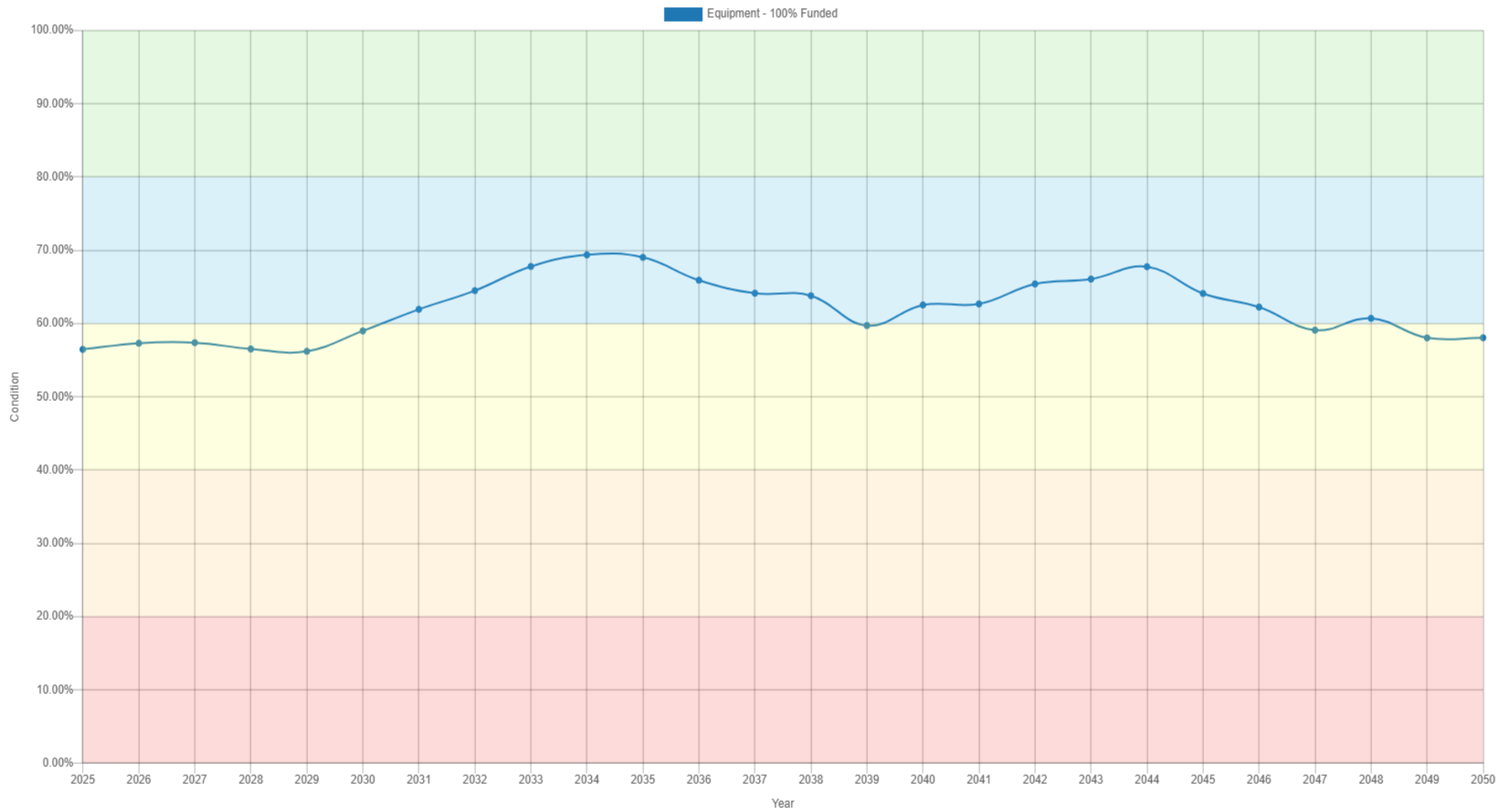


Figure 74 Equipment PLOS Scenario Condition Result

Projected Risk

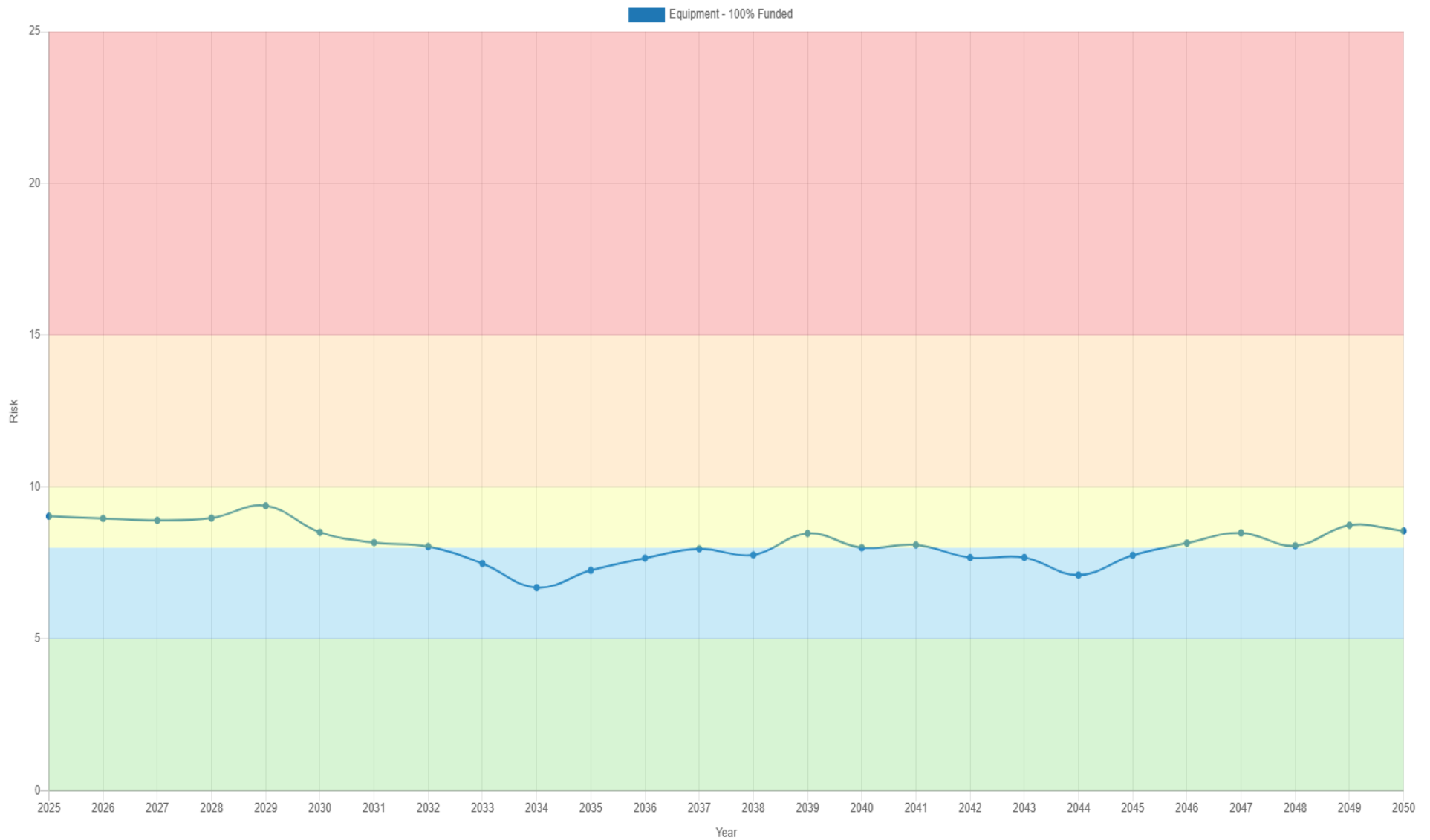


Figure 75 Equipment PLOS Scenario Risk Result

11.8.2 10-Year PLOS Financial Projections

As outlined in Section 4. Proposed Levels of Service Analysis, the Township of Rideau Lakes has targeted a 100% funding strategy for the proposed level of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Township's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the asset within the equipment category if the financial strategy for the proposed level of service is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	\$773k	\$773k	\$773k	\$773k	\$773k	\$773k	\$773k	\$773k	\$773k	\$773k
Projected Capital Spending	\$713k	\$723k	\$733k	\$743k	\$773k	\$773k	\$773k	\$773k	\$773k	\$773k
Funding Deficit	\$60k	\$50k	\$40k	\$30k	-	-	-	-	-	-
Target Reinvestment Rate	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%
Projected Reinvestment Rate	7.7%	7.8%	7.9%	8.0%	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%

Table 53 Equipment 10-Year PLOS Financial Projections

Strategies

12. Growth

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

12.1 Township of Rideau Lakes Official Plan (2023)

The Township of Rideau Lakes' Official Plan establishes a long-term policy framework to guide land use, infrastructure investment, and community development to the year 2046. The Plan manages growth while protecting the Township's natural and cultural assets, promoting economic vitality, and sustaining rural and village character. It applies to all settlement areas, including the villages of Elgin, Portland, Newboro, and Delta, alongside hamlets, rural lands, agricultural areas, and the extensive shoreline communities. Developed in conformity with the United Counties of Leeds and Grenville Official Plan and the Provincial Policy Statement, 2020, the Plan directs most growth to designated settlement areas, with an emphasis on compact, efficient development that makes full use of existing infrastructure.

The Plan envisions complete, livable communities that offer a range of housing options, employment opportunities, and community services. Residential policies support a mix of housing forms, including low and medium density dwellings, affordable housing, and opportunities for secondary units while commercial and industrial activities are focused in designated employment areas and village cores. Infrastructure planning ensures that water, wastewater, stormwater, transportation, and energy systems can accommodate growth, with policies encouraging active transportation, multi-modal connections, and climate-resilient design standards.

Environmental stewardship is central to the Plan, with robust policies to conserve the Township's significant natural heritage system, wetlands, forests, wildlife habitat, and the Rideau Canal corridor, a UNESCO World Heritage Site. Shoreline development is managed to protect water quality, maintain vegetative buffers, and preserve scenic character. Cultural heritage resources, including historic buildings, landscapes, and archaeological sites, are protected and integrated into new development where appropriate.

Implementation is supported by a range of planning tools, including zoning by-laws, site plan control, and community improvement planning, alongside requirements for public engagement in key decision-making processes. The Plan is reviewed at least every ten years, with five year updates to address emerging trends, infrastructure needs, and alignment with evolving provincial and county policies.

12.2 Impact of Growth on Lifecycle Activities

Planning for forecasted population growth may require the expansion of existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated

into the Township's AMP. While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, the Township will need to review the lifecycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to, at a minimum, maintain the current level of service.

For the near to mid-term, the projected population growth in Rideau Lakes is not expected to significantly impact the current portfolio of assets required by the Town to maintain acceptable service levels.

13. 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 Township of Rideau Lakes to identify the financial resources required for sustainable asset management based on existing asset inventories, proposed levels of service, and projected growth requirements.

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

1. The financial requirements for:
 - a. Existing assets
 - b. Existing service levels
 - c. Requirements of contemplated changes in service levels (*Section 4, Proposed Levels of Service Analysis*)
 - d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
 - a. Tax levies
 - b. User fees
 - c. 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 Township's approach to the following:

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

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

13.1 Annual Requirements & Capital Funding

13.1.1 Annual Requirements

The annual requirements represent the amount the Township should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability. In total, the Township must allocate approximately \$5.2 million annually to address capital requirements and meet the proposed level of service for the assets included in this AMP.

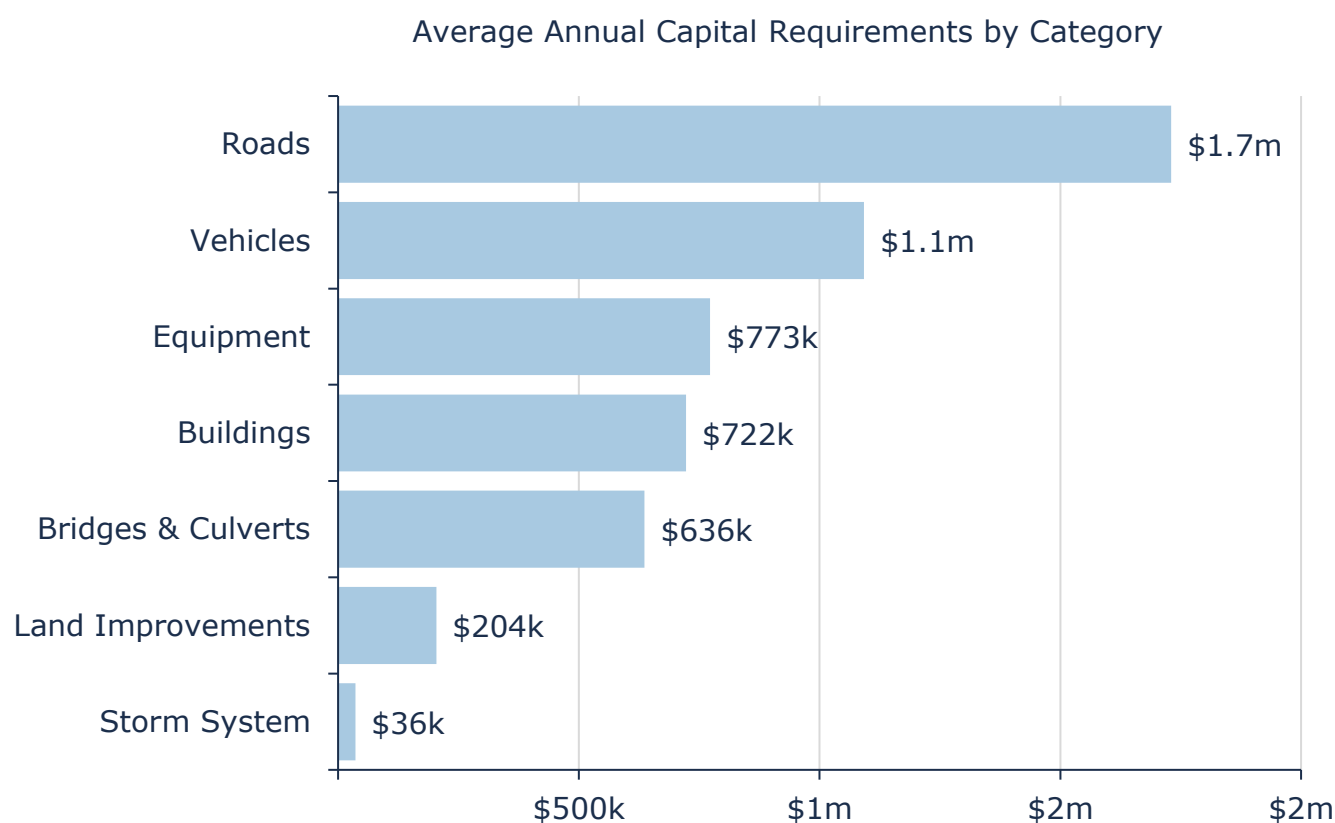


Figure 76: Annual Capital Funding Requirements by Asset Category

For most 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.

However, for the road network assets, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the Township’s roads. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the roads asset category:

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

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Roads	\$2,735,000	\$1,730,000	\$1,005,000

Table 54 Lifecycle Strategies Annual Savings

The implementation of a proactive lifecycle strategy for roads leads to a potential annual cost avoidance of \$1.0 million for the Roads assets. This represents an overall reduction of the annual requirements for this category of 37%. As the lifecycle strategy scenario represents the lowest cost option available to the Township, we have used these annual requirements in the development of the financial strategy.

13.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately \$4.4 million towards capital projects per year. Given the annual capital requirement of \$5.2 million, there is currently a funding gap of \$816 thousand annually.

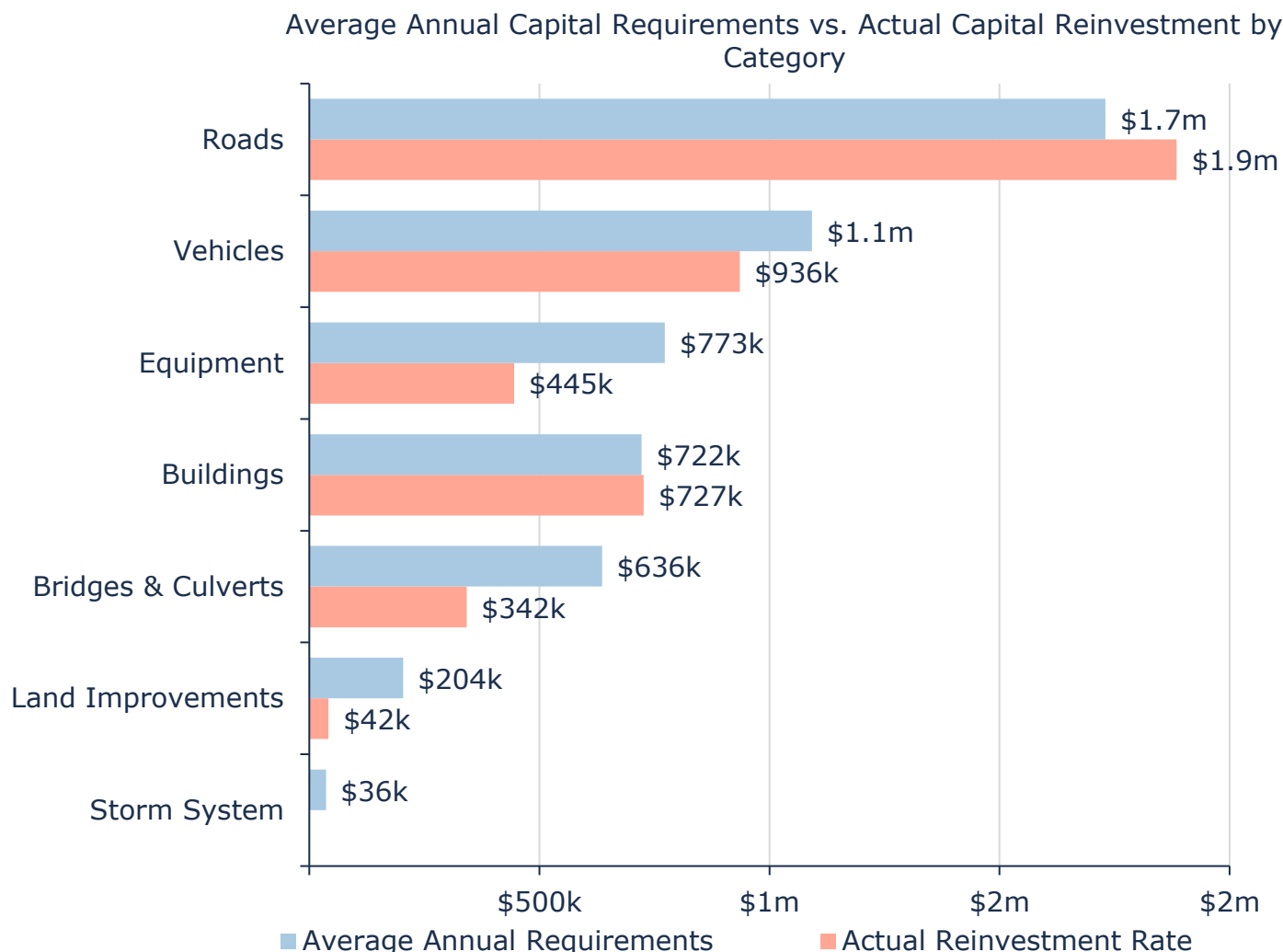


Figure 77 Annual Requirements Vs Capital Funding Available

13.2 Funding Objective

We have developed a scenario that would enable Township of Rideau Lakes to achieve full funding within 5 years for the following assets:

1. **Tax Funded Assets:** Roads, Storm System, Bridges & Culverts, Buildings, Equipment, Land Improvements and Vehicles

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

13.3 Financial Profile: Tax Funded Assets

13.3.1 Current Funding Position

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

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Taxes	CCBF	OCIF	Total Available	
Roads	1,730,000	1,276,000	262,000	347,000	1,885,000	-155,000
Storm System	36,000	-	-	-	-	36,000
Bridges & Culverts	636,000	342,000	-	-	342,000	294,000
Buildings	722,000	727,000	-	-	727,000	-5,000
Equipment	773,000	445,000	-	-	445,000	328,000
Land Improvements	204,000	42,000	-	-	42,000	162,000
Vehicles	1,092,000	936,000	-	-	936,000	156,000
Total	5,193,000	3,768,000	262,000	347,000	4,377,000	816,000

Table 55 Annual Available Funding for Tax Funded Assets

The average annual investment requirement for the above categories is \$5.2million. Annual revenue currently allocated to these assets for capital purposes is \$4.4 million leaving an annual deficit of \$816 thousand. Put differently, these infrastructure categories are currently funded at 84.3% of their long-term requirements.

13.3.2 Full Funding Requirements

In 2025, the Township of Rideau Lakes had budgeted annual tax revenues of approximately \$14.6 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Roads	No Increase Required
Storm System	0.2%
Bridges & Culverts	2.0%
Buildings	No Increase Required
Equipment	2.2%
Land Improvements	1.1%
Vehicles	1.1%

Table 56 Tax Increase Requirements for Full Funding

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

- a) The Township of Rideau Lakes debt payments for these asset categories will be decreasing by \$721,000 over the next 5 years, \$974,000 over 10 years, \$1,013,000 over 15 years and \$1,051,000 over 20 years

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

Tax Increases with Debt Reallocation				
	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	816,311	816,311	816,311	816,311
Change in Debt Costs	-721,088	-973,835	-1,013,018	-1,051,426
Resulting Infrastructure Deficit:	95,223	-157,524	-196,707	-235,115
Tax Increase Required	0.7%	N/A	N/A	N/A
Annually:	0.2%	N/A	N/A	N/A

Table 57 Annual Tax Increase Requirement with Debt Reallocation

Tax Increases <u>without</u> Debt Reallocation				
	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	816,311	816,311	816,311	816,311
Change in Debt Costs	N/A	N/A	N/A	N/A
Resulting Infrastructure Deficit:	816,311	816,311	816,311	816,311
Tax Increase Required	5.6%	5.6%	5.6%	5.6%
Annually:	1.1%	0.6%	0.4%	0.3%

Table 58 Annual Tax Increase Requirement without Debt Reallocation

13.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 5-year option. This involves full funding and the selected proposed level of service being achieved over 5 years by:

- a) When realized, reallocate the debt cost reductions of \$721,088 to the infrastructure deficit as outline above
- b) increasing tax revenues by 0.2% each year for the next 5 years solely for the purpose of phasing in full funding and achieving the proposed levels of service target set for the asset categories covered in this section of the AMP.
- 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.

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 commitment⁴.
2. While longer phase-in options over 10, 15, or 20 years could theoretically be achieved with no net tax increase due to anticipated debt cost reductions, these approaches defer critical investment and increase the risk of infrastructure failure over time. The recommended five-year phase-in strikes a more responsible balance by addressing the funding shortfall sooner with a modest tax increase, reducing long-term asset risk, and avoiding reliance on future debt savings if not materialized as projected.

⁴ The Township should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

Although this option achieves full funding on an annual basis in 5 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of \$4.8 million collectively across all asset categories. Although our recommendations include no use of debt, the results of the condition-based analysis may require otherwise.

13.4 Use of Debt

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

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

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

The following tables outline how the township has historically used debt for investing in the asset categories as listed. Projected to the end of year 2025, there is currently \$5.86 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of \$1.17 million.

The revenue options outlined in this plan will allow the Township of Rideau Lakes to fully fund its long-term infrastructure requirements without the further use of debt.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2021	2022	2023	2024	2025
Roads	2,117,822	650,000	603,990	1,391,783	-	-
Bridges & Culverts	-	-	-	-	-	-
Storm System	-	-	-	-	-	-
Buildings	2,993,096	-	-	-	-	3,065,000
Land Improvements	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-
Equipment	-	-	-	-	-	-
CAZ Property- Waste Site ⁵	752,662				943,000	
Total	5,863,579	650,000	603,990	1,1391,783	943,000	3,065,000

Table 59 Use of Debt 2021-2025

⁵ This debt was incurred for purchase of the CAZ Property – Waste Site. Although considered a land purchase, and not a capital asset, it has been included within the analysis for debt and financial strategy as it is funded through property taxation and these payment could be reallocated once the debt is paid off.

Asset Category	Principal & Interest Payments in the Next Ten Years									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Roads	843,713	644,142	507,084	372,784	174,382	174,382	174,382	174,382	174,382	-
Bridges & Culverts	-	-	-	-	-	-	-	-	-	-
Storm System	-	-	-	-	-	-	-	-	-	-
Buildings	116,773	271,179	271,179	271,179	271,179	271,179	271,179	271,179	271,179	271,179
Land Improvements	-	-	-	-	-	-	-	-	-	-
Vehicles	42,000	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
CAZ Property – Waste Site	206,162	206,162	206,162	206,162	188,982	-	-	-	-	-
Total	1,166,649	1,121,483	984,425	850,125	634,543	445,561	271,179	271,179	271,179	271,179

Table 60 Summary of Principal and Interest Payments

13.5 Use of Reserves

13.5.1 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 Rideau Lakes.

Reserve Name	Balance at December 31, 2024
Infrastructure Reserve	\$1,618,207
Total:	\$1,618,207

Table 61 Rideau Lakes Reserve Balance

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

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

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

14. Recommendations & Key Considerations

14.1 General

1. Review data to update and maintain a complete and accurate dataset
2. Develop a condition assessment strategy with a regular schedule
3. Review and update lifecycle management strategies
4. Development and regularly review short- and long-term plans to meet capital requirements
5. Measure current levels of service, review the proposed level of service and monitor progress towards achieving the proposed level of service target.

14.2 Financial Strategies

1. Review the feasibility of adopting a full-funding scenario to achieve 100% of average annual funding requirement for the asset categories analyzed and meeting the proposed level of service target. This includes:
 - a. Increasing taxes by 0.2% per year over a period of 5 years;
2. Continued allocation of OCIF and CCBF funding as previously outlined.
3. Reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
4. Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
5. Continue to apply for project specific grant funding to supplement sustainable funding sources.

14.3 Asset Data

1. Continuously review, refine, and calibrate lifecycle and risk profiles to better reflect actual practices and improve capital projections. In particular:
 - a. the timing of various lifecycle events, the triggers for treatment, anticipated impacts of each treatment, and costs
 - b. the various attributes used to estimate the likelihood and consequence of asset failures, and their respective weightings
2. Asset management planning is highly sensitive to replacement costs. Periodically update replacement costs based on recent projects, invoices, or estimates, as well as condition assessments, or any other technical reports and studies. Material and labour costs can fluctuate due to local, regional, and broader market trends, and substantially so during major world events. Accurately estimating the replacement cost of like-for-like assets can be challenging. Ideally, several recent projects over multiple years should be used. Staff

judgement and historical data can help attenuate extreme and temporary fluctuations in cost estimates and keep them realistic.

3. Like replacement costs, an asset's established serviceable life can have dramatic impacts on all projections and analyses, including condition, long-range forecasting, and financial recommendations. Periodically reviewing and updating these values to better reflect in-field performance and staff judgement is recommended.

14.4 Risk & Levels of Service

1. 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, which was limited. As the data evolves and new attribute information is obtained, these models should also be refined and updated.
2. 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.

Appendices

Appendix A – Infrastructure Report Card

The following table provides a summary of the current value, average condition, funding availability and associated funding position for each asset category included within this plan.

Asset Category	Replacement Cost	Average Condition	Financial Capacity		% Funded
Roads	\$53m	Fair (59%)	Annual Requirement:	\$1,730,000	100%
			Funding Available:	\$1,885,000	
			Annual Deficit:	\$-155,000	
Bridges & Culverts	\$19.1 m	Good (64%)	Annual Requirement:	\$636,000	54%
			Funding Available:	\$342,000	
			Annual Deficit:	\$294,000	
Storm System	\$2.3 m	Good (66%)	Annual Requirement:	\$36,000	0%
			Funding Available:	\$0	
			Annual Deficit:	\$36,000	
Buildings	\$27.0 m	Good (69%)	Annual Requirement:	\$722,000	100%
			Funding Available:	\$727,000	
			Annual Deficit:	\$-5,000	
Land Improvements	\$4.4 m	Good (77%)	Annual Requirement:	\$204,000	21%
			Funding Available:	\$42,000	
			Annual Deficit:	\$162,000	
Vehicles	\$12.9 m	Good (79%)	Annual Requirement:	\$1,092,000	86%
			Funding Available:	\$936,000	
			Annual Deficit:	\$156,000	
Equipment	\$9.2 m	Fair (59%)	Annual Requirement:	\$773,000	58%
			Funding Available:	\$445,000	
			Annual Deficit:	\$328,000	

Table 62 Infrastructure Report Card

Appendix B – 10-Year Capital Requirements

Capital Requirements for Current Levels of Service

The tables below summarize the projected cost of lifecycle activities (rehabilitation and replacements) that may be undertaken over the next 10 years to support **current** levels of service. These projections do not consider any proposed levels of service, or available funding, and are projected based on ideal conditions.

These projections are generated in Citywide and rely on the data available in the asset register. Assessed condition data and replacement costs were used to assist in forecasting replacement needs for roads. For all remaining assets, only age was used to determine forthcoming replacement needs.

The projections can be different from actual capital forecasts. Consistent data updates, particularly condition, replacement costs, and regular upkeep of lifecycle models, will improve the alignment between the system generated expenditure requirements, and the Township's capital expenditure forecasts.

Roads

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Asphalt	-	\$170k	\$993k	\$1.3m	\$329k	\$34k	\$611k	\$26k	\$352k	\$313k	\$21k
Gravel	-	\$185k	\$204k	\$197k	\$195k	\$195k	\$206k	\$186k	\$204k	\$197k	\$195k
Sidewalks	\$1.6m	\$37k	-	-	-	\$362k	-	-	-	-	\$29k
Streetlights	-	-	-	-	-	-	\$5k	-	-	-	-
Surface Treatment	-	\$1.4m	\$1.1m	\$478k	\$1.0m	\$2.1m	\$1.3m	\$1.1m	\$987k	\$279k	\$245k
Total	\$1.6m	\$1.8m	\$2.3m	\$2.0m	\$1.6m	\$2.7m	\$2.1m	\$1.4m	\$1.5m	\$789k	\$490k

Table 63 System Generated 10-Year Capital Replacement Forecast: Roads

Bridges & Culverts

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<3m Culverts	-	-	\$504k	-	-	-	-	-	-	-	\$155k
>= 3m Culverts	-	-	-	\$670k	-	-	\$170k	\$1.4m	\$3.7m	\$3.1m	-
Bridges	-	\$730k	-	\$810k	-	-	-	\$2.1m	\$1.4m	\$2.5m	-
Total	-	\$730k	\$504k	\$1.5m	-	-	\$170k	\$3.4m	\$5.1m	\$5.6m	\$155k

Table 64 System Generated 10-Year Capital Replacement Forecast: Bridges & Culverts

Storm System

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basins	\$30k	-	-	\$66k	-	-	-	-	-	-	\$40k
Manholes	\$77k	-	-	\$51k	-	-	-	-	-	-	\$34k
Storm Pipes	\$138k	-	-	-	-	-	-	-	-	-	-
Total	\$245k	-	-	\$118k	-	-	-	-	-	-	\$74k

Table 65 System Generated 10-Year Capital Replacement Forecast: Storm System

Buildings

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Facilities	\$64k	\$206k	\$3.0m	-	\$2.6m	\$1.0m	\$998k	-	-	\$1.1m	\$25k
Fire & Rescue	-	\$129k	-	-	\$80k	-	-	-	-	-	-
Library	-	-	-	-	\$80k	-	-	-	-	\$800k	-
Parks	\$117k	\$7k	\$257k	-	-	\$40k	\$10k	\$247k	\$55k	-	-
Total	\$181k	\$342k	\$3.3m	-	\$2.8m	\$1.1m	\$1.0m	\$247k	\$55k	\$1.9m	\$25k

Table 66 System Generated 10-Year Capital Replacement Forecast: Buildings

Land Improvements

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Environmental Services	\$154k	-	\$110k	\$165k	\$105k	\$55k	\$55k	-	\$55k	-	-
Facilities	-	-	-	-	-	\$136k	-	-	-	-	-
Fire & Rescue	\$73k	-	\$55k	\$202k	\$51k	-	-	-	\$142k	-	-
Parks	-	\$31k	-	-	-	-	-	-	-	-	-
Roads	-	\$68k	-	\$24k	\$24k	-	\$30k	\$57k	-	-	-
Water Amenity											
Total	\$228k	\$98k	\$165k	\$391k	\$181k	\$191k	\$85k	\$57k	\$197k	-	-

Table 67 System Generated 10-Year Capital Replacement Forecast: Land Improvements

Vehicles

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Development Services	-	\$41k	-	-	-	\$42k	-	-	\$99k	\$41k	-
Environmental Services	\$263k	-	-	-	\$526k	\$263k	\$263k	-	-	\$526k	\$263k
Fire & Rescue	\$30k	\$65k	\$350k	-	\$500k	\$650k	\$1.8m	-	\$95k	-	-
Properties	\$319k	-	-	-	-	-	-	-	\$319k	-	\$160k
Roads	\$150k	-	\$520k	\$150k	\$460k	\$60k	\$460k	\$460k	\$610k	\$550k	\$1.2m
Total	\$762k	\$106k	\$870k	\$150k	\$1.5m	\$1.0m	\$2.5m	\$460k	\$1.1m	\$1.1m	\$1.6m

Table 68 System Generated 10-Year Capital Replacement Forecast: Vehicles

Equipment

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Admin	\$193k	\$62k	-	\$26k	\$76k	\$5k	\$255k	-	\$26k	\$76k	-
Environment Services	\$734k	-	-	-	-	-	\$161k	-	-	-	-
Fire & Rescue	\$268k	\$1.2m	\$69k	\$271k	\$78k	\$29k	\$231k	\$169k	\$343k	\$222k	-
Properties	\$464k	\$272k	\$56k	\$28k	\$3k	\$49k	\$298k	\$154k	\$125k	\$43k	\$181k
Roads	\$68k	\$124k	-	\$106k	\$220k	\$732k	-	-	\$220k	-	\$44k
Total	\$1.7m	\$1.6m	\$126k	\$432k	\$377k	\$815k	\$944k	\$323k	\$715k	\$341k	\$226k

Table 69 System Generated 10-Year Capital Replacement Forecast: Equipment

Proposed Level of Service – 10 Year Capital Plan

The following table summarizes the costs of recommended lifecycle events, as generated by the Township's asset management software, Citywide, while considering annual budgets beginning at current funding levels and gradually increasing over 5 years to reach a targeted 100% funding level. These projections consider the availability of funding as increases are implemented.

Category	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Roads	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m	\$1.7m
Bridges & Culverts	\$504k	\$670k	-	\$810k	\$170k	\$1.1m	\$610k	\$710k	\$670k	\$155k
Storm System	\$6k	\$8k	\$10k	\$10k	\$36k	\$36k	\$37k	\$34k	\$37k	\$37k
Buildings	\$59k	\$198k	\$241k	\$1.1m	\$1.0m	\$247k	\$55k	\$1.9m	\$25k	\$1.4m
Land Improvements	\$86k	\$55k	\$86k	\$105k	\$191k	\$220k	\$199k	\$189k	\$202k	\$223k
Vehicles	\$677k	\$610k	\$1.5m	\$752k	\$1.4m	\$1.1m	\$797k	\$1.4m	\$670k	\$263k
Equipment	\$507k	\$516k	\$524k	\$534k	\$771k	\$771k	\$771k	\$769k	\$756k	\$582k
Total	\$3.6m	\$3.8m	\$4.1m	\$5.0m	\$5.3m	\$5.2m	\$4.2m	\$6.8m	\$4.1m	\$4.4m

Table 70 Proposed LOS 10-Year Capital Replacement Forecast

Appendix C – Level of Service Maps & Photos

Road Network Map

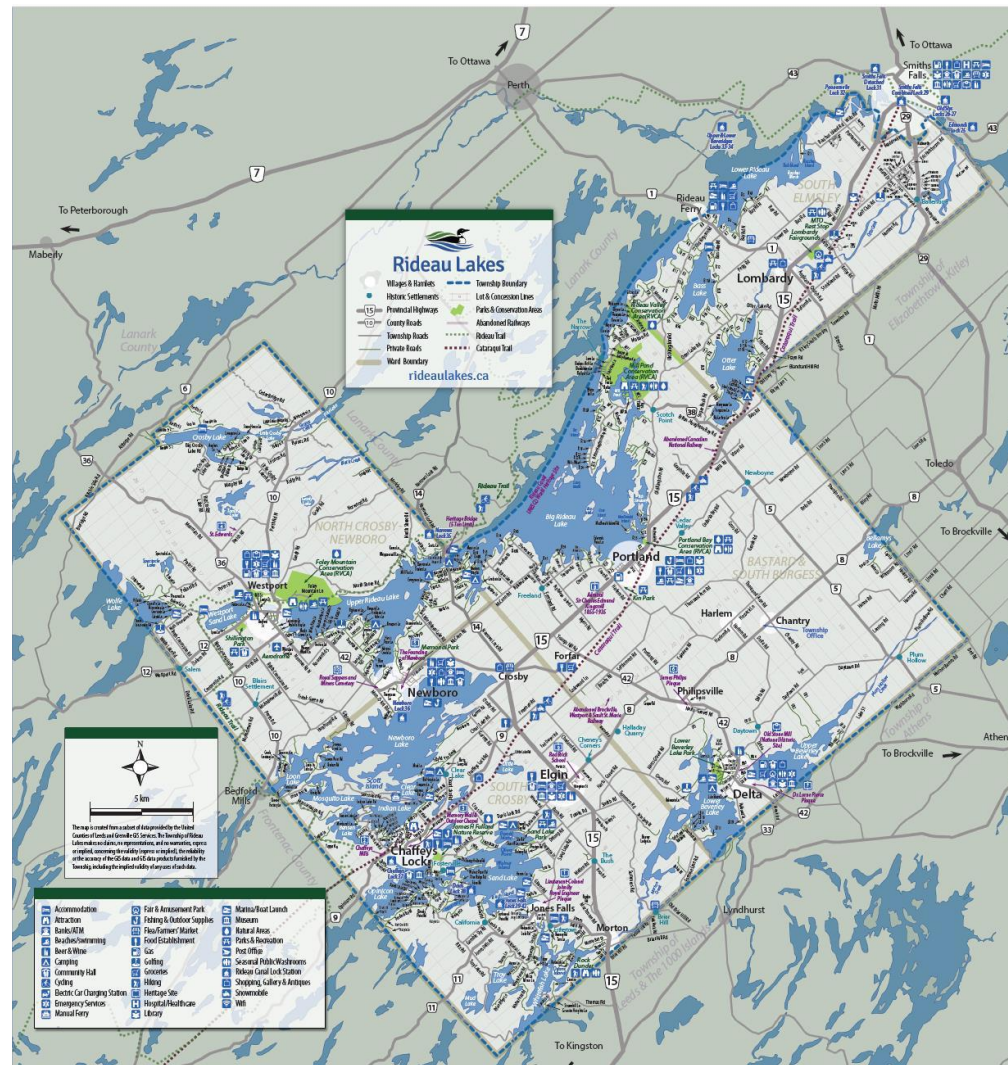


Figure 78 Township of Rideau Lakes Road Network

Images of Bridge in Good Condition

OSIM Inspections

Site Number: 16-002



North elevation



South elevation

Images of Culvert in Fair Condition

OSIM Inspections

Site Number: 16-501



South elevation



North elevation

Stormwater Network Map – Newboro

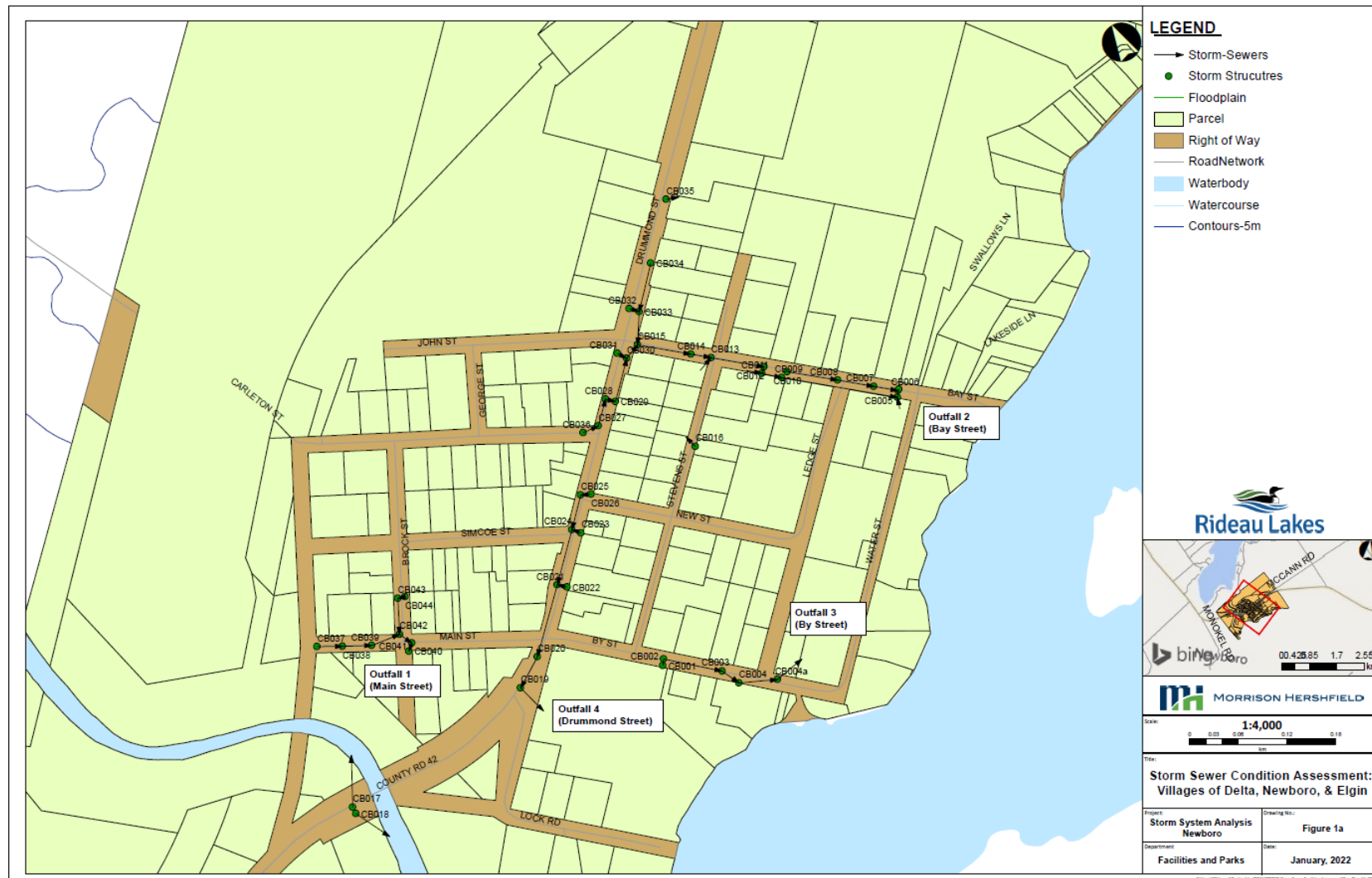


Figure 79 Newboro Stormwater System

Stormwater Network Map – Delta (1 of 2)

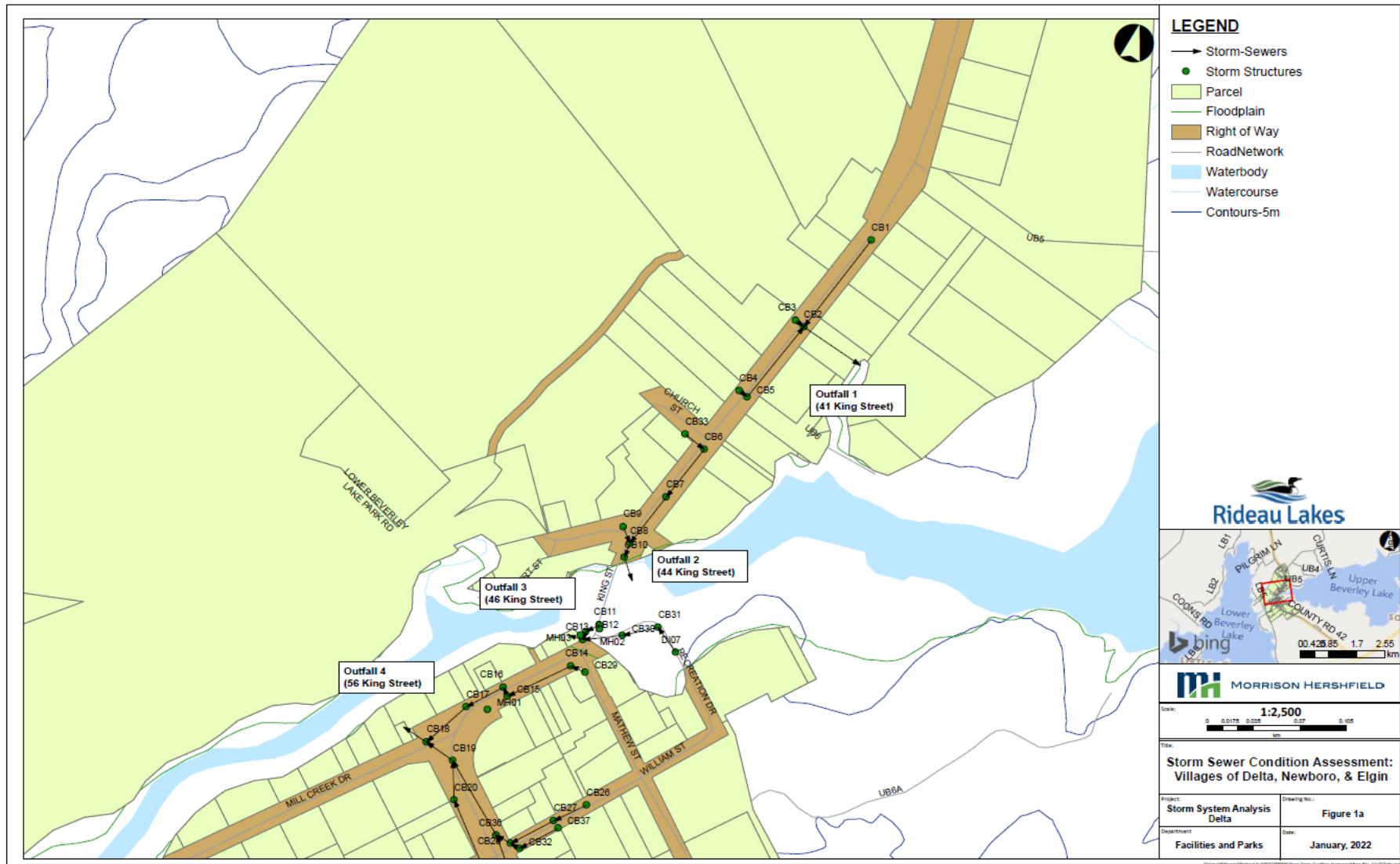


Figure 81 Delta Stormwater System 1 of 2

Stormwater Network Map – Delta (2 of 2)

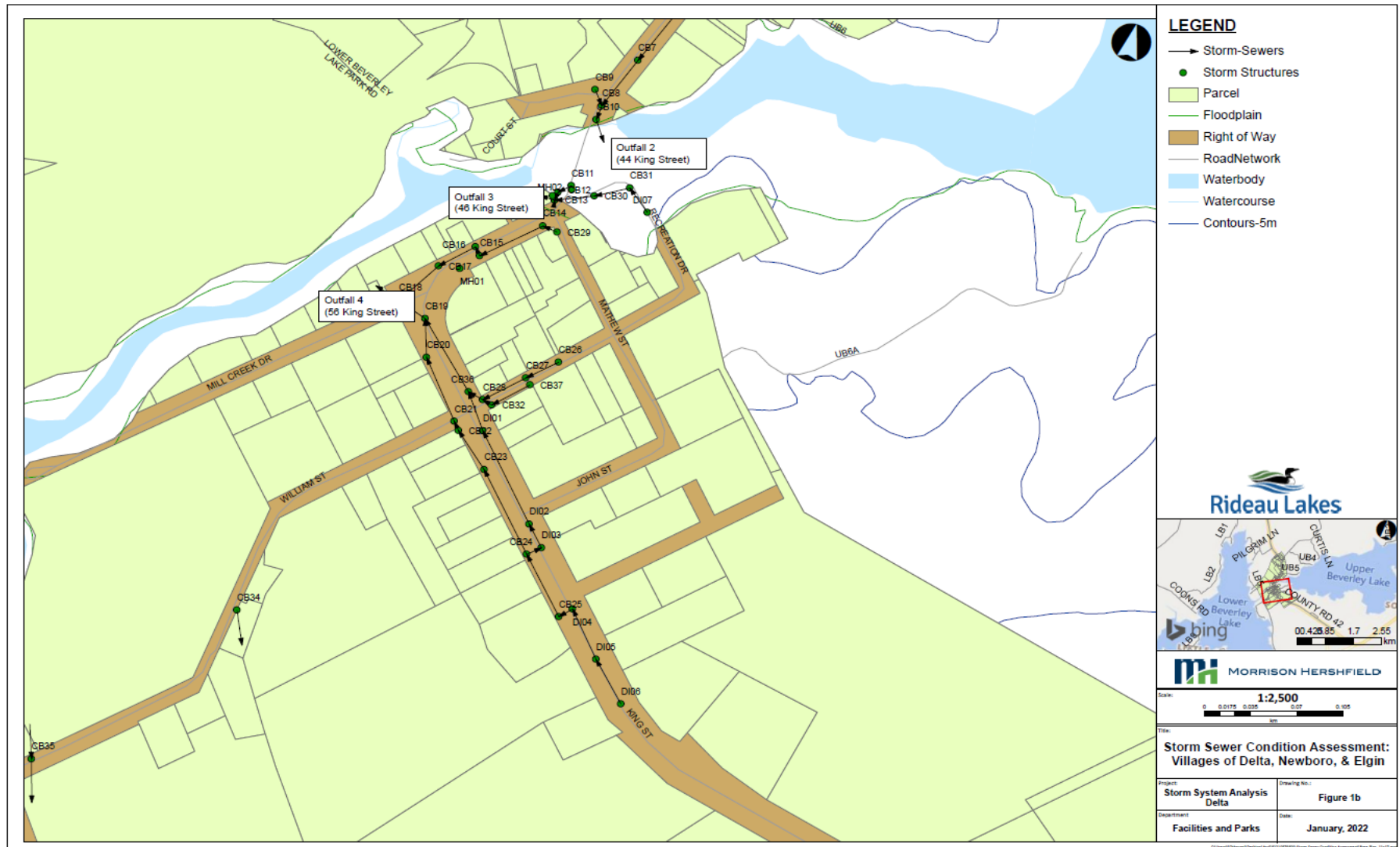


Figure 82 Delta Stormwater System 2 of 2

Stormwater Network Map – Portland

Drainage Study
Village of Portland

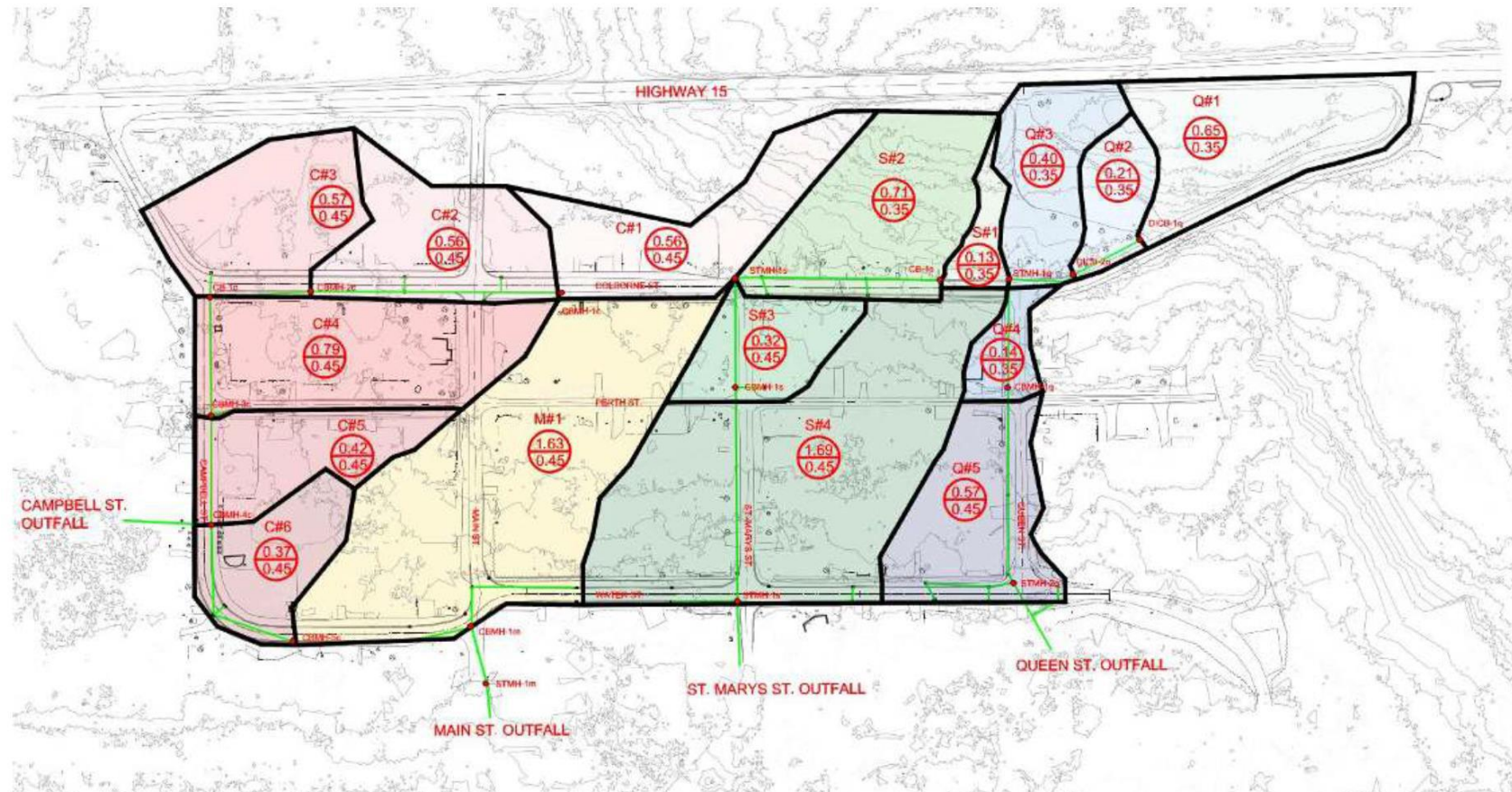


Figure 4-2: Sub-Catchments

Village of Portland
August, 2018

11

Figure 83 Portland Stormwater System

Appendix D – Risk Rating Criteria

The following tables present the current risk criteria defined in the asset profiles for each asset category.

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Bridges & Culverts	Bridges	COF	Economic	70%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
	Culverts	COF	Economic	50%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	Diameter	100%	<3m >3M and equal to	2 - Minor 4 - Major

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 71 Bridges & Culverts Risk Criteria

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Road Network	Roads	COF	Economic	50%	Replacement Cost	100%	0 - 25,000 25,000 - 50,000 50,000 - 100,000 100,000 - 250,000 >250,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	Surface Type	100%	Gravel Surface Treatment Asphalt	2 - Minor 3 - Moderate 4 - Major
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
	Streetlights	COF	Economic	100%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		POF	Structural	60%	Age Based Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 72 Road Network Risk Criteria

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Road Network Continued	Sidewalks	COF	Economic	100%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		POF	Structural	60%	Age Based Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 73 Road Network Risk Criteria Continued

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Storm System	Catchbasin / Manholes	COF	Economic	100%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
	Storm Pipes	COF	Economic	50%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	Diameter	100%	<250 250-<400 400 -<600 ≥600	2 - Minor 3 - Moderate 4 - Major 5 - Severe
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 74 Storm System Risk Criteria

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Vehicles	All	COF	Economic	50%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	AMP Segment	100%	Admin Fire & Rescue Properties Roads Light Trucks Environmental Services	1 - Insignificant 5 - Severe 3 - Moderate 4 - Major 1 - Insignificant 4 - Major
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 75 Vehicles Risk Criteria

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Equipment	All	COF	Economic	50%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	AMP Segment	100%	Admin - Furniture Admin - Computer Admin - Telephone Fire & Rescue Properties Properties - Kabota Tractor Roads Environmental Services	1 - Insignificant 5 - Severe 3 - Moderate 5 - Severe 3 - Moderate 4 - Major 3 - Moderate 3 - Moderate
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 76 Equipment Risk Criteria

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Land Improvements	All	COF	Economic	50%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	Segment Type	100%	Fire & Rescue Parks Facilities Facilities - Septic Roads Water Amenity Environmental Services	2 - Minor 2 - Minor 2 - Minor 3 - Moderate 2 - Minor 4 - Major 2 - Minor
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 77 Land Improvements Risk Criteria

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Buildings	All	COF	Economic	50%	Replacement Cost	100%	0 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 500,000 >500,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	50%	Segment Type	100%	Fire & Rescue Parks Facilities Facilities - Office Building Facilities - Complex Library Roads & Garages	5 - Severe 2 - Minor 2 - Minor 5 - Severe 4 - major 3 - Moderate 3 - Moderate
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 20 - 30 10 - 20 1 - 10 < 1	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Table 78 Buildings Risk Criteria

Appendix E – Inventory (Asset Segment Level)

Road Network

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Asphalt	72	Length (km)	\$10,906,024	CPI
Gravel	203	Length (km)	\$16,128,757	CPI
Sidewalks	182,122	Area (sq ft)	\$3,839,988	CPI
Streetlights	569	Quantity	\$357,169	CPI
Surface Treatment	183	Length (km)	\$21,837,287	CPI
TOTAL			\$53,069,225	

Bridges & Culverts

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
<3m Culverts	15	Quantity	\$1,854,158	CPI
>=3m Culverts	15	Quantity	\$9,650,000	User-Defined
Bridges	8	Quantity	\$7,590,000	User-Defined
TOTAL	38		\$19,094,158	

Storm System

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basins	75	Quantity	\$269,892	CPI
Manholes	41	Quantity	\$351,247	CPI
Storm Pipes	3,153	Length (m)	\$1,724,896	CPI
TOTAL			\$2,346,035	

Buildings

The majority of buildings are not componentized. The quantity listed represents the number of asset records currently available for each department.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Facilities	60	Quantity	\$22,376,208	User-Defined
Fire & Rescue	3	Quantity	\$2,063,042	CPI
Library	6	Quantity	\$1,493,321	User-Defined
Parks	19	Quantity	\$1,100,767	CPI
TOTAL			\$27,033,338	

Land Improvements

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Environmental Services	2	Quantity	\$427,021	CPI
Facilities	19	Quantity	\$1,182,138	CPI
Fire & Rescue	2	Quantity	\$135,617	CPI
Parks	17	Quantity	\$1,271,275	CPI
Roads	2	Quantity	\$85,536	User-Defined
Water Amenity	12	Quantity	\$1,342,042	User-Defined
TOTAL			\$4,443,629	

Vehicles

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Development Services	3	Quantity	\$124,172	CPI
Environmental Services	4	Quantity	\$1,052,000	User-Defined
Fire & Rescue	17	Quantity	\$7,072,013	User-Defined
Properties	6	Quantity	\$478,315	CPI
Roads	15	Quantity	\$4,210,000	User-Defined
TOTAL			\$12,936,500	

Equipment

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Admin	30	Quantity	\$362,536	CPI
Environmental Services	11	Quantity	\$812,693	User-Defined
Fire & Rescue	77	Quantity	\$2,972,709	CPI
Properties	130	Quantity	\$1,933,754	CPI
Roads	1,358	Quantity	\$3,190,090	User-Defined
TOTAL			\$9,271,782	