Asset Management Plan 2025

Township of Clearview

June 2026

psdcitywide

This Asset Management Plan was prepared by:



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

Key Statistics

$694 m	2024 Replacement Cost of Asset Portfolio
$110 k	Replacement Cost of Infrastructure Per Household
85%	Percentage of Assets in Fair or Better Condition
55%	Percentage of Assets with Assessed Condition Data
$10.4 m	Annual Capital Infrastructure Deficit
5/15/20 Years	Recommended Timeframe to reach Proposed Levels of Service
2.5%	Target Investment Rate to meet Proposed Levels of Service
1.0%	Actual Investment Rate

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1. Executive Summary

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

Clearview's asset portfolio carries a total current replacement value of $693.8 million. For the assets in this AMP, 85% are projected to be in fair or better condition and assessed condition data is available for 55% of the assets. For the remainder, age was used as a proxy, a common municipal data gap that can misrepresent true condition and highlights the ongoing need for assessments

A long-term financial plan, supporting the proposed levels of service was developed using the lifecycle strategies available and with the Township's, best available data. To maintain service levels and fund the capital renewal and rehabilitation of current assets, Clearview requires $17.3 million annually. The Township currently contributes about $6.94 million, funding 40% of its needs and leaving an $10.4 million annual deficit.

$694m Replacement cost of Asset Portfolio	**$17.3m** Average Annual Requirement
$6.94m Current Annual Capital Funding Available	**$10.4m** Infrastructure Deficit
40% Current Funding Level	**$28.1m** Current Backlog
85% Fair or Better Condition (Cost Weighted)	**55%** Assets with Assessed Condition (Cost Weighted)

Infrastructure funding gaps require long-term solutions. Short phase-in periods can be unreasonable and not realistic and place strain taxpayers, while overly long timelines risk further deterioration. A 2.1% annual revenue increase over 15 years is recommended to address the capital deficit for tax funded assets.

To close the annual capital funding deficit supported by utility revenues, it is recommended that the Township assess the feasibility of a 2.0% annual increase to water rates over a 5 year period and 3.2% annual increase to wastewater rates over a 20-year phase-in. Longer phase-in options are also available, which would lower the required yearly increases. Adopting the increases and

resulting revenue projections and the associated impact on the funding deficit are illustrated in the figures below.

It is important to note that major capital infrastructure projects that are currently in planning or in progress, are not accounted for in this AMP. These values account for replacement of like for like assets and address backlog based on current, best available data.

In addition to annual needs, an infrastructure backlog of $28.1 million exists, 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 or full reconstruction. This makes targeted and consistent condition assessments integral to refining long-term replacement and backlog estimates.

Risk frameworks and levels of service targets can then be used to prioritize projects and help select the right lifecycle intervention for the right asset at the right time, including strategic preventative maintenance activities, and replacement or full reconstruction where rehabilitation is not feasible. The Township has developed preliminary and basic risk models which are integrated with its asset register. These models can produce risk matrices that classify assets based on their risk profiles.

Most municipalities across Canada, continue to struggle with meeting infrastructure demands. This challenge was created over many decades and will take many years to overcome. To this end, several recommendations should be considered, including:

- Continued dedication and improvement to the Township's infrastructure datasets, which form the foundation for all analysis, including financial projections and needs.
- Continued development and refinement of risk and lifecycle models as additional data become available. This will aid in prioritizing projects and creating more strategic long-term capital budgets.

The Township has and continues to take important key steps in building and advancing its asset management program, including recent review and updates to improve the accuracy of the asset register, hosted in a centralized asset management system, a substantial initiative. Continuous improvement to this inventory will be essential in maintaining momentum, supporting long-term financial planning, developing preventative maintenance schedules and budget to ensure the continued delivery of affordable service levels to the community.

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 Clearview can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This AMP includes the following asset categories:

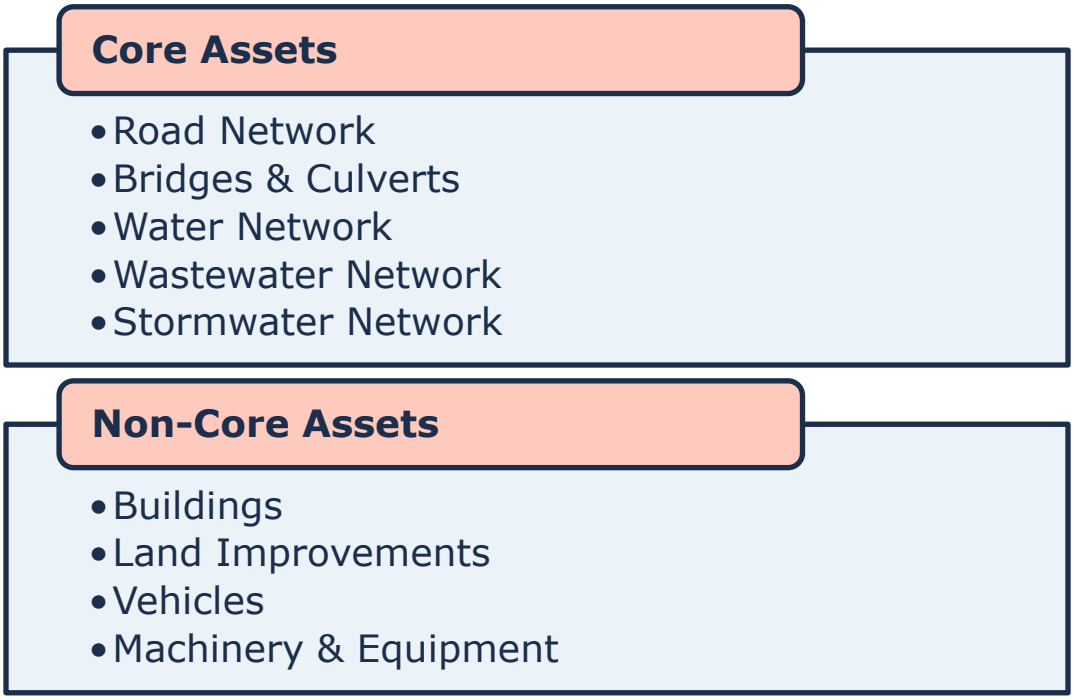

Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

With the development of this AMP the Township of Clearview has achieved compliance with July 1, 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 $693.8 million. 85% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 55% of assets. For the remaining 45% 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 (road network) 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 $17.3 million. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $6.94 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $10.4 million.

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

1.4 Financial Recommendation

A financial strategy was developed to address the annual capital funding gap and target the proposed level of service. The following graphics shows annual tax/rate change required to eliminate the Township's infrastructure deficit and achieve the proposed level of service based on a 5, 15 and 20-year plan:

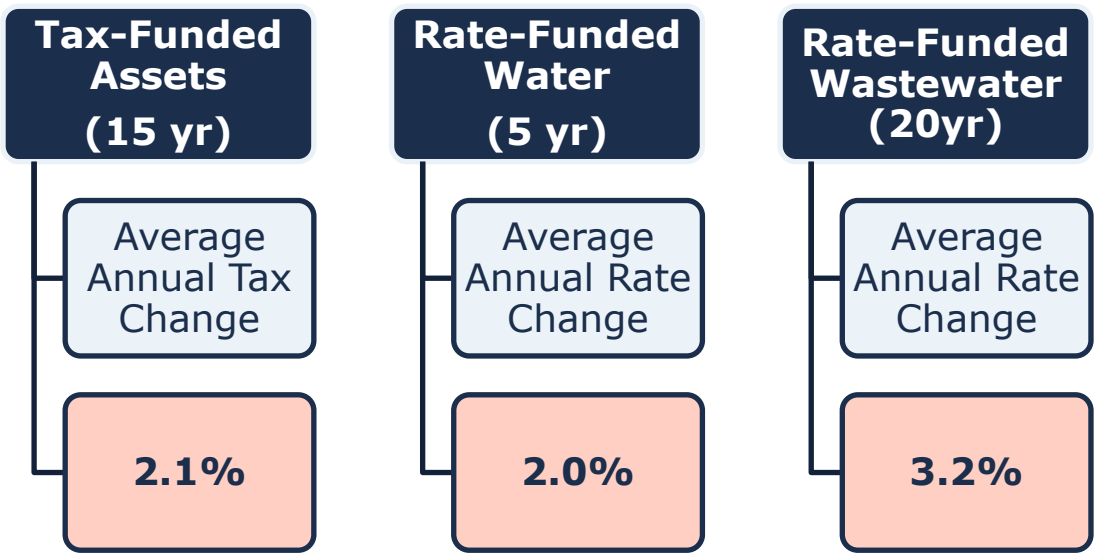

Figure 2 Proposed Tax/Rate Changes

2. Introduction & Context

2.1 Community Profile

Census Characteristic	Township of Clearview	Ontario
Population 2021	14,814	14,223,942
Population Change 2016-2021	4.7%	5.8%
Total Private Dwellings	6,296	5,929,250
Population Density	26.6/km^2	15.9/km^2
Land Area	556.37 km^2	892,411.76 km^2

Table 1 Township of Clearview Community Profile[1]

The Township of Clearview is a lower-tier municipality located in Simcoe County, Ontario. The Township comprises several vibrant communities, including Stayner, Creemore, New Lowell, Nottawa, and Singhampton, each contributing to the area's distinctive rural character. Clearview is situated approximately 40 minutes west of Barrie and less than two hours from the Greater Toronto Area, offering both seclusion and convenient access to urban amenities.

The area is renowned for its rolling landscapes, stretching from the heights of the Niagara Escarpment to the Minesing Wetland, making it a four-season destination for outdoor enthusiasts. Residents and visitors enjoy a wealth of recreational facilities, community parks, and trails, as well as a lively calendar of signature events, such as the Stayner Kinsmen Duck Race, Creemore Springs Turas Mór, Trail Tunes, Ruff Mudder, Canada Day Celebrations, Gathering of the Classics, and the Creemore Springs Copper Kettle Festival. These events, along with bustling farmers' markets in Creemore and Stayner, foster a strong sense of community and volunteerism.

Clearview offers a blend of rural charm and accessibility, with world-class dining, unique shopping experiences, and a welcoming atmosphere in its downtown districts. The township's historic villages and scenic countryside provide a glimpse into its rich past, while new infrastructure projects and a focus on sustainable growth ensure a vibrant future. The presence of schools, churches, and public libraries enhances the family-friendly environment, supporting residents of all ages.

Clearview has experienced steady growth and is guided by a forward-looking strategic plan that prioritizes infrastructure, recreation and culture, communication, climate, and support for core agricultural businesses. Recent investments, such as the $35 million Housing-Enabling Water Systems funding, demonstrate the Township's commitment to supporting new housing and outdoor spaces while protecting its agricultural heritage. Between the 2016 and 2021 census periods, the Township saw a 4.7% increase in population. The age distribution reflects a balanced demographic, with a large portion of working-age adults, a growing number of seniors, and a strong presence of children and youth, supporting a dynamic and multi-generational community.

[1] Census data retrieved from Statistics Canada, Census Profile, 2021 Census of Population, www.12statcan.gc.ca

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 Township of Clearview Climate Profile

The Township of Clearview is located in Simcoe County, Ontario, within the rolling landscapes of the Niagara Escarpment region. Like many Ontario communities, Clearview is expected to experience notable impacts from climate change, including rising average annual temperatures, increased precipitation, and a greater frequency of extreme weather events. According to Climatedata.ca, a collaboration supported by Environment and Climate Change Canada (ECCC), the Township of Clearview may experience the following trends:

Higher Average Annual Temperature

- Between the years 1971 and 2000, the annual average temperature was 6.7 ºC
- Under a high emissions scenario, average annual temperatures are projected to increase to 9.3 ºC for the 2021–2050 period
- By 2051–2080, average temperatures are projected to rise to 11.6 ºC
- For the final 30 years of this century, projections estimate a further increase to 13.2 ºC

Increase in Total Annual Precipitation

- The annual average precipitation for the 1971–2000 period was 886 mm.
- Under a high emissions scenario, precipitation is projected to increase by 12% for the 2051–2080 period.
- A 16% increase in precipitation is projected for the final 30 years of the century[2]

[2] ClimateData.ca. (n.d.). *Clearview, ON*

Increase in Frequency of Extreme Weather Events

- The frequency and severity of extreme weather events are expected to rise over time.
- Monthly and seasonal precipitation patterns may vary significantly from annual averages, with some months experiencing more intense changes than others.

Integration of Climate Change and Asset Management

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

In order to achieve 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's 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.

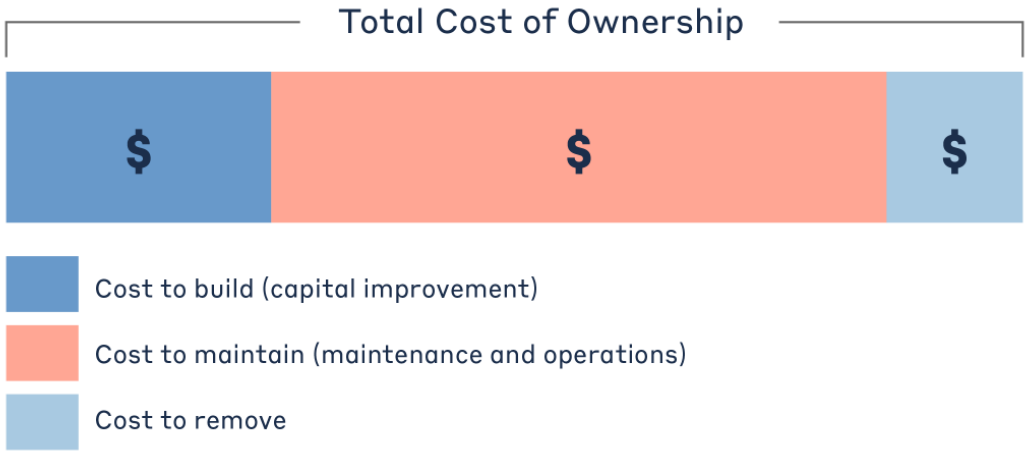

Figure 3 Total Cost of Asset Ownership

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.

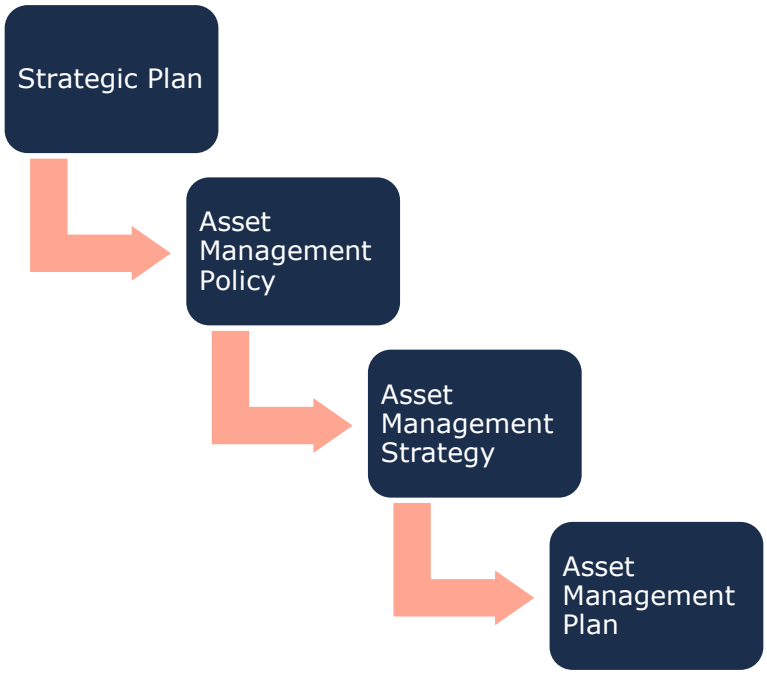

Figure 4 Foundational Asset Management Documents

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 as part of the asset management program.

The Township of Clearview most recently adopted their Strategic Asset Management Policy (2017-004_revision 1) on June 24, 2019, in accordance with Ontario Regulation 588/17.

The Asset Management Policy aligns well with asset management best practices and O. Reg. 588/17 by establishing clear governance, defined roles and responsibilities, lifecycle-based planning, risk-informed decision-making, and integration with financial, land-use, and community planning frameworks.

Best practices will be implemented through Council-approved asset management plans updated on a regular cycle, formal integration of asset data into budgeting and long-term financial planning, application of risk and service-based prioritization, stakeholder engagement, and continuous improvement supported by defined accountability, condition and lifecycle analysis, and consideration of climate change, sustainability, and affordability in infrastructure decisions.

Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how the Township 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 Connection to Strategic Plan

10 Year Strategic Plan 2024-2034

In 2023 the Township went through the process of development and renewal of the 10 year strategic plan. This Strategic Plan serves as a living document that guides municipal decision-making, policy development, and resource allocation. It outlines the Township's vision and mission, while providing strategic direction for both the Council and senior administration. The plan also identifies key challenges and opportunities that will shape future priorities.

Connection with the Asset Management Plan

The Strategic Plan and Asset Management Plan (AMP) are closely aligned through their shared focus on achieving the Township's long-term objectives. Municipal services, the infrastructure that enables them, and the financial capacity required to sustain them are all fundamentally linked to effective asset management. The AMP consolidates data from multiple sources into a centralized, reliable view of asset condition, performance, and future needs, improving access to consistent information across departments and supporting informed decision-making.

By aligning asset planning and investment priorities with the direction established in the Strategic Plan, the AMP ensures that infrastructure decisions directly support the Township's broader vision and strategic goals. The following table highlights the strategic priorities as identified in the plan and indicates how the AMP aligns.

Township of Clearview Strategic Priorities

The following section briefly describes the Township's strategic priorities as outline in the Strategic Plan and the alignment with asset management planning.

1. Infrastructure

Infrastructure is fundamental to supporting housing growth. New development relies on confirmed water supply, wastewater capacity, and the systems required to deliver these services. Growth is therefore closely tied to the availability and condition of core infrastructure, alongside broader factors such as development viability and housing affordability. In addition, well-maintained roads and bridges are essential for the safe and efficient movement of goods, services, and residents. Understanding current infrastructure conditions and planning for long-term needs demonstrates proactive management, ensuring the Township can accommodate growth while maintaining reliable service levels.

2. Recreation & Culture

As Clearview Township grows, so too will the community's recreational and cultural needs. Responding to these changes will require a continued focus on community development and strong collaboration with local volunteer networks. Demand for open space and facilities will increase, making it essential to remain aligned with evolving community priorities and overall well-being. The Asset Management Plan (AMP) and planning process supports this by assessing the condition and use of parks, trails, community halls, and recreation facilities to inform and prioritize investment. Through sustainable maintenance and targeted improvements, asset management planning helps ensure these spaces remain accessible, support local programming and events, and continue to strengthen community connections.

3. Communication

Communication is a critical municipal service that builds a shared understanding of community issues and priorities. As communication channels evolve, supporting local media remains important for sharing information on municipal initiatives, local businesses, and community events. Strong two-way communication enhances transparency, increases awareness of changing needs, and enables the Township to demonstrate progress and results. Asset management planning supports this priority by providing clear, consistent, and evidence-based information on infrastructure condition, performance, and investment needs. The Asset Management Plan (AMP) translates technical data into accessible insights for Council, staff, and the public, strengthening transparency, supporting informed decision-making, and building trust within the community.

4. Climate

Climate initiatives in Clearview Township focus on preparing for and adapting to the impacts of a changing climate while supporting broader climate action efforts. Asset management planning advances this priority by embedding climate considerations into infrastructure planning, lifecycle management, and investment decision-making. Through the asset management planning process, climate-related risks, such as increased frequency and severity of extreme weather events, can be integrated into asset condition assessments, risk analysis, and renewal prioritization. This will help ensure critical

infrastructure, including stormwater systems and emergency services facilities, are designed and maintained to remain resilient under changing conditions.

5. ***Core Business (Agriculture)***
   Clearview Township is primarily an agricultural community, where farming and related activities form both an economic foundation and a key part of local identity. This natural capital supports local food systems and community connection, reinforcing the importance of managing shared resources in a fiscally responsible manner. Asset management planning supports this priority by ensuring that infrastructure essential to the agricultural sector, such as rural roads, drainage systems, and water services, are maintained in a reliable, efficient, and sustainable way.

Line of Sight

ISO 55000 defines asset management as the "*coordinated* activity of an organization to realize value from assets". The ability to deliver value requires an understanding of the goals and objectives of the asset owners. For the Township of Clearview, the Strategic Plan provides goals and objectives, outlines challenges and opportunities. Through the identification of strategic goals, asset management practices and decisions can be aligned to support strategic goal advancement.

The process of aligning an organization's strategic plan and asset management activities delivered by staff is referred to by the Institute of Asset Management as the "line of Sight". Having a "line of sight" provides staff with an understanding of the purpose of their actions and how their actions align with overarching goals of the municipality.

2.3.3 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	**$$$**	♦ Useful life may not be extended as expected. ♦ May be costlier overall when assessed against full reconstruction or replacement. ♦ Loss or disruption of service, particularly for underground assets;
Replacement/ Reconstruction Asset end-of-life activities that often involve the complete replacement of assets	**$$$$$**	♦ 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

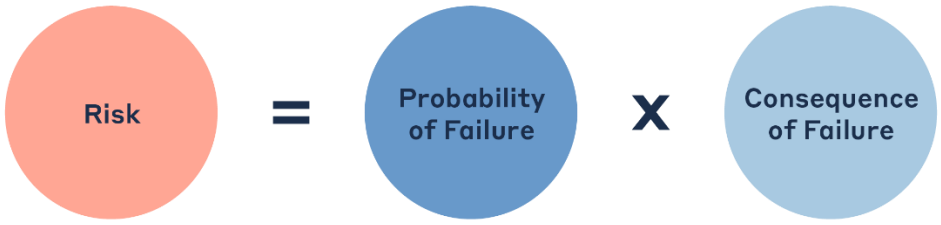

Figure 5 Risk Equations

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.

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, Water, Wastewater, 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 Clearview is produced in compliance with O. Reg. 588/17. The July 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.

This 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 and the proposed level of service for the asset categories listed below.

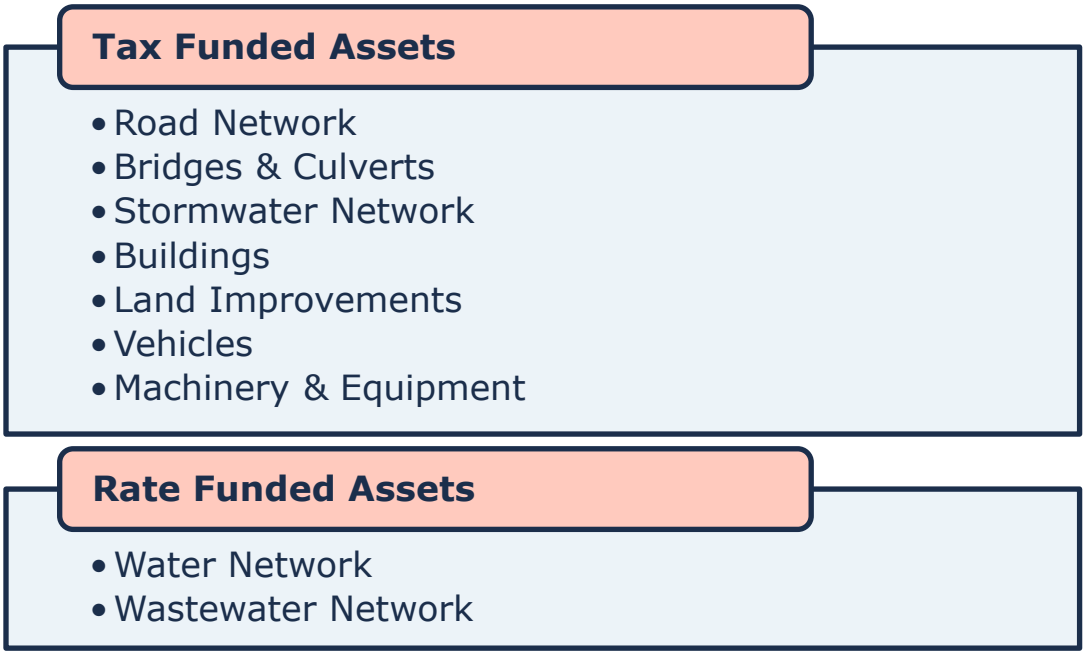

Figure 6 Tax Funded and Rate Funded Asset Categories

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:

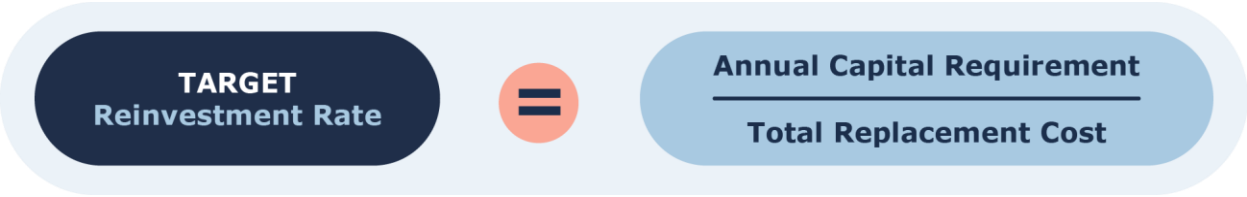

Figure 8 Target Reinvestment Rate Calculation

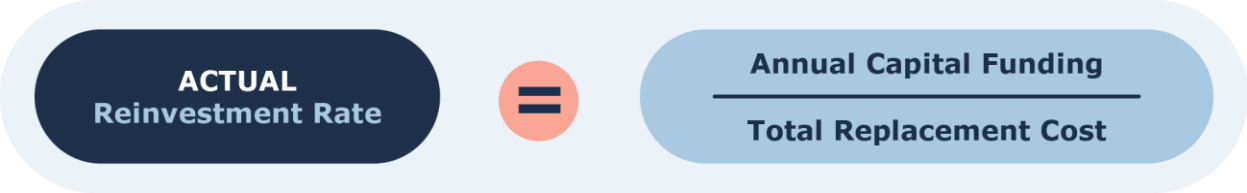

Figure 9 Actual Reinvestment Rate Calculation

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, substantial 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)[3]. Along with creating better performing organizations, more livable 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.

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

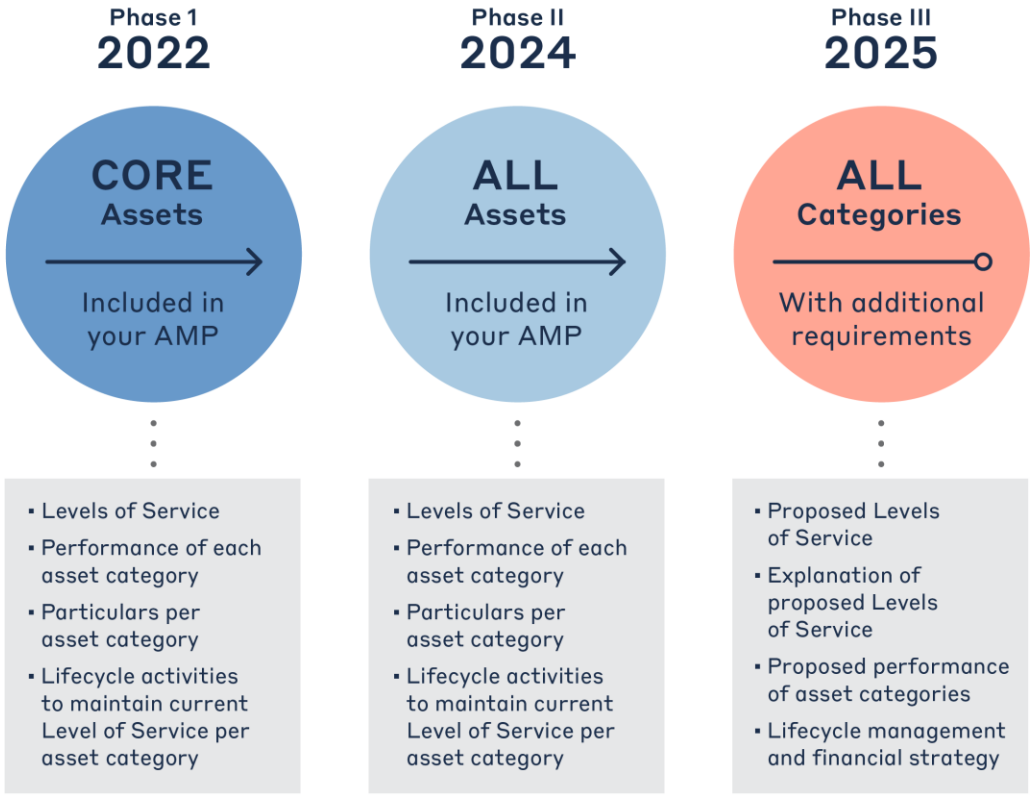

Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	5.1 – 13.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	5.1 – 13.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	5.3 – 13.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	5.2 – 13.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	5.4 – 13.4	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	5.7 – 13.7	Complete
Current performance measures in each category	S.5(2), 2	5.7 – 13.7	Complete

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	5.4 – 13.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	5.5 – 13.5	Complete
Growth considerations	S.6(1), 5	14.1 – 13.2	Complete
Proposed levels of service for each category for next 10 years	S.6(1), 1(i-ii)	5.8 – 13.8	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 core and non-core 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.

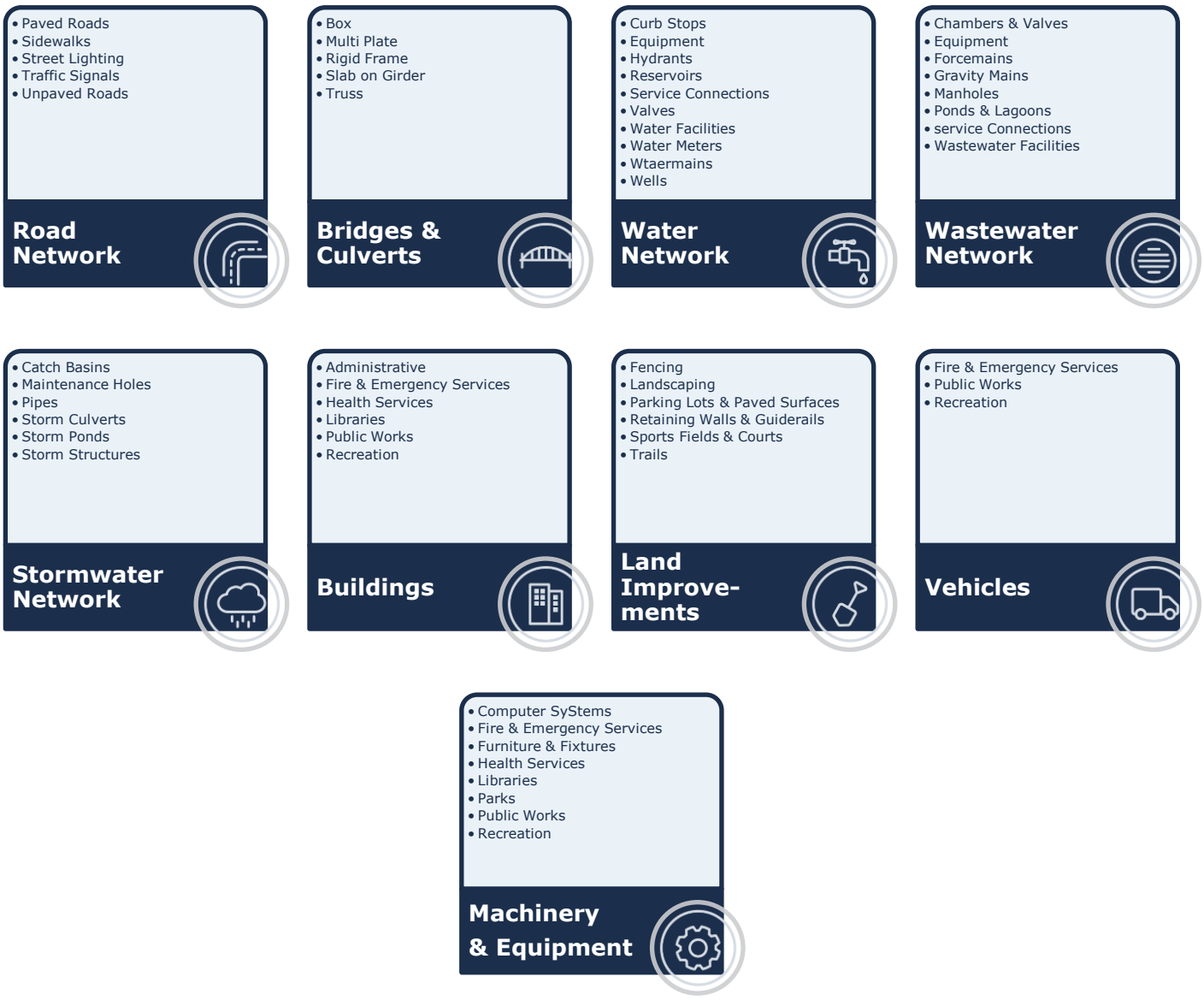

Figure 11 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The ten asset categories analyzed in this Asset Management Plan have a total current replacement cost of $694 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 38% of the total portfolio, the Road Network form the largest share of the Township's asset portfolio, followed by the Road Water Network at 16.5%.

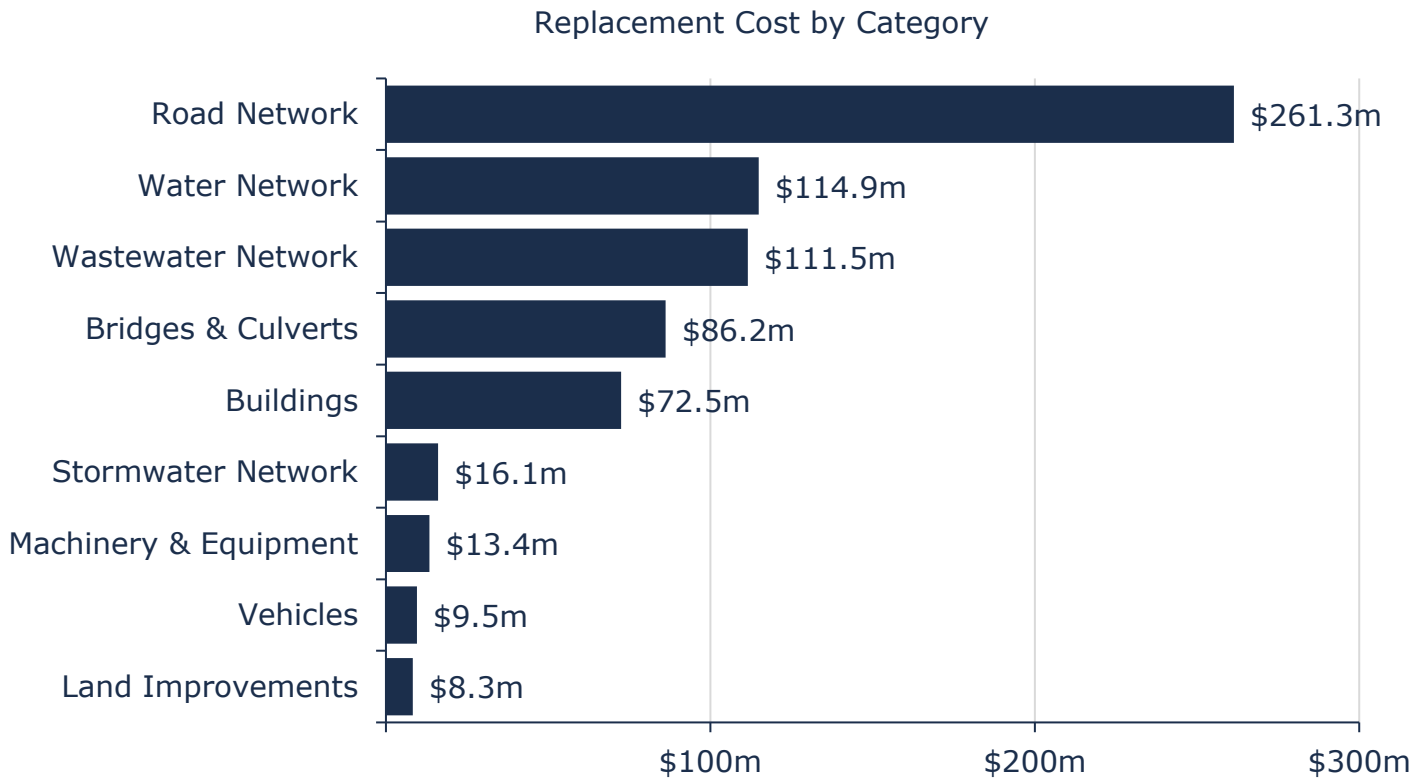

Figure 12 Current Replacement Cost by Asset Category

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 $17.3 million, for a target portfolio reinvestment rate of 2.5%. Currently, annual investment from sustainable revenue sources is $6.9 million, for a current portfolio reinvestment rate of 1.0%. Target and current re-investment rates by asset category are detailed below.

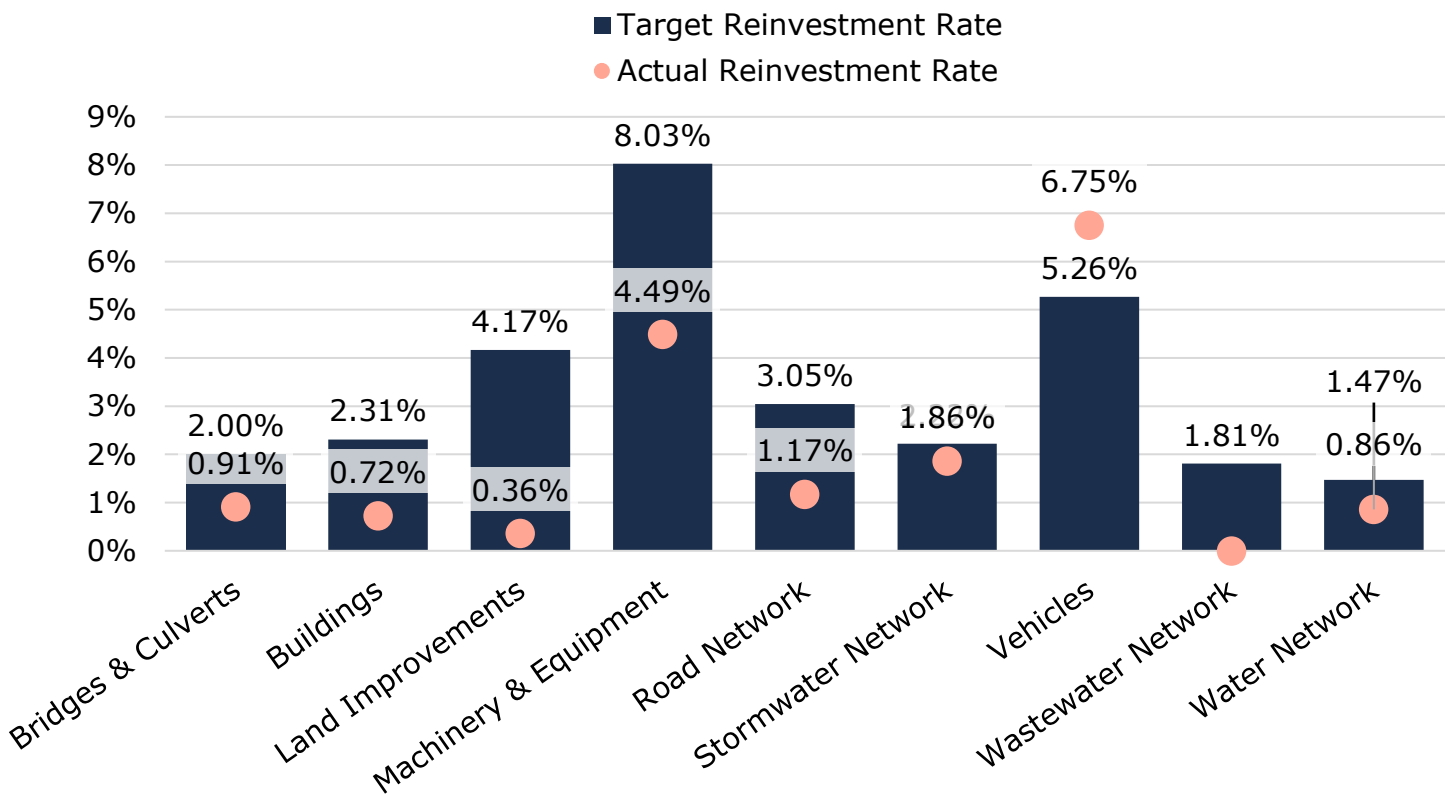

Figure 13 Current Vs. Target Reinvestment Rate

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, 85% of the Township's infrastructure portfolio is in fair or better condition, with the remaining 15% 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 all 55% of the assets in this AMP. 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.

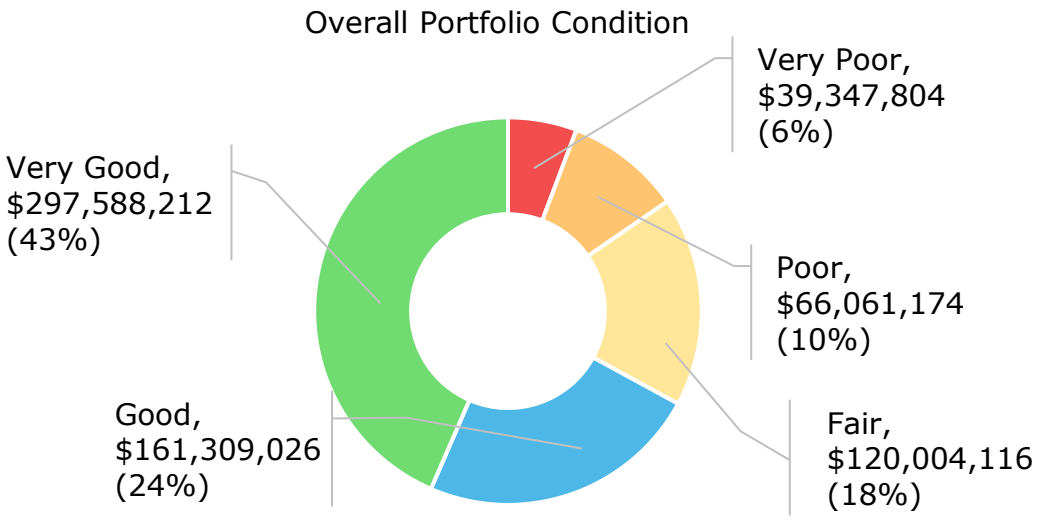

Figure 14 Asset Condition: Portfolio Overview

As further illustrated in Figure 15 at the category level, the majority of all assets, core and non-core, are in 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.

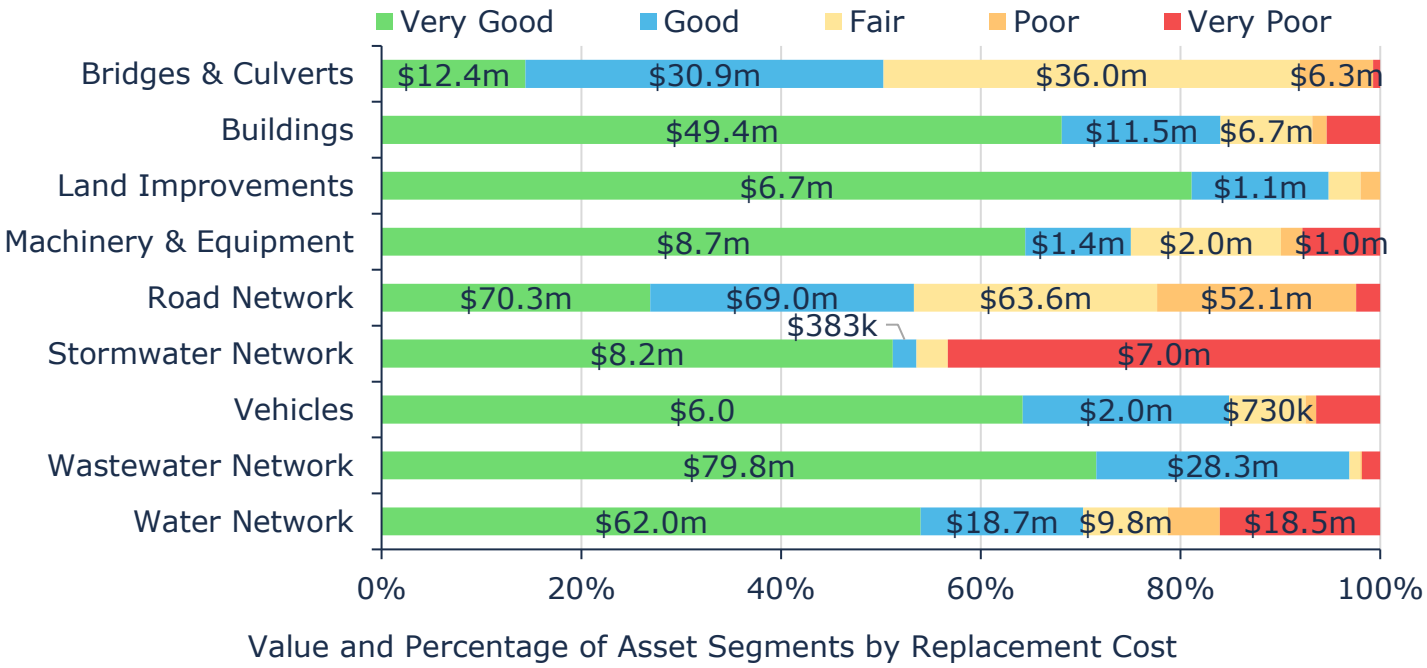

Figure 15 Asset Condition by Asset Category

Source of Condition Data

This AMP relies on assessed condition for 55% 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	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	93%	2024 RJ Burnside & Associates
Bridges & Culverts	99%	2023/2024 RJ Burnside & Associates
Water Network	46%	Staff Assessments
Wastewater Network	0%	Age Based Projections
Stormwater Network	0%	Age Based Projections
Buildings	0%	Age Based Projections
Land Improvements	4%	Staff Assessments
Vehicles	0%	Age Based Projections
Machinery & Equipment	5%	Staff Assessments

Table 6 Source of Condition Data

3.2.4 Risk Matrix

Using the risk equation and preliminary risk models, Figure 16 shows how assets across the different asset categories are stratified within a risk matrix.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	Low	Moderate	High	Very High
$239,325,415	$129,167,644	$58,762,454	$141,558,440	$115,496,379
(35%)	(19%)	(9%)	(21%)	(17%)

Figure 16 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 17% of the Township's assets, with a current replacement cost of approximately $115 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.

3.2.5 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 17 below illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for all asset categories analyzed in this AMP over an 75-year time horizon. On average, $17.3 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 $28.1 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.

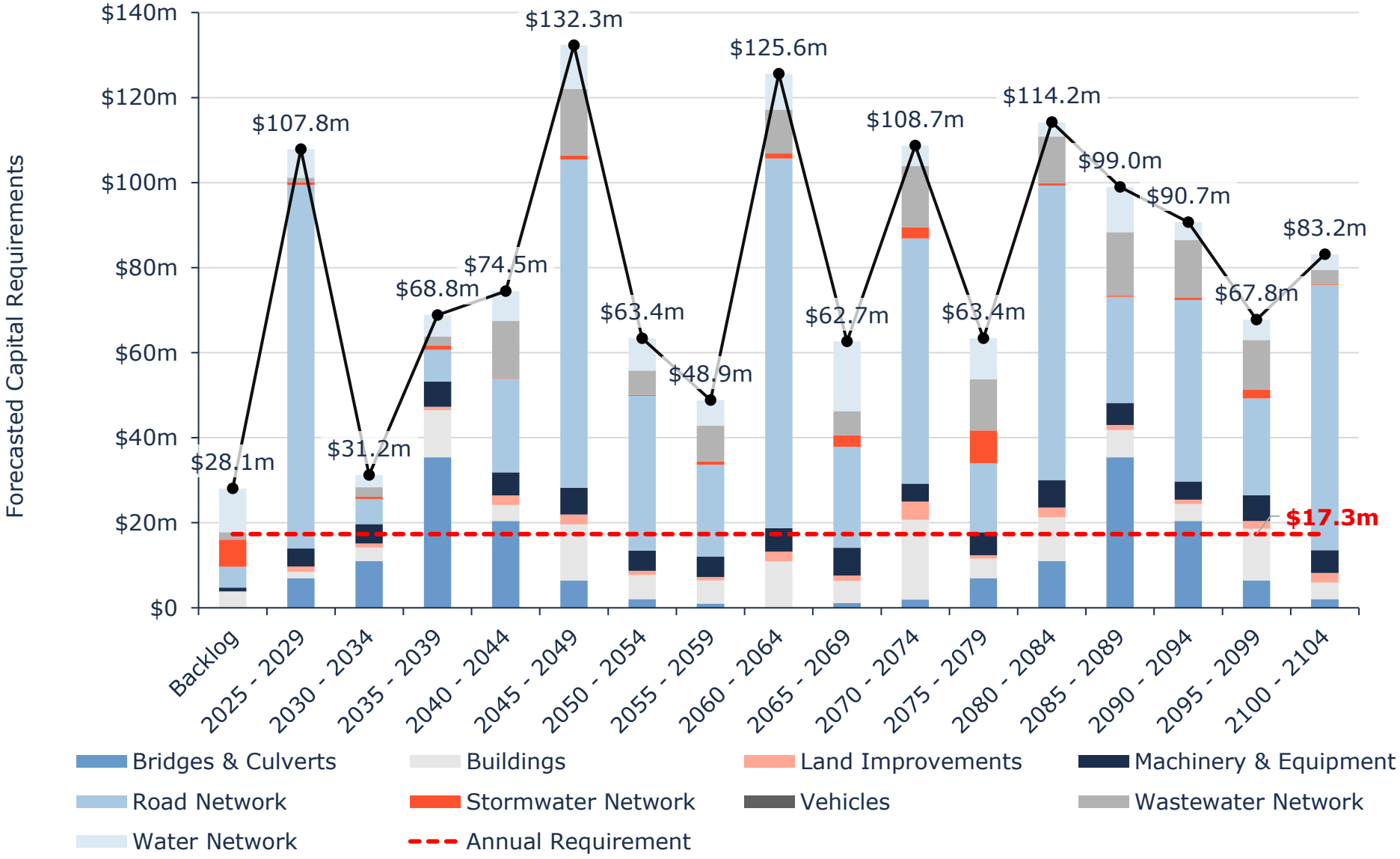

Figure 17 Capital Replacement Needs: Portfolio Overview 2025-2104

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 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 Scenarios

The scenarios outlined in the following section were analyzed as options for proposed service levels for all categories included in this Asset Management Plan.

While all scenarios were reviewed, the Township of Clearview selected Scenario 1 as their preferred path forward regarding proposed levels of service, which is reflected in the financial strategy and 10-year capital replacement forecasts.

4.2.1 Scenario 1: 100% Funding Target

This scenario assumes gradual tax and rate increases, stabilizing at 100% of recommended funding in 15 years for tax funded assets, 5 years for water network asset and 20 years for the wastewater assets.

- Annual Tax Increase: 2.1% (15 yrs)
- Annual Water Rate Increase: 2.0% (5 yrs)
- Annual Wastewater Rate Increase: 3.2% (20 yrs)

Lifecycle Changes Required for Scenario 1

For all asset categories, no changes to lifecycle strategies are required in order to achieve Scenario 1. For the Township's current approach to lifecycle management of each category, refer to the below table to be directed to the specific section of the AMP.

Asset Category	Lifecycle Changes to Reach PLOS	AMP Section
Road Network	No lifecycle changes, annual capital spending increase only	Section 5.4
Bridges & Culverts	No lifecycle changes, annual capital spending increase only	Section 6.4
Water Network	No lifecycle changes, annual capital spending increase only	Section 7.4
Wastewater Network	No lifecycle changes, annual capital spending increase only	Section 8.4
Stormwater Network	No lifecycle changes, annual capital spending increase only	Section 9.4
Buildings	No lifecycle changes, annual capital spending increase only	Section 10.4
Land Improvements	No lifecycle changes, annual capital spending increase only	Section 11.4
Vehicles	No lifecycle changes, annual capital spending increase only	Section 12.4
Machinery & Equipment	No lifecycle changes, annual capital spending increase only	Section 13.4

Figure 18 PLOS Lifecycle Strategy Changes

In future iterations of the AMP, it is recommended to more closely analyze changes to lifecycle management strategies to find long-term cost savings and efficiencies.

Affordability/Achievability of Scenario 1

Of the three scenarios analyzed, Scenario 1 is the most expensive option. Reaching full funding immediately would require an increase of 47% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the recommended implementation timeframe of 15 years, tax revenue would be increased gradually from $21.4 million to $29.1 million.

For rate funded assets, an increase of 19% in water rates and 94.6% in wastewater rates are required to reach 100% funding levels. The recommended time frame for rate funded assets is a 5 and 20 year period.

Water rates would increase gradually from $3.7 million to $4.1 million over a 5 year period.

Wastewater revenues would increase from $2.1 million to $4.0 million over a 20 year period. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 10 years for Scenario 1 is indicated in the table below:

Categories	Available Capital Funding									
	2027	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
Tax-Funded	$6.4m	$6.9m	$7.3m	$7.8m	$8.3m	$8.8m	$9.3m	$9.8m	$10.4m	$10.9m
Rate-Funded[4] (Water)	$1.1m	$1.1m	$1.2m	$1.3m	$1.7m	$1.7m	$1.7m	$1.7m	$1.7m	$1.7m
Rate-Funded (Wastewater)	$68k	$139k	$211k	$286k	$379k	$458k	$541k	$626k	$714k	$804k
Total	**$7.5m**	**$8.1m**	**$8.8m**	**$9.4m**	**$10.4m**	**$11.0m**	**$11.6m**	**$12.2m**	**$12.8m**	**$13.4m**

Table 7 Scenario 1 Available Capital Funding Over Next 10 Years

The above table accounts for both current and future expenditures in order to achieve and maintain the proposed levels of service. This requires a combination of capital spending and saving (i.e. reserves) to ensure future large expenditures can be financed. It is likely that there will be years with no capital expenditures for certain asset categories, however, this does not mean that the Township should ignore the funding requirements in these years. Instead, annual funding should be set aside in the form of reserves to ensure funding for upcoming lifecycle events is available when required.

As the Township of Clearview selected Scenario 1 as their preferred proposed level of service, a further breakdown of projected capital expenditures 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 Scenario 1

The Township of Clearview 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.

[4] The water network is projected to achieve 100% funding level in a 5 year period. For this scenario and analysis, this value is assumed to remain constant after full funding has been achieved.

Risks Associated with Scenario 1

Each scenario presents inherent trade-offs, where potential benefits are offset by corresponding risks. Under Scenario 1, the following key risks have been identified:

- **Increasing infrastructure backlog**
  Although this scenario ultimately achieves a fully funded position, specifically for the tax funded and wastewater assets, the longer timeframe required to reach target funding levels results in extended periods of underinvestment. This prolonged funding gap may limiy the Township's ability to complete timely lifecycle renewals and planned asset replacements. Consequently, for these two asset groupings there is an increased risk of accelerated asset deterioration, higher failure rates, reduced service reliability, and greater reliance on reactive and unplanned expenditures to maintain service delivery.

- **Missed opportunities for efficiencies**
  The delayed funding ramp-up may also restrict the Township's ability to implement optimized or proactive lifecycle strategies. Deferring strategic interventions can result in lost opportunities to extend asset life, bundle projects efficiently, or leverage cost-saving renewal techniques. Over time, this may lead to higher overall lifecycle costs and less efficient use of capital resources

Appropriateness of Scenario 1 to Meet the Township's Needs

Municipal staff identified the importance of balancing affordability for residents with the obligation to effectively manage and sustain the municipality's infrastructure assets and associated investment requirements. To support informed decision-making, all three funding scenarios were evaluated to better understand infrastructure needs, related risks, and long-term financial implications within the local context.

Based on this analysis, Scenario 1 was identified as the preferred approach. This scenario represents a measured progression toward an optimal funding level, supporting a balanced and sustainable strategy for asset reinvestment.

Under Scenario 1, an average annual tax increase of 2.1% is considered achievable and aligned with the municipality's financial capacity. This approach enables consistent progress in addressing infrastructure investment needs, strengthens lifecycle management practices, reduces the risk of deferred maintenance, and contributes to improved long-term financial stability.

In selecting Scenario 1, staff also considered the risks associated with reliance on conditional grant funding from senior levels of government. Given increasing municipal service responsibilities and uncertainty surrounding the availability and continuity of external funding programs, reliance on such funding sources is not considered a dependable long-term strategy. Scenario 1 therefore represents a prudent and financially responsible approach that aligns infrastructure investment with the municipality's long-term service delivery objectives and financial sustainability goals.

4.2.2 Scenario 2: 75% and 80% Funding Target

This scenario assumes gradual tax and rate increases, stabilizing at 75% of recommended funding in 15 years for tax funded assets and 20 years for wastewater assets. An 80% funding scenario was analyzed for the water network over a 5 year period.

- Annual Tax Increase: 1.2% (75%)
- Annual Water Rate Increase: 0.2% (80%)
- Annual Wastewater Rate Increase: 2.5% (75%)

Lifecycle Changes Required for Scenario 2

For all asset categories, no changes to lifecycle strategies are required in order to achieve Scenario 2. In future iterations of the AMP, it is recommended to more closely analyze changes to lifecycle management strategies to find long-term cost savings and efficiencies.

Affordability/Achievability of Scenario 2

Of the three scenarios analyzed, Scenario 2 is a middle option in terms of tax/rate increases. Reaching 75% of full funding immediately for tax funded assets would require an increase of 20% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the recommended implementation timeframe of 15 years, tax revenue would be increased gradually from $21.4 million to $25.6 million.

Wastewater rates would require a 71% increase gradually over a 20 year period. Revenue would increase from $2.1 million to $3.5 million.

Water rates would require a 10% increase gradually over a 5 year period. Revenue would increase from $3.69 million to $3.73 million.

Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 10 years for Scenario 2 is indicated in the table below:

Categories	Available Capital Funding									
	2027	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
Tax-Funded	$6.2m	$6.5m	$6.7m	$7.0m	$7.3m	$7.5m	$7.8m	$8.1m	$8.4m	$8.7m
Rate-Funded[5] (Water)	$994k	$1.0m	$1.0m	$1.0m	$1.4m	$1.4m	$1.4m	$1.4m	$1.4m	$1.4m
Rate-Funded (Wastewater)	$53k	$108k	$164k	$221k	$295k	$355k	$417k	$480k	$545k	$612k
Total	**$7.3m**	**$7.6m**	**$7.9m**	**$8.2m**	**$8.9m**	**$9.3m**	**$9.6m**	**$9.9m**	**$10.3m**	**$10.6m**

Table 8 Scenario 2 Available Capital Funding Over Next 10 Years

[5] The water network is projected to achieve the 80% funding level in 5 years, after which the funding level for the scenario and analysis is assumed to remain constant.

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 Scenario 2

The Township of Clearview 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 Scenario 2

There are pros and cons associated with each scenario analyzed, and each benefit is counter-balanced with consequences. For Scenario 2, the following risks have been identified:

- **Prolonged Underinvestment and Lifecycle Risk**
  While Scenario 2 moderates the pace of financial increases for residents and businesses, the timeframe required to reach target funding levels results in an extended period of sub-optimal asset lifecycle management. Delays in implementing timely renewals and strategic replacements increase the likelihood of asset deterioration outpacing investment, elevating the risk of service disruptions, reduced reliability, and a growing reliance on reactive and potentially costly repairs to maintain service delivery

- **Structural Underfunding Risk**
  In addition to the risks associated with the gradual funding ramp-up, Scenario 2 is based on achieving only 75% of the recommended funding requirement for tax funded and wastewater assets. This sustained structural underfunding increases the probability that asset conditions will decline over time, infrastructure backlog will grow, and service levels may be negatively impacted. Over the long term, this approach heightens financial and operational risk, as deferred renewal needs may compound and require more significant corrective investment in the future.

- **Missed Efficiency and Optimization Opportunities**
  Scenario 2 does not incorporate alternative or optimized lifecycle management strategies. Established mid-life interventions, such as asphalt overlays and trenchless sewer rehabilitation, can extend asset service life, smooth capital expenditures, and reduce total lifecycle costs. Continued reliance on conventional replacement-focused approaches increases the risk of higher long-term expenditures, reduced return on infrastructure investment, and missed opportunities to strategically optimize asset performance and financial sustainability.

4.2.3 Scenario 3: 50% Funding Target (15 and 20 Years)

This scenario assumes gradual tax and rate increases, stabilizing at 50% of recommended funding in 15 years for tax funded assets and 20 years for rate funded.

- Annual Tax Increase: 0.3%
- Annual Water Rate Increase: Not Applicable
- Annual Wastewater Rate Increase: 1.8%

While this scenario was modelled for consideration, the Township did not elect to move forward with this scenario.

Lifecycle Changes Required for Scenario 3

For all asset categories, no changes to lifecycle strategies are required in order to achieve Scenario 3. In future iterations of the AMP, it is recommended to more closely analyze changes to lifecycle management strategies to find long-term cost savings and efficiencies.

Affordability/Achievability of Scenario 3

Of the three scenarios analyzed, Scenario 3 is the least expensive option. Reaching 50% of full funding immediately would require an increase of 4% in tax revenue. Although this is reasonable or realistic to achieve in a shorter period, recommended implementation timeframe of 15 years was held. In achieving a 50% funded position, tax revenue would be increased gradually from $21.4 million to $22.3 million.

Water rates would not require an increase given the current funding position of 78%. For the purposes of the analysis for this scenario, the current funding level was held.

Wastewater rates require an increase of 1.8% annually over the 20 year time period, increasing revenue from $2.1 million to $3.0 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 10 years for Scenario 3 is indicated in the table below:

Categories	Available Capital Funding									
	2026	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Tax-Funded	$6.0m	$6.1m	$6.1m	$6.2m	$6.3m	$6.3m	$6.4m	$6.5m	$6.5m	$6.6m
Rate-Funded[6] (Water)	$986k	$986k	$986k	$986k	$986k	$986k	$986k	$986k	$986k	$986k
Rate-Funded (Wastewater)	$38k	$77k	$117k	$158k	$214k	$256k	$299k	$342k	$386k	$431k
Total	**$7.0m**	**$7.1m**	**$7.2m**	**$7.4m**	**$7.5m**	**$7.6m**	**$7.7m**	**$7.8m**	**$7.9m**	**$7.0m**

Table 9 Scenario 3 Available Capital Funding Over Next 10 Years

[6] The annual capital funding allocated to the water network is assumed to remain constant for this scenario. While this amount exceeds the 50% funding scenario, it is not anticipated that funding would be reduced; therefore, at a minimum, current funding levels are expected to be maintained.

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 Scenario 1

The Township of Clearview 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 Scenario 3

There are pros and cons associated with each scenario analyzed, and each benefit is counter-balanced with consequences. For Scenario 3, the following risks have been identified:

- **Increasing Infrastructure Backlog**
  While Scenario 3 limits the immediate financial impact on residents and businesses, the longer time period to reach targeted funding levels results in a prolonged period of sub-optimal lifecycle investment. This extended underinvestment constrains the Township's ability to implement timely renewals and strategic replacements, increasing the likelihood of accelerated asset deterioration, service disruptions, and a growing infrastructure backlog. Over time, this elevates the risk of unplanned and potentially costly corrective repairs to sustain service levels.

- **Structural Underfunding**
  In addition to the risks associated with a gradual funding ramp-up, Scenario 3 targets only 50% of the recommended funding requirement. This sustained and significant underfunding materially increases the probability that asset conditions will decline, service levels will be adversely affected, and long-term financial liabilities will grow. Deferred renewal needs may compound, resulting in more substantial and disruptive capital pressures in the future.

- **Reliance on Grant Funding**
  At a 50% funding level, the Township would become increasingly reliant on conditional grant funding to address capital shortfalls. While grants may offset tax and rate impacts in the short term, they represent an uncertain and non-recurring revenue source. Dependence on external funding heightens exposure to changes in provincial and federal policies, shifting program priorities, and competitive allocation processes, reducing the Township's control over long-term infrastructure planning.

- **Missed Efficiency and Optimization Opportunities**
  Scenario 3 does not incorporate alternative or optimized lifecycle management strategies. Established mid-life interventions, such as asphalt overlays and trenchless sewer rehabilitation, can extend asset service life and lower total lifecycle costs. Continued reliance on traditional replacement-focused approaches increases the risk of higher long-term expenditures, diminished return on infrastructure investment, and limited ability to maximize value from constrained capital resources.

Core Assets

5. Road Network

The Township's road network comprises the largest share of its infrastructure portfolio, with a current replacement cost of more than $261 million, distributed primarily attributed to the paved road assets. The Township also owns and manages other supporting infrastructure and capital assets, including sidewalks, traffic signals, and streetlights.

5.1 Inventory & Valuation

Table 10 summarizes the quantity and current replacement cost of the Township's various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Paved Roads	280.5	Kilometers	$253,808,000	Cost per Unit
Sidewalks	186	Assets (Pooled)	$6,111,000	CPI
Street Lighting	1,246	Assets	$523,000	User-Defined
Traffic Signals	13	Assets	$896,000	CPI
Unpaved Roads	238	Kilometers	Not Planned for Replacement	
TOTAL			**$261,339,000**	

Table 10 Detailed Asset Inventory: Road Network

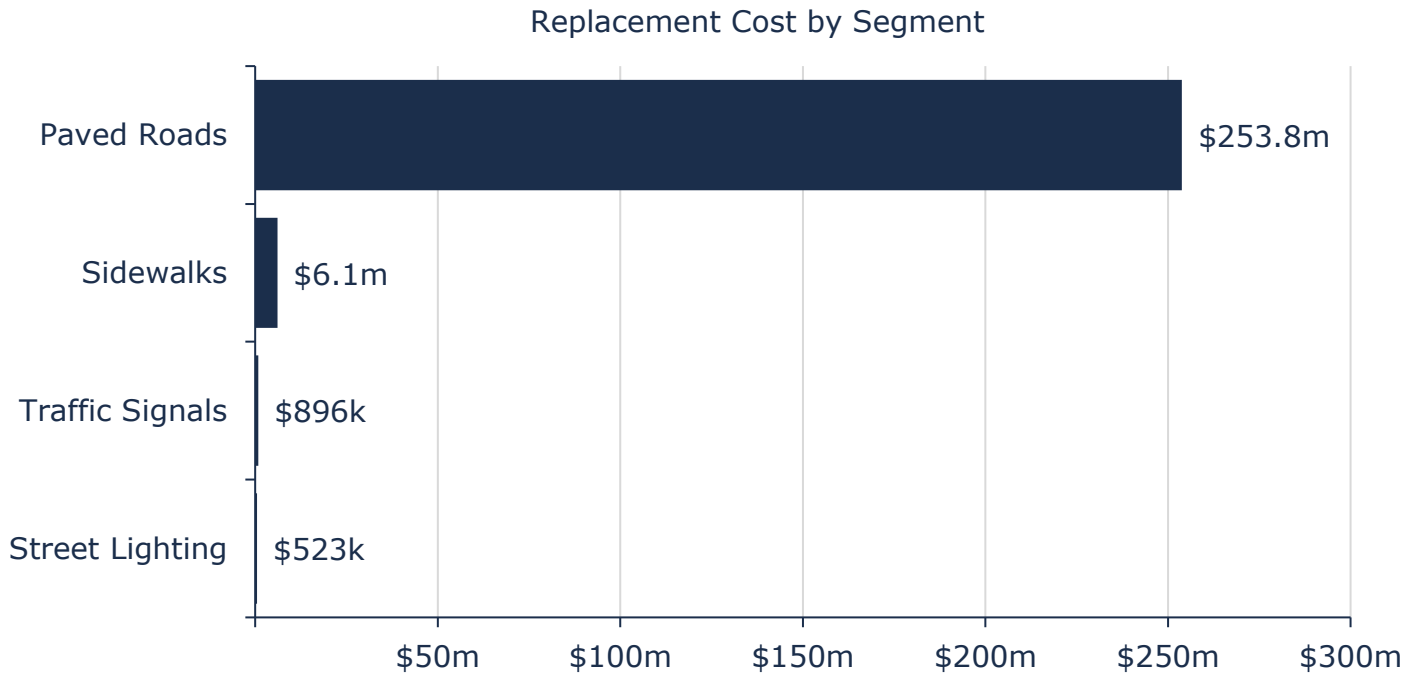

Figure 19 Portfolio Valuation: Road Network

5.2 Asset Condition

Figure 20 summarizes the replacement cost-weighted condition of the Township's road network. Based on completed condition assessments and inspection data, 78% of assets are in fair or better condition; the remaining 22% of assets are in poor to very poor condition. Condition assessments were available for 93% of the road network assets, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today.

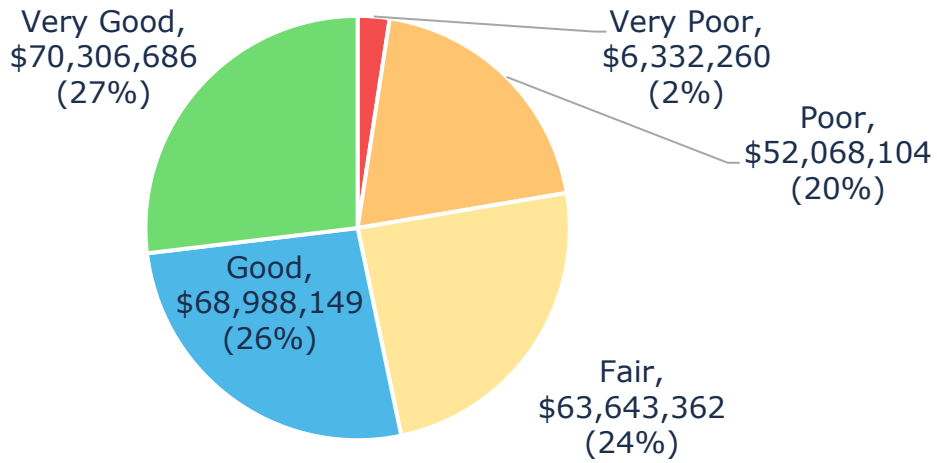

Figure 20 Asset Condition: Road Network Overall

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 20, the large majority of the Township's road network assets are in fair or better condition.

As illustrated in Figure 21, based on condition assessments, the majority of the Township's road network assets are in fair or better condition; however, 76% of traffic lights and just over 40% of sidewalks are in poor or worse condition.

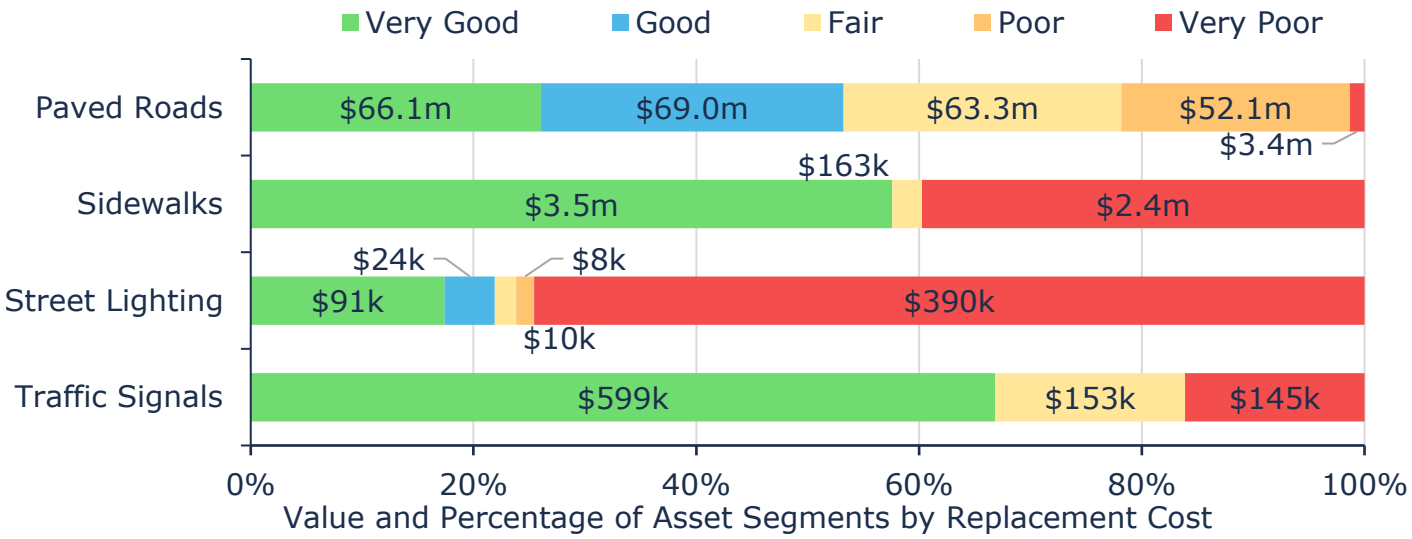

Figure 21 Asset Condition: Road Network by Segment

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 22 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.

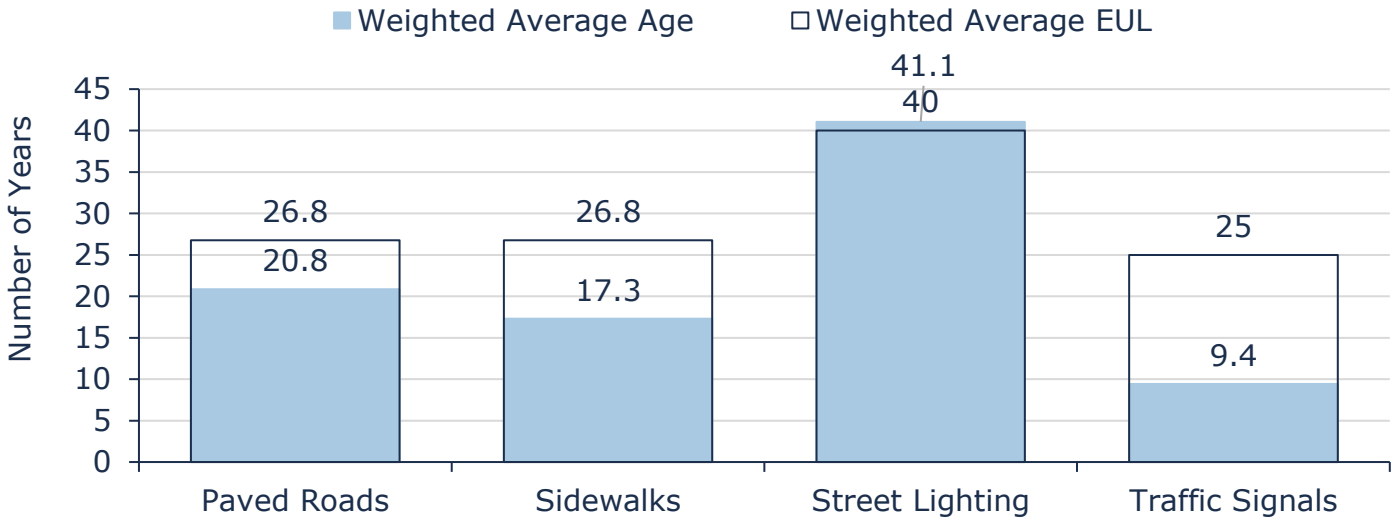

Figure 22 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that the paved roads are nearing their expected useful life, with an average age of 20.8 years against a design life of 26.8.

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 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 the paved road network. Instead of allowing the roads to deteriorate until replacement is required, strategic rehabilitation is expected to extend the service life of roads at a lower total cost.

Paved Roads – Urban Arterial/Collector/Local		
Event Name/Description	**Event Class**	**Event Trigger**
Micro Surfacing	Preventative Maintenance	70-79 Condition
Full Depth Removal + 50% Curb/Gutter Replacement	Maintenance	40-60 Condition
Mill + 1HMA (40mm)	Rehabilitation	60-69 Condition
Asset Replacement	End of Life Replacement	20-20 Condition

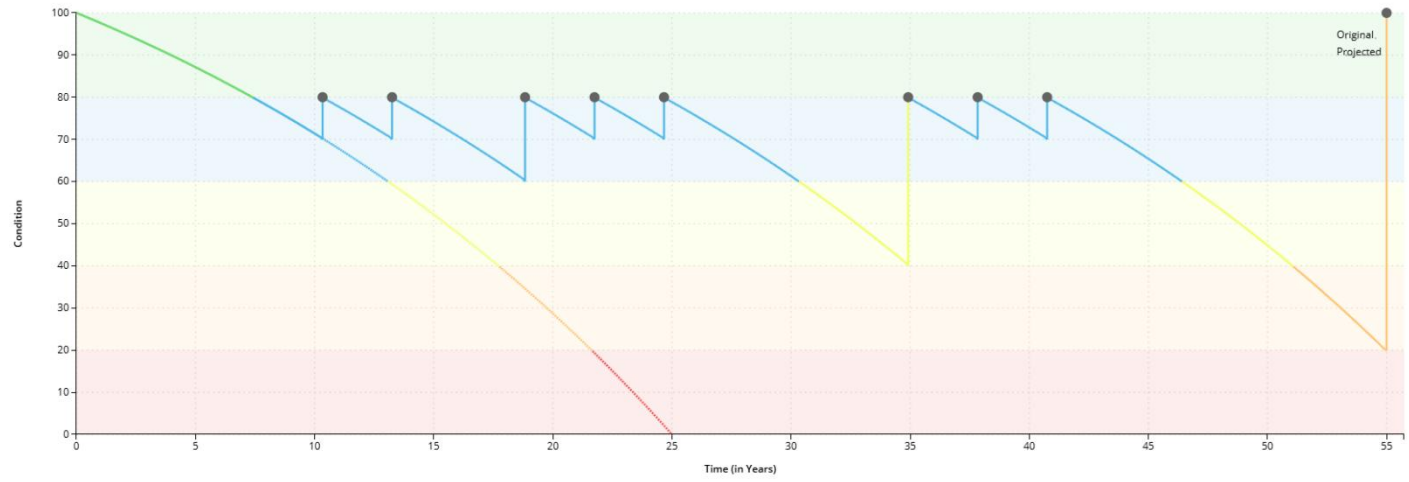

Table 11 Lifecycle Management Strategy: Road Network (Paved Roads -Urban)

Paved Roads – Semi-Urban/Rural (Arterial, Collector, Local)		
Event Name/Description	**Event Class**	**Event Trigger**
Micro Surfacing	Preventative Maintenance	70-79 Condition
Pulverize + Granular A+ 2 HMA (50mm) Should and Ditch Repairs	Maintenance	40-60 Condition
Asset Replacement	End of Life Replacement	20-20 Condition

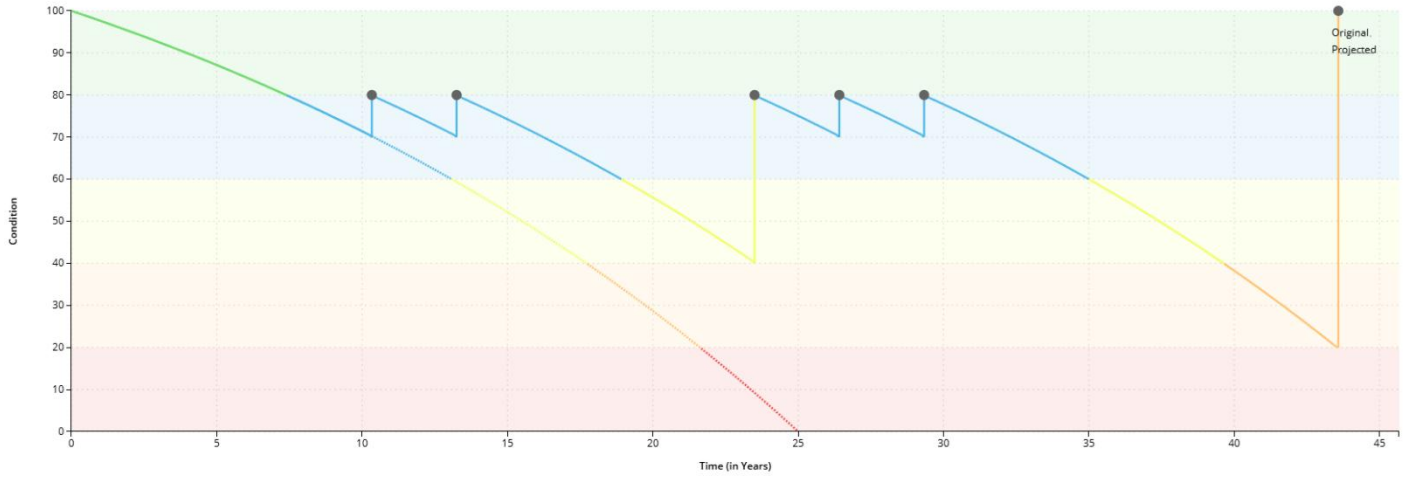

Table 12 Lifecycle Management Strategy: Road Network (Paved Roads – Semi Urban/Rural)

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

Activity Type	Description of Current Strategy
Inspection/ Maintenance	The Municipality conducts a road needs study every 4 years to assess the condition of the road network.
	Road patrols are conducted regularly to monitor hazards and conditions. Deficiencies are identified and prioritized.
	Seasonal maintenance activities include pothole repairs, grind out rutting, patching, sweeping, mowing and snow removal
Rehabilitation /Replacement	Preventative maintenance includes microsurfacing, pubvlerizing and granular replacement, shoulder and ditch repairs.
	Gravel Roads: Reshaping the crown and cross-section, dust suppressant and gravel replacement
	Reconstruction at end of life includes pulverize and pave or full surface and base reconstruction.

Table 13 Lifecycle Management Strategy: Road Network

5.5 Forecasted Long-Term Replacement Needs

Figure 23 illustrates the short-, medium-, and long-term rehabilitation and replacement needs of the Township's road network over a full lifecycle horizon to 2104. Average annual capital requirements are estimated at $8.0 million, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year by year.

The forecast identifies significant capital peaks, including a current backlog of approximately $4.9 million (primarily paved roads and sidewalks), a near-term spike of $85.6 million between 2025 and 2029. These projections support long-term financial planning by highlighting periods of elevated funding demand and the importance of proactive lifecycle management and reserve strategies

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

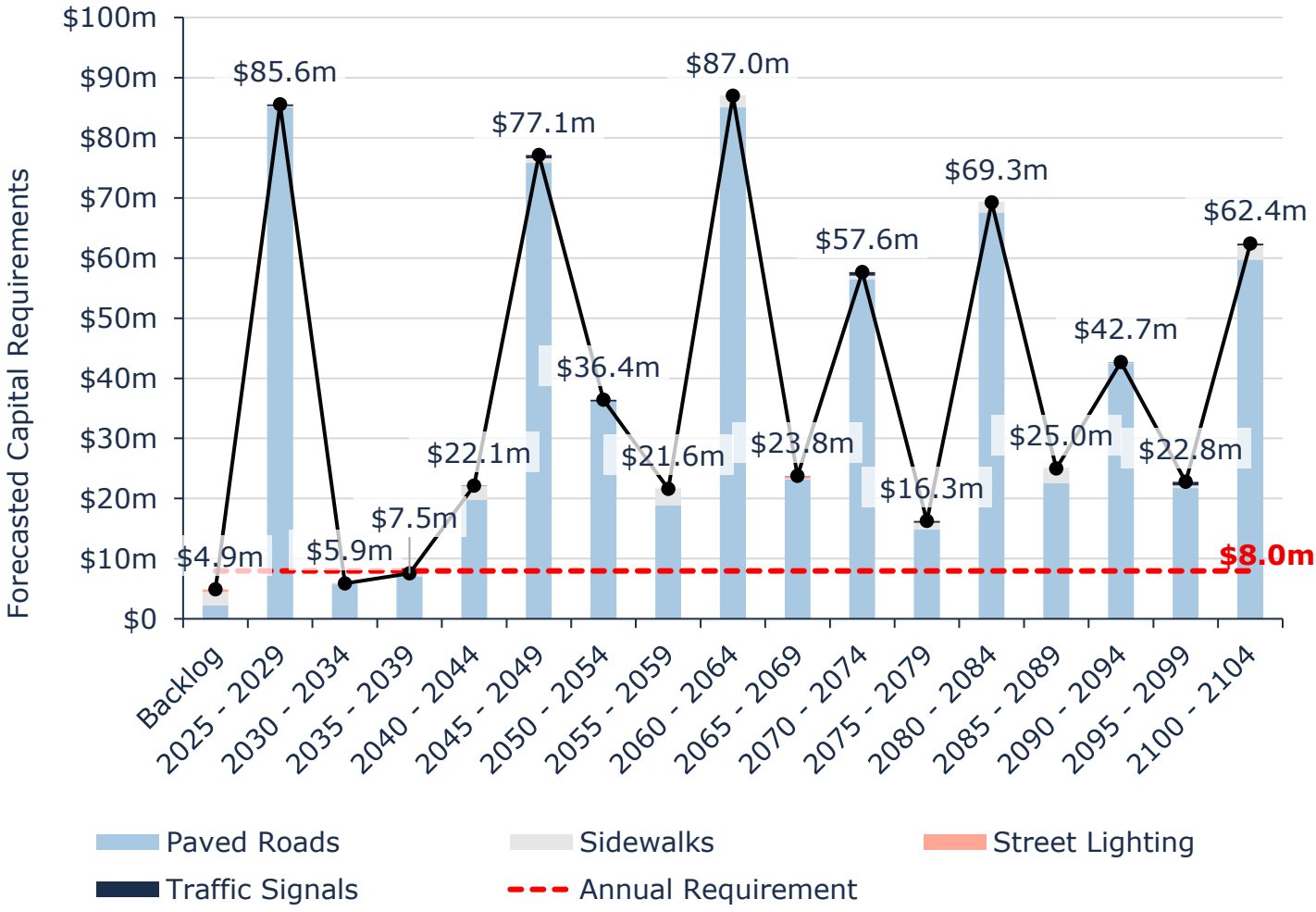

Figure 23 Forecasted Capital Replacement Needs: Road Network 2025-2104

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.

1 - 4 Very Low $36,023,983 (14%)	**5 - 7** Low $17,104,472 (7%)	**8 - 9** Moderate $15,360,595 (6%)	**10 - 14** High $100,409,136 (38%)	**15 - 25** Very High $92,440,375 (35%)

Figure 24 Risk Matrix: Road Network

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
Scope	Description, which may include maps of the road network in the municipality and its level of connectivity	The Township's road network spans a total of 529 km situated primarily within a rural setting, with areas of semi-urban and urban development. The road network also contains roadside appurtenances such as sidewalks, streetlights, and signs.
Quality	Description or images that illustrate the different levels of road class pavement condition	Every road segment receives a pavement condition index (PCI) rating (0-100). The rating incorporates pavement roughness measurements and surface distresses (type, quantity, severity). Ratings are categorized into

		5 general qualitative descriptors as detailed below: 0 to 29 – Very Poor 30 to 49 – Poor 50 to 69 – Fair 70 to 89 – Good 90 to 100 – Very Good

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

5.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
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)	0.87km/km^2[7]
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	1.0km/km^2
Quality	Average pavement condition index for paved roads in the Township	61% (Good)
	Average surface condition for unpaved roads in the Township (e.g. excellent, good, fair, poor)	17% (Very Poor
Affordability	Target Reinvestment Rate	3.05%
	Actual Reinvestment Rate	1.2%

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

[7] All roads assumed 2 lanes. Current calculations indicate that Clearview has 242km of collector roads and 287km of local 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.

5.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 16 Road Network PLOS Scenario Descriptions

5.8.2 PLOS Analysis Results

The analysis for the road network was run with a 75-year outlook. Using a longer time period and accounting for a full lifecycle of assets provides a better average. The current replacement cost of the road network is valued at $261.3 million

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	65.8%	55.8%	11.9	6.38	$7,959,000	3.0%	2.1%
75% Funded		45.9%		7.31	$5,967,000	2.3%	1.3%
50% Funded		35.6%		8.30	$3,978,000	1.5%	0.3%

Table 17 Road Network PLOS Scenario Analysis

Projected Condition Impacts

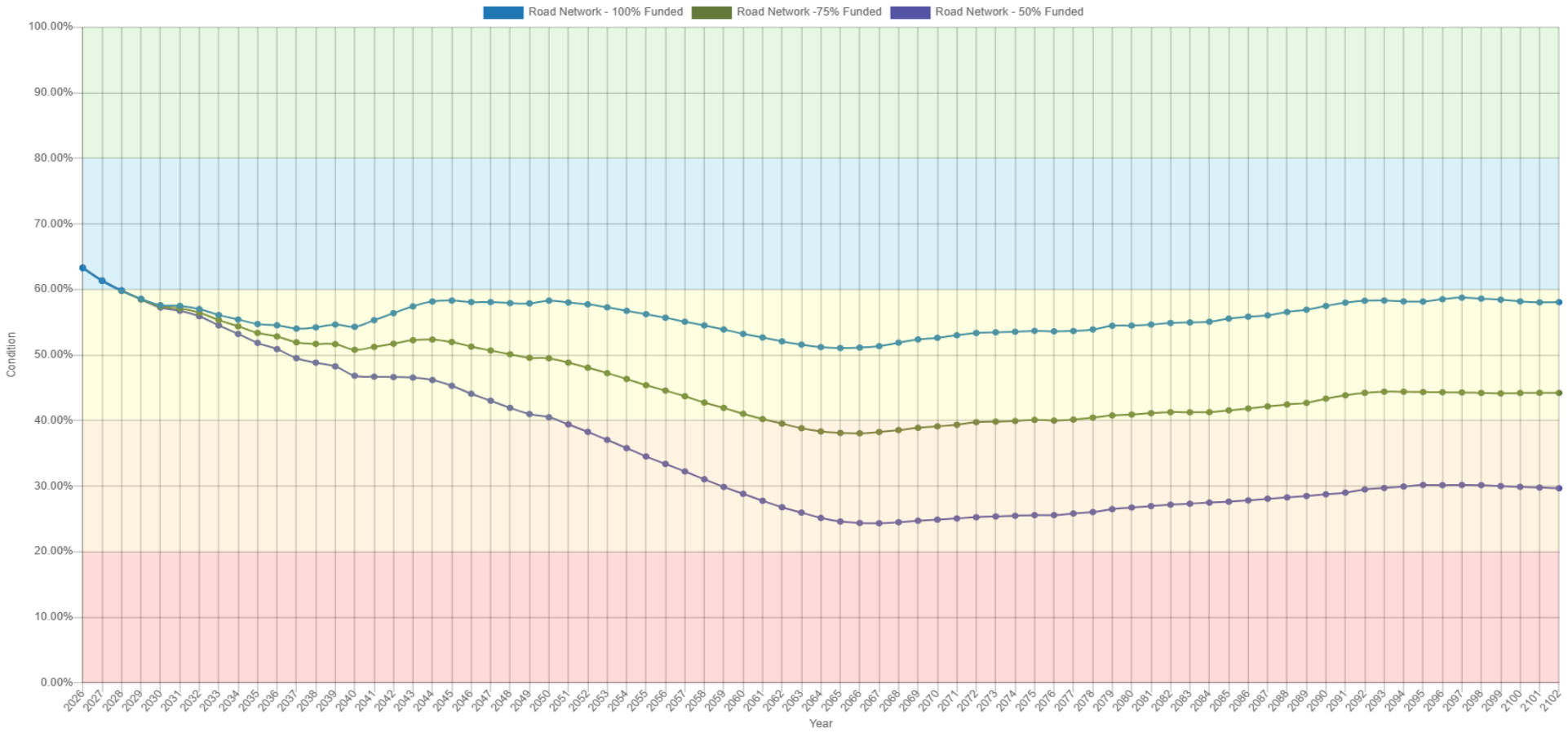

Figure 25 Road Network PLOS Scenario Condition Results

The figure shows projected road network condition under three funding scenarios (100%, 75%, and 50%). With full funding, condition remains relatively stable with minor fluctuations, supporting effective lifecycle management. At 75% funding, condition declines before modest stabilization, indicating growing asset pressure. Under 50% funding, condition deteriorates significantly with limited recovery, reflecting sustained underinvestment. Overall, the results highlight the importance of adequate funding to maintain asset condition and avoid long-term degradation.

Projected Risk Impacts

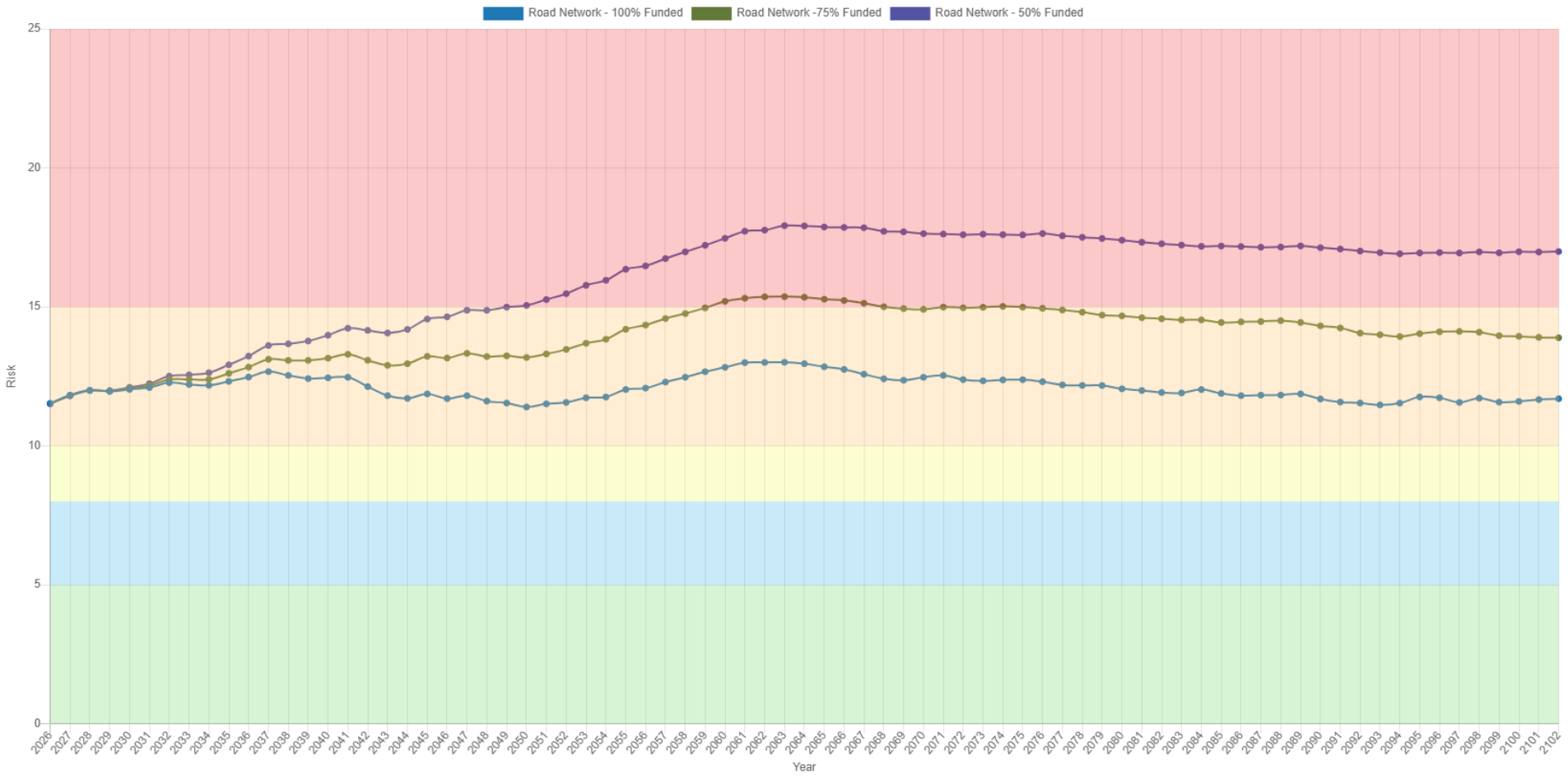

Figure 26 Road Network PLOS Scenario Risk Results

This figure illustrates projected road network risk under three funding scenarios. Under full funding, risk remains relatively stable with minor fluctuations, indicating effective management of asset performance. At 75% funding, risk increases into the mid-term before stabilizing, reflecting growing pressures on the network. Under 50% funding, risk rises significantly and remains elevated, indicating sustained underinvestment and increased likelihood of service disruptions. Overall, the results demonstrate that lower funding levels lead to higher and more persistent infrastructure risk over time.

5.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 road network if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Targeted Capital Spending	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**	**$8.0m**
Projected Capital Spending	$3.2m	$3.4m	$3.7m	$4.0m	$4.3m	$4.6m	$4.9m	$5.2m	$5.6m	$5.9m
Funding Deficit	$4.8m	$4.5m	$4.2m	$3.9m	$3.6m	$3.3m	$3.0m	$2.7m	$2.4m	$2.1m
Target Reinvestment Rate	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**
Projected Reinvestment Rate	1.2%	1.3%	1.4%	1.5%	1.6%	1.8%	1.9%	2.0%	2.1%	2.3%

Table 18 Road Network 10-Year PLOS Financial Projections

6. Bridges & Culverts

The Township's bridges and structural culverts asset category is comprised of 73 structures, with a current replacement value of $86 million.

6.1 Inventory & Valuation

Table 18 summarizes the quantity and current replacement cost of bridges and culverts that the Township owns and manages.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Box	37	Assets	$36,472,000	User-Defined
Multi Plate	12	Assets	$13,357,000	User-Defined
Rigid Frame	16	Assets	$24,279,000	User-Defined
Slab on Girder	7	Assets	$10,740,000	User-Defined
Truss	1	Assets	$1,394,000	User-Defined
TOTAL			**$86,242,000**	

Table 19 Detailed Asset Inventory: Bridges & Culverts

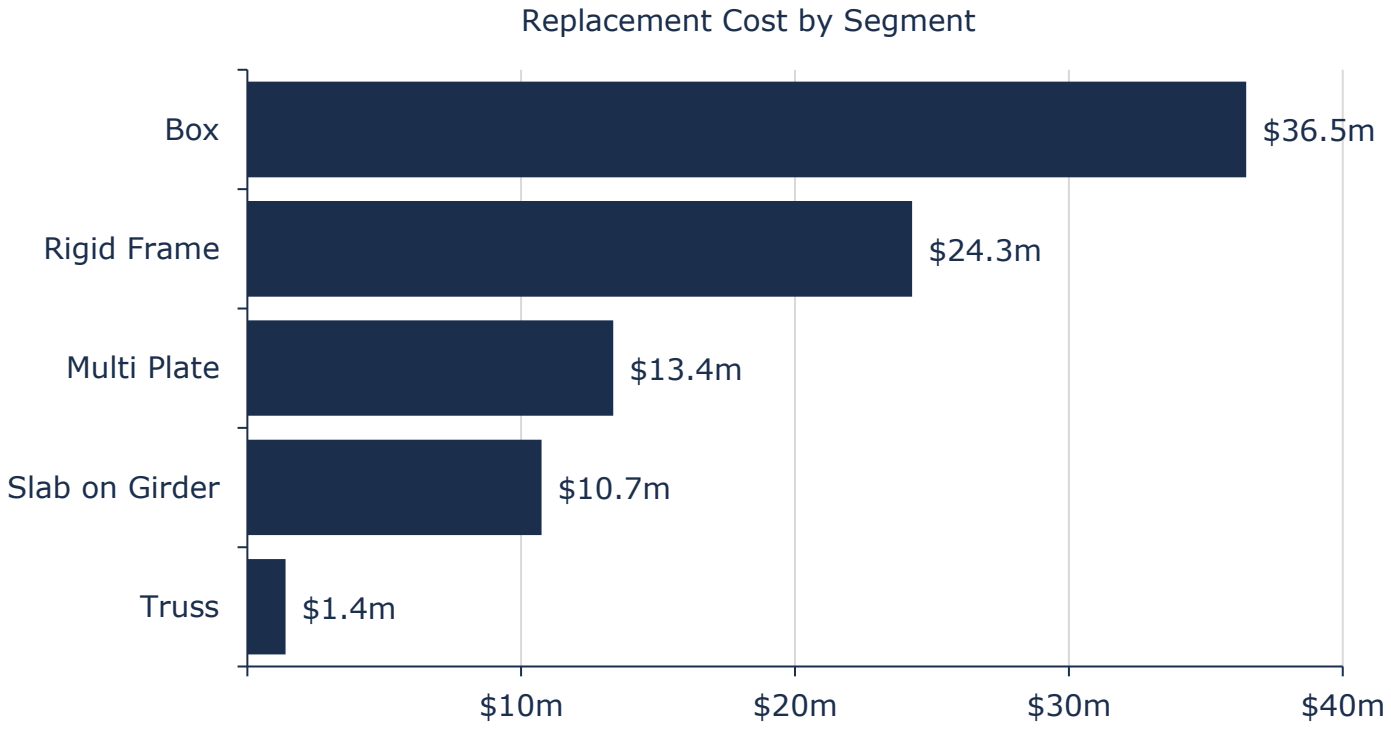

Figure 27 Portfolio Valuation: Bridges & Culverts

6.2 Asset Condition

Figure 28 summarizes the replacement cost-weighted condition of the Township's bridges and culverts. Based on the Township's recent assessments, 92% of bridges and culverts are in fair condition and 8% in poor 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. Assets in poor or worse condition may require replacement in the immediate or short term.

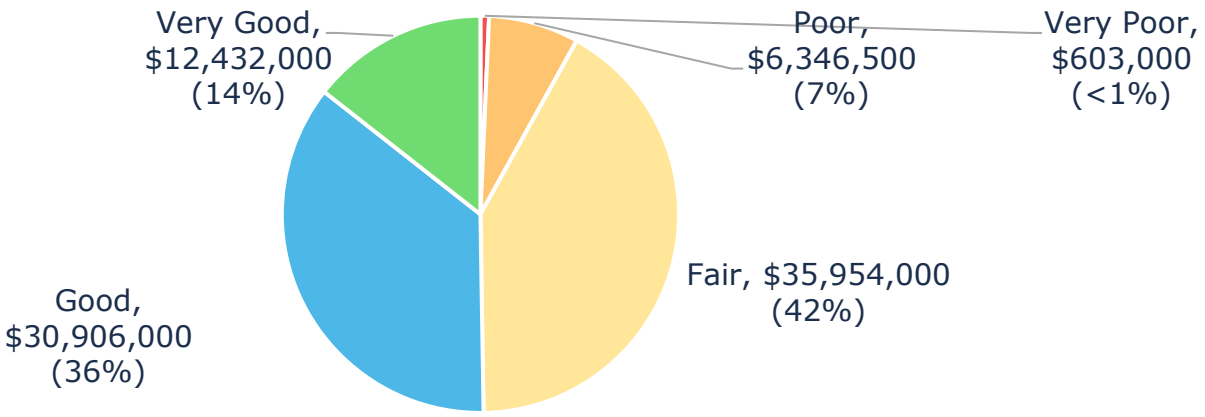

Figure 28 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 29, based on in-field condition assessments, 92% of assets, with a value of $79.3 million, were assessed as being in fair or better condition. The remaining 8%, with a value of $6.95 million, were assessed as being in poor or worse condition. Bridges and Culverts 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.

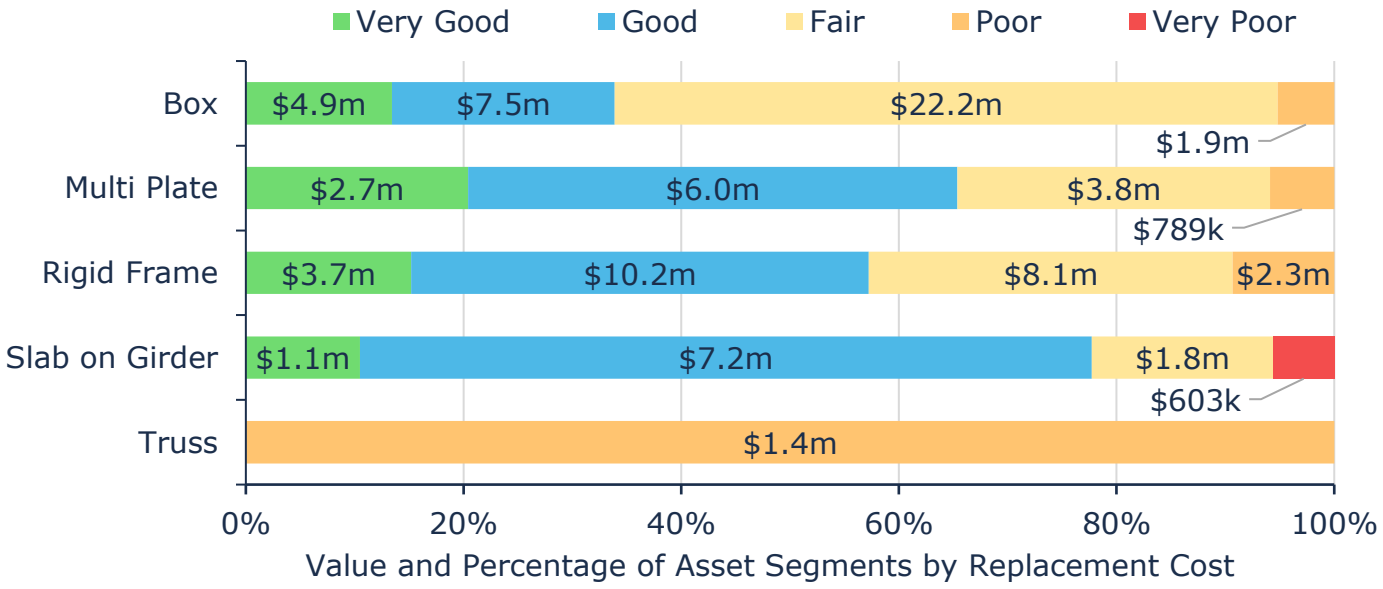

Figure 29 Asset Condition: Bridges & Culverts by Segment

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 30 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.

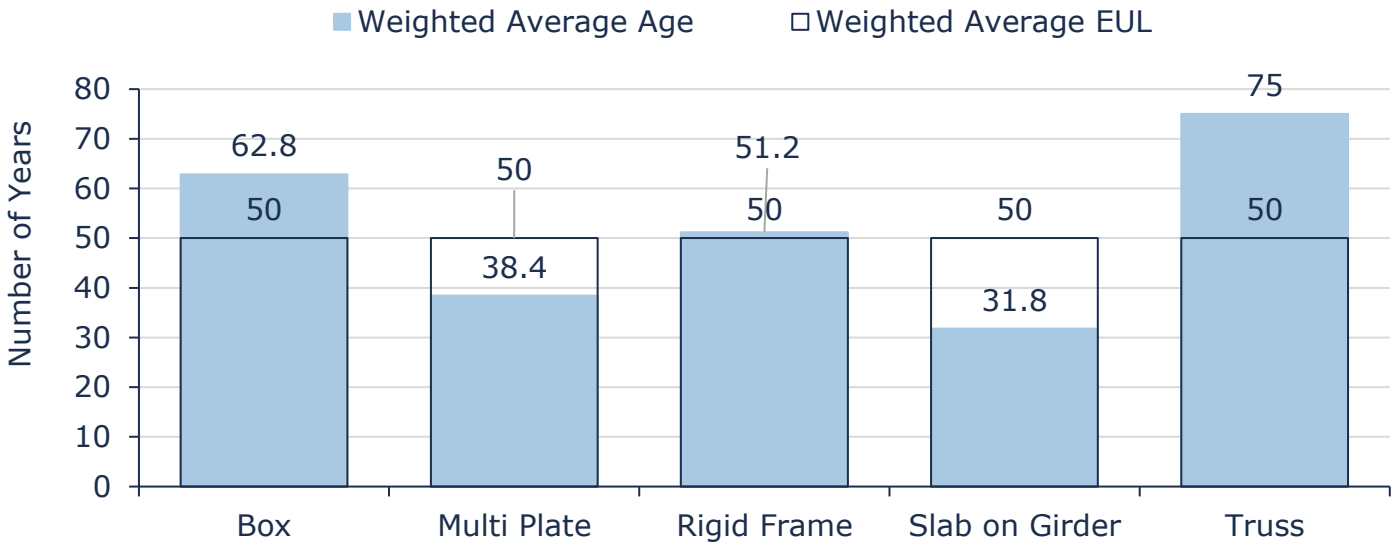

Figure 30 Estimated Useful Life vs. Asset Age: Bridges & Culverts

Age analysis reveals that on average, bridges are nearing or have surpassed their estimated useful life, with an average age of 51.8 years against an average EUL of 50 years. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

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/ Inspection	Minor maintenance such as inspections, monitoring.
	Major maintenance such as repairs to cracked or spalled concrete, damaged expansion joints, bent or damaged railings, etc.
	OSIM inspections, conducted on a 2 year cycle, reports include a list of recommended maintenance activities that are considered and completed according to cost and urgency.
Rehabilitation / Replacement	OSIM inspection reports include a capital needs list identifying recommended rehabilitation and replacement activities with estimated costs.
	Rehabilitation work such as reinforcement of structural elements, deck replacements, etc.

Table 20 Lifecycle Management Strategy: Bridges & Culverts

6.5 Forecasted Long-Term Replacement Needs

Figure 31 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 2074 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 $1.7 million. 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.

Capital needs are forecasted to rise considerably over the next 10-15 year period, peaking at $35.4 million between 2035 and 2039. 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.

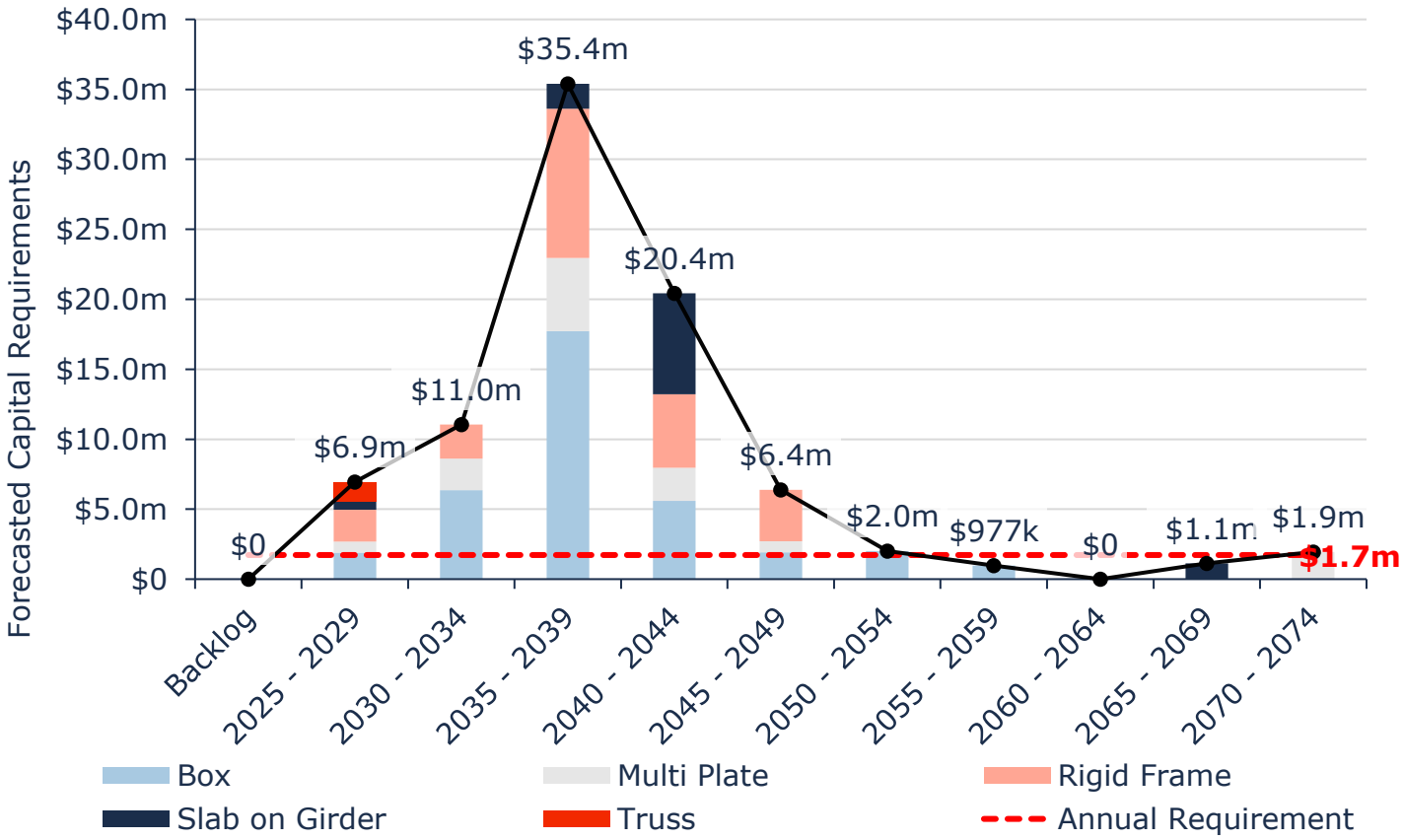

Figure 31 Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2074

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, limited to but including condition and replacement cost. 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	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	Low	Moderate	High	Very High
$13,307,500	$28,485,000	$24,290,000	$20,159,000	-
(15%)	(33%)	(28%)	(23%)	(0%)

Figure 32 Risk Matrix: Bridges & Culverts

An asset's criticality rating, determined by the nature and magnitude of the consequences of its potential failure should be used to prioritize projects, particularly lifecycle management strategies. Using risk in conjunction with levels of service, and the recommended workplans in OSIM inspections, can assist in optimizing limited funds.

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
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Traffic volumes on bridges and structural culverts are generally low; however, select rural structures are subject to occasional heavy loading from construction vehicles, agricultural equipment, and other large machinery.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	Good (BCI 70-100): Generally considered to be in good-excellent condition, and repair or rehabilitation work is not usually required within the next 5 years. Routine maintenance, such as sweeping, cleaning, and washing are still recommended. Fair (BCI 50-70): Generally considered to be in good-fair condition. Repair or rehabilitation work recommended is ideally

	scheduled to be completed within the next 5 years. Poor (BCI Less than 50): Generally considered poor with lower numbers representing structures nearing the end of their service life. The repair or rehabilitation of these structures is ideally best scheduled to be completed within approximately 1 year. However, if it is determined that the replacement of the structure would be a more viable, the structure can be identified for continued monitoring and scheduled for replacement within the short-term.

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

6.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Scope	% of bridges in the Township with loading or dimensional restrictions	22.1%
Quality	Average bridge condition index value for bridges in the Township	69.4% (Good)
	Average bridge condition index value for structural culverts in the Township	67.8% (Good)
Affordability	Target Reinvestment Rate	2.0%
	Actual Reinvestment Rate	0.9%

Table 22 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 tables and graphs below explain the proposed levels of service scenarios that were analyzed for bridges and culverts. Further PLOS analysis at the portfolio level can be found in section *4. Proposed Levels of Service Analysis.*

6.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 23 Bridges & Culverts PLOS Scenario Descriptions

6.8.2 PLOS Analysis Results

The analysis for the bridge and culvert assets was run with a 75-year outlook. Using a longer period and accounting for a full lifecycle of assets provides a better average. This table compares projected condition, risk, and funding needs under three funding scenarios. The current replacement cost of the bridges and culverts portfolio is valued at $86.2 million.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	65.6%	61.3%	8.59	7.5	$1,725,000	2.0%	2.1%
75% Funded		49%		9.2	$1,294,000	1.5%	1.3%
50% Funded		36.9%		10.7	$863,000	1.0%	0.3%

Table 24 Bridges & Culverts PLOS Scenario Analysis

Projected Condition Impacts

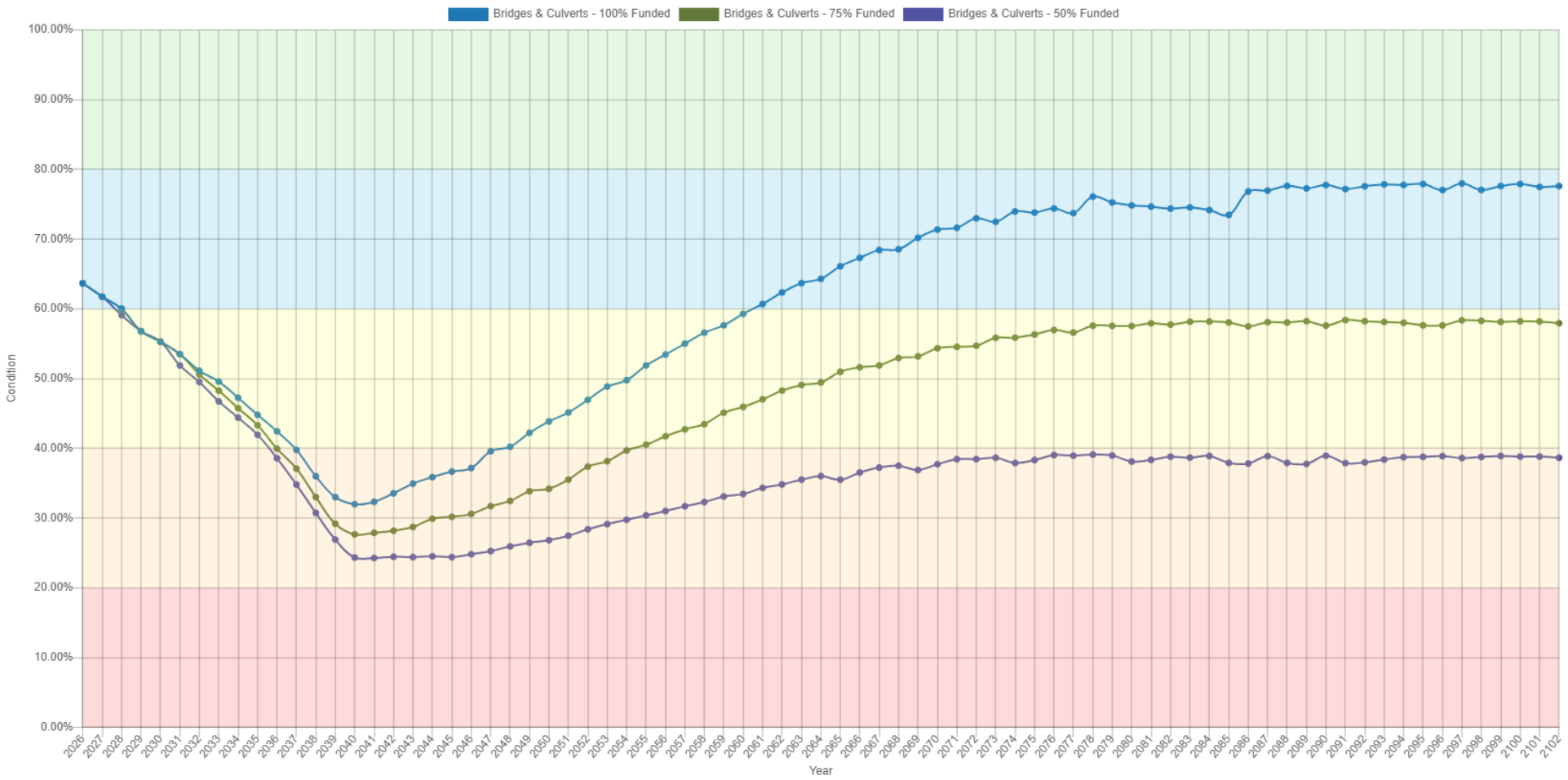

Figure 33 Bridges & Culverts PLOS Scenario Condition Results

Under each scenario, condition initially declines over the next 10-15 years as assets reach end of life. With funding in place and schedule renewals take place, condition then trends upward and stabilize in the good range. Partial funding (75%) results in lower overall condition levels, generally remaining in the fair range, indicating increasing deferred maintenance and reduced resilience. Under 50% funding, conditions remain persistently poor with limited recovery following interventions.

Projected Risk Impacts

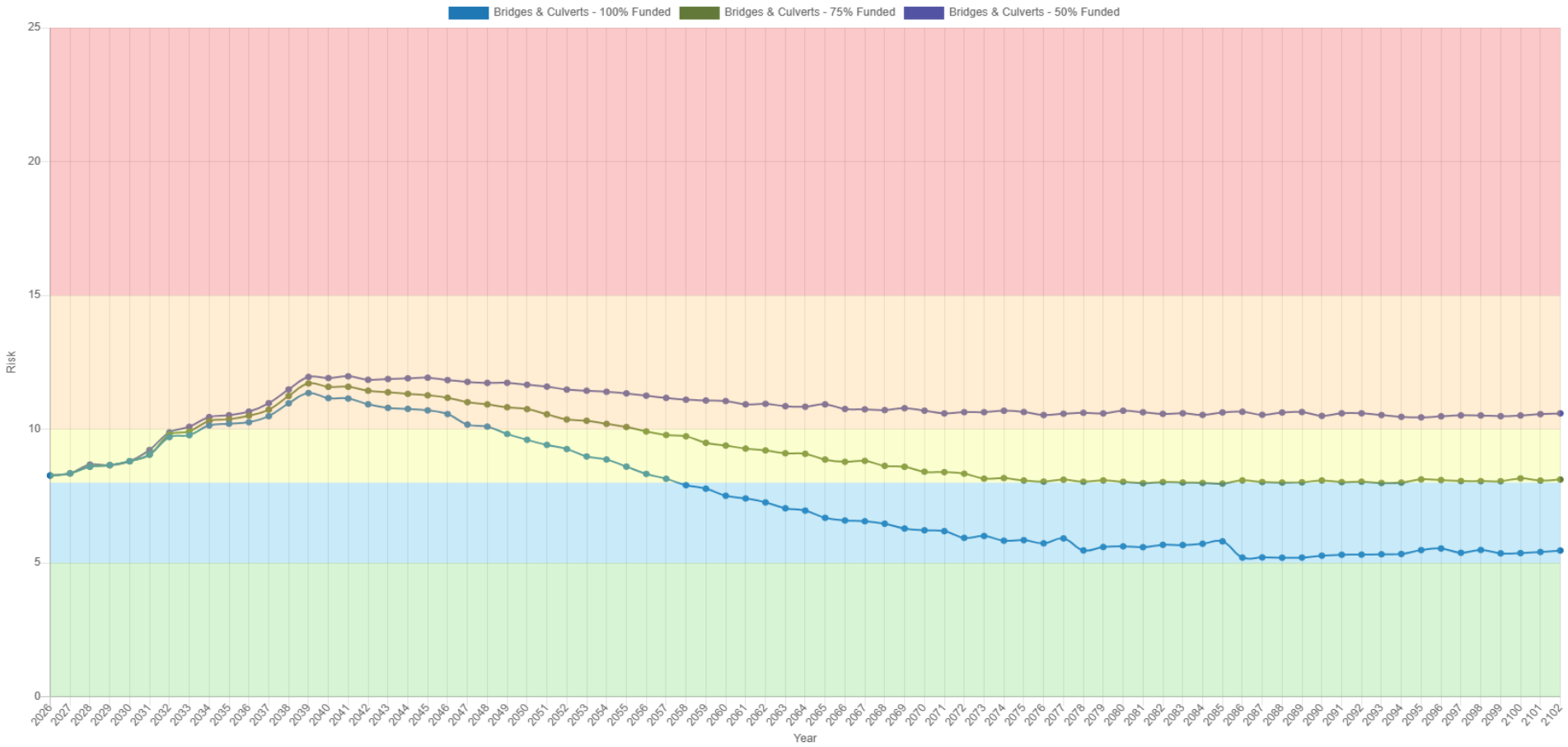

Figure 34 Bridges & Culverts PLOS Risk Results

The graph shows that funding levels have a direct and sustained impact on bridge and culvert risk. Under 100% funding, risk gradually declines over time and stabilizes at a lower, more manageable level, demonstrating the effectiveness of timely renewal and rehabilitation. With 75% funding, risk remains slightly elevated indicating increasing residual and deferred risk. Under 50% funding, risk remain consistently moderate across the planning horizon with little long-term improvement. Overall, the analysis confirms that full lifecycle funding is necessary to materially reduce risk and maintain a higher service level.

6.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis* the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 bridges and culverts if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
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	$804k	$858k	$913k	$969k	$1.0m	$1.1m	$1.1m	$1.2m	$1.3m	$1.3m
Funding Deficit	$921k	$867k	$812k	$756k	$699k	$640k	$580k	$520k	$457k	$394k
Target Reinvestment Rate	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**
Projected Reinvestment Rate	0.9%	1.0%	1.1%	1.1%	1.2%	1.3%	1.3%	1.4%	1.5%	1.5%

Table 25 Bridges & Culverts 10-Year PLOS Financial Projections

7. Water Network

The Township is responsible for overseeing the Township's water network with a total current replacement cost of approximately $114.9 million.

7.1 Inventory & Valuation

Table 25 summarizes the quantity and current replacement cost of the Township's various water network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Equipment	14	Assets	$275,000	CPI
Hydrants	463	Assets	$6,482,000	Cost per Unit
Reservoirs	9	Assets	$7,859,000	CPI
Service Connections	151	Assets	$1,036,000	Cost per Unit
Valves	660	Assets	$2,891,000	Cost per Unit
Water Facilities	108	Assets	$8,996,000	User-Defined
Water Meters	41	Assets	$1,170,000	CPI
Watermains	90,804	Meters	$82,270,000	Cost per Unit
Wells	26	Assets	$3,885,000	CPI
TOTAL			**$114,864,000**	

Table 26 Detailed Asset Inventory: Water Network

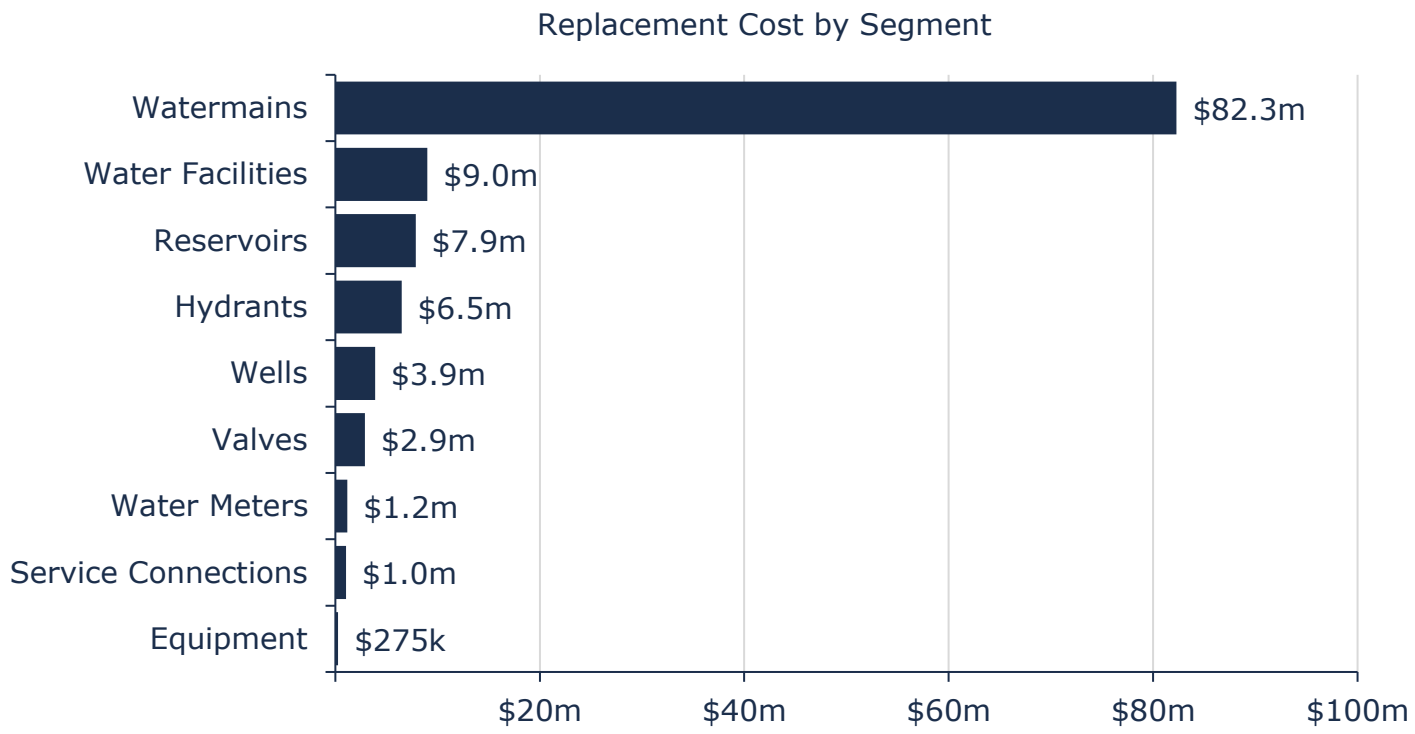

Figure 35 Portfolio Valuation: Water Network

7.2 Asset Condition

Figure 36 summarizes the replacement cost-weighed condition of the Township's water network. Based on inspection data and asset age, 79% of assets are in fair or better condition, while 21% are in poor to very poor condition. Condition data was available for all assets and projected to the current year.

Assets in poor condition may require near-term replacement, while fair condition assets should be monitored for future rehabilitation. Overall, the water network is predominantly in fair or better condition.

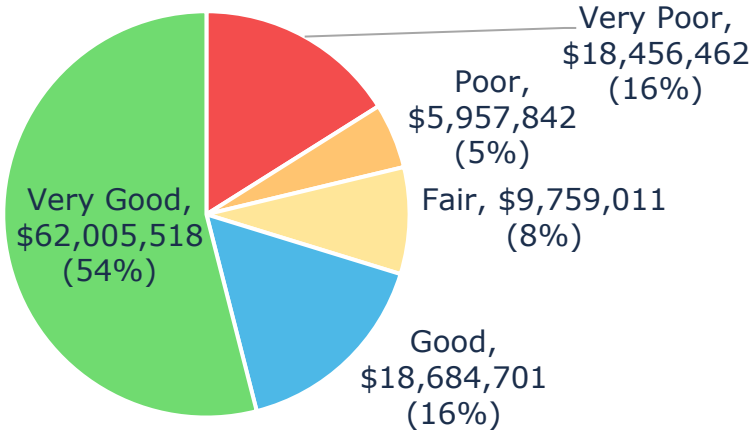

Figure 36 Asset Condition: Water Network Overall

As illustrated in Figure 37, based on assessed conditions, 54% of the Township's water infrastructure across all segments is considered to be in very good condition and overall 79% of water assets are in fair or better condition. Assets in poor or worse condition are contained primarily within the wells and hydrants segments. This is likely reflective of age versus actual performance.

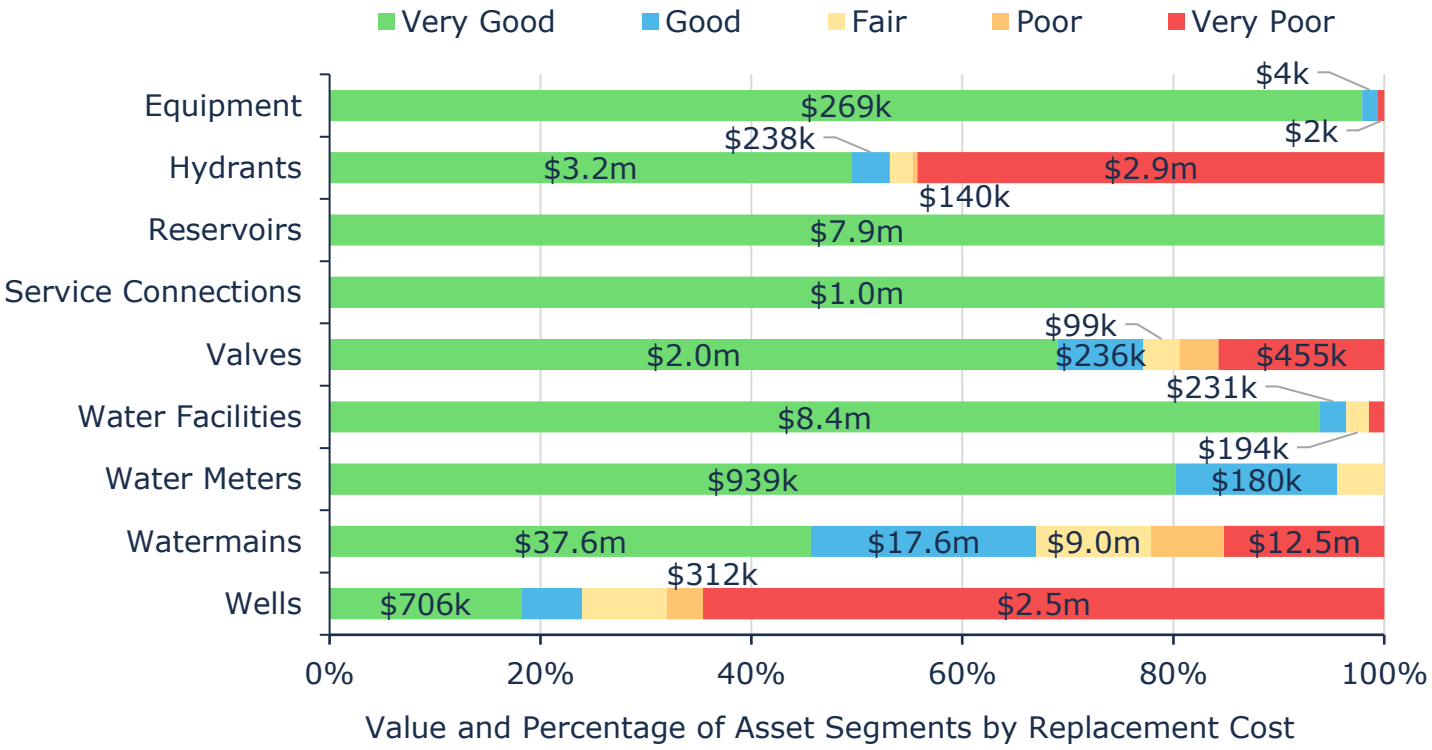

Figure 37 Asset Condition: Water Network by Segment

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 long-term replacement spikes.

Figure 38 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.

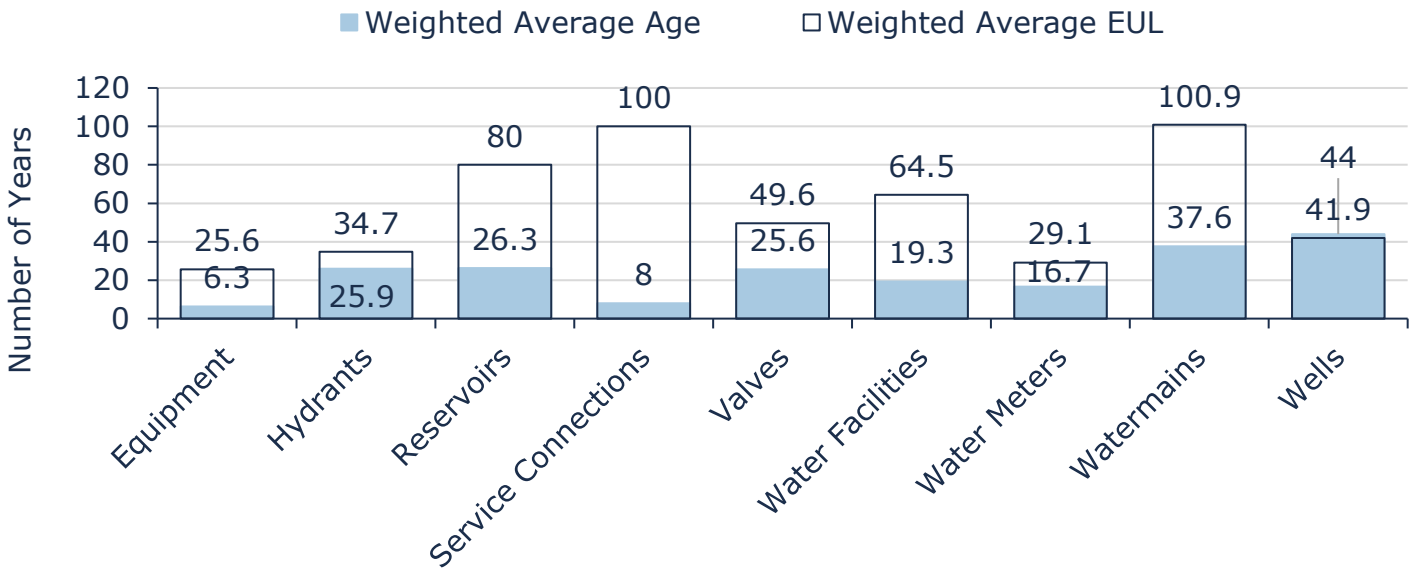

Figure 38 Estimated Useful Life vs. Asset Age: Water Network

Figure 38 compares the weighted average age of water network assets to their estimated useful life. Most asset classes have remaining service life, though hydrants and wells indicate higher relative age and may require closer monitoring and proactive lifecycle planning to mitigate future renewal pressures.

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/ Inspection	Condition assessments are conducted at least every five years, with increased frequency as asset condition deteriorates.
	Ministry of the Environment and Climate Change (MOECC) inspection, testing, and monitoring reports are conducted as required.
	Break repairs (spot repairs) for mains and small section repairs for individual services are conducted as required.
Rehabilitation/ Replacement	Lining and rehabilitation are identified strategies for ductile iron and PVC mains showing deterioration, though replacement is the primary long-term strategy.
	Replacement of mains (specifically targeting higher risk material) and individual services are prioritized.

Table 27 Lifecycle Management Strategy: Water Network

7.5 Forecasted Long-Term Replacement Needs

Figure 39 illustrates the short-, medium-, and long-term rehabilitation and replacement needs of the Township's water network over an 80 year horizon to 2104. Average annual capital requirements are estimated at $1.7 million, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year to year.

Capital needs throughout the period, including an estimated $10.3 million backlog, primarily related to water mains and hydrants. A downward trend is over the next 15 years and then a steady increase is forecasted, with a peak over the next 25 year period of $10.2 million. These projections are based on replacement costs, asset age, and available condition data, and are intended to support long-term, portfolio-level financial planning.

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

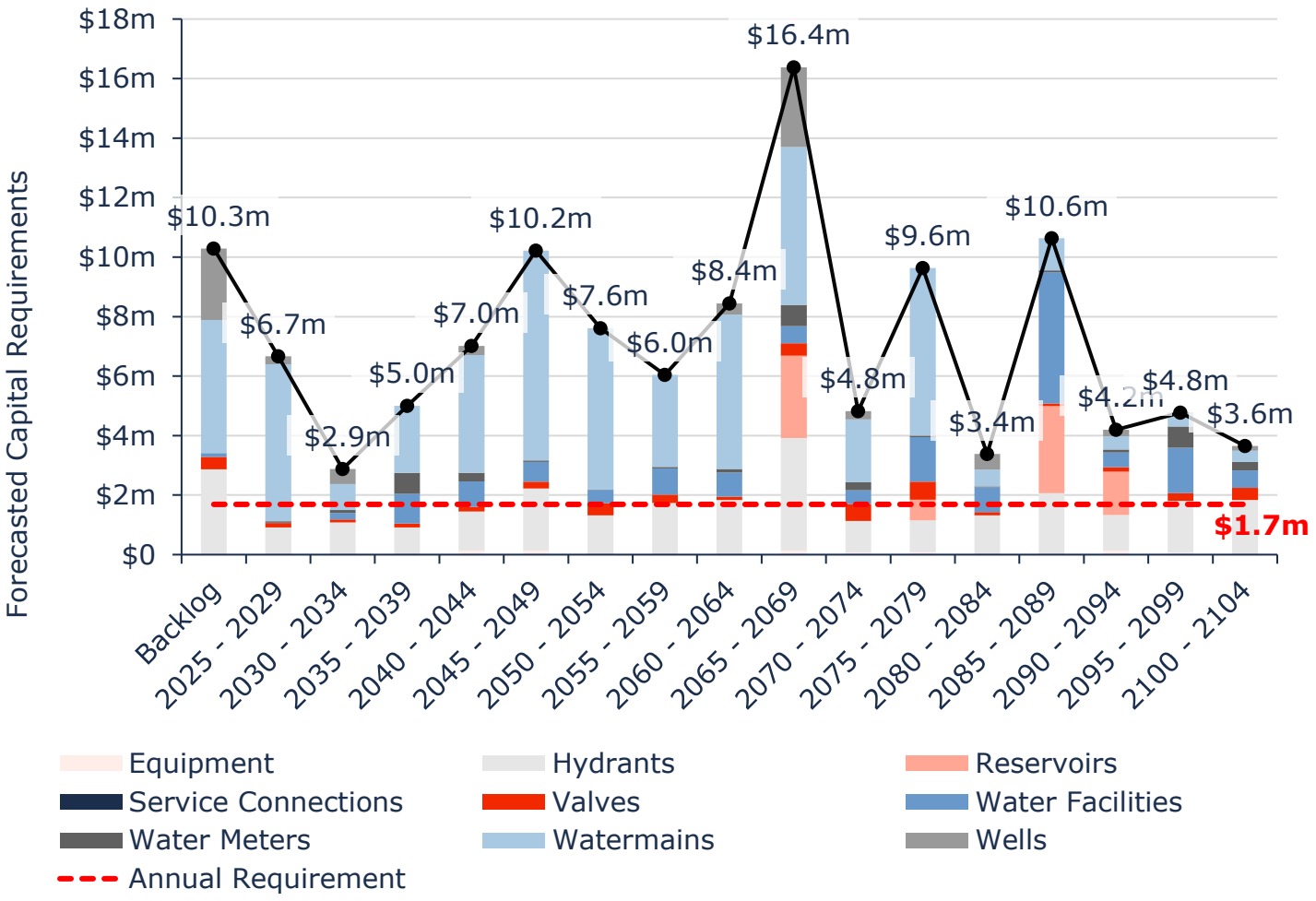

Figure 39 Forecasted Capital Replacement Needs: Water Network 2025-2104

7.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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	**5 - 7**	**8 - 9**	**10 - 14**	**15 - 25**
Very Low	Low	Moderate	High	Very High
$75,917,502	$19,869,411	$10,992,530	$2,290,740	$5,793,350
(66%)	(17%)	(10%)	(2%)	(5%)

Figure 40 Risk Matrix: Water Network

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
Scope	Description, which may include maps of the user groups or areas of the municipality that are connected to the municipal water system	The water distribution system consists of approximately 133 km of pipe. The system currently has 8 pump stations in addition to the Stayner Reservoir and New Lowell TNT Booster and Reservoir.
	Description, which may include maps of the user groups or areas of the municipality that have fire flow	There are 3302 water services. Of those services, 91.7% are considered to have fire flow. 4.1% are considered to have minimal fire flow.
Reliability	Description of boil water advisories and service interruptions	There is a water emergency and contingency plan that is not publicly available on the website. In circumstances where boil water advisories are posted, information can found on

Service Attribute	Qualitative Description	Current LOS
		the "Emergency Alerts" page in addition to a banner that is posted on the home page.

Table 28 O. Reg. 588/17 Community Levels of Service: Water Network

7.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Scope	% of properties connected to the municipal water system	100%[8]
	% of properties where fire flow is available	91.7%[9]
Reliability	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	0
Affordability	Target Reinvestment Rate	1.47%
	Actual Reinvestment Rate	0.86%

Table 29 O. Reg. 588/17 Technical Levels of Service: Water Network

[8] In areas where municipal water is available, 100% of properties are connected.
[9] In areas where municipal water is available, 91.7% are considered to have fire flow, and 4.1% are considered to have minimal fire flow.

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 and graphs below explain the proposed levels of service scenarios that were analyzed for the water network. Further PLOS analysis at the portfolio level can be found in section *4. Proposed Levels of Service Analysis.*

With the water network currently funded at 78% of the annual requirement, only two scenarios were modelled for the analysis.

7.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Rate Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual rate increases, stabilizing at 100% funding in 5 years.	2.0%
Scenario 2: 80% Funding Target	This scenario assumes gradual rate increases, stabilizing at 80% funding in 5 years.	0.2%

Table 30 Water Network PLOS Scenario Descriptions

7.8.2 PLOS Analysis Results

The analysis for the water network assets was run with a 75-year outlook. Using a longer period and accounting for a full lifecycle of assets provides a better average. This table compares projected condition, risk, and funding needs under three funding scenarios. The current replacement cost of the water network portfolio is valued at $114.9 million

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Rate Increase
100% Funded	80.8%	77.43%	5.76	6.86	$1,689,000	1.5%	2.0%
80% Funded		77.42%		6.86	$1,351,000	1.2%	0.2%

Table 31 Water Network PLOS Scenario Analysis

Projected Condition Impacts

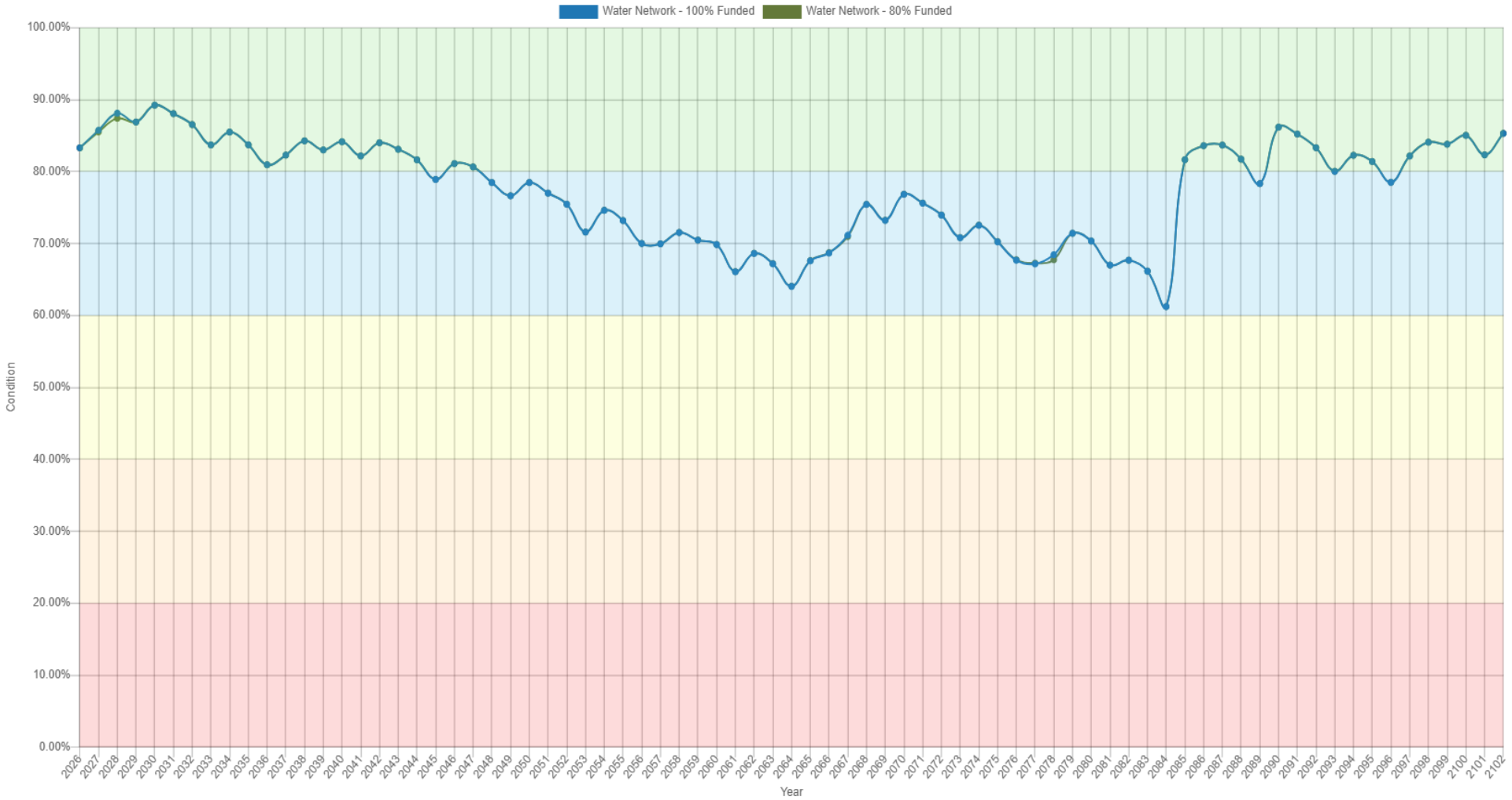

Figure 41 Water Network PLOS Scenario Condition Results

Under both funding scenarios, condition slightly decreases as assets age. Funding levels, allow for timely intervention and support a long term average condition of 77% projected. This demonstrates that sustained investment can offset deterioration and support long-term service levels at a high level.

Projected Risk Impacts

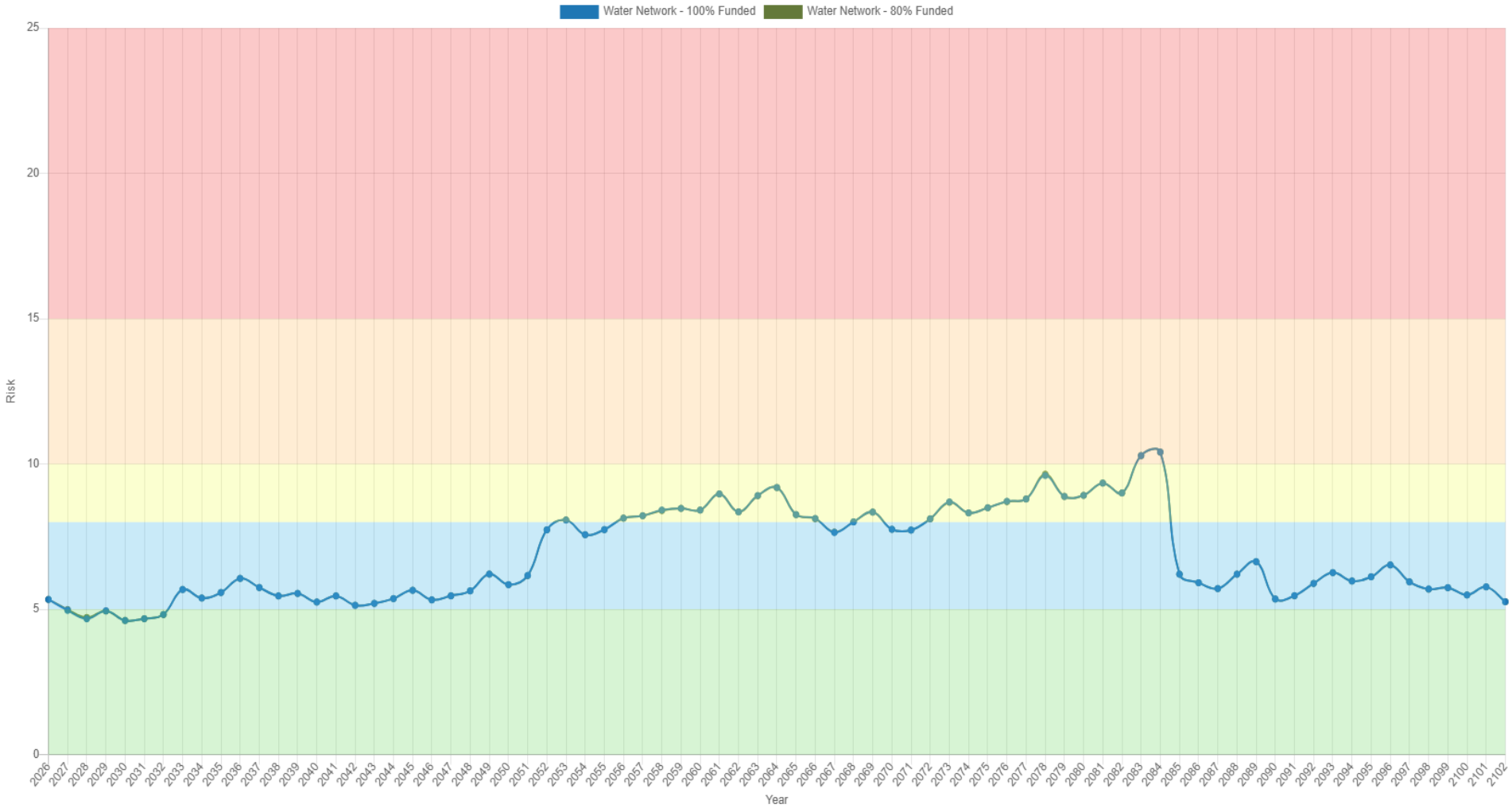

Figure 42 Water Network PLOS Scenario Risk Results

Under both 100% and 80% funding scenarios, risk remains relatively low with a slight increase into the moderate range and then a decrease into the low to lower range and trending downward over the long term, indicating effective risk mitigation through timely renewal and maintenance.

7.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 water network if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
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	$986k	$1.1m	$1.1m	$1.2m	$1.3m	$1.7m	$1.7m	$1.7m	$1.7m	$1.7m
Funding Deficit	$703k	$629k	$554k	$477k	$398k	-	-	-	-	-
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	0.9%	0.9%	1.0%	1.1%	1.1%	1.5%	1.5%	1.5%	1.5%	1.5%

Table 32 Water Network 10-Year PLOS Financial Projections

8. Wastewater Network

The wastewater network provides the essential service of wastewater collection, disposal, and treatment for the community, and has a current replacement value of $111.5 million.

8.1 Inventory & Valuation

Table 32 summarizes the quantity and current replacement cost of the Township's various wastewater network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Chambers & Valves	15	Assets	$527,000	CPI
Equipment	2	Assets	$25,000	CPI
Forcemains	16,027	Meters	$11,972,000	Cost per Unit
Gravity Mains	46,457	Meters	$31,806,000	Cost per Unit
Manholes	599	Assets	$9,712,000	Cost per Unit
Ponds & Lagoons	4	Assets	$2,888,000	CPI
Service Connections	2,831	Assets	$23,753,000	Cost per Unit
Wastewater Facilities	500	Assets	$30,853,000	CPI
TOTAL			**$111,537,000**	

Table 33 Detailed Asset Inventory: Wastewater Network

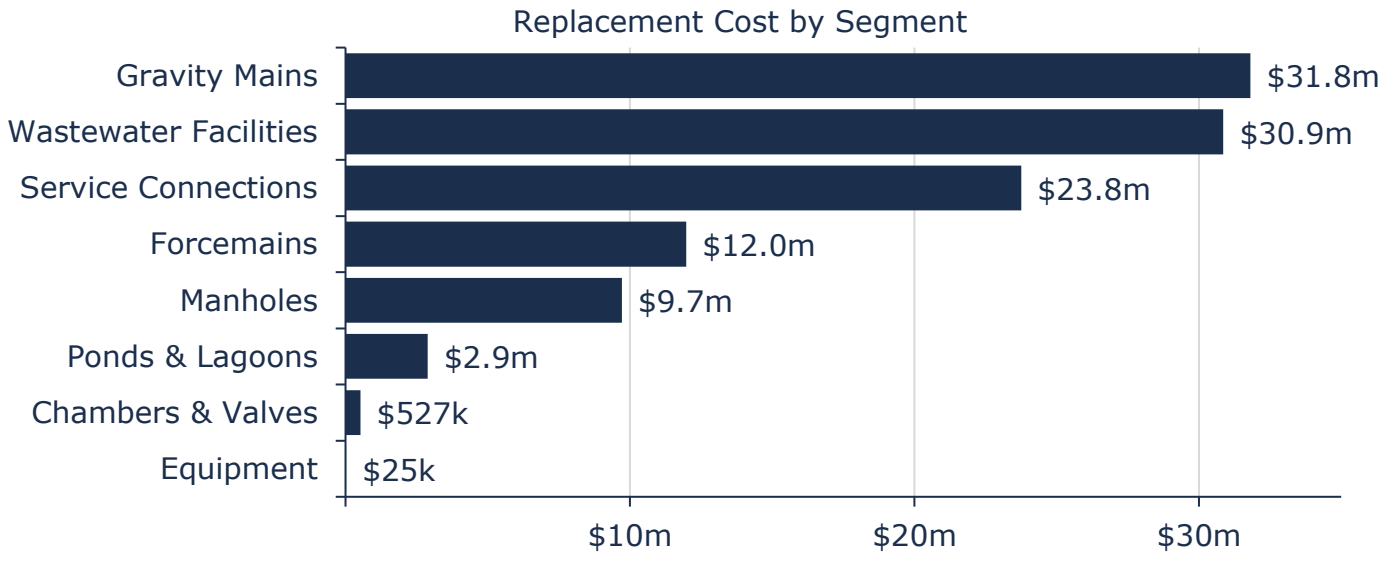

Figure 43 Portfolio Valuation: Wastewater Network

8.2 Asset Condition

Figure 44 summarizes the replacement cost-weighted condition of the Township's wastewater network. Based on assessed conditions, 98% of assets are in fair or better condition; the remaining 2% of assets are in poor to very poor condition. Condition assessments were not available for the wastewater network assets, therefore these projections are based on age based estimates.

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 44 the majority of the Township's wastewater network assets are in fair or better condition.

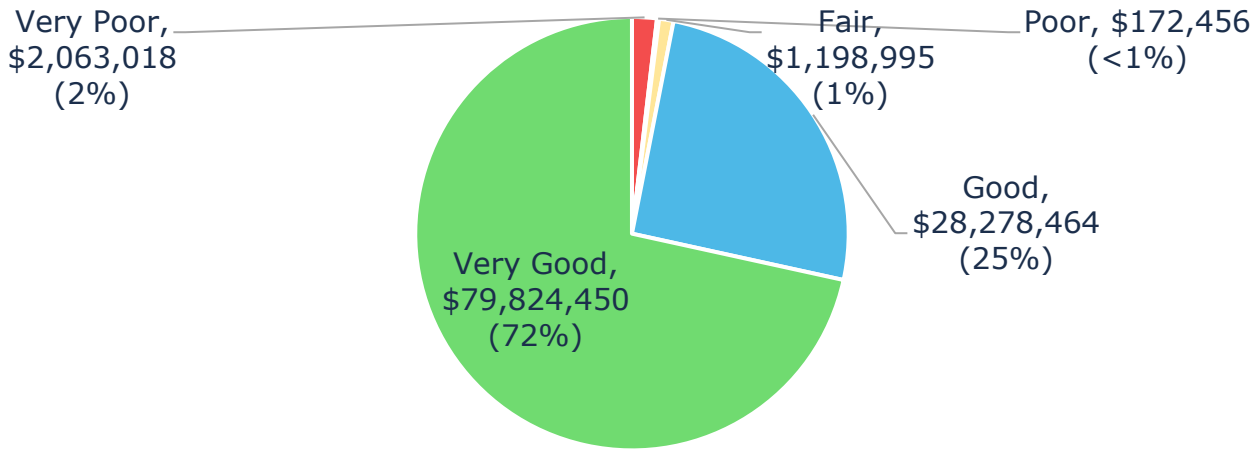

Figure 44 Asset Condition: Wastewater Network Overall

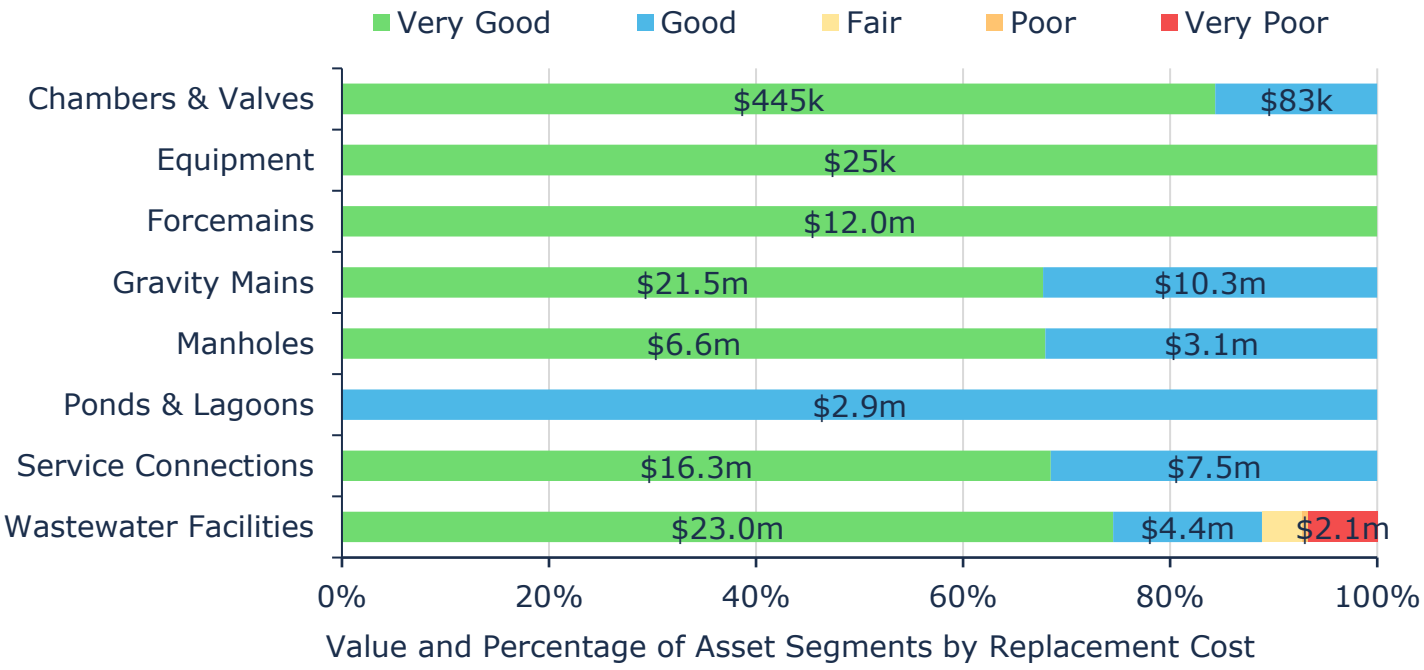

Figure 45 Asset Condition: Wastewater Network by Segment

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 long-term replacement spikes.

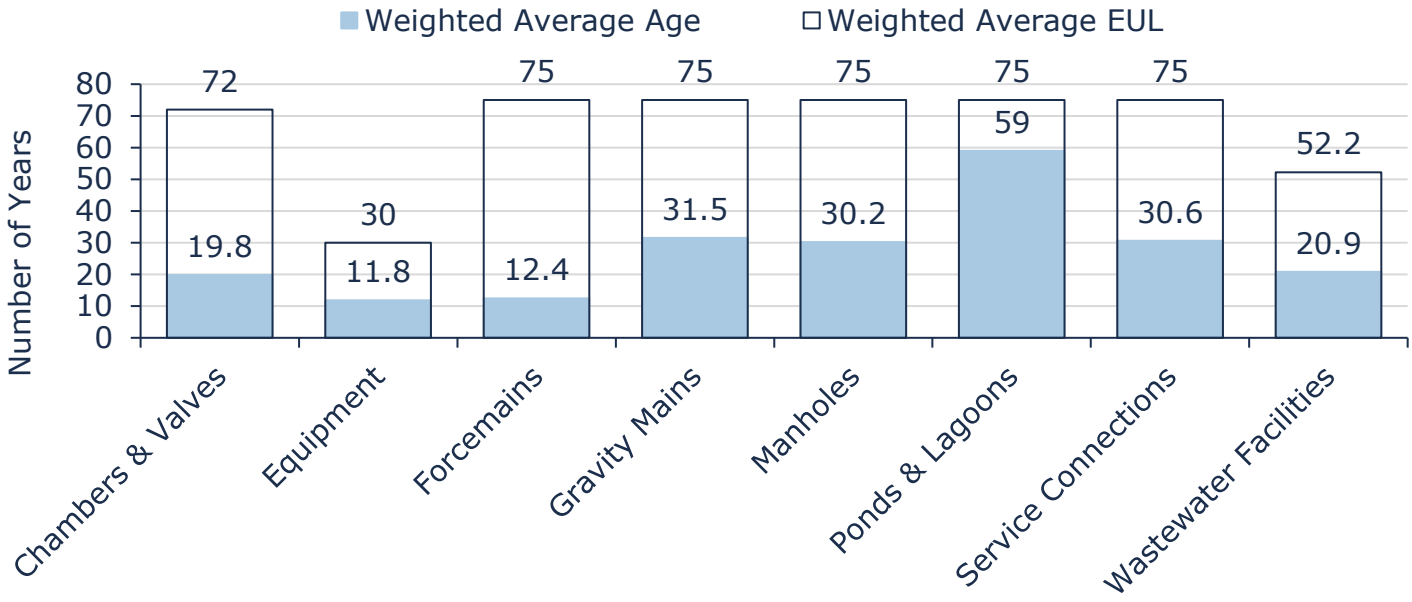

Figure 46 Estimated Useful Life vs. Asset Age: Wastewater Network

Figure 46 compares the weighted average age of wastewater network assets to their estimated useful life. While most asset classes retain significant remaining service life, ponds & lagoons exhibit higher relative age and will require ongoing monitoring and proactive lifecycle planning to manage future renewal demands.

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.

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

Activity Type	Description of Current Strategy
Maintenance/Inspections	CCTV inspections are conducted on a 6 year rotation.
	Maintenance of mains consists of flushing and cleaning on a 3 year cycle.
	Annual maintenance and inspection of manholes and reparirs as needed such as gasket sealing.
Rehabilitation/ Replacement	Trenchless re-lining is considered and takes place as appropriate and small pipe section repairs are carried out as needed.
	Project prioritization is based on CCTV inspections, asset age, material, environmental risks, health and safety risks, and social impact. Additional considerations include asset functionality and design capacity.

Table 34 Lifecycle Management Strategy: Wastewater Network

8.5 Forecasted Long-Term Replacement Needs

Figure 47 illustrates the short-, medium-, and long-term rehabilitation and replacement needs of the Township's wastewater network over a full lifecycle horizon to 2104. Average annual capital requirements are estimated at $2.0 million, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year to year.

The forecast identifies significant capital demand developing over the next 15-20 year period. The investment demand is projected to increase substantially beginning in 2040 and peaking at $15.7 million in the 2045-2049 period. These projections are primarily driven by assets reaching the end of the estimated useful life. These projections are based on replacement costs, asset age, and available condition data, and are intended to support long-term, portfolio-level financial planning.

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

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

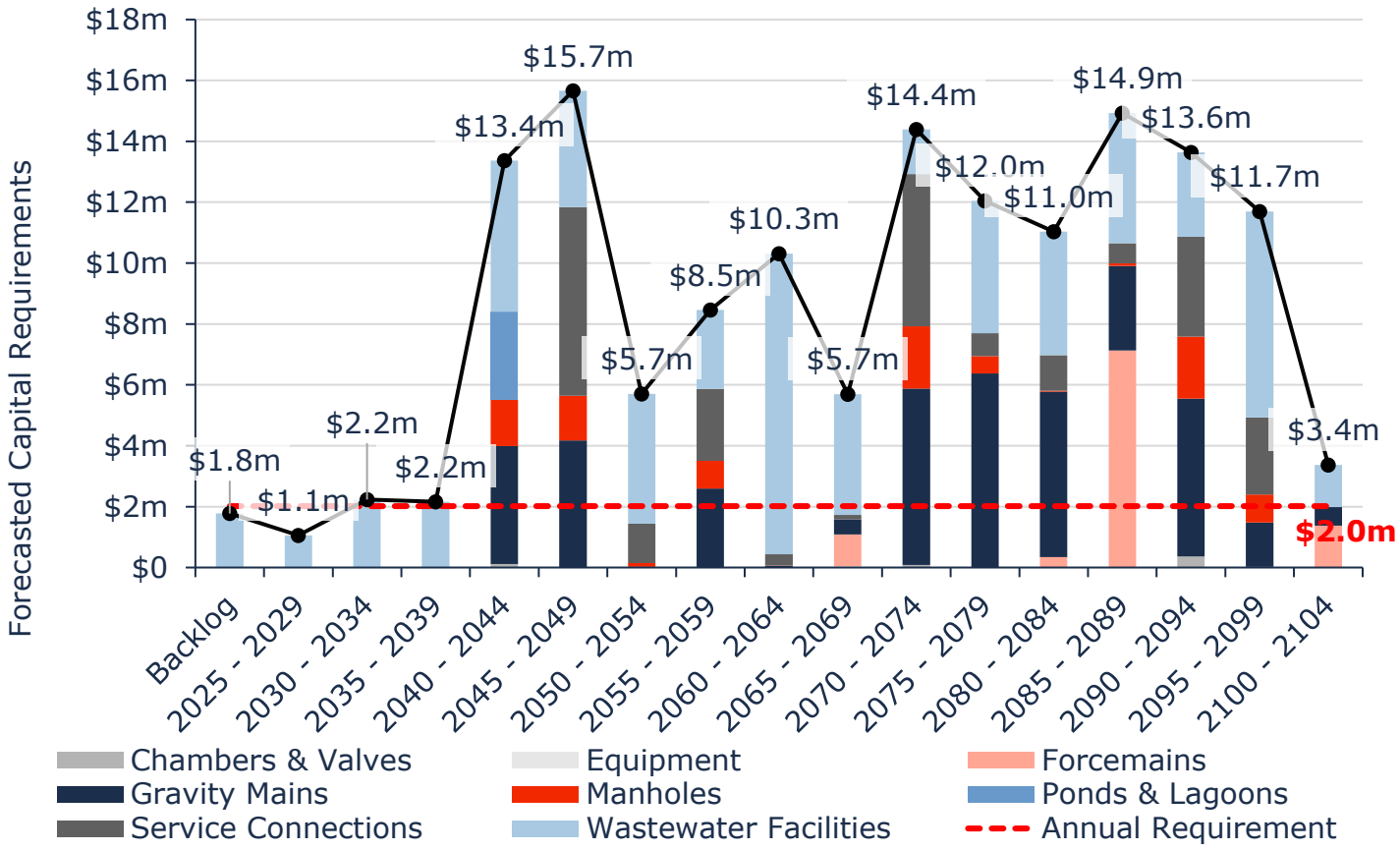

Figure 47 Forecasted Capital Replacement Needs: Wastewater Network 2025-2104

8.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, pipe material, diameter and replacement cost. 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	**5 - 7**	**8 - 9**	**10 - 14**	**15 - 25**
Very Low	Low	Moderate	High	Very High
$70,930,697	$28,589,576	$2,524,246	$6,697,309	$2,795,555
(64%)	(26%)	(2%)	(6%)	(3%)

Figure 48 Risk Matrix: Wastewater Network

8.7 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.

8.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	The current wastewater system consists of 45.5 km of trunk sewers, 2 sewage pumping stations, 16 km of force mains, 599 maintenance holes and 2 wastewater treatment facilities.
Reliability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	Not Applicable (No Combined Sewers)
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	Not Applicable (No Combined Sewers)
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Stormwater can enter into sanitary sewers due to damaged sanitary mains or through indirect connections (e.g., weeping tiles). Backups which currently occur are the result of blockages or mechanical failure, i.e.: pump failure or power outages. Higher volumes or flow do occur in the spring and sumps, weeping tiles, etc., contribute to this.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The sanitary system is designed, constructed and maintained in accordance with the 2025 Engineering Standards. This document is available for the public to review.

Service Attribute	Qualitative Description	Current LOS
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Effluent refers to treated water that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants. Annual performance reports are available on the Township's website. For specific ECA's, residents can obtain copies which are available through the Province of Ontario.

Table 35 O. Reg. 588/17 Community Levels of Service: Wastewater Network

8.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Scope	% of properties connected to the municipal wastewater system	100%[10]
Reliability	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	Not Applicable (No Combined Sewers)
	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	0
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0

Table 36 O. Reg. 588/17 Technical Levels of Service: Wastewater Network

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 tables and graphs below explain the proposed levels of service scenarios that were analyzed for the wastewater network. Further PLOS analysis at the portfolio level can be found in Section *4. Proposed Levels of Service Analysis.*

[10] In areas where municipal sanitary sewer is available, 100% of the properties are connected.

8.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Rate Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual rate increases, stabilizing at 100% funding in 20 years.	3.2%
Scenario 2: 75% Funding Target	This scenario assumes gradual rate increases, stabilizing at 75% funding in 20 years.	2.5%
Scenario 3: 50% Funding Target	This scenario assumes gradual rate increases, stabilizing at 50% funding in 20 years.	1.8%

Table 37 Wastewater Network PLOS Scenario Descriptions

8.8.2 PLOS Analysis Results

The analysis for the wastewater network assets was run with a 75-year outlook. Using a longer period and accounting for a full lifecycle of assets provides a better average. This table compares projected condition, risk, and funding needs under three funding scenarios. The current replacement cost of the wastewater network portfolio is valued at $111.5 million

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Rate Increase
100% Funded	85.5%	74.7%	4.4	5.5	$2,015,000	1.8%	3.2%
75% Funded		65.5%		7.1	$1,511,000	1.4%	2.5%
50% Funded		55.9%		8.4	$1,008,000	0.9%	1.8%

Table 38 Wastewater Network PLOS Scenario Analysis

Project Condition Impacts

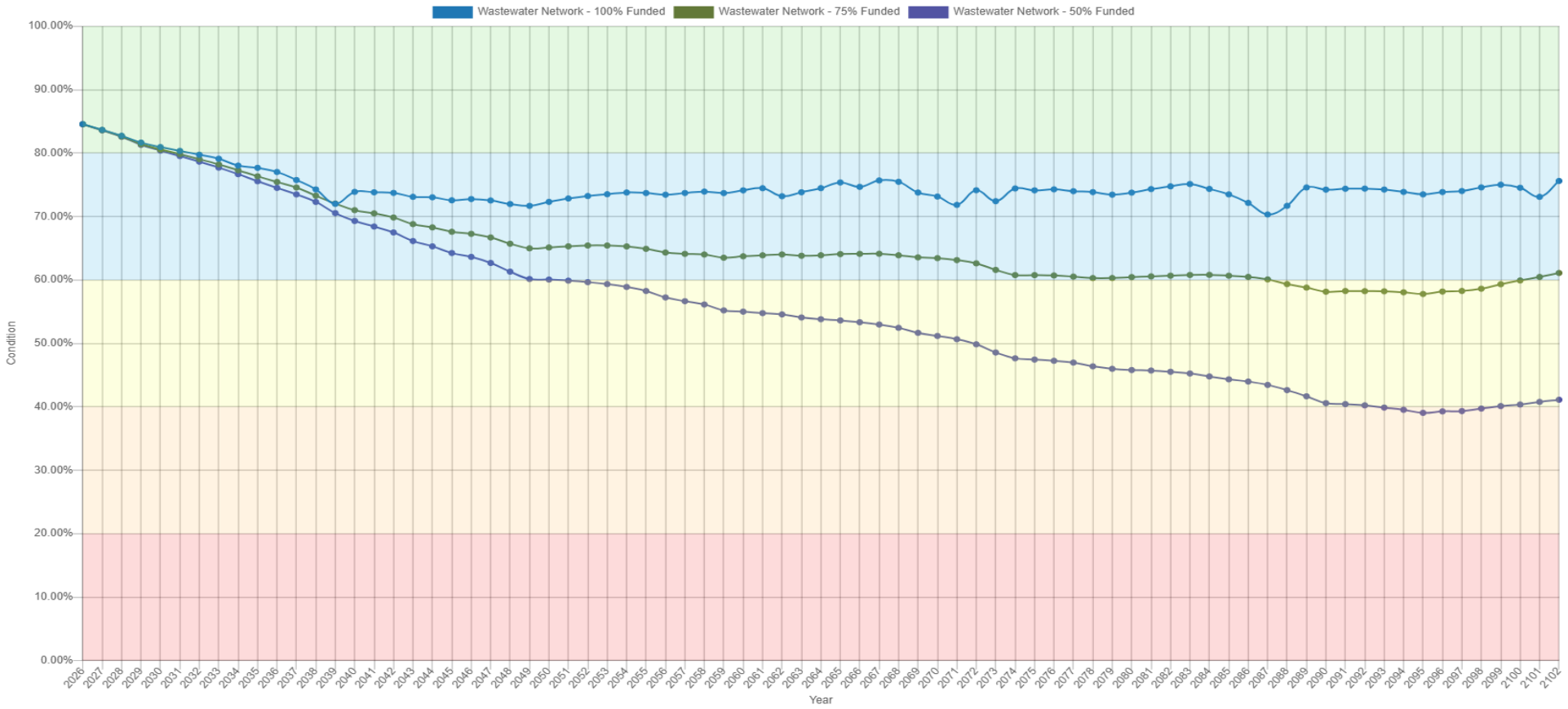

Figure 49 Wastewater Network PLOS Scenario Condition Results

Under all scenarios, conditions decline slightly as assets age and largely remain in the fair to good range for a long period of time. Under 100% funding scenario, condition is projected to remain in the good range reflecting available funding for renewal activities that stabilize long-term performance. At 75% funding, conditions decline into the lower good range with limited recovery, indicating limited renewal capacity and growing backlog pressures. Under 50% funding, conditions steadily deteriorate into the poor range over the long term and show little to no recovery over the time period, demonstrating that investment is insufficient to offset ongoing deterioration, resulting in reduced resilience, higher risk of failures, and increasing long-term lifecycle impacts.

Projected Risk Impacts

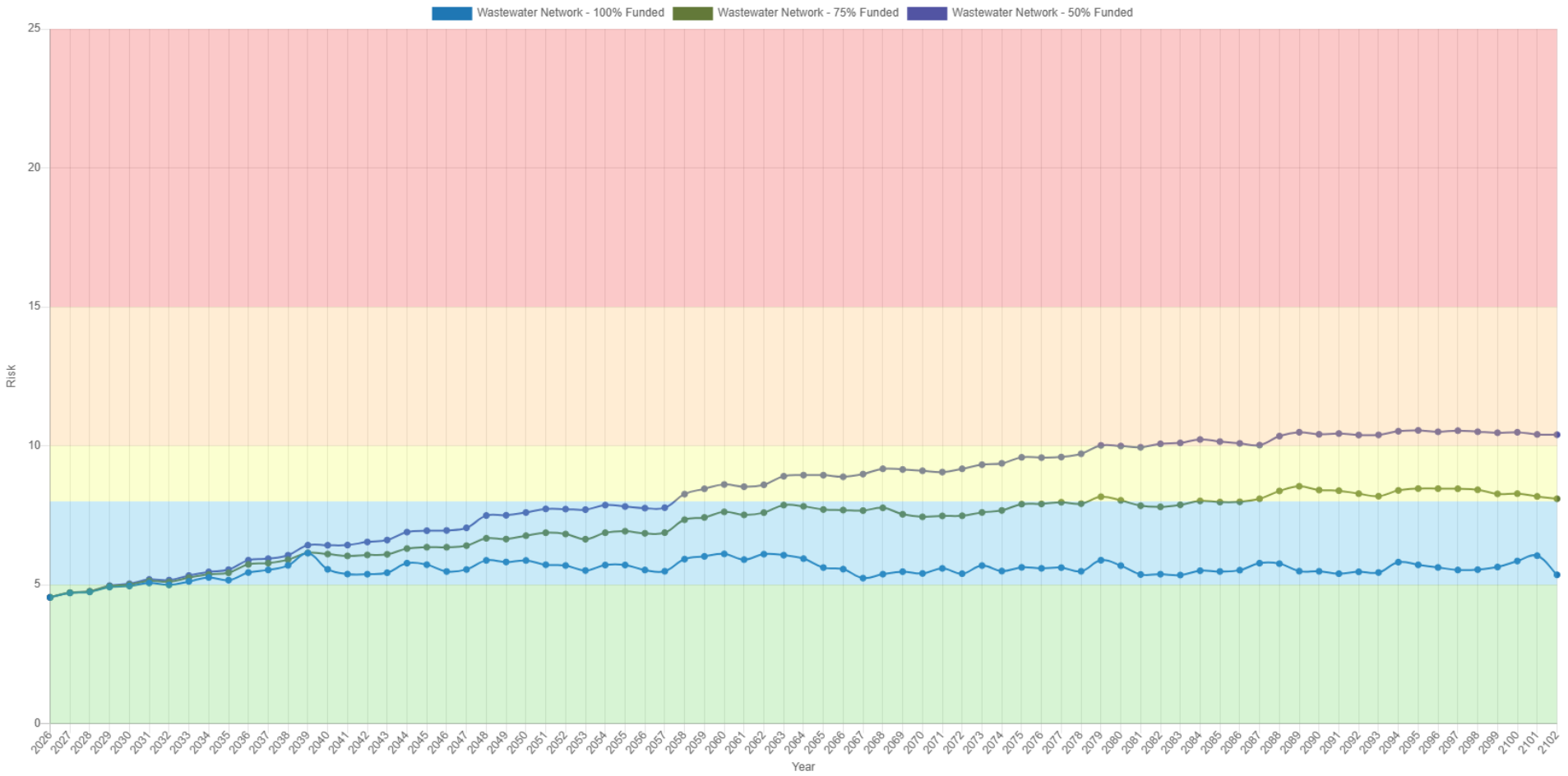

Figure 50 Wastewater Network PLOS Scenario Risk Results

The graph illustrates projected wastewater network risk impacts. Under 100% funding, risk remains steady in the low to moderate range. At 75% funding, risk increase slightly into the low-moderate range with limited improvement, indicating potentially constrained capacity to address deterioration and emerging failures. Under 50% funding, risk steadily increases into the moderate-high range before levelling off, demonstrating that sustained underinvestment results in accumulating risk, reduced system resilience, and an increasing likelihood of service, environmental, and financial impacts.

8.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 wastewater network if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Targeted Capital Spending	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**	**$2.0m**
Projected Capital Spending	$68k	$139k	$211k	$286k	$379k	$458k	$541k	$626k	$714k	$804k
Funding Deficit	$1.9m	$1.9m	$1.8m	$1.7m	$1.6m	$1.6m	$1.5m	$1.4m	$1.3m	$1.2m
Target Reinvestment Rate	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**
Projected Reinvestment Rate	0.1%	0.1%	0.2%	0.3%	0.3%	0.4%	0.5%	0.6%	0.6%	0.7%

Table 39 Wastewater Network 10-Year PLOS Financial Projections

9. Stormwater Network

The Township's stormwater network is comprised of storm pipes, manholes, storm ponds, culverts and structures as well as other critical supporting capital assets with a total current replacement cost of approximately $16.1 million.

9.1 Inventory & Valuation

Table 39 summarizes the quantity and current replacement cost of all stormwater network assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basins	270	Assets	$4,003,000	CPI
Maintenance Holes	38	Assets	$189,000	CPI
Pipes	421	Assets	$5,231,000	CPI
Storm Culverts	215	Assets	$5,363,000	CPI
Storm Ponds	1	Assets	$922,000	CPI
Storm Structures	9	Assets	$394,000	CPI
TOTAL			**$16,102,000**	

Table 40 Detailed Asset Inventory: Stormwater Network

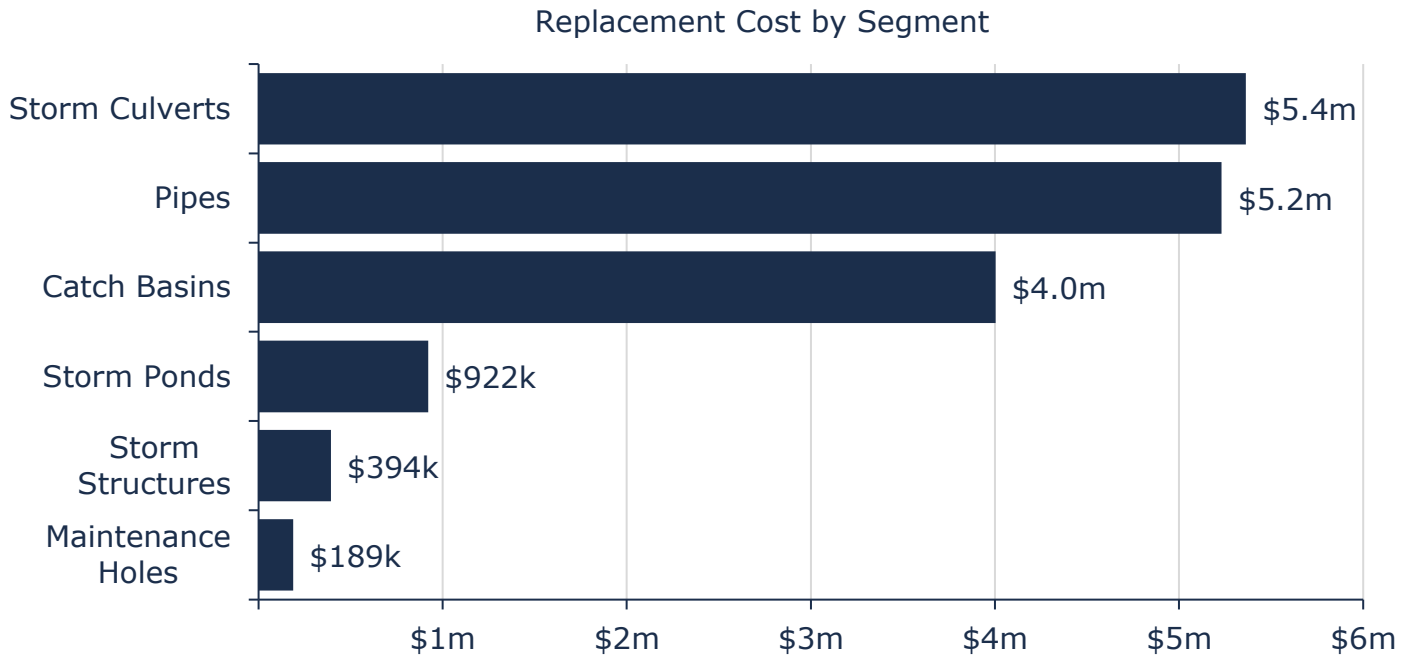

Figure 51 Portfolio Valuation: Stormwater Network

9.2 Asset Condition

Figure 52 summarizes the replacement cost-weighted condition of the Township's stormwater network assets. Based solely on age based condition projections, approximately 43% of assets are in poor to very poor condition and 57% in fair to very good condition.

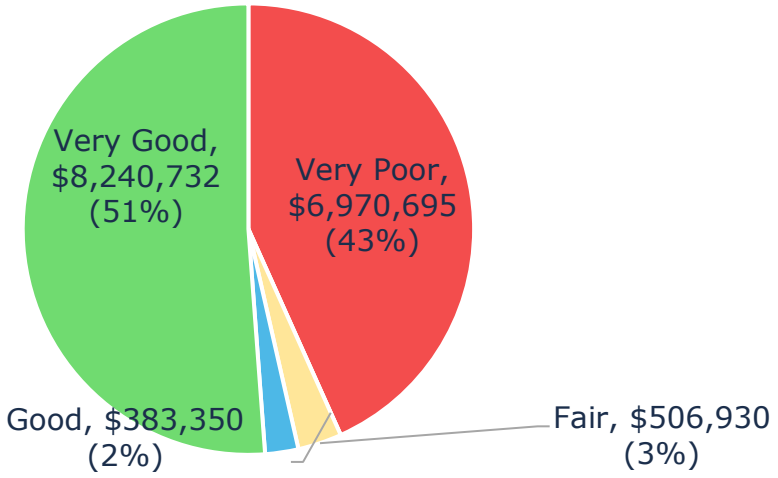

Figure 52 Asset Condition: Stormwater Network Overall

Figure 53 summarizes the condition of stormwater network assets. The analysis illustrates that 48% of stormwater mains are in fair or better with the remaining 52% in poor or worse condition.

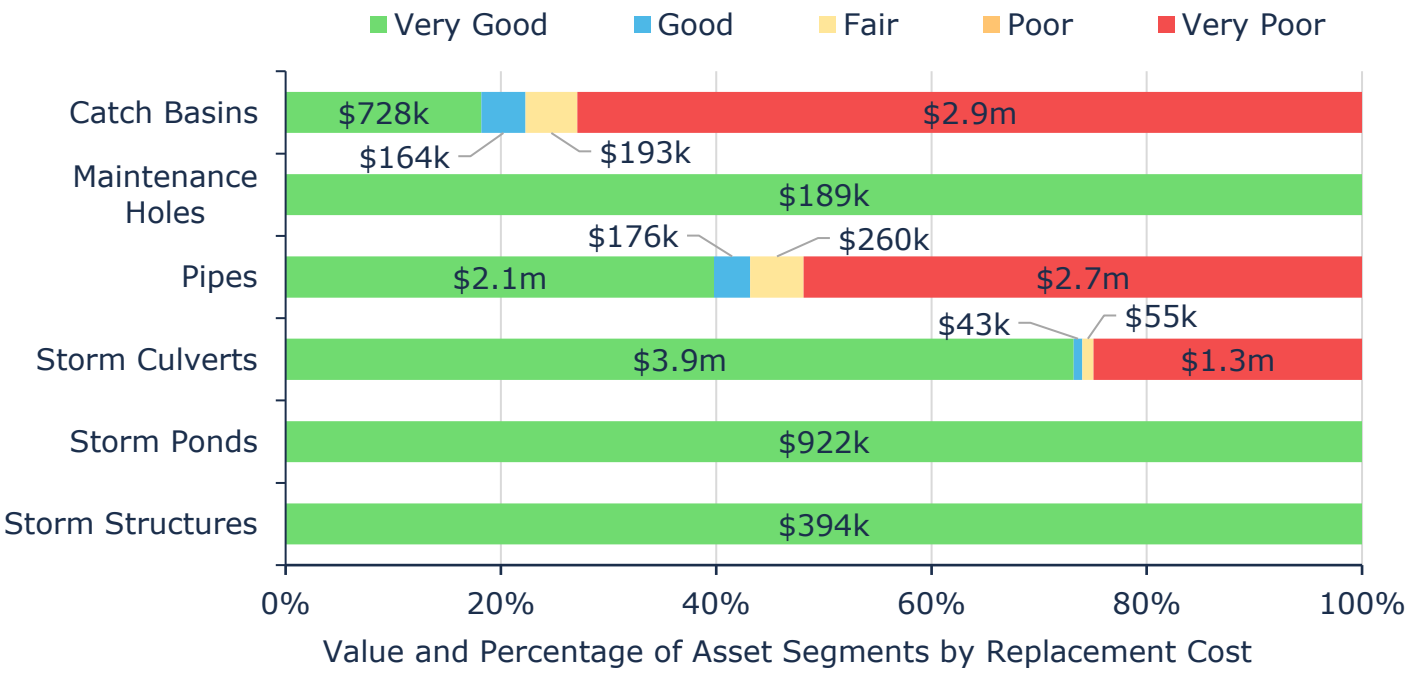

Figure 53 Asset Condition: Stormwater Network by Segment

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 54 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.

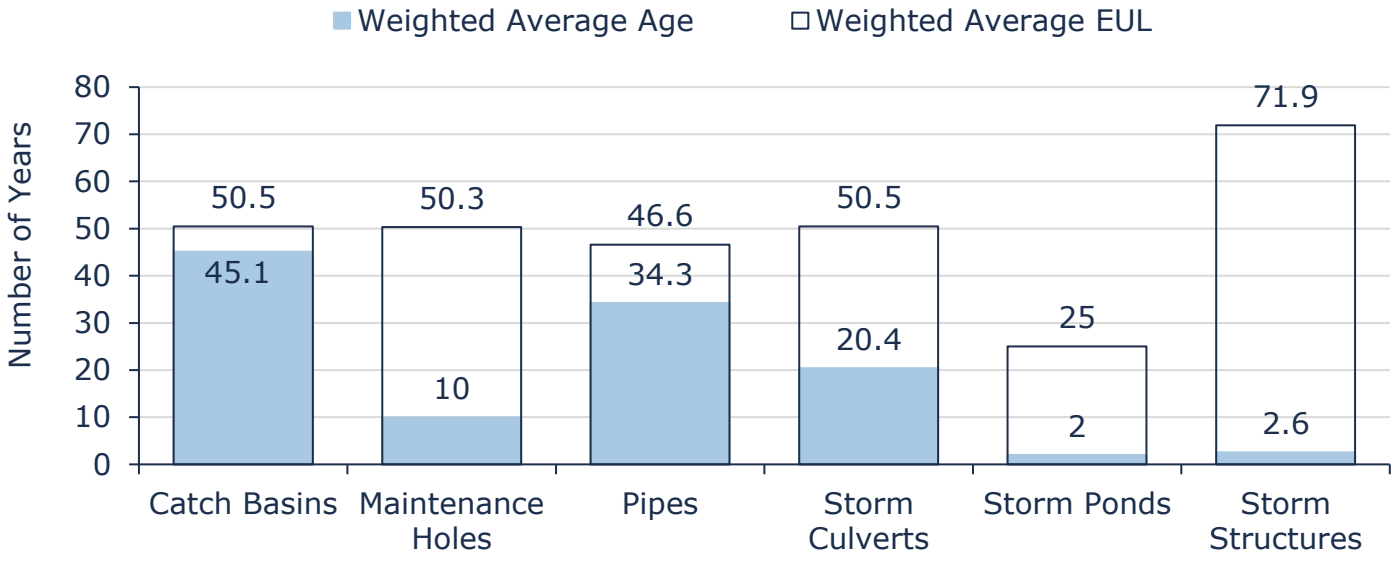

Figure 54 Estimated Useful Life vs. Asset Age: Stormwater Network

Age analysis reveals that on average, pipes and catch basins are nearing the latter stages of their expected lifecycle. 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.

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.

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

Activity Type	Description of Current Strategy
Maintenance/ Inspection	General maintenance, such as cleaning and fushing is conducted on a cycle of 3-6 years.
	Flushing activities are usually completed alongside CCTV inspections
	All other maintenance activities are completed on a reactive basis when operational issues are identified (e.g., blockages, backups), through complaints and service requests
Rehabilitation/ Replacement	Structural re-lining has the potential to reduce total lifecycle costs and is considered prior to full replacement.

Table 41 Lifecycle Management Strategy: Stormwater Network

9.5 Forecasted Long-Term Replacement Needs

Figure 55 illustrates the cyclical short-, medium- and long-term infrastructure replacement This analysis illustrates the short-, medium-, and long-term replacement needs of the Township's storm network over a full lifecycle horizon to 2099. Average annual capital requirements are estimated at $358,000, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year to year. The forecast identifies an estimated $6.3 million age-based backlog, primarily associated with pipes and catch basins. These projections are based on replacement costs and asset age and are intended to support long-term, portfolio-level financial planning.

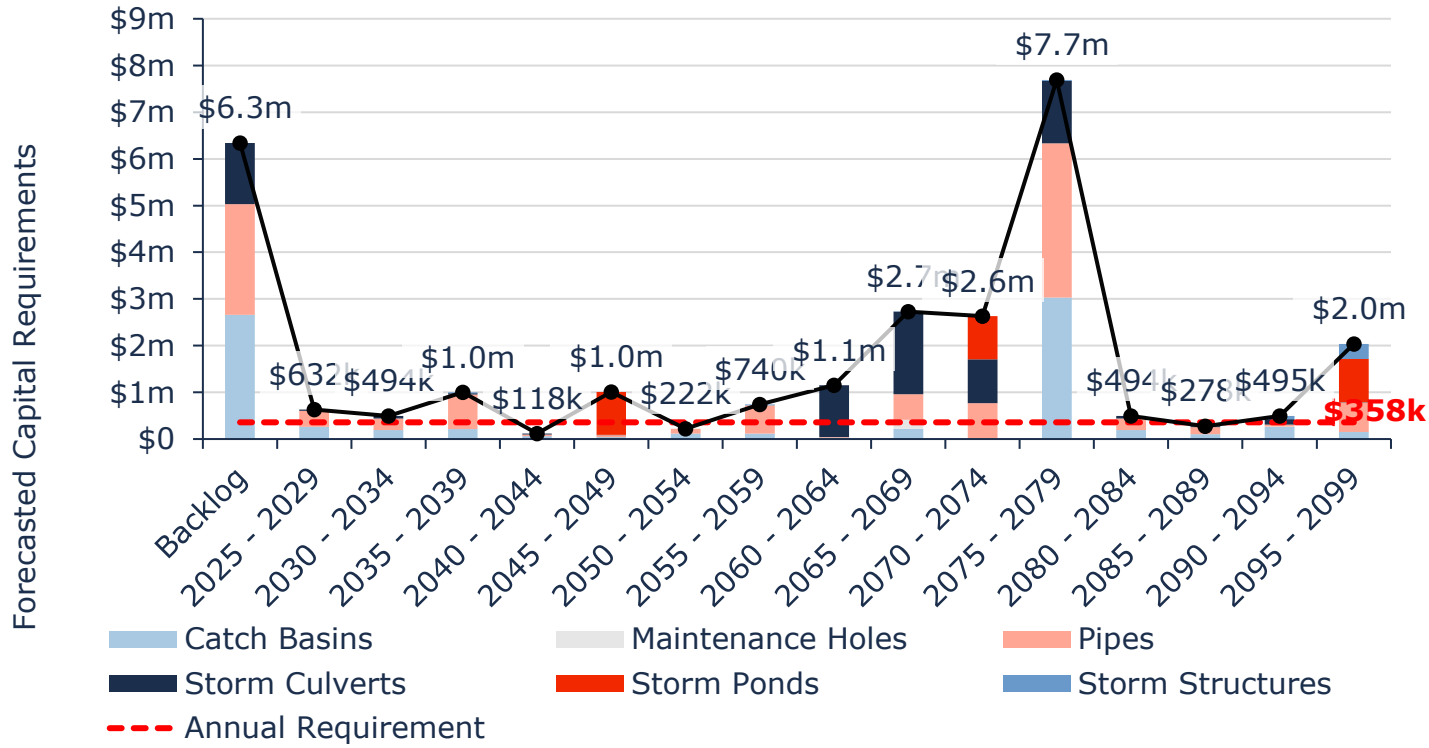

Figure 55 Forecasted Capital Replacement Needs Stormwater Network 2025-2104

9.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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 $6,832,374 (42%)	**5 - 7** Low $2,820,861 (18%)	**8 - 9** Moderate $373,983 (2%)	**10 - 14** High $2,814,309 (17%)	**15 - 25** Very High $3,260,180 (20%)

Figure 56 Risk Matrix: Stormwater Network

9.7 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.

9.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS
Scope	Description, which may include map, of the user groups or areas of the Township that are protected from flooding, including the extent of protection provided by the municipal storm water network	The Authorized System has locations throughout the Township of Clearview. These systems have been broken out into four subcategories and are illustrated in the drawings provided. See illustrations in Appendix C.

Table 42 O. Reg. 588/17 Community Levels of Service: Stormwater Network

9.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Scope	% of properties in municipality designed to be resilient to a 100-year storm	TBD[11]
	% of the municipal stormwater management system designed to be resilient to a 5-year storm	
Affordability	Target Reinvestment Rate	2.2%
	Actual Reinvestment Rate	1.9%

Table 43 O. Reg. 588/17 Technical Levels of Service: Stormwater Network

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 below tables and graphs explain the proposed levels of service scenarios that were analyzed for the stormwater network. Further PLOS analysis at the portfolio level can be found in Section *4. Proposed Levels of Service Analysis.*

9.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 44 Stormwater Network PLOS Scenario Descriptions

[11] At present, the Township does not have sufficient data to quantify this metric. However, the municipality is in the process of completing a study that will provide insight into the current capacity of the stormwater system.

9.8.2 PLOS Analysis Results

The analysis for the stormwater network assets was run with a 75-year outlook. Using a longer period and accounting for a full lifecycle of assets provides a better average. This table compares projected condition, risk, and funding needs under three funding scenarios. The current replacement cost of the wastewater network portfolio is valued at $16.1 million

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	56.2%	75.4%	8.2	5.97	$358,000	2.2%	2.1%
75% Funded		64.8%		7.83	$269,000	1.7%	1.3%
50% Funded		52.1%		9.67	$179,000	1.1%	0.3%

Table 45 Stormwater Network PLOS Scenario Analysis

Projected Condition Impacts

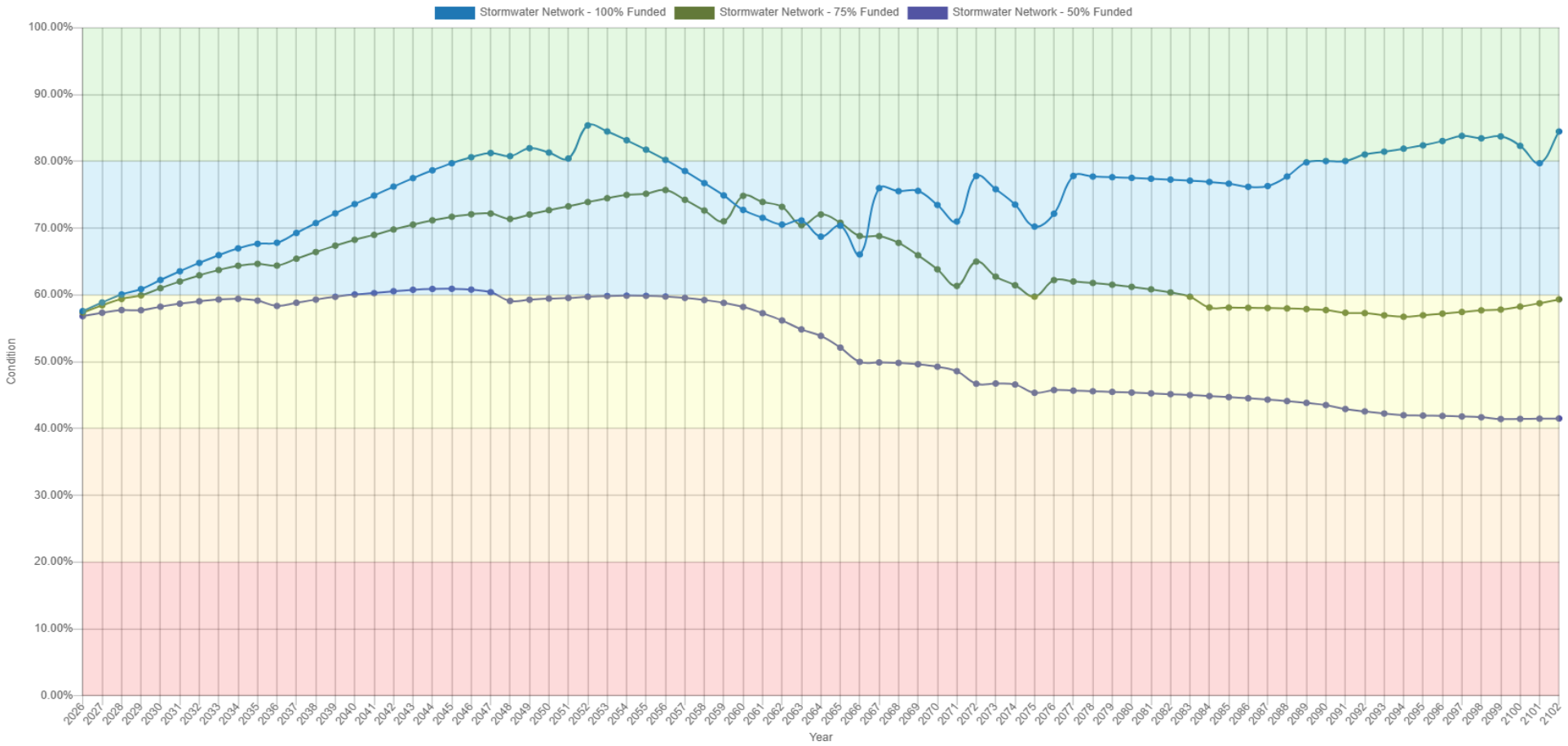

Figure 57 Stormwater Network PLOS Scenario Condition Results

Under 100% funding, conditions generally remain in the fair to good range, with periodic improvements reflecting timely rehabilitation that largely offsets deterioration and stabilizes performance. At 75% funding, conditions steadily increase into the fair range indicating renewal activities and then trends downward as asset age and stabilize in the higher fair range. Under 50% funding, condition slightly increases initially, indicating some ability to address more immediate renewal needs before trending downward with asset age and a decreased ability to recover, demonstrating that investment is insufficient to arrest long-term decline.

Projected Risk Impacts

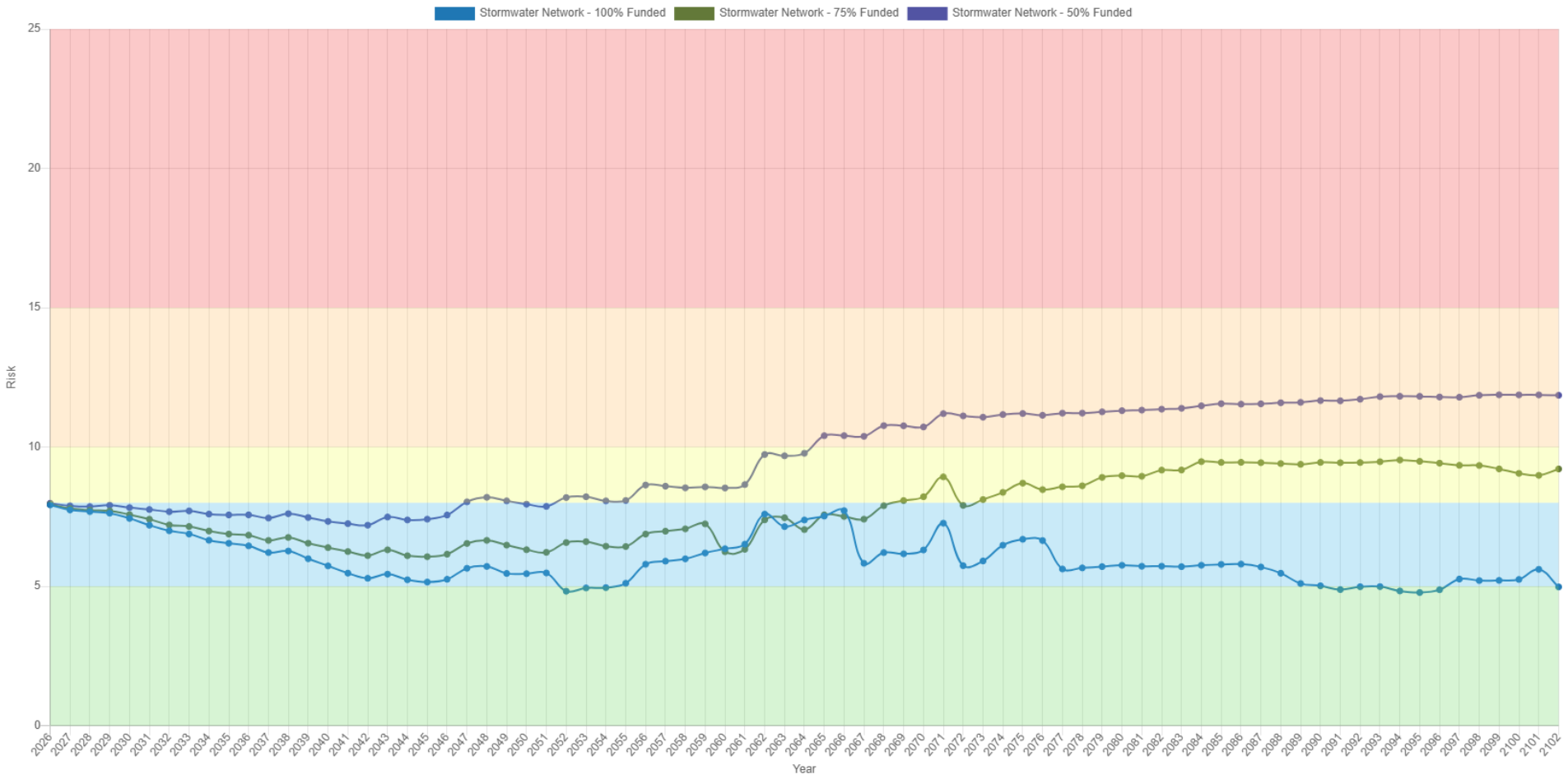

Figure 58 Storm Network PLOS Scenario Risk Results

Under 100% funding, risk remains low-moderate with minor fluctuations, indicating that planned renewal and rehabilitation are sufficient to manage deterioration and maintain acceptable service levels. At 75% funding, risk gradually increases over time, reflecting emerging renewal backlogs and reduced capacity to proactively manage assets. Under 50% funding, risk increases trends upward over the long term, demonstrating that insufficient investment may lead to increased risk exposure and a growing likelihood of service, environmental, and financial impacts.

9.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 stormwater network if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Targeted Capital Spending	**$358k**	**$358k**	**$358k**	**$358k**	**$358k**	**$358k**	**$358k**	**$358k**	**$358k**	**$358k**
Projected Capital Spending	$301k	$304k	$308k	$311k	$315k	$318k	$322k	$326k	$329k	$333k
Funding Deficit	$57k	$53k	$50k	$46k	$43k	$39k	$36k	$32k	$28k	$24k
Target Reinvestment Rate	**2.2%**	**2.2%**	**2.2%**	**2.2%**	**2.2%**	**2.2%**	**2.2%**	**2.2%**	**2.2%**	**2.2%**
Projected Reinvestment Rate	1.9%	1.9%	1.9%	1.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.1%

Table 46 Stormwater Network 10-Year PLOS Financial Projections

Non-Core Assets

10. Buildings

The Township's buildings portfolio includes a fire station, various administrative and public works facilities, as well as recreational assets. The total current replacement of buildings is estimated at more than $72.5 million.

10.1 Inventory & Valuation

Table 46 summarizes the quantity and current replacement cost of all building assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administrative	2	Buildings	$7,697,000	CPI
Fire & Emergency Services	6	Buildings	$12,100,000	CPI
Health Services	2	Buildings	$1,974,000	CPI
Libraries	3	Buildings	$8,795,000	CPI
Public Works	5	Buildings	$11,437,000	CPI
Recreation	17	Buildings	$30,482,000	User-Defined
TOTAL			**$72,485,000**	

Table 47 Detailed Asset Inventory: Buildings

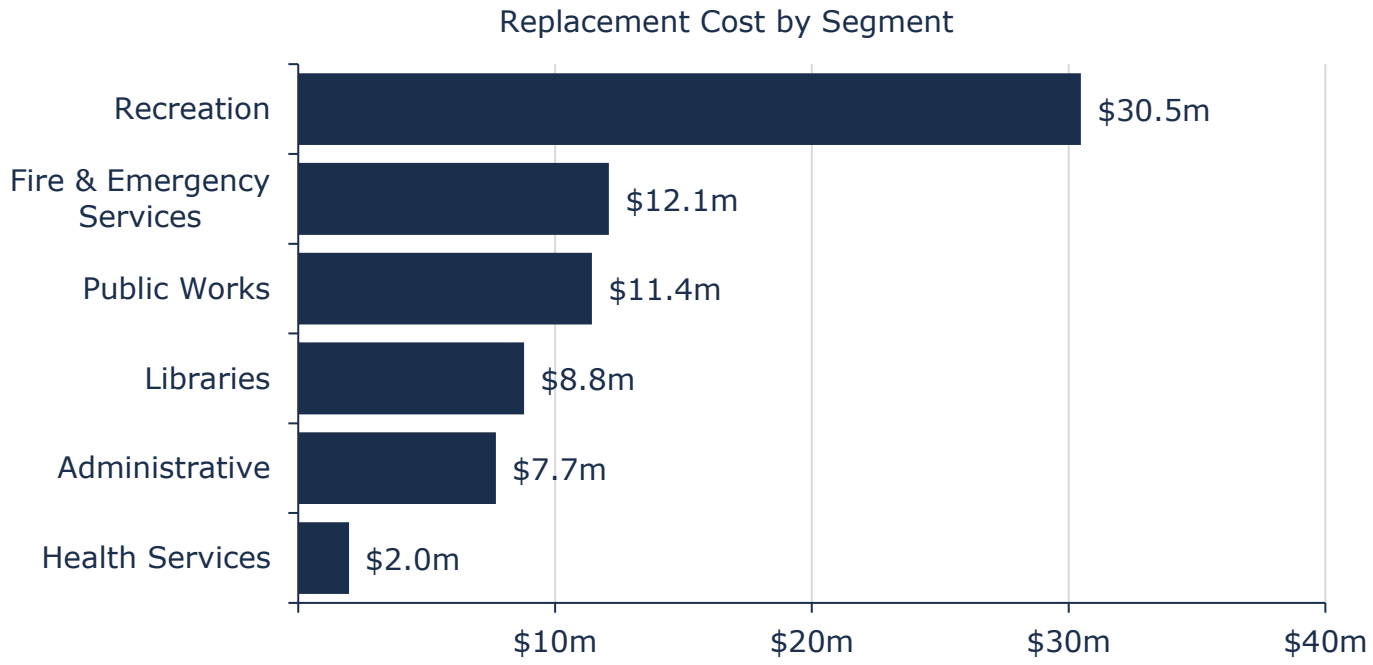

Figure 59 Portfolio Valuation: Buildings

10.2 Asset Condition

Figure 60 summarizes the replacement cost-weighted condition of the Township's buildings portfolio. Based on assessed condition data, 93% of buildings assets are in fair or better condition and the remaining 7% considered to be 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.

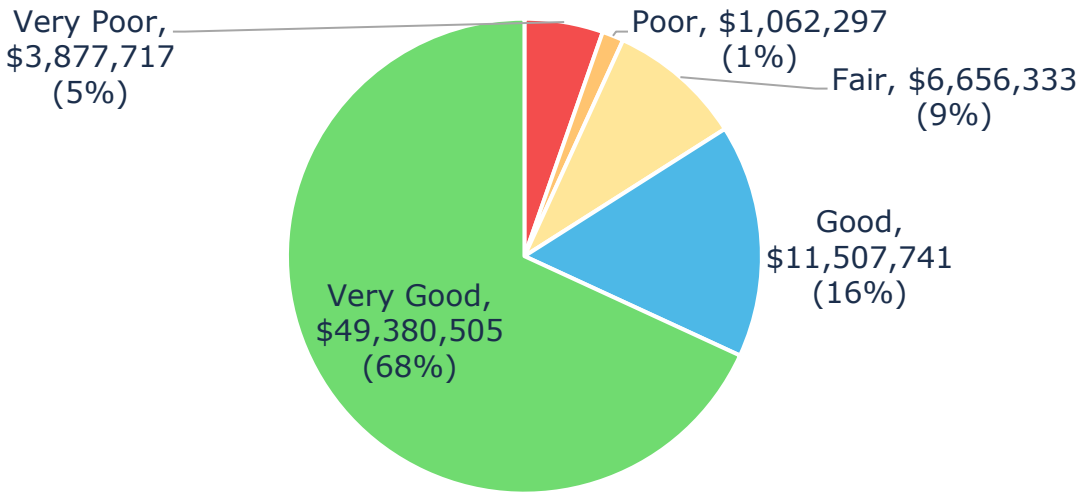

Figure 60 Asset Condition: Buildings Overall

Figure 61 summarizes the condition of buildings by each segment.

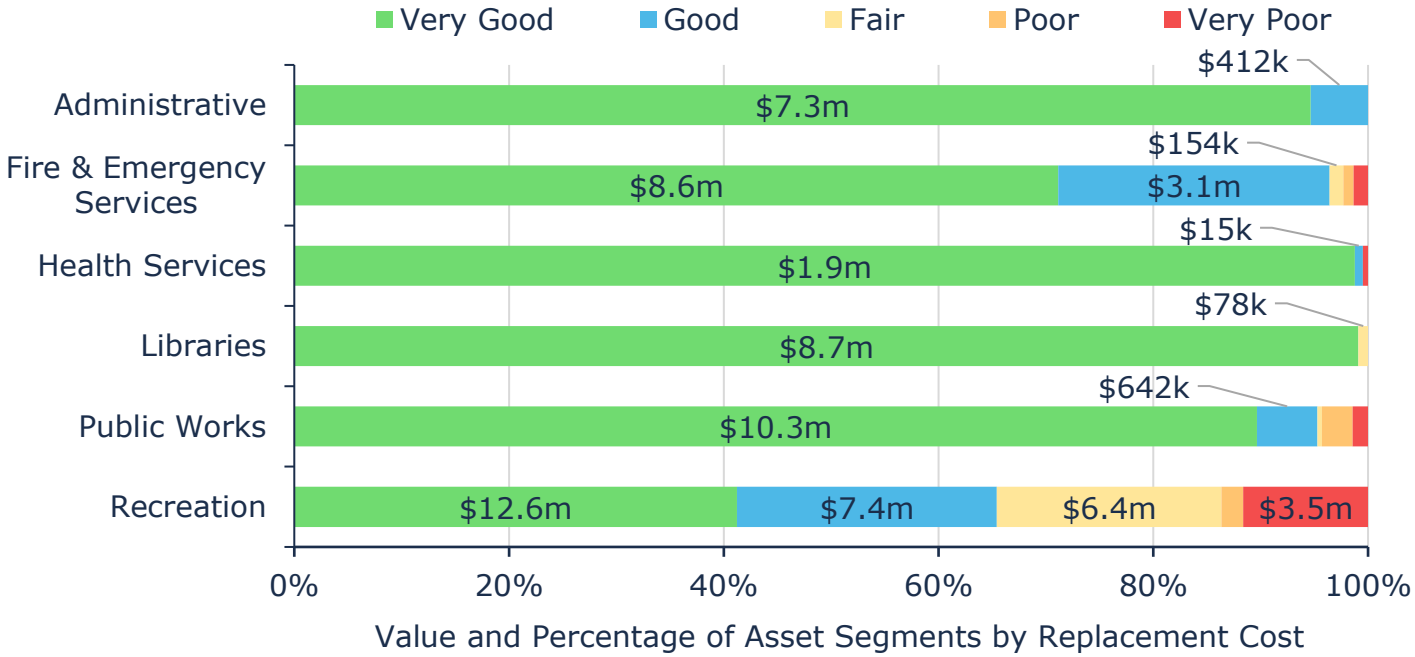

Figure 61 Asset Condition: Buildings by Segment

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 62 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.

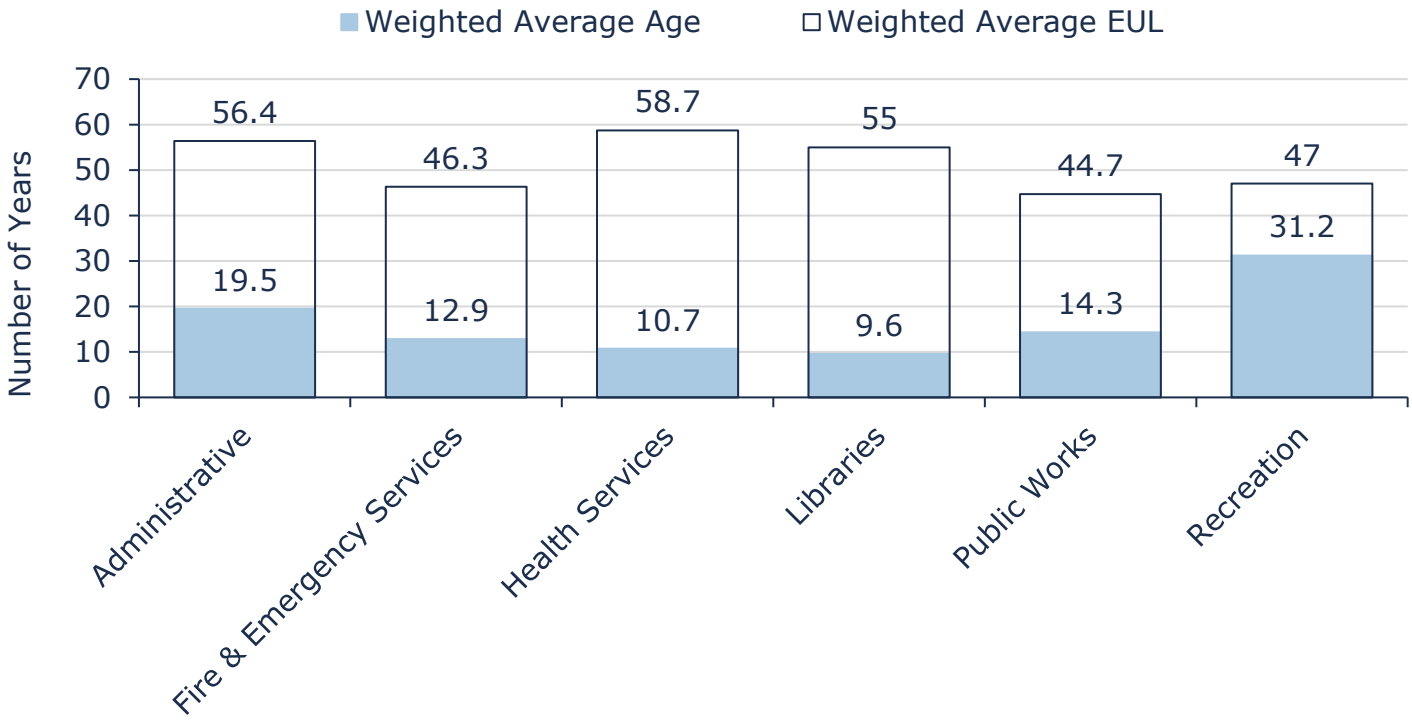

Figure 62 Estimated Useful Life vs. Asset Age: Buildings

Age analysis reveals that, on average, buildings assets are in the early stages of their serviceable life, with the exception of the recreation assets that are in the mid to latter stages of their expected 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.

Table 47 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Inspection	Maintenance is triggered by inspections identifying safety, accessibility, functionality, and structural issues.
	Routine/preventative maintenance is performed on assets such as HVAC equipment.
	All other maintenance activities are completed on a reactive basis when operational issues are identified through complaints and service requests.
Rehabilitation/ Replacement	Rehabilitations such as roof replacements or HVAC component replacements are considered on an as needed basis.
	The primary considerations for asset replacement are asset failure, availability or grant funding, safety issues, and volume of use.

Table 48 Lifecycle Management Strategy: Buildings

10.5 Forecasted Long-Term Replacement Needs

Figure 63 illustrates the short-, medium-, and long-term replacement needs of the Township's facilities portfolio over a full lifecycle horizon to 2099. Average annual capital requirements are estimated at $1.7 million, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year to year.

Replacement demands are projected to fluctuate over the projected time period, however trending upward as assets reach their estimated useful life. Significant increases are projected in the next 5-10 years, reaching $11.1 million within the next 10 years and $13.3 million in the next 20 years. These projections are based on current asset records, replacement costs, and age analysis, and are intended to support long-term, portfolio-level financial planning.

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.

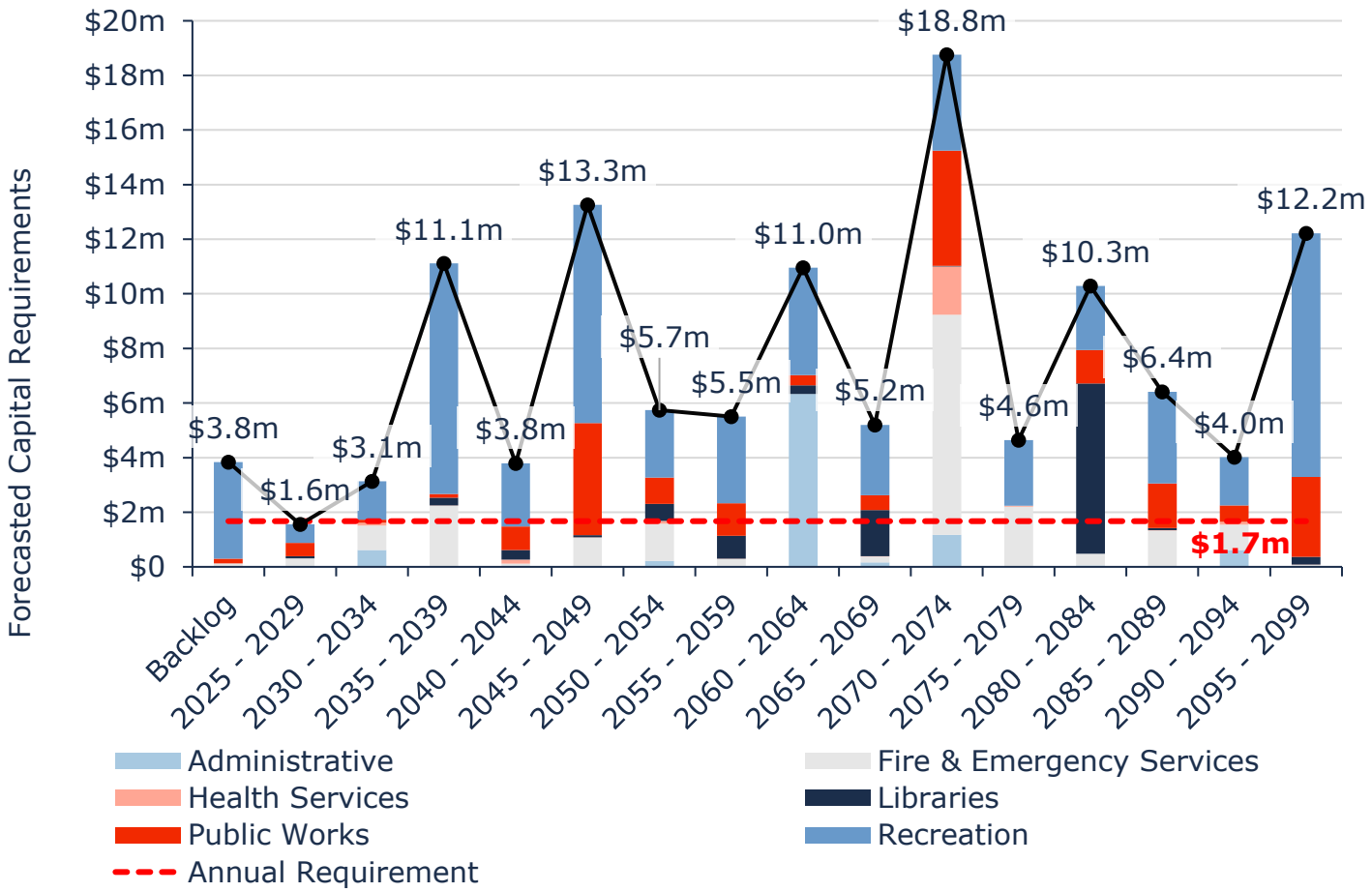

Figure 63 Forecasted Capital Replacement Needs Buildings 2025-2099

10.6 Risk Analysis

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

1 - 4 Very Low $21,228,542 (29%)	**5 - 7** Low $28,617,267 (39%)	**8 - 9** Moderate $4,258,634 (6%)	**10 - 14** High $7,618,663 (11%)	**15 - 25** Very High $10,761,487 (15%)

Figure 64 Risk Matrix: Buildings

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
Scope	Description of the types of facilities that the municipality operates and maintains	Facilities within the Township include those dedicated to administration, such as Town Hall and Libraries. Fire services are supported by multiple fire halls. Public works is supported by various equipment garages and salt/sand protection facilities. Recreation provides its services through a variety of facilities such as community centers, recreation center and arena.
Quality	Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts	Buildings asset rehabilitation and replacement decisions are predominantly based on opportunities for accessibility improvement, risk to occupant health and safety, legislative compliance, and cost and construction feasibility. Currently, decisions to replace components of buildings through capital investment projects are planned during the yearly budget process.

Table 49 Community Levels of Service: Buildings

10.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Performance	Average Condition of Building Assets	83%
Affordability	Target Reinvestment Rate	2.31%
	Actual Reinvestment Rate	0.72%

Table 50 Technical Levels of Service: Buildings

10.8 Proposed Levels of Service

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

10.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 51 Buildings PLOS Scenario Descriptions

10.8.2 PLOS Analysis Results

The analysis for the buildings' assets was run with a 75-year outlook. Using a longer period and accounting for a full lifecycle of assets provides a better average. This table compares projected condition, risk, and funding needs under three funding scenarios. The current replacement cost of the buildings portfolio is valued at $72.5 million

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	82.4%	72.8%	7.08	8.76	$1,673,000	2.3%	2.1%
75% Funded		61.3%		11.19	$1,253,000	1.7%	1.3%
50% Funded		51.7%		13.03	$837,000	1.2%	0.3%

Table 52 Buildings PLOS Scenario Analysis

Projected Condition Impacts

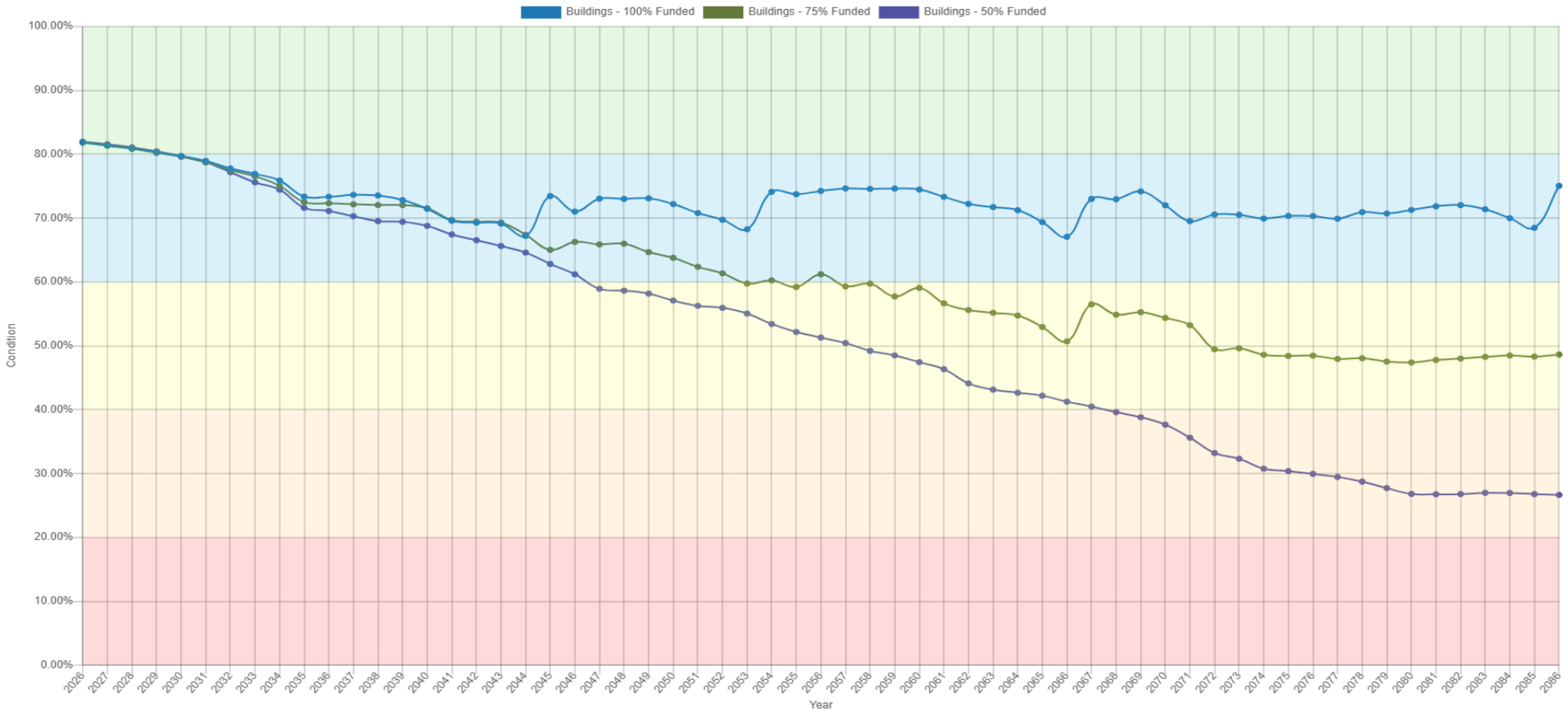

Figure 65 Buildings PLOS Scenario Condition Results

Under full funding, condition declines slightly before stabilizing at relatively high level, in the good range, with some minor fluctuations over the long term, indicating effective lifecycle management. At 75% funding, condition gradually decreases into the fair range and stabilize, reflecting moderate performance decline. Under 50% funding, condition steadily deteriorates into the poor range, indicating sustained underinvestment and increasing risk to service levels. Overall, the results demonstrate that adequate funding is essential to maintain asset condition and prevent long-term degradation.

Projected Risk Impacts

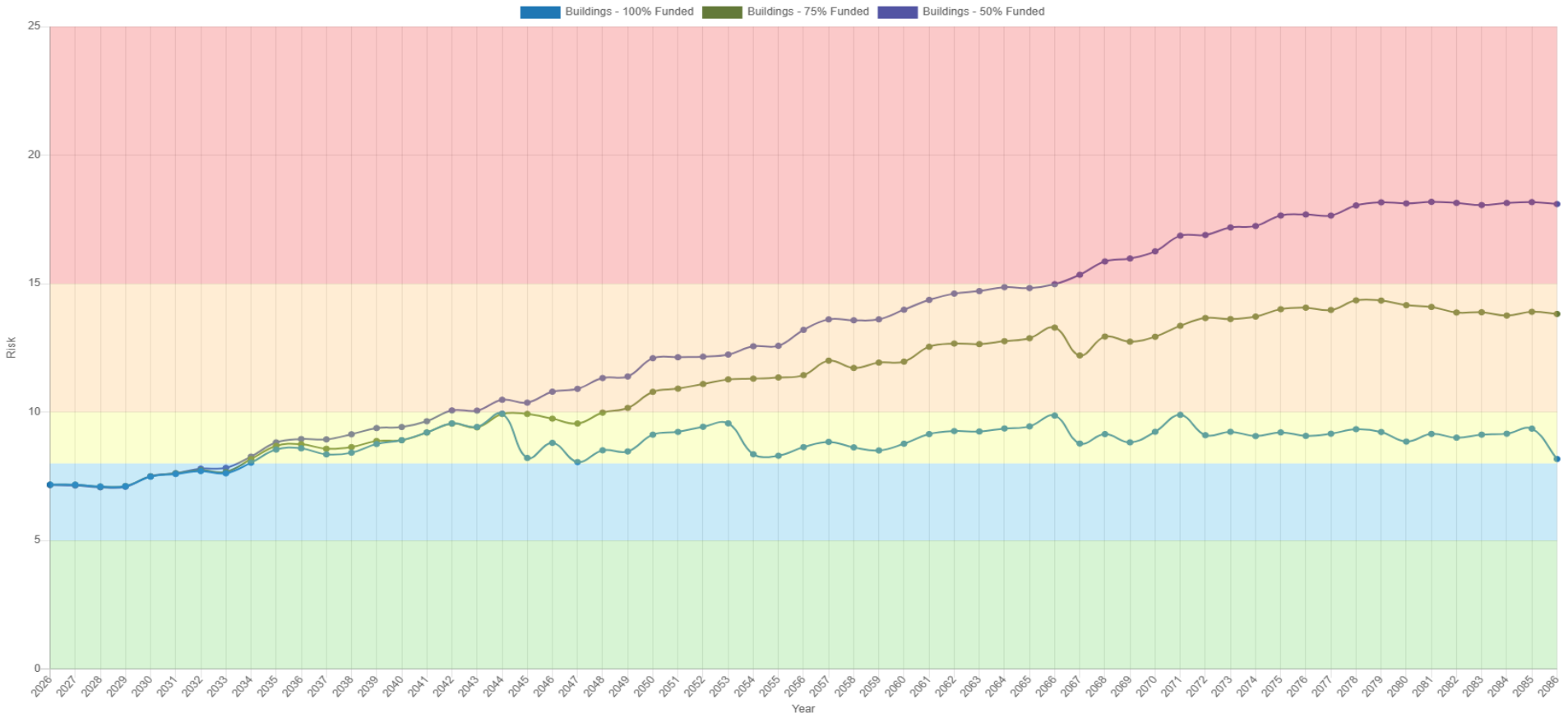

Figure 66 Buildings PLOS Scenario Risk Results

Under full funding, risk increases slightly before stabilizing in the low-moderate range, indicating effective lifecycle management. At 75% funding, risk gradually increases into the moderate range and stabilize, reflecting moderate performance decline and risk increase. Under 50% funding, risk steadily increases into the higher range, indicating sustained underinvestment and increasing risk to service levels. Overall, the results demonstrate that adequate funding is essential to maintain asset condition, lower risk and prevent long-term degradation.

10.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 buildings if the financial strategy for Scenario 1 is implemented.

	2027	2027	2029	2030	2031	2032	2033	2034	2035	2036
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	$545k	$611k	$678k	$747k	$817k	$889k	$962k	$1.0m	$1.1m	$1.2m
Funding Deficit	$1.1m	$1.1m	$995k	$926k	$856k	$784k	$711k	$636k	$560k	$483k
Target Reinvestment Rate	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**2.3%**
Projected Reinvestment Rate	0.8%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%

Table 53 Buildings 10-Year PLOS Financial Projections

11. Land Improvements

The Township's land improvements portfolio includes parking lots, various sports fields and courts, and landscaping features. The total current replacement of land improvements is estimated at approximately $8.3 million.

11.1 Inventory & Valuation

Table 53 summarizes the quantity and current replacement cost of all land improvements assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fencing	15	Assets	$242,000	CPI
Landscaping	6	Assets	$1,013,000	CPI
Parking Lots & Paved Surfaces	30	Assets	$2,241,000	CPI
Retaining Walls & Guiderails	6	Assets	$3,328,000	CPI
Sport Fields & Courts	11	Assets	$462,000	CPI
Trails	15	Assets	$1,026,000	CPI
TOTAL			**$8,312,000**	

Table 54 Detailed Asset Inventory: Land Improvements

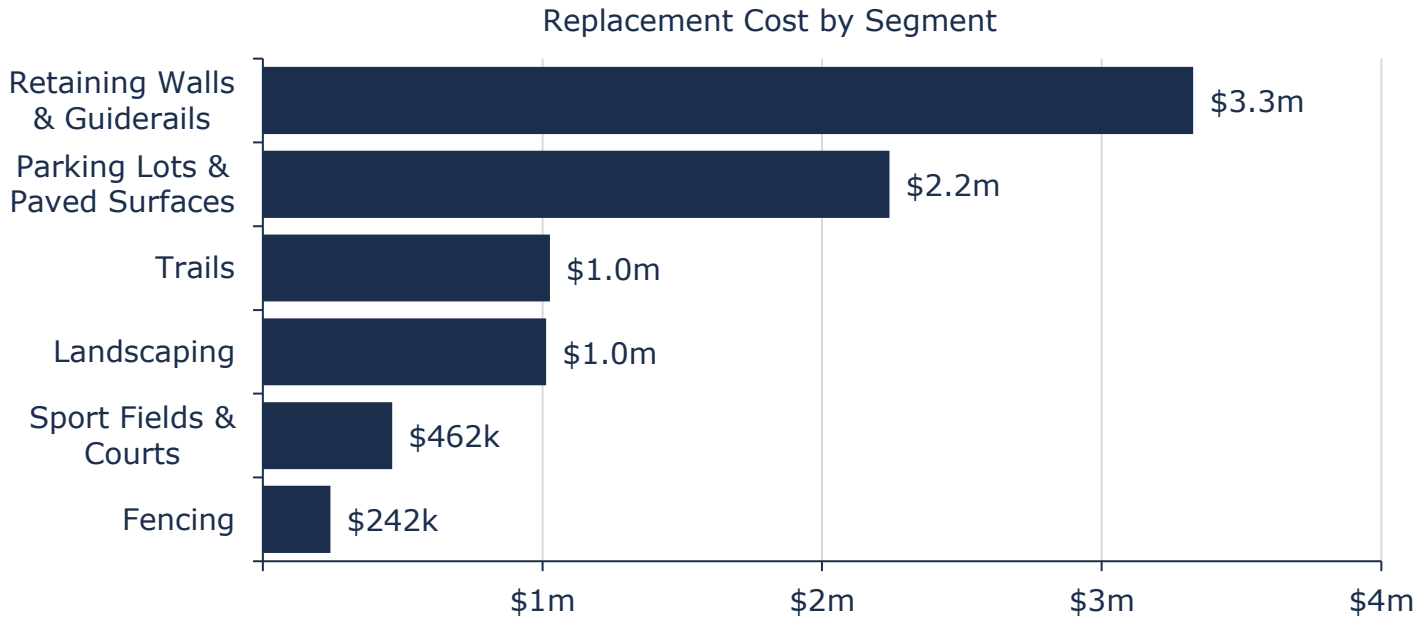

Figure 67 Portfolio Valuation: Land Improvements

11.2 Asset Condition

Figure 68 summarizes the replacement cost-weighted condition of the Township's land improvements portfolio. Based solely on age based projections, 98% of assets are in fair or better condition, the remaining 2% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

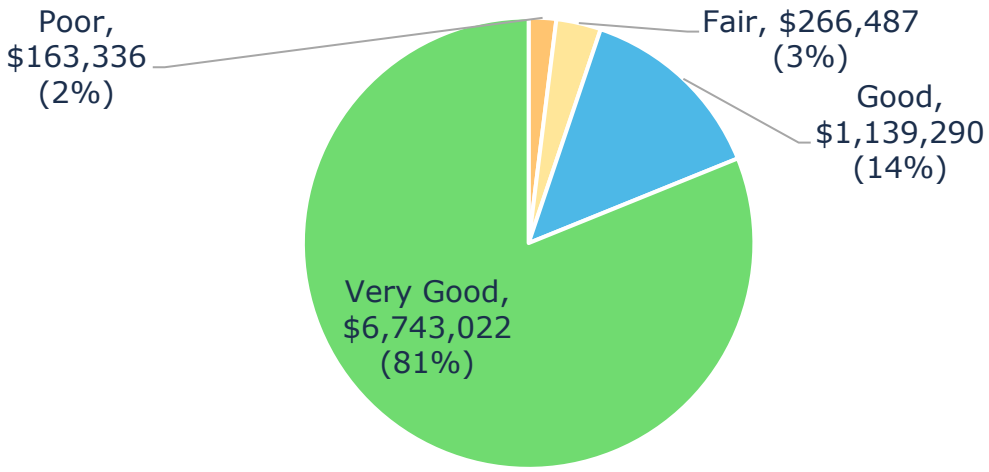

Figure 68 Asset Condition: Land Improvements Overall

Figure 69 summarizes the age-based condition of land improvements by each segment. I each segment the majority of assets are considered to be in good to very good condition.

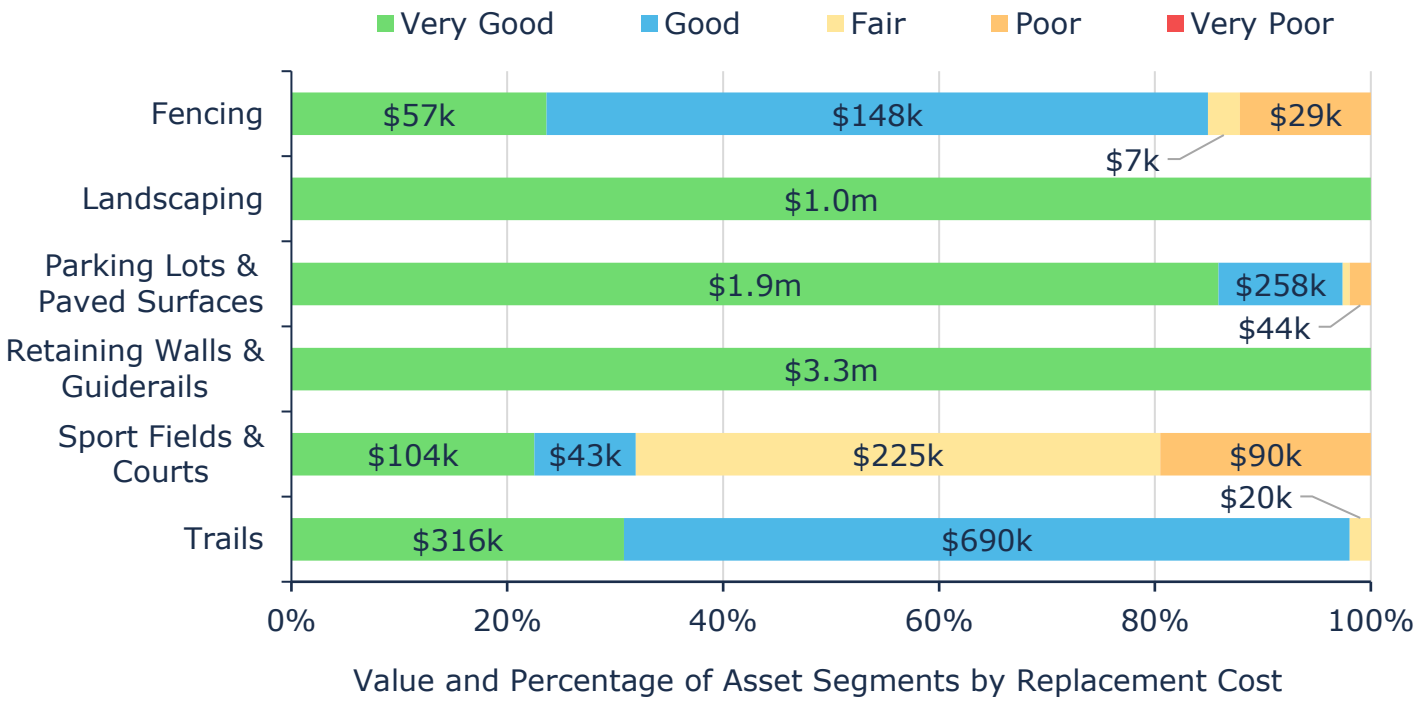

Figure 69 Asset Condition: Land Improvements by Segment

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

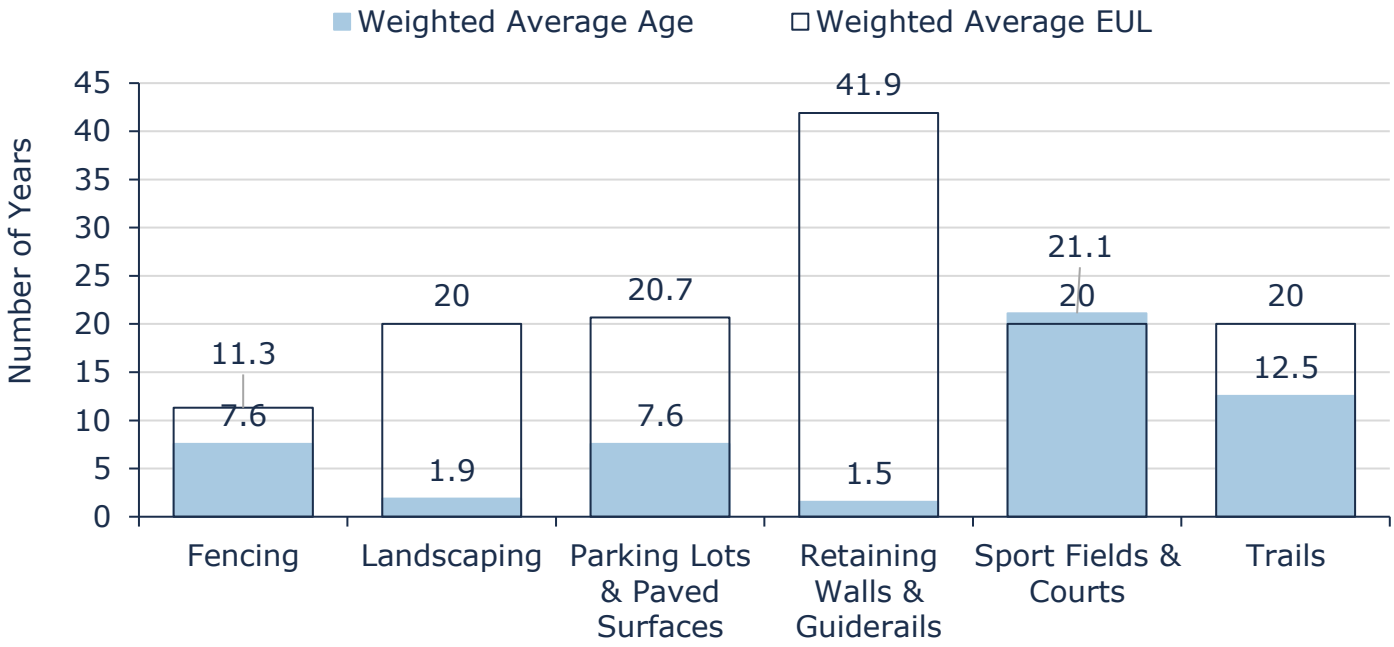

Figure 70 Estimated Useful Life vs. Asset Age: Land Improvements

Age analysis reveals that, on average, most assets are in the early stages of their expected life, except for sports fields and courts which have surpassed their estimated useful life. Further, the trail assets have just tipped over the midpoint of their estimated useful life. These assets should be reviewed for current performance and determine if the useful life currently assigned should be adjusted.

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.

Table 54 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Inspection	Maintenance activities are completed on a regular basis, operational issues and defects are identified, and maintenance tasks are carried out accordingly.
	Routine tasks such as grass cutting and ball diamond maintenance are carried out on a regular basis.
	Routine inspections are conducted regularly to assess necessary repairs, with a major inspection performed prior to opening the parks each year.
Rehabilitation / Replacement	Treatments carried out as needed such as surface treatment for tennis court and new top layering for gravel trails.
	Replacement of playground equipment, tennis courts, splash pads, and asphalt trails (surface or full sub-base) are carried out as needed.

Table 55 Lifecycle Management Strategy: Land Improvements

11.5 Forecasted Long-Term Replacement Needs

Figure 71 illustrates the short-, medium-, and long-term replacement needs of the Municipality's land improvements portfolio over a full lifecycle horizon to 2074. Average annual capital requirements are estimated at $346,000, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year to year.

Replacement demands are projected to decrease slightly over the next 10-15 years, and then increasing as assets begin to reach the end of their estimated useful life between 2040 and 2049. These projections are based on asset replacement costs and age analysis and are intended to support long-term, portfolio-level financial planning

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.

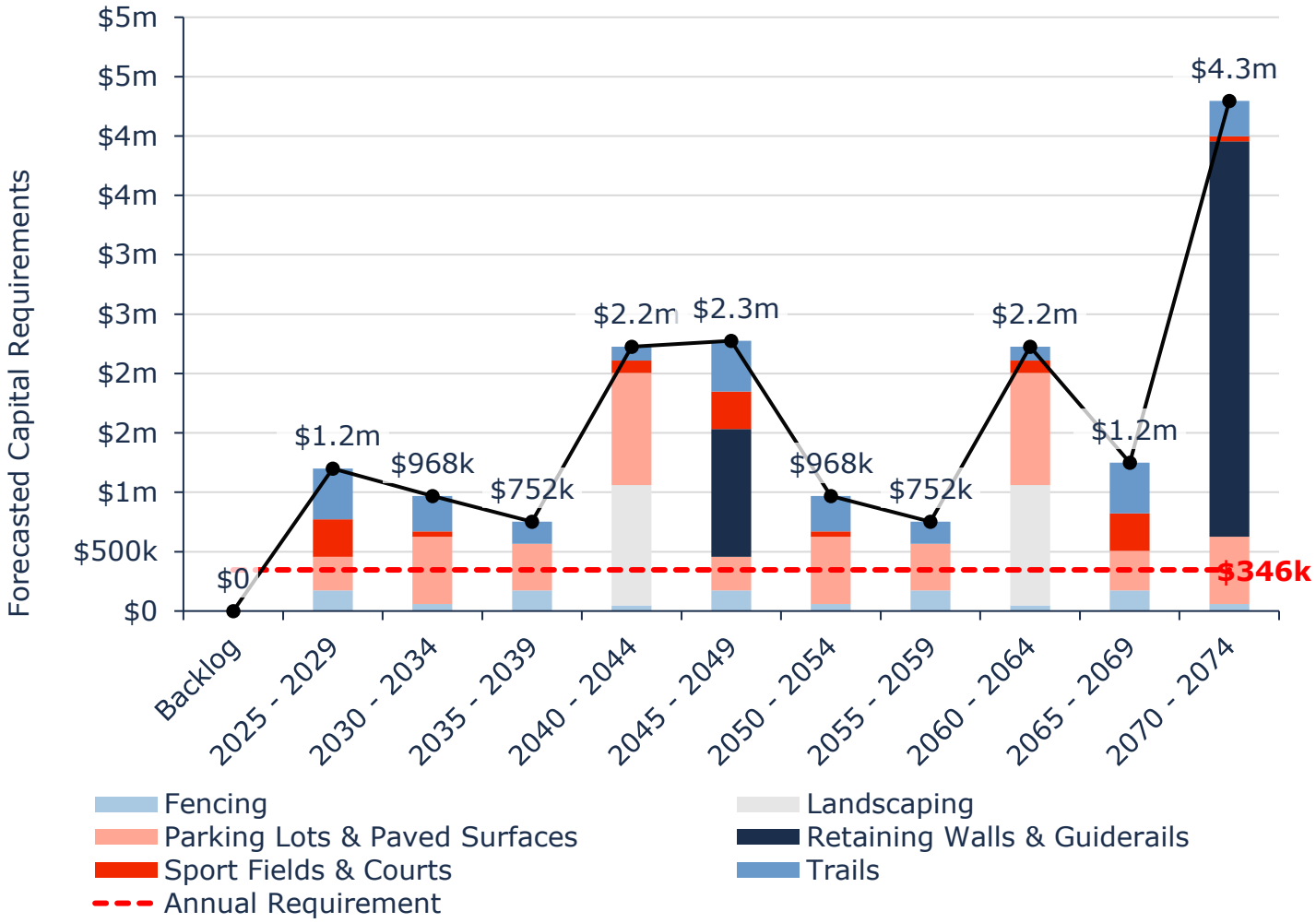

Figure 71 Forecasted Capital Replacement Needs: Land Improvements 2025-2074

11.6 Risk Analysis

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

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.

1 - 4 Very Low $5,543,583 (67%)	**5 - 7** Low $2,031,995 (24%)	**8 - 9** Moderate $480,139 (6%)	**10 - 14** High $256,418 (3%)	**15 - 25** Very High - (0%)

Figure 72 Risk Matrix: Land Improvements

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
Scope	Description of the outdoor recreational facilities that the municipality operates and maintains	The municipality provides and maintains a variety of outdoor sports fields, courts, parks and playground structures.
Quality	Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts	Routine inspections are conducted regularly and in alignment with regulatory requirements to assess necessary repairs.

Table 56 Community Levels of Service: Land Improvements

11.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Performance	Average condition of land improvement assets	91%
Affordability	Target Reinvestment Rate	4.2%
	Actual Reinvestment Rate	0.4%

Table 57 Technical Levels of Service: Land Improvements

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 tables and graphs below explain the proposed levels of service scenarios that were analyzed for land improvements. Further PLOS analysis at the portfolio level can be found in section *4. Proposed Levels of Service Analysis.*

11.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 58 Land Improvements PLOS Scenario Descriptions

11.8.2 PLOS Analysis Results

The analysis for the land improvements assets was run with a 75-year outlook. Using a longer period and accounting for a full lifecycle of assets provides a better average. This table compares projected condition, risk, and funding needs under three funding scenarios. The current replacement cost of the land improvements portfolio is valued at $8.3 million

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	89%	73.8%	4.9	6.8	$346,000	4.2%	2.1%
75% Funded		72.5%		7.0	$260,000	3.1%	1.3%
50% Funded		56.1%		9.6	$173,000	2.1%	0.3%

Table 59 Land Improvements PLOS Scenario Analysis

Projected Condition Impacts

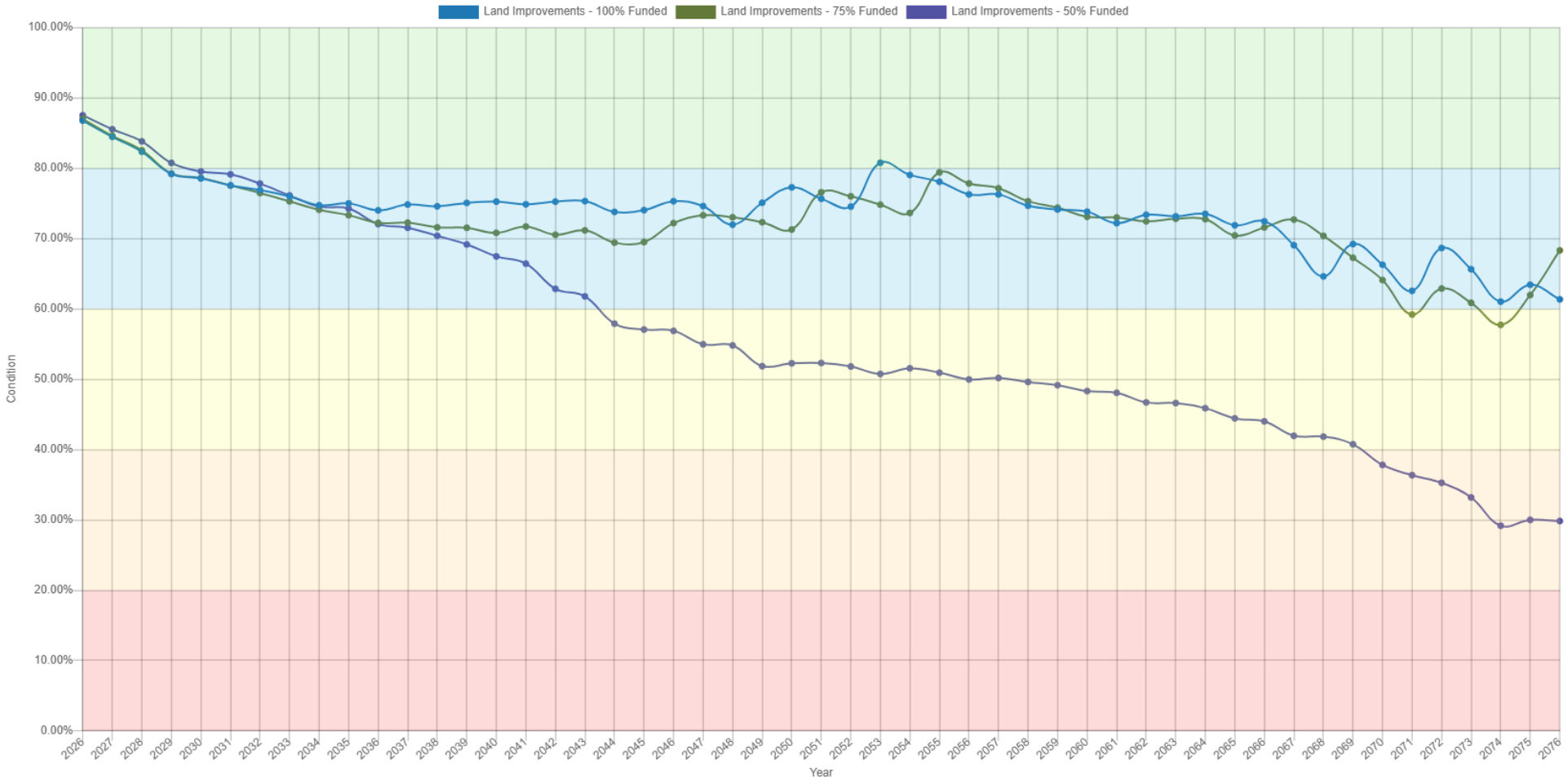

Figure 73 Land Improvements PLOS Scenario Condition Results

The figure indicates that under both 100% and 75% funding scenarios, asset condition declines slightly before stabilizing within the good range, reflecting manageable lifecycle performance. In contrast, the 50% funding scenario shows a steady decline into the poor range, indicating sustained underinvestment and increased risk to long-term service levels.

Projected Risk Impacts

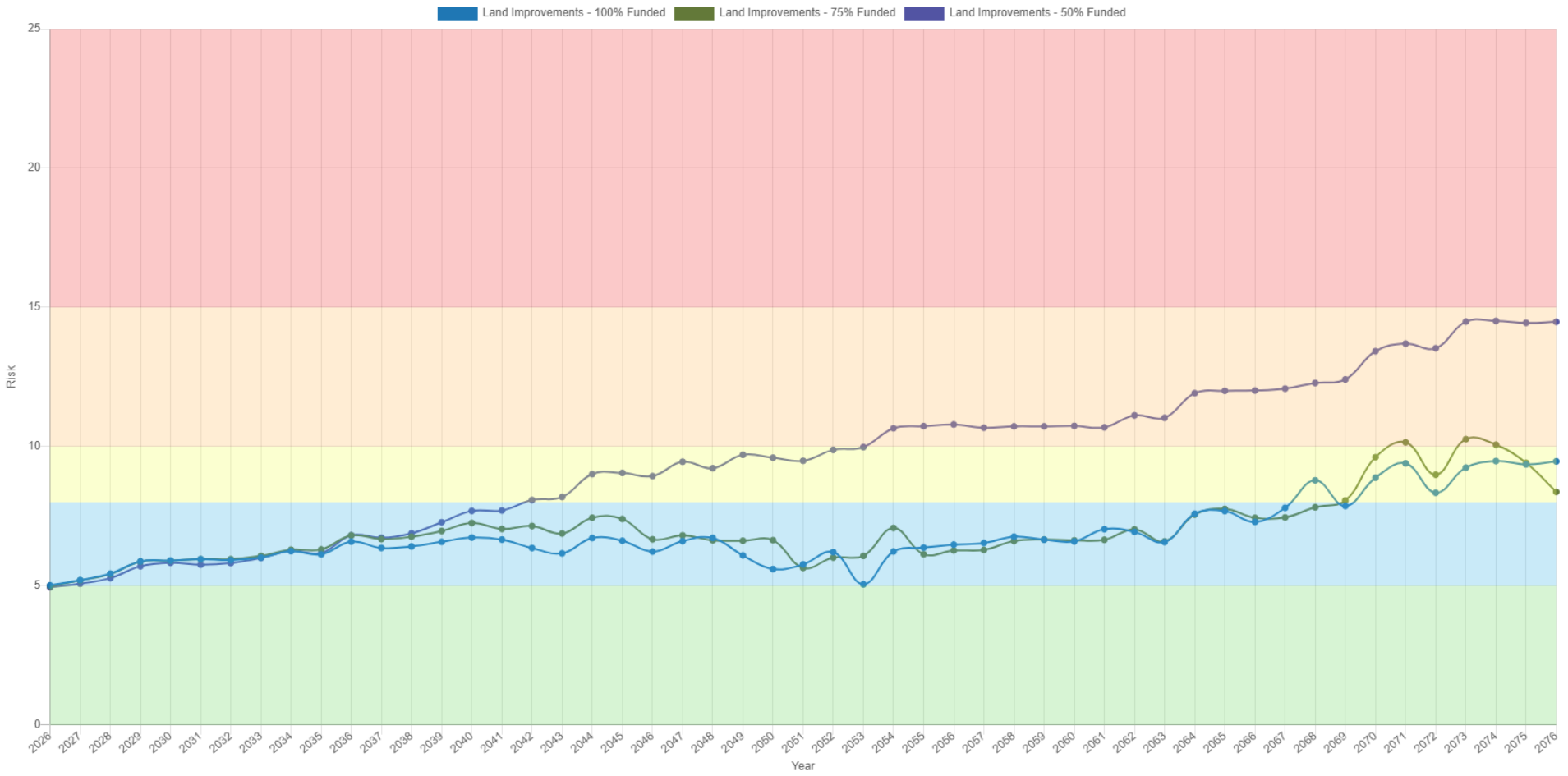

Figure 74 Land Improvements PLOS Scenario Risk Results

The figure indicates that under both 100% and 75% funding scenarios, asset remains relatively stable over the long term in the low range, reflecting manageable lifecycle performance. In contrast, the 50% funding scenario shows a steady increase into the moderate-high range, indicating sustained underinvestment and increased risk to long-term service levels.

11.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 land improvements if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Targeted Capital Spending	**$346k**	**$346k**	**$346k**	**$346k**	**$346k**	**$346k**	**$346k**	**$346k**	**$346k**	**$346k**
Projected Capital Spending	$35k	$54k	$72k	$91k	$110k	$130k	$150k	$171k	$192k	$213k
Funding Deficit	$311k	$293k	$274k	$255k	$236k	$216k	$196k	$175k	$154k	$133k
Target Reinvestment Rate	**4.2%**	**4.2%**	**4.2%**	**4.2%**	**4.2%**	**4.2%**	**4.2%**	**4.2%**	**4.2%**	**4.2%**
Projected Reinvestment Rate	0.4%	0.6%	0.9%	1.1%	1.3%	1.6%	1.8%	2.1%	2.3%	2.6%

Table 60 Land Improvements 10-Year PLOS Financial Projections

12. Vehicles

The Township's vehicles portfolio includes assets that support a variety of general and essential services, including public works, administration and fire services. The total current replacement of vehicles is estimated at approximately $9.4 million.

12.1 Inventory & Valuation

Table 60 summarizes the quantity and current replacement cost of all vehicles assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fire & Emergency Services	21	Assets	$5,905,000	CPI
Public Works	20	Assets	$3,526,000	CPI
Recreation	1	Assets	$44,000	CPI
TOTAL			**$9,475,000**	

Table 61 Detailed Asset Inventory: Vehicles

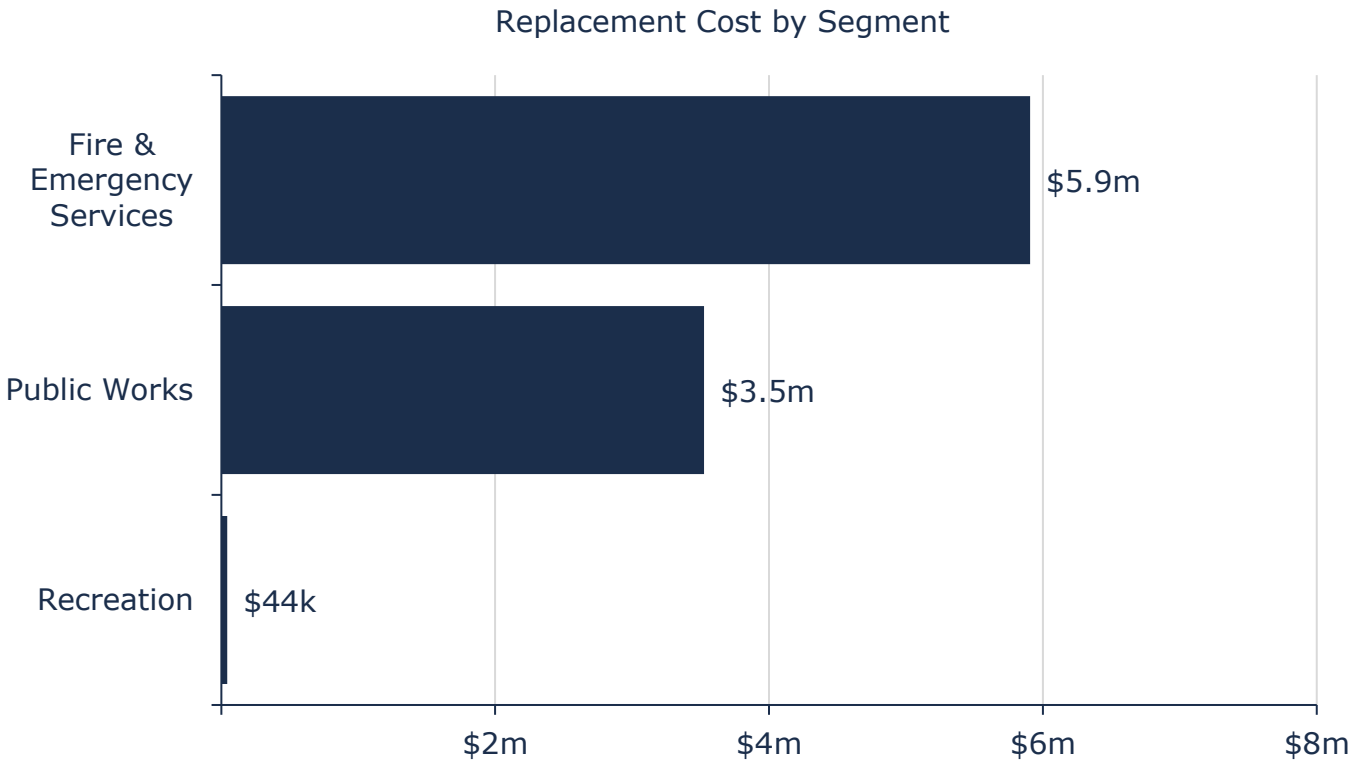

Figure 75 Portfolio Valuation: Vehicles

12.2 Asset Condition

Figure 76 summarizes the replacement cost-weighted condition of the Township's vehicles portfolio. Based primarily on assessed condition data, 93% of vehicles are in fair or better condition, with the remaining 7% 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.

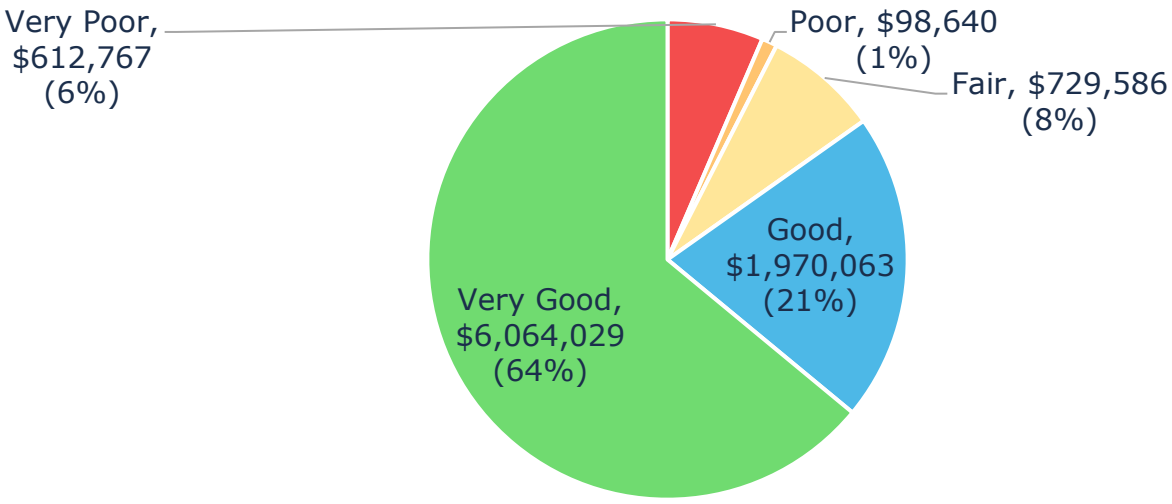

Figure 76 Asset Condition: Vehicles Overall

Figure 77 summarizes the condition of vehicles by each segment. The large majority of vehicles,93%, are in fair or better condition.

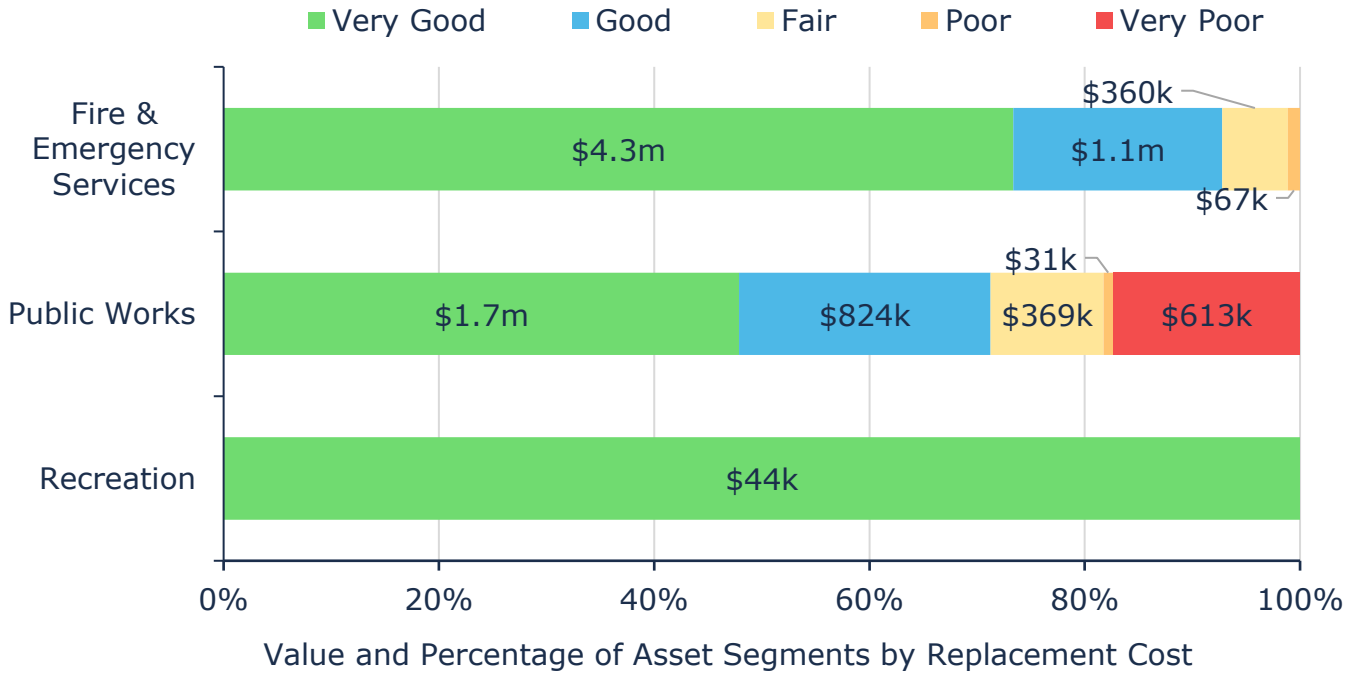

Figure 77 Asset Condition: Vehicles by Segment

12.3 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 78 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.

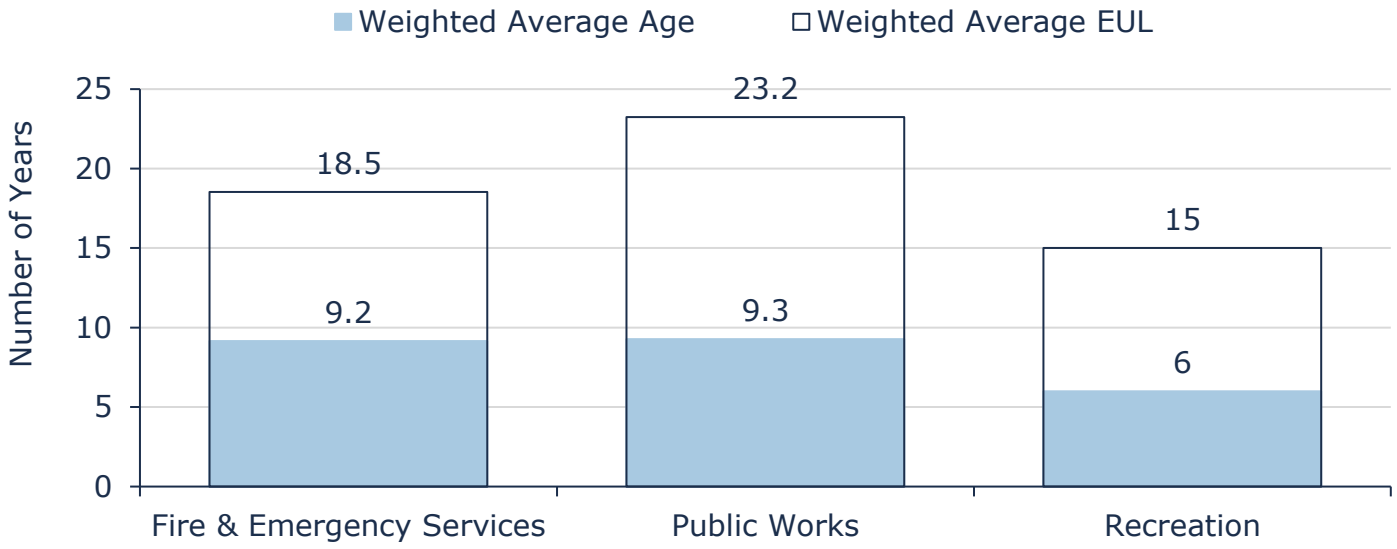

Figure 78 Estimated Useful Life vs. Asset Age: Vehicles

Age analysis reveals that, on average, all vehicles are reaching the mid-point of their expected life with the exception of the public works vehicles.

12.4 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/ Inspections	General regular maintenance including oil and filter changes, brake pad replacement, and tire rotation as needed.
	For assets that support fire services, maintenance is performed in accordance with NFPA requirements
	Yearly inspections and safety assessments for heavy-duty vehicles as required. Mechanical inspections are performed by the municipal mechanic as required.
Rehabilitation/ Replacement	Ad-hoc repairs are conducted as needed to address unplanned failures or wear.
	Vehicles are replaced based on useful life, condition assessments and alignment with established replacement schedules. Fire vehicles follow specific replacement schedules based on regulation and internal policy.

Table 62 Lifecycle Management Strategy: Vehicles

12.5 Forecasted Long-Term Replacement Needs

Figure 79 illustrates the short-, medium-, and long-term replacement needs of the Municipality's vehicle fleet over a lifecycle horizon to 2049. Average annual capital requirements are estimated at $499,000, providing a benchmark for annual capital planning and reserve contributions, recognizing that actual expenditures will vary year to year.

Replacement demands are projected to increase moderately over the next 10 to 15 years, with a $1.8 million investment forecasted in the next 5 years and $2.8 million by 2034. This is due to vehicles assets reaching the end of their estimated useful life. These projections are based on replacement costs and age analysis and are intended to support long-term, portfolio-level financial planning

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.

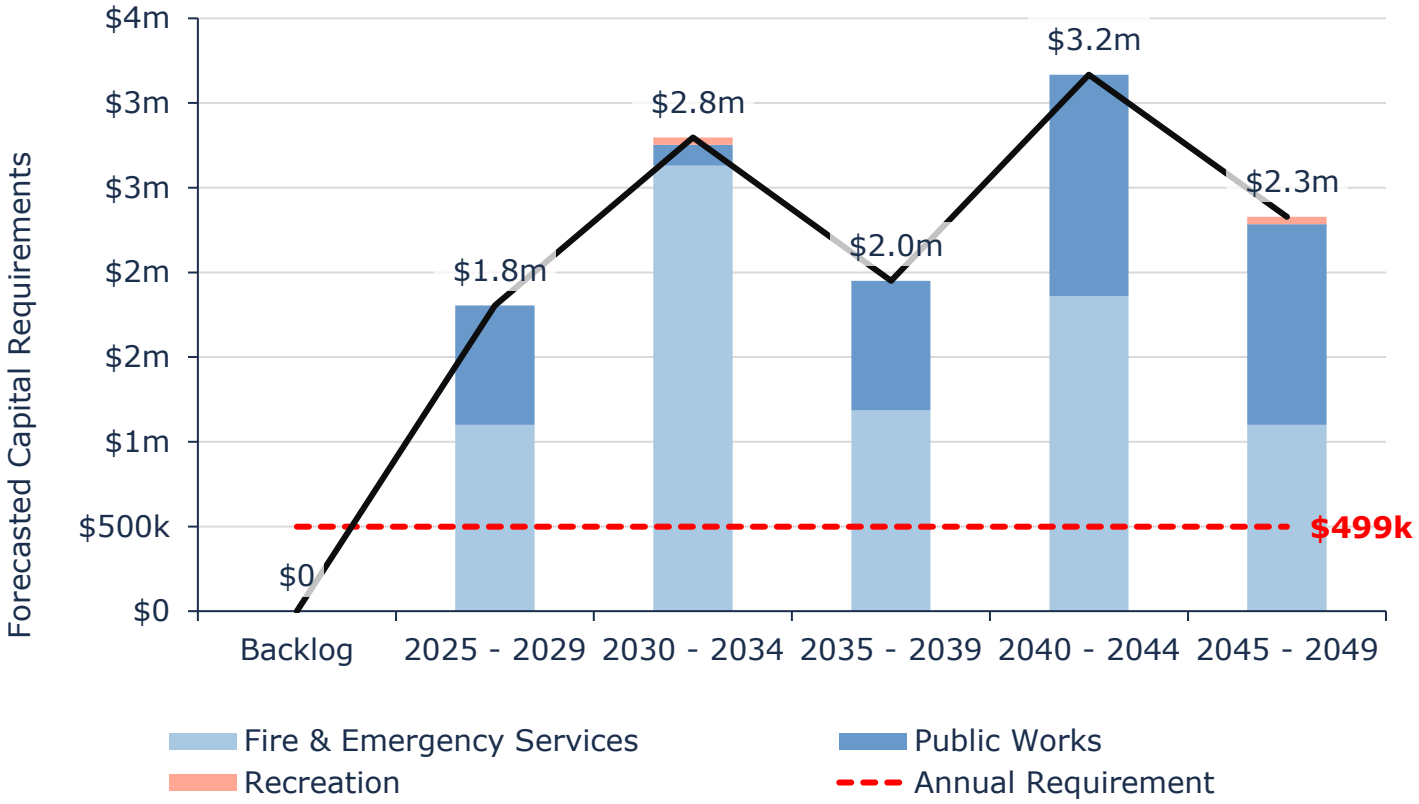

Figure 79 Forecasted Capital Replacement Needs: Vehicles 2025-2049

12.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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 $6,134,186 (65%)	**5 – 7** Low $1,010,891 (11%)	**8 - 9** Moderate $1,065,838 (11%)	**10 - 14** High $715,215 (8%)	**15 - 25** Very High $548,955 (6%)

Figure 80 Risk Matrix: Vehicles

12.7 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.

12.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS
Scope	Description or images of the types of vehicles (e.g. light, medium and heavy-duty) that the municipality operates and the services that they help to provide to the community	Using assessed condition data as available, and age-based condition otherwise vehicle assets range in condition from very poor (6%) to very good (64%) and are on average in good condition (77%). Vehicle assets include diverse assets that service the Township's fire, public works, transit and parks and recreation departments.
Quality	Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts	Replacement and repair activities are planned for and carried out as deficiencies are identified through routine and regulated inspections and assessments.
Reliability	Description of how assets are available and reliable	Vehicle assets will be safe and fit for purposes, effectively shared between department and sufficiently affordable and reliable to meet performance obligations

Table 63 Community Levels of Service: Vehicles

12.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Performance	Average Condition of Vehicle Assets	77%
Affordability	Target Reinvestment Rate	5.3%
	Actual Reinvestment Rate	6.8%

Table 64 Technical Levels of Service: Vehicles

12.8 Proposed Levels of Service

The tables below and graphs explain the proposed levels of service scenarios that were analyzed for vehicles. Further PLOS analysis at the portfolio level can be found in section *4. Proposed Levels of Service Analysis.*

12.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 65 Vehicles PLOS Scenario Descriptions

12.8.2 PLOS Analysis Results

The analysis for Vehicles was considered over a 15-year period to reflect the shorter lifecycle of this asset category. Condition and risk change quickly due to shorter lifecycles typically assigned to this category. The current replacement cost of the vehicles portfolio is valued at $9.5 million.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	67.7%	67.5%	7.1	8.4	$499,000	5.3%	2.1%
75% Funded		55.2%		10.4	$374,250	4.0%	1.3%
50% Funded		41.1%		12.8	$249,500	2.6%	0.3%

Table 66 Vehicles PLOS Scenario Analysis

Projected Condition Impacts

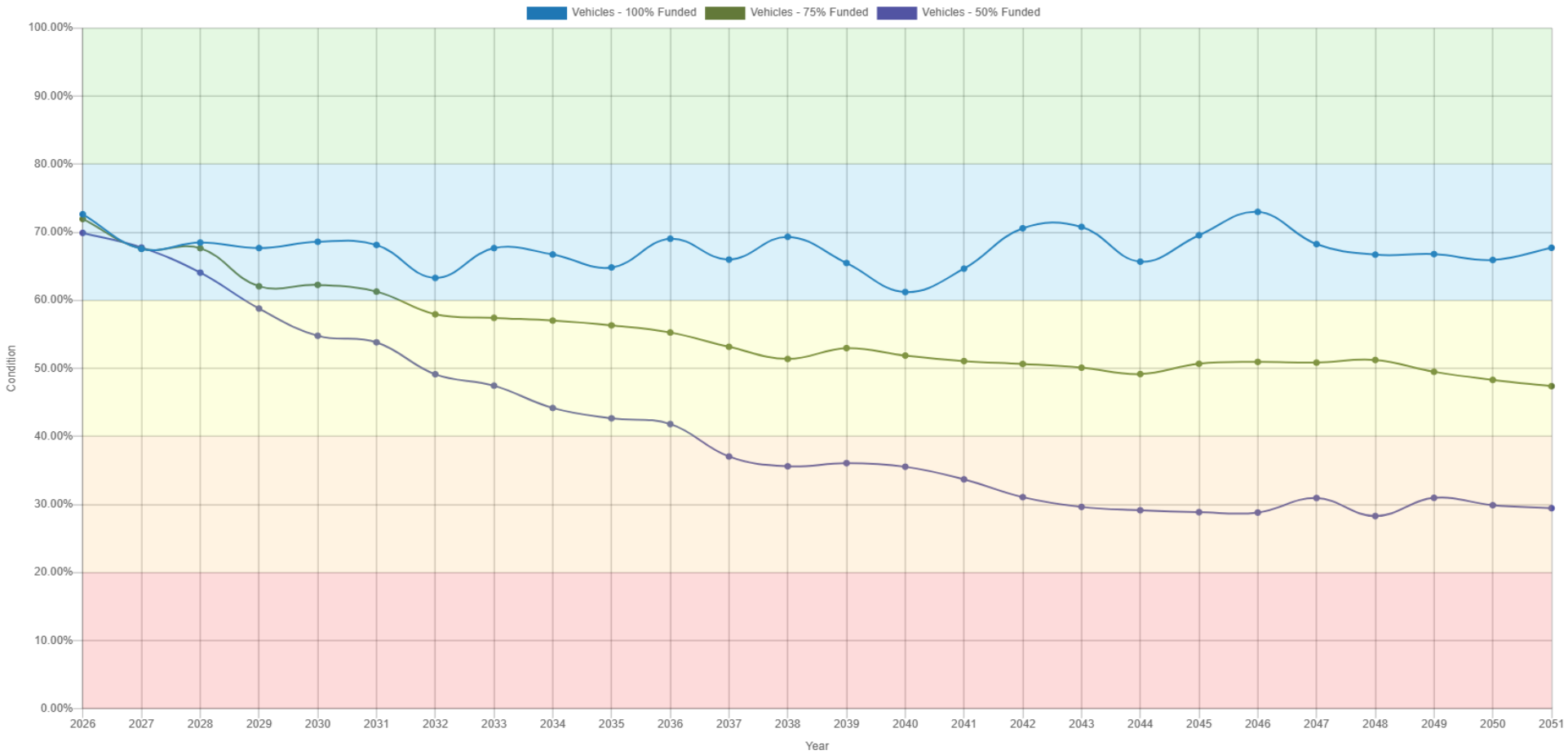

Figure 81 Vehicles PLOS Scenario Condition Results

Under full funding, condition remains stable in the good range with a projected higher average condition. Slight variations exist as assets cycle through the shorter useful life projections. At 75% funding, condition gradually decreases into the fair range and stabilize, reflecting moderate performance decline. Under 50% funding, condition steadily deteriorates, stabilizing in the poor range, indicating sustained underinvestment and increasing risk to service levels. Overall, the results demonstrate that adequate funding is essential to maintain asset condition and prevent long-term degradation.

Projected Risk Impacts

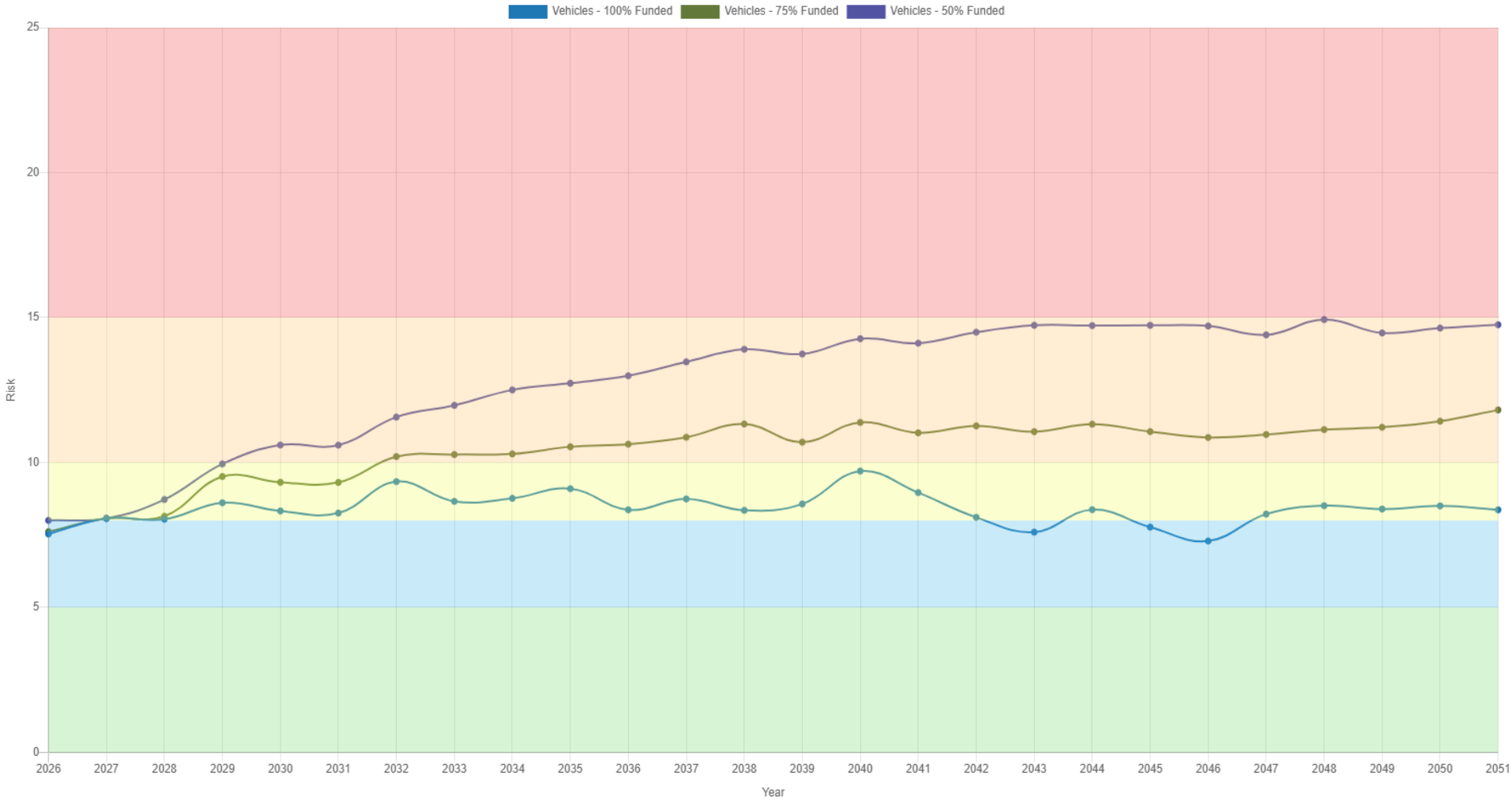

Figure 82 Vehicles PLOS Scenario Risk Results

Under all scenarios, risk remains relatively stable within the moderate ranges, reflecting proactive replacement and maintenance that limits exposure. Under 50% funding, risk is slightly higher and begins to trend upward, demonstrating that sustained underfunding leads to accumulating operational, service, and reliability risks that are difficult to reverse over the long term.

12.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 vehicles if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Targeted Capital Spending	**$499k**	**$499k**	**$499k**	**$499k**	**$499k**	**$499k**	**$499k**	**$499k**	**$499k**	**$499k**
Projected Capital Spending	$499k	$499k	$499k	$499k	$499k	$499k	$499k	$499k	$499k	$499k
Funding Deficit	-	-	-	-	-	-	-	-	-	-
Target Reinvestment Rate	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**
Projected Reinvestment Rate	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%

Table 67 Vehicles 10-Year PLOS Financial Projections

13. Machinery & Equipment

The Township's Machinery & Equipment portfolio includes assets that support a variety of general and essential services, including recreation and fire. The total current replacement of Machinery & Equipment is estimated at approximately $13.4 million.

13.1 Inventory & Valuation

Figure 83 and Table 67 summarize the quantity and current replacement cost of all Machinery & Equipment assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Computer Systems	107	Assets	$1,176,000	CPI
Fire & Emergency Services	414	Assets	$3,427,000	CPI
Furniture & Fixtures	135	Assets	$880,000	CPI
Health Services	5	Assets	$95,000	CPI
Libraries	9	Assets	$625,000	CPI
Parks	80	Assets	$1,183,000	CPI
Public Works	39	Assets	$3,761,000	CPI
Recreation	54	Assets	$2,284,000	CPI
TOTAL			**$13,431,000**	

Table 68 Detailed Asset Inventory: Machinery & Equipment

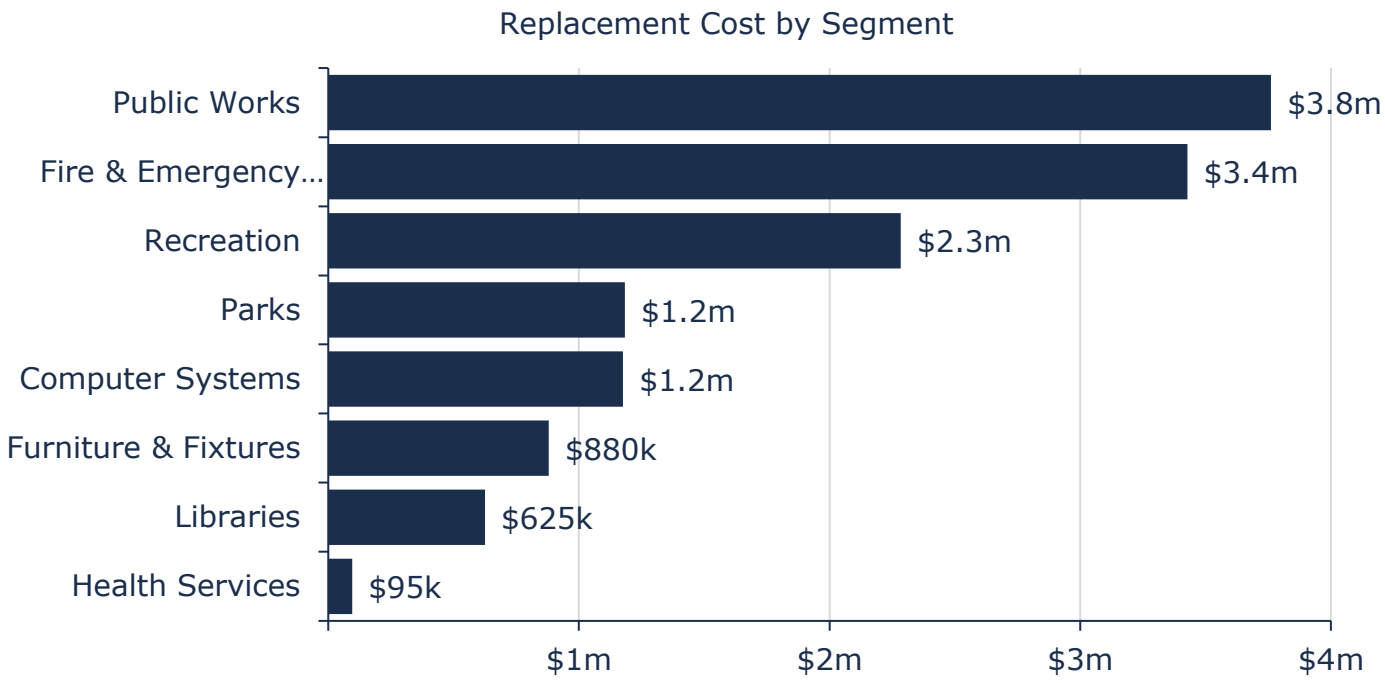

Figure 83 Portfolio Valuation: Machinery & Equipment

13.2 Asset Condition

Figure 84 summarizes the replacement cost-weighted condition of the Township's Machinery & Equipment portfolio. Assessed conditions were available for 5% of the assets, the remaining 95% are calculated using age-based projections. 90% of assets are in fair or better condition; the remaining 10% 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.

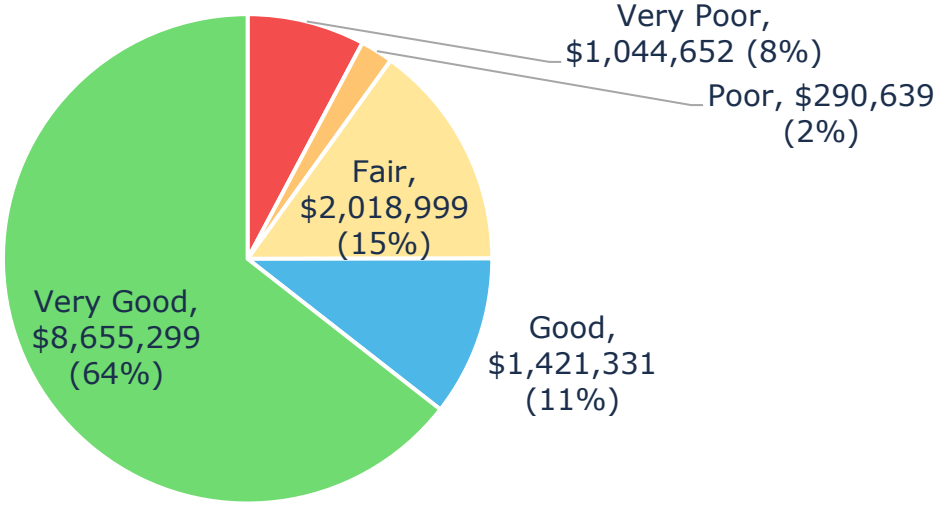

Figure 84 Asset Condition: Machinery & Equipment Overall

Figure 85 summarizes the condition of Machinery & Equipment by each segment.

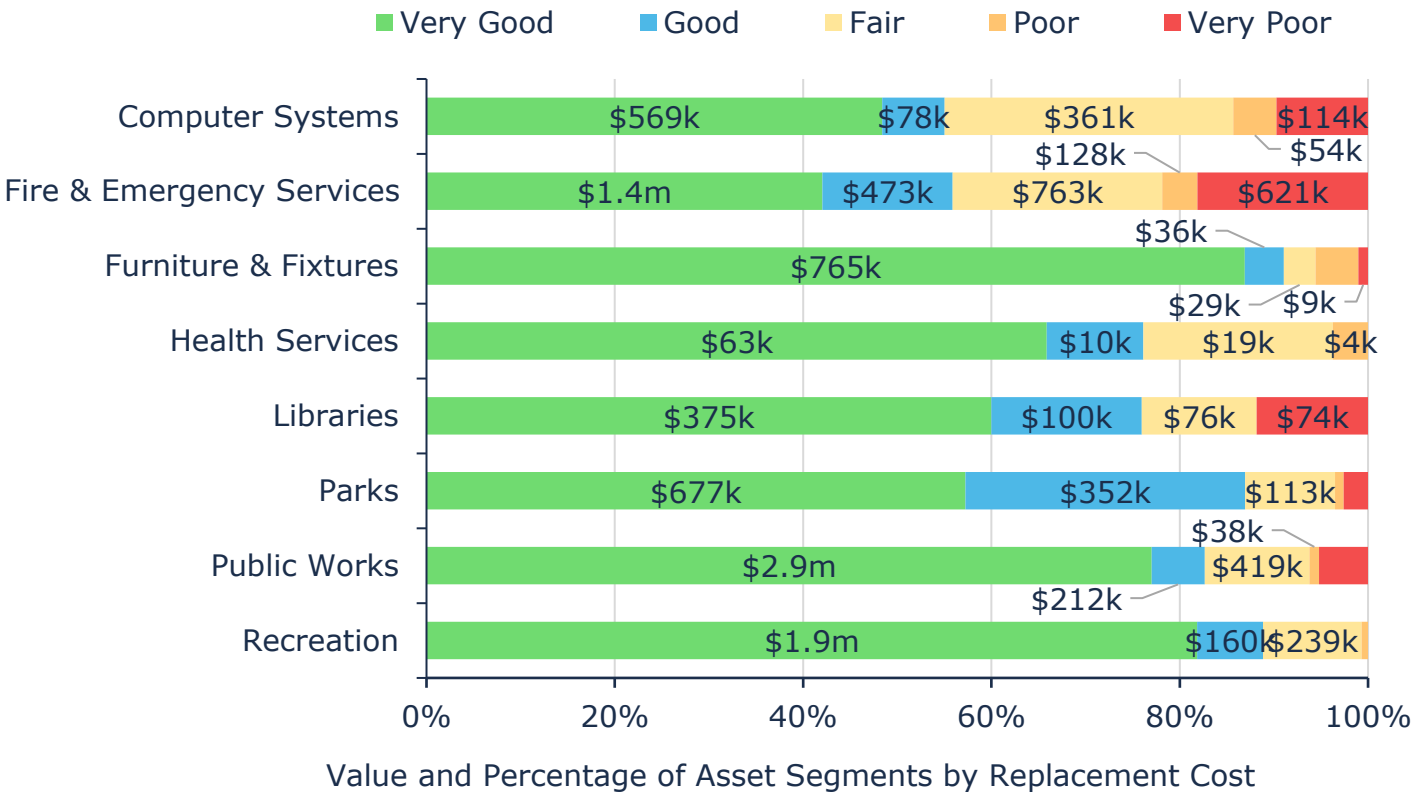

Figure 85 Asset Condition: Machinery & Equipment by Segment

13.3 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 86 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.

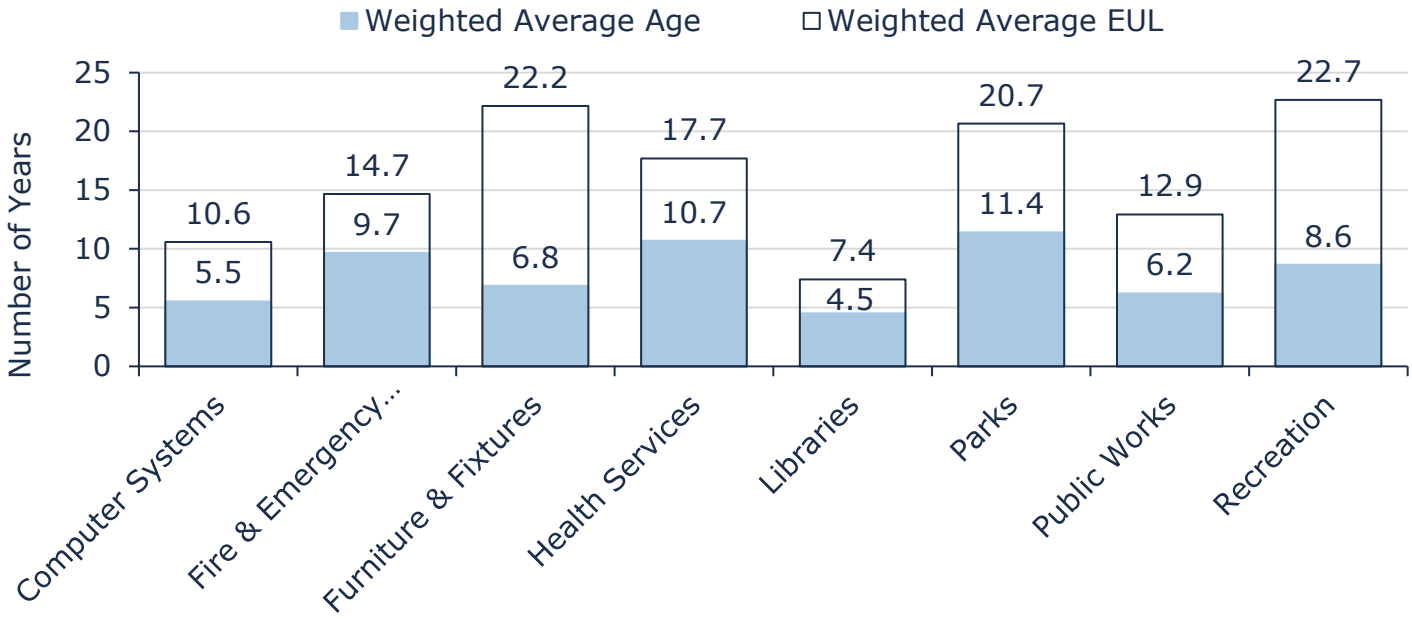

Figure 86 Estimated Useful Life vs. Asset Age: Machinery & Equipment

Age analysis indicates that several classes are nearing or having reached the midpoint of the estimate service life. Overall, the portfolio is maturing, underscoring the need for proactive planning, to manage upcoming replacement pressures and maintain service reliability.

13.4 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/ Inspection	Routine maintenance is completed as per manufacturer recommendations
	All other maintenance activities are completed on a reactive basis when operational issues are identified (e.g., mechanical breakdown, deficiencies identified during daily inspections)
Rehabilitation/ Replacement	Equipment is replaced based on condition assessments, corresponding useful life remaining estimates and internal policies, such as replacement schedules.
	For assets that support fire services, maintenance is performed in accordance with NFPA requirements

Table 69 Lifecycle Management Strategy: Machinery & Equipment

13.5 Forecasted Long-Term Replacement Needs

Figure 87 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's Machinery & Equipment portfolio. This analysis was run until 2064 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 Machinery & Equipment.

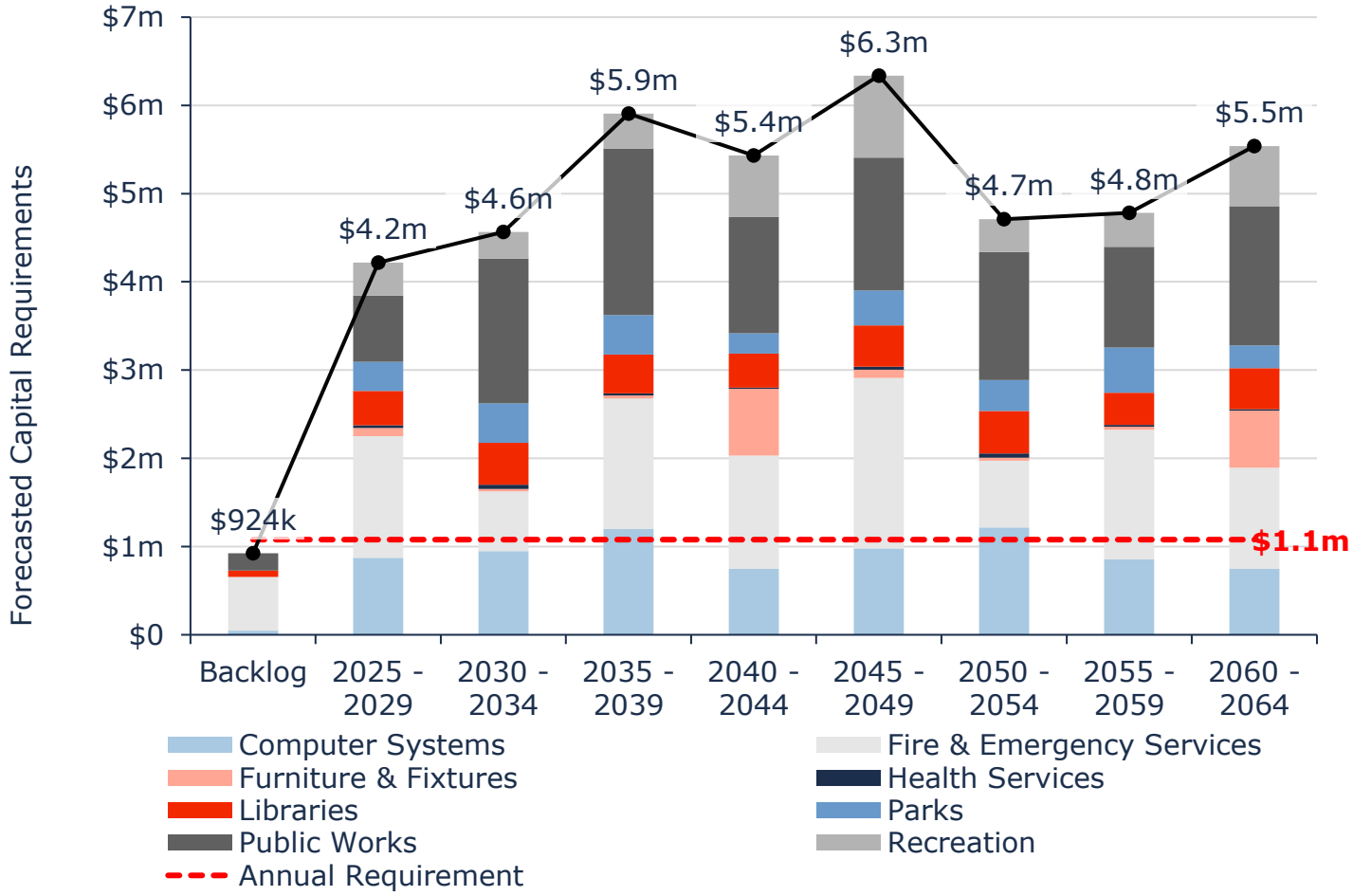

Figure 87 Forecasted Capital Replacement Needs: Machinery & Equipment 2025-2064

Replacement needs are forecasted to rise considerably over the next 20-year period, peaking at $6.3 million in 2049. 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.

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.

13.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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	**5 – 7**	**8 - 9**	**10 - 14**	**15 - 25**
Very Low	Low	Moderate	High	Very High
$9,541,234	$1,649,062	$482,327	$1,312,865	$445,432
(71%)	(12%)	(4%)	(10%)	(3%)

Figure 88 Risk Matrix: Machinery & Equipment

13.7 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.

13.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS
Scope	Description of the types of equipment that the municipality operates and the services that they help to provide to the community	Using assessed condition data as available, and age-based condition otherwise, machinery & equipment assets range in condition from very poor (7.8%) to very good (64%). Machinery and equipment assets are diverse and service the needs of fire, parks and recreation, and public works.
Quality	Describe criteria for rehabilitation and replacement decisions and any related long-term forecasts	Machinery & equipment asset replacement decisions predominantly consider asset condition, criticality, legislative compliance and internal policies such as replacement schedules. Machinery & equipment investments are presented to Council during budget deliberations and determined based on departmental requirements.

Table 70 Community Levels of Service: Machinery & Equipment

13.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS
Performance	Average Condition of Equipment Assets	77%
Affordability	Target Reinvestment Rate	8.0%
	Actual Reinvestment Rate	4.5%

Table 71 Technical Levels of Service: Machinery & Equipment

13.8 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 below tables and graphs explain the proposed levels of service scenarios that were analyzed for Machinery & Equipment. Further PLOS analysis at the portfolio level can be found in Section *4. Proposed Levels of Service Analysis.*

13.8.1 PLOS Scenarios Analyzed

Scenario	Description	Annual Tax Increase Required
Scenario 1: 100% Funding Target	This scenario assumes gradual tax increases, stabilizing at 100% funding in 15 years.	2.1%
Scenario 2: 75% Funding Target	This scenario assumes gradual tax increases, stabilizing at 75% funding in 15 years.	1.3%
Scenario 3: 50% Funding Target	This scenario assumes gradual tax increases, stabilizing at 50% funding in 15 years.	0.3%

Table 72 Machinery & Equipment PLOS Scenario Descriptions

13.8.2 PLOS Analysis Results

The analysis for Vehicles was considered over a 25-year period to reflect the shorter lifecycle of this asset category. Condition and risk change quickly due to shorter lifecycles typically assigned to this category. The current replacement cost of the equipment portfolio is valued at $13.4 million.

Scenario	Initial Condition	Average Condition	Initial Risk	Average Risk	Average Annual Requirement	Capital Reinvestment Rate	Overall Tax Increase
100% Funded	71.6%	68.3%	5.6	6.2	$1,078,000	8.0%	2.1%
75% Funded		56.7%		7.7	$809,000	6.0%	1.3%
50% Funded		45.2%		9.3	$539,000	4.0%	0.3%

Table 73 Machinery & Equipment PLOS Scenario Analysis

Projected Condition Impacts

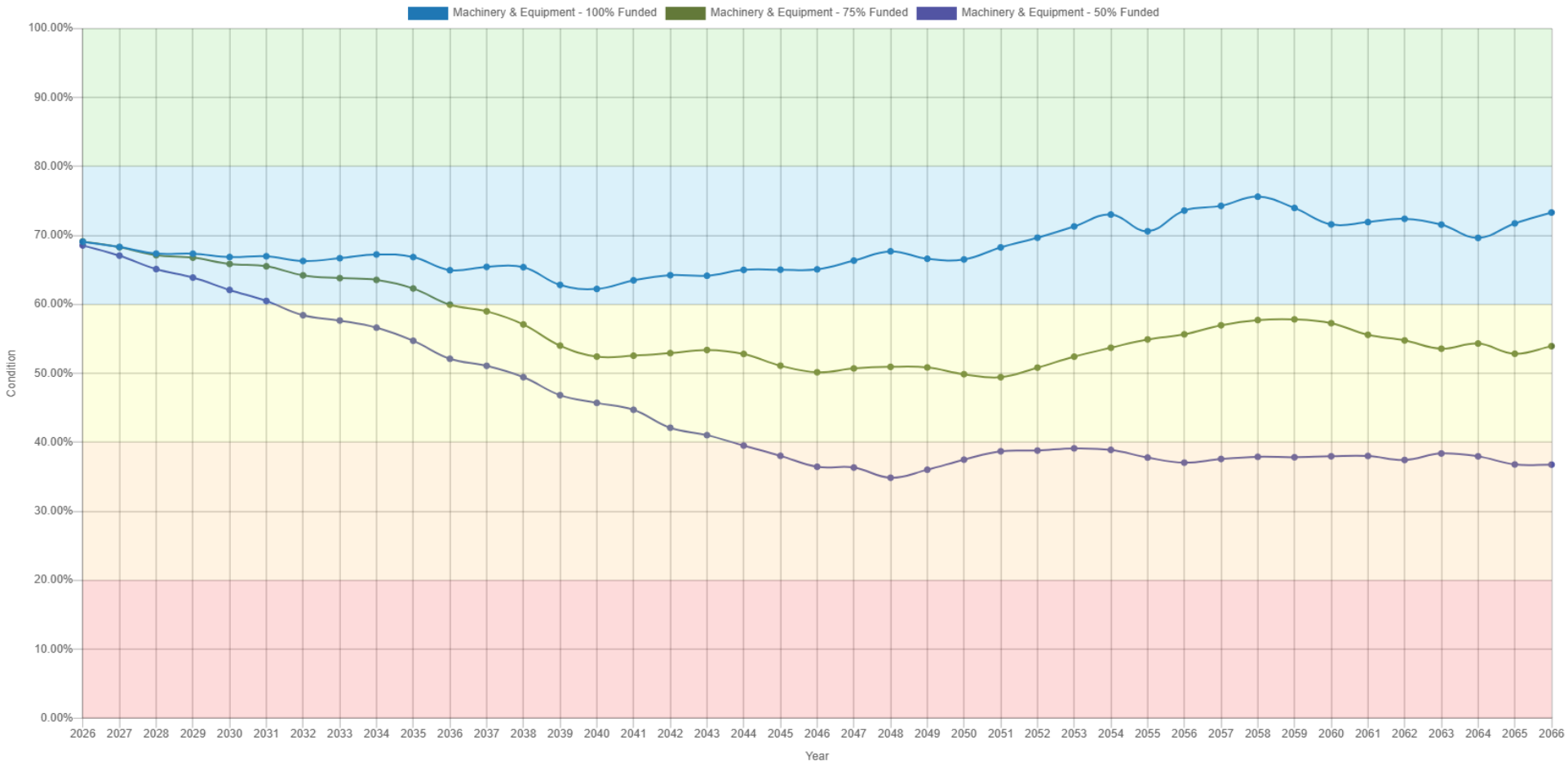

Figure 89 Machinery & Equipment PLOS Scenario Condition Results

Under full funding, condition remains stable in the good range with a projected higher average condition. Slight variations exist as assets cycle through the shorter useful life projections. At 75% funding, condition gradually decreases into the fair range and stabilize, reflecting moderate performance decline. Under 50% funding, condition steadily deteriorates, stabilizing in the poor range, indicating sustained underinvestment and increasing risk to service levels. Overall, the results demonstrate that adequate funding is essential to maintain asset condition and prevent long-term degradation.

Projected Risk Impacts

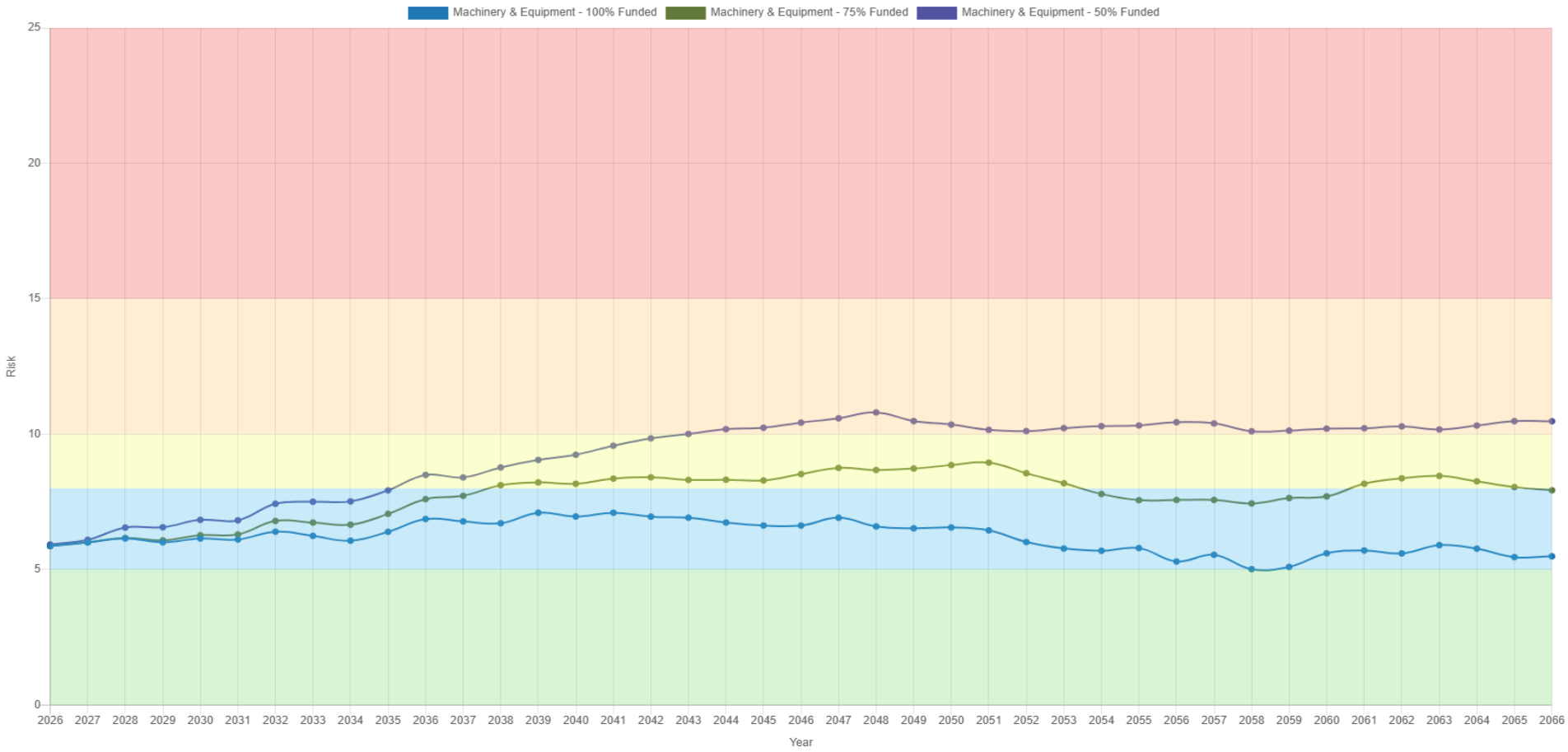

Figure 90 Machinery & Equipment PLOS Scenario Risk Results

Under all scenarios, risk remains relatively stable within the low-moderate ranges, reflecting proactive replacement and maintenance that limits exposure. Under 100% funding risk levels stabilize into the low range with continued and timely investment. Under 50% funding, risk is slightly higher and begins to trend upward, demonstrating that sustained underfunding leads to accumulating operational, service, and reliability risks that are difficult to reverse over the long term.

13.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Township of Clearview selected Scenario 1 as their preferred proposed levels 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 Machinery & Equipment if the financial strategy for Scenario 1 is implemented.

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
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	$611k	$638k	$666k	$695k	$724k	$754k	$784k	$815k	$846k	$878k
Funding Deficit	$467k	$440k	$412k	$383k	$354k	$325k	$294k	$264k	$232k	$200k
Target Reinvestment Rate	**8.0%**	**8.0%**	**8.0%**	**8.0%**	**8.0%**	**8.0%**	**8.0%**	**8.0%**	**8.0%**	**8.0%**
Projected Reinvestment Rate	4.6%	4.8%	5.0%	5.2%	5.4%	5.6%	5.8%	6.1%	6.3%	6.5%

Table 74 Machinery & Equipment 10-Year PLOS Financial Projections

14. 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.

14.1 Growth Assumptions

The Township of Clearview's 2024 Official Plan outlines a vision for sustainable and strategically managed growth through 2051, with development concentrated in designated Settlement Areas and guided by principles of efficient infrastructure use, housing diversity, and rural preservation. The Plan is based on projections from the County of Simcoe and sets out clear targets for population, employment, and housing growth that reflect provincial and regional planning frameworks.

Clearview's population is forecasted to grow from 15,229 in 2021 to 21,820 by 2051, with 70% of this growth directed to Urban Settlement Areas such as Stayner and Creemore. Stayner alone is expected to grow from 5,056 residents in 2021 to 8,516 by 2051, accounting for more than half of the Township's urban population increase. Creemore is projected to grow from 1,345 to 2,499 over the same period. To accommodate this growth, the Township plans for the development of 3,680 new dwelling units by 2051, primarily within the Urban Settlement Areas. The Plan sets density targets of 60% low-density, 30% medium-density, and 10% high-density housing in urban areas, while Community and Rural Settlement Areas are expected to remain predominantly low-density.

Employment is also projected to grow significantly, from 4,350 jobs in 2021 to 6,280 by 2051. This includes growth in population-related employment (e.g., retail and education), employment land uses (e.g., manufacturing and warehousing), and rural-based jobs in agriculture and resource extraction. The Plan emphasizes maintaining and expanding employment opportunities in line with population growth and supporting complete communities.

Clearview's infrastructure strategy supports this anticipated growth by prioritizing development in areas already serviced by municipal water and wastewater systems. The Plan promotes intensification within existing built-up areas and development in designated greenfield areas where services can be extended in a fiscally responsible manner. Rural Settlement Areas such as Dunedin, Glen Huron, and Singhampton will see only limited development, preserving the Township's rural landscape and heritage.

14.2 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.

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

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

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels (none identified for this plan)
    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
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
4. Use of Senior Government Funds:
    a. BCSF (Formerly 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 Municipality'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.

15.1.1 Annual Requirements & Capital Funding

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 $17.3 million annually to address capital requirements for the assets included in this AMP.

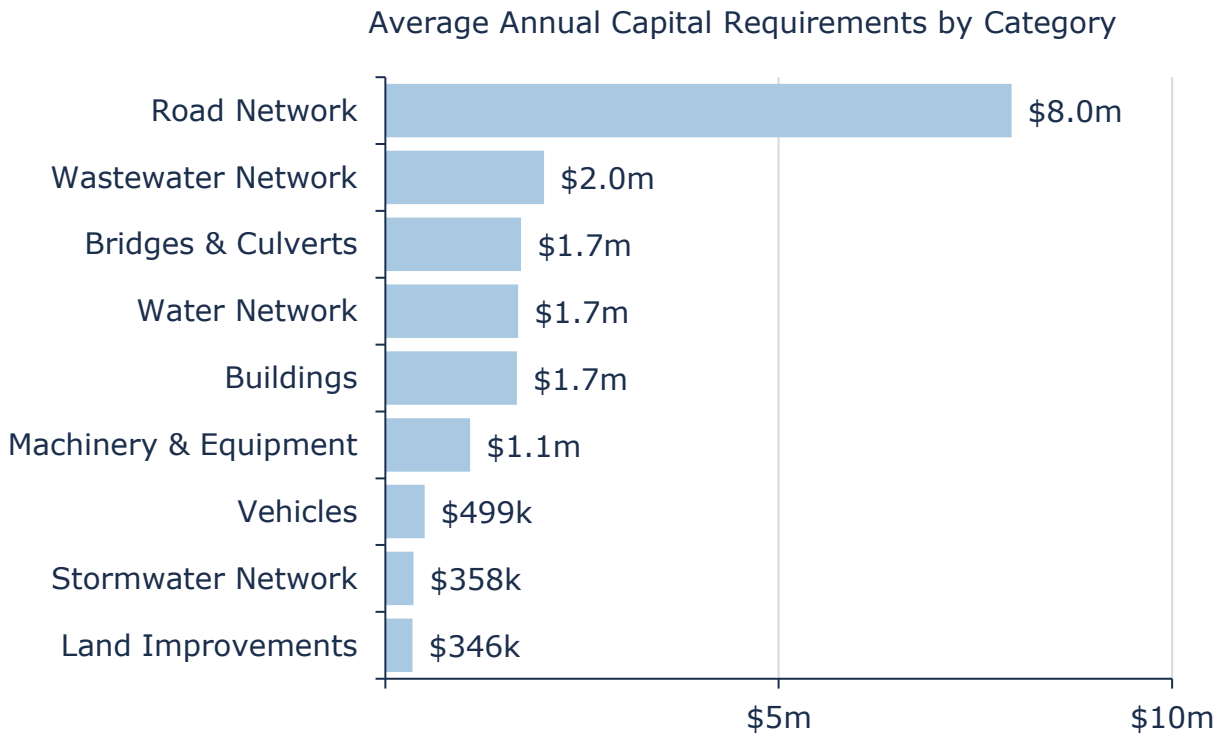

Figure 91 Average Annual Capital Requirement by Asset Category

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, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the Municipality'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 Road Network:

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
Road Network	$10,438,000	$7,959,000	$2,479,000

Table 75 Replacement Only vs. Lifecycle Strategies Cost Savings

The implementation of a proactive lifecycle strategy for roads leads to potential annual cost avoidance of $2.48 million for the Road Network. This represents an overall reduction of the annual requirements by 24%. As the lifecycle strategy scenario represents the lowest cost option available to the Municipality, we have used these annual requirements in the development of the financial strategy.

Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $6.9 million towards capital projects per year. Given the annual capital requirement of $17.3 million, there is currently a funding gap of $10.4 million annually.

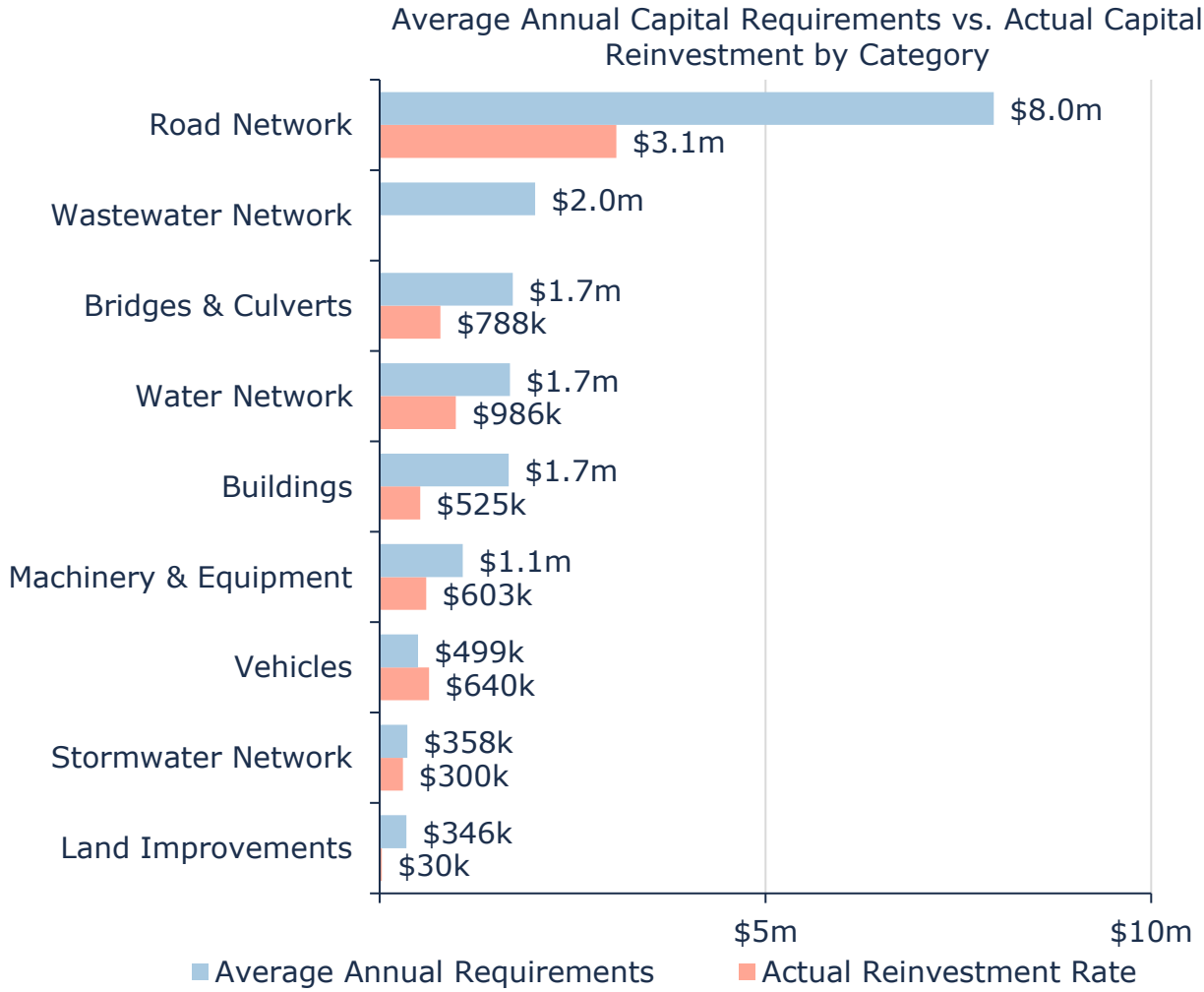

Figure 92 Annual Capital Requirements vs. Available Funding

15.2 Funding Objective

We have developed a scenario that would enable the Township of Clearview to achieve full funding and the proposed level of service, within 1 to 20 years for the following assets:

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

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

15.3 Financial Profile: Tax Funded Assets

15.3.1 Current Funding Position

The following tables show, by asset category the 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 (Surplus)
		Taxes for Capital	BCSF	OCIF	Taxes to Capital Reserves	Total Available	
Road Network	$7,959,000	1,950,000	476,000	641,000		3,067,000	4,892,000
Bridges & Culverts	$1,725,000				788,000	788,000	937,000
Stormwater Network	$358,000				300,000	300,000	58,000
Buildings	$1,673,000				525,000	525,000	1,148,000
Land Improvements	$346,000	30,000				30,000	316,000
Vehicles	$499,000				640,000	640,000	(141,000)
Machinery & Equipment	$1,078,000	397,000			206,000	603,000	475,000
Total	**$13,637,000**	**2,377,000**	**476,000**	**641,000**	**2,459,000**	**$5,953,000**	**$7,684,000**

Table 76 Annual Funding Available for Tax Funded Assets

The average annual investment requirement for the above categories is $13.6 million. The annual revenue currently allocated to these assets for capital purposes is $5.95 million leaving an annual deficit of $7.7 million. Put differently, these infrastructure categories are currently funded at 43.7% of their long-term requirements.

15.3.2 Full Funding Requirements

In 2024, the Township of Clearview had budgeted annual tax revenues of $21.4 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
Road Network	22.9%
Stormwater Network	0.3%
Bridges & Culverts	4.4%
Buildings	5.4%
Land Improvements	1.5%
Vehicles	No Change Required
Machinery & Equipment	2.2%
Total	**36.1%**

Table 77 Full Funding Tax Increases for Tax Funded Categories

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

a) debt payments for these asset categories will decrease by $3,500 over the next 5 years, $4,400 over the next 10 years, $136,000 over the next 15 years and 20 years.

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

	Tax Increases Without Capturing Changes			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	7,683,900	7,683,900	7,683,900	7,683,900
Debt Reallocation	-	-	-	-
Resulting Infrastructure Deficit:	**7,683,900**	**7,683,900**	**7,683,900**	**7,683,900**
Tax Increase Required	36.0%	36.0%	36.0%	36.0%
Annually:	**6.4%**	**3.2%**	**2.1%**	**1.6%**

Table 78 Annual Tax Increase Requirements without Debt Reallocation

	Tax Increases With Capturing Changes			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	7,683,900	7,683,900	7,683,900	7,683,900
Debt Reallocation	-3,517	-4,420	-136,040	-136,040
Resulting Infrastructure Deficit:	**7,680,383**	**7,679,480**	**7,547,861**	**7,547,861**
Tax Increase Required	35.9%	35.9%	35.3%	35.3%
Annually:	**6.4%**	**3.2%**	**2.1%**	**1.6%**

Table 79 Annual Tax Increase Requirements with Debt Reallocation

15.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 15-year option. This involves full funding being achieved over 15 years by:

a) when realized, reallocating the debt cost reductions of $136,000 to the infrastructure deficit as outlined above.
b) increasing tax revenues by 2.1% each year for the next 15 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP and achieving the proposed level of service.
c) allocating the current BCSF (formerly CCBF) and OCIF contributions revenue as outlined previously.
d) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot

be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[12].

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

Although this option achieves full funding on an annual basis in 15 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

15.4 Financial Profile: Rate Funded Assets

15.4.1 Current Funding Position

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

Asset Category	Avg. Annual Req.	Annual Funding Available			Annual Deficit
		Rates	To Ops	Total	
Water Network	$1,689,000	3,692,000	-2,706,000	986,000	703,000
Wastewater Network	$2,015,000	2,131,000	-2,131,000	0	2,015,000
Total	**$3,705,000**	**$5,823,000**	**-4,837,000**	**$986,000**	**$2,718,000**

Table 80 Annual Funding Available for Rate Funded Assets

The combined average annual investment requirements for the above categories is $3.7 million. Annual revenue currently allocated to these assets for capital purposes is $986 thousand leaving an annual deficit of $2.7 million. Put differently, these infrastructure categories are currently funded at 26.6% of their long-term requirements.

Note that the Township's current annual wastewater rate revenue is largely consumed by operating requirements, including elevated costs observed in recent years. While some of these pressures are attributable to one-time expenditures, the underlying operating position remains constrained and has required the use of reserves to temporarily address funding shortfalls. As a result, for the wastewater system, there is no sustainable funding currently available for capital requirements after operating requirements.

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

15.4.2 Full Funding Requirements

In 2024, the Township of Clearview budgeted annual water revenues of $3.7 million and budgeted annual wastewater revenues of $2.1 million. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	19.0%
Wastewater Network	94.6%

Table 81 Full Funding Rate Increases for Rate Funded Categories

In the following tables, we have expanded the above scenario to present multiple options to phase in the increase required. These options are presented in 5-year intervals.

	Water Network Rate Increases			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	703,000	703,000	703,000	703,000
Debt Reallocation	**-338,000**	**-369,000**	**-714,000**	**-714,000**
Resulting Infrastructure Deficit:	**365,000**	**334,000**	**-**	**-**
Rate Increase Required	9.9%	9%	0%	0%
Annually:	**2.0%**	**0.9%**	**0%**	**0%**

Table 82 Annual Rate Increase Requirements: Water Network

	Wastewater Network Rate Increases			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	2,015,000	2,015,000	2,015,000	2,015,000
Debt Reallocation	**-15,000**	**-15,000**	**-152,000**	**-152,000**
Resulting Infrastructure Deficit:	**2,000,000**	**2,000,000**	**1,863,000**	**1,863,000**
Rate Increase Required	93.9%	93.9%	87.4%	87.4%
Annually:	**14.2%**	**6.9%**	**4.3%**	**3.2%**

Table 83 Annual Rate Increase Requirements: Wastewater Network

15.4.3 Financial Strategy Recommendations

Considering all of the above information, we recommend the 5 year period for the water network and the 20-year period for the wastewater network. This includes reallocation of funds from future projected decreases in annual debt costs. Considering this, full funding can be achieved over a 5 and 20 year period, respectively, by:

a) when realized, reallocating the associated future debt cost reductions outlined above to the water and wastewater deficits individually as outlined above.
b) increasing rate revenues by 2.0% for water services each year for the next 5 years and 3.2% for wastewater services each year for the next 20 years, solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP and achieving the proposed level of service.
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
2. We realize that raising rates to increase revenues for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.
3. Given the Township's apparent and ongoing operating funding pressures, any increases in rates required to address these needs would be in addition to the capital funding recommendations outlined in this strategy. These operating requirements should be further evaluated and addressed through the Township's next comprehensive water and wastewater rate study, as the Asset Management Plan focuses on identifying and funding lifecycle capital needs.

Although this option achieves full funding on an annual basis in 20 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

15.5 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 Clearview has historically used debt for investing in the asset categories as listed. As of year-end 2025, there is currently $13.9 million of debt outstanding for the assets covered by this AMP with corresponding average annual combined principal and interest payments of over $1.0 million over the next 10 years.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2021	2022	2023	2024	2025
Road Network	424,000					
Stormwater Network						
Bridges & Culverts						
Buildings	6,185,000		2,545,000			
Machinery & Equipment						
Land Improvements						
Vehicles						
Total Tax Funded	**6,608,000**		**2,545,000**			
Water Network	5,924,000					
Wastewater Network	1,400,000					
Total Rate Funded	**7,324,000**					
Total	**13,933,000**		**2,545,000**			

Table 84 Clearview Use of Debt 2021-2025

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	**2026**	**2027**	**2028**	**2029**	**2030**	**2035**
Road Network	42,361	42,361	42,361	42,361	42,360	42,359	42,359
Stormwater Network							
Bridges & Culverts							
Buildings	485,424	485,424	496,785	482,119	481,915	481,909	481,006
Machinery & Equipment							
Land Improvements							
Vehicles							
Total Tax Funded	527,786	527,786	539,147	524,481	524,276	524,269	523,366
Water Network	792,372	667,666	542,958	535,415	494,842	454,525	423,325

Wastewater Network	152,046	136,966	136,966	136,966	136,966	136,967	136,903
Total Rate Funded	944,420	804,633	679,926	672,382	631,809	591,494	560,230
Total	1,472,206	1,332,419	1,219,072	1,196,863	1,156,085	1,115,763	1,083,595

Table 85 Clearview 10 Year Principal and Interest Payments

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

15.6 Use of Reserves

15.6.1 Available Reserves

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

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

The table below outlines the details of the reserves currently available to Clearview.

Asset Category	Balance at December 31, 2024
Road Network	-
Stormwater Network	-
Bridges & Culverts	1,456,723
Buildings	-
Machinery & Equipment	-
Land Improvements	-
Vehicles	-
Water Network	-
Wastewater Network	-
Total Reserve Balance:	**1,456,723**

Table 86 Clearview Reserve Balances

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 consider when determining their capital reserve requirements include:

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

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

16. Recommendations & Key Considerations

16.1 Financial Strategies

1. Review the feasibility of adopting a full-funding scenario to achieve the proposed level of service and achieve 100% of average annual funding requirement for the asset categories analyzed. This includes:
    a. Increasing taxes by 2.1% per year over a period of 15 years.
    b. Increasing water rates by 2.0% per year over a period of 5 years; and
    c. Increasing wastewater rates by 3.2% per year over a period of 20 years.
2. Existing wastewater rate revenues are largely consumed by operating requirements, including elevated costs experienced in recent years. While some of these costs may be one-time in nature, the overall operating position remains constrained and has necessitated the use of reserves to address ongoing funding shortfalls. This approach is not sustainable over the long term and, importantly, leaves no dedicated funding available to support capital reinvestment in the wastewater system once operating needs are met.

    A formal rate study has been conducted by Sharratt Water Management Ltd. The study includes both a financial plan and a final rate report. The current recommendation in this report does not consider the finding of this report. The Township should consider both the asset management plan rate report in deliberations for increases to water and wastewater rates. Both sources provide a data-driven framework to evaluate current rate structures, forecast future operating and capital needs, and establish equitable and sustainable user rates. This will support long-term financial stability, reduce reliance on reserves, and ensure that both water and wastewater systems are adequately funded to maintain service levels and meet regulatory and infrastructure requirements.

3. Continued allocation of OCIF and BCSF (formerly CCBF) funding as previously outlined.

4. Reallocating appropriate revenue from categories in a surplus position to those in a deficit position.

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

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

16.2 Asset Data

1. Continue to review and validate the asset inventory to ensure improved accuracy and reflection of actual assets owned and in service.

2. Develop, review, refine, and calibrate lifecycle and risk profiles to better reflect actual and improving 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
   c. Further enhance risk models through incorporation of existing attributes that can inform risk, such as material and diameter (etc.)
   d. Further, apply condition assessment scales and description to the appropriate profiles within Citywide to ensure consistency and understanding of values.

3. Consider the development of standardized condition ratings and criteria. Define the criteria for each condition range, ensuring that assessments are objective, quantifiable and repeatable.

4. Asset management planning is highly sensitive to replacement costs. The municipality should continue to periodically update replacement costs based on recent projects, invoices, or estimates, as well as condition assessments, or any other technical reports and studies. 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.

5. 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.

16.3 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 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; economic conditions and the local tax base. This data can also be used to review service level targets.

Appendix A – Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition	Financial Capacity		% Funded
Road Network	**$261.3 m**	**61% (Good)**	Annual Requirement:	$7,959,000	38.5%
			Funding Available:	$3,067,000	
			Annual Deficit:	**$4,892,000**	
Bridges & Culverts	**$86.2 m**	**38% (Good)**	Annual Requirement:	$1,725,000	0.46%
			Funding Available:	$788,000	
			Annual Deficit:	**$937,000**	
Water Network	**$114.9 m**	**70% (Good)**	Annual Requirement:	$1,689,000	58%
			Funding Available:	$986,000	
			Annual Deficit:	**$703,000**	
Wastewater Network	**$111.6 m**	**86% (Very Good)**	Annual Requirement:	$2,015,000	0%
			Funding Available:	$0	
			Annual Deficit:	**$2,015,000**	
Stormwater Network	**$16.1 m**	**54% (Fair)**	Annual Requirement:	$358,000	84%
			Funding Available:	$300,000	
			Annual Deficit:	**$58,000**	
Buildings	**$72.5 m**	**83% (Very Good)**	Annual Requirement:	$1,673,000	31%
			Funding Available:	$525,000	
			Annual Deficit:	**$1,148,000**	
Land Improvements	**$8.3 m**	**91% (Very Good)**	Annual Requirement:	$346,000	8.7%
			Funding Available:	$30,000	
			Annual Deficit:	**$316,000**	
Vehicles	**$9.5 m**	**71% (Good)**	Annual Requirement:	$499,000	100%
			Funding Available:	$640,000	
			Annual Deficit:	**($136,000)**	
Machinery & Equipment	**$13.4 m**	**77% (Good)**	Annual Requirement:	$1,078,000	56%
			Funding Available:	$603,000	
			Annual Deficit:	**$475,000**	

Table 87 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. It is important to note that these are projections based on year end **2024**.

Road Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Paved Roads	$2.3m	$12.5m	$32.5m	$17.9m	$19.7m	$2.4m	$2.7m	$1.6m	$661k	$161k	$626k
Sidewalks	$2.3m	$166k	-	-	-	-	$163k	-	-	-	-
Street Lighting	$390k	-	-	$8k	-	$6k	$4k	-	-	-	$3k
Traffic Signals	-	$145k	-	-	$153k	-	-	-	-	-	-
Total	**$4.9m**	**$12.9m**	**$32.5m**	**$17.9m**	**$19.9m**	**$2.4m**	**$2.9m**	**$1.6m**	**$661k**	**$161k**	**$629k**

Table 88 System Generated 10-Year Capital Replacement Forecast - Road Network

Bridges & Culverts

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Box	-	-	-	$708k	-	$1.2m	-	$1.3m	$833k	$2.3m	$1.9m
Multi Plate	-	-	-	-	$789k	-	-	-	-	$2.3m	-
Rigid Frame	-	-	-	$395k	-	$1.9m	-	-	$2.4m	-	-
Slab on Girder	-	$603k	-	-	-	-	-	-	-	-	-
Truss	-	-	-	-	-	$1.4m	-	-	-	-	-
Total	**-**	**$603k**	**-**	**$1.1m**	**$789k**	**$4.5m**	**-**	**$1.3m**	**$3.3m**	**$4.5m**	**$1.9m**

Table 89 System Generated 10-Year Capital Replacement Forecast - Storm Network

Stormwater Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basins	$2.7m	$15k	$244k	-	-	-	$193k	-	-	-	-
Maintenance Holes	-	-	-	-	-	-	-	-	-	-	-
Pipes	$2.4m	$6k	$337k	-	-	-	$246k	-	-	-	-
Storm Culverts	$1.3m	$30k	-	-	-	-	$55k	-	-	-	-
Storm Ponds	-	-	-	-	-	-	-	-	-	-	-
Storm Structures	-	-	-	-	-	-	-	-	-	-	-
Catch Basins	$2.7m	$15k	$244k	-	-	-	$193k	-	-	-	-
Total	**$4.7m**	**$575k**	**-**	**$263k**	**-**	**-**	**$1.1m**	**$747k**	**$303k**	**-**	**-**

Table 90 System Generated 10-Year Capital Replacement Forecast - Storm Network

Water Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Equipment	$2k	-	-	-	$4k	-	-	-	$5k	-	$2k
Hydrants	$2.9m	-	-	$28k	$28k	$854k	-	$70k	$70k	$868k	$70k
Reservoirs	-	-	-	-	-	-	-	-	-	-	-
Service Connections	-	-	-	-	-	-	-	-	-	-	-
Valves	$413k	$42k	-	-	$81k	$26k	$90k	-	$9k	-	-
Water Facilities	$130k	-	-	-	-	$9k	$92k	$12k	$21k	$62k	$29k
Water Meters	-	-	-	$5k	$11k	$38k	$11k	$11k	$11k	$35k	$35k
Watermains	$4.5m	$3.4m	-	$1.9m	-	-	$231k	$84k	-	-	$551k
Wells	$2.4m	$105k	$53k	-	$81k	$30k	$255k	-	$252k	-	-
Total	**$10.3m**	**$3.6m**	**$53k**	**$1.9m**	**$204k**	**$957k**	**$679k**	**$177k**	**$368k**	**$965k**	**$688k**

Table 91 System Generated 10-Year Capital Replacement Forecast - Water Network

Wastewater Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Chambers & Valves	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-
Forcemains	-	-	-	-	-	-	-	-	-	-	-
Gravity Mains	-	-	-	-	-	-	-	-	-	-	-
Manholes	-	-	-	-	-	-	-	-	-	-	-
Ponds & Lagoons	-	-	-	-	-	-	-	-	-	-	-
Service Connections	-	-	-	-	-	-	-	-	-	-	-
Wastewater Facilities	$1.8m	$290k	$238k	$83k	$103k	$342k	$1.7m	$71k	$57k	$276k	$145k
Total	**$1.8m**	**$290k**	**$238k**	**$83k**	**$103k**	**$342k**	**$1.7m**	**$71k**	**$57k**	**$276k**	**$145k**

Table 92 System Generated 10-Year Capital Replacement Forecast - Wastewater Network

Buildings

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Administrative	-	-	-	-	-	-	-	-	-	$442k	$176k
Fire & Emergency Services	$124k	$37k	$117k	$54k	$100k	-	-	-	$892k	-	-
Health Services	$10k	-	-	-	-	-	-	-	$15k	-	$88k
Libraries	-	-	-	-	$78k	-	-	-	-	-	-
Public Works	$164k	-	$328k	-	$48k	$110k	$38k	-	-	-	$78k
Recreation	$3.5m	-	$82k	$535k	$63k	-	-	$114k	$134k	$19k	$1.1m
Total	**$3.8m**	**$37k**	**$527k**	**$589k**	**$290k**	**$110k**	**$38k**	**$114k**	**$1.0m**	**$461k**	**$1.5m**

Table 93 System Generated 10-Year Capital Replacement Forecast – Buildings

Vehicles

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fire & Emergency Services	-	$67k	$31k	-	$409k	$592k	$994k	-	$51k	$1.0m	$581k
Public Works	-	$344k	-	$30k	$299k	$31k	-	-	$42k	$42k	$39k
Recreation	-	-	-	-	-	-	-	-	-	-	$44k
Total	**-**	**$412k**	**$31k**	**$30k**	**$709k**	**$623k**	**$994k**	**-**	**$92k**	**$1.0m**	**$663k**

Table 94 System Generated 10-Year Capital Replacement Forecast – Vehicles

Machinery & Equipment

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Computer Systems	$48k	$203k	$277k	$85k	$62k	$246k	$265k	$82k	$68k	$246k	$287k
Fire & Emergency Services	$607k	$128k	$332k	$228k	$183k	$506k	$195k	$138k	$151k	$65k	$130k
Furniture & Fixtures	-	$49k	$13k	$2k	$14k	$15k	$3k	$7k	$15k	-	-
Health Services	-	$4k	$19k	-	-	$10k	-	-	-	-	$48k
Libraries	$74k	$76k	$100k	$75k	$67k	$71k	$73k	$78k	$150k	$100k	$75k
Parks	-	$69k	$38k	$117k	$26k	$77k	$133k	$20k	-	$206k	$88k
Public Works	$195k	-	$457k	$92k	$111k	$93k	$449k	$102k	$868k	$222k	-
Recreation	-	$16k	-	$150k	$196k	$11k	$7k	$103k	$8k	$40k	$145k
Total	**$924k**	**$545k**	**$1.2m**	**$749k**	**$658k**	**$1.0m**	**$1.1m**	**$529k**	**$1.3m**	**$878k**	**$774k**

Table 95 System Generated 10-Year Capital Replacement Forecast – Equipment

Land Improvements

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fencing	-	$37k	-	$74k	$52k	$11k	$9k	$16k	$26k	$8k	-
Landscaping	-	-	-	-	-	-	-	-	-	-	-
Parking Lots & Paved Surfaces	-	$44k	-	-	$15k	$226k	$10k	-	$23k	$209k	$326k
Retaining Walls & Guiderails	-	-	-	-	-	-	-	-	-	-	-
Sport Fields & Courts	-	$90k	-	$166k	$58k	-	$23k	$9k	$11k	-	-
Trails	-	-	-	-	$20k	$407k	$136k	$61k	$86k	$15k	-
Total	**-**	**$171k**	**-**	**$240k**	**$145k**	**$644k**	**$178k**	**$85k**	**$146k**	**$232k**	**$326k**

Table 96 System Generated 10-Year Capital Replacement Forecast - Land Improvements

Proposed Levels 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, 15 and 20 years to reach a targeted 100% funding level and achieve the proposed level of service. These projections consider the availability of funding as increases are implemented.

Category	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Road Network	$3.4m	$3.7m	$4.0m	$4.3m	$4.6m	$4.9m	$5.2m	$5.6m	$5.9m	$6.2m
Bridges & Culverts	$708k	$1.2m	-	$1.2m	$1.4m	$1.3m	$1.9m	$1.2m	$1.1m	$1.6m
Stormwater Network	$305k	$307k	$312k	$315k	$317k	$322k	$326k	$330k	$334k	$337k
Buildings	$610k	$678k	$737k	$811k	$854k	$880k	$1.0m	$1.3m	$971k	$1.1m
Land Improvements	$64k	$74k	$92k	$110k	$111k	$173k	$170k	$154k	$233k	$189k
Vehicles	$30k	$709k	$623k	$664k	$384k	$92k	$1.0m	$378k	$286k	$879k
Machinery & Equipment	$639k	$666k	$695k	$724k	$754k	$784k	$815k	$846k	$878k	$911k
Water Network	$1.1m	$1.1m	$522k	$1.0m	$93k	$116k	$132k	$969k	$54k	$85k
Wastewater Network	$139k	$211k	$378k	$458k	$541k	$626k	$711k	$389k	$1.3m	$994k
Total	**$7.0m**	**$8.7m**	**$7.4m**	**$9.6m**	**$9.1m**	**$9.2m**	**$11.3m**	**$11.1m**	**$11.1m**	**$12.4m**

Table 97 Proposed LOS 10-Year Capital Replacement Forecast

17. Appendix C – Levels of Service Maps

Road Network



Figure 93 Clearview Road Network - Condition

Stormwater Network

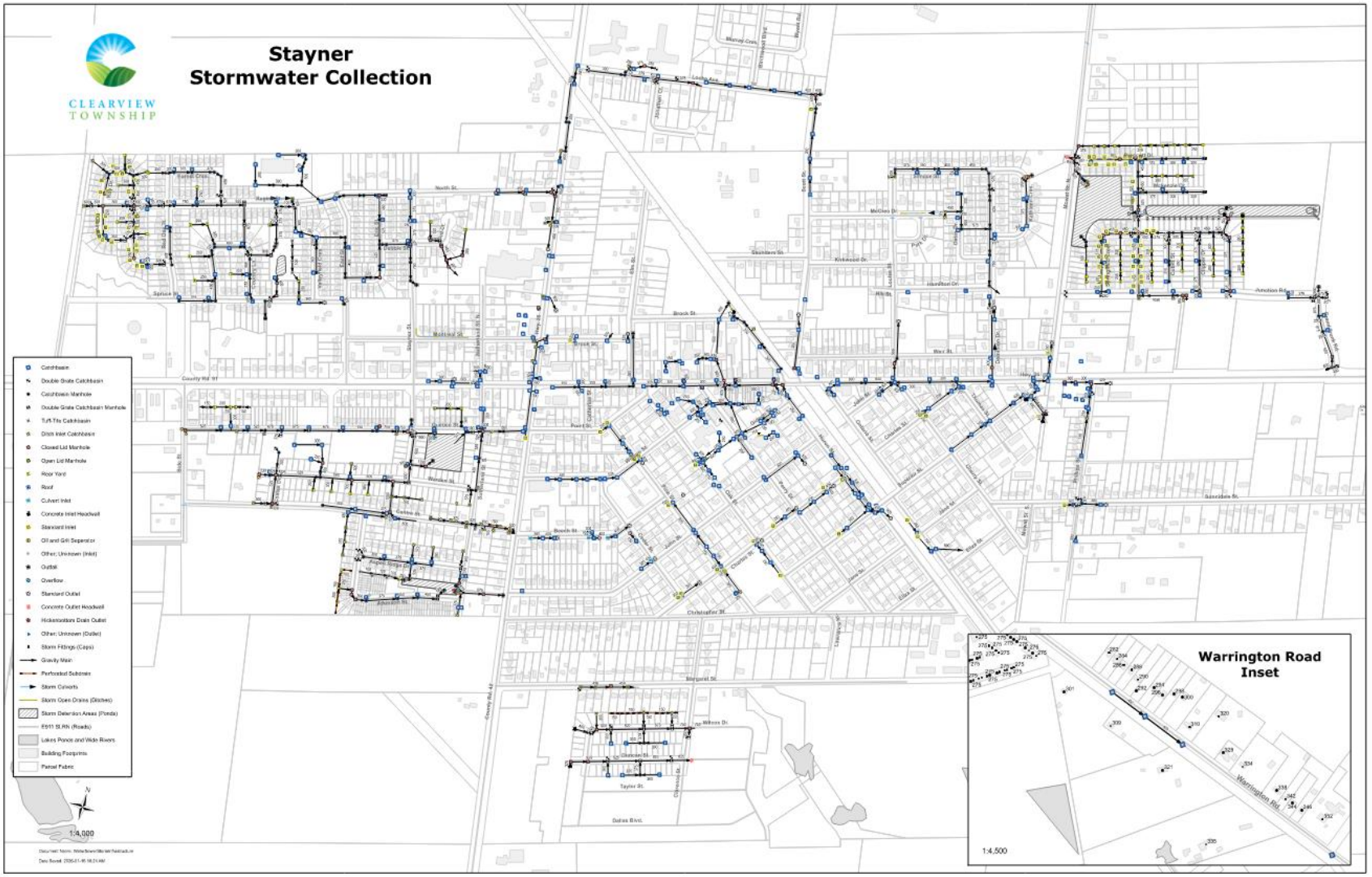

Figure 94 Stayner Stormwater Collection

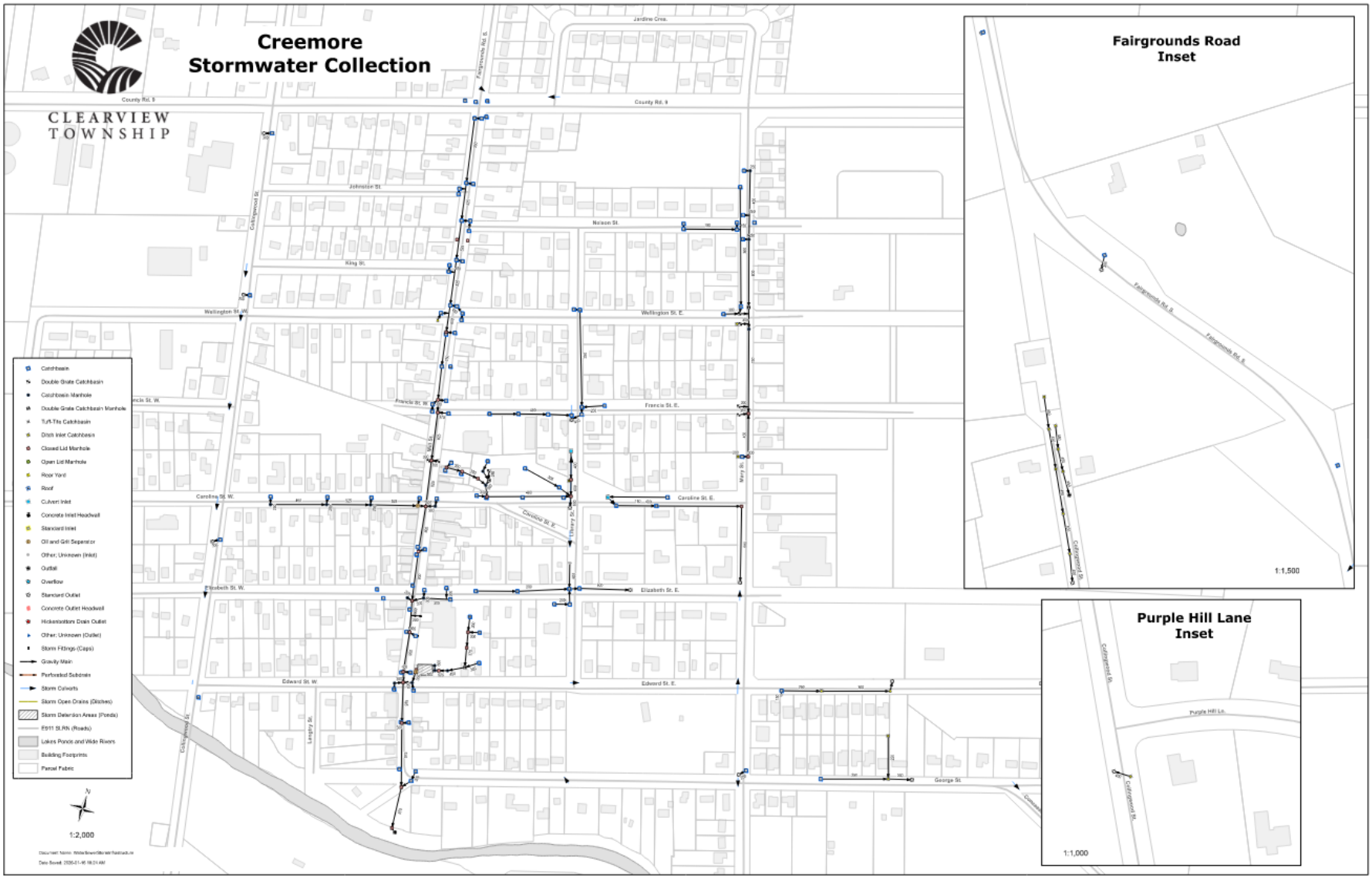

Figure 95 Creemore Stormwater Collection

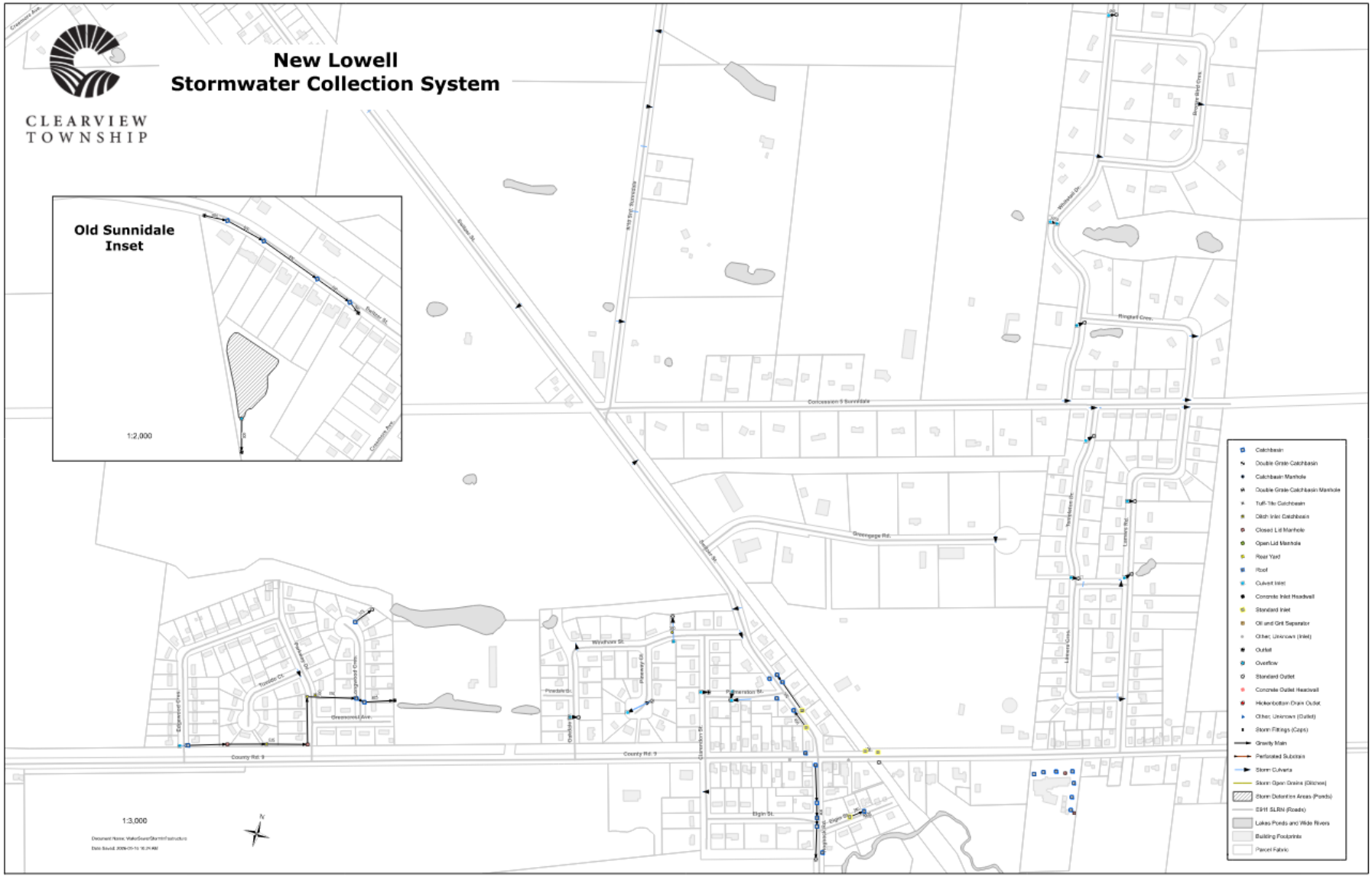

Figure 96 New Lowell Stormwater Collection

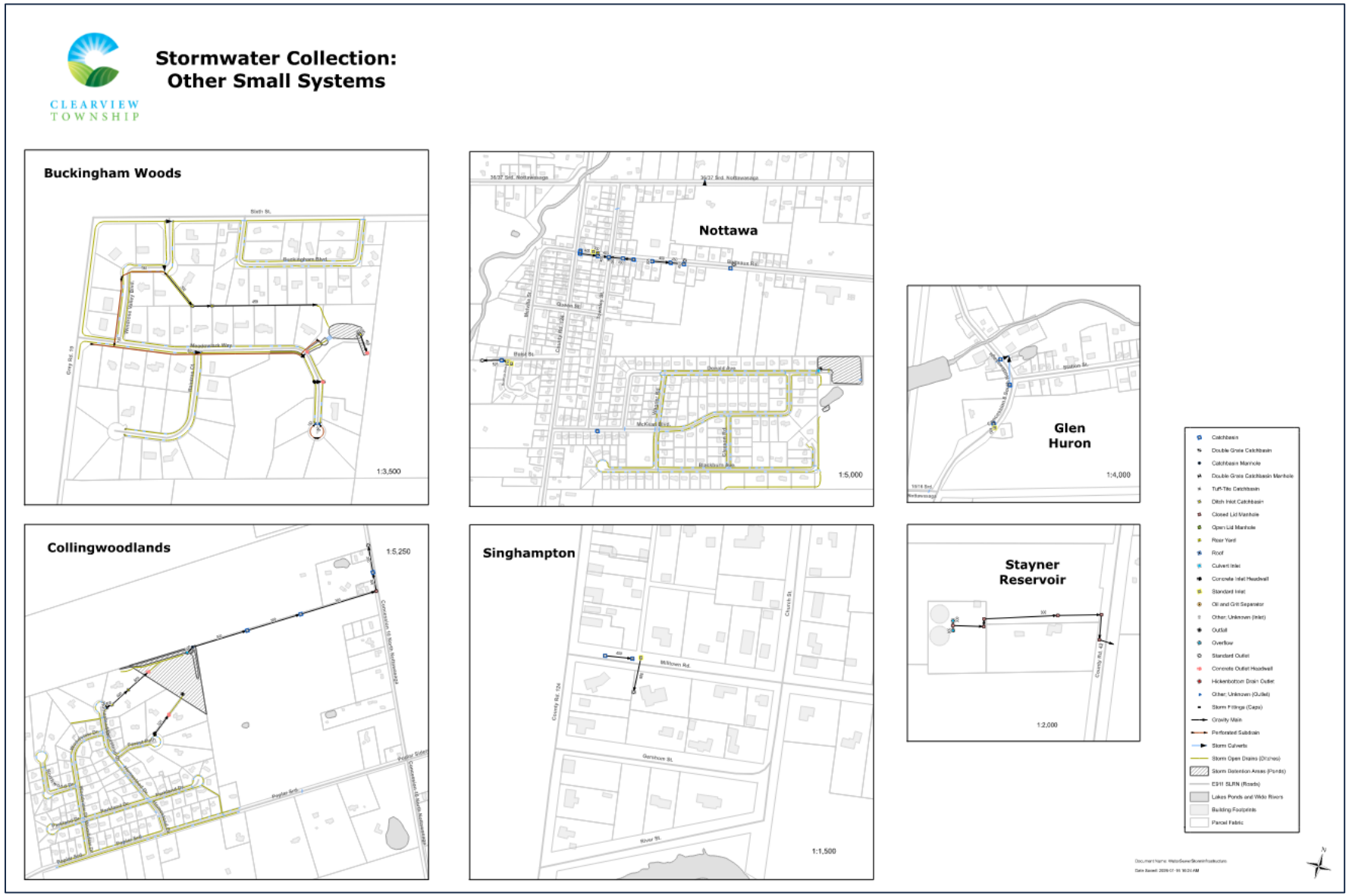

Figure 97 Other Small Systems – Stormwater Collection