Asset Management Plan 2025

Township of Wellington North

December 2025

psdcitywide

This Asset Management Plan was prepared by:

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

Key Statistics

$657 m	2024 Replacement Cost of Asset Portfolio
$132 k	Replacement Cost of Infrastructure Per Household
78%	Percentage of Assets in Fair or Better Condition
51%	Percentage of Assets with Assessed Condition Data
$12.8 m	Annual Capital Infrastructure Deficit
20 Years	Recommended Timeframe to reach Proposed Levels of Service
2.96%	Target Investment Rate to meet Proposed Levels of Service
1.78%	Actual Investment Rate

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1. Executive Summary

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

1.1 Scope

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

This AMP includes the following asset categories:

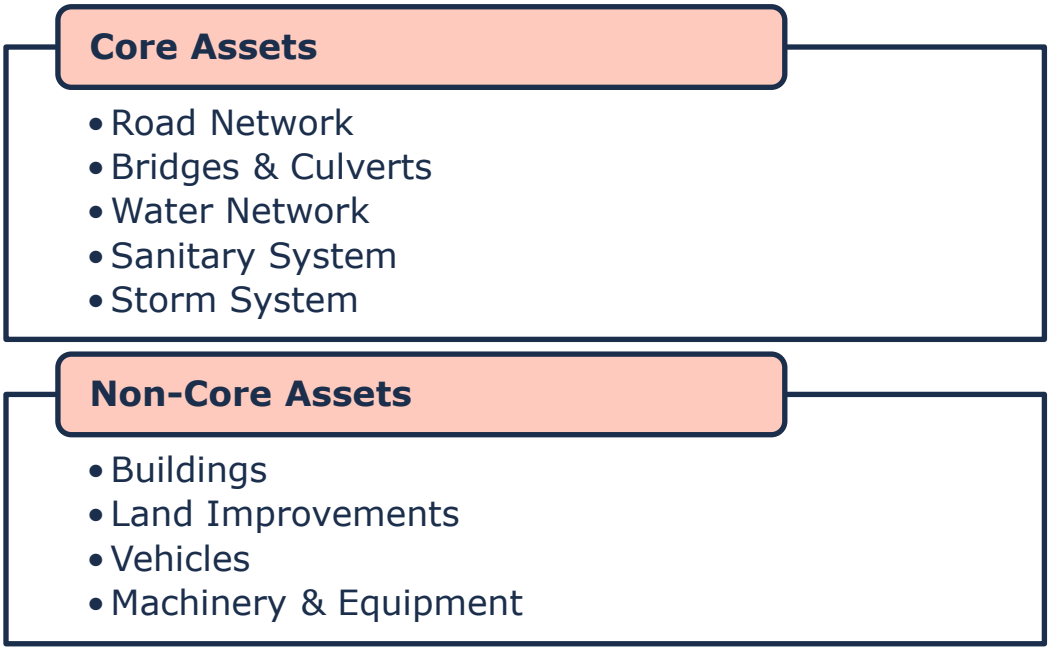


Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

With the development of this AMP the Township of Wellington North 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 $657 million. 78% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 51% of assets. For the remaining 49% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (paved roads and bridges) 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 $24.5 million. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $11.7 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $12.8 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 Recommendations

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

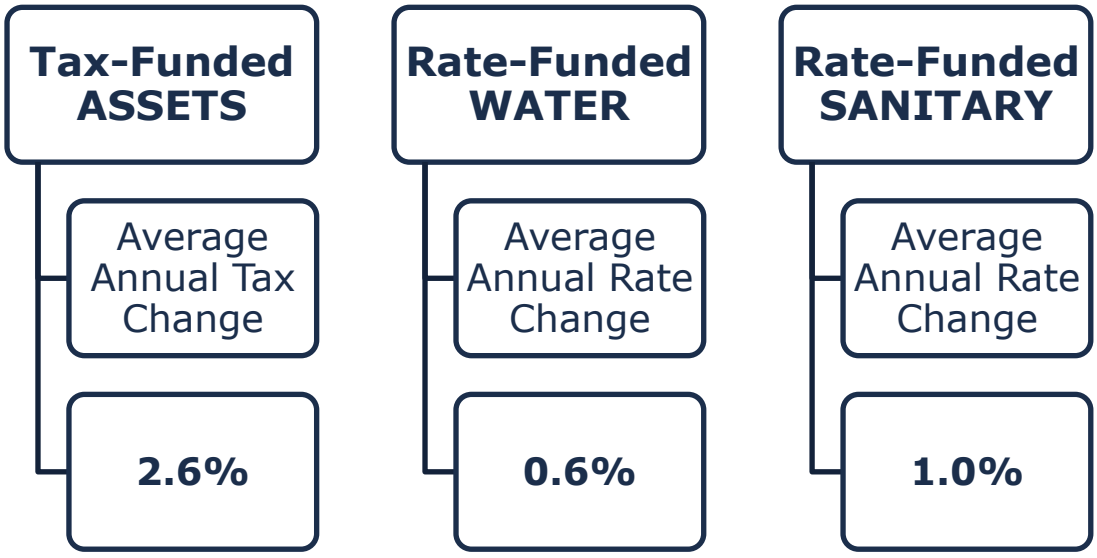


Figure 2 Proposed Tax/Rate Changes

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

- Develop a dedicated asset management committee and data governance strategy to clearly define roles and responsibilities for updating asset management data and documents
- Review data to update and maintain a complete and accurate dataset
- Develop a condition assessment strategy with a regular schedule
- A facility condition assessment should be conducted to have more accurate condition information and better predict future capital requirements
- Review and update lifecycle management strategies
- Development and regularly review short- and long-term plans to meet capital requirements
- Measure current levels of service and identify sustainable proposed levels of service

2. Introduction & Context

2.1 Community Profile

Census Characteristic	Township of Wellington North	Ontario
Population 2021	12,431	14,223,942
Population Change 2016-2021	+4.3%	+5.8%
Total Private Dwellings	4,793	5,929,250
Population Density	23.6/km^2	15.9/km^2
Land Area	526.31 km^2	892,411.76 km^2

Table 1 Township of Wellington North Community Profile

The Township of Wellington North is a municipality in Wellington County in Southwestern Ontario. The Township is in a primarily rural area, featuring picturesque landscapes and numerous small communities. The Township of Wellington North includes the communities of Arthur, Mount Forest, Conn, Damascus, Gordonville, Kenilworth, and Monck.

In 1999, the former townships of Arthur and West Luther, along with the village of Arthur and the town of Mount Forest, amalgamated to form the Township of Wellington North. The Township boasts a variety of outdoor recreational amenities and cultural sites, including several parks, trails, and conservation areas.

The Township offers an abundance of beautiful natural areas ideal for recreation and exploration. Wellington North also has a strong commitment to the agricultural and manufacturing industries, which have been a significant part of the local economy for many years.

Wellington North has experienced modest population growth over the past 20 years. Approximately 22% of the population is above the age of 65, which is just above the demographics for Ontario as a whole.

The Township generates a total revenue of $15.9 million from taxes and rates and has an annual capital budget of $11.7 million as of 2024. Infrastructure priorities within the municipality include maintaining municipal facilities, enhancing recreation and cultural services, and ensuring effective public works.

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 Wellington North Climate Profile

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

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 5.7ºC.
- Under a high emissions scenario, the annual average temperatures are projected to increase by 8.2ºC by the year 2050 and over 12.1ºC by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Wellington North is projected to experience a 12% increase in precipitation by the year 2050 and an 16% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

- It is expected that the frequency and severity of extreme weather events will change.
- In some areas, extreme weather events will occur with greater frequency and severity than others especially those on or near the many bodies of water in the area.

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.

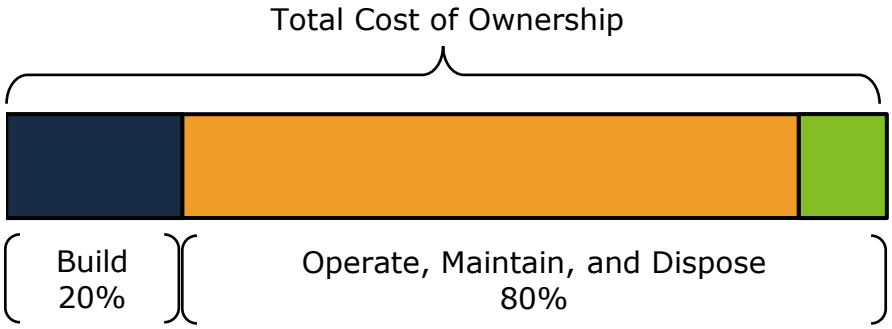


Figure 3 Total Cost of Asset Ownership

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.

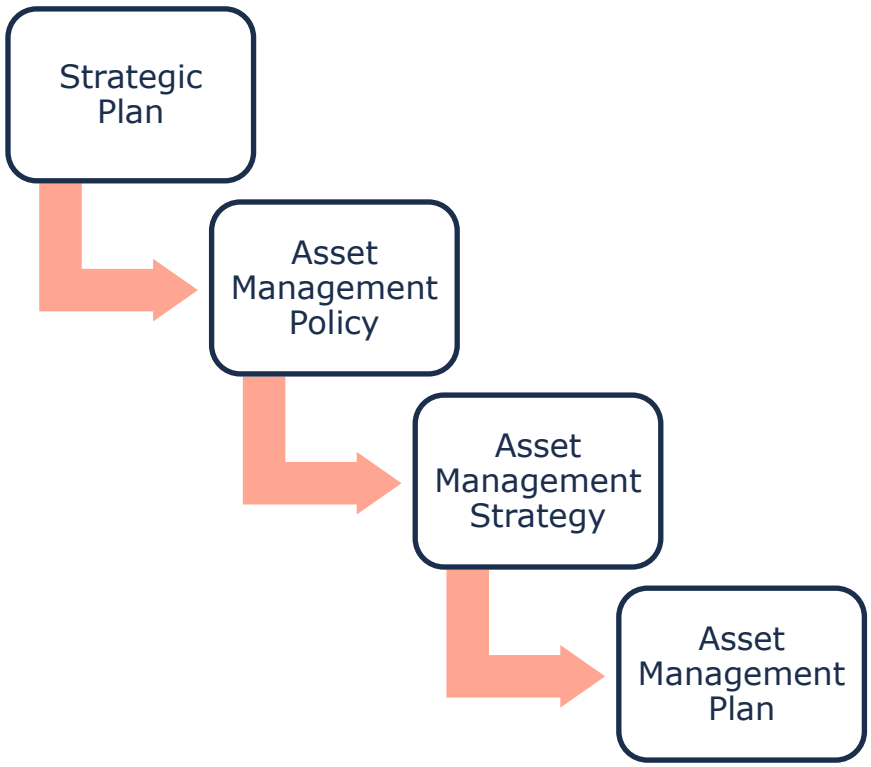


Figure 4 Foundational Asset Management Documents

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 Wellington North adopted Policy No. 009-19 "Strategic Asset Management Policy" on June 24th, 2019, in accordance with Ontario Regulation 588/17.

The objectives of the policy include:

- Formalizing the Township's practices associated with management of capital assets.
- Communicating asset management principles and approach to stakeholders.
- Reviewing processes and outline responsibilities for asset management.
- Committing the Township to support the implementation of asset management methods.

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 Key Concepts in Asset Management

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

Lifecycle Management Strategies

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

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

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

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

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

Table 2 Lifecycle Management: Typical Lifecycle Interventions

The Township's approach to lifecycle management is described within each asset category outlined in this AMP. Staff will continue to evolve and innovate current practices for developing and implementing proactive lifecycle strategies to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

Risk & Criticality

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

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

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.

Type of Consequence	Description
Environmental	Environmental consequences can include pollution, erosion, sedimentation, habitat damage, etc.
Public Health and Safety	Adverse health and safety impacts may include injury or death, or impeded access to critical services.
Strategic	These include the effects of an asset's failure on the community's long-term strategic objectives, including economic development, business attraction, etc.

Table 3 Risk Analysis: Types of Consequences of Failure

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

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

Levels of Service

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

The Township measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories as applicable (Roads, Bridges & Culverts, Water, Sanitary, Storm) 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 Wellington North 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.

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

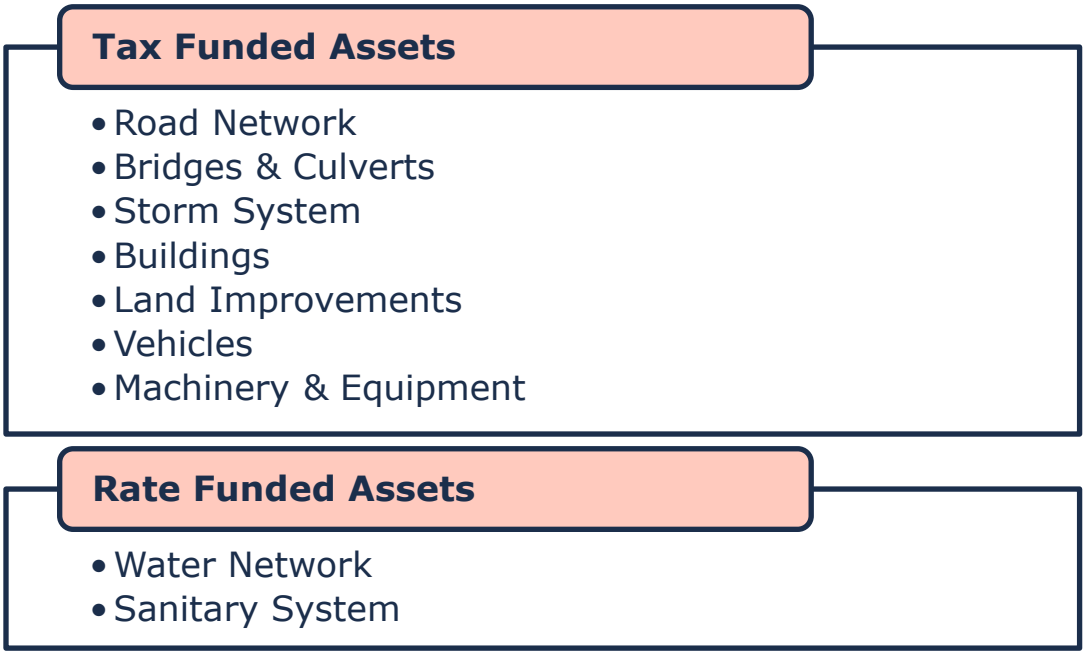


Figure 5 Tax Funded and Rate Funded Asset Categories

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:

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

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:

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

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

2.4.6 Deriving Asset Condition

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

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

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

Table 4 Standard Condition Rating Scale

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition.

2.5 Ontario Regulation 588/17

As part of the Infrastructure for Jobs and Prosperity Act, 2015, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17)[1]. 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 6 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

Requirement	2019	2022	2024	2025
Asset Management Policy	●		●	
Asset Management Plans		●	●	●
State of infrastructure for core assets		●		
State of infrastructure for all assets			●	●
Current levels of service for core assets		●		
Current levels of service for all assets			●	
Proposed levels of service for all assets				●
Lifecycle costs associated with current levels of service		●	●	
Lifecycle costs associated with proposed levels of service				●
Growth impacts		●	●	●
Financial strategy				●

Figure 6 O. Reg. 588/17 Requirements and Reporting Deadlines

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

2.5.1 O. Reg. 588/17 Compliance Review

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	5.1 – 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
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 – 14.2	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 A	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.

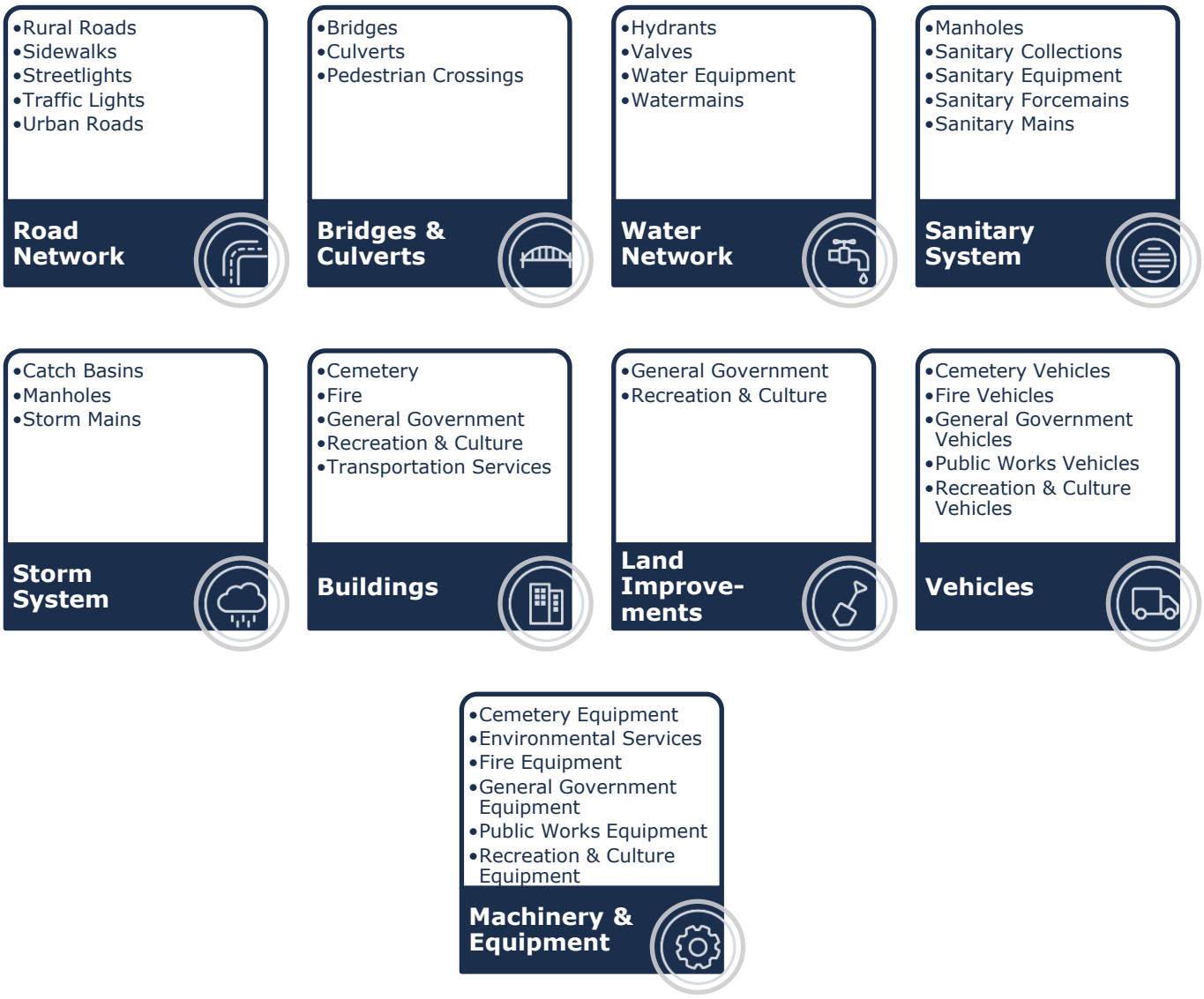


Figure 7 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The nine asset categories analyzed in this Asset Management Plan have a total current replacement cost of $657 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 8 illustrates the replacement cost of each asset category; at 35% of the total portfolio, the road network forms the largest share of the Township's asset portfolio, followed by the sanitary system at 18%.

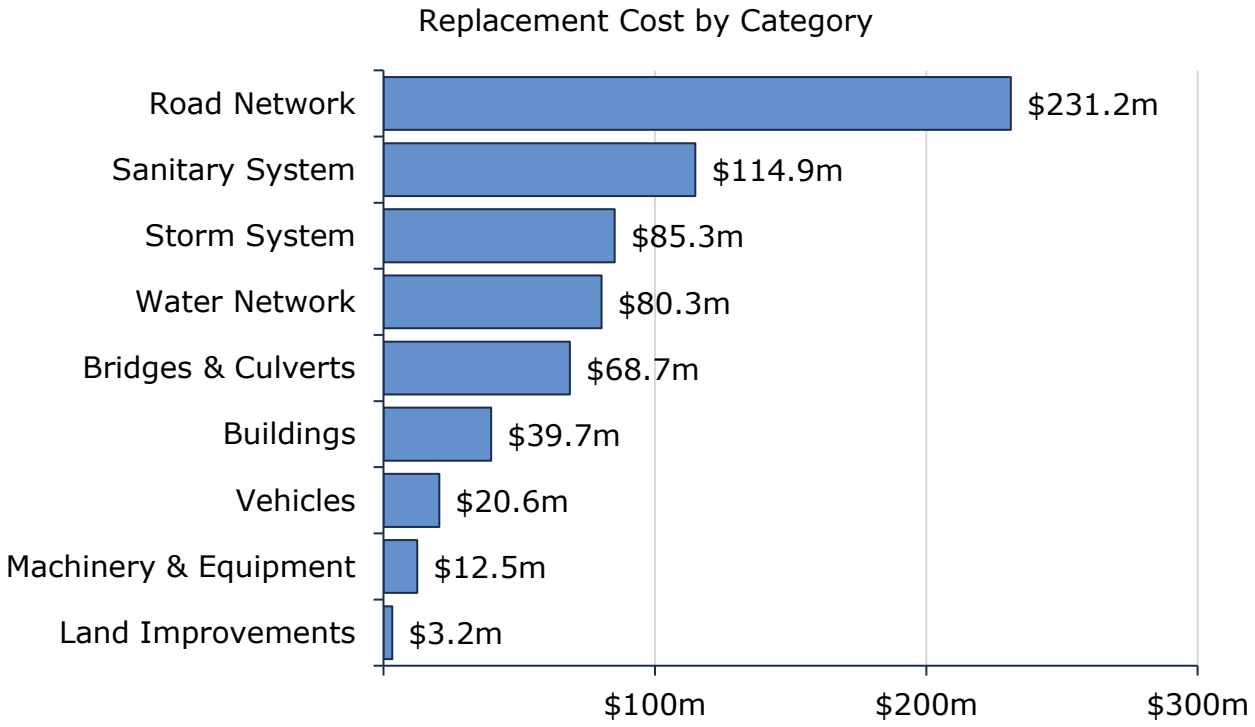


Figure 8 Current Replacement Cost by Asset Category

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 $24.5 million, for a target portfolio reinvestment rate of 3.73%. Currently, annual investment from sustainable revenue source is $11.7 million, for a current portfolio reinvestment rate of 1.78%. Target and current re-investment rates by asset category are detailed below.

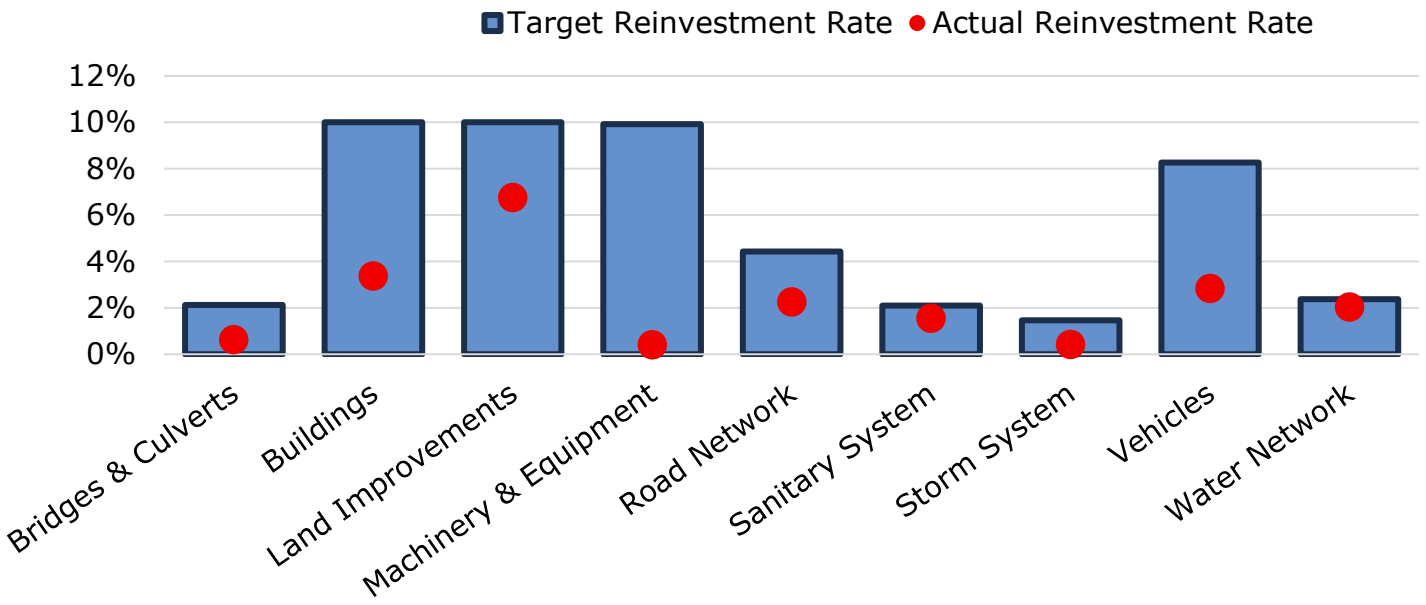


Figure 9 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

Figure 10 and Figure 11 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 78% of the Township's infrastructure portfolio is in fair or better condition, with the remaining 22% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

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

Condition data was available for majority of the road network, all bridges & culverts, and most watermains. For all remaining assets, including major infrastructure such as storm mains and buildings, 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.

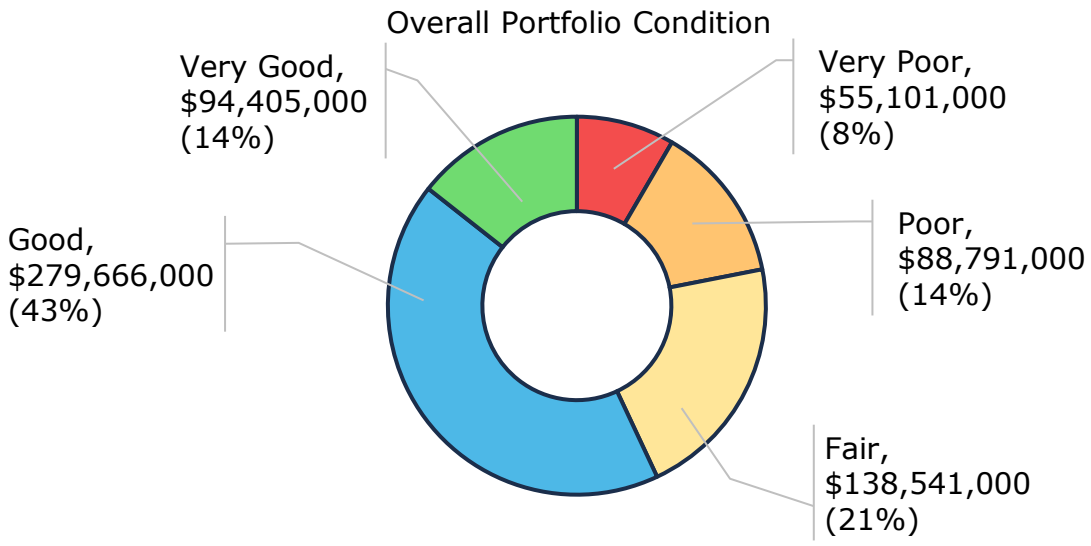


Figure 10 Asset Condition: Portfolio Overview

As further illustrated in Figure 11 at the category level, the majority of major, core infrastructure including roads, bridges, and culverts are in fair or better condition, based on in-field condition assessment data. Most of the sanitary system, water network, and storm system are also in fair or better condition, based on both age-based data and condition assessments. See Table 6 for details on how condition data was derived for each asset segment.

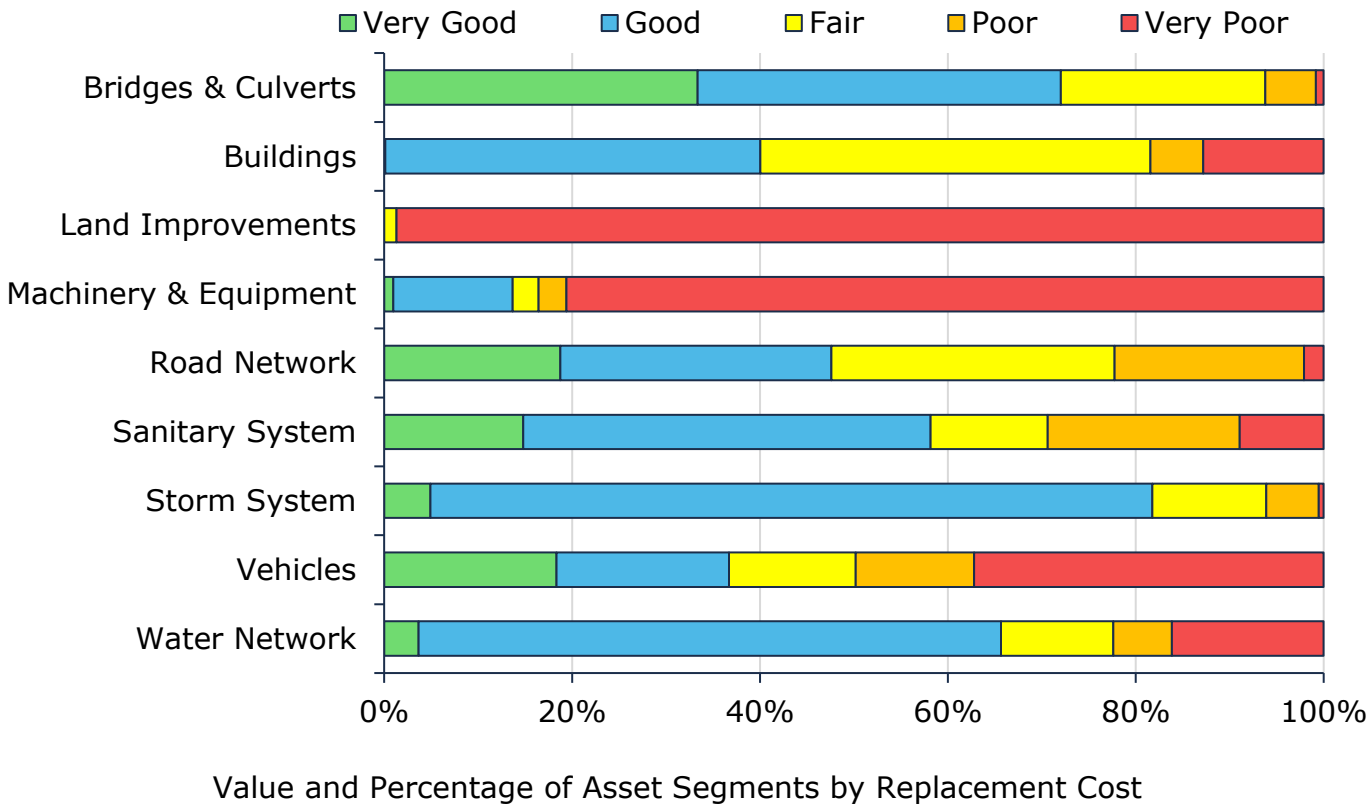


Figure 11 Asset Condition by Asset Category

As outlined previously, buildings are currently relying on age-based conditions. This limits the validity of current condition estimates as they are presented based on age data only. A facility condition assessment would be beneficial to more accurately predict current building conditions.

Source of Condition Data

This AMP relies on assessed condition for 51% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. Table 6 below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	Rural Roads Urban Roads Sidewalks	100%	2023 Road Needs Study
	Streetlights Traffic Lights	0%	Age-Based
Bridges & Culverts	All	100%	2023 OSIM
Water Network	Watermains	91%	Staff Assessments
Sanitary System	All	0%	Age-Based
Storm System	All	0%	Age-Based
Buildings	All	0%	Age-Based
Land Improvements	All	0%	Age-Based
Vehicles	All	0%	Age-Based
Machinery & Equipment	All	0%	Age-Based

Table 6 Source of Condition Data

3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 47% of the Township's assets will require replacement within the next 10 years. Refer to Appendix A – 10-Year Capital Requirements.

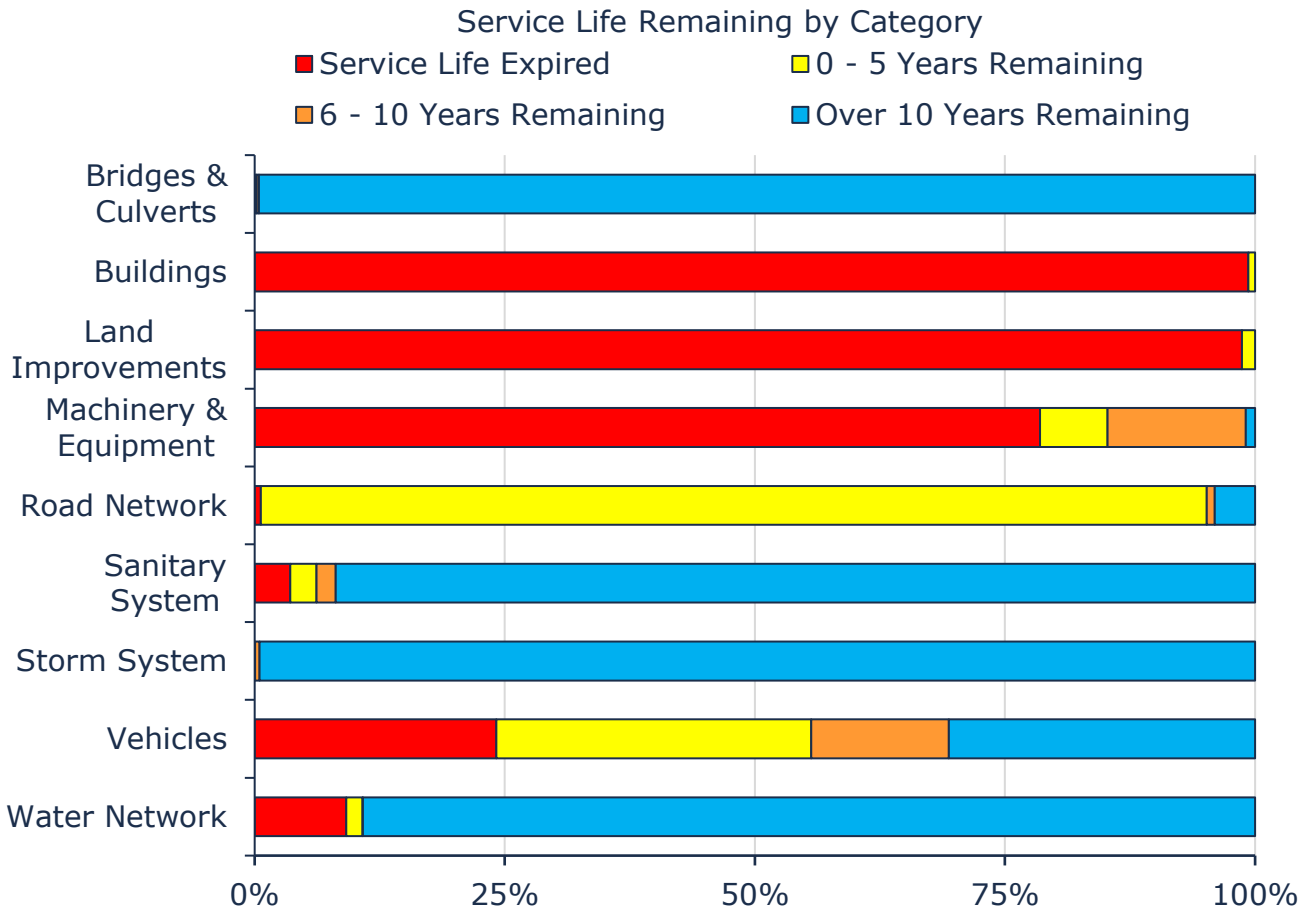


Figure 12 Service Life Remaining by Asset Category

3.2.5 Risk Matrix

Using the risk equation and preliminary risk models, Figure 13 shows how assets across the different asset categories are stratified within a risk matrix.

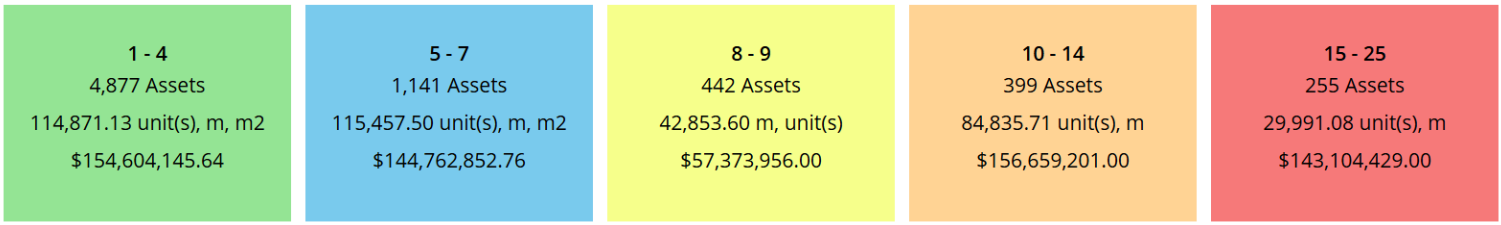


Figure 13 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 22% of the Township's assets, with a current replacement cost of approximately $143 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a high probability of failure based on available condition data and age-based estimates and were considered to be most essential to the Township.

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

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

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

3.2.6 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 14 below illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for all asset categories analyzed in this AMP over a 70-year time horizon. On average, $24.5 million is required each year to remain current with capital replacement needs for the Township's asset portfolio (red dotted line). Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise. This figure relies on age and available condition data.

The chart also illustrates a backlog of more than $70.5 million, comprising assets that remain in service beyond their estimated useful life. It is unlikely that all such assets are in a state of disrepair, requiring immediate replacements. This makes continued and expanded targeted and consistent condition assessments integral. Risk frameworks, proactive lifecycle strategies, and levels of service targets can then be used to prioritize projects, continuously refine estimates for both backlogs and ongoing capital needs, and help select the right treatment for each asset. In addition, more effective componentization of buildings will improve these projections, including backlog estimates.

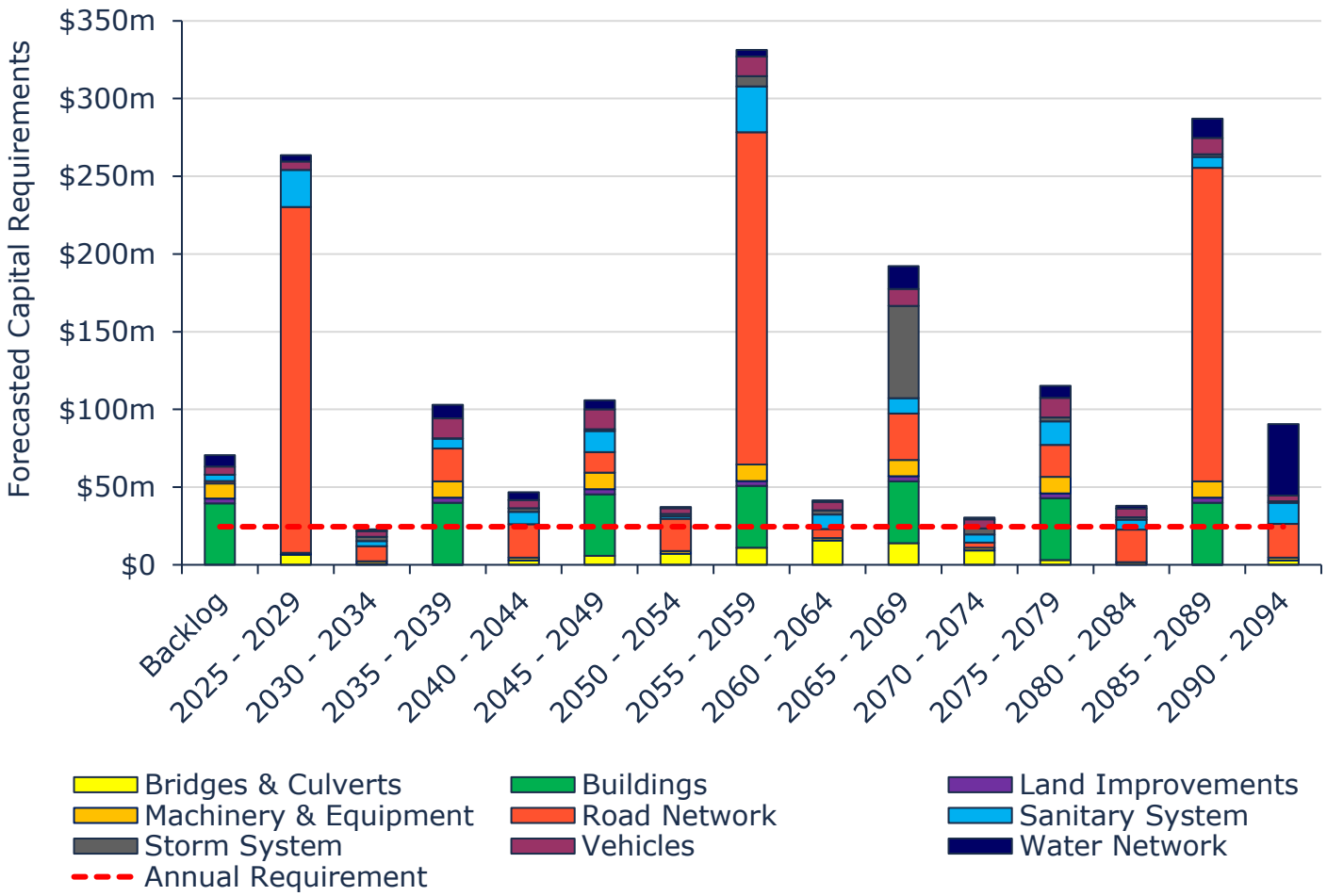


Figure 14 Capital Replacement Needs: Portfolio Overview 2025-2094

Proposed Levels of Service

4. Proposed Levels of Service Analysis

4.1 Overview

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

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

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

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

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

4.1.2 Considerations

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

Financial Impact Assessments

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

Infrastructure Condition Assessments

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

Service Metrics

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

Service Impact Assessments

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

Key Lifecycle Activities

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

Risk Management

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

Infrastructure Condition Enhancements

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

Timelines

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

Stakeholder Engagement

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

Flexibility

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

4.2 Proposed Levels of Service Scenarios

The three 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 three scenarios were reviewed, ***the Township of Wellington North selected Scenario 2 for water and wastewater rate funded assets, and Scenario 3 for funded assets, as their preferred paths forward for regarding proposed levels of service***, which is reflected in the financial strategy and 10-year capital replacement forecasts.

4.2.1 Scenario 1: Maintain Existing Funding

This scenario assumes no increases to taxes or rates for the purpose of increasing capital funding.

- Annual capital allocation for tax-funded assets: $8.2m
- Annual capital allocation for water rate-funded assets: $1.6m
- Annual capital allocation for sanitary rate-funded assets: $1.8m

Lifecycle Changes Required for Scenario 1

For all asset classes, no changes to lifecycle strategies are required in order to achieve Scenario 1. With the lack of funding, although existing lifecycle strategies are modelled within the Township's asset management system, a significant number of lifecycle events will not have sufficient funds and will move from projected events into the infrastructure backlog.

Affordability/Achievability of Scenario 1

Of the three scenarios analyzed, Scenario 1 is the least expensive option. Maintaining existing funding levels would require no tax or rate increases. The available capital funding over the next 10 years for Scenario 1 would remain consistent as indicated in the table below:

Categories	Available Capital Funding									
	2026	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Tax-Funded	$8.2m	$8.2m	$8.2m	$8.2m	$8.2m	$8.2m	$8.2m	$8.2m	$8.2m	$8.2m
Rate-Funded (Water)	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m
Rate-Funded (Sanitary)	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m	$1.8m

Table 7 Scenario 1 Available Capital Funding Over Next 10 Years

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.

Risks Associated with Scenario 1

There are pros and cons associated with each scenario analyzed, and each benefit is counter-balanced with consequences. For Scenario 1, the following risks have been identified:

- Increased infrastructure backlog
  - While modelling no financial increases on residents and businesses, knowingly continuing with insufficient infrastructure funding the Township is committing to sub-optimal lifecycle management of its assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
  - The risks of maintaining a funding level of 48% of the recommendation, Scenario 1 increases the risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
  - As Scenario 1 maintains a position of 48% of recommended funding levels, the Township will be more reliant on conditional grants, as they become available. While these are beneficial to all municipalities to secure to reduce their tax/rate burden on residents, they are considered an unsustainable revenue source. The Township will be more vulnerable to changes in provincial and federal policy and funding programs.
- Missed opportunities for efficiencies
  - While analyzing Scenario 1, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the Township risks paying more than necessary to maintain their asset inventory.

4.2.2 Scenario 2: Achieving 100% Funding in 20 Years

This scenario assumes gradual tax and rate increases, stabilizing at 100% funding in 20 years.

- Annual Tax Increase ~3.9%
- Annual Water Rate Increase ~0.6%
- Annual Wastewater Rate Increase ~1.0%

Lifecycle Changes Required for Scenario 2

For all asset classes, 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 the most expensive option in terms of tax/rate increases. Reaching 100% of the recommended funding immediately would require an increase of 112% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the recommended implementation timeframe of 20 years, tax revenue would be increased gradually from $10.7 million to $23.0 million, water revenue from $2.3 million to $2.7 million, and wastewater revenue from $2.8 million to $3.4 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									
	2026	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Tax-Funded	$8.7m	$9.1m	$9.5m	$10.0m	$10.5m	$10.9m	$11.5m	$12.1m	$12.6m	$13.2m
Rate-Funded (Water)	$1.69m	$1.7m	$1.71m	$1.73m	$1.74m	$1.76m	$1.77m	$1.79m	$1.80m	$1.82m
Rate-Funded (Sanitary)	$1.83m	$1.85m	$1.88m	$1.91m	$1.94m	$1.96m	$2.0m	$2.03m	$2.05m	$2.09m

Table 8 Scenario 2 Available Capital Funding Over Next 10 Years

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.

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:

- Increased infrastructure backlog
  - While mitigating the impact of financial increases on residents and businesses, taking 20 years to reach the targeted funding levels means 20 years of sub-optimal

lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.

- Missed opportunities for efficiencies
  - While analyzing Scenario 2, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the Township risks paying more than necessary to maintain their asset inventory.

Appropriateness of Scenario 2 to Meet the Township's Needs

Township staff emphasized a need to balance financial impacts on residents with the reality of the current state of infrastructure within the municipality. Upon review of all three scenarios, Scenario 2 was selected as the most appropriate option for the water and wastewater rate funded assets as an annual water rate increase of 0.6%, and wastewater rate increase of 1.0% was determined to be subjectively manageable to implement, while creating a sustainable future for the Township's infrastructure. The risks associated with relying on conditional grants from higher levels of government were deemed to be too great considering the country-wide trend of downloading responsibilities (and costs) to municipal governments and reducing funding opportunities.

4.2.3 Scenario 3: Achieving 75% Funding in 20 Years

This scenario assumes gradual tax and rate increases, stabilizing at 75% funding in 20 years.

- Annual Tax Increase ~2.6%
- Annual Wastewater Rate Increase ~0.1%

Annual water rates would see no increase in this scenario, as the water network is currently funded at 85% of the targeted funding.

Lifecycle Changes Required for Scenario 3

For all asset classes, no changes to lifecycle strategies were required in order to achieve Scenario 3 the PLOS target, relying solely on the increase in funding to transition from the norm of routine rehabilitation/replacements being deferred to having sufficient funding for the assets' lifecycle interventions.

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 middle ground in regards to cost. Reaching 75% funding immediately would require an increase of 54% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the recommended implementation timeframe of 20 years, tax revenue would be increased gradually from $10.7 million to $17.9 million, wastewater revenue from $2.78 million to $2.84 million, and water revenue would remain at $2.3 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	$8.51m	$8.79m	$9.09m	$9.39m	$9.70m	$10.0m	$10.3m	$10.7m	$11.0m	$11.4m
Rate-Funded (Water)	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m	$1.6m
Rate-Funded (Sanitary)	$1.801m	$1.803m	$1.806m	$1.809m	$1.812m	$1.815m	$1.817m	$1.820m	$1.823m	$1.826m

Table 9 Scenario 3 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 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.

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:

- Increased infrastructure backlog
  - While mitigating the impact of financial increases on residents and businesses, taking 20 years to reach the targeted funding levels means 20 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
- Missed opportunities for efficiencies
  - While analyzing Scenario 3, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the Township risks paying more than necessary to maintain their asset inventory.

Appropriateness of Scenario 3 to Meet the Township's Needs

Township staff emphasized a need to balance financial impacts on residents with the reality of the current state of infrastructure within the municipality. Upon review of all three scenarios, Scenario 3 was selected as the most appropriate option for tax funded assets as an annual tax increase of 2.6% was determined to be subjectively manageable to implement, while creating a

sustainable future for the Township's infrastructure. The risks associated with relying on conditional grants from higher levels of government were deemed to be too great considering the country-wide trend of downloading responsibilities (and costs) to municipal governments and reducing funding opportunities.

Category Analysis: Core Assets

5. Road Network

The road network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the Township's asset portfolio. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure including sidewalks, traffic lights 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
Rural Roads	107,922	m	$129,908,000	Cost/Unit
Sidewalks	55,101	m^2	$9,477,000	Cost/Unit
Streetlights	898	Quantity	$18,405,000	Cost/Unit
Traffic Lights	22	Quantity	$4,512,000	Cost/Unit
Urban Roads	49,828	m	$68,910,000	Cost/Unit
TOTAL			**$231,212,000**	

Table 10 Detailed Asset Inventory: Road Network

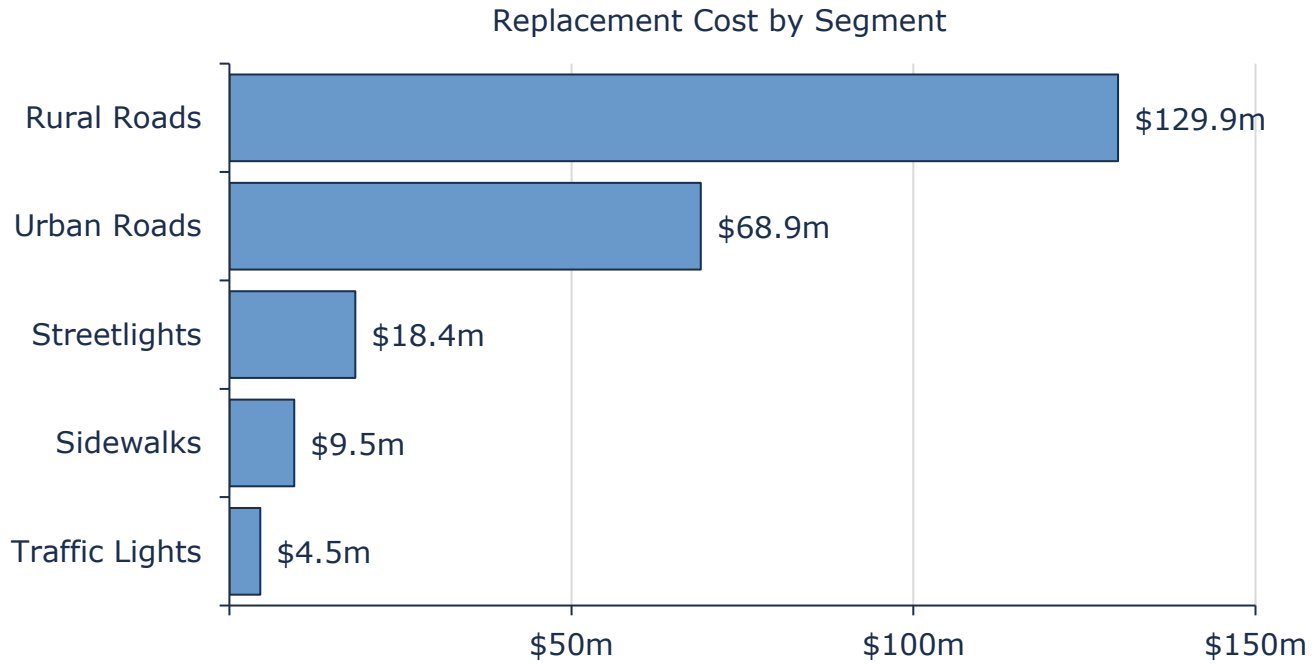


Figure 15 Portfolio Valuation: Road Network

5.2 Asset Condition

Figure 16 summarizes the replacement cost-weighted condition of the Township's road network. Based on a combination of field inspection data and age, 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 100% of paved roads and sidewalks, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remaining asset types.

Assets in poor or worse 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 16, the majority of the Township's road network assets are in fair or better condition.

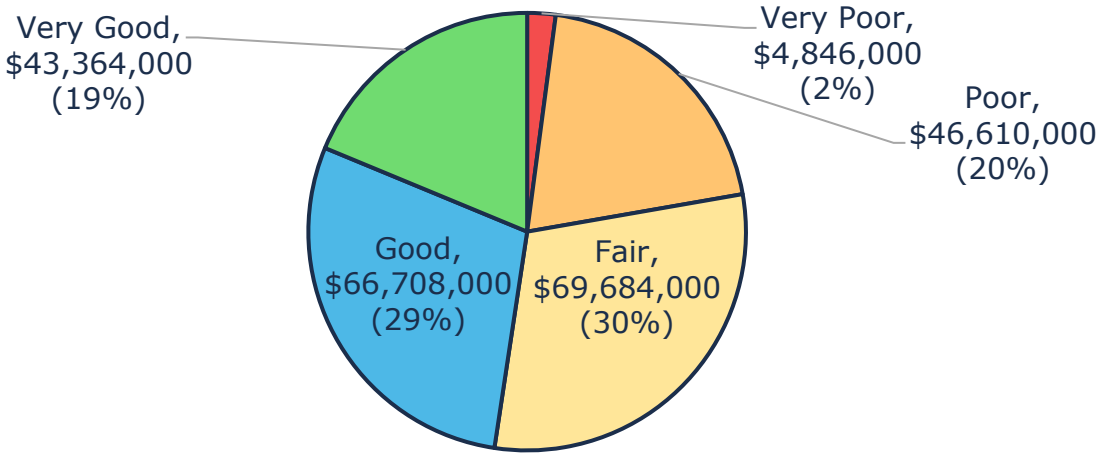


Figure 16 Asset Condition: Road Network Overall

As illustrated in Figure 17, based on condition assessments, the majority of the Township's road network assets are fair or better condition; however, 33% of rural roads are in poor or worse condition.

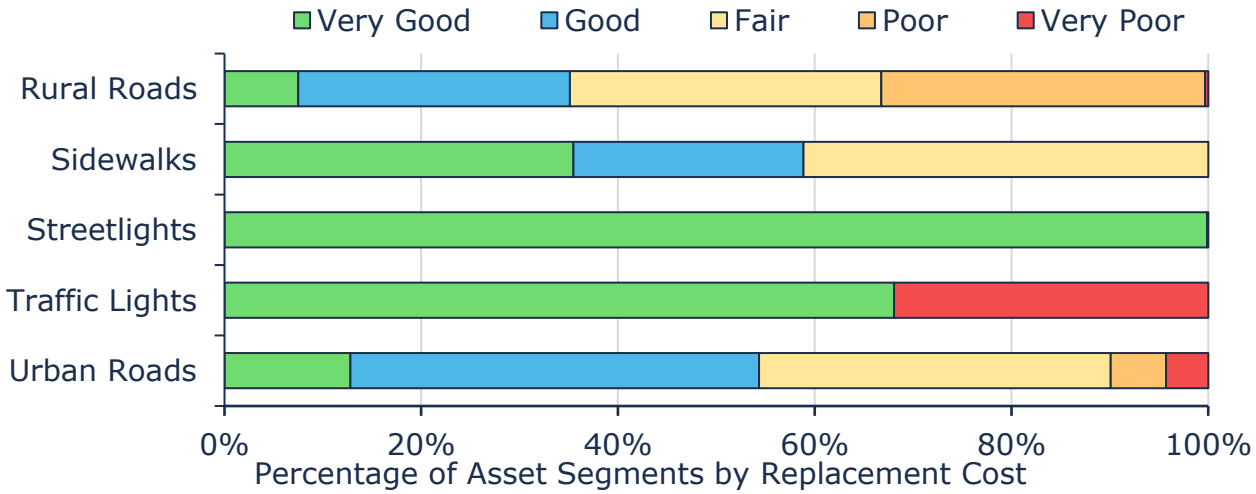


Figure 17 Asset Condition: Road Network by Segment

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 18 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.

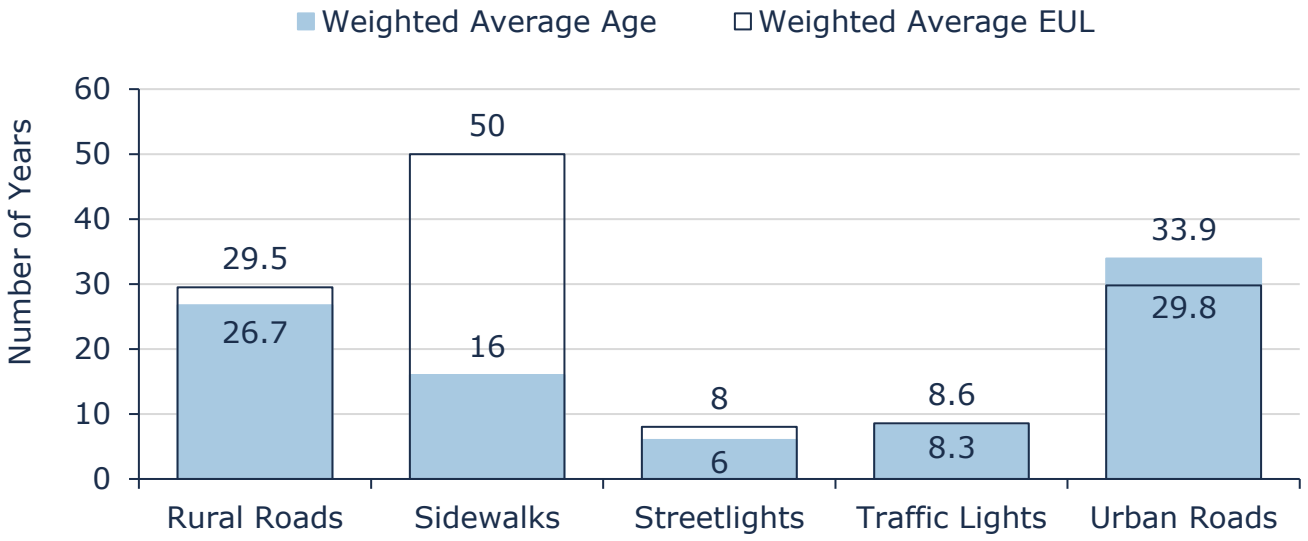


Figure 18 Estimated Useful Life vs. Asset Age: Road Network

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

5.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Operations & Maintenance	Maintenance activities include inspections, cleaning, minor repairs and vegetation management
	Inspections are conducted monthly, while cleaning and minor repairs are performed bi-annually.
	Maintenance is triggered by visual inspections identifying issues such as cracks, potholes, or safety hazards.
Rehabilitation	Rehabilitation activities include resurfacing, structural repairs, and upgrading outdated systems.
	Rehabilitation is trigged by a pavement condition index (PCI) below 5, or structural assessment indicating deterioration. Urban area rehabilitation is also coordinated with other infrastructure replacement (sewers and watermains).
Replacement	Replacement is considered when an asset's condition has deteriorated significantly, and rehabilitation is no longer cost-effective.
Inspection	Internal assessments are performed on road assets annually to ensure timely identification of maintenance needs.
	Road Needs Studies are completed every 5 years by external contractors. The latest Road Needs Study was completed in December 2023.

Table 11 Lifecycle Management Strategy: Road Network

5.5 Forecasted Long-Term Replacement Needs

Figure 19 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's road network. This analysis was run until 2069 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 $10.3 million for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs through the forecast period. It also shows a backlog of $1.4 million, dominated by traffic lights. However, as traffic lights are pooled and no condition data was available, this estimate may not be accurate. These projections are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling (roads only). 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.

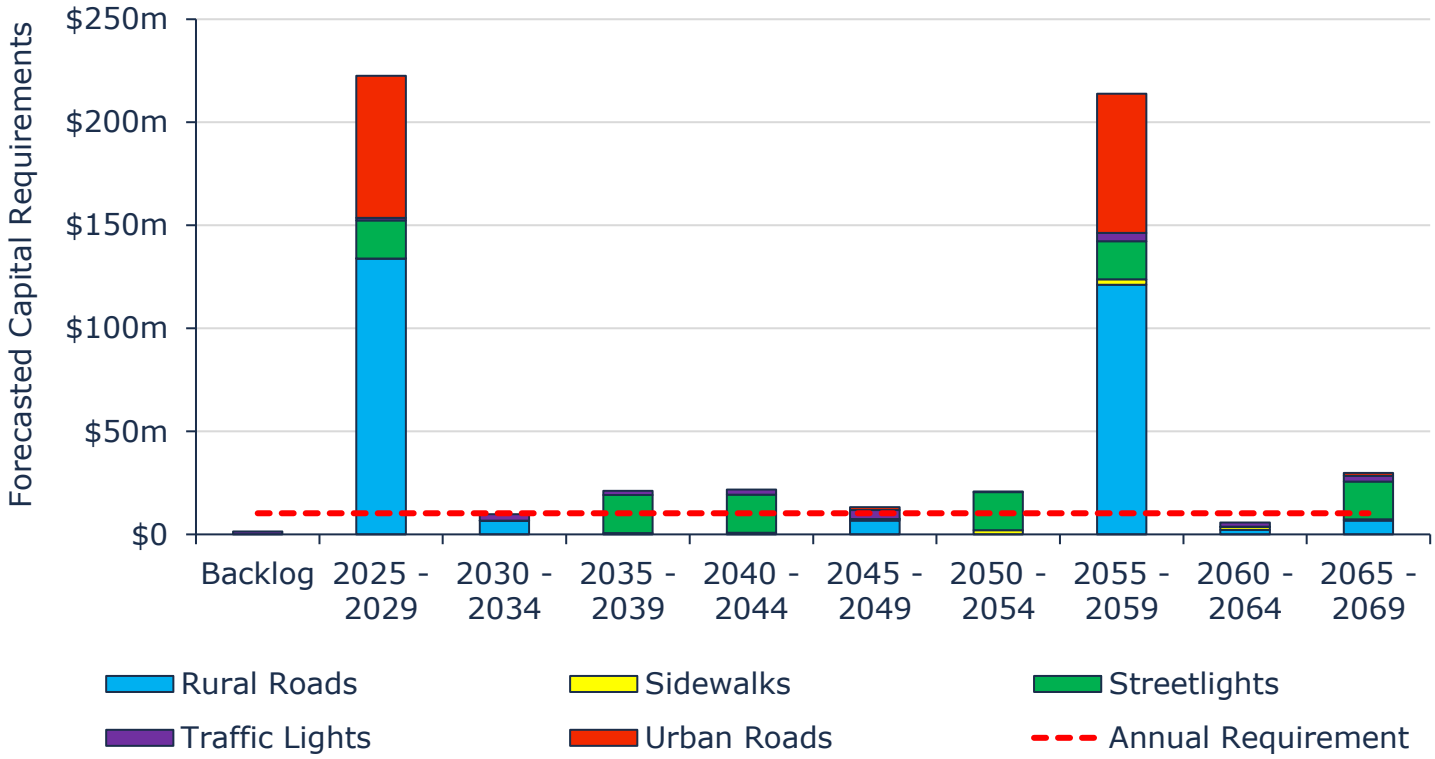


Figure 19 Forecasted Capital Replacement Needs: Road Network 2025-2069

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

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

5.6 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.

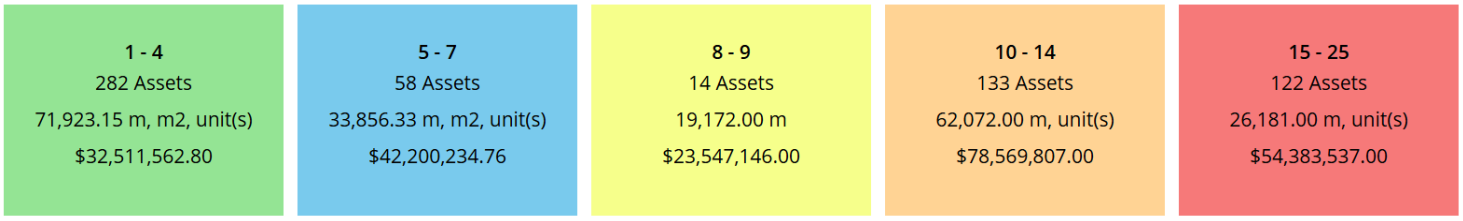


Figure 20 Risk Matrix: Road Network

5.6.1 Risks to Current Asset Management Strategies

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

Organizational Capacity

Both short- and long-term planning requires the regular collection of infrastructure data to support asset management decision-making. Staff find it a continuous challenge to dedicate resources and time towards data collection and condition assessments to ensure that road condition and asset attribute data is regularly reviewed and updated.

Capital Funding Strategies

The current level of financial reinvestment does not sufficiently address maintenance and capital rehabilitation requirements to ensure roads remain in an adequate state of repair and achieve their intended service life. Major projects are grant dependent.

5.7 Levels of Service

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

5.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	See Appendix B – Level of Service Maps & Photos

Service Attribute	Qualitative Description	Current LOS (2024)
Quality	Description or images that illustrate the different levels of road class pavement condition	The Township completed a Road Management Study in December 2023 in coordination with Triton Engineering Services Limited. Every road section received a surface condition rating (1-10). 10 = New 9 = No distress 8 = Minor distress/joints opening 7 = Moderate distress/majority of centerline opening/misc. random cracking 6 = Moderate-severe distress/open joints/some wheel track issues 5 = Severe distress/wheel track failure/no area without distress 0 to 4 = Significant distress/deformation/edge damage

Table 12 O. Reg. 588/17 Community Levels of Service: Road Network

5.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km^2)	0.027
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km^2)	0.019
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	1.43
Quality	Average pavement condition index for paved roads in the Township	73%
	Average surface condition for unpaved roads in the Township (e.g. excellent, good, fair, poor)	Poor
Performance	Capital reinvestment rate	2.26%

Table 13 O. Reg. 588/17 Technical Levels of Service: Road Network

5.8 Proposed Levels of Service

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

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

5.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Road Network capital funding maintained at $5.23m/year
Scenario 2: Achieving 100% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Road Network capital funding gradually increases from $5.23m/year to $10.3m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Road Network capital funding gradually increases from $5.23m/year to $7.7m/year over a span of 20 years

Table 14 Road Network PLOS Scenario Descriptions

5.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	56%	29%	31%	
	Average Asset Risk	12.3	16.7	14.7	
	Annual Investment Required		$5,234,00		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		2.3%		
Scenario 2	Average Condition	56%	30%	53%	
	Average Asset Risk	12.3	16.7	12.4	
	Annual Investment Required		$10,256,000		This parameter is increased from $5.2M incrementally to reach a target portfolio investment of $10.3M over 20 years
	Capital Reinvestment Rate		4.4%		
Scenario 3	Average Condition	56%	30%	44%	
	Average Asset Risk	12.3	16.7	13.4	
	Annual Investment Required		$7,692,000		This parameter is increased from $5.2M incrementally to reach a target portfolio investment of $7.7M over 20 years
	Capital Reinvestment Rate		3.3%		

Table 15 Road Network PLOS Scenario Analysis

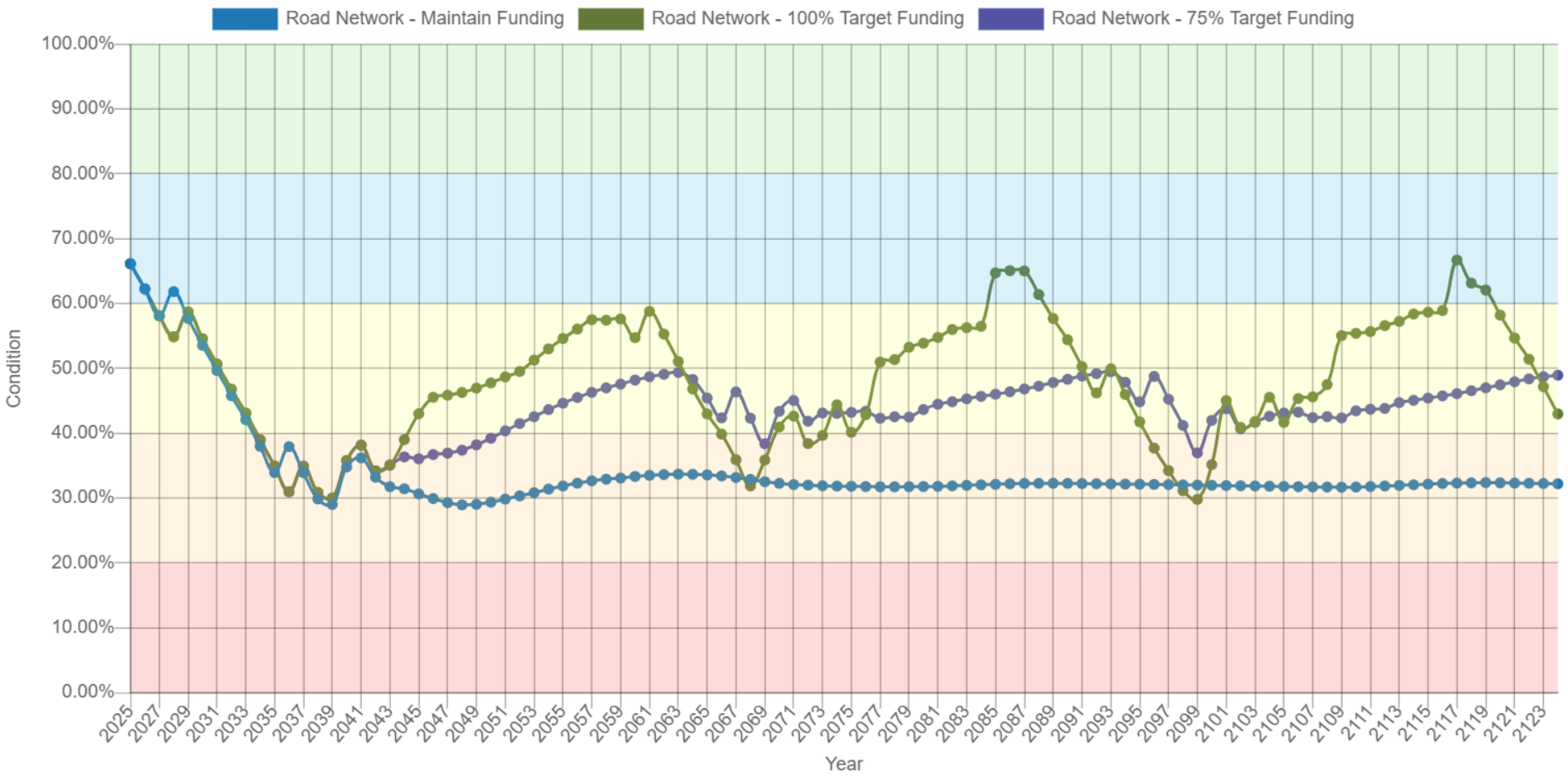


Figure 21 Road Network PLOS Scenario Condition Results

6. Bridges & Culverts

Bridges and culverts represent a critical portion of the transportation services provided to the community. The Transportation Division is responsible for the maintenance of all bridges and culverts located across municipal roads with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

6.1 Inventory & Valuation

Table 16 summarizes the quantity and current replacement cost of bridges and culverts.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	28	Quantity	$41,327,000	User-Defined
Culverts	75	Quantity	$25,109,000	User-Defined
Pedestrian Crossings	1	Quantity	$2,309,000	User-Defined
TOTAL			**$68,745,000**	

Table 16 Detailed Asset Inventory: Bridges & Culverts

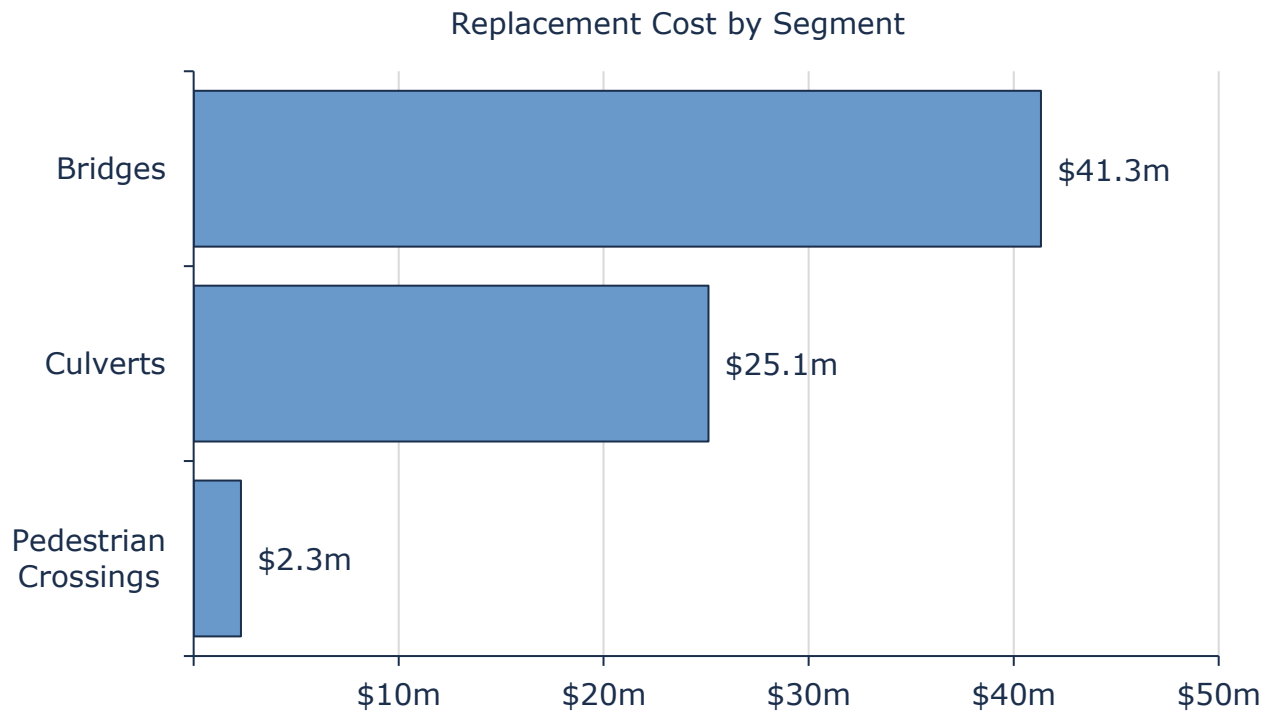


Figure 22 Portfolio Valuation: Bridges & Culverts

6.2 Asset Condition

Figure 23 summarizes the replacement cost-weighted condition of the Township's bridges and culverts. Based on the Township's recent Ontario Structures Inspection Manual (OSIM) assessments, 94% of bridges and culverts are in fair or better condition. Some elements or components of these structures may be candidates for replacement or rehabilitation in the medium term and should be monitored for further degradation in condition. At 6% of the total bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

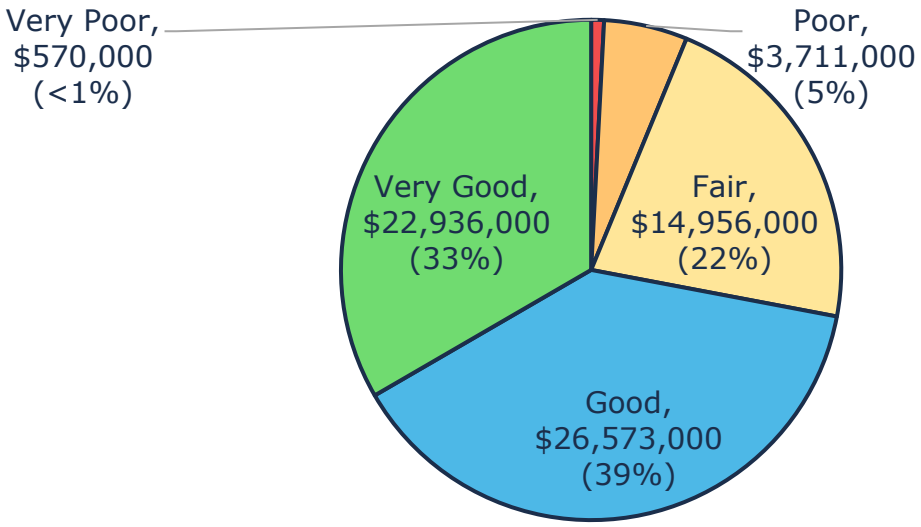


Figure 23 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 24, based on in-field condition assessments, $2.2 million of bridge assets were assessed as being in poor condition. Similarly, 8% of culverts, with a current replacement cost of $2.1 million were identifies as poor or worse. Bridges and structures with a poor or worse rating 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.

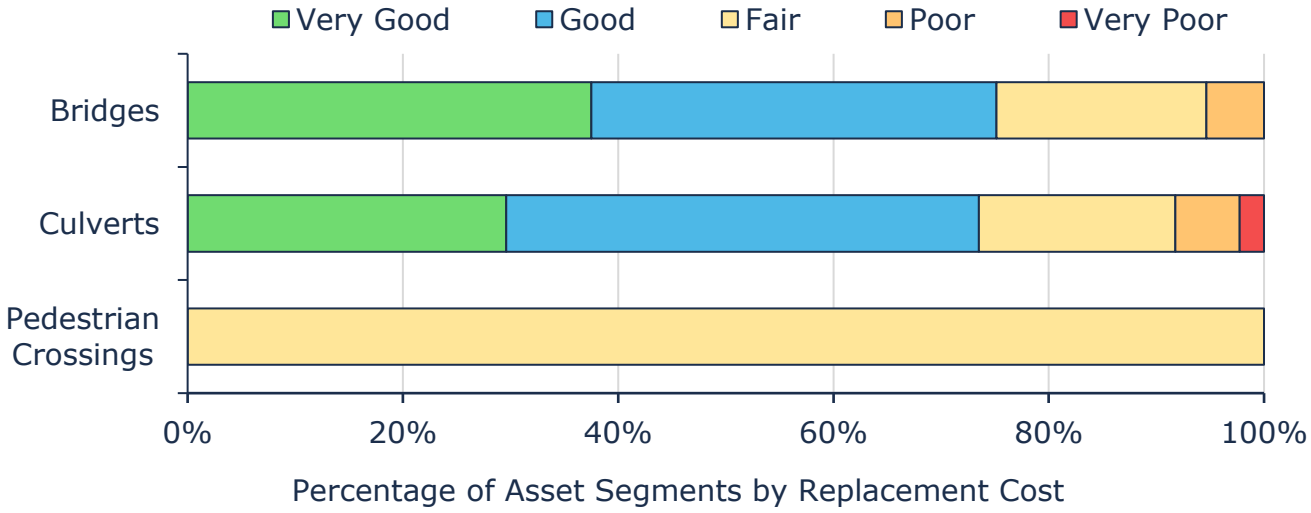


Figure 24 Asset Condition: Bridges & Culverts by Segment

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 25 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.

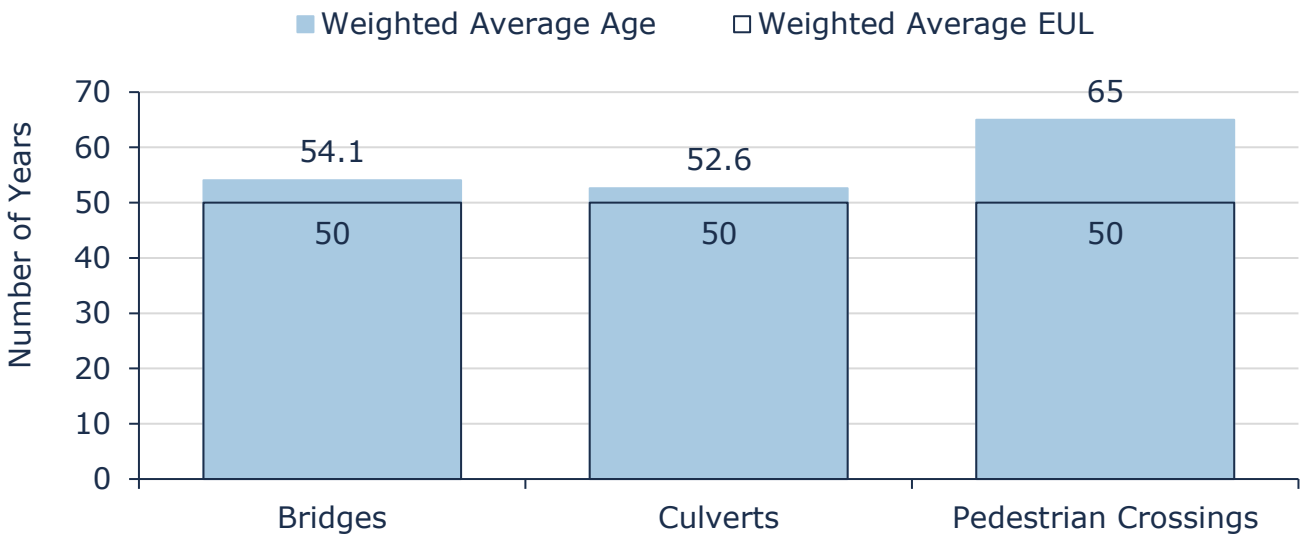


Figure 25 Estimated Useful Life vs. Asset Age: Bridges & Culverts

6.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	All lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM).

Activity Type	Description of Current Strategy
Inspection	Condition assessments of all bridges and culverts are reviewed every 2 years, with a new report completed every 5 in accordance with the Ontario Structure Inspection Manual (OSIM).
	The most recent OSIM inspection report was completed in 2023 by BM Ross.

Table 17 Lifecycle Management Strategy: Bridges & Culverts

6.5 Forecasted Long-Term Replacement Needs

Figure 26 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 $1.5 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.

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.

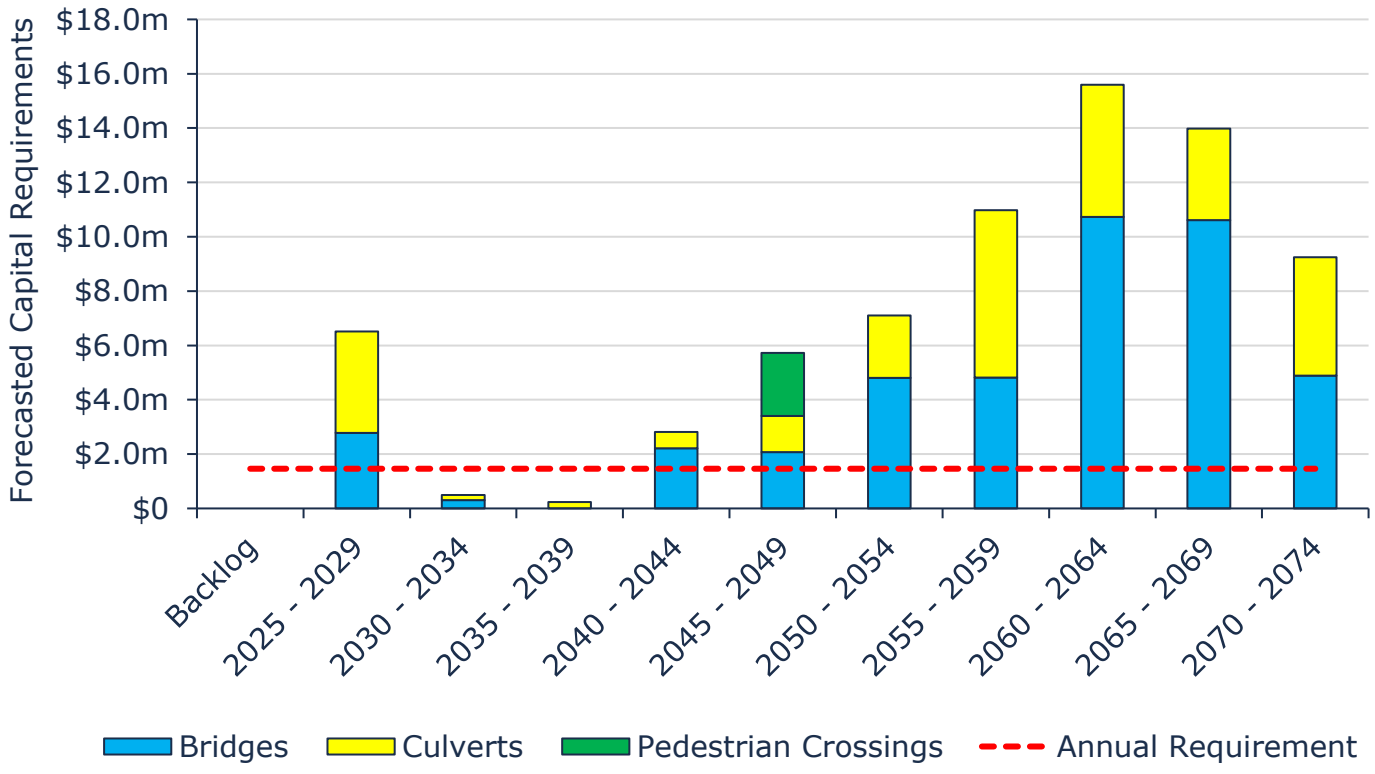


Figure 26 Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2074

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 A – 10-Year Capital Requirements.

6.6 Risk Analysis

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

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.

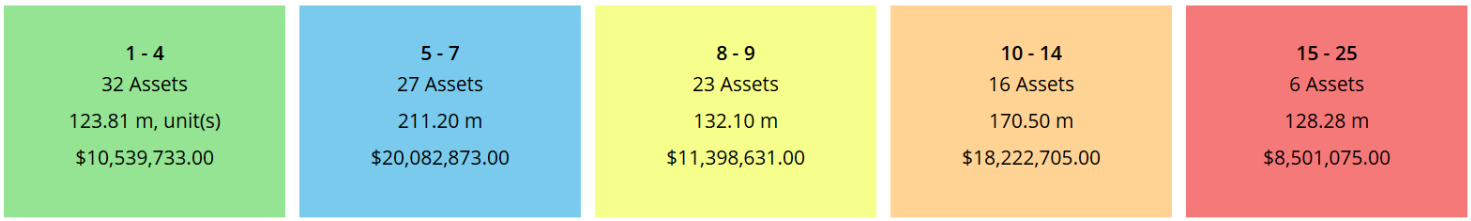


Figure 27 Risk Matrix: Bridges & Culverts

6.6.1 Risks to Current Asset Management Strategies

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

Climate Change & Extreme Events

Asset deterioration is accelerated due to extreme weather, which in some cases can cause unexpected failures. Large storm events result in aggressive wear on bridges and culverts.

Capital Funding Strategies

Municipal budget is limited. Major capital rehabilitation and replacement projects are often entirely dependent on the availability of grant funding opportunities. When grants are not available, rehabilitation and replacement projects may be deferred.

6.7 Levels of Service

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

6.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	The Township's bridges and culverts support motor vehicles, including heavy vehicles and emergency vehicles, apart from the following 3 structures which have load limits: • Structure 9 (Sideroad 3 East) • Structure 21 (Sideroad 8 East) • Structure 38 (Sideroad 3) The Township has plans to replace structure 9 in 2024. Two bridges in Mount Forest have sidewalks integrated into their decks to accommodate pedestrians.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	See Appendix B – Level of Service Maps & Photos for a breakdown of the Bridge Condition Index (BCI) range for the Township's bridges. The BCI value breakdown is as follows: 90-100: Excellent 75-89: Good 40-74: Fair 0-39: Poor

Table 18 O. Reg. 588/17 Community Levels of Service: Bridges & Culverts

6.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of bridges in the Township with loading or dimensional restrictions	3%
	% of single-lane bridges	13%

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average bridge condition index value for bridges in the Township	72%
	Average bridge condition index value for structural culverts in the Township	70%
Performance	% of bridges and culvert assets in state of good repair (fair or better)	94%

Table 19 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 below tables and graphs 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
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Bridges & Culverts capital funding maintained at $432k/year
Scenario 2: Achieving 100% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Bridges & Culverts capital funding gradually increases from $432k/year to $1.5m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Bridges & Culverts capital funding gradually increases from $432k/year to $1.1m/year over a span of 20 years

Table 20 Bridges & Culverts PLOS Scenario Descriptions

6.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	68%	41%	29%	
	Average Asset Risk	8.4	14.2	17.0	
	Annual Investment Required		$432,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.6%		
Scenario 2	Average Condition	68%	41%	38%	
	Average Asset Risk	8.4	14.2	15.4	
	Annual Investment Required		$1,462,000		This parameter is increased from $432,000 incrementally to reach a target portfolio investment of $1,462,000 over 20 years
	Capital Reinvestment Rate		2.1%		
Scenario 3	Average Condition	68%	41%	38%	
	Average Asset Risk	8.4	14.2	15.4	
	Annual Investment Required		$1,096,500		This parameter is increased from $432,000 incrementally to reach a target portfolio investment of $1,096,500 over 20 years
	Capital Reinvestment Rate		1.6%		

Table 21 Bridges & Culverts PLOS Scenario Analysis

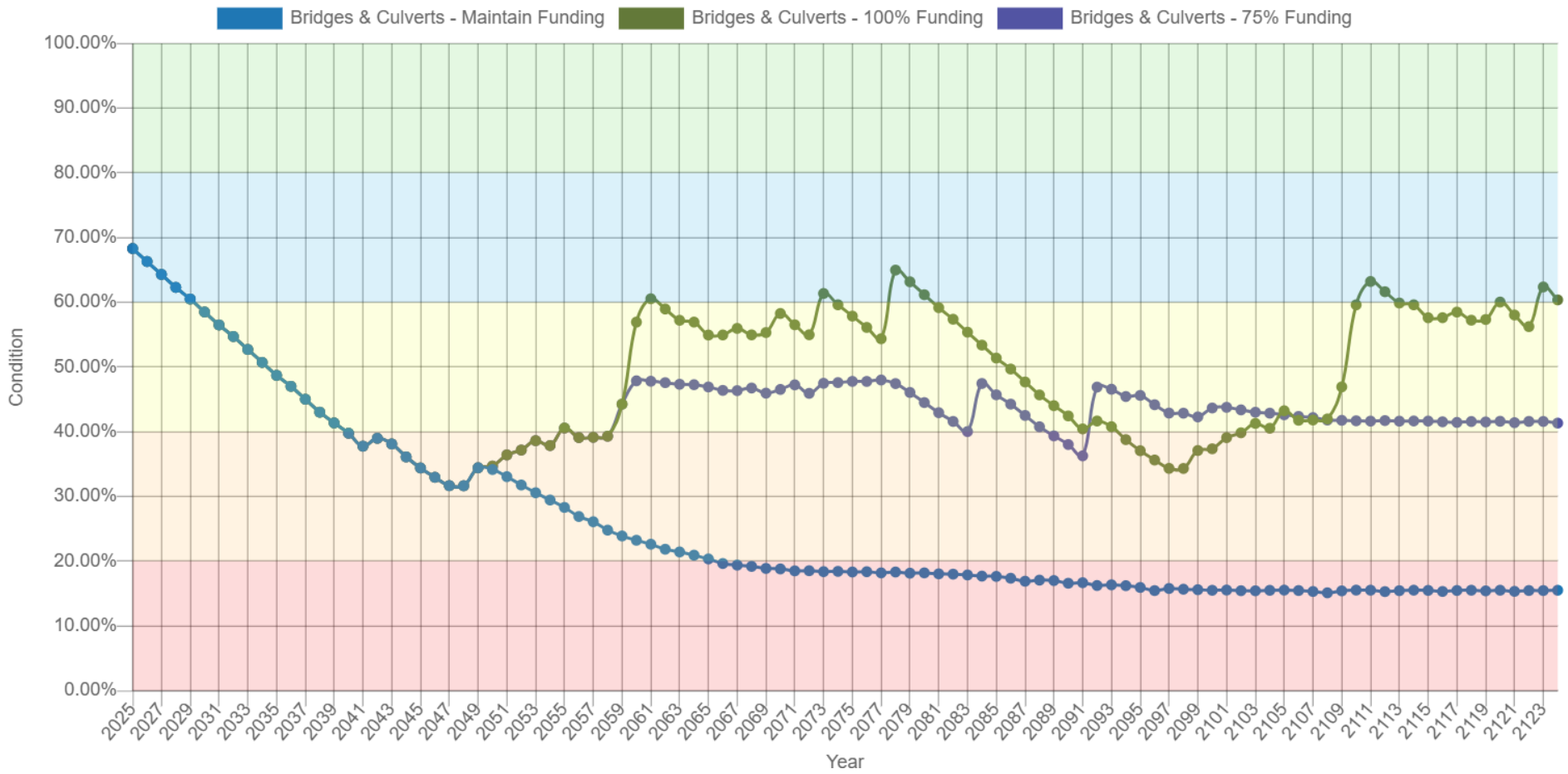


Figure 28 Bridges & Culverts PLOS Scenario Condition Results

7. Water Network

The water services provided by the Township includes assets such as the following:

- Water Distribution System
- Hydrants, valves, and other various water system equipment

7.1 Inventory & Valuation

Table 22 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
Hydrants	334	Quantity	$3,522,000	Cost/Unit
Valves	585	Quantity	$2,933,000	Cost/Unit
Water Equipment	26	Quantity	$13,189,000	CPI
Watermains	57,910	m	$60,699,000	Cost/Unit
TOTAL			**$80,342,000**	

Table 22 Detailed Asset Inventory: Water Network

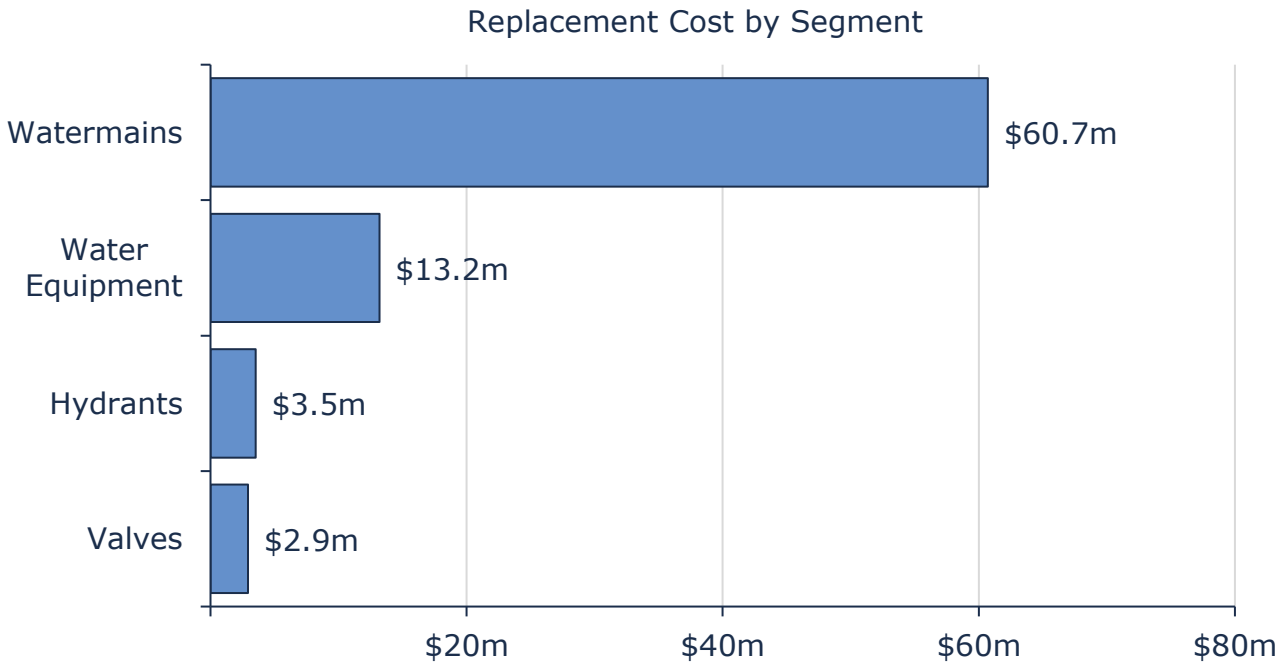


Figure 29 Portfolio Valuation: Water Network

7.2 Asset Condition

Figure 30 summarizes the replacement cost-weighted condition of the Township's water network. Based on a combination of field inspection data and age, 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 91% of watermains, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for hydrants, valves or water equipment.

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 30, the majority of the Township's water network assets are in fair or better condition.

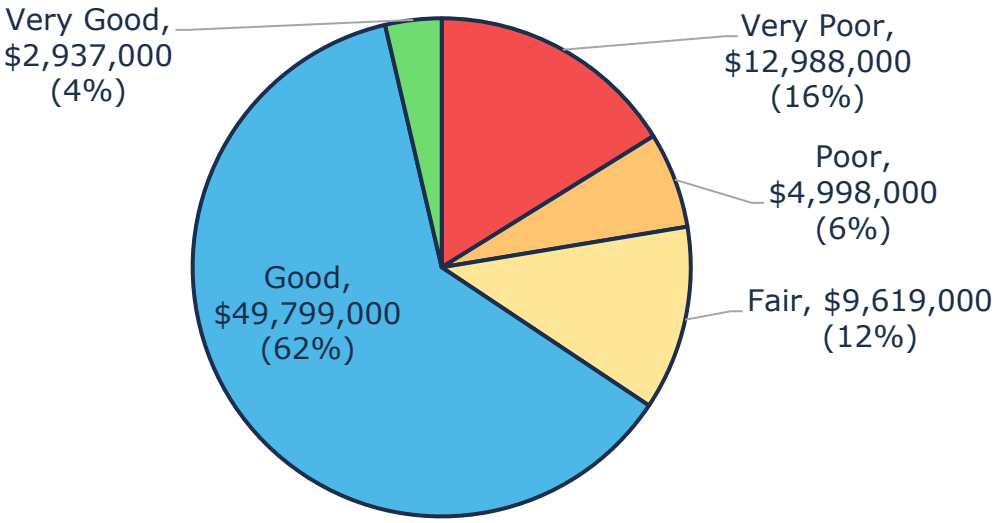


Figure 30 Asset Condition: Water Network Overall

As illustrated in Figure 31, based on condition assessments and age-based conditions, the majority of the Township's water mains are in good condition; however, 99% of water equipment is in poor or worse condition.

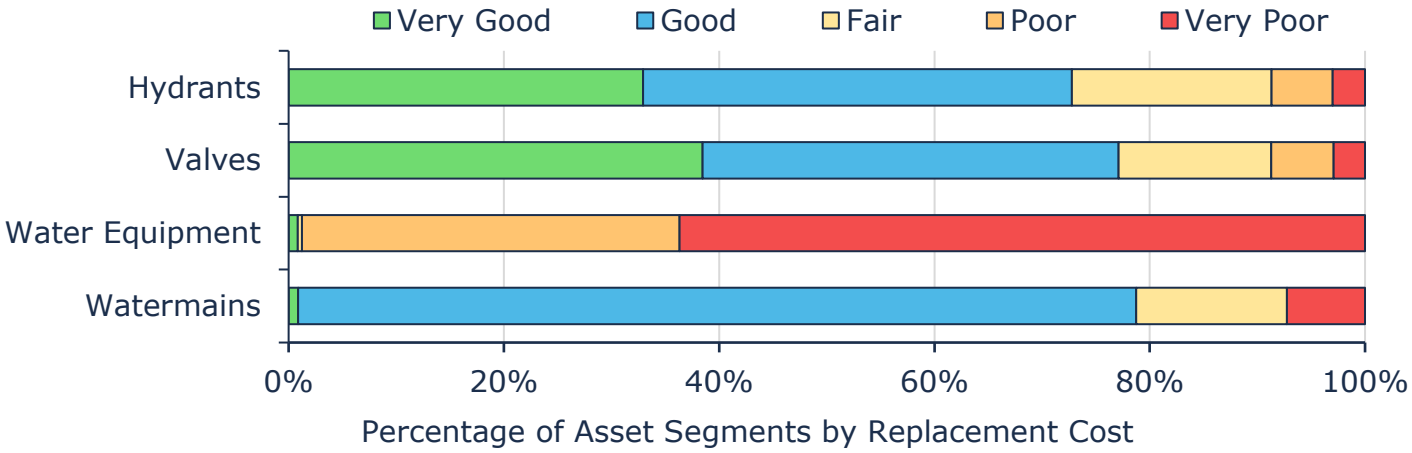


Figure 31 Asset Condition: Water Network by Segment

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 32 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.

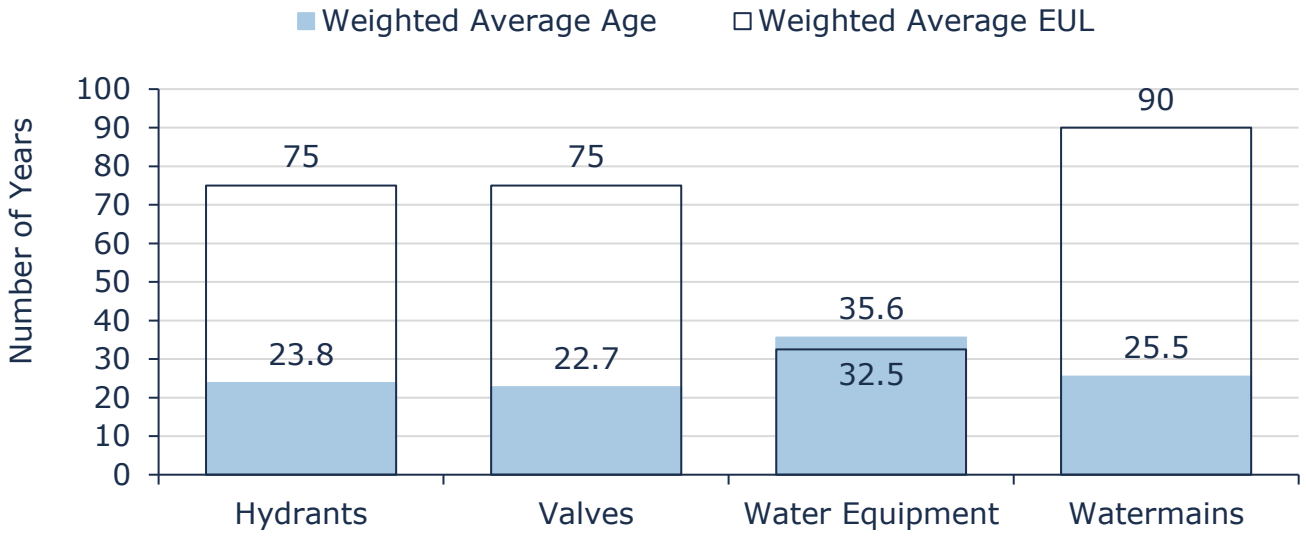


Figure 32 Estimated Useful Life vs. Asset Age: Water Network

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	Hydrant inspections are completed annually, and water tower inspections are completed every 3 years.
	Main valve turning and leak detection is completed every 3 years.
Rehabilitation	Trenchless re-lining of water mains presents significant challenges and is not always a viable option.
Replacement	In the absence of mid-lifecycle rehabilitative events, most mains are simply maintained with the goal of full replacement once it reaches its end-of-life.
	Replacement activities are considered when an asset's condition has deteriorated significantly, and rehabilitation is no longer cost-effective.
Inspection	Staff primarily rely on the age, material, size and failure history of water mains to determine the projected condition of water mains. Watermain condition is assessed whenever uncovered.
	Leak detection is completed annually by external contractors, with each area surveyed every 3 years.

Table 23 Lifecycle Management Strategy: Water Network

7.5 Forecasted Long-Term Replacement Needs

Figure 33 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's water network. This analysis was run until 2104 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 $1.9 million for all assets in the water network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog $7.4 million, dominated by water equipment. These projections are based on asset replacement costs, age analysis, and condition data when available. 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.

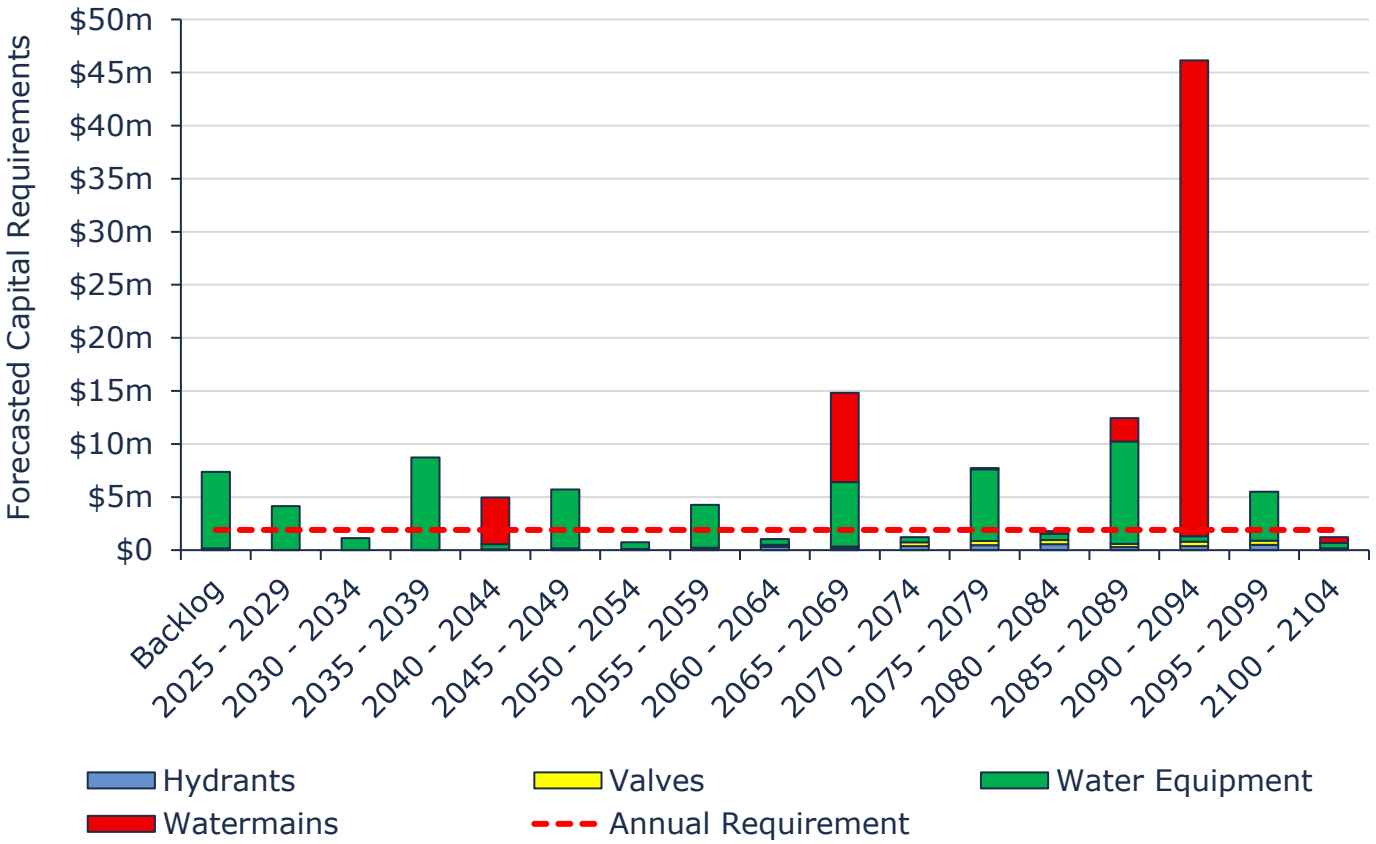


Figure 33 Forecasted Capital Replacement Needs: Water Network 2025-2104

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 A – 10-Year Capital Requirements.

7.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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.

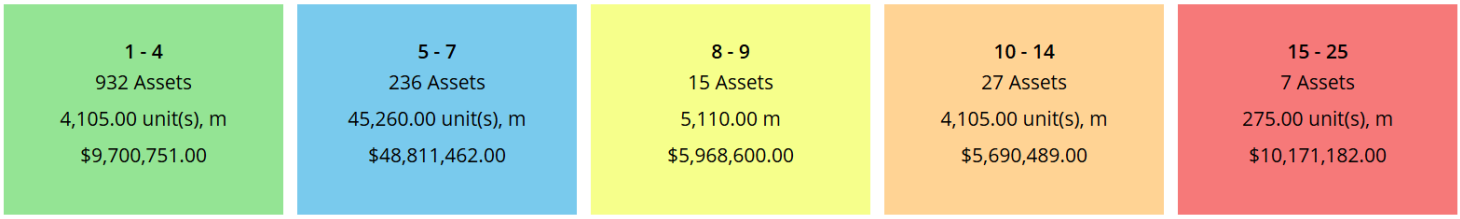


Figure 34 Risk Matrix: Water Network

7.6.1 Risks to Current Asset Management Strategies

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

Climate Change & Extreme Events

Heat waves, dry conditions and lack of precipitation can cause an increase in water usage which can impact the life expectancy of infrastructure. Extreme cold events can negatively impact water assets such as watermains and services by way of watermain breaks and frozen services as a result of deep frost. The Township may also become more reliant on generator power if extreme storms and winds cause power outages.

Capital Funding Strategies

The Township has a Water and Sewer Financial Plan which is completed every 5 years, however, the rapid current and projected growth in the community will expedite the need for upgraded and new infrastructure. This will cause the Township to rely on grants or other sources of funding for completion.

Growth

The water System cannot accommodate the projected growth in the community. To support the anticipated growth, the water storage and supply will have to increase. The Township is in the process of completing an Environmental Assessment for water supply and storage in Arthur.

7.7 Levels of Service

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

7.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps of the user groups or areas of the municipality that are connected to the municipal water system	See Appendix B – Level of Service Maps & Photos
	Description, which may include maps of the user groups or areas of the municipality that have fire flow	See Appendix B – Level of Service Maps & Photos
Reliability	Description of boil water advisories and service interruptions	No instances of boil water advisories were issued in 2024.
	Description of unplanned service interruptions due to watermain breaks	A total of 5 watermain breaks occurred in Arthur and Mount Forest in 2024. 4/5 of these breaks were due to reconstruction activities, and all were repaired within the same day. A very brief service interruption of no more than one hour occurred due to each these breaks.

Table 24 O. Reg. 588/17 Community Levels of Service: Water Network

7.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal water system	66%
	% of properties where fire flow is available	66%
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

Service Attribute	Technical Metric	Current LOS (2024)
Performance	% of the water system that is in good or very good condition	65%
	% of the water system that is in poor or very poor condition	22%

Table 25 O. Reg. 588/17 Technical Levels of Service: Water Network

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 below tables and graphs 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.*

7.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Water Network capital funding maintained at $1.6m/year
Scenario 2: Achieving 100% Target Funding in 20 Years	This scenario assumes gradual water rate increases of ~0.6%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Water Network capital funding gradually increases from $1.6m/year to $1.9m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario maintains existing capital funding levels are the water network is currently funded at 85% of the targeted funding. ♦ Water Network capital funding maintained at $1.6m/year

Table 26 Water Network PLOS Scenario Descriptions

7.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	58%	54%	41%	
	Average Asset Risk	8.0	8.0	8.8	
	Annual Investment Required		$1,641,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		2.0%		
Scenario 2	Average Condition	58%	54%	41%	
	Average Asset Risk	8.0	8.0	8.8	
	Annual Investment Required		$1,903,000		This parameter is based on water rates increasing 0.6% annually for 20 years
	Capital Reinvestment Rate		2.3%		
Scenario 3	Average Condition	58%	54%	41%	
	Average Asset Risk	8.0	8.0	8.8	
	Annual Investment Required		$1,641,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		2.0%		

Table 27 Water Network PLOS Scenario Analysis

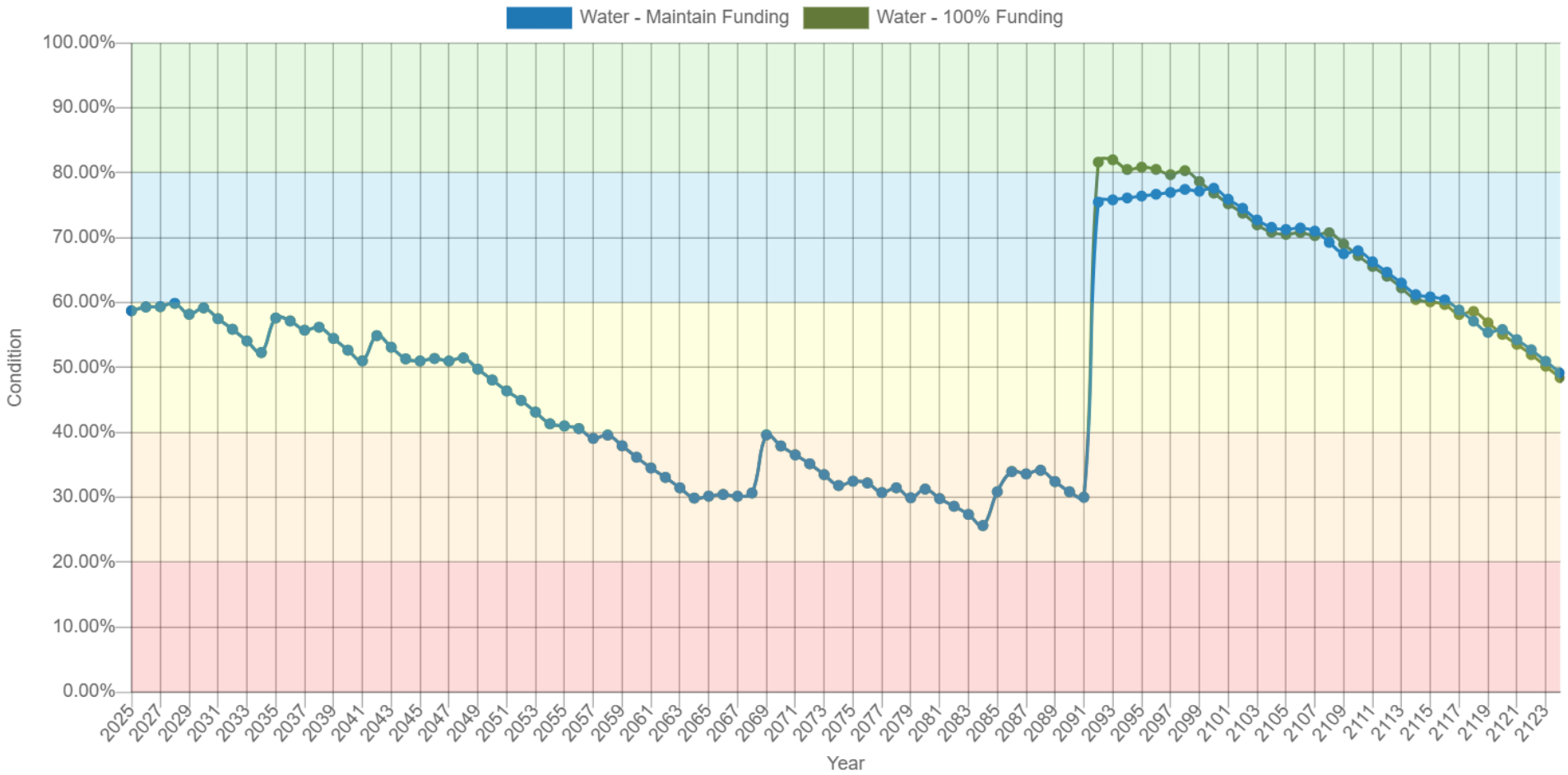


Figure 35 Water Network PLOS Scenario Condition Results

8. Sanitary System

The sanitary system owned and operated by the town includes assets such as:

- The Arthur Wastewater Treatment Plant and Pumping Station
- The Mount Forest Wastewater Treatment Plant
- The sanitary collection system
- Manholes and various sanitary equipment

8.1 Inventory & Valuation

Table 28 summarizes the quantity and current replacement cost of the Township's various sanitary system assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Manholes	668	Quantity	$7,299,000	Cost/Unit
Sanitary Collection	22	Quantity	$20,024,000	Cost/Unit
Sanitary Equipment	13	Quantity	$22,832,000	CPI
Sanitary Forcemains	6,838	m	$7,828,000	Cost/Unit
Sanitary Mains	50,307	m	$56,965,000	Cost/Unit
TOTAL			**$114,948,000**	

Table 28 Detailed Asset Inventory: Sanitary System

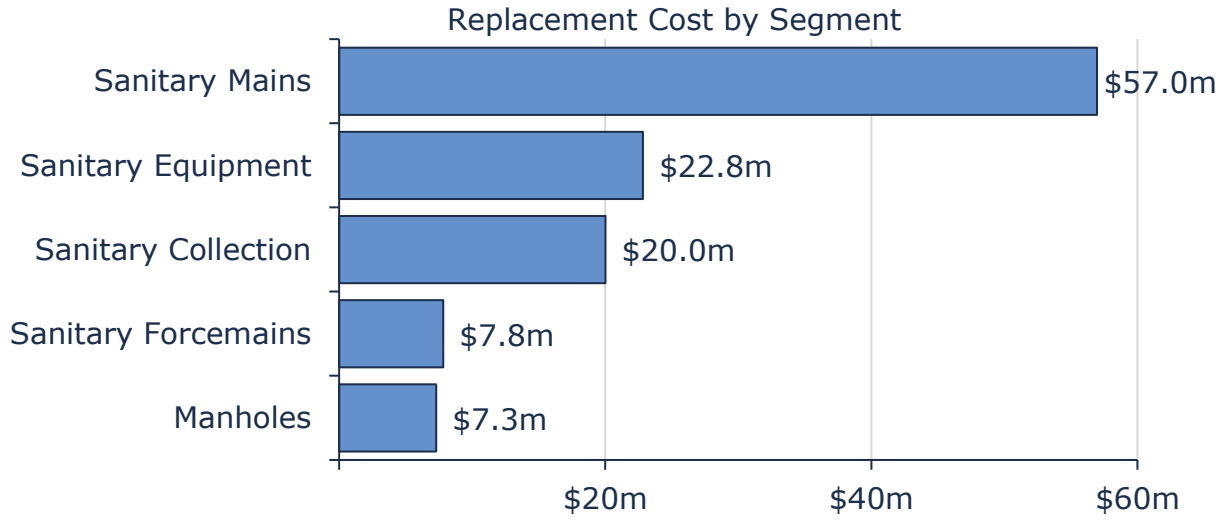


Figure 36 Portfolio Valuation: Sanitary System

8.2 Asset Condition

Figure 37 summarizes the replacement cost-weighted condition of the Township's sanitary system. Based solely on age data, 71% of assets are in fair or better condition; the remaining 29% of assets are in poor to very poor condition.

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 37 the majority of the Township's sanitary system assets are in fair or better condition.

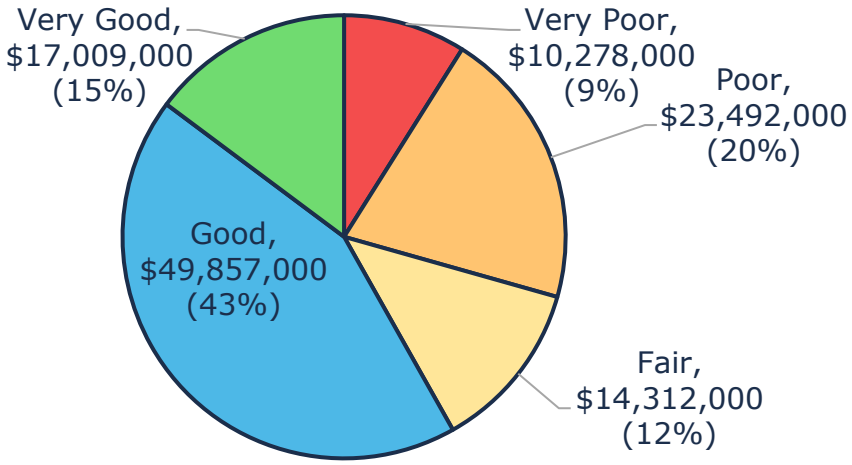


Figure 37 Asset Condition: Sanitary System Overall

As illustrated in Figure 38, based on condition assessments and age-based conditions, the majority of the Township's sanitary mains are in fair or better condition however, 63% of sanitary collection assets are in poor or worse condition.

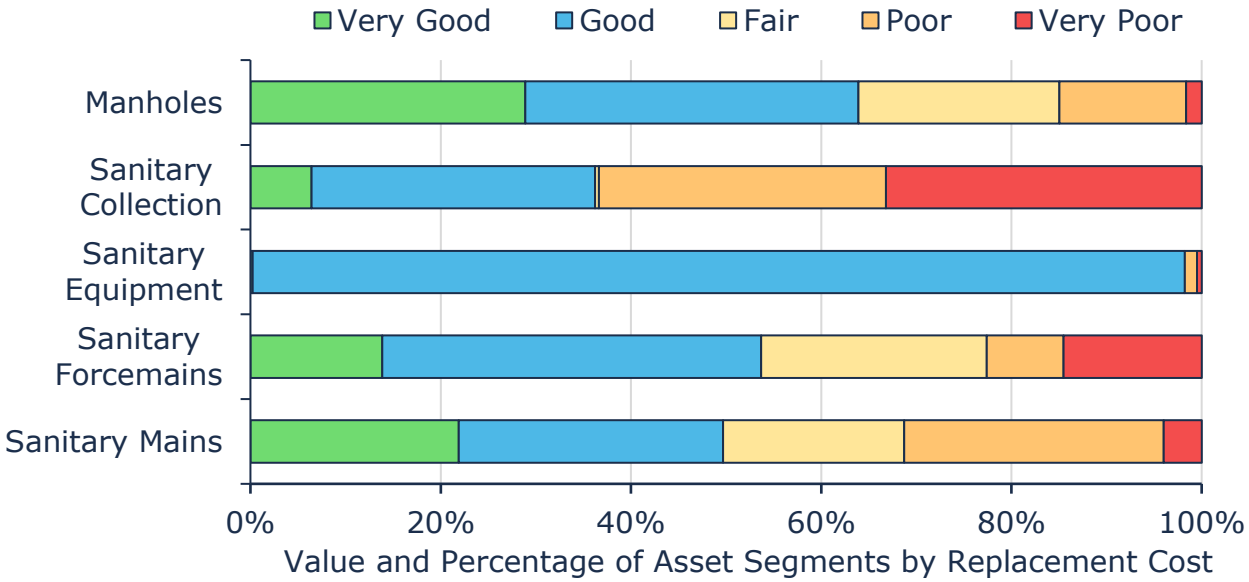


Figure 38 Asset Condition: Sanitary System by Segment

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

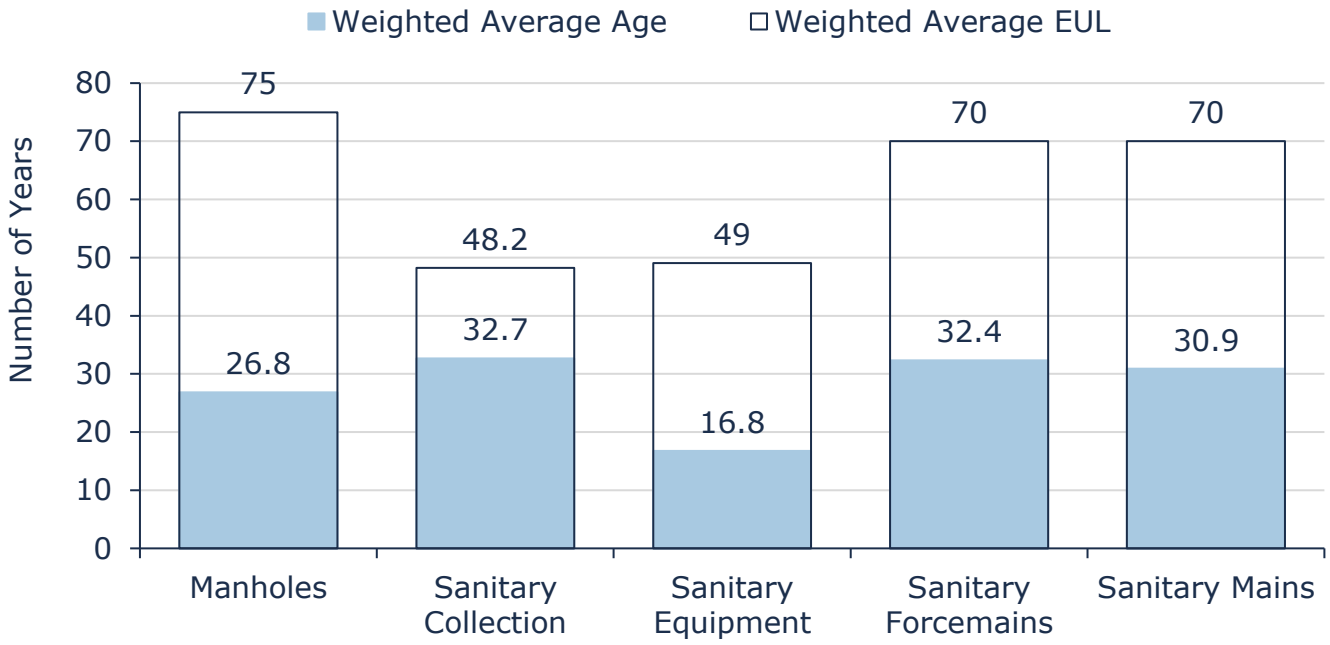


Figure 39 Estimated Useful Life vs. Asset Age: Sanitary System

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	Main flushing is completed annually with 100% of the network flushed every 3 years.
	Manholes are inspected annually with 100% of the manholes being inspected every 3 years.
Rehabilitation	Rehabilitation programs are initiated as required when defects are observed during inspections.
Replacement	Replacement is considered when as asset's condition has deteriorated significantly, and rehabilitation is no longer cost-effective, or in coordination with full road reconstruction projects.
	Assets nearing the end of their service life and those incurring frequent and costly repairs are prioritized for replacement.
Inspection	CCTV inspections are completed for sanitary mains on an as needed basis.
	Sanitary sewer manhole inspections take place annually, with each manhole being assessed every 3 years.

Table 29 Lifecycle Management Strategy: Sanitary System

8.5 Forecasted Long-Term Replacement Needs

Figure 40 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Township's sanitary system. This analysis was run until 2099 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 $2.4 million for all assets in the sanitary sewer network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog of $4.1 million split between sanitary collection sanitary equipment. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

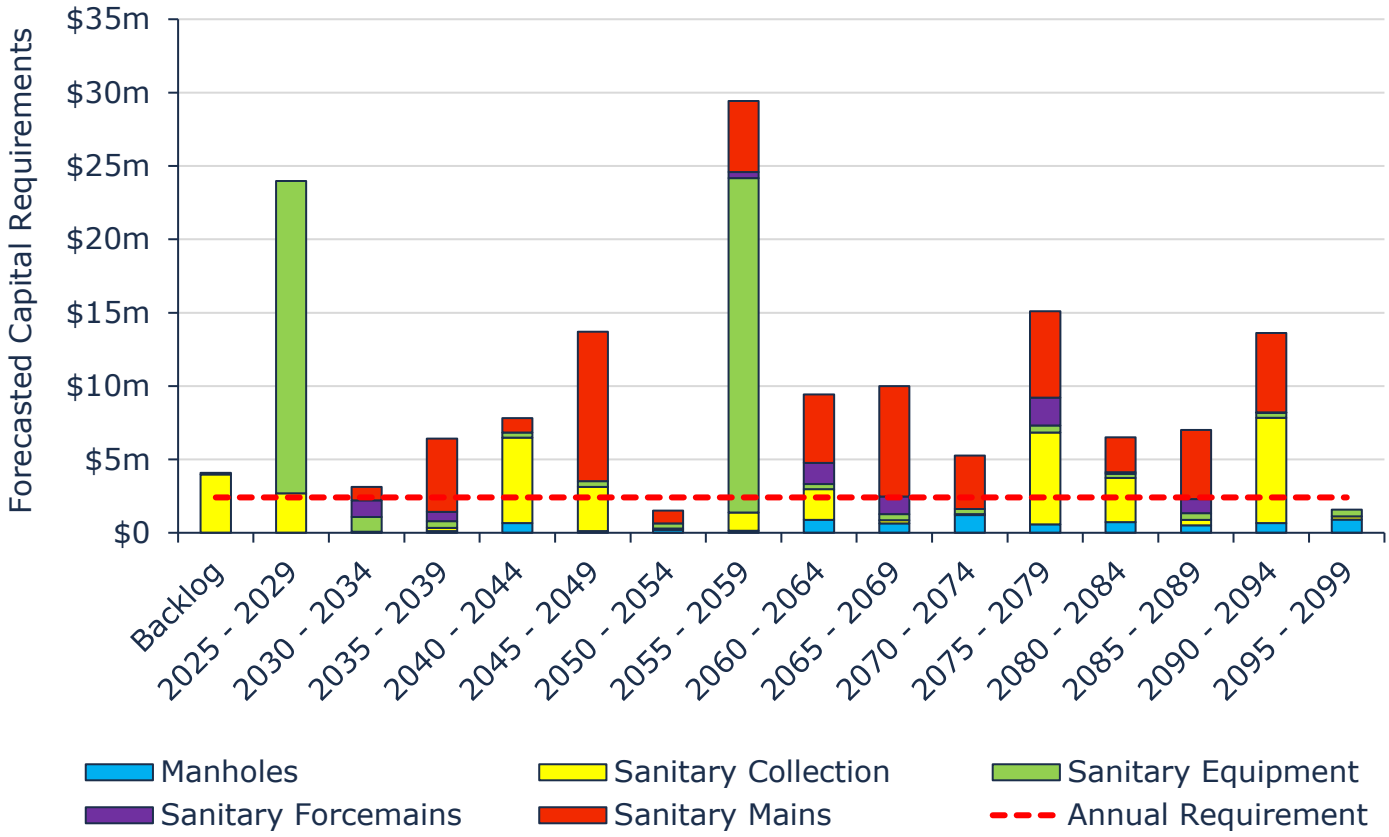


Figure 40 Forecasted Capital Replacement Needs: Sanitary System 2025-2099

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 A – 10-Year Capital Requirements.

8.6 Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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.

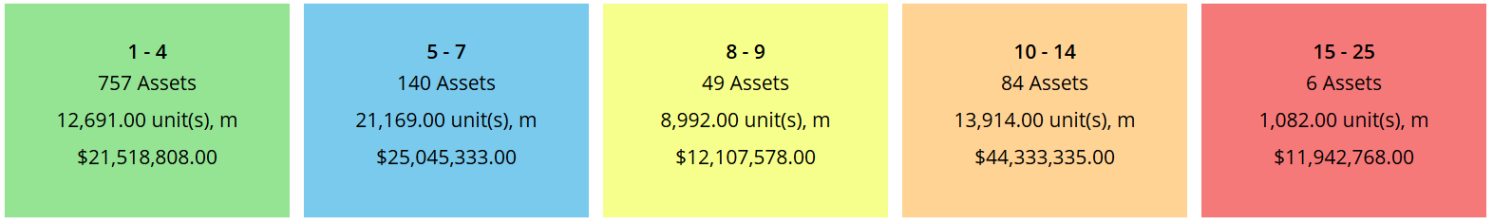


Figure 41 Risk Matrix: Sanitary System

8.6.1 Risks to Current Asset Management Strategies

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

Climate Change & Extreme Events

Extreme rainfall and flooding can result in storm water entering the sanitary sewer system by way of inflow and infiltration. This puts excess stress on equipment such as pumps and treatment equipment in the Sanitary System.

Growth

The Sanitary system is not designed to withstand the expected growth in the community. Wastewater capacity will need to increase in order to support projected growth. The Township has designed phase two of the expansion of the Arthur Wastewater Treatment Plant to increase system capacity.

Capital Funding Strategies

The Township has a Water and Sewer Financial Plan that is completed every 5 years however, the rapid current and projected growth will expedite the need for upgraded and new infrastructure and will rely on grants and other sources of funding for completion.

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 (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	See Appendix B – Level of Service Maps & Photos
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	The Township does not own any 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	The Township does not own any 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 inflow through manhole covers, and infiltration through sanitary pipe joints and crack permitting ground water into the system.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The Township has new sanitary sewer services designed and engineered according to the Municipal Servicing Standard.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	The Mount Forest and Arthur Wastewater Treatment Plants (WWTP) both use sand filtration, UV treatment, chemical phosphorous removal, and extended aeration. Treated effluent from the Arthur WWTP discharges to the Conestogo River, and Mount Forest WWTP discharges to the Saugeen River.

Table 30 O. Reg. 588/17 Community Levels of Service: Sanitary System

8.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal wastewater system	64%
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	N/A
	# 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
Performance	% of the wastewater system that is in good or very good condition	58%
	% of the wastewater system that is in poor or very poor condition	29%

Table 31 O. Reg. 588/17 Technical Levels of Service: Sanitary System

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

8.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Sanitary System capital funding maintained at $1.8m/year

Scenario	Description
Scenario 2: **Achieving 100% Target Funding in 20 Years**	This scenario assumes gradual sanitary rate increases of ~1.0%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Sanitary System capital funding gradually increases from $1.8m/year to $2.4m/year over a span of 20 years
Scenario 3: **Achieving 75% Target Funding in 20 Years**	This scenario assumes gradual sanitary rate increases of ~0.1%/year, stabilizing at 75% funding across all asset categories in 20 years. Sanitary System capital funding gradually increases from $1.80m/year to $1.81m/year over a span of 20 years

Table 32 Sanitary System PLOS Scenario Descriptions

8.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	54%	43%	37%	
	Average Asset Risk	9.0	11.8	12.3	
	Annual Investment Required		$1,798,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		1.6%		
Scenario 2	Average Condition	54%	43%	37%	
	Average Asset Risk	9.0	11.8	12.3	
	Annual Investment Required		$2,409,000		This parameter is based on sanitary rates increasing 1.0% annually for 20 years
	Capital Reinvestment Rate		2.1%		
Scenario 2	Average Condition	54%	43%	37%	
	Average Asset Risk	9.0	11.8	12.3	
	Annual Investment Required		$1,807,000		This parameter is based on sanitary rates increasing 0.1% annually for 20 years
	Capital Reinvestment Rate		1.6%		

Table 33 Sanitary System PLOS Scenario Analysis

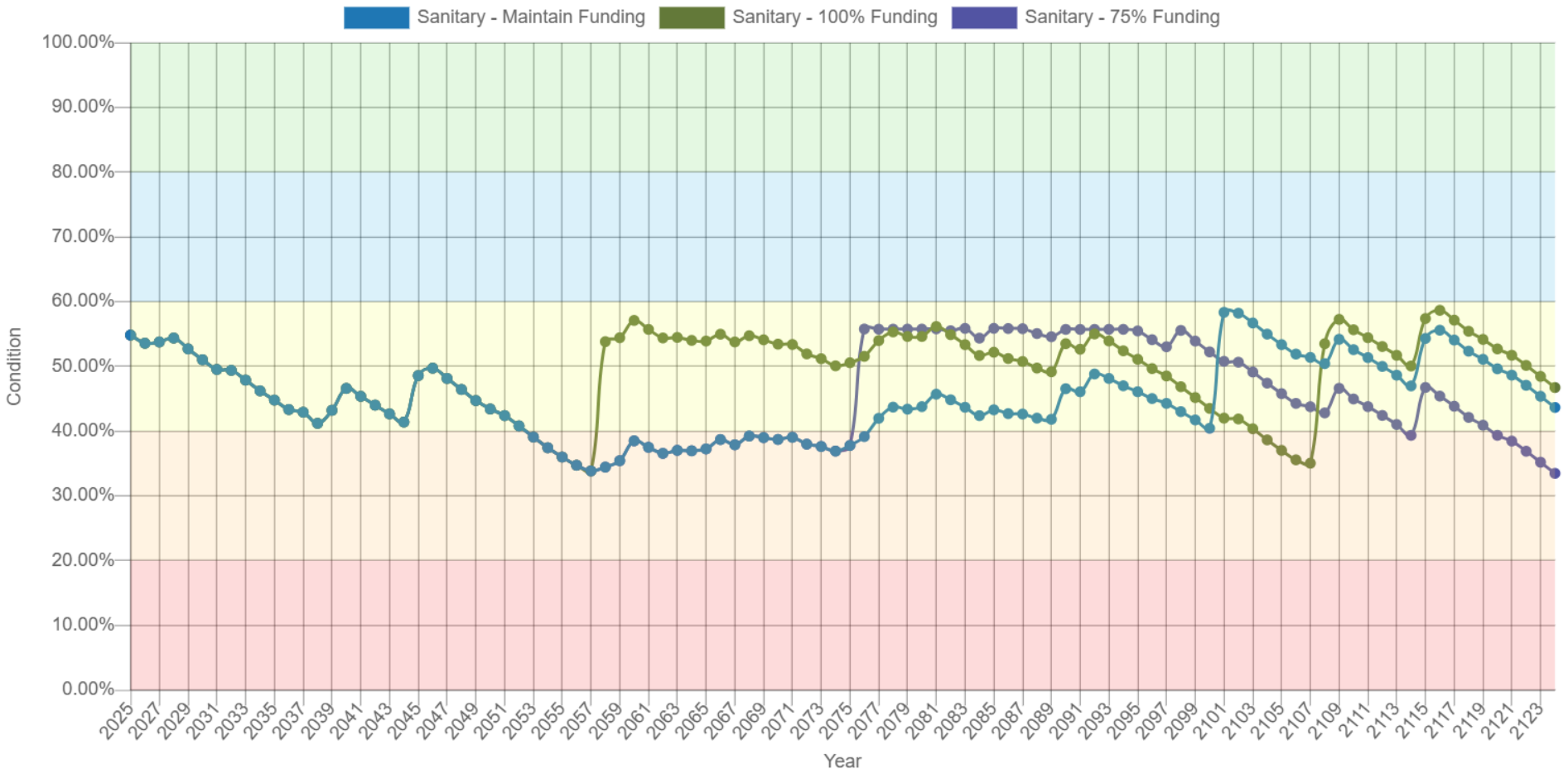


Figure 42 Sanitary System PLOS Scenario Condition Results

9. Storm System

The Township is responsible for owning and maintaining a storm system of storm sewer mains, catch basins and manholes. The Township also owns five Stormwater Management Facilities in Mount Forest, and one Stormwater Management Facility in Arthur, which are not presently in the Citywide system.

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

9.1 Inventory & Valuation

Table 34 summarizes the quantity and current replacement cost of all storm system assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basins	1,686	Quantity	$9,197,000	Cost/Unit
Manholes	679	Quantity	$8,293,000	Cost/Unit
Storm Mains	54,532	m	$67,761,000	Cost/Unit
TOTAL			**$85,251,000**	

Table 34 Detailed Asset Inventory: Storm System

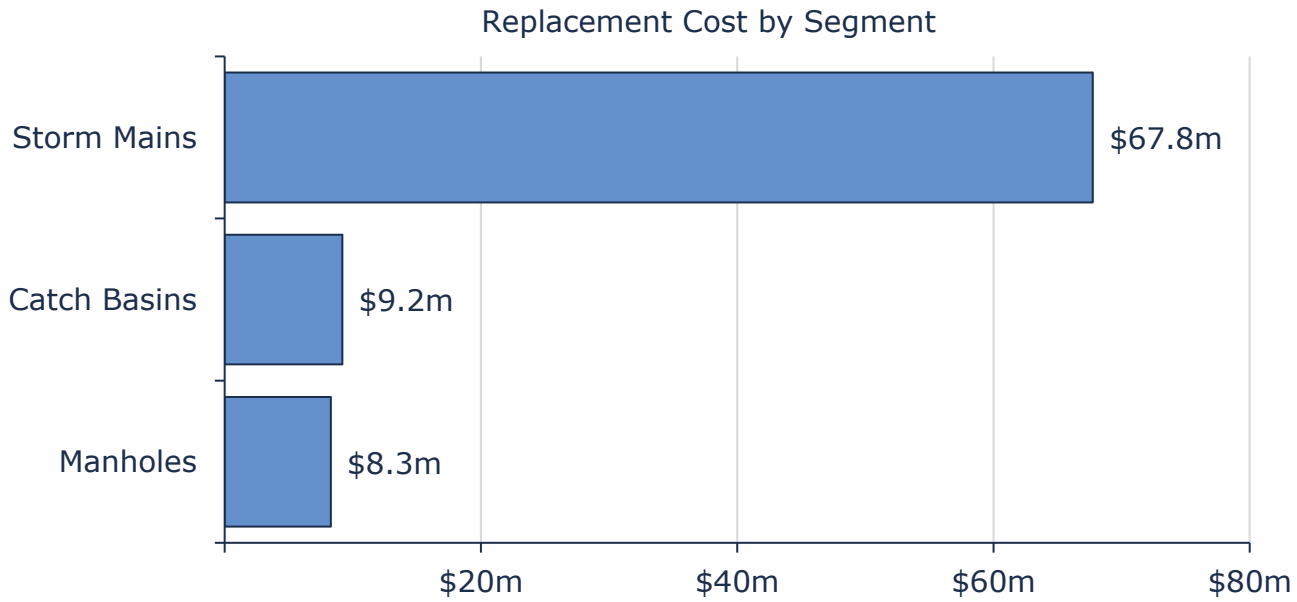


Figure 43 Portfolio Valuation: Storm System

9.2 Asset Condition

Figure 44 summarizes the replacement cost-weighted condition of the Township's storm system assets. Based on age data only, approximately 94% of assets are in fair or better condition, with the remaining 6% 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.

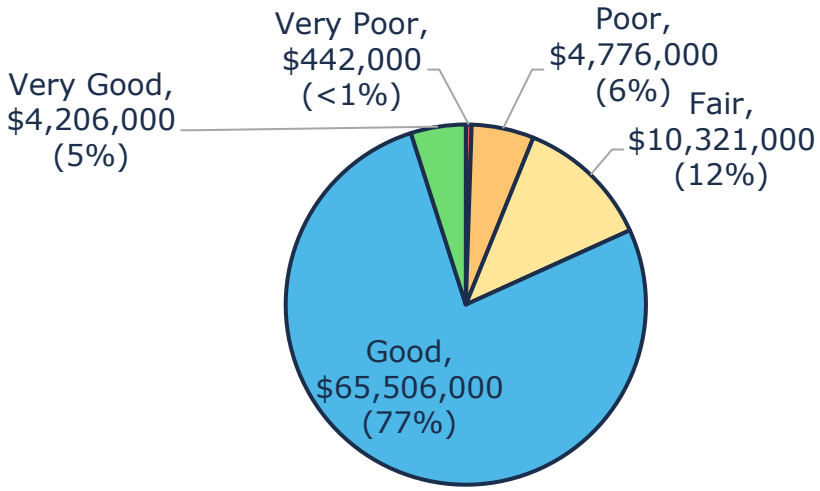


Figure 44 Asset Condition: Storm System Overall

Figure 45 summarizes the age-based condition of storm system assets. The analysis illustrates that the majority of stormwater mains are in fair or better condition.

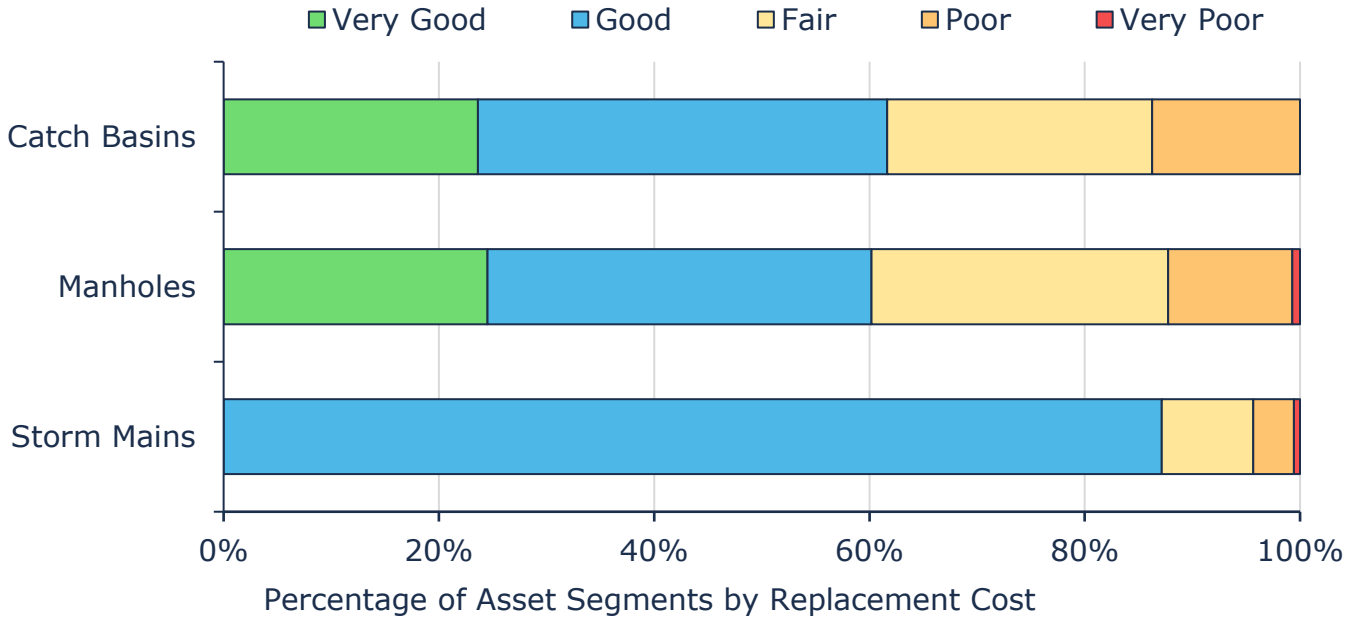


Figure 45 Asset Condition: Storm System by Segment

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

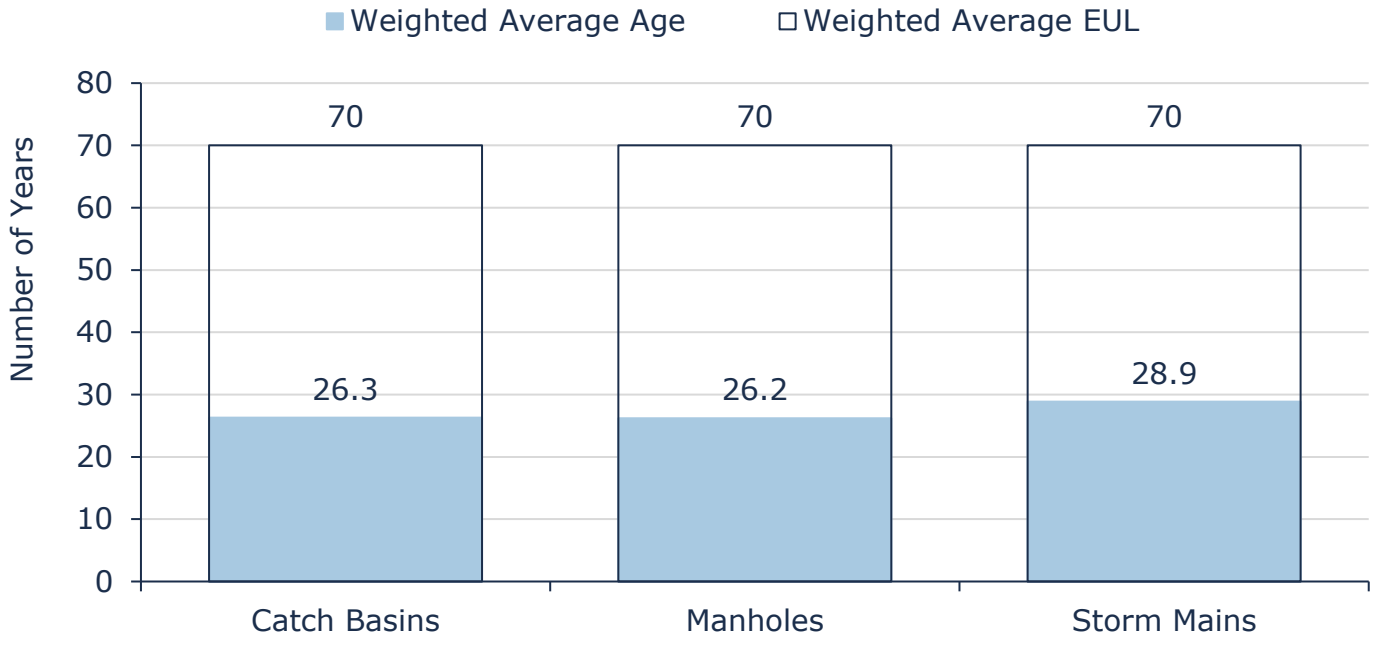


Figure 46 Estimated Useful Life vs. Asset Age: Storm System

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	Maintenance includes inspections, cleaning, minor repairs, and vegetation management.
	Storm structures are cleaned annually in the spring.
	Storm Water Management ponds are inspected twice a year.
Rehabilitation	Rehabilitation activities include trenchless re-lining, structural repairs, and upgrading outdated systems.
	Rehabilitation programs are initiated when defects are observed by structural assessments, or during full reconstruction projects.
Replacement	Replacement is considered when an asset's condition has deteriorated significantly, or the asset has failed. Assets nearing their end of life, or incurring frequent and costly repairs are prioritized for replacement.
Inspection	Stormwater mains are assessed by external contractors when investigation work is being completed for a reconstruction project.
	Stormwater management ponds are inspected twice a year. For the remainder of the storm system assets, there is no formal inspection process or condition rating in place.

Table 35 Lifecycle Management Strategy: Storm System

9.5 Forecasted Long-Term Replacement Needs

Figure 47 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's storm system assets. This analysis was run until 2094 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $1.3 million for all assets in the storm system. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates an age-based backlog of $38,000, dominated by storm mains. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

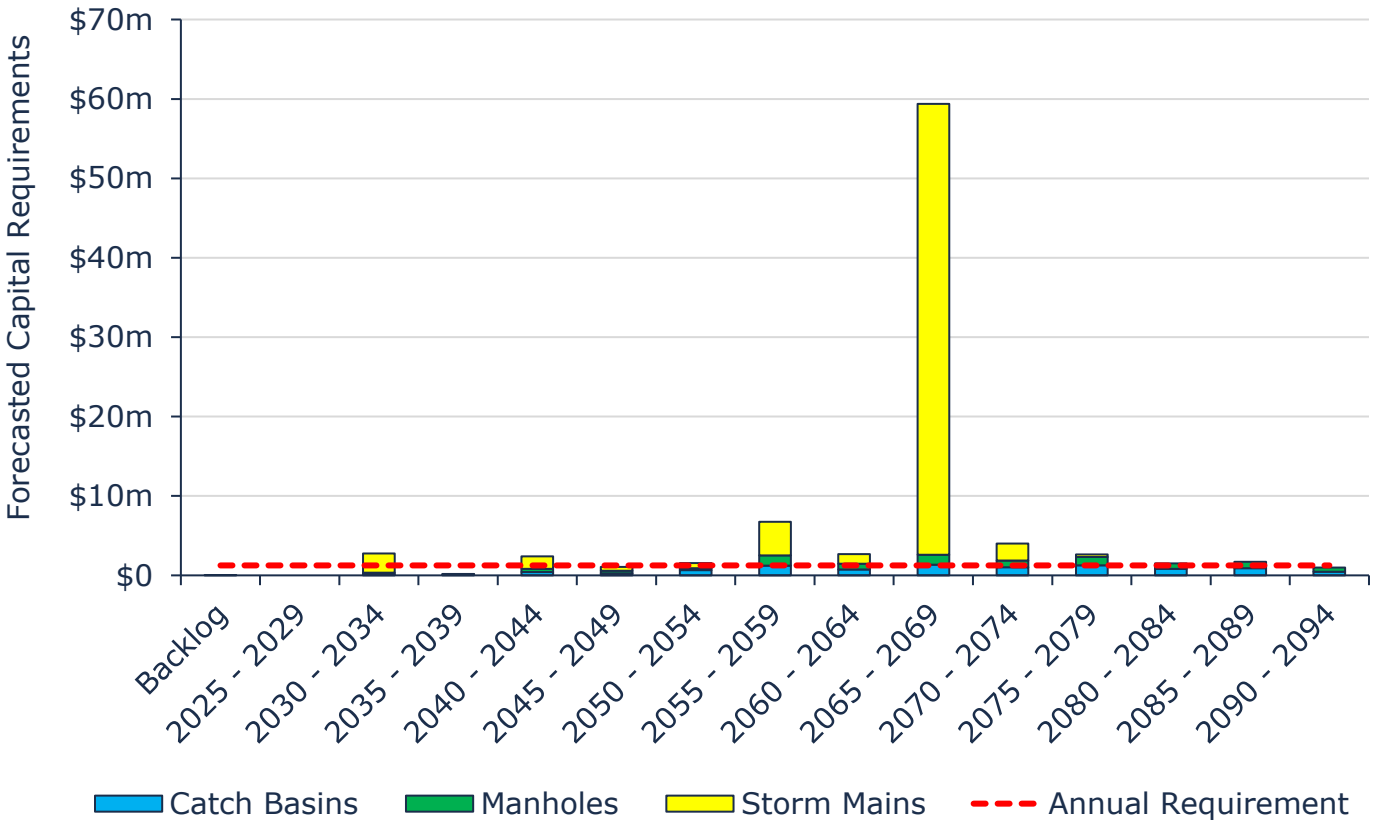


Figure 47 Forecasted Capital Replacement Needs Storm System 2025-2094

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. 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 A – 10-Year Capital Requirements.

9.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, pipe material, replacement cost and pipe diameter. For asset with no available asset data, the risk ratings for assets were calculated using only condition and their replacement costs.

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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.

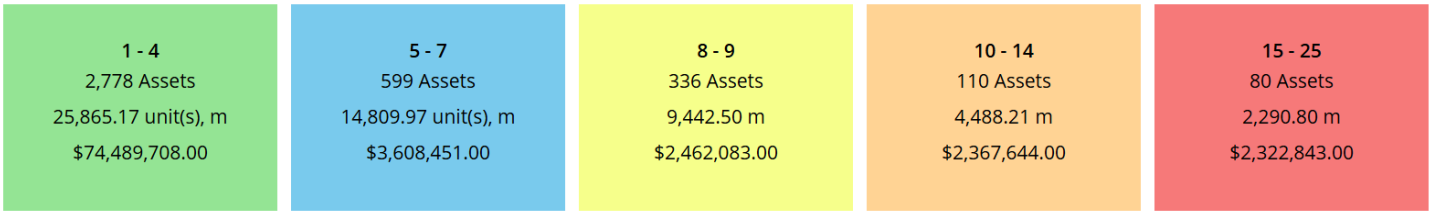


Figure 48 Risk Matrix: Storm System

9.6.1 Risks to Current Asset Management Strategies

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

Aging Infrastructure

A significant portion of the storm system has reached the end of its useful life or is exceeding its useful life. As assets age, they will not perform as efficiently and may lead to increased maintenance costs.

Capital Funding Strategies

Major capital rehabilitation and replacement projects are often entirely dependent on the availability of grant funding opportunities as municipal funding is limited. When grants are not available, rehabilitation and replacement projects may be deferred. The cost of construction has also increased significantly, causing further strain to capital funding strategies.

Climate Change & Extreme Events

Climate change and extreme weather events have resulted in a change in 100-year storm data, requiring different design thresholds for storm systems. Some of the older portions of the storm system are not designed to meet these new thresholds.

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 (2024)
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	See Appendix B – Level of Service Maps & Photos

Table 36 O. Reg. 588/17 Community Levels of Service: Storm System

9.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties in municipality designed to be resilient to a 100-year storm	TBD[2]
	% of the municipal stormwater management system designed to be resilient to a 5-year storm	TBD[2]
Performance	% of the storm system that is in good or very good condition	82%
	% of the storm system that is in poor or very poor condition	6%

Table 37 O. Reg. 588/17 Technical Levels of Service: Storm System

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 storm system. Further PLOS analysis at the portfolio level can be found in Section *4. Proposed Levels of Service Analysis.*

[2] The Township does not currently have data available to determine this technical metric.

9.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Storm system capital funding maintained at $370k/year
Scenario 2: Achieving 100% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Storm system capital funding gradually increases from $370k/year to $1.3m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Storm system capital funding gradually increases from $370k/year to $939/year over a span of 20 years

Table 38 Storm System PLOS Scenario Descriptions

9.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	58%	39%	23%	
	Average Asset Risk	3.2	4.4	5.8	
	Annual Investment Required		$370,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.4%		
Scenario 2	Average Condition	58%	39%	23%	
	Average Asset Risk	3.2	4.4	5.8	
	Annual Investment Required		$1,252,000		This parameter was increased from $370k/year to $1.3m/year gradually over 20 years.
	Capital Reinvestment Rate		1.5%		
Scenario 2	Average Condition	58%	39%	23%	
	Average Asset Risk	3.2	4.4	5.8	
	Annual Investment Required		$939,000		This parameter was increased from $370k/year to $939k/year gradually over 20 years.
	Capital Reinvestment Rate		1.1%		

Table 39 Storm System PLOS Scenario Analysis

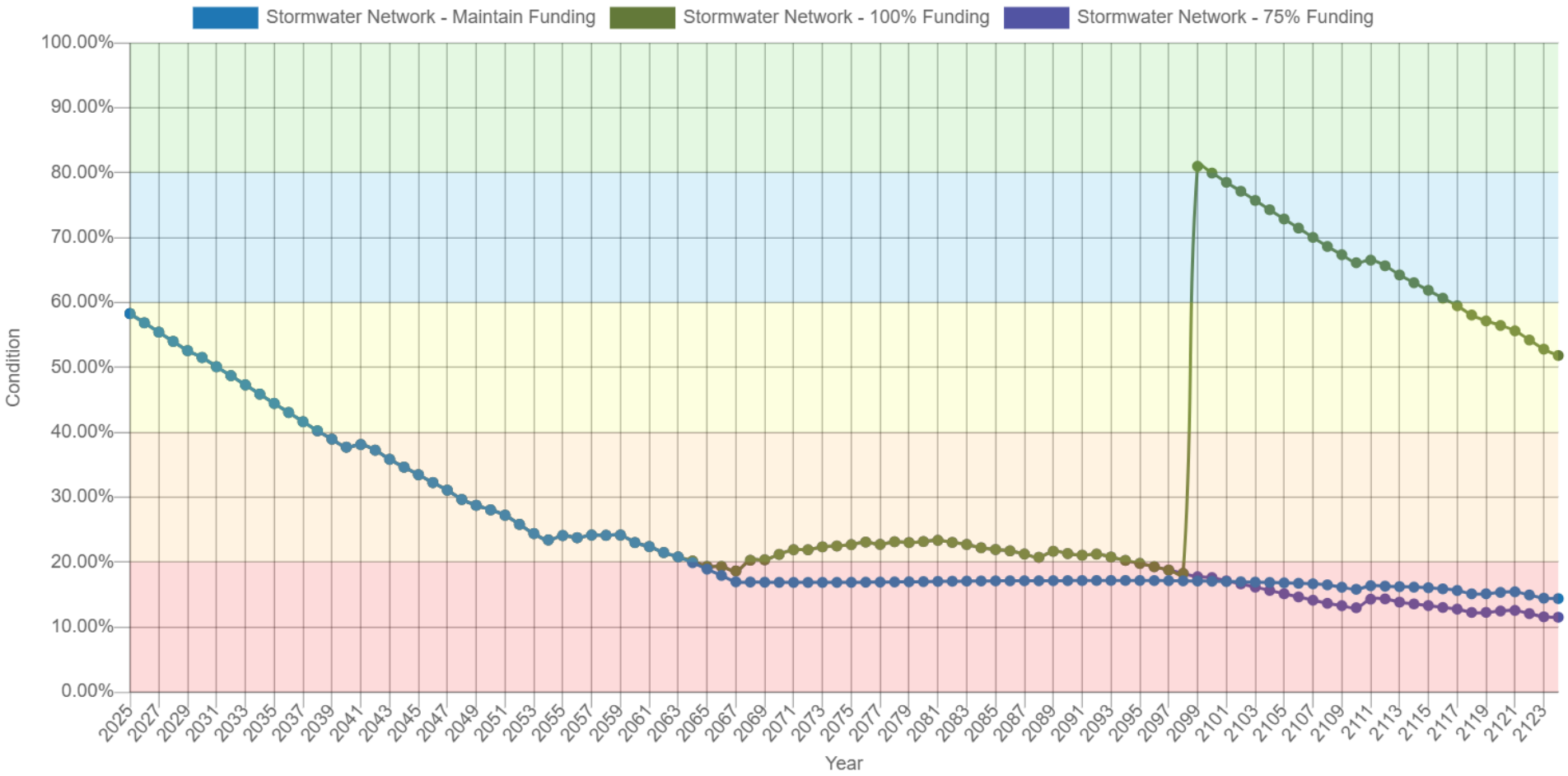


Figure 49 Storm System PLOS Scenario Condition Results

Category Analysis: Non-Core Assets

10. Buildings

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

- Fire halls
- Pools and aquatics centers
- Public works garages and storage sheds
- Arenas and community centers

10.1 Inventory & Valuation

Table 40 summarizes the quantity and current replacement cost of all buildings assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Cemetery	2	Quantity	$253,000	CPI
Fire	2	Quantity	$2,714,000	CPI
General Government	9	Quantity	$2,331,000	CPI
Recreation & Culture	20	Quantity	$33,077,000	CPI
Transportation Services	4	Quantity	$1,340,000	CPI
TOTAL			**$39,716,000**	

Table 40 Detailed Asset Inventory: Buildings

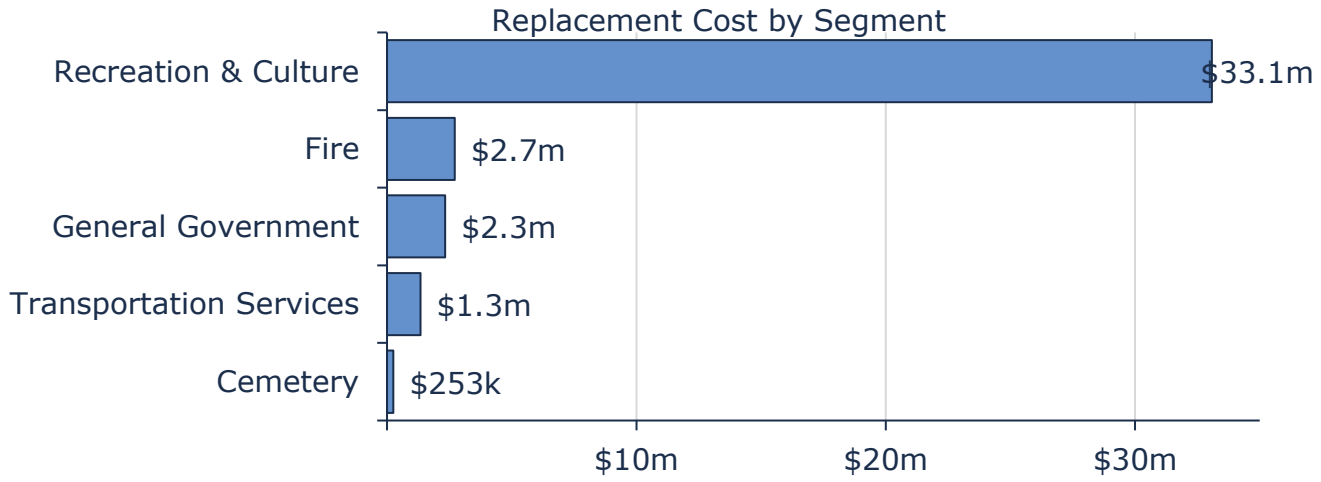


Figure 50 Portfolio Valuation: Buildings

10.2 Asset Condition

Figure 57 summarizes the replacement cost-weighted condition of the Township's buildings portfolio. Based only on age data, 82% of buildings assets are in fair or better condition; however, 18%, with a current replacement cost of more than $7 million are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. There is a lack of assessed condition data, requiring the use of age-based estimates only. A facility condition assessment would assist in building confidence in the asset condition data.

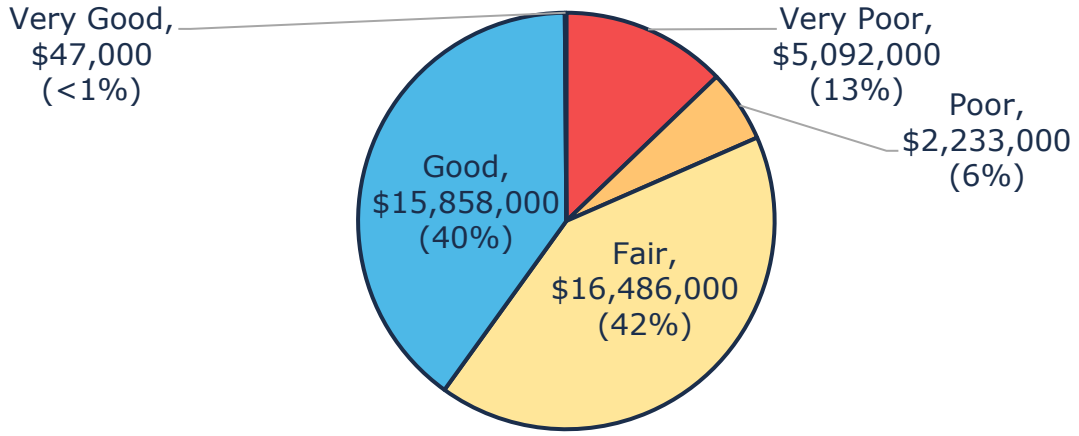


Figure 51 Asset Condition: Buildings Overall

Figure 52 summarizes the age-based condition of buildings by each segment. The majority of building assets are in fair or better condition. However, in the absence of assed conditions, this data has limited value. Integration of condition assessments will provide a more accurate and reliable estimation of the condition of various facilities.

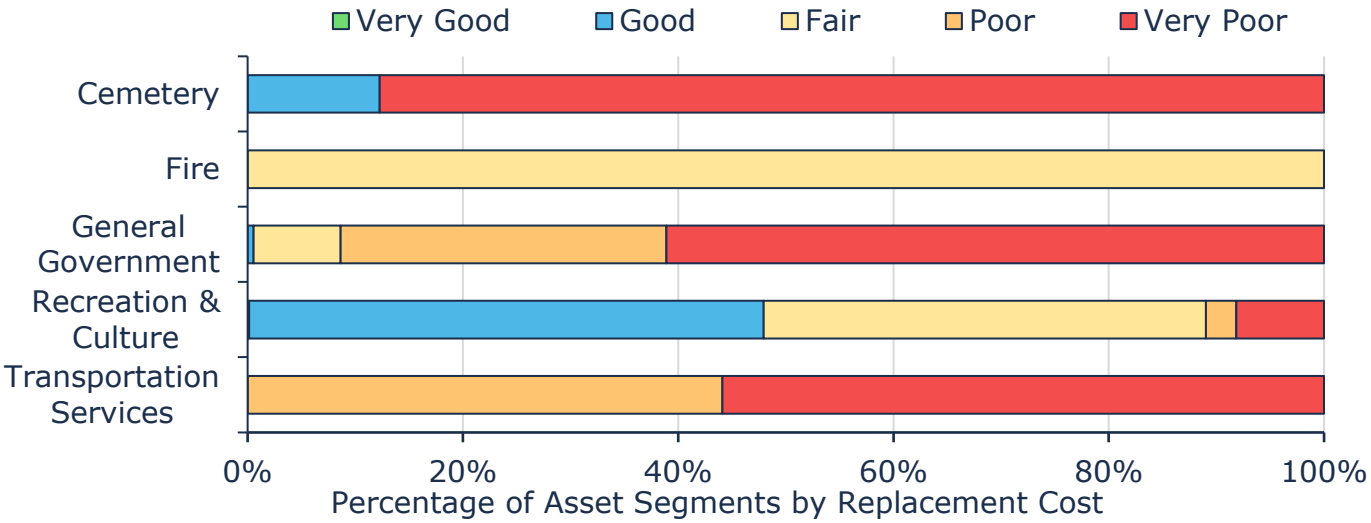


Figure 52 Asset Condition: Buildings by Segment

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 53 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.

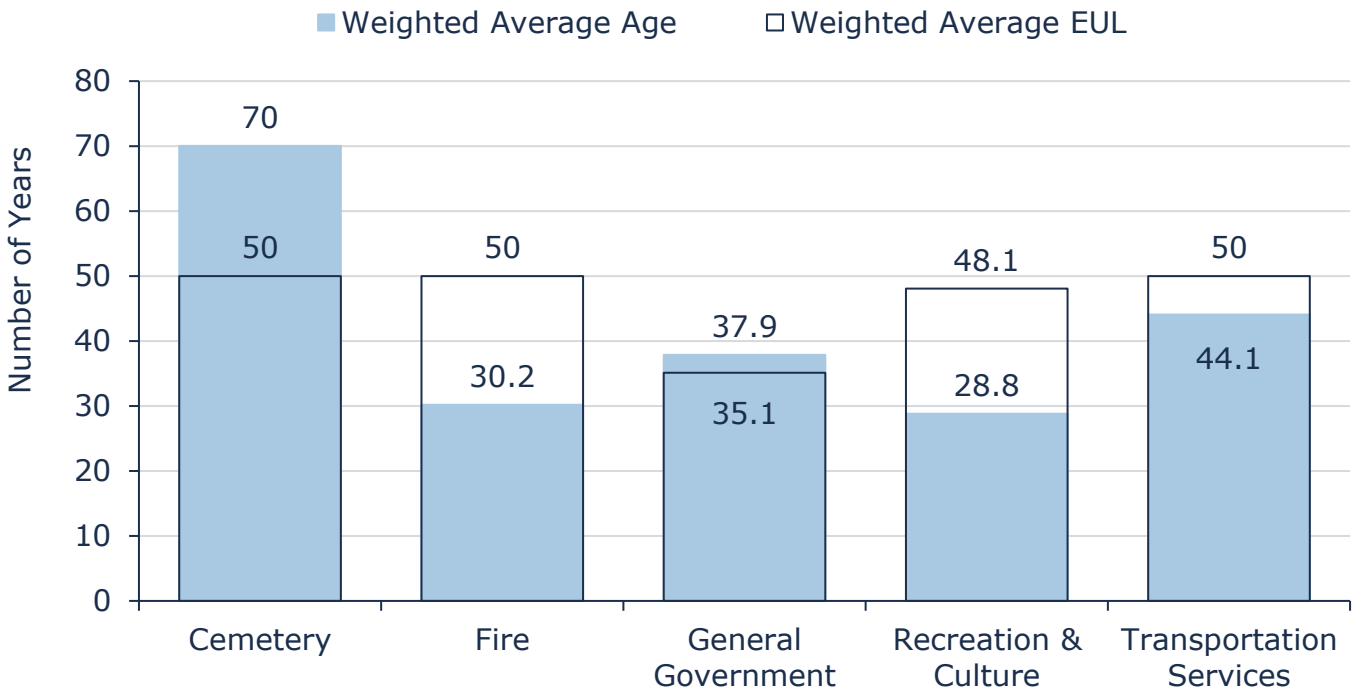


Figure 53 Estimated Useful Life vs. Asset Age: Buildings

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 41 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	Municipal buildings are subject to regular inspections to identify health & safety requirements as well as structural deficiencies that require additional attention.
Replacement	As a supplement to the knowledge and expertise of municipal staff the Township regularly works with contractors to complete Facility Needs Assessment Studies on the Township's Arena's.
	Assessments and maintenance costs are used to determine whether replacement or rehabilitation is appropriate.
Inspections	Detailed structural assessments are completed every 5 years on the Township's Arenas by external contractors. This includes an assessment of each facility's general condition, required repairs and recommended upgrades.

Table 41 Lifecycle Management Strategy: Buildings

10.5 Forecasted Long-Term Replacement Needs

Figure 54 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's buildings portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $4.0 million for all buildings. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart also illustrates a backlog of more than $39.4 million, dominated by recreation facilities, and comprising assets that have reached the end of their useful life but still remain in operation. These projections and estimates are based on current asset records, their replacement costs, and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

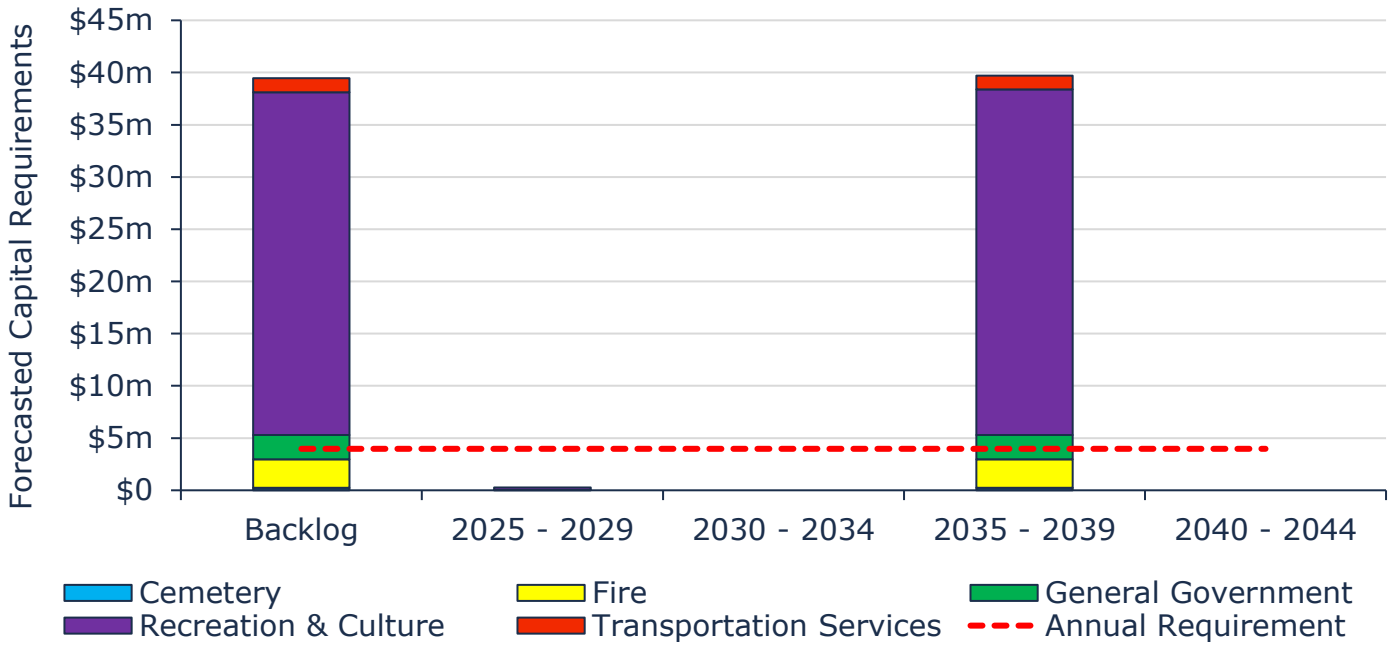


Figure 54 Forecasted Capital Replacement Needs Buildings 2025-2044

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements. 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 A – 10-Year Capital Requirements.

10.6 Risk Analysis

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

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

These risk models have been built into the Township's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

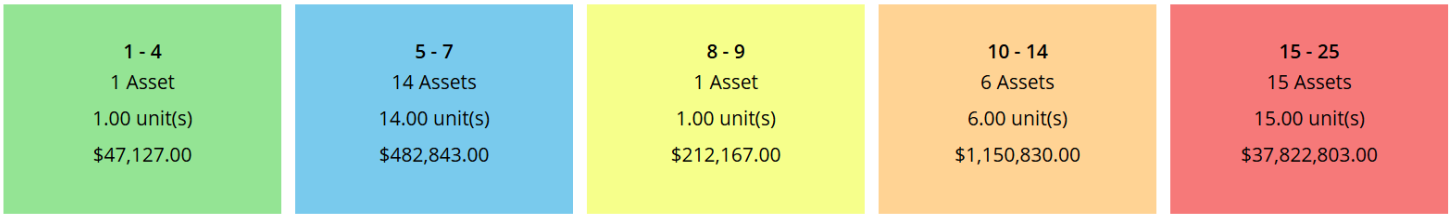


Figure 55 Risk Matrix: Buildings

10.6.1 Risks to Current Asset Management Strategies

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

Climate Change & Extreme Events

Asset deterioration is accelerated due to extreme temperature changes, which in some cases can cause unexpected failures. These events make long-term planning difficult and can result in a lower level of service

Capital Funding Strategies

Major capital rehabilitation and replacement projects are often entirely dependent on the availability of grant funding opportunities. When grants are not available, rehabilitation and replacement projects may be deferred. An annual capital funding strategy could reduce dependency on grant funding and help prevent deferral of capital works.

10.7 Levels of Service

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

10.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Accessibility & Reliability	List of facilities that meet accessibilities standards and any work that has been undertaken to achieve alignment	100% of Wellington North's buildings and facilities meet accessibility standards.
Performance	Description of monthly and annual facilities inspection process	Facility assets are inspected for public health and safety monthly. Fire and Pest Control Inspections are completed in a regular monthly cycle.

Table 42 Community Levels of Service: Buildings

10.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Annual operations & maintenance cost / # of municipal facilities	$5,357
	Annual capital reinvestment rate	3.37%
Performance	% of facilities that are in good or very good condition	40%
	% of facilities that are in poor or very poor condition	18%

Table 43 Technical Levels of Service: Buildings

10.8 Proposed Levels of Service

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

The below tables and graphs 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
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Buildings capital funding maintained at $1.3m/year
Scenario 2: Achieving 100% Target Funding in 20 years	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Buildings' capital funding gradually increases from $1.3m/year to $4.0m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Buildings' capital funding gradually increases from $1.3m/year to $3.0m/year over a span of 20 years

Table 44 Buildings PLOS Scenario Descriptions

10.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	46%	13%	14%	
	Average Asset Risk	14.5	21.3	20.7	
	Annual Investment Required		$1,340,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		3.4%		
Scenario 2	Average Condition	46%	41%	25%	
	Average Asset Risk	14.5	14.7	18.4	
	Annual Investment Required		$3,972,000		This parameter is increased from $1.3m/year incrementally to reach a target portfolio investment of $4.0m/year over 20 years
	Capital Reinvestment Rate		10.0%		
Scenario 3	Average Condition	46%	15%	26%	
	Average Asset Risk	14.5	21.3	18.0	
	Annual Investment Required		$2,979,000		This parameter is increased from $1.3m/year incrementally to reach a target portfolio investment of $3.0m/year over 20 years
	Capital Reinvestment Rate		7.5%		

Table 45 Buildings PLOS Scenario Analysis

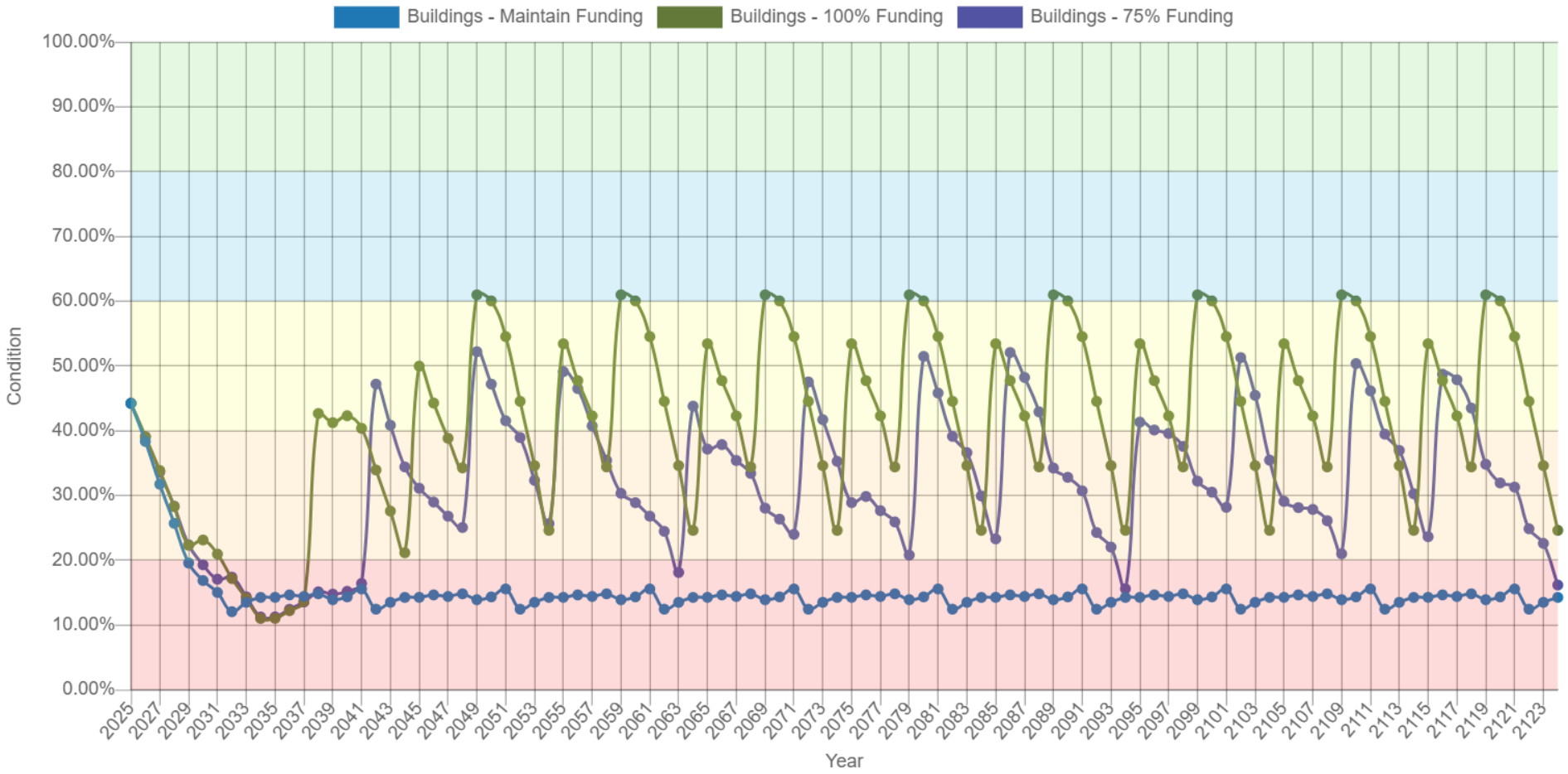


Figure 56 Buildings PLOS Scenario Condition Results

11. Land Improvements

The Township of Wellington North owns a small number of assets that are considered land improvements. This category includes:

- Ball diamonds and soccer pitches
- Parks and playgrounds
- Miscellaneous landscaping and other assets

11.1 Inventory & Valuation

Table 46 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
General Government	2	Quantity	$206,000	CPI
Recreation & Culture	15	Quantity	$3,006,000	CPI
TOTAL			**$3,212,000**	

Table 46 Detailed Asset Inventory: Land Improvements

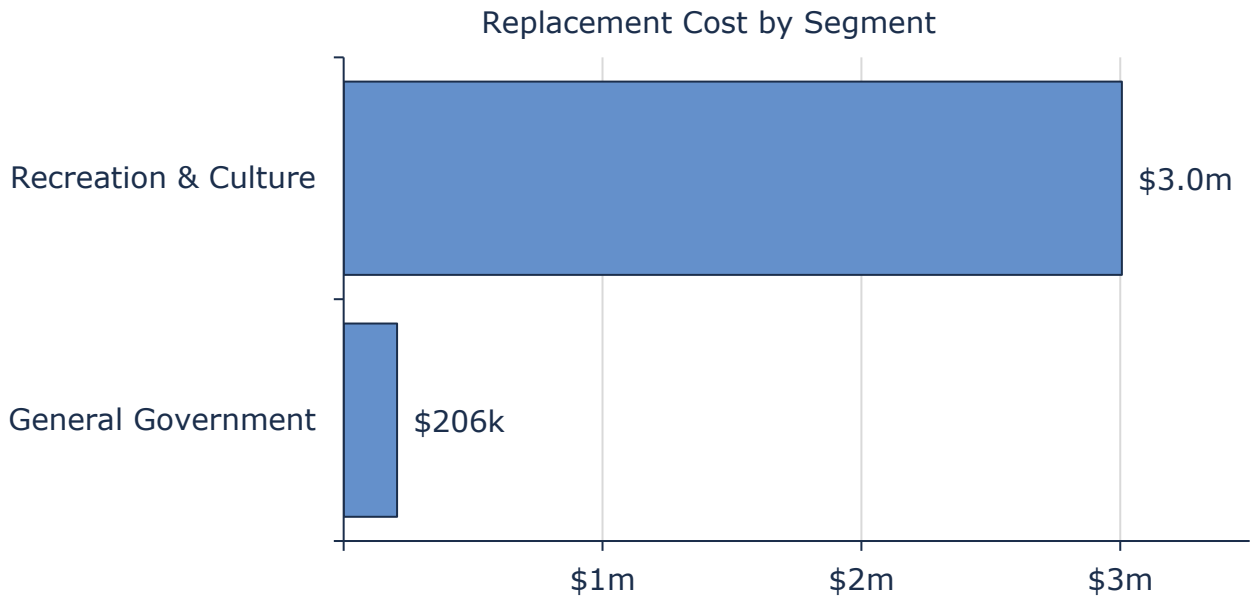


Figure 57 Portfolio Valuation: Land Improvements

11.2 Asset Condition

Figure 58 summarizes the replacement cost-weighted condition of the Township's land improvements portfolio. Based on age data only, 1% of assets are in fair or better condition, the remaining 99% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

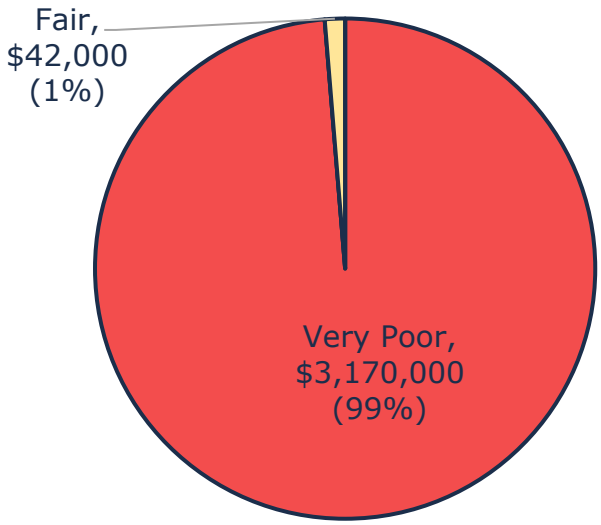


Figure 58 Asset Condition: Land Improvements Overall

Figure 59 summarizes the age-based condition of land improvements by each segment.

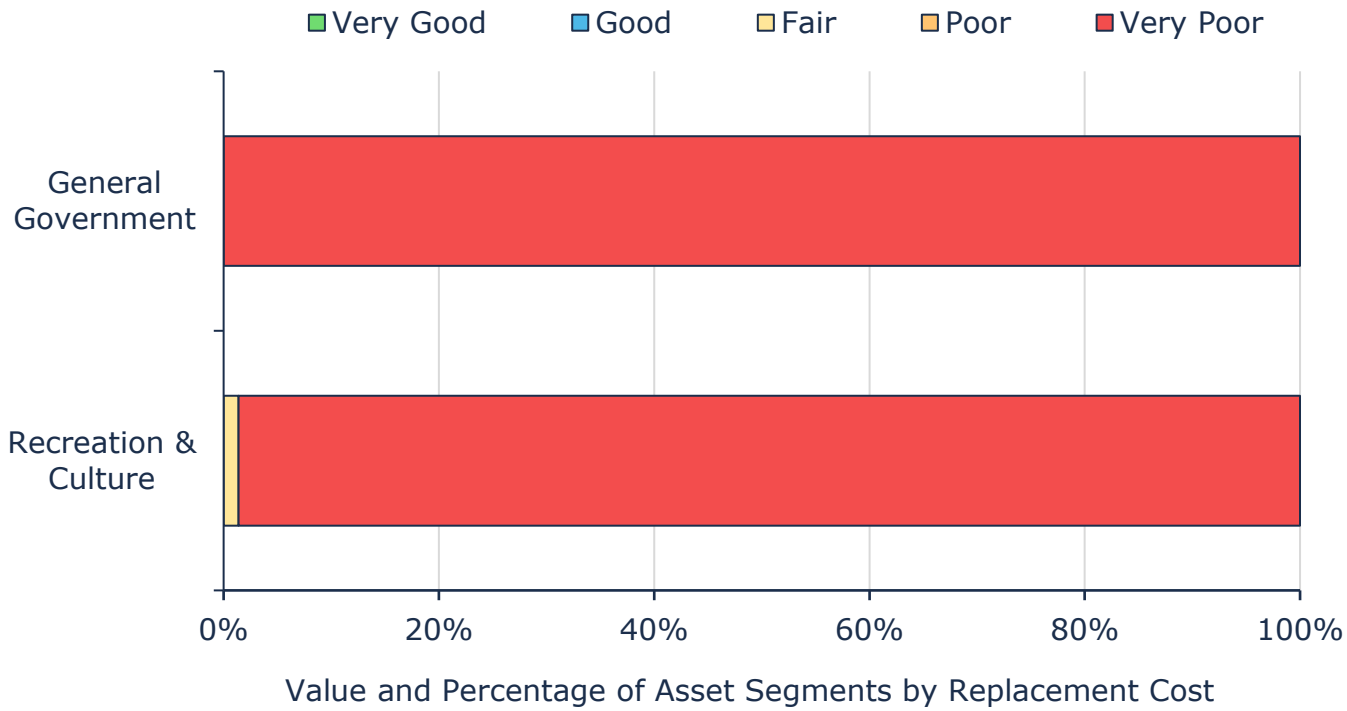


Figure 59 Asset Condition: Land Improvements by Segment

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

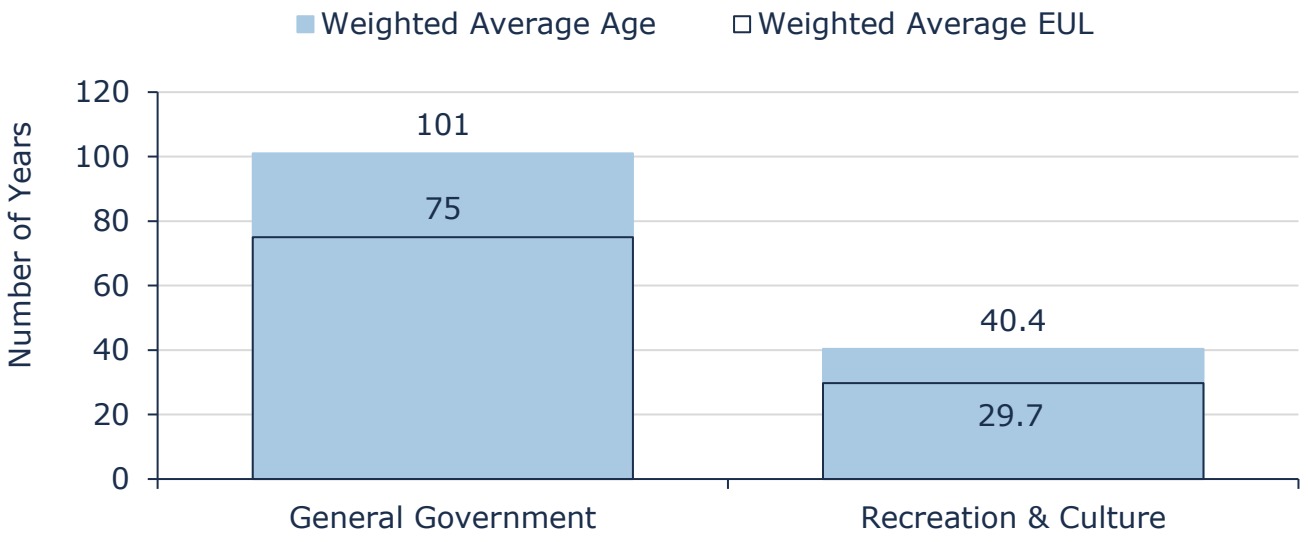


Figure 60 Estimated Useful Life vs. Asset Age: Land Improvements

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 47 outlines the Township's current lifecycle management strategy.

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

Activity Type	Description of Current Strategy
Replacement	Assets with an expected service life nearing its end or those incurring frequent and costly repairs are prioritized for replacement.
Inspections	Staff complete regular visual inspections of land improvements assets to ensure they are in state of adequate repair.
	Parks are inspected monthly during their peak season, May-September, by internal staff to identify safety concerns and deficiencies.

Table 47 Lifecycle Management Strategy: Land Improvements

11.5 Forecasted Long-Term Replacement Needs

Figure 61 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's land improvements portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $321,000 for all land improvements. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

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

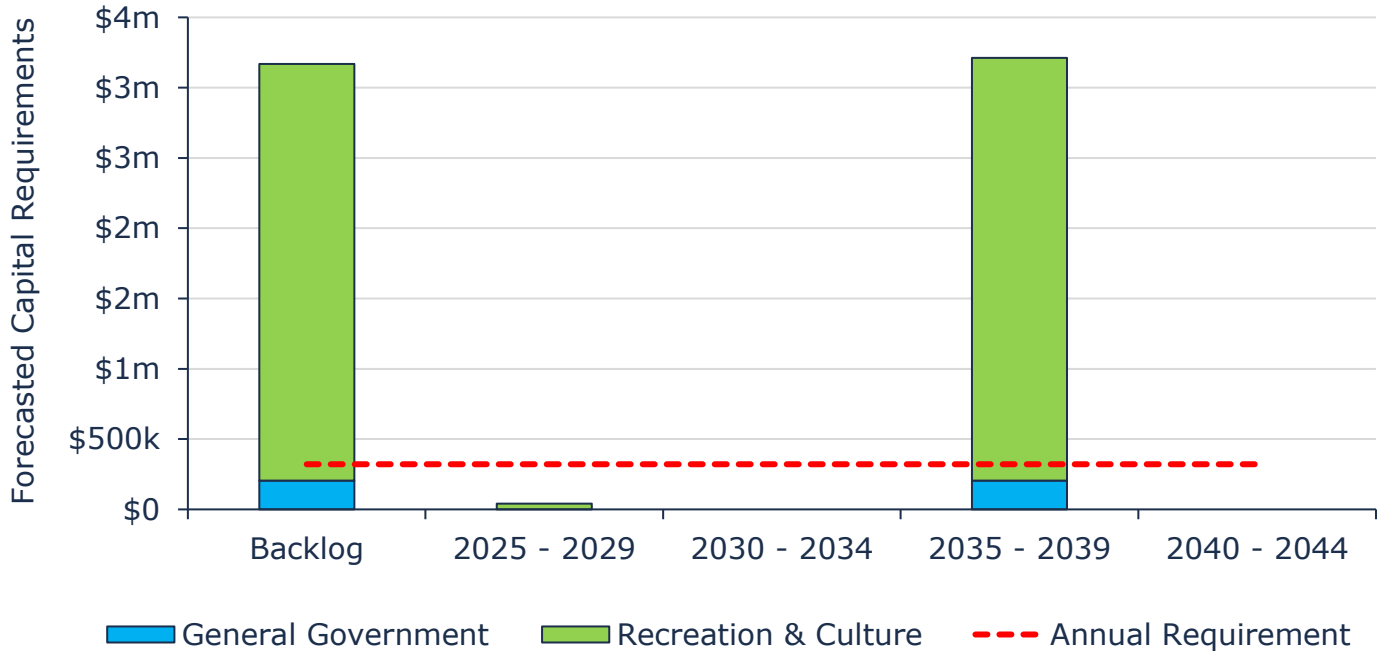


Figure 61 Forecasted Capital Replacement Needs: Land Improvements 2025-2044

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

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

11.6 Risk Analysis

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

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.

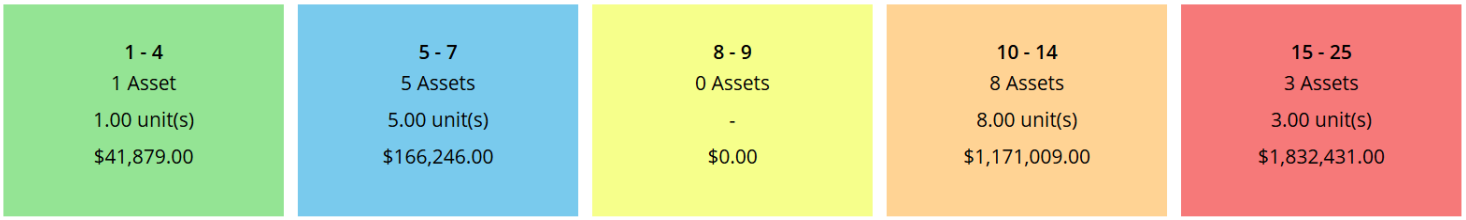


Figure 62 Risk Matrix: Land Improvements

11.6.1 Risks to Current Asset Management Strategies

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

Asset Data & Information

There is a lack of confidence in the available inventory data and condition data. Staff should prioritize data refinement efforts to increase the accuracy and reliability of asset data and information. Once completed staff can confidently develop data-driven strategies to address infrastructure needs.

Lifecycle Management Strategies

The current lifecycle management strategy for Land Improvements is considered more reactive than proactive. It is a challenge to find the right balance between maintenance, capital rehabilitation, and the replacement of assets.

11.7 Levels of Service

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

11.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of municipal parks and their proximity to the surrounding community	See Appendix B – Level of Service Maps & Photos
Performance	Description of the parks inspection process and timelines for inspections	Parks are inspected monthly during the summer months, from May to September, by internal staff to identify any safety concerns or deficiencies

Table 48 Community Levels of Service: Land Improvements

11.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Square meters of outdoor recreation facility space	209,262 m^2
	# of safety concerns reported	1[3]
	Annual capital reinvestment rate	6.76%
Performance	% of land improvements that are in good or very good condition	0%
	% of land improvements that are in poor or very poor condition	99%

Table 49 Technical Levels of Service: Land Improvements

[3] The large play structure at Hutchingson Park has been identified as in need of replacement. Frost has lifted the structure and paint is peeling from it, the structure is between 30 and 40 years old. Township staff have identified this in their capital project forecast for replacement.

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 below tables and graphs 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
Scenario 1: **Maintain Current Funding Level**	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Land improvements capital funding maintained at $217,000/year
Scenario 2: **Achieving 100% Target Funding in 20 years**	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Land improvements capital funding gradually increases from $217,000/year to $321,000/year over a span of 20 years
Scenario 3: **Achieving 75% Target Funding in 20 Years**	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Land improvements capital funding gradually increases from $217,000/year to $241,000/year over a span of 20 years

Table 50 Land Improvements PLOS Scenario Descriptions

11.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	22%	26%	34%	
	Average Asset Risk	11.9	12.9	10.7	
	Annual Investment Required		$217,000		This is the maintained parameter in these scenario
	Capital Reinvestment Rate		6.8%		
Scenario 2	Average Condition	22%	23%	48%	
	Average Asset Risk	11.9	13.0	9.3	
	Annual Investment Required		$241,000		This parameter was increased from $217,000/year to $241,000/year gradually over 20 years.
	Capital Reinvestment Rate		7.5%		
Scenario 3	Average Condition	22%	25%	19%	
	Average Asset Risk	11.9	12.7	13.6	
	Annual Investment Required		$241,000		This parameter was increased from $217,000/year to $241,000/year gradually over 20 years.
	Capital Reinvestment Rate		7.5%		

Table 51 Land Improvements PLOS Scenario Analysis

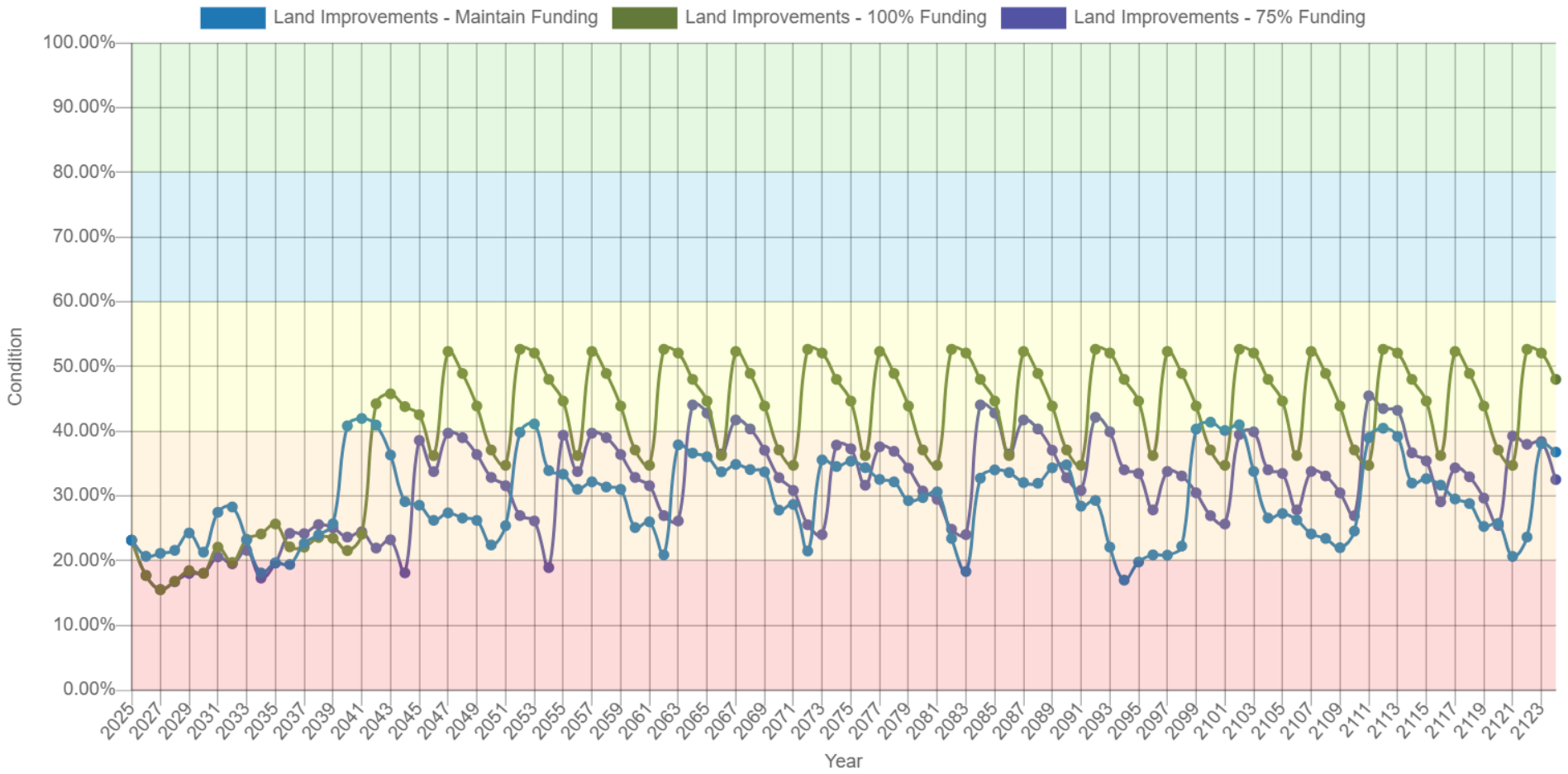


Figure 63 Land Improvements PLOS Scenario Condition Results

12. Vehicles

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

- plow trucks for winter control activities
- fire rescue vehicles to provide emergency services
- pick-up trucks to support the maintenance of the transportation network and recreation department

12.1 Inventory & Valuation

Table 52 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
Cemetery Vehicles	1	Quantity	$19,000	CPI
Fire Vehicles	10	Quantity	$3,204,000	CPI
General Government Vehicles	3	Quantity	$187,000	CPI
Public Works Vehicles	55	Quantity	$16,918,000	User-Defined
Recreation & Culture Vehicles	10	Quantity	$288,000	CPI
TOTAL			**$20,615,000**	

Table 52 Detailed Asset Inventory: Vehicles

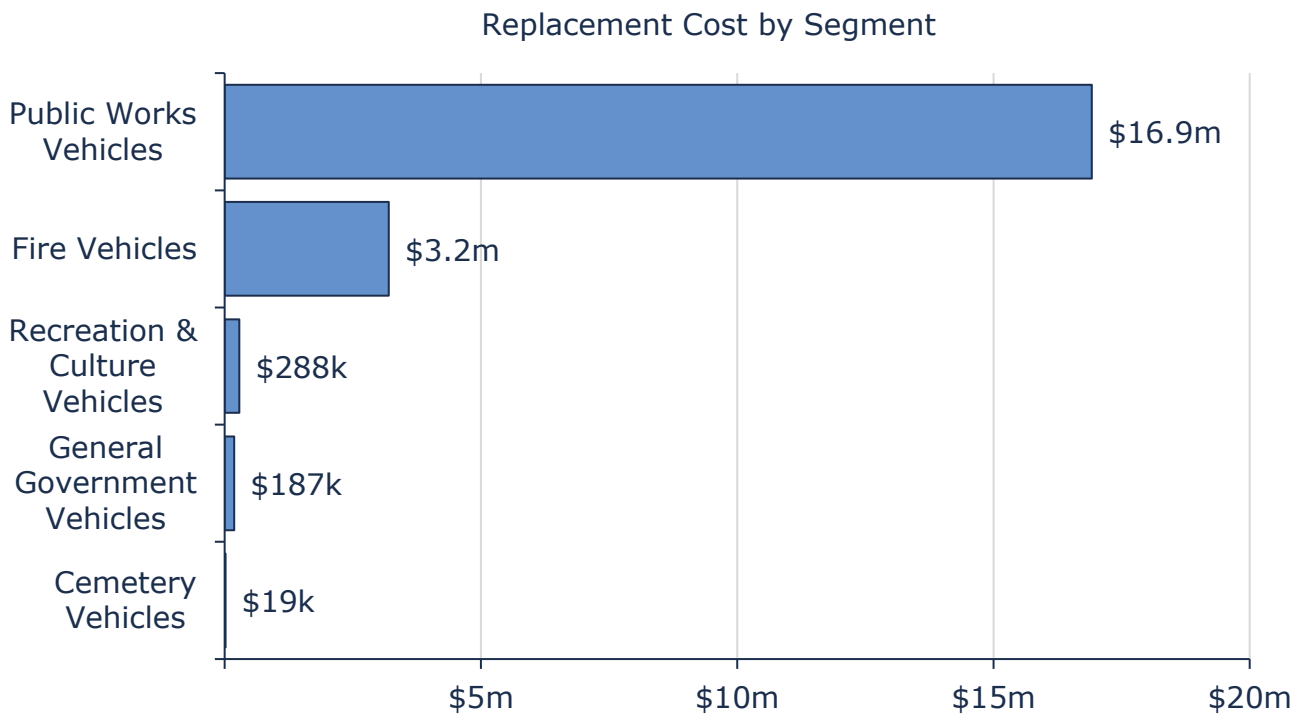


Figure 64 Portfolio Valuation: Vehicles

12.2 Asset Condition

Figure 65 summarizes the replacement cost-weighted condition of the Township's vehicles portfolio. Based on age-based condition data, 50% of vehicles are in fair or better condition, with the remaining 50% 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.

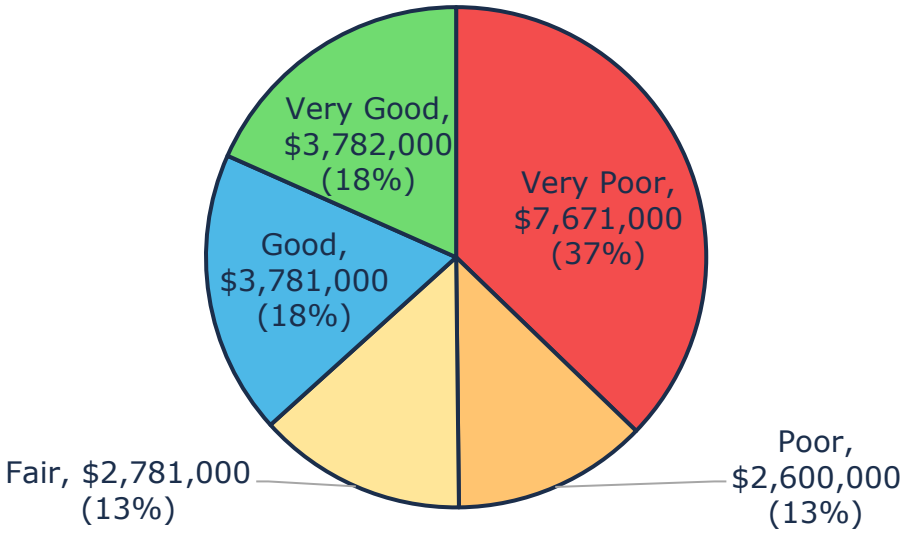


Figure 65 Asset Condition: Vehicles Overall

Figure 66 summarizes the condition of vehicles by each segment.

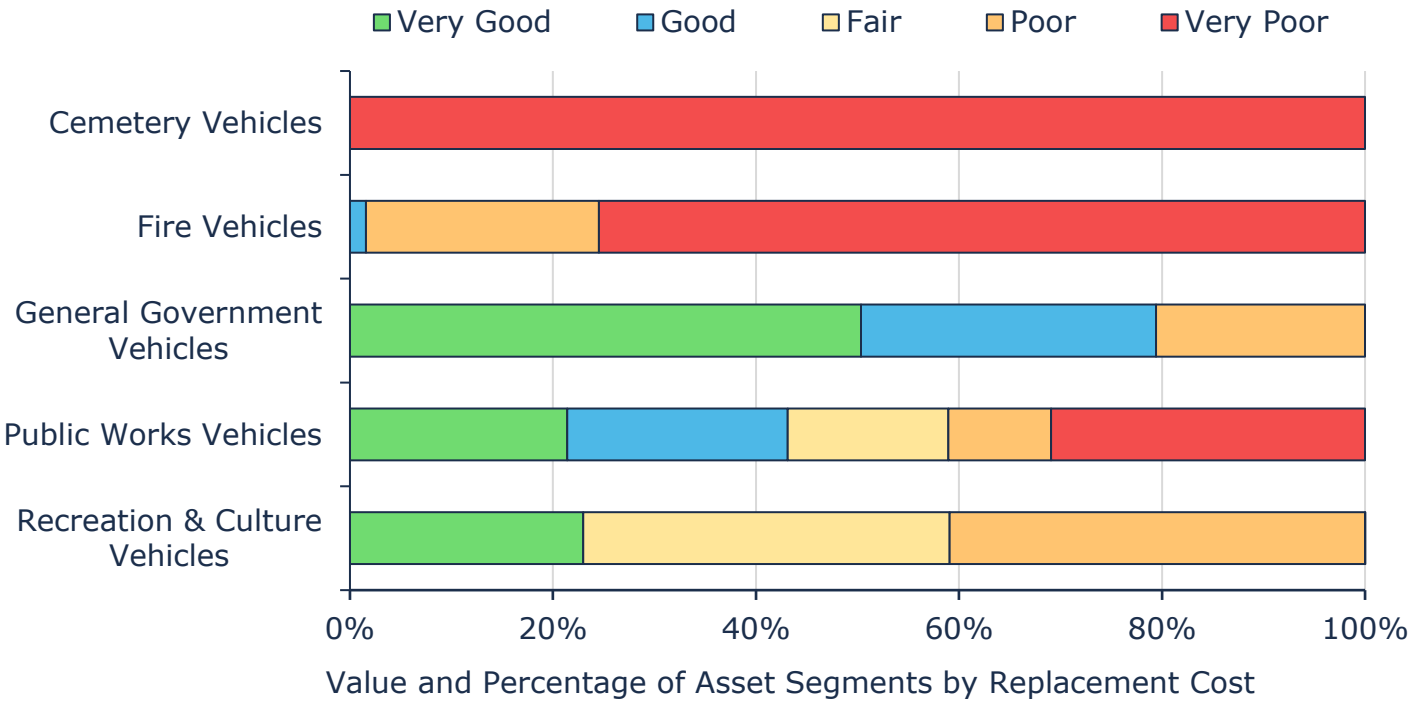


Figure 66 Asset Condition: Vehicles by Segment

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 67 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.

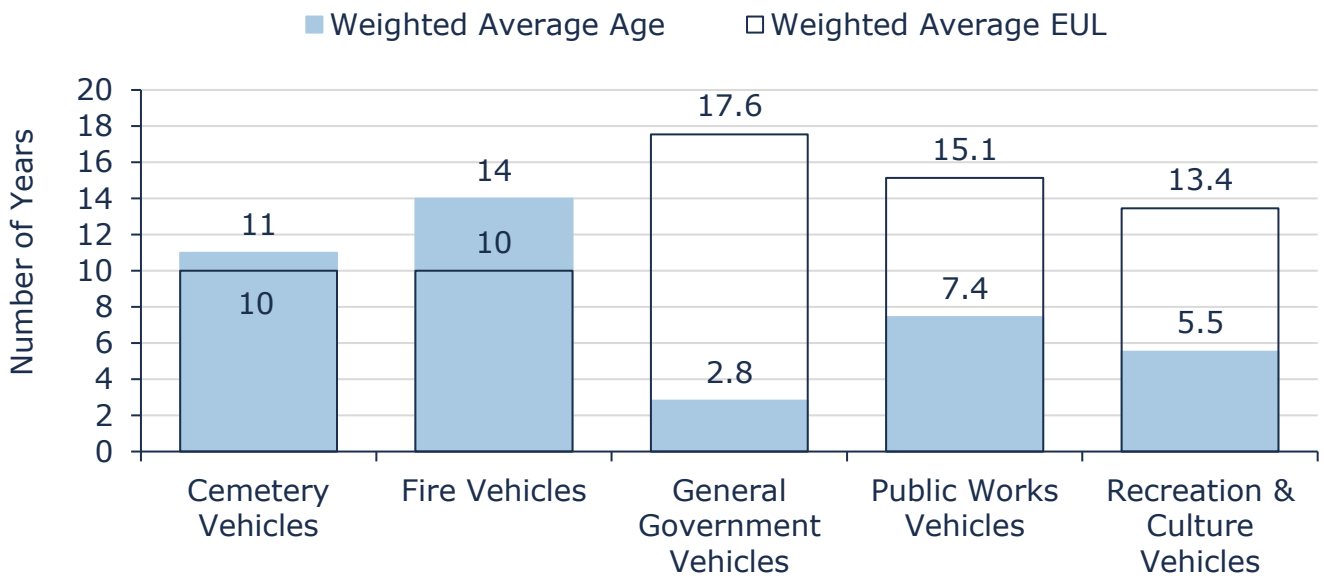


Figure 67 Estimated Useful Life vs. Asset Age: Vehicles

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 / Rehabilitation	Visual inspections and routine maintenance are completed daily.
	Heavy-Duty vehicles undergo a yearly detailed safety inspection.
	Rehabilitation activities include oil changes, routine sand blasting and painting, and washing.
Replacement	Vehicle replacements are based on the Township's 10-Year Capital Expenditure Project and recommendations from Road Needs Study.
	Vehicle age, kilometers and annual repair costs are taken into consideration when determining appropriate treatment options.
Inspections	Staff complete regular visual inspections of vehicles to ensure they are in state of adequate repair prior to operation.
	Yearly safety inspections are completed on heavy-duty vehicles by external contractors.

Table 53 Lifecycle Management Strategy: Vehicles

12.5 Forecasted Long-Term Replacement Needs

Figure 68 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's vehicles portfolio. This analysis was run until 2049 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $1.7 million for all vehicles. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

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

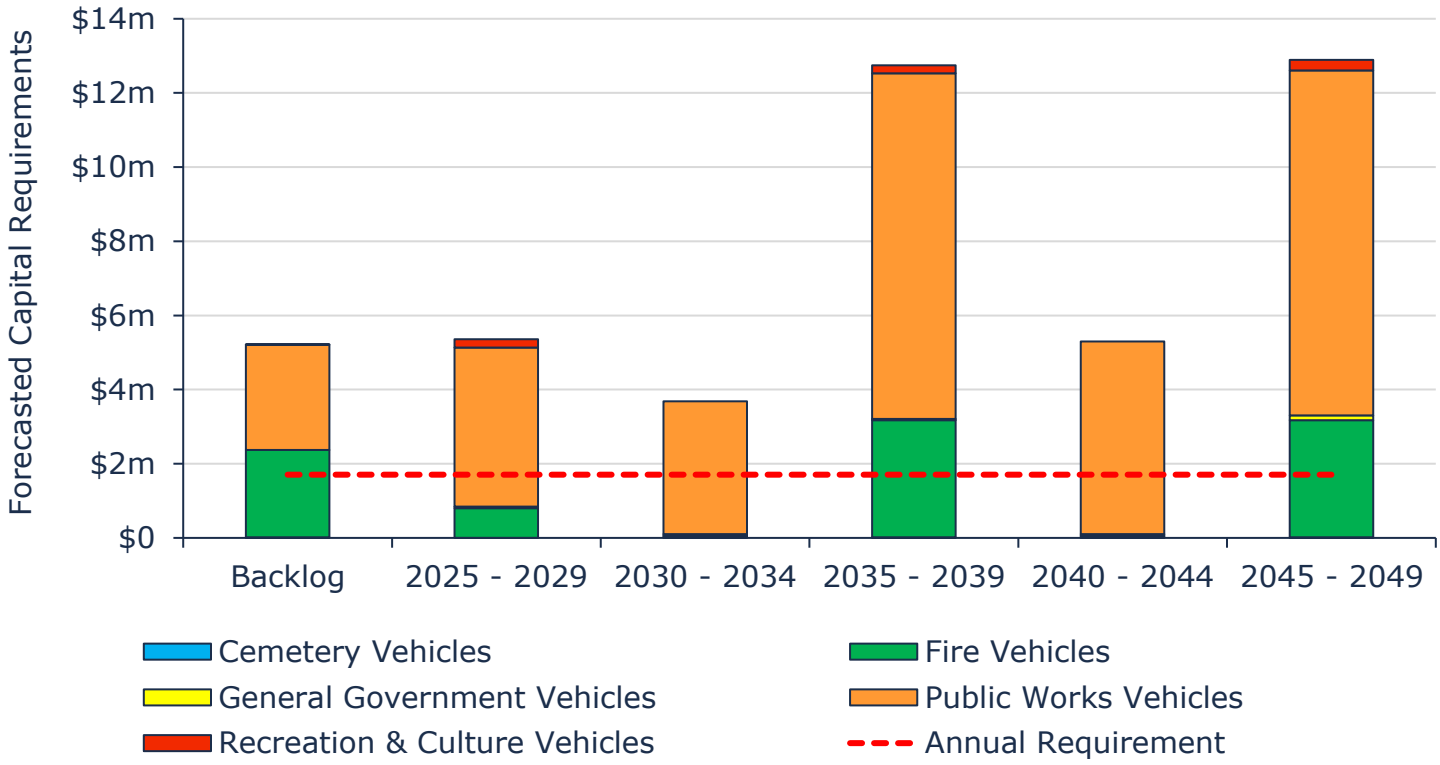


Figure 68 Forecasted Capital Replacement Needs: Vehicles 2025-2049

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 A – 10-Year Capital Requirements.

12.6 Risk Analysis

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

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.

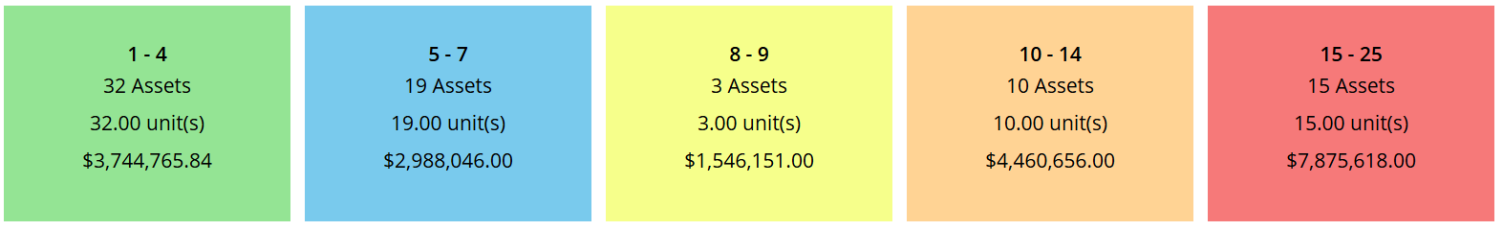


Figure 69 Risk Matrix: Vehicles

12.6.1 Risks to Current Asset Management Strategies

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

Climate Change & Extreme Events

Asset deterioration is accelerated due to extreme weather, which in some cases can cause unexpected failures. Freeze-thaw cycles, ice jams, and surface flooding from extreme rainfall have been experienced by the Township in recent years. These events lead to more wear and tear on the Township's vehicles and can result in a lower level of service.

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 (2024)
Performance	Description of the Fleet Management and Safety Program	Routine visual inspections and maintenance is completed daily on vehicles prior to use including checking lights, wipers, tire pressure and oil levels. Heavy-duty vehicles are inspected annually for safety by external contractors. If any deficiencies are noted during regular daily inspections, a safety inspection is initiated.

Table 54 Community Levels of Service: Vehicles

12.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of heavy-duty vehicles inspected annually	100%
	Annual capital reinvestment rate	2.84%
Performance	% of fire vehicles that are in good or very good condition	1.6%
	% of fire vehicles that are in poor or very poor condition	98%
	% of other vehicles that are in good or very good condition	43%
	% of other vehicles that are in poor or very poor condition	41%

Table 55 Technical Levels of Service: Vehicles

12.8 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 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
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Vehicles capital funding maintained at $585,000/year
Scenario 2: Achieving 100% Target Funding in 20 years	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Vehicles capital funding will gradually increase from $585,000/year to $1.7m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Vehicles capital funding gradually increases from $585,000/year to $1.3m/year over a span of 20 years

Table 56 Vehicles PLOS Scenario Descriptions

12.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	50%	19%	16%	
	Average Asset Risk	10.1	14.2	14.2	
	Annual Investment Required		$585,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		2.8%		
Scenario 2	Average Condition	50%	32%	43%	
	Average Asset Risk	10.1	12.3	11.1	
	Annual Investment Required		$1,705,000		This parameter was increased from $585,000/year to $1.7m/year gradually over 20 years.
	Capital Reinvestment Rate		8.3%		
Scenario 3	Average Condition	50%	28%	31%	
	Average Asset Risk	10.1	12.7	11.8	
	Annual Investment Required		$1,279,000		This parameter was increased from $585,000/year to $1.3m/year gradually over 20 years.
	Capital Reinvestment Rate		6.2%		

Table 57 Vehicles PLOS Scenario Analysis

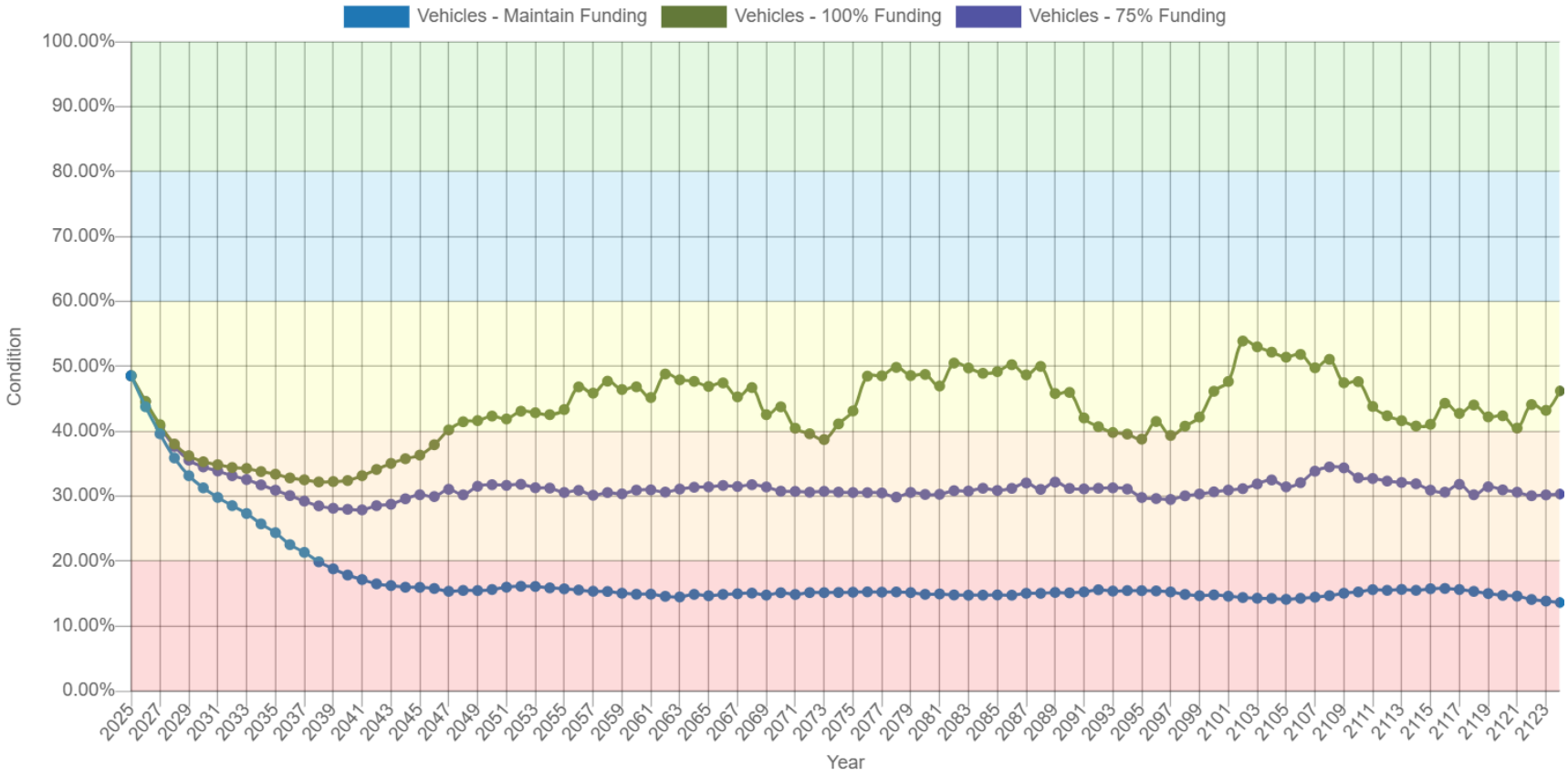


Figure 70 Vehicles PLOS Scenario Condition Results

13. Machinery & Equipment

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

- Fire equipment to support the delivery of emergency services
- Snow blades to provide winter control activities
- Office furniture and equipment to support general government activities

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

13.1 Inventory & Valuation

Figure 71 summarizes the quantity and current replacement cost of all machinery and equipment assets available in the Township's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Cemetery Equipment	4	Quantity	$99,000	CPI
Environmental Services	1	Quantity	$31,000	CPI
Fire Equipment	196	Quantity	$1,604,000	CPI
General Government Equipment	33	Quantity	$8,928,000	CPI
Public Works Equipment	40	Quantity	$155,000	CPI
Recreation & Culture Equipment	33	Quantity	$1,647,000	CPI
TOTAL			**$12,464,000**	

Table 58 Detailed Asset Inventory: Machinery & Equipment

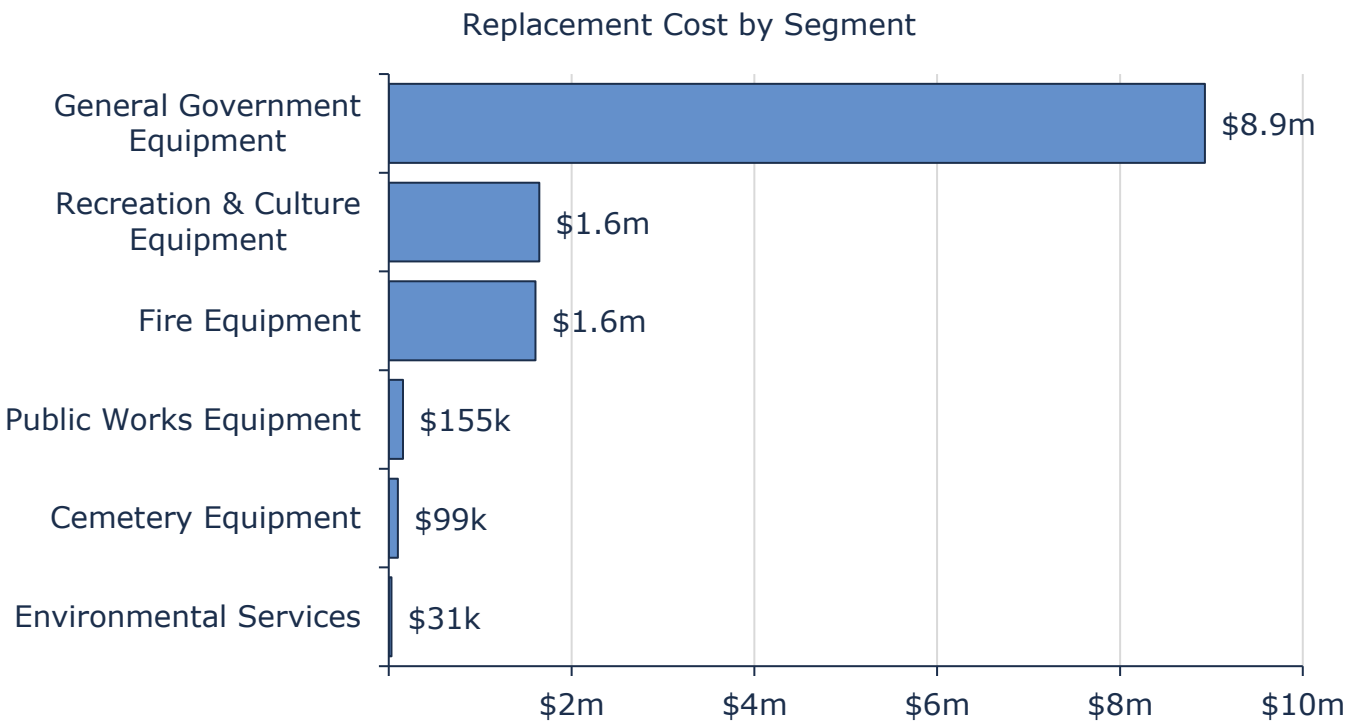


Figure 71 Portfolio Valuation: Machinery & Equipment

13.2 Asset Condition

Figure 72 summarizes the replacement cost-weighted condition of the Township's machinery and equipment portfolio. Based only on age data, 16% of assets are in fair or better condition; the remaining 84% 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.

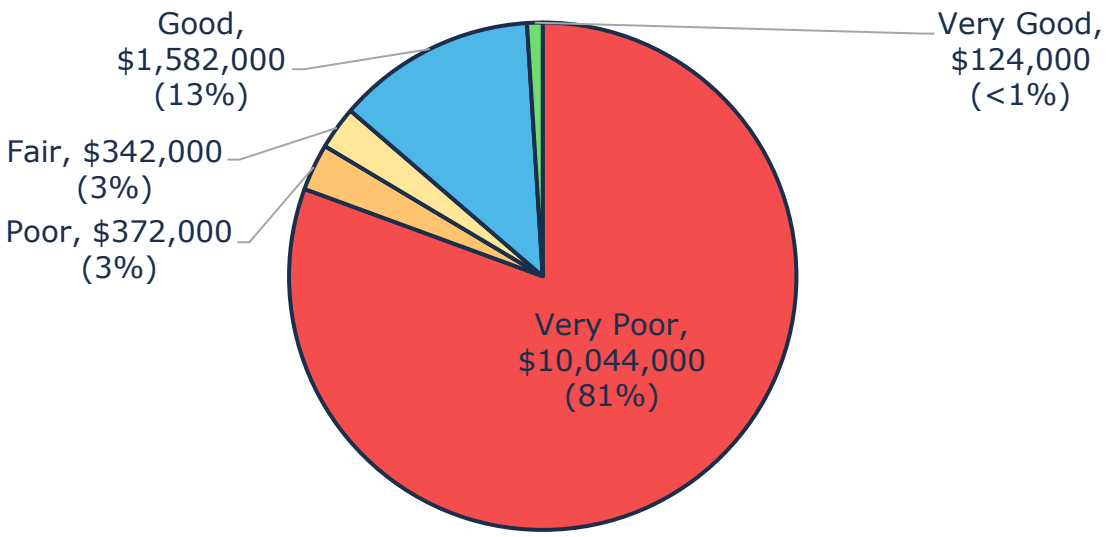


Figure 72 Asset Condition: Machinery & Equipment Overall

Figure 73 summarizes the age-based condition of machinery and equipment by each segment.

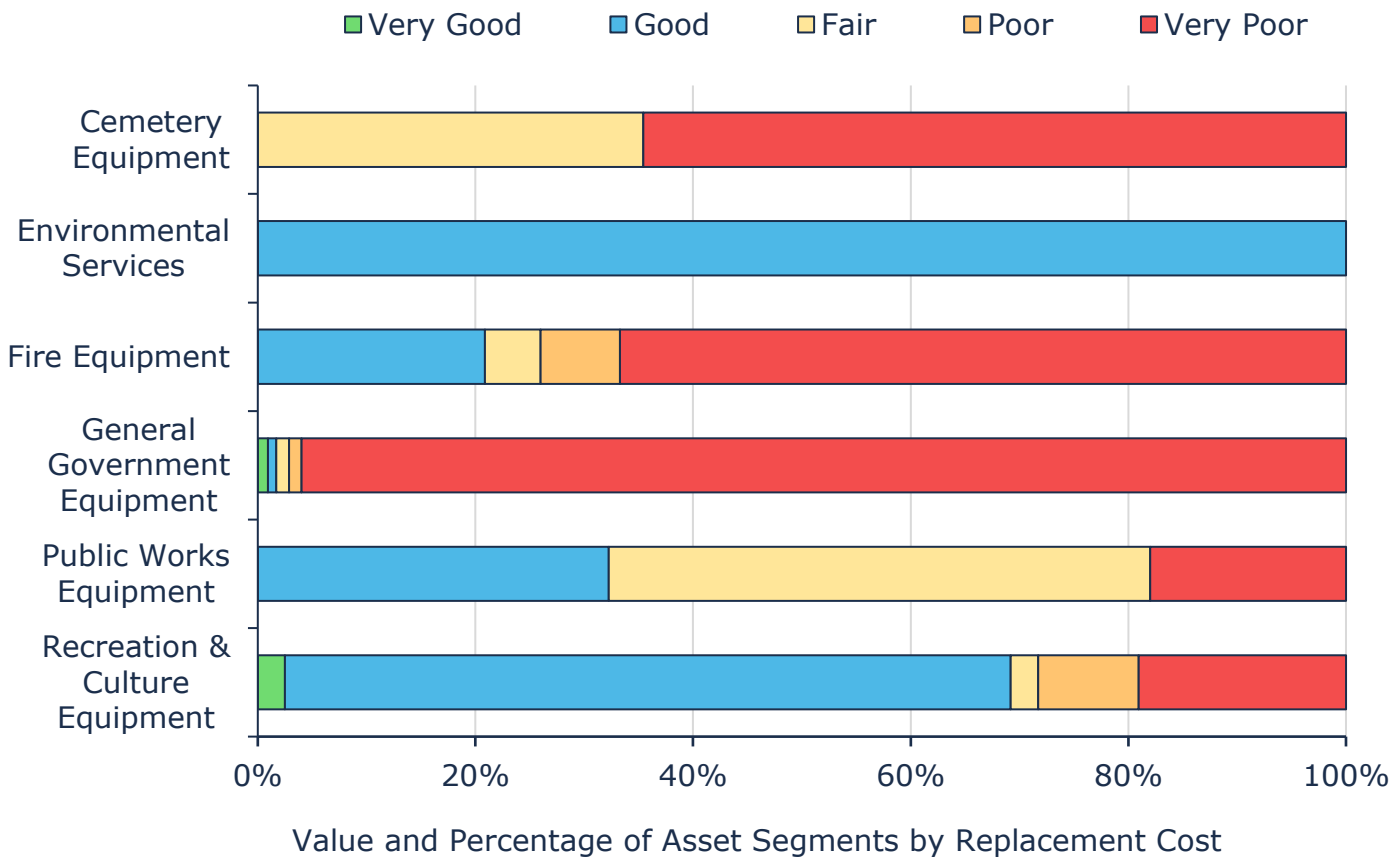


Figure 73 Asset Condition: Machinery & Equipment by Segment

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 74 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.

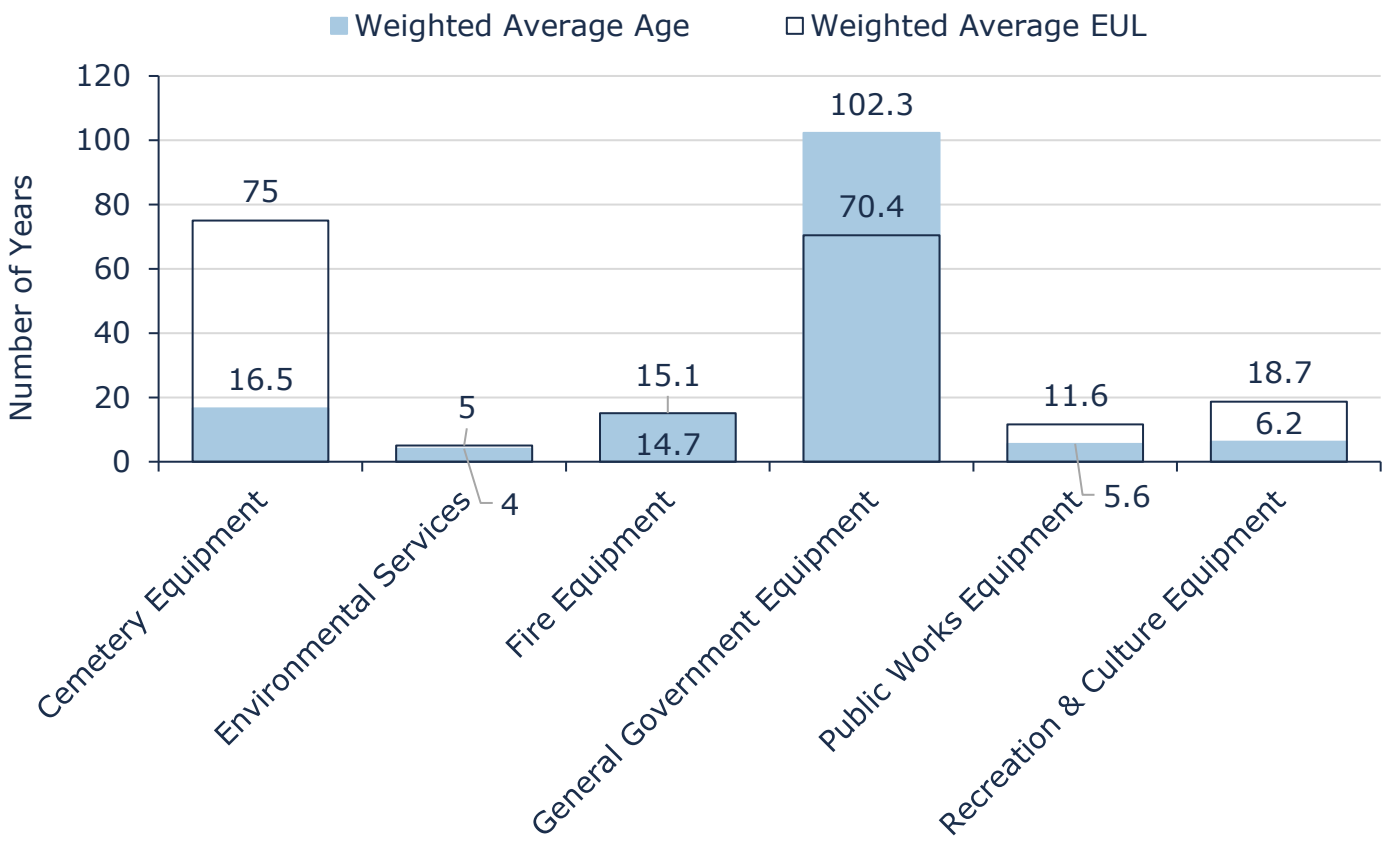


Figure 74 Estimated Useful Life vs. Asset Age: Machinery & Equipment

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/ Rehabilitation	Maintenance program varies by department.
	Fire Protection Services equipment is subject to a much more rigorous inspection and maintenance program compared to most other departments.
	Rehabilitation activities include minor repairs and servicing requirements.
Replacement	Assets nearing failure or incurring costly repairs are prioritized for replacement.

Activity Type	Description of Current Strategy
Inspections	Staff complete regular visual inspections of machinery and equipment to ensure they are in state of adequate repair.
	Parks and recreation equipment is inspected monthly by Township staff for safety.

Table 59 Lifecycle Management Strategy: Machinery & Equipment

13.5 Forecasted Long-Term Replacement Needs

Figure 75 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Township's machinery and equipment portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $1.2 million for all machinery and equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

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

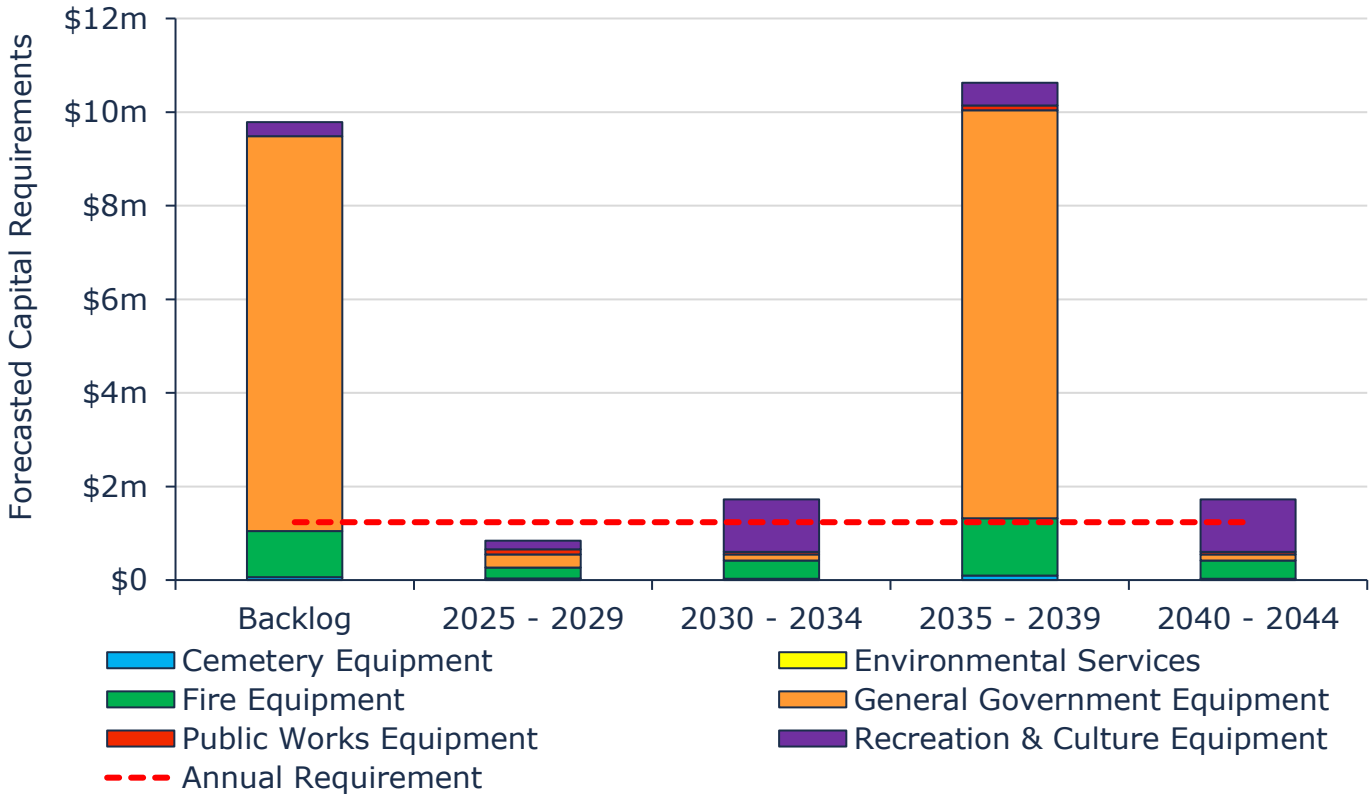


Figure 75 Forecasted Capital Replacement Needs: Machinery & Equipment 2025-2044

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

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

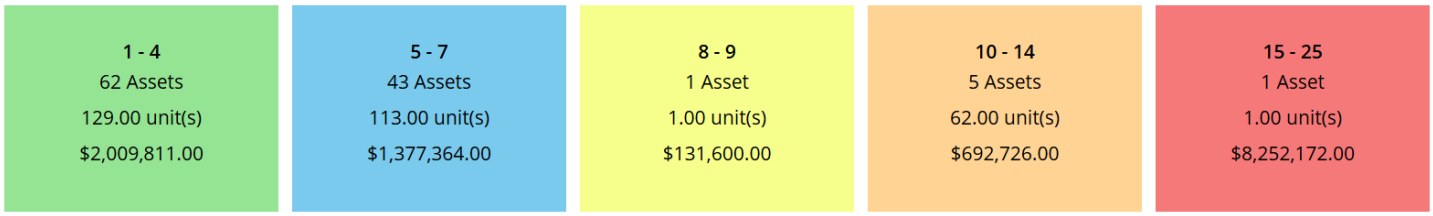


Figure 76 Risk Matrix: Machinery & Equipment

13.6.1 Risks to Current Asset Management Strategies

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

Growth

Population and employment growth will increase the demand on municipal services and potentially decrease the lifecycle of certain assets. As the population continues to grow, the Township must continue to evaluate growth needs.

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 (2024)
Performance	Description of licensing requirements for operators	Equipment operators are required to have a valid DZ license. Training on the use of specialized equipment is provided on an as-needed basis.

Table 60 Community Levels of Service: Machinery & Equipment

13.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Annual capital reinvestment rate	0.41%
Performance	% of fire equipment that is in good or very good condition	21%
	% of fire equipment that is in poor or very poor condition	74%
	% of other machinery & equipment that is in good or very good condition	13%
	% of other machinery & equipment that is in poor or very poor condition	85%

Table 61 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 and 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
Scenario 1: Maintain Current Funding Level	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Machinery & equipment capital funding maintained at $51,000/year
Scenario 2: Achieving 100% Target Funding in 20 years	This scenario assumes gradual tax increases of ~3.9%/year, stabilizing at 100% funding across all asset categories in 20 years. ♦ Machinery & equipment capital funding gradually increases from $51,000/year to $1.2m/year over a span of 20 years
Scenario 3: Achieving 75% Target Funding in 20 Years	This scenario assumes gradual tax increases of ~2.6%/year, stabilizing at 75% funding across all asset categories in 20 years. ♦ Machinery & equipment capital funding gradually increases from $51,000/year to $927,000/year over a span of 20 years

Table 62 Machinery & Equipment PLOS Scenario Descriptions

13.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1	Average Condition	15%	3%	2%	
	Average Asset Risk	18.4	19.0	19.0	
	Annual Investment Required		$51,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.4%		
Scenario 2	Average Condition	15%	17%	16%	
	Average Asset Risk	18.4	18.2	18.2	
	Annual Investment Required		$1,236,000		This parameter was increased from $51,000/year to $1.2m/year gradually over 20 years.
	Capital Reinvestment Rate		9.9%		
Scenario 3	Average Condition	15%	17%	43%	
	Average Asset Risk	18.4	18.2	11.6	
	Annual Investment Required		$927,000		This parameter was increased from $51,000/year to $927,000/year gradually over 20 years.
	Capital Reinvestment Rate		7.4%		

Table 63 Machinery & Equipment PLOS Scenario Analysis

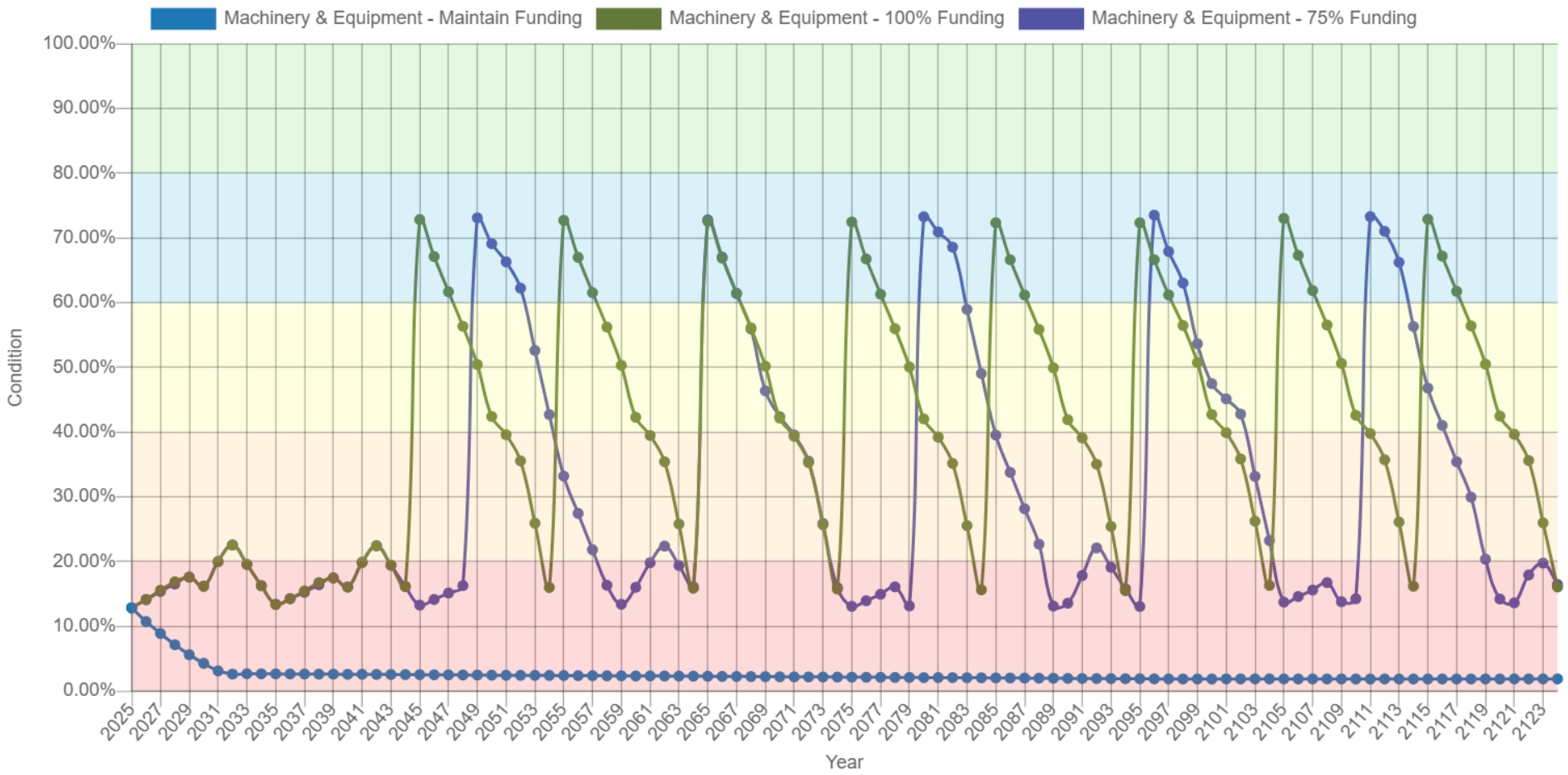


Figure 77 Machinery & Equipment PLOS Scenario Condition Results

Strategies

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 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 more effectively plan for new infrastructure, 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.

14.1.1 Growth Management Action Plan Background Report (WSP 2024)

The Growth Management Action Plan for the Township of Wellington North aims to strategically address the increasing demands of the Township's population and economy. The plan involves various components and initiatives to ensure sustainable development. The report has indicated the following items of note:

- Population growth in the Township of Wellington North has been driven primarily by net migration, with the population increasing from 11,600 in 2001 to 13,900 in 2024. The Township's population has grown at an annual rate of 1.5% since 2016, compared to 0.4% between 2001 and 2016, and this growth has been accompanied by significant housing development, averaging 194 new units annually from 2021 to 2023. Additionally, demographic trends indicate an aging population, with the share of residents aged 75 and older increasing from 8% in 2001 to 10% in 2021.
- The County of Wellington's Municipal Comprehensive Review (M.C.R.) documents, concluded that Mount Forest and Arthur have sufficient urban land for housing and employment growth until 2051, but there is an identified need to re-designate 81 hectares of future development lands for residential use in Wellington North and acknowledged a surplus of 40 hectares of Employment Area lands.
- Based on the Urban Land Needs Municipal Comprehensive Review Municipal Servicing Analysis, Wellington North has sufficient water and wastewater servicing capacity to accommodate near-term growth, with plans to expand the wastewater treatment plant capacity in Arthur within the next two to four years. While Mount Forest is projected to have adequate water capacity over the long term, it will need additional wastewater capacity to support future growth.

The following table outlines the projected population growth expected for the Township:

Year	2021	2024	2026	2031
Total Population	12,800	13,800	14,700	16,200
Urban Area	8,000	9,100	10,200	11,500
Rural Area	4,800	4,700	4,500	4,700

The population of Wellington North is expected to reach 16,200 by 2031. This growth correlates to a 26.5% increase from 2021 to 2031, representing a large increase on service and asset demands.

14.2 Impact of Growth on Lifecycle Activities

As per O.Reg 588/17 2025 requirements, the Township's asset management plan must include a discussion of how the assumptions regarding future changes in population and economic activity informed the preparation of the lifecycle management and financial strategy. The official plan for Wellington North has indicated the vision statement as fostering healthy change and growth. The Township will ensure the sewage treatment, waste disposal services, water supply services, stormwater management, transport pathways, utilities and emergency services are planned and developed to provide for the growth targets outlined in the Official Plan. The commitment to growth in these areas will be completed in a matter that maintains or enhances the natural environment and assets of the Township.

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

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

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

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

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

15.1 Annual Requirements & Capital Funding

15.1.1 Annual Requirements

The annual requirements represent the amount the Township should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability. In total, the Township must allocate approximately $24.5 million annually to address capital requirements for the assets included in this AMP.

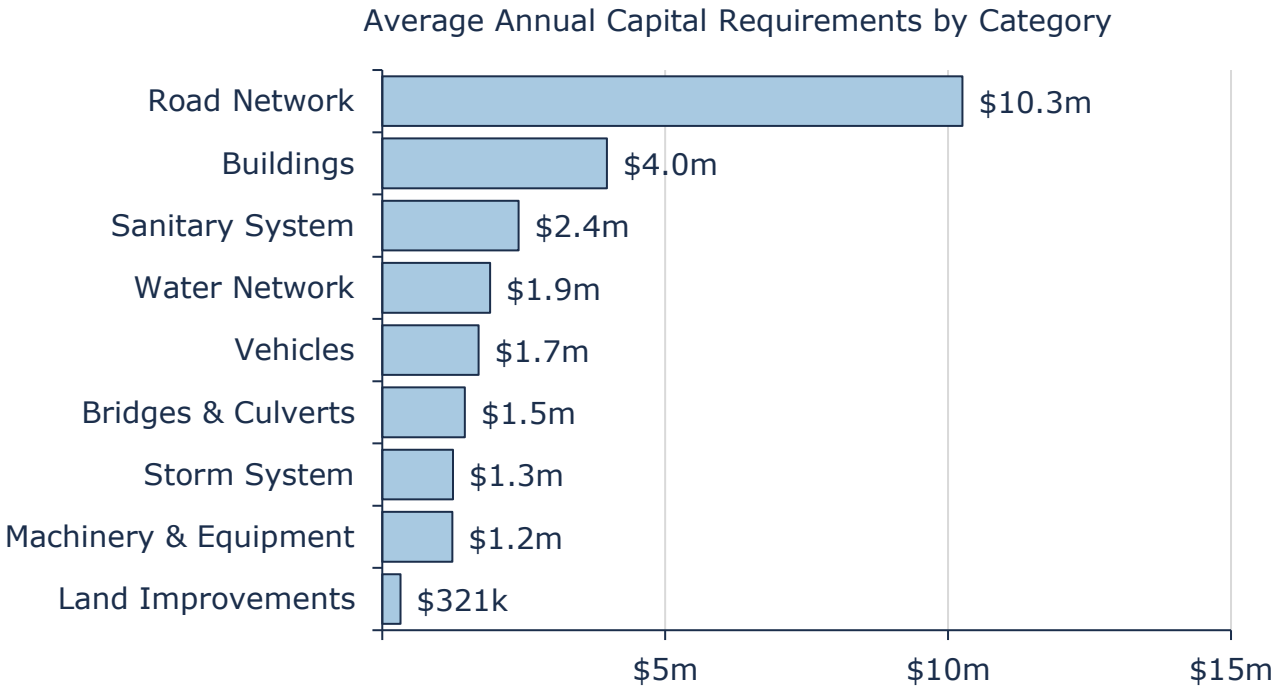


Figure 78 Annual Capital Funding Requirements by Asset Category

For most asset categories the annual requirement has been calculated based on a "replacement only" scenario, in which capital costs are only incurred at the construction and replacement of each asset.

However, for the road network and bridges and culverts, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the Township's roads and bridges and culverts respectively.

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.

15.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $11.7 million towards capital projects per year. Given the annual capital requirement of $24.5 million, there is currently a funding gap of $12.8 million annually.

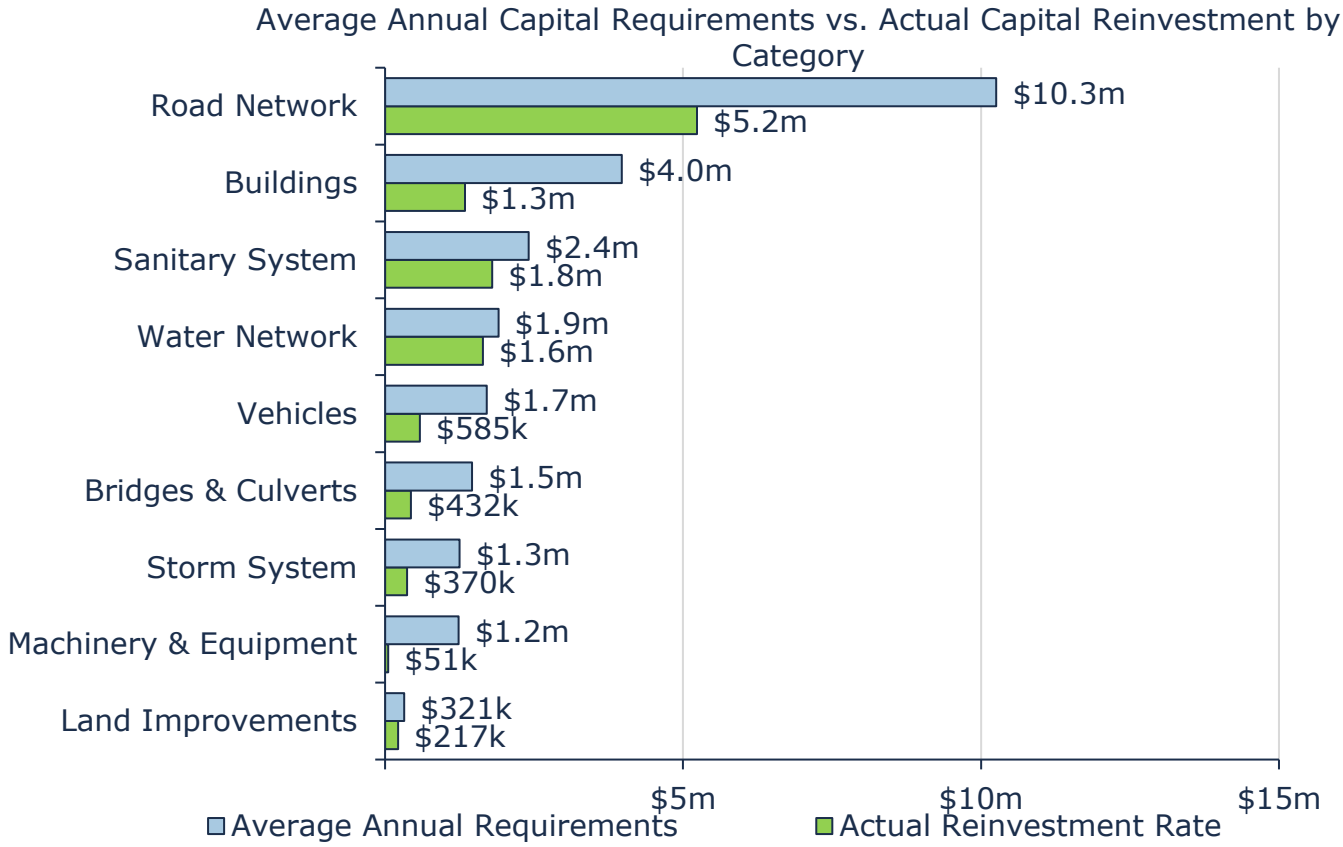


Figure 79 Annual Requirements vs. Capital Funding Available

15.2 Funding Objective

We have developed a scenario that would enable Township of Wellington North to achieve proposed level of service funding levels within 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Storm System, Bridges & Culverts, Buildings, Machinery & Equipment, Land Improvements, Vehicles

2. **Rate-Funded Assets:** Water Network, Sanitary System

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

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, Wellington North's average annual asset investment requirements to achieve proposed levels of service, current funding positions, and funding increases required to achieve proposed levels of service funding on assets funded by taxes.

Asset Category	Avg. Annual Require-ment	Annual Funding Available				Annual Deficit
		Taxes	CCBF	OCIF	Total Available	
Road Network	7,692,000	3,033,845	515,360	1,685,106	5,234,311	2,456,689
Storm System	939,000	370,356	0	0	370,356	568,644
Bridges & Culverts	1,096,500	432,477	0	0	432,477	664,023
Buildings	2,979,000	1,339,925	0	0	1,339,925	1,639,075
Machinery & Equipment	927,000	51,386	0	0	51,386	875,614
Land Improve-ments	240,750	217,037	0	0	217,037	23,713
Vehicles	1,278,000	584,852	0	0	584,852	693,898
Total	**15,153,000**	**6,029,879**	**515,360**	**1,685,106**	**8,230,345**	**6,922,655**

Table 64 Annual Available Funding for Tax Funded Assets

The average annual investment requirement for the above categories to achieve the proposed level of service is $15.2 million. Annual revenue currently allocated to these assets for capital purposes is $8.2 million leaving an annual deficit of $6.9 million. Put differently, these infrastructure categories are currently funded at 54.3% of their long-term requirements.

15.3.2 Full Funding Requirements

In 2024, the Township of Wellington North had budgeted annual tax revenues of approximately $10.72 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, proposed level of service funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Road Network	22.9%
Storm System	5.3%
Bridges & Culverts	6.2%
Buildings	15.3%
Machinery & Equipment	8.2%
Land Improvements	0.2%
Vehicles	6.5%
Total	**64.6%**

Table 65 Tax Increase Requirements for Full Funding

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

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	6,922,655	6,922,655	6,922,655	6,922,655
Change in Debt Costs	N/A	N/A	N/A	N/A
Resulting Infrastructure Deficit:	**6,922,655**	**6,922,955**	**6,922,655**	**6,922,655**
Tax Increase Required	64.6%	64.6%	64.6%	64.6%
Annually:	**10.5%**	**5.2%**	**3.4%**	**2.6%**

Table 66 Tax Increase Options 5-20 Years

15.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 20-year option. This involves proposed funding being achieved over 20 years by:

a) increasing tax revenues by 2.6% each year for the next 20 years solely for the purpose of phasing in proposed funding to the asset categories covered in this section of the AMP.
b) allocating the current CCBF and OCIF revenue as outlined previously.
c) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
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[4].
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 proposed 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. Current data shows a pent-up investment demand of $1.4 million for the road network, $39.4 million for buildings, $3.2 million for land improvements, $9.8 million for machinery & equipment, $5.2 million for vehicles and $38,000 for the storm system.

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, Wellington North's average annual asset investment requirements to achieve proposed levels of service, current funding positions, and funding increases required to achieve proposed funding on assets funded by rates.

Asset Category	Avg. Annual Require-ment	Annual Funding Available				Annual Deficit
		Rates	To Opper	Reserves	Total Available	
Water Network	1,903,000	2,349,548	-1,696,003	987,700	1,641,245	261,755
Sanitary System	2,409,000	2,783,648	-2,099,180	1,113,300	1,797,768	611,232
Total	**4,312,000**	**5,133,196**	**-3,795,183**	**2,101,000**	**3,439,013**	**872,987**

Table 67 Annual Available Funding for Rate Funded Assets

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

The average annual investment requirement to achieve proposed levels of service for the above categories is $4.3 million. Annual revenue currently allocated to these assets for capital purposes is $3.4 million leaving an annual deficit of $873,000. Put differently, these infrastructure categories are currently funded at 80% of their long-term requirements.

15.4.2 Full Funding Requirements

In 2024, Wellington North had annual sanitary revenues of $2,783,648 and annual water revenues of $2,349,548. As illustrated in the table below, without consideration of any other sources of revenue, proposed level of service funding would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	11.1%
Sanitary Sewer Network	22.0%

Table 68 Rate Increase Requirements for Full Funding

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

Water Network				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	261,755	261,755	261,755	261,755
Rate Increase Required	11.1%	11.1%	11.1%	11.1%
Annually:	**2.2%**	**1.1%**	**0.8%**	**0.6%**

Table 69 Water Rate Increase Options 5-20 Years

Sanitary Sewer Network				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	611,232	611,232	611,232	611,232
Rate Increase Required	22.0%	22.0%	22.0%	22.0%
Annually:	**4.1%**	**2.1%**	**1.4%**	**1.0%**

Table 70 Sanitary Rate Increase Options 5-20 Years

15.4.3 Financial Strategy Recommendations

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

a) increasing rate revenues by 0.6% for water services and 1.0% for sanitary sewer services each year for the next 20 years solely for the purpose of phasing in proposed funding to the asset categories covered in this section of the AMP.
b) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

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

Although this option achieves proposed 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. Current data shows a pent-up investment demand of $7.4 million for the water network and $4.1 million for the sanitary system.

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.

15.5 Use of Debt

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

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

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

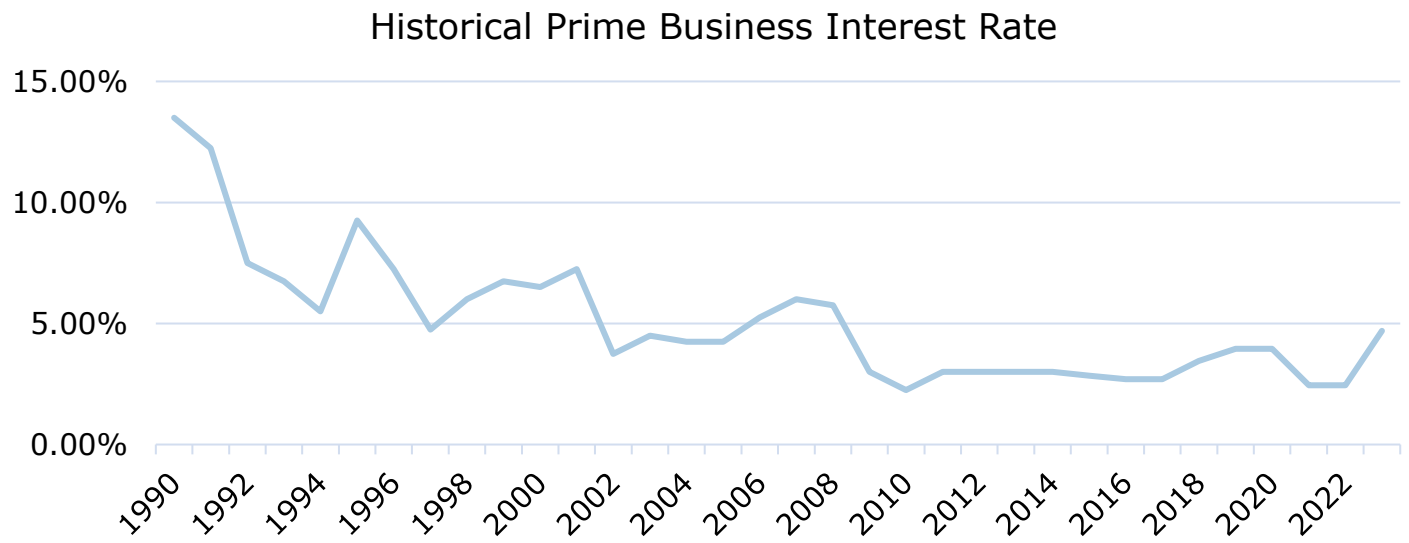


Figure 80 Historical Prime Rate

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

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a $1 million project financed at 3.0%[5] over 15 years would result in a 26% premium or $260 thousand of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

[5] Current municipal Infrastructure Ontario rates for 15-year money is 4.03%.

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

Table 71 Interest Premiums Paid

Table 72 Wellington North Principal and Interest Payments

The revenue options outlined in this plan allow the Township of Wellington North 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

By asset category, the table below outlines the details of the reserves currently available to Wellington North.

Reserves	Balance at December 31, 2024
Council Community & Contingency Reserve	19,698.62
Taxation Reserve Funds	11,928,931.13
Total Tax Funded:	**11,948,629.75**
Sanitary System Reserve Fund	3,808,125.19
Waterworks Reserve Fund	7,973,815.45
Total Rate Funded:	**11,781,940.64**

Table 73 Wellington North 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 take into account when determining their capital reserve requirements include:

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

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

15.6.2 Recommendation

In 2025, Ontario Regulation 588/17 required Wellington North to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on reserve balances.

16. Recommendations & Key Considerations

16.1 Financial Strategies

1. Review the feasibility of adopting a proposed-funding scenario to achieve 75% of average annual funding requirement for the tax funded assets, and 100% of average annual funding requirement for the water and wastewater rate funded assets. This includes:
    a. Increasing taxes by 2.6% per year over a period of 20 years;
    b. Increasing water rates by 0.6% per year over a period of 20 years; and
    c. Increasing sanitary rates by 1.0% per year over a period of 20 years.

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

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

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

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

16.2 Asset Data

1. Continuously review, refine, and calibrate lifecycle and risk profiles to better reflect actual practices and improve capital projections. In particular:
    a. the timing of various lifecycle events, the triggers for treatment, anticipated impacts of each treatment, and costs
    b. the various attributes used to estimate the likelihood and consequence of asset failures, and their respective weightings

2. Asset management planning is highly sensitive to replacement costs. Periodically update replacement costs based on recent projects, invoices, or estimates, as well as condition assessments, or any other technical reports and studies. Material and labor costs can fluctuate due to local, regional, and broader market trends, and substantially so during major world events. Accurately estimating the replacement cost of like-for-like assets can be challenging. Ideally, several recent projects over multiple years should be used. Staff judgement and historical data can help attenuate extreme and temporary fluctuations in cost estimates and keep them realistic.

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

4. Perform a portfolio-wide facility condition assessment to more accurately determine building conditions and predict future capital requirements.

5. Develop a dedicated Asset Management Committee and data governance strategy to clearly define roles and responsibilities in regards to updating asset management data and documentation.

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

2. Available data on current performance should be centralized and tracked to support any calibration of service levels in accordance with O. Reg. 588's 2025 requirements on proposed levels of service.

3. Staff should monitor evolving local, regional, and environmental trends to identify factors that may shape the demand and delivery of infrastructure programs. These can include population growth, and the nature of population growth; climate change and extreme weather events; and economic conditions and the local tax base. This data can also be used to review service level targets.

Appendices

Appendix A – 10-Year Capital Requirements

Current Levels of Service (No consideration of available capital funding)

Road Network											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Rural Roads	-	$49.8m	$83.8m	-	$100k	$100k	$4.1m	$2.4m	-	-	-
Sidewalks	-	-	-	-	-	$80k	-	-	-	-	$68k
Streetlights	-	$6k	$6k	$18.4m	$6k	$6k	$6k	$26k	-	-	-
Traffic Lights	$1.4m	$420k	$631k	-	-	$210k	$210k	$800k	$800k	$1.4m	-
Urban Roads	-	$5.3m	$63.6m	-	-	-	-	-	-	-	-
	$1.4m	**$55.5m**	**$148.1m**	**$18.4m**	**$106k**	**$396k**	**$4.3m**	**$3.2m**	**$800k**	**$1.4m**	**$68k**

Bridges & Culverts											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	-	$174k	-	$1.7m	$762k	$119k	$312k	-	-	-	-
Culverts	-	$207k	$314k	$2.0m	$1.2m	$34k	$40k	$110k	-	-	$28k
Pedestrian Crossings											
	-	**$381k**	**$314k**	**$3.7m**	**$1.9m**	**$153k**	**$352k**	**$110k**	**-**	**-**	**$28k**

Storm System											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basins	-	-	-	-	-	-	$155k	-	-	-	-
Manholes	-	-	-	-	-	-	$127k	-	$47k	$12k	-
Storm Mains	$38k	-	-	-	-	-	$2.4m	-	-	-	-
	$38k	**-**	**-**	**-**	**-**	**-**	**$2.7m**	**-**	**$47k**	**$12k**	**-**

Buildings											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemetery	$253k	-	-	-	-	-	-	-	-	-	-
Fire	$2.7m	-	-	-	-	-	-	-	-	-	-
General Government	$2.3m	$13k	-	-	-	-	-	-	-	-	-
Recreation & Culture	$32.8m	-	-	$212k	-	$47k	-	-	-	-	-
Transportation Services	$1.3m	-	-	-	-	-	-	-	-	-	-
	$39.4m	**$13k**	**-**	**$212k**	**-**	**$47k**	**-**	**-**	**-**	**-**	**-**

Vehicles											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemetery Vehicles	$19k	-	-	-	-	-	-	-	-	-	-
Fire Vehicles	$2.3m	$69k	-	$53k	$682k	-	-	-	$51k	-	-
General Government Vehicles	-	-	-	-	$38k	-	-	-	$54k	-	-

Vehicles											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Public Works Vehicles	$2.8m	$464k	$743k	$285k	$1.7m	$1.1m	$777k	$693k	$1.2m	$354k	$583k
Recreation & Culture Vehicles	-	-	-	$77k	$40k	$104k	-	-	-	-	-
	$5.2m	**$532k**	**$743k**	**$416k**	**$2.5m**	**$1.2m**	**$777k**	**$693k**	**$1.3m**	**$354k**	**$583k**

Machinery & Equipment											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemetery Equipment	$64k	-	-	-	-	$35k	-	-	-	-	-
Environmental Services	-	-	-	-	-	-	-	$31k	-	-	-
Fire Equipment	$985k	$49k	$36k	$73k	$44k	$31k	$51k	$303k	$32k	-	-
General Government Equipment	$8.4m	$38k	$92k	$6k	$97k	$48k	$58k	$68k	-	$8k	-
Public Works Equipment	-	-	$28k	-	-	$77k	-	-	$50k	-	-
Recreation & Culture Equipment	$298k	$16k	-	$132k	$20k	$19k	$23k	$450k	$648k	-	-
	$9.8m	**$102k**	**$156k**	**$210k**	**$161k**	**$211k**	**$131k**	**$852k**	**$730k**	**$8k**	**-**

Land Improvements											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
General Government	$206k	-	-	-	-	-	-	-	-	-	-
Recreation & Culture	$3.0m	-	-	-	$42k	-	-	-	-	-	-
	$3.2m	**-**	**-**	**-**	**$42k**	**-**	**-**	**-**	**-**	**-**	**-**

Water Network											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hydrants	$84k	-	-	$11k	-	-	-	-	-	-	-
Valves	$85k	-	-	-	-	-	-	-	-	-	-
Water Equipment	$7.2m	$280k	$209k	$1.1m	$209k	$2.3m	$657k	$465k	-	-	$20k
Watermains	-	-	-	-	-	-	-	-	-	-	-
	$7.4m	**$280k**	**$209k**	**$1.1m**	**$209k**	**$2.3m**	**$657k**	**$465k**	**-**	**-**	**$20k**

Sanitary System											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Manholes	-	-	-	-	-	-	-	-	-	-	-
Sanitary Collection	$4.0m	$2.7m	-	-	-	-	-	-	-	-	$75k
Sanitary Equipment	$110k	$5.2m	$16.0m	$47k	-	$54k	$994k	-	-	-	-
Sanitary Forcemains	-	-	-	-	-	-	-	-	$897k	$239k	-
Sanitary Mains	-	-	-	-	-	-	-	-	$931k	-	-
	$4.1m	**$7.9m**	**$16.0m**	**$47k**	**-**	**$54k**	**$994k**	**-**	**$1.8m**	**$239k**	**$75k**

Proposed Levels of Service (Based on available capital funding, following recommended financial strategy)

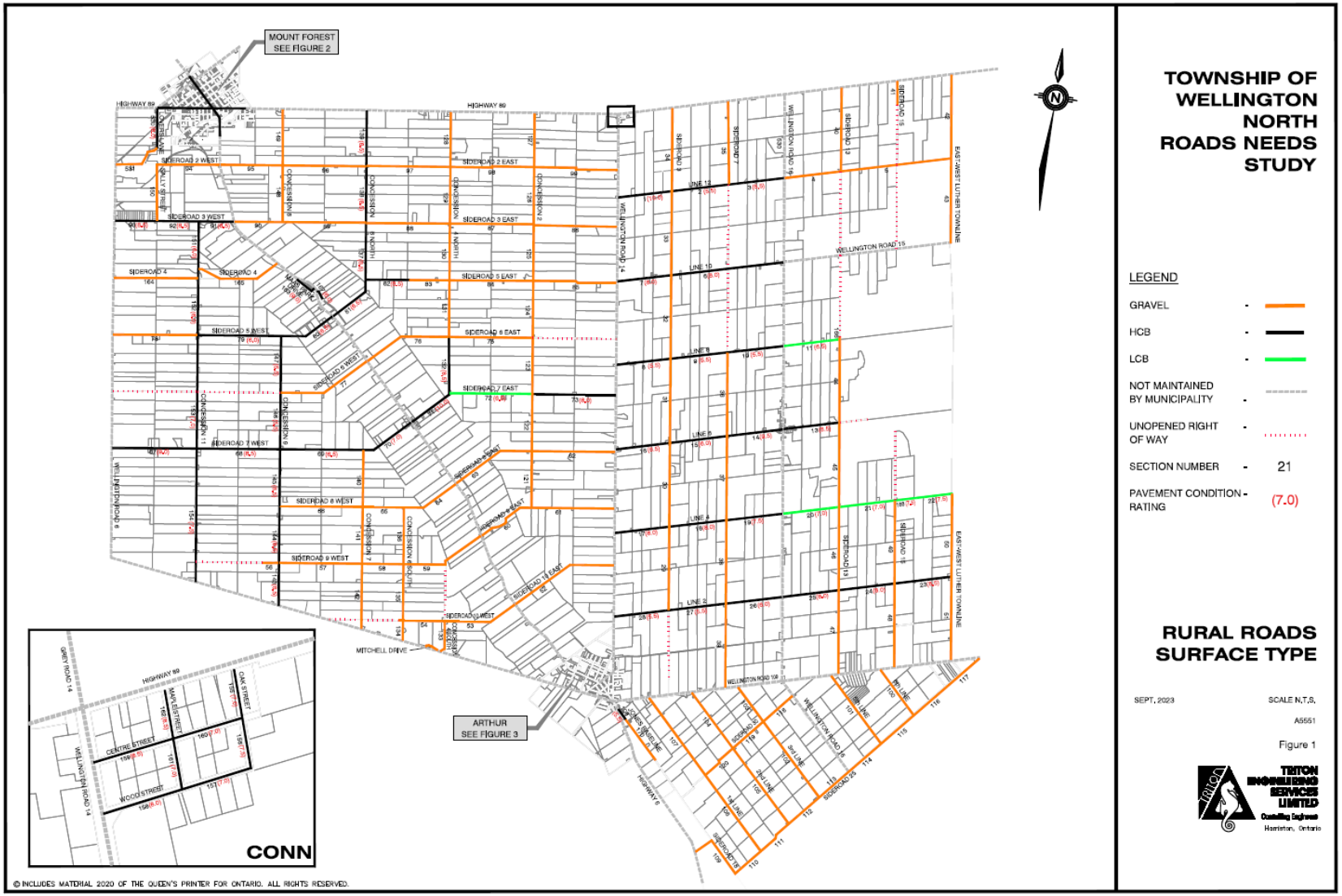
Categories	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax-Funded	$8.51m	$8.79m	$9.09m	$9.39m	$9.70m	$10.0m	$10.3m	$10.7m	$11.0m	$11.4m
Rate-Funded (Water)	$1.69m	$1.7m	$1.71m	$1.73m	$1.74m	$1.76m	$1.77m	$1.79m	$1.80m	$1.82m
Rate-Funded (Sanitary)	$1.83m	$1.85m	$1.88m	$1.91m	$1.94m	$1.96m	$2.0m	$2.03m	$2.05m	$2.09m

Proposed 10-Year Capital Forecast

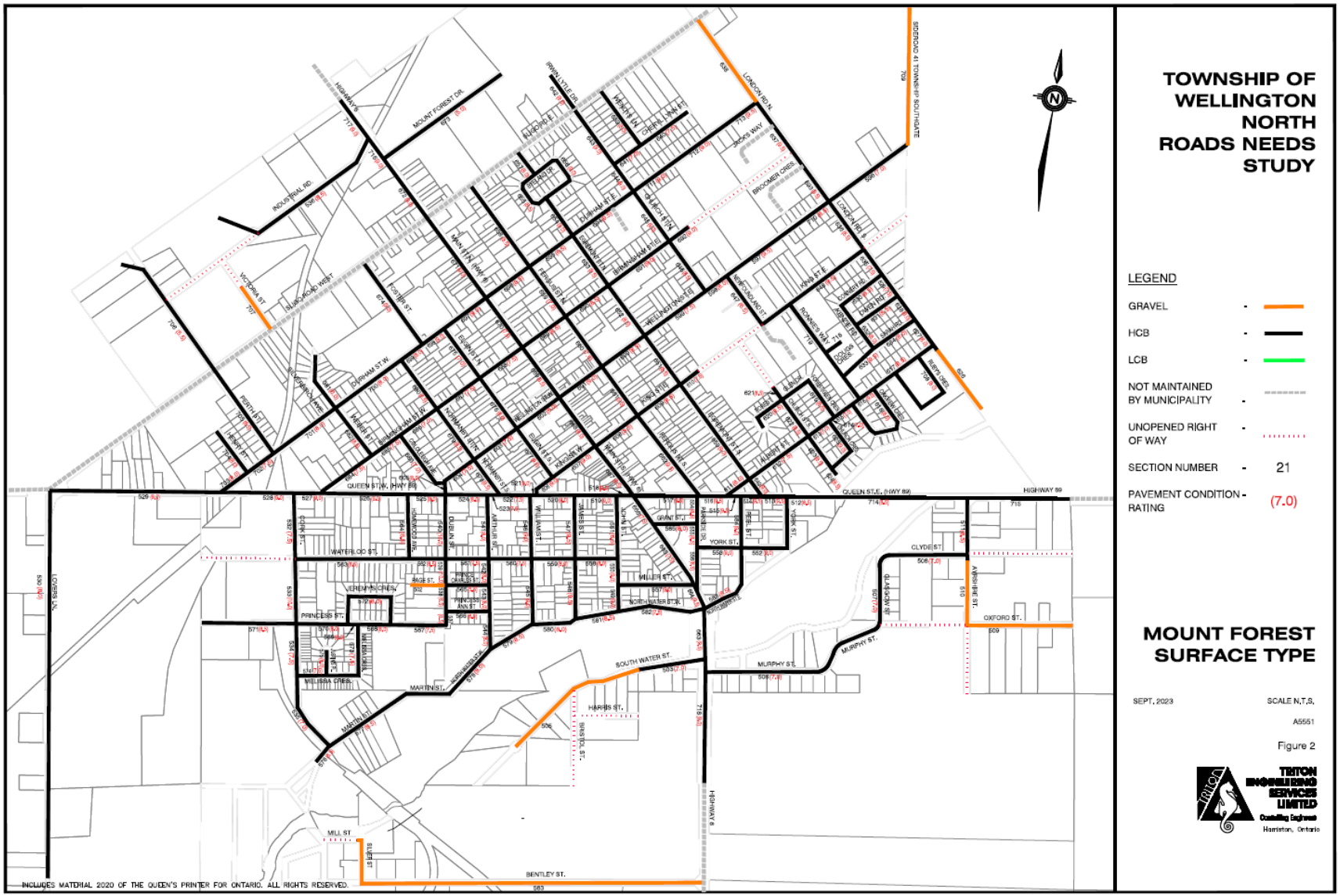
Inflationary Pressure	5%												
Renewal and Maintenance Projects	**Traditionally**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Full Road Reconstruction	$ 4,200,000	$ 4,200,000	$ 4,410,000	$ 4,630,500	$ 4,862,025	$ 5,105,126	$ 5,360,383	$ 5,628,402	$ 5,909,822	$ 6,205,313	$ 6,515,579	$ 6,841,357
Sidewalk /Pedestrian Safety Investment	$ 210,000	$ 210,000	$ 220,500	$ 231,525	$ 243,101	$ 255,256	$ 268,019	$ 281,420	$ 295,491	$ 310,266	$ 325,779	$ 342,068
Equipment Investment	$ 840,000	$ 840,000	$ 882,000	$ 926,100	$ 972,405	$ 1,021,025	$ 1,072,077	$ 1,125,680	$ 1,181,964	$ 1,241,063	$ 1,303,116	$ 1,368,271
Recreation Investment	$ 1,575,000	$ 1,575,000	$ 1,653,750	$ 1,736,438	$ 1,823,259	$ 1,914,422	$ 2,010,143	$ 2,110,651	$ 2,216,183	$ 2,326,992	$ 2,443,342	$ 2,565,509
Pavement Rehabiliation	$ 1,050,000	$ 1,050,000	$ 1,102,500	$ 1,157,625	$ 1,215,506	$ 1,276,282	$ 1,340,096	$ 1,407,100	$ 1,477,455	$ 1,551,328	$ 1,628,895	$ 1,710,339
Bridge Rehabiliation	$ 787,500	$ 787,500	$ 826,875	$ 868,219	$ 911,630	$ 957,211	$ 1,005,072	$ 1,055,325	$ 1,108,092	$ 1,163,496	$ 1,221,671	$ 1,282,755
Subtotal	**$ 8,662,500**	**$ 8,662,500**	**$ 9,095,625**	**$ 9,550,406**	**$ 10,027,927**	**$ 10,529,323**	**$ 11,055,789**	**$ 11,608,578**	**$ 12,189,007**	**$ 12,798,458**	**$ 13,438,381**	**$ 14,110,300**
Major Capital Projects												
Arthur Water Tower	$ 5,400,000			$ 5,953,500								
Arthur Water Supply	$ 4,860,000		$ 5,103,000									
Mount Forest Water Tower	$ 5,400,000					$ 6,563,734						
Mount Forest Wastewater Plant Upgrade	$ 5,400,000								$ 7,598,342			
Arthur Wastewater Plant Upgrade	$ 13,500,000	$ 13,500,000										
Arthur Operations Centre	$ 5,400,000		$ 5,670,000									
Mount Forest Operations Centre	$ 5,400,000							$ 7,236,516				
Mount Forest Fire Hall	$ 8,100,000			$ 8,930,250								
Kenilworth Town Hall	$ 2,700,000					$ 3,281,867						
Mount Forest Outdoor Pool and Aquatics Centre	$ 5,724,000				$ 6,626,246							
Arthur and Area Community Centre	$ 5,400,000		$ 5,670,000									
Mount Forest & District Sports Complex	$ 2,700,000								$ 3,799,171			
Subtotal - Major Capital Projects	$ 69,984,000	$ 13,500,000	$ 16,443,000	$ 14,883,750	$ 6,626,246	$ 9,845,601	$ -	$ 7,236,516	$ 11,397,513	$ -	$ -	$ -
Total Capital Project Cost		**$ 22,162,500**	**$ 25,538,625**	**$ 24,434,156**	**$ 16,654,172**	**$ 20,374,924**	**$ 11,055,789**	**$ 18,845,095**	**$ 23,586,521**	**$ 12,798,458**	**$ 13,438,381**	**$ 14,110,300**
Cumulative capital budget		$ 22,162,500	$ 47,701,125	$ 72,135,281	$ 88,789,453	$ 109,164,377	$ 120,220,166	$ 139,065,261	$ 162,651,782	$ 175,450,239	$ 188,888,620	$ 202,998,920

Appendix B – Level of Service Maps & Photos

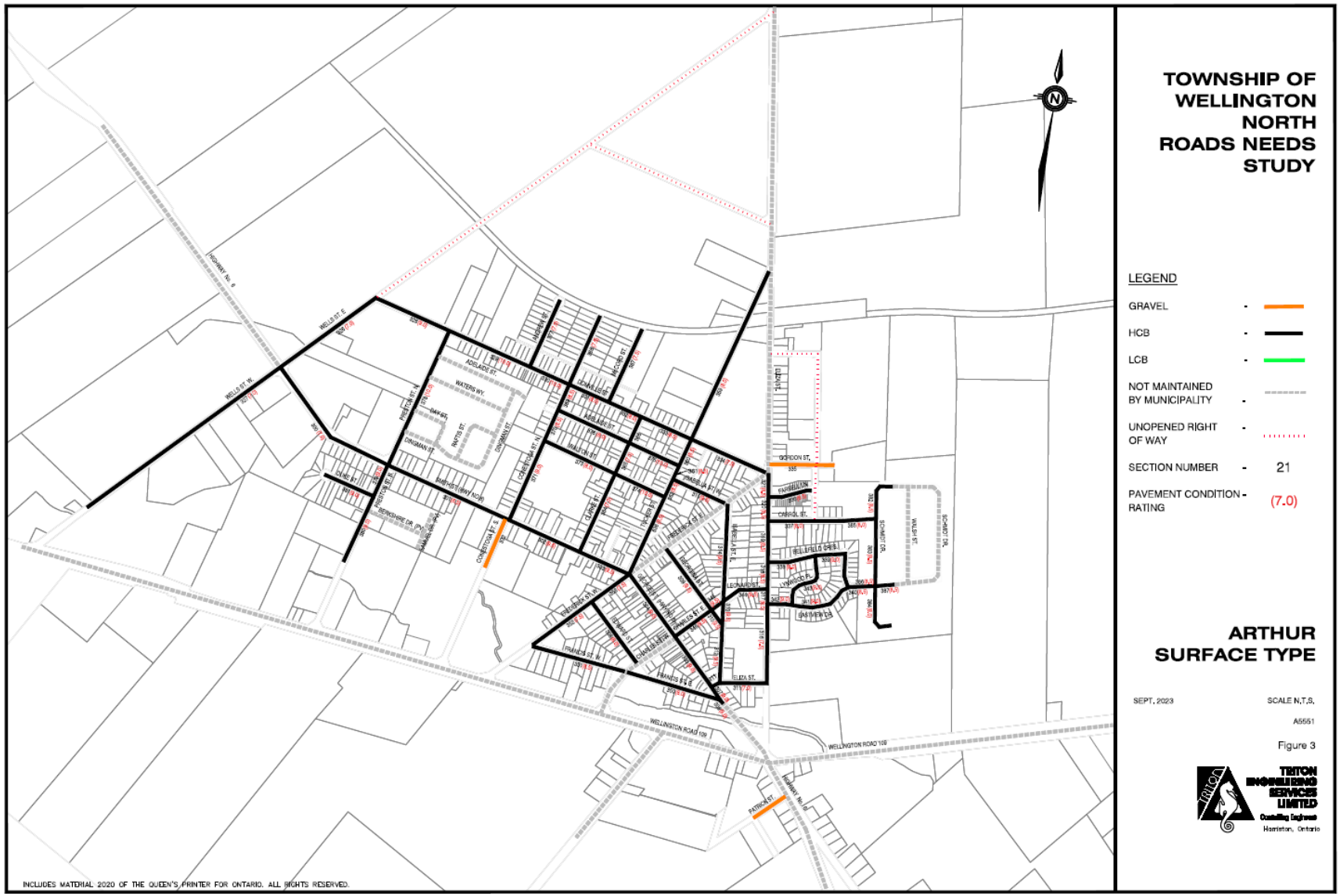
Road Network Map – Rural Roads



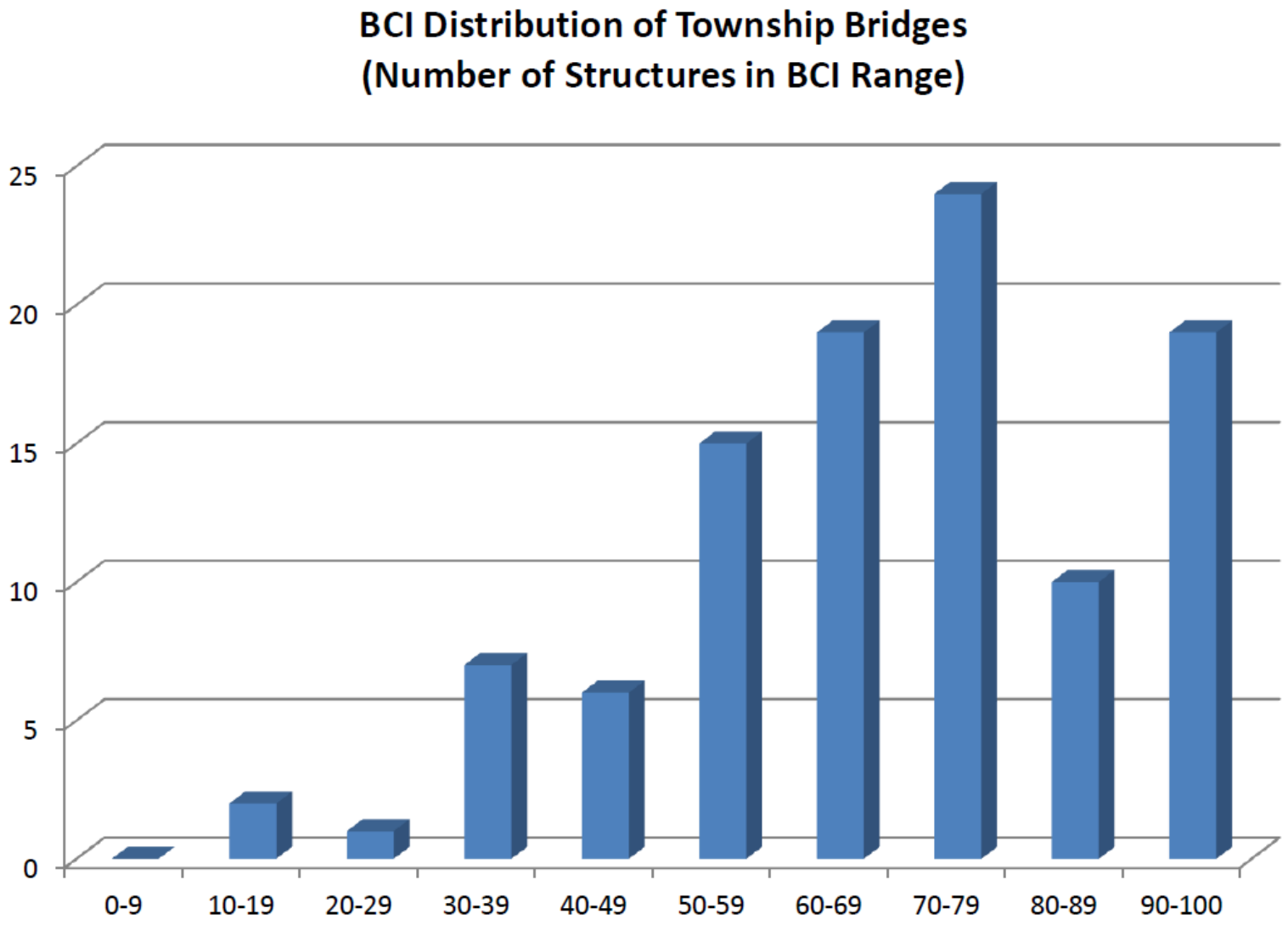
Road Network Map – Mount Forest



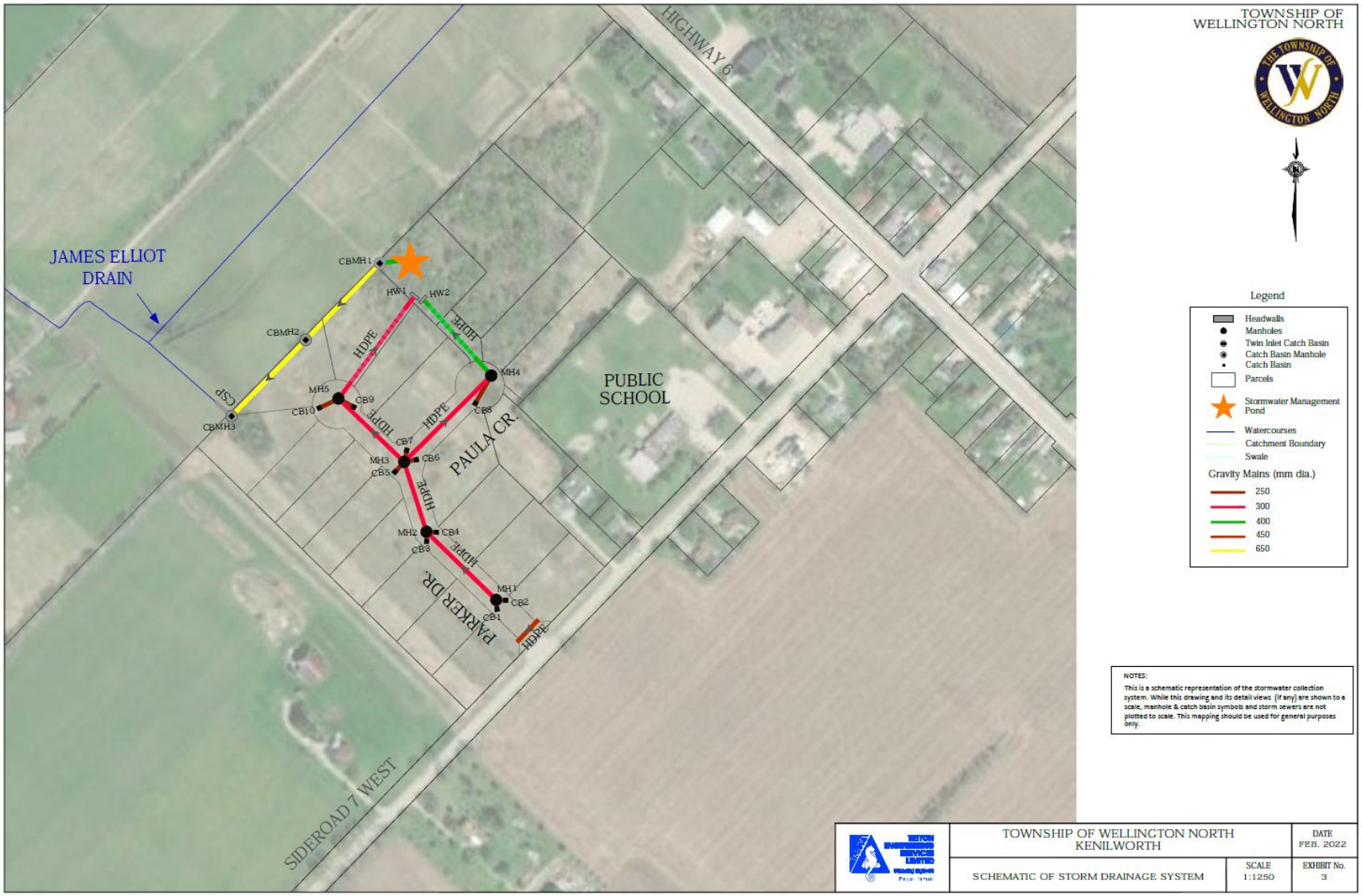
Road Network Map – Arthur



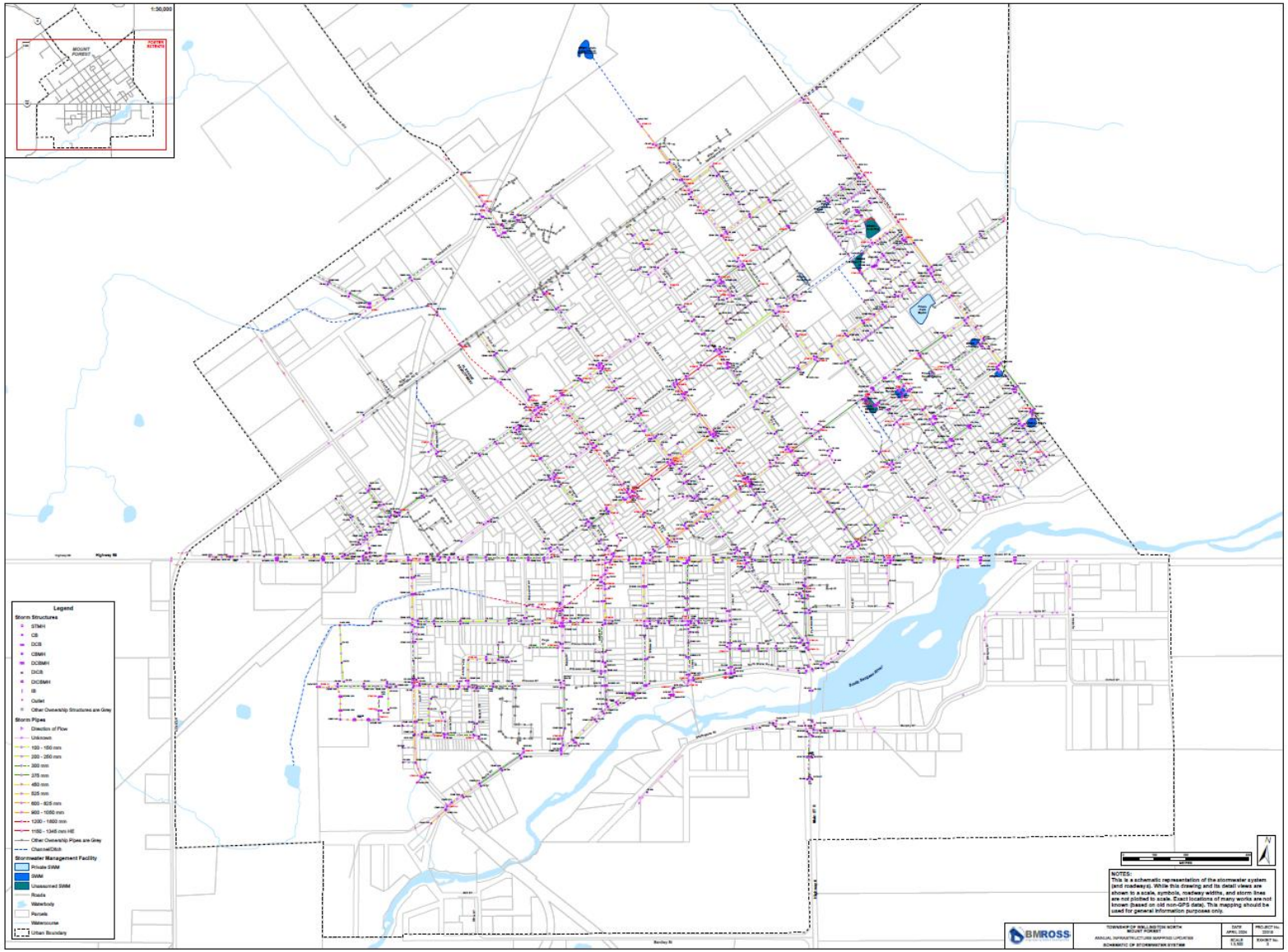
Bridge Condition Index (BCI) Distribution of Township Bridges



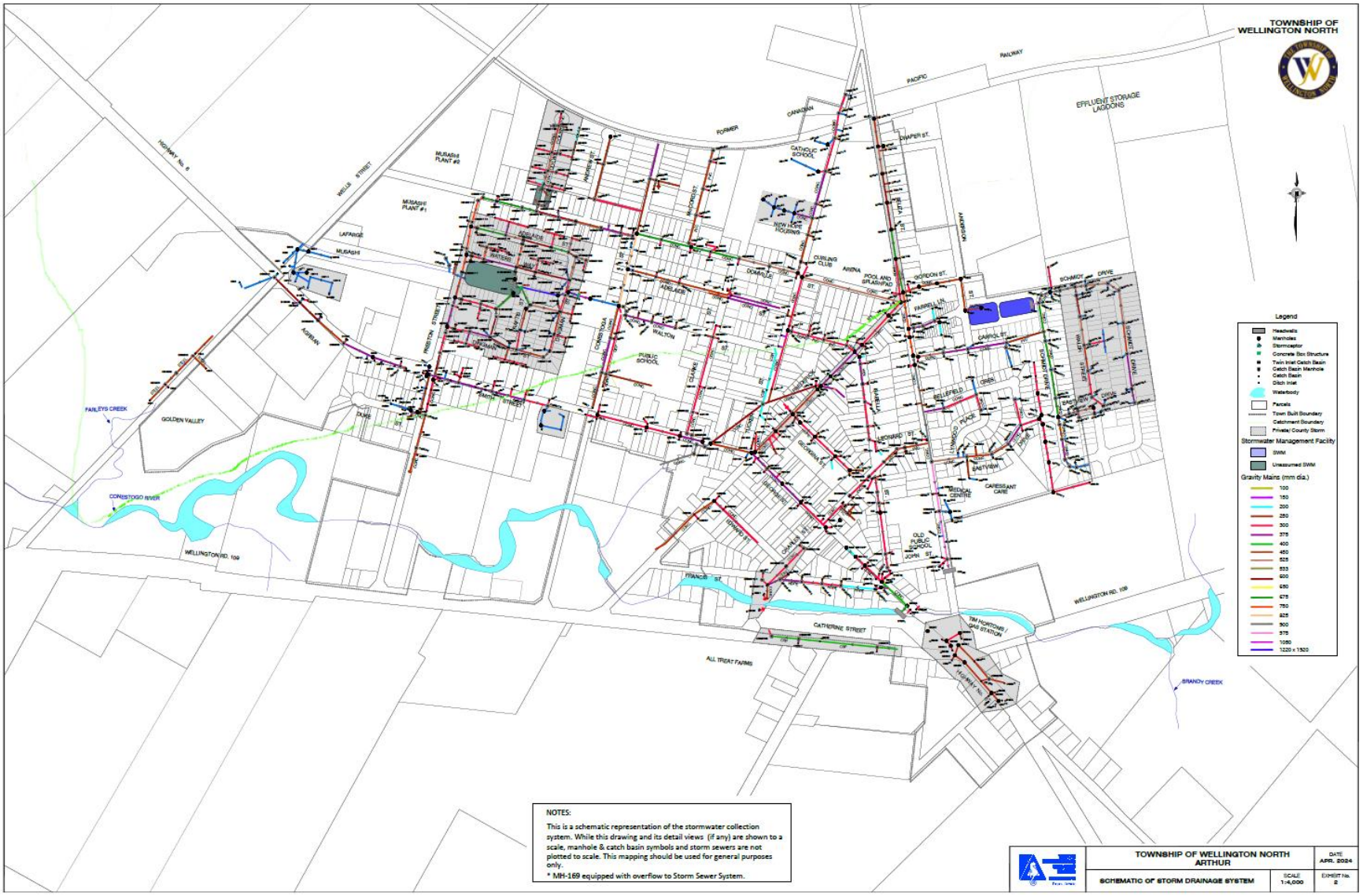
Stormwater Network Map - Kenilworth



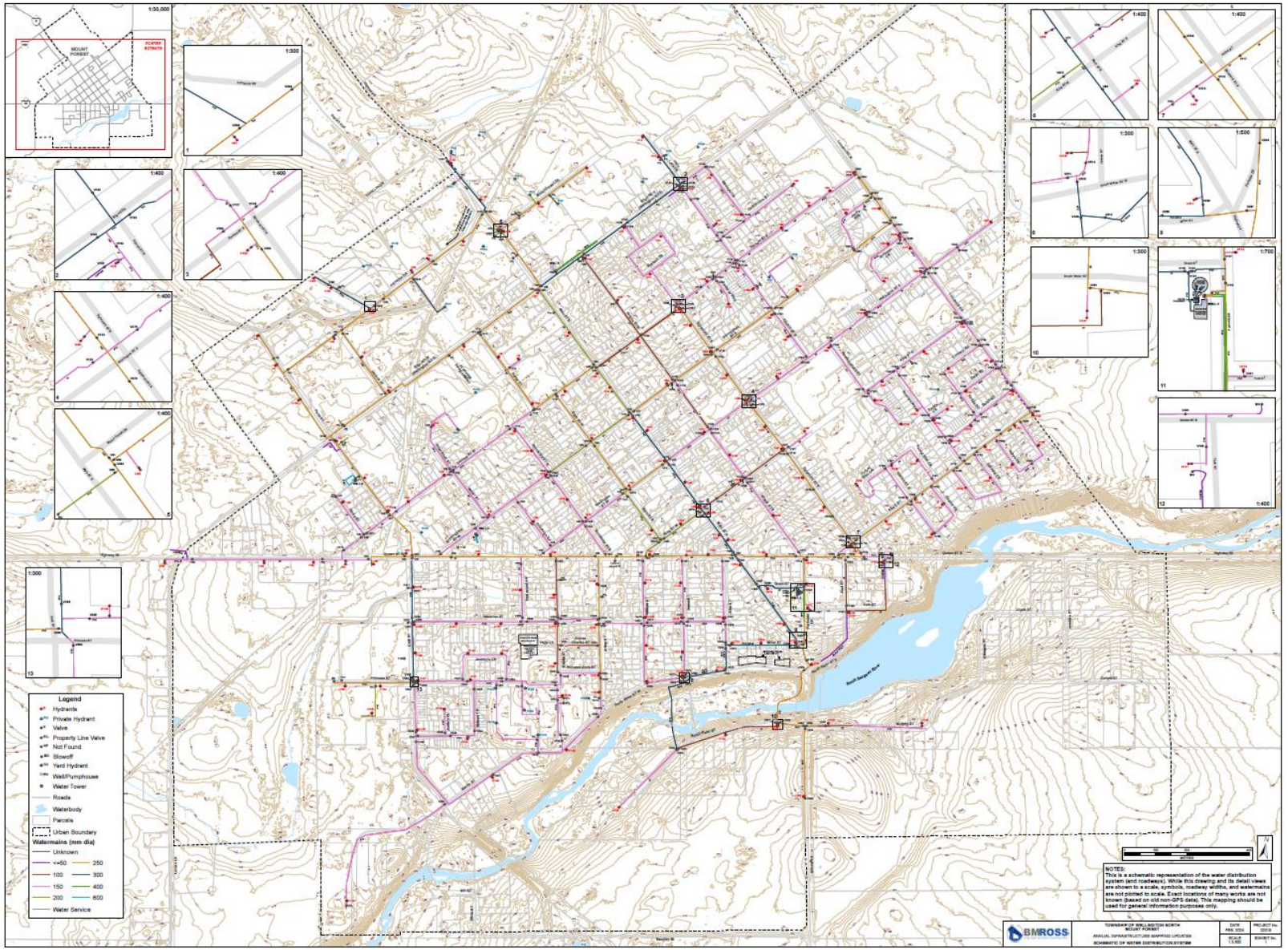
Stormwater Network Map – Mount Forest



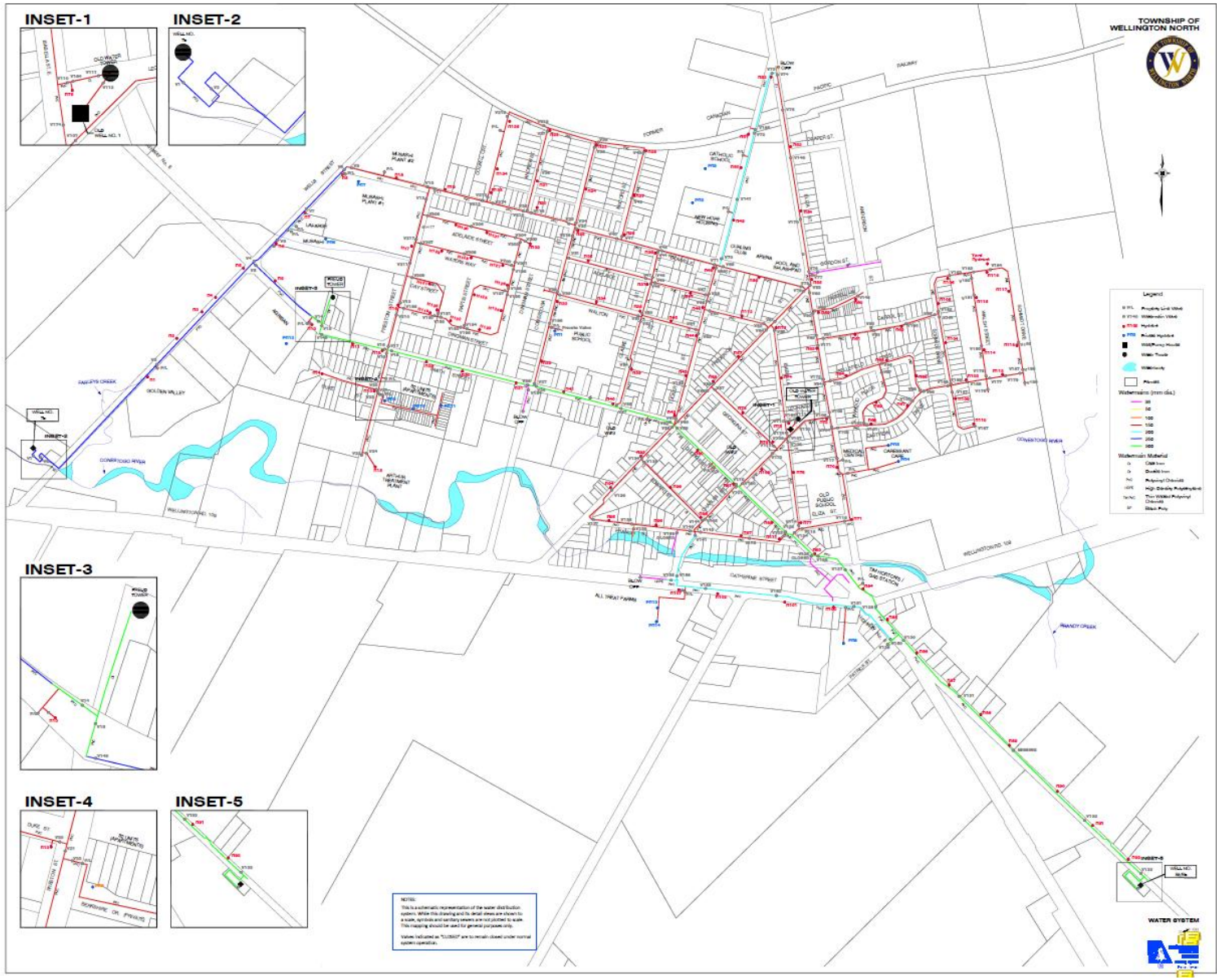
Stormwater Network Map – Arthur



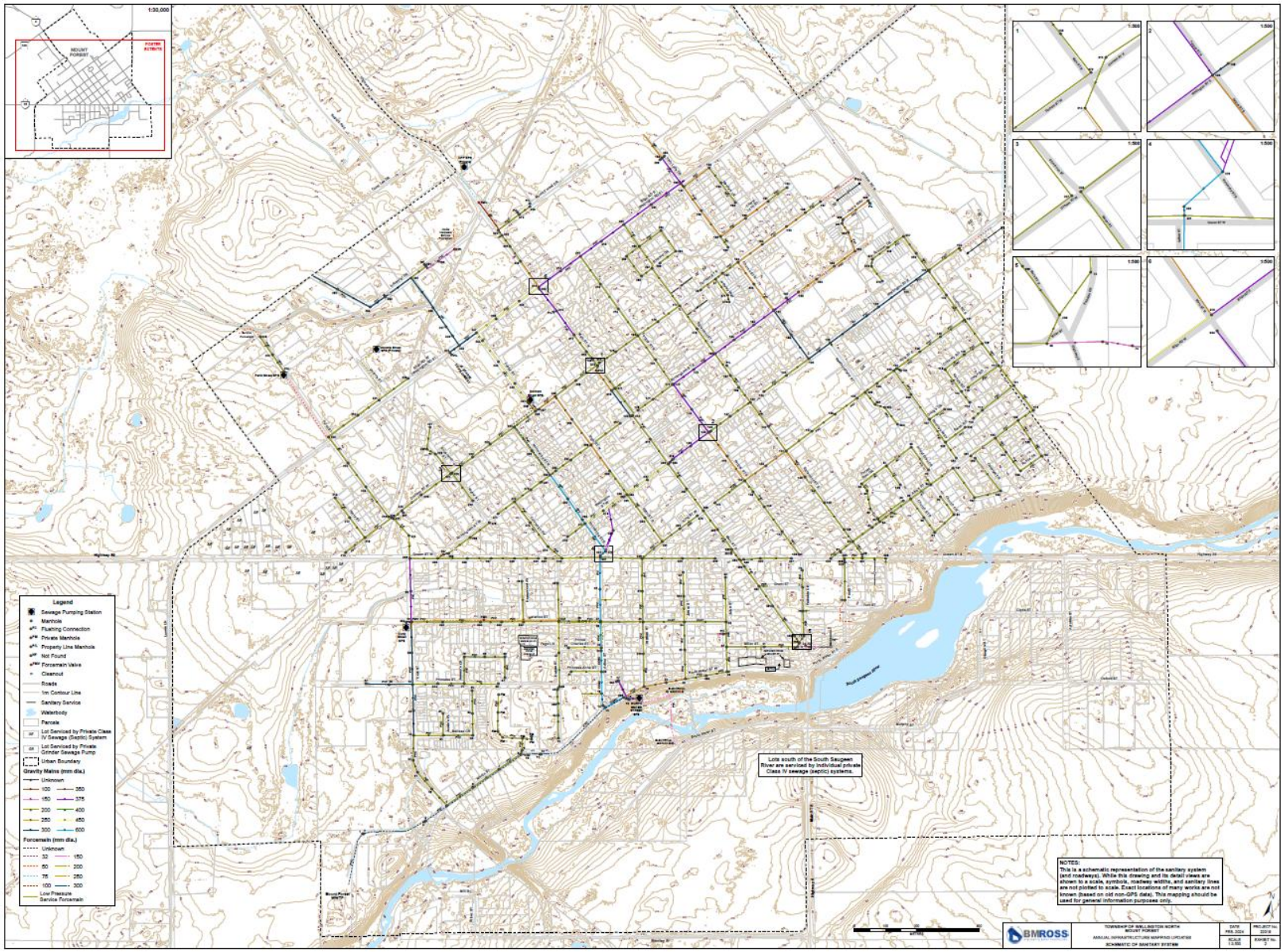
Water Network Map – Mount Forest



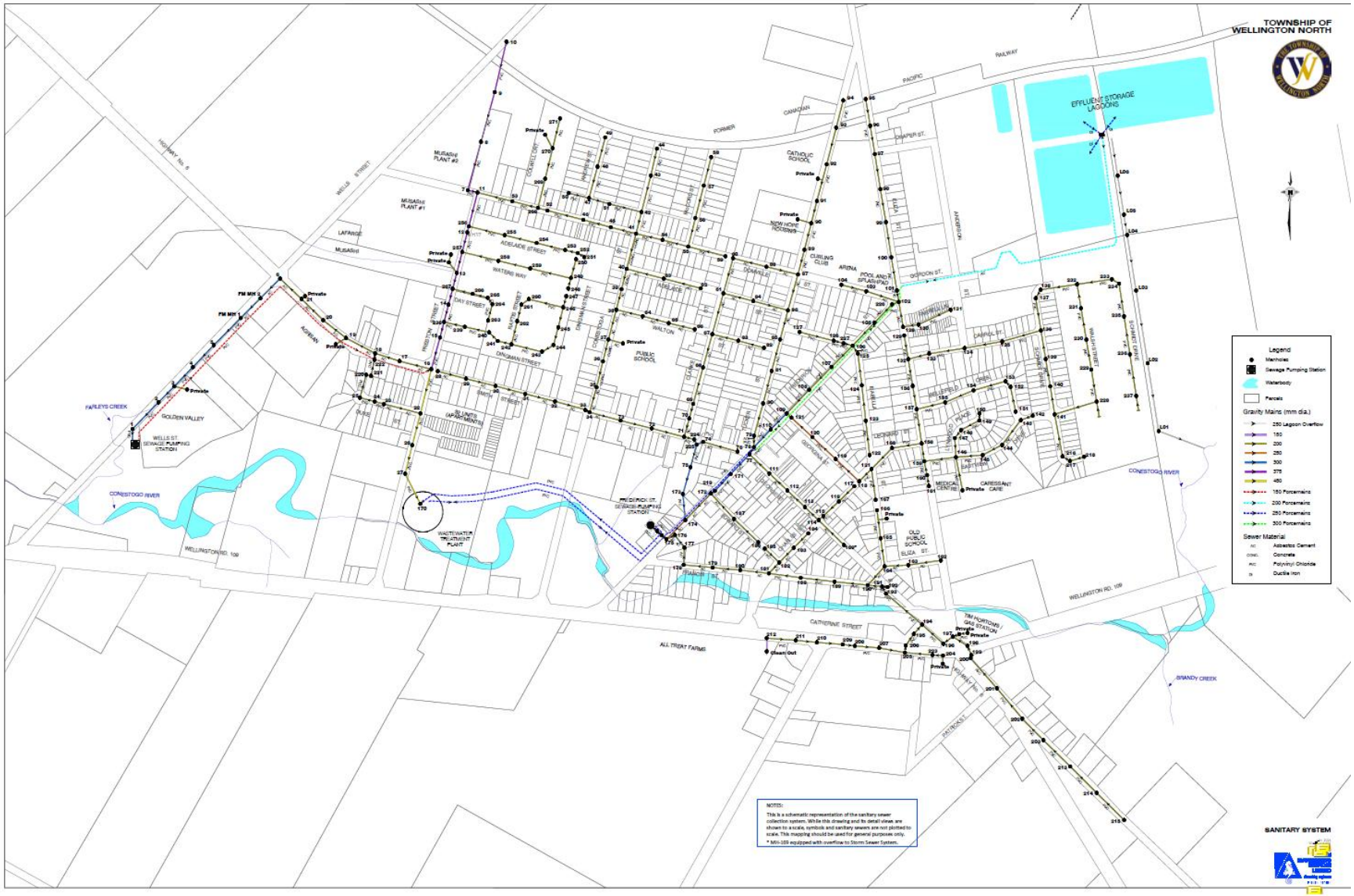
Water Network Map – Arthur



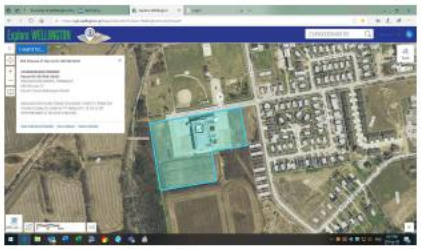
Sanitary System – Mount Forest



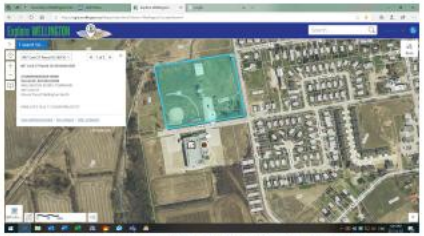
Sanitary System – Arthur



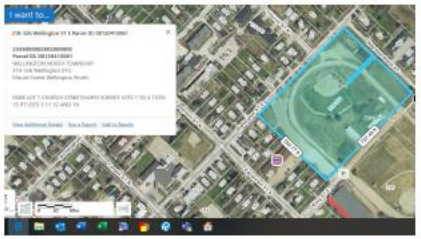
Land Improvements – Parks Locations



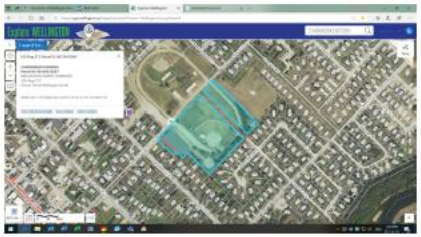
ROLL: 004-00180
LOCATION: 850 Princess St
Mount Forest & District Sports Complex
ZONING: OS & FD
Open Space & Future Development
APPROX SIZE: 10.17 acres



ROLL: 004-00200-0000
LOCATION: 851 Princess St
Campbell de Vore Park
ZONING: OS & FD
Open Space & Future Development
APPROX SIZE: 10.14 acres



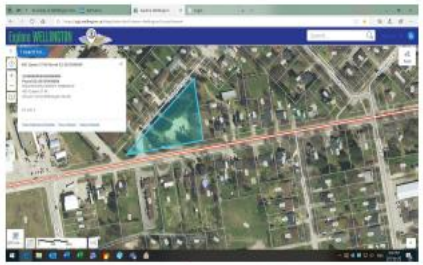
ROLL: 002-00200-0000
LOCATION: 318 Wellington St E
Bill Moody Park, Splash Pad
& Ball Diamond
ZONING: OS Open Space Zone
APPROX SIZE: 9.74 acres



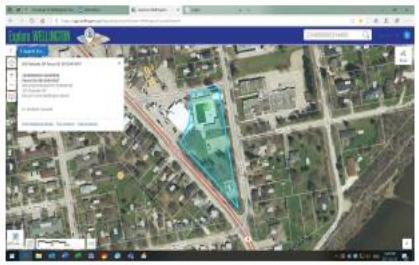
ROLL: 003-07200-0000
LOCATION: 320 King St E
Victory Church & Ball Diamond
ZONING: OS Open Space
APPROX SIZE: 8.76 acres



ROLL: 003-05300-0000
LOCATION: 309 Queen St E
(corner of Albert & Queen)
ZONING: R2 Medium Density Residentail Zone
APPROX SIZE: 3,090 sq ft



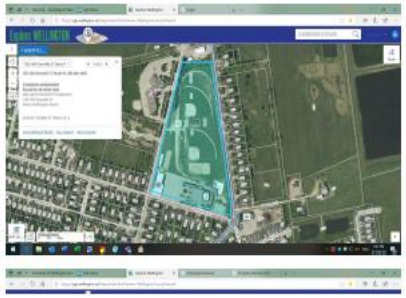
ROLL: 004-02800-0000
LOCATION: 495 Queen St W
Well Head #4 &
Lion Hutchison Park
ZONING: OS Open Space
APPROX SIZE: 1.1 acres



ROLL: 003-14400-0000
LOCATION: 393 Parkside Dr
Well #3 & Lion Roy Grant Pool & Cenotaph Park
ZONING: OS Open Space
APPROX SIZE: 1.24 acres



LOCATION: Queen St W, Wellington St W & Colcleugh Ave
Triangle
ZONING:
APPROX SIZE:



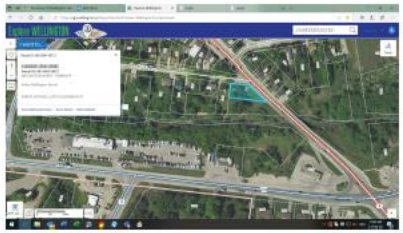
LOCATION: 156-158 Domville St, Arthur (Arena, Pool,
Fairgrounds, Curling Club)
ZONING: OS Open Space
APPROX SIZE: 15.35 Acres



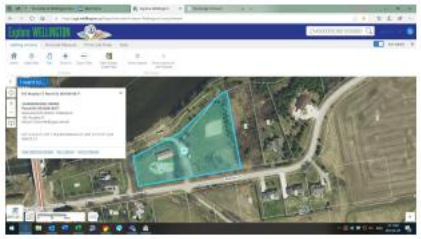
LOCATION: 333 Smith St., Arthur
Arthur Lions Park
ZONING: OS Open Space
APPROX SIZE: 2.53 Acres



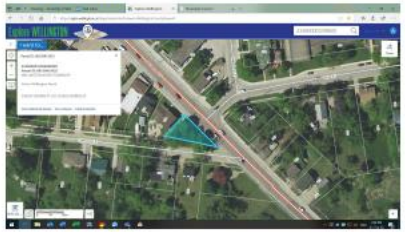
LOCATION: Tucker St, Arthur
New Hope Housing Buffer
ZONING: OS Open Space
APPROX SIZE: 92,815 Sq Ft



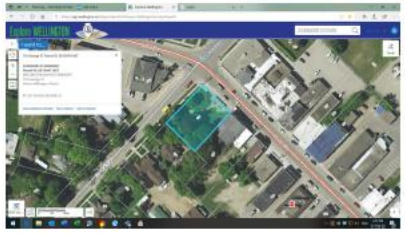
LOCATION: George St., Arthur
Corner, S of Francis St E &
W of George St
ZONING: OS Open Space
APPROX SIZE: 9,564 sq ft



ROLL: 003-00210-0000
LOCATION: 185 Murphy St
Murphy Park
ZONING: OS Open Space
APPROX SIZE: 2.85 acres



LOCATION: Geroge St, Arthur
Corner, N of Francis St E &
W of George St
ZONING: C1 Central Commercial
APPROX SIZE: 3,926 sq ft



LOCATION: 110 George St, Arthur
ZONING: OS Open Space
APPROX SIZE: 12,284 sq ft



LOCATION: 15 Wood St.
Conn Pavilion
ZONING:
APPROX SIZE:

Appendix C – Risk Rating Criteria

Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
Road Network Bridges & Culverts Buildings Machinery & Equipment Vehicles Land Improvements	Condition	100%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
Storm System (Mains) Sanitary System (Mains) Water Network (Mains)	Condition	80%	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Pipe Material	20%	PVC	1
			Ductile Iron	1
			PE	2
			Copper	3
			Steel	3
			AC	4
			CI	4
			Concrete	4

Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Road Network Bridges & Culverts Buildings Vehicles Machinery & Equipment Land Improvements	Economic (100%)	Replacement Cost (100%)	$0-$100,000	1
			$100,000-$250,000	2
			$250,000-$500,000	3
			$500,000-$1,000,000	4
			$1,000,000+	5
Storm System (Mains)	Economic (80%)	Replacement Cost (100%)	$0-$50,000	1
			$50,000-$100,000	2
			$100,000-$500,000	3
			$500,000-$1,000,000	4
			$1,000,000+	5
	Operational (20%)	Pipe Diameter (100%)	0-200	1
			200-300	2
			300-525	3
			525-750	4
			750+	5
Sanitary System (Mains)	Economic (80%)	Replacement Cost (100%)	$0-$50,000	1
			$50,000-$100,000	2
			$100,000-$500,000	3
			$500,000-$1,000,000	4
			$1,000,000+	5
	Operational (20%)	Pipe Diameter (100%)	0-100	1
			100-200	2
			200-300	3
			300-350	4
			350+	5

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Water Network (Mains)	Economic (80%)	Replacement Cost (100%)	$0-$50,000	1
			$50,000-$100,000	2
			$100,000-$500,000	3
			$500,000-$1,000,000	4
			$1,000,000+	5
	Operational (20%)	Pipe Diameter (100%)	0-50	1
			50-100	2
			100-200	3
			200-250	4
			250+	5