2025

Asset Management Plan

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This Asset Management Plan was prepared in consultation with:

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

Key Statistics

$548m	2025 Replacement Cost of Asset Portfolio
$151k	Replacement Cost of Infrastructure Per Household
75%	Percentage of Assets in Fair or Better Condition
81%	Percentage of Assets with Assessed Condition Data
$6.5m	Annual Capital Infrastructure Deficit
10 Years	Recommended Timeframe for Eliminating Annual Infrastructure Deficit
2.18%	Target Reinvestment Rate
0.98%	Actual Reinvestment 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 can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This AMP includes the following asset categories:

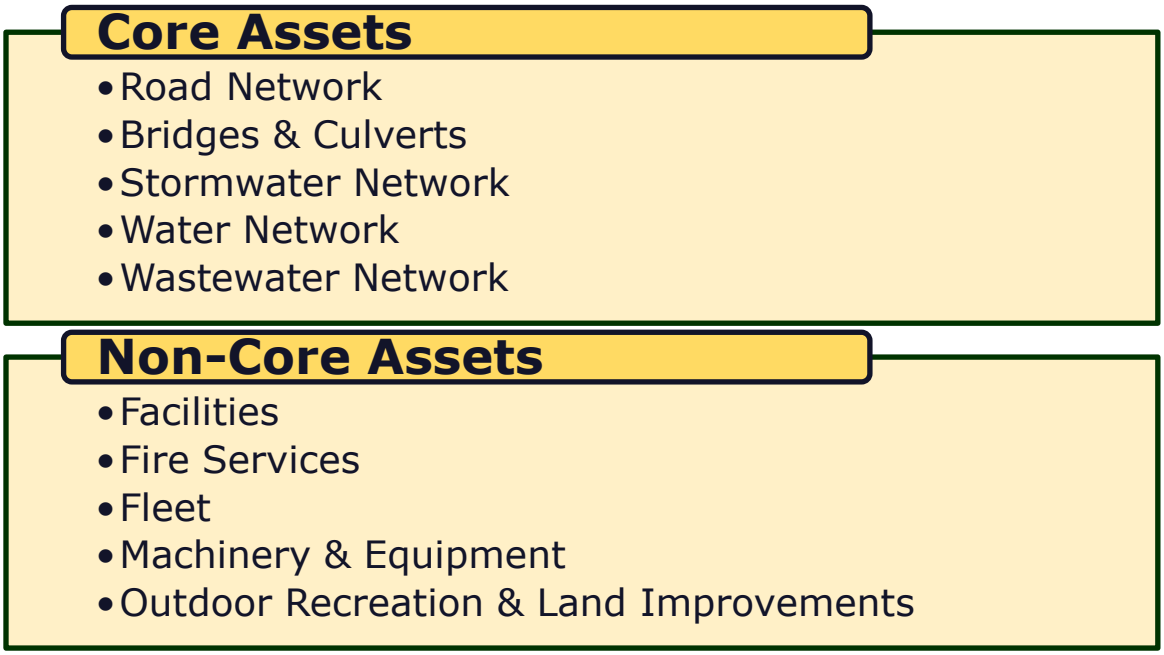


Figure 1 Core and Non-Core Asset Categories

Municipal Service Corporation (MSC)

This iteration of the Township's Asset Management Plan was created based on information available as of December 31, 2024. At that time, all water and wastewater infrastructure and operations were under the Township's Public Works department.

In early 2025, the Township partnered with Graham Capital, an expert in "project financing and alternative delivery models". Graham identified an opportunity for Mapleton to establish an MSC to bring a long-term sustainable financing structure that preserves municipal borrowing capacity while advancing essential infrastructure projects.

Through the collaborative efforts of the Township, Graham Capital, CIMA+ and the Ontario Clean Water Agency (OCWA) **Northern Maple Utilities Inc.** was officially established as an MSC in the spring of 2025. This new entity will be responsible for the ongoing operations, maintenance, asset renewal, and delivery of water and wastewater services to the Township of Mapleton.

As such, future updates of the Township's Asset Management Program will explicitly separate the Asset Management Plan for Tax-Funded infrastructure (Township of Mapleton) from the Asset Management Plan for Rate-Funded infrastructure (Northern Maple Utilities Inc.).

1.2 O. Reg. 588/17 Compliance

With the development of this AMP the Municipality has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. This includes requirements for proposed levels of service and inventory reporting for all asset categories. More details on compliance can be found in section 2.5.1 O. Reg. 588/17 Compliance Review.

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals $547.8 million. 75% of the assets analyzed in this AMP, based on replacement cost, are in fair or better condition. Additionally, condition data was available for 81% of the assets assessed. For the remaining 19% 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, bridges and culverts, and stormwater ponds) and replacement

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 $11.9 million. Based on a historical analysis of sustainable capital funding sources, The Township is committing approximately $5.4 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $6.5 million.

To be clear, the average annual capital requirement within this plan is based on the full lifecycle of all infrastructure assets until 2104. As such, the annual requirement is different from what is historically provided within the 10-year capital forecast, which is limited to a much shorter time period.

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 of Mapleton. 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 Township's annual capital funding gap. The following graphics illustrate the annual tax increase required to eliminate The Township's infrastructure deficit over a 10-year period.

The average annual tax increase proposed is indicative of what is necessary to close the infrastructure funding gap over 10 years and create a sustainable model for the useful life of all owned infrastructure. This is distinct from the Township's historical practice of working towards sustainable financing for the 10-year Capital Forecast needs. This discrepancy is outlined in greater detail within the Financial Strategy – Section 15.

Closing the infrastructure gap within 10 years is essential to avoid the risks associated with continued asset deterioration and escalating costs. Extending the timeline beyond a decade would result in greater lifecycle costs due to deferred maintenance, reduced levels of service, and increased risk of service disruptions or emergency repairs. A 10-year horizon strikes a balance between fiscal responsibility and long-term sustainability, enabling The Township to proactively manage its assets, stabilize future funding needs, and maintain safe, reliable services for the community:

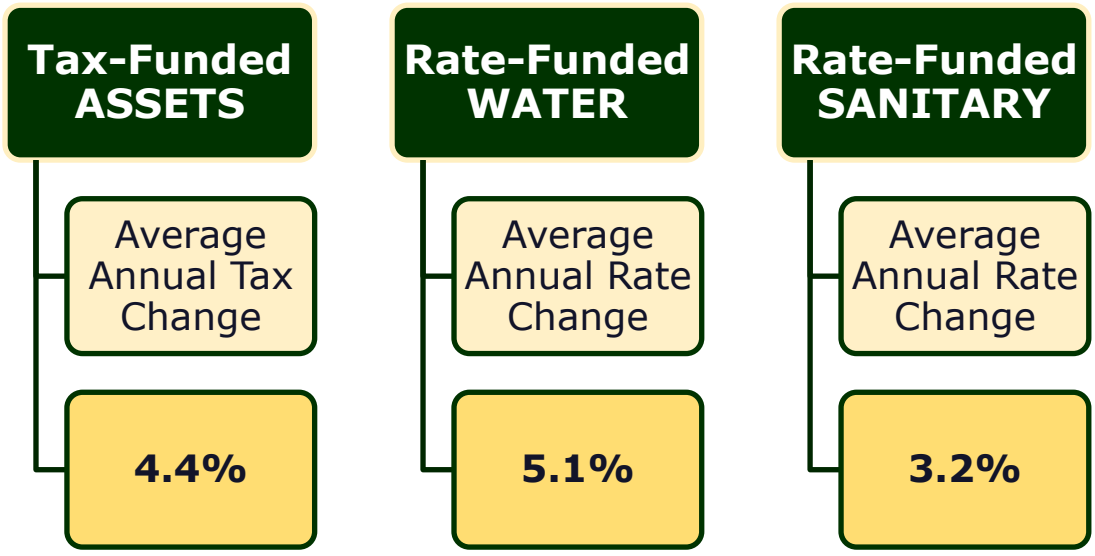


Figure 2 Proposed Tax Changes

2. Introduction & Context

2.1 Community Profile

Mapleton is a rural Township in the Canadian province of Ontario, located within Wellington County. It is a vibrant community that seamlessly blends rural charm with modern living. Formed in 1999, Mapleton encompasses a variety of smaller towns and villages, including Drayton, which serves as the main hub for the Township.

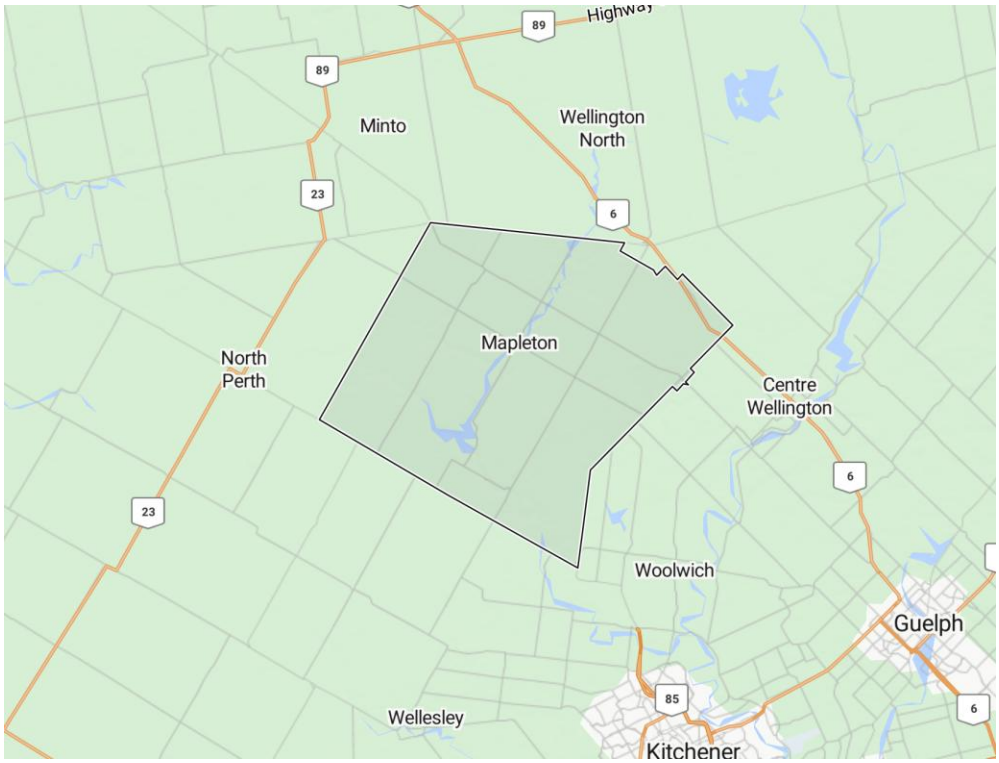


Figure 3: A Google Maps snapshot of the Township of Mapleton

Table 1 provides census data for the Township of Mapleton and the Province of Ontario, obtained from the 2021 Statistics Canada (StatsCan).

Table 1 Census data: Township of Mapleton & the province of Ontario

Census Characteristic	Mapleton	Ontario
Population 2021	10,839	14,223,942
Population Change 2016-2021	+3.0%	+5.8%
Total Private Dwellings	3,633	5,929,250
Land Area	535.56 km^2	892,411.76 km^2

Mapleton is known for its agricultural heritage and strong sense of community, with a population of approximately 11,000 residents. The rural landscape provides a peaceful backdrop for a family-oriented atmosphere, and local events bring people together. With its friendly atmosphere, picturesque landscapes, and dedication to both preserving its heritage and embracing progress, Mapleton offers a welcoming and fulfilling lifestyle for its residents and visitors.

The Township actively maintains its infrastructure, ensuring well-kept roads, bridges, and recreational spaces. Essential services such as water and wastewater management are reliably provided. In 2025, the Township is proposing the establishment of a Municipal Services Corporation to efficiently manage its water and wastewater services.

2.2 Climate Change

Climate change has significant impacts on both human and natural systems globally, leading to rising temperatures, increased precipitation, droughts, and extreme weather events. Canada's Changing Climate Report (CCCR 2019) highlights that from 1948 to 2016, Canada's average temperature rose by 1.7°C, with Northern Canada warming 2.3°C—twice the global average. If emissions are not reduced, temperatures could rise by up to 6.3°C by 2100. Precipitation in Canada has increased by 20% since 1948 and could rise another 24% by the late 21st century. Some regions, especially in Southern Canada, may face more frequent summer droughts. Extreme weather-related events such as poor air quality from wildfires, extreme precipitation, and extreme temperature shifts are becoming more common.

These changes present significant risks to Canada's economy, society, environment, and infrastructure. Climate-related extremes like droughts, floods, freeze-thaw cycles, wildfires, and heatwaves threaten infrastructure, increasing damage and wear. Municipalities are tasked with safeguarding local economies, citizens, and physical assets from these climate challenges.

2.2.1 Mapleton's Climate Profile

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

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 6.1ºC
- Under a high emissions scenario, the annual average temperatures are projected to be 8.8ºC by the year 2050, 10.9ºC for the 2051-2080 period, and 12.7ºC by the end of this century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Mapleton is projected to experience an 11% increase in precipitation by the year 2080 and a 16% increase by the end of the century.

2.2.2 Consideration of Climate Change in Asset Management

Climate Risks to Mapleton's Infrastructure

Climate change presents growing risks to Mapleton's municipal assets. Rising temperatures, shifting precipitation patterns, and more frequent extreme weather events such as floods, storms, and droughts can accelerate the deterioration of roads, stormwater systems, municipal buildings, and natural assets. Historical events illustrate the potential impacts. For example, the 2017 Drayton flooding caused road washouts, culvert failures, basement flooding, and emergency wastewater repairs. Without adaptation, these events threaten service reliability, shorten asset lifespans, and increase long-term maintenance costs.

Current Initiatives

Mapleton is actively integrating climate considerations into municipal planning through existing initiatives:

- Environmental Stewardship Advisory Committee advises Council on climate mitigation and adaptation strategies, including greenhouse gas reduction and ecosystem protection
- Greenhouse Gas Inventory tracks community-wide emissions and supports measurable reduction targets
- Corporate Energy Conservation and Demand Management Plans comply with provincial regulations and document energy management initiatives, including a two percent annual reduction target in energy use across municipal buildings and per-megaliter consumption in water and wastewater facilities.
- Mapleton has in-house Climate Change Coordinator who is leading the development and implementation of Township's Climate Action Plan.

- The Township is also member of the Impact Network (Sustainable Waterloo Region), which provides access to shared resources, best practices and collaborative opportunities with other municipalities to support climate action initiatives.
- These initiatives demonstrate Mapleton's commitment to environmental stewardship and energy efficiency while supporting long-term sustainability and resilience.

Lessons from other Municipalities

- Ottawa: Estimates $1.4 billion in climate-related costs over 10 years across multiple services. Uses data-driven risk assessments, aligns asset management with climate policy, prioritizes vulnerable assets, and tracks key performance indicators such as greenhouse gas emissions, energy intensity, and resilience upgrades.
- Toronto: Green Street Selection Project uses GIS mapping to prioritize streets for climate-resilient infrastructure such as permeable pavements and stormwater management.
- Vancouver: Raincity Strategy implements permeable pavements, green infrastructure, and stormwater retention features to reduce flooding risks.
- Fredericton: Converts municipal parking areas into stormwater detention sites to prevent urban flooding while enhancing green space.
- Halton Hills and Aurora: Implemented net-zero building initiatives and prioritize stormwater management, cooling capacity in public buildings, and maintenance of stormwater ponds during dry summers.
- Whitby: Climate Emergency Response Plan Phase 1 addresses flooding and heatwaves through infrastructure upgrades, floodplain zoning, culvert improvements, and building retrofits for vulnerable residents.

Key Takeaways for Mapleton

- Apply a climate lens across all asset classes
- Use data-driven risk assessments and forecasting tools
- Align asset management with broader climate policy and emission reduction targets
- Prioritize vulnerable assets for adaptation
- Incorporate nature-based solutions and community preparedness measures

Embedding climate resilience into Mapleton's asset management protects critical infrastructure, ensures service continuity, and supports long-term sustainability. By applying a risk-based, data-informed approach and leveraging lessons from other municipalities, the Township can reduce future costs, enhance resilience, and strengthen community well-being.

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.

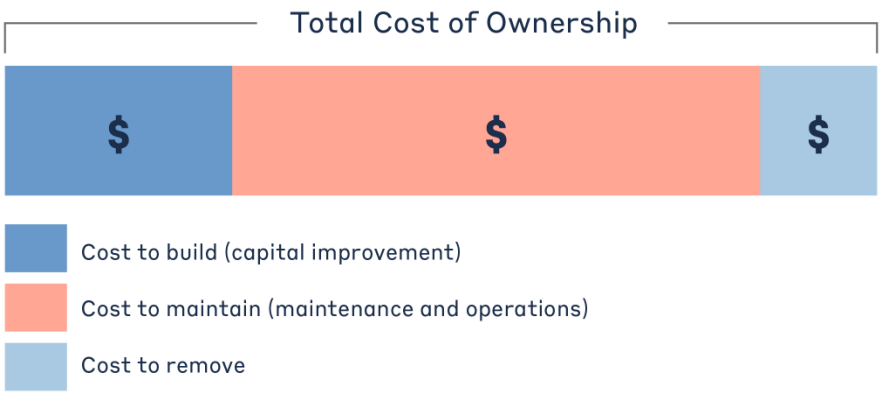


Figure 4 Total Cost of Asset Ownership

These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of a broader asset management program.

2.3.1 Foundational Asset Management Documentation

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

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

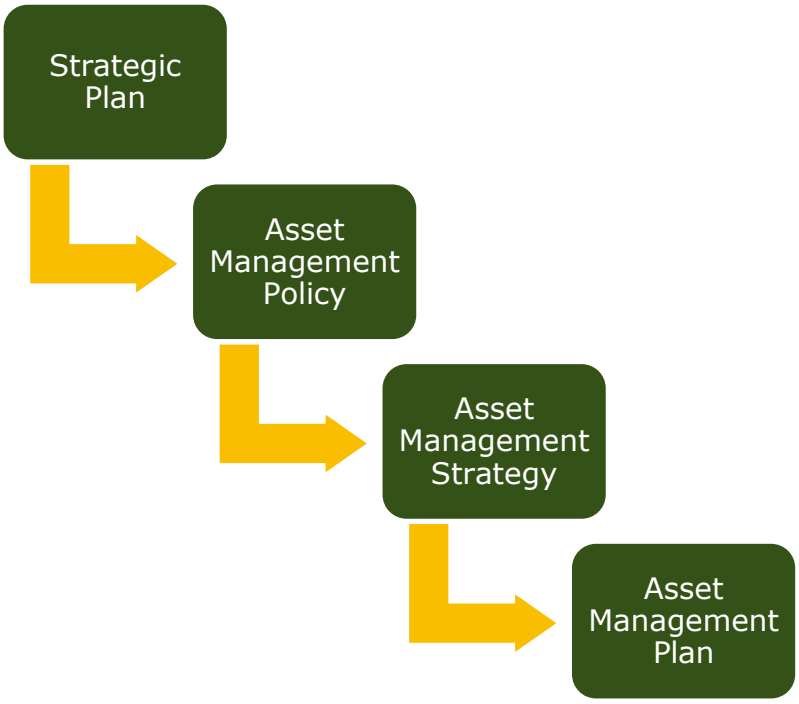


Figure 5 Foundational Asset Management Documents

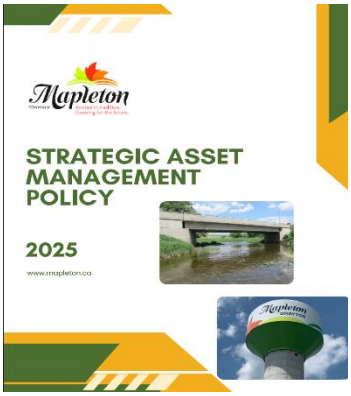
Strategic Plan (2023-2026)

The Township of Mapleton's Strategic Plan for 2023-2026 is guided by the fundamental values of Stewardship, Good Governance, Inclusivity, Innovation, and Prudent Fiscal Management. The plan focuses on five key areas:

- Vigilant Asset Management
- Prosperous and Diversified Economy
- Our Wellbeing
- Diligent Fiscal Management
- Operational Excellence

The connection between this strategic plan and an Asset Management Plan (AMP) is direct and crucial. An AMP would operationalize the strategic plan's vision by providing a data-driven framework for infrastructure investments. It would directly support the *'Vigilant Asset Management'* and *'Diligent Fiscal Management'* priorities by ensuring that capital planning, maintenance, and infrastructure renewal are financially sustainable and aligned with the Township's broader goals. Furthermore, an AMP would inform investments in recreational facilities and open spaces, supporting the "Our Wellbeing" priority and ensuring that the Township's assets meet the community's needs

Strategic Asset Management Policy (2025)



The Township of Mapleton's Strategic Asset Management Policy serves as a statement of principles to guide all asset management activities. This policy aligns with the organization's strategic plan and other key documents, providing a clear framework for staff roles and responsibilities. The policy's primary objectives are to meet desired service levels, manage risks, and ensure long-term financial sustainability for the Township's physical assets.

The policy is based on the following principles:

- **Service Delivery:** Establishing service levels and performance targets that protect public health and safety, provide economic benefits, and promote accessibility.
- **Long-term Sustainability:** Considering potential vulnerabilities from climate change when developing asset management strategies and incorporating mitigation plans and contingency funding.
- **Holistic Approach:** Considering all stages of an asset's lifecycle, including capital, operating, and maintenance costs, and encouraging multi-disciplinary collaboration.
- **Fiscal Responsibility:** Using an evidence-based approach to balance service levels, risks, and costs. The Township will seek the lowest lifecycle cost and provide consistent funding for asset management through tax rates and user fees.
- **Innovation & Continual Improvement:** Viewing continuous improvement as an essential element of successful asset management and supporting professional development for staff.
- **Public Engagement:** Providing opportunities for residents and other interested parties to offer input on asset management planning.

The policy applies to all physical assets, including natural assets. It will be reviewed at least every five years, with consideration for updates following material changes to any of the aligning strategic documents.

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 on in future revisions or as part of a separate strategic document.

Asset Management Plan

The Asset Management Plan (AMP) presents the outcomes of The 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 an additional asset and financial data becomes available. This will allow The Township to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

2.3.2 Key Concepts in Asset Management

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

Lifecycle Management Strategies

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

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

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

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

Table 2 Lifecycle Management: Typical Lifecycle Interventions

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 are associated with excessive maintenance activities, despite added costs. • The 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	**$$$**	• Useful life may not be extended as expected. • May be costlier eventually when assessed against full reconstruction or replacement. • Loss or disruption of service, particularly for underground assets.
Replacement/ Reconstruction Asset end-of-life activities that often involve the complete replacement of assets	**$$$$$**	• Incorrect or unsafe disposal of existing assets. • 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.

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. Failure to properly assess and manage these risks may also expose the municipality to legal liability, particularly if negligence in maintaining critical infrastructure leads to harm or service disruptions.

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

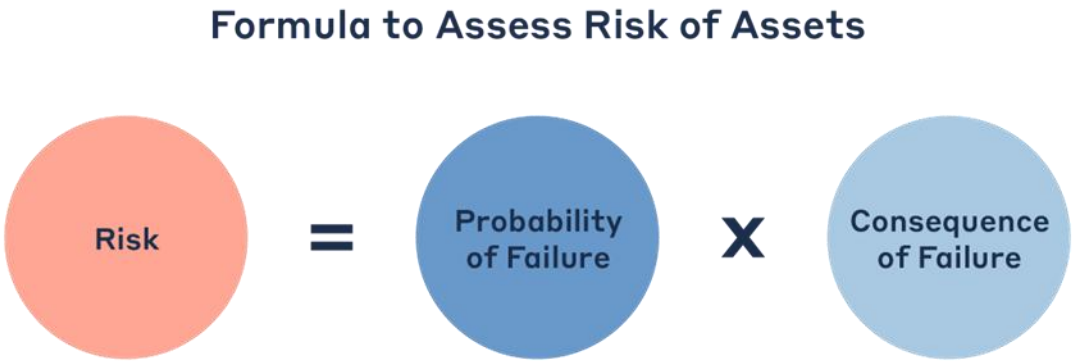


Figure 6 Risk Equations

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

Probability of Failure

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

Consequence of Failure

Estimating criticality also requires identifying the types of consequences that the organization and community may face from an asset's failure, and the magnitude of those consequences. Consequences of asset failure will vary across the infrastructure portfolio; the failure of some assets may result primarily in high direct financial cost but may pose limited risk to the community. Other assets may

have a relatively minor financial value, but any downtime may pose significant health and safety hazards to residents.

Table 3 illustrates the various types of consequences that can be integrated in developing risk and criticality models for each asset category and segments within. We note that these consequences are common, but not exhaustive.

Table 3 Risk Analysis: Types of Consequences of Failure

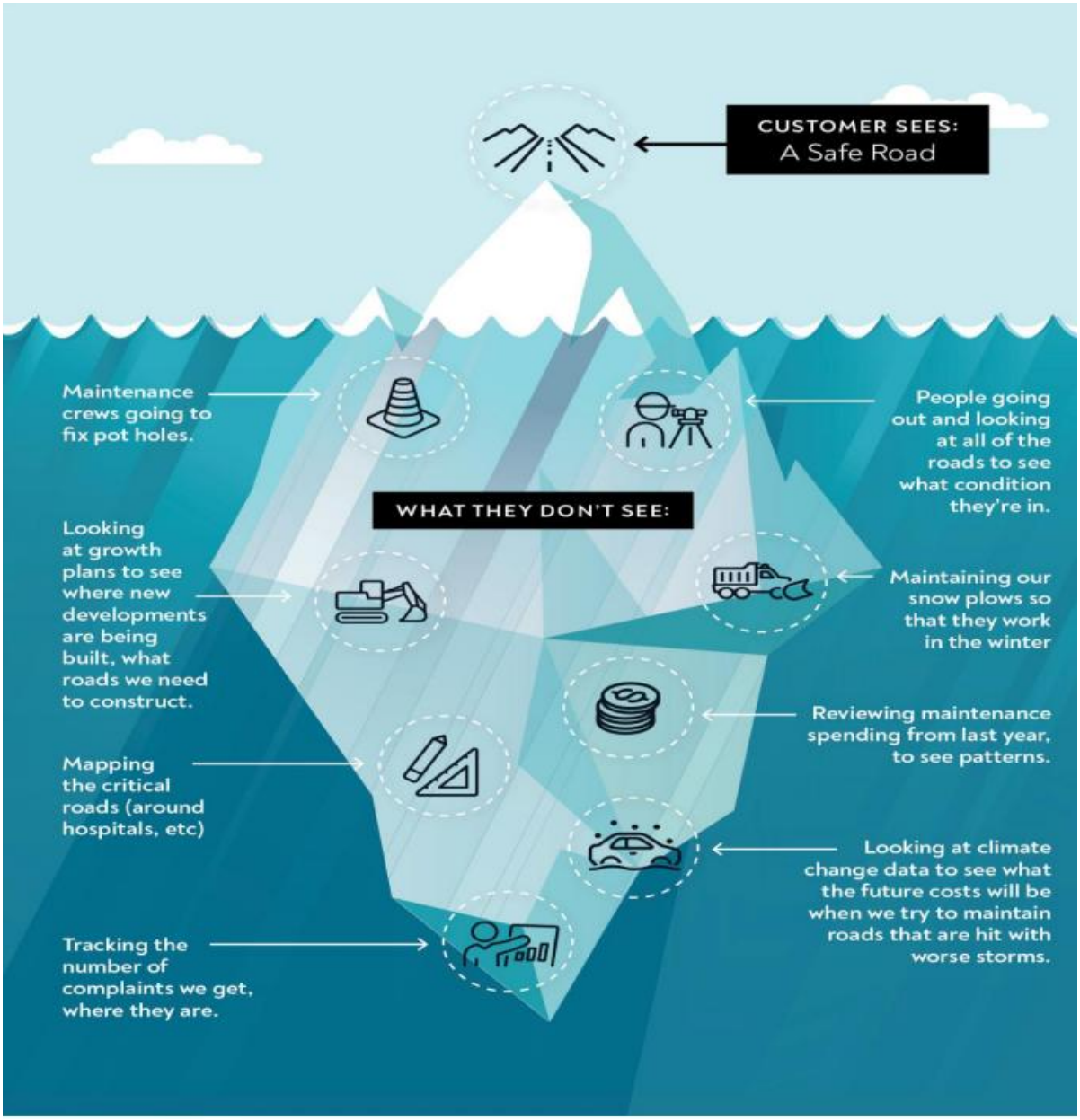
Type of Consequence	Description
Direct Financial	Direct financial consequences are typically measured as the replacement costs of the asset(s) affected by the failure event, including interdependent infrastructure.
Economic	Economic impacts of asset failure may include disruption to local economic activity 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 or years to emerge, and may persist for even longer.
Socio-political	Socio-political impacts are more difficult to quantify and may include inconvenience to the public and key community stakeholders, adverse media coverage, and reputational damage to the community and the Municipality.
Environmental	Environmental consequences can include pollution, erosion, sedimentation, habitat damage, etc.
Public Health and Safety	Adverse health and safety impacts may include injury or death, damage to property, 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.
Legal Liability	These include the financial and reputational impact of lawsuits, fines, and compensation claims resulting from asset failure, which could strain municipal resources and hinder the achievement of broader community objectives.

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. Appendix C – Risk Rating Criteria provides a detailed breakdown of the risk rating criteria, organized by category, used in this AMP.

Levels of Service

A level of service (LOS) is a measure of the services that The Township provides 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. This AMP includes those LOS that are required under O. Reg. 588/17 as well as any additional metrics The Township wishes to track.

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 & Structural Culverts, and Stormwater), the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP.

Technical Levels of Service

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

For core asset categories as applicable (Roads, Bridges & Structural Culverts, and Stormwater) 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

This AMP focuses on evaluating the current level of service provided to the community. Existing service levels serve as a benchmark for establishing realistic and achievable service targets over the next 10 years, in compliance with O.Reg. 588/17.

The proposed levels of service are designed to balance community expectations, financial capacity, regulatory requirements, corporate goals, and long-term sustainability. To support the development of the Levels of Service Framework, a comprehensive review of strategic documents was conducted. Key documents provided by the Township of Mapleton include:

- Strategic Plan (2023 – 2026)
- Strategic Asset Management Policy (2025)
- Water & Wastewater Master Plan (2022)
- Water & Wastewater Servicing Master Plan (2023)
- Energy Conservation and Demand Management (2025-2029)
- Road Needs Study (2023/2024)
- Economic Development Strategy (2025)

Levels of Service Framework

The Levels of Service Framework is a structured approach designed to define, assess, and prioritize municipal service expectations. It ensures alignment with The Township's strategic objectives, operational capacity, and community needs.

1. Strategic Alignment

The framework is grounded in key strategic plans that outline infrastructure priorities, service expectations, and long-term sustainability goals.

2. Defining Levels of Service

A structured methodology identifies service areas requiring improvement and establishes clear distinctions between:

- Acceptable levels of service (baseline requirements)
- Excellent levels of service (enhanced performance targets)

3. Levels of Service Reporting

To ensure accountability and transparency, a reporting structure is developed that defines:

- Responsible departments for service tracking
- Reporting methodology for performance measurement
- Reporting frequency to monitor trends over time

4. Impact-Based Prioritization

Service areas are prioritized based on the risk of failing to meet acceptable standards. The framework evaluates mainly four key impact areas:

- Operational (e.g., service reliability, efficiency)
- Health & Safety (e.g., emergency access, road safety)
- Financial (e.g., maintenance costs, capital planning)
- Community Satisfaction (e.g., accessibility, public expectations)

5. Levels of Service Treatment Options

A structured process is applied to evaluate and implement service improvements:

- Baseline Analysis – Assessing current service levels
- Risk Assessment – Identifying critical service gaps
- Scenario Analysis – Projecting potential service outcomes
- Implementation Planning – Developing cost-effective solutions

6. Public Engagement & Community Feedback

The Community Levels of Service Survey (June 2025 – August 2025) collects feedback on service priorities, satisfaction levels, and willingness to support improvements. This public engagement initiative ensures that municipal decisions align with community expectations and regulatory requirements, including a meeting with the Accessibility Advisory Committee to gather input on accessibility-related service levels.

7. Integration with Asset Management Planning

The framework supports long-term infrastructure investment by balancing cost, risk, and performance, ensuring sustainable service delivery in compliance with O.Reg. 588/17.

This structured approach enables the Township of Mapleton to evaluate, prioritize, and enhance service levels effectively, promoting transparency, efficiency, and alignment with community needs.

2.4 Scope & Methodology

2.4.1 Asset Categories for this AMP

This asset management plan for the Township of Mapleton 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.

The AMP summarizes the state of the infrastructure for the Township's asset portfolio, establishes proposed 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.

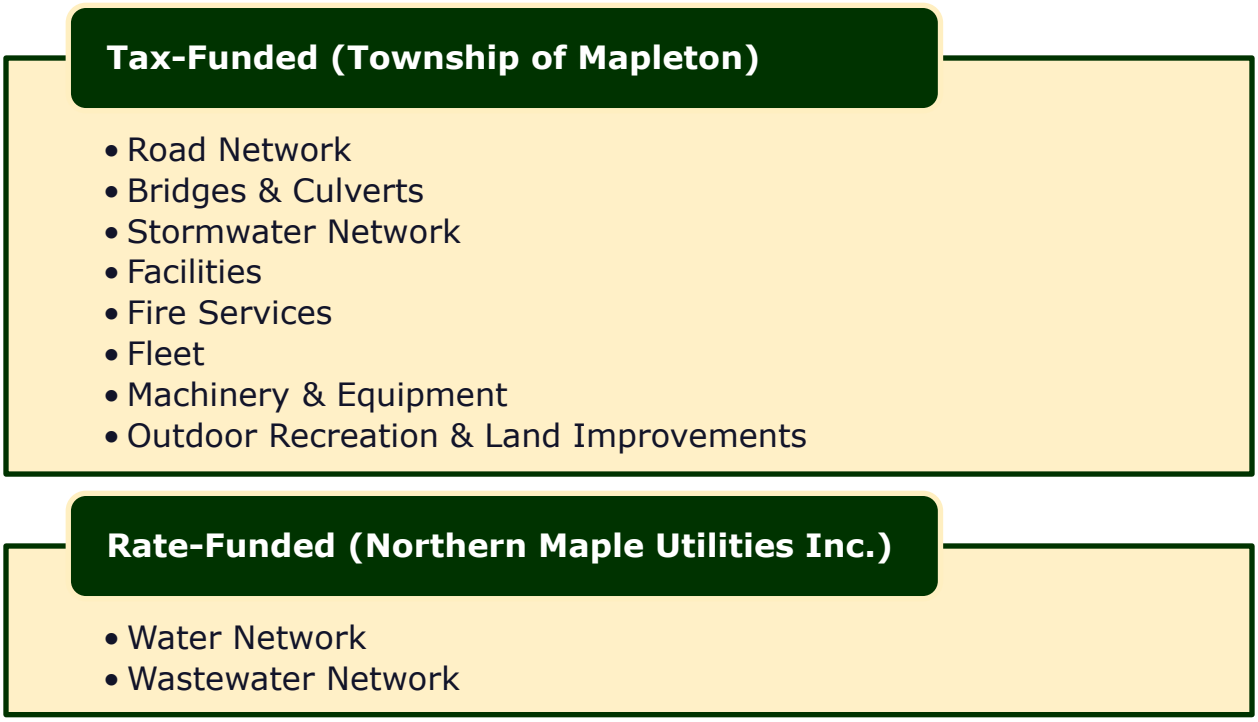


Figure 7 Tax Funded & Rate Funded Asset Categories

2.4.2 Northern Maple Utilities Inc.

Northern Maple Utilities Inc. (NMU) is a municipally owned services corporation (MSC) established by the Township of Mapleton under Section 203 of the Municipal Act and Ontario Regulation 559/06. The corporation was created to support the Township in delivering safe, sustainable, and financially responsible water and wastewater services. Although the organizational transition to NMU is underway, all water and wastewater assets continue to be recorded as Township-owned assets for the purposes of this Asset Management Plan (AMP). The Township remains the full owner and sole shareholder of NMU, and continues to oversee service delivery through a skills-based Board of Directors appointed by Council.

The incorporation of NMU in 2025 followed several years of examination into alternative financing and delivery models for major utility infrastructure. Through work completed with Graham Capital, the Township explored how to ensure long-term affordability and sustainability for significant water and wastewater projects. NMU was formally created in spring 2025, with the intent that operational responsibilities and financial management for these assets would transition into the corporation over time. While the assets and liabilities associated with the water and wastewater systems are planned to be transferred to NMU, this process has not yet been fully implemented from an accounting and asset management perspective. As a result, the infrastructure portfolio remains under the Township's asset registry for this AMP cycle.

NMU is operating with a clear mandate to manage the water and wastewater systems on behalf of the Township, including treatment facilities, pumping stations, forcemains, gravity sewers, water distribution mains, and related infrastructure. Significant capital investments are already planned or underway, including wastewater treatment upgrades, forcemain twinning, improvements to the Drayton wastewater pumping station, enhancements to the Moorefield water system, gravity sewer replacements, and distribution network upgrades. These projects represent more than $40 million in planned investment and are targeted at supporting growth, improving capacity, meeting regulatory requirements, and providing long-term system resilience.

For the current plan, NMU's activities, capital projects, and operational responsibilities are integrated into the Township's asset management framework to maintain compliance with Ontario Regulation 588/17. This includes alignment with Township-wide risk assessments, lifecycle strategies, and long-term financial projections. However, recognizing the ongoing transition to the MSC model, future iterations of the Asset Management Plan will introduce a more defined structure to reflect NMU's growing operational autonomy.

Beginning with the next AMP cycle, the Township intends to separate the planning and reporting for water and wastewater infrastructure into a dedicated AMP for NMU-managed assets, once the ownership and accounting transfer is complete. At the same time, a Township-only AMP will be developed to focus exclusively on municipally retained asset groups such as roads, bridges, stormwater systems, fleet, facilities, and parks. This two-document structure will provide clearer accountability, align financial and operational planning with the MSC governance model, and support more transparent reporting to Council, regulators, and ratepayers.

2.4.3 Data Effective Date

It is important to note that this plan is based on data as of **December 31, 2024**; therefore, it represents a snapshot in time using the best available processes, data, and information at the Municipality. Strategic asset management planning is an ongoing and dynamic process that requires continuous data updates and dedicated data management resources.

2.4.4 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.

2.4.5 Estimated Useful Life & Service Life Remaining

The estimated useful life (EUL) of an asset refers to the total period during which The Township expects the asset to be available for use and remain in service before requiring replacement or disposal. It represents the asset's lifespan based on industry standards, historical data, and municipal expertise. In contrast, the service life remaining (SLR) indicates how much of the EUL is left at a given point in time, calculated primarily based on the asset's age. However, when additional data is available, factors such as condition assessments and actual usage patterns can be incorporated to refine the estimate, providing a more accurate forecast of when the asset may require replacement. This allows for a proactive approach to asset management, ensuring timely interventions and optimal resource allocation. The SLR is calculated as follows:

Figure 8 Service Life Remaining Calculation

2.4.6 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.

The actual reinvestment rate represents the percentage of the asset portfolio's total replacement cost that The Township is currently investing in renewal or replacement on an annual basis. The target reinvestment rate reflects the percentage that should be invested each year to ensure assets are maintained at an appropriate condition level, considering lifecycle needs and long-term sustainability.

By comparing the actual vs. target reinvestment rate, The Township can determine the extent of any existing funding gap and assess whether current investment levels are sufficient to prevent infrastructure deficits. The reinvestment rate is calculated as follows:

Figure 9 Target Reinvestment Rate Calculation

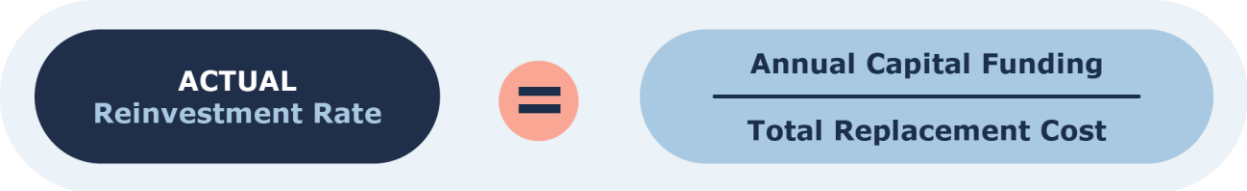


Figure 10 Actual Reinvestment Rate Calculation

2.4.7 Deriving Asset Condition

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

Table 4 Standard Condition Rating Scale

Condition	Description	Criteria	SLR (%)
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

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.

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.

Condition vs. Suitability

It is important to note that condition is only one aspect of determining an asset's suitability to providing the service intended. Other factors, such as capacity, should be considered on a category level.

For example, the Town Hall Office Facility may be in good condition with sufficient service life remaining, but it only has office space for 20 employees. If the municipality requires office space for 30 employees, solutions should be considered which may include replacement amongst other alternatives such as secondary office

space, remote work options, etc. As these considerations are nuanced for the specific asset, suitability factors may not be directly addressed as part of this Asset Management Plan.

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 11 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

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

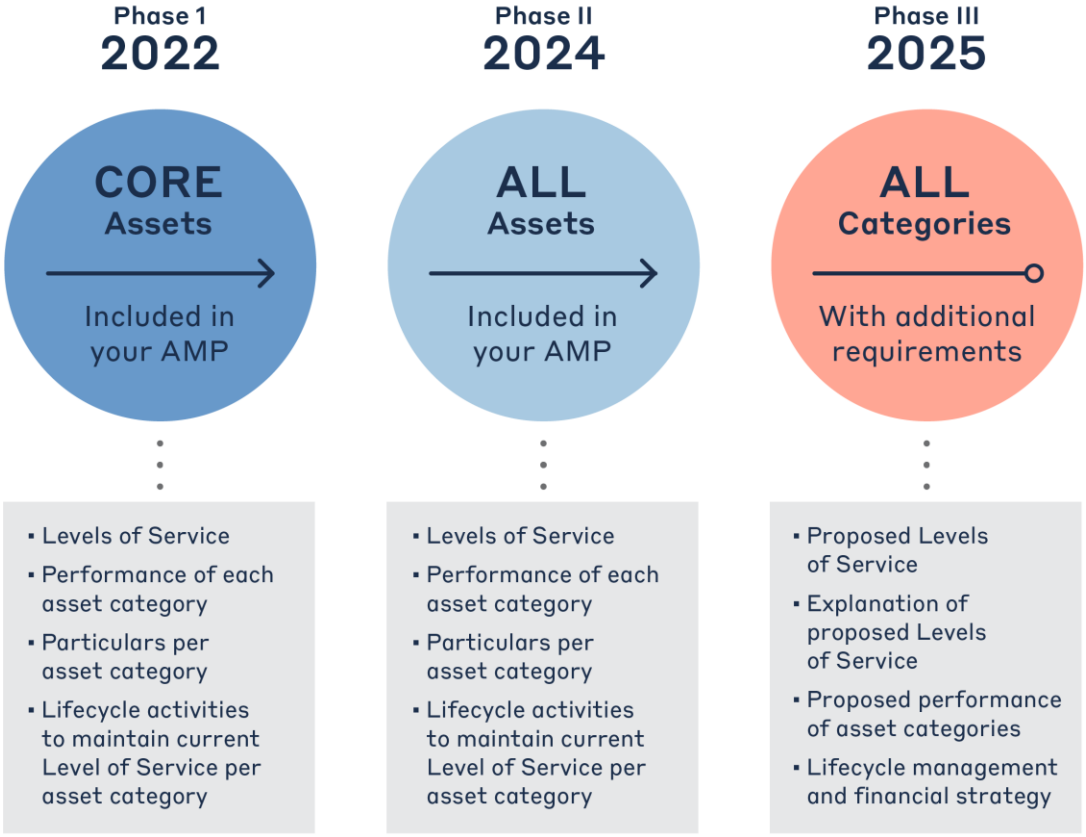


Figure 11 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

Ontario Regulation 588/17 - Asset Management Planning for Municipal Infrastructure establishes mandatory requirements for municipalities to develop and maintain asset management plans that align with regulatory timelines. The regulation emphasizes the importance of evaluating and documenting both current and proposed levels of service while ensuring that municipalities adopt long-term lifecycle and financial strategies to support infrastructure sustainability.

The Township of Mapleton's 2025 Asset Management Plan has been prepared in full compliance with the July 1, 2025, regulatory deadline, ensuring that all required components are included. This section provides an overview of compliance against the key regulatory requirements.

Portfolio Overview – State of the Infrastructure

The state of the infrastructure (SOTI) analysis in this AMP includes:

- A detailed inventory of core and non-core asset categories.
- Condition assessment data and, where unavailable, age-based estimates as a proxy.
- Replacement cost estimates using the latest available data.
- Asset hierarchy and classification structures to support strategic decision-making.

This ensures compliance with O. Reg. 588/17's requirements for asset inventory documentation.

Current & Proposed Levels of Service

The AMP evaluates current levels of service (LOS) across all asset categories, measuring both:

- Community Levels of Service (CLOS): Qualitative descriptions of how infrastructure assets contribute to service delivery.
- Technical Levels of Service (TLOS): Quantitative metrics such as asset condition, reinvestment rates, and regulatory compliance.

For core assets, including roads, bridges, structural culverts, and stormwater infrastructure, the AMP provides both regulatory-mandated technical metrics and additional performance indicators tailored to Mapleton's needs.

The proposed levels of service reflect a balance between:

- Community expectations and feedback from public engagement.
- Financial capacity and sustainable funding strategies.
- Risk assessments and long-term infrastructure planning.

This meets O. Reg. 588/17's requirement for municipalities to establish target service levels for the next 10 years and outline a path to achieving them.

Lifecycle Management Strategies

The AMP outlines asset lifecycle strategies to extend asset service life and optimize costs. This includes:

- Preventive maintenance strategies for key assets.
- Rehabilitation and renewal schedules based on asset deterioration models.
- Integration of condition assessment data into decision-making.

By documenting these lifecycle strategies, The Township ensures compliance with the requirement to analyze and optimize asset lifecycle costs.

Financial Strategy & Sustainable Funding

The financial strategy evaluates:

- The total annual capital reinvestment required ($11.9M).
- The current reinvestment rate (0.98%), which highlights an existing funding gap.
- Funding strategies to close the gap and ensure long-term sustainability.

Mapleton's AMP includes a structured approach to financial planning, ensuring that funding needs align with service expectations. This satisfies the requirement to establish a financial strategy that supports infrastructure sustainability.

Risk & Climate Change Considerations

The AMP integrates risk-based asset management by:

- Conducting a risk assessment that prioritizes critical assets.
- Identifying climate-related risks (e.g., flood resilience, extreme weather events).
- Recommending adaptation strategies to mitigate infrastructure vulnerabilities.

This aligns with the requirement under O. Reg. 588/17 to consider risk and climate change impacts in asset planning.

The Township of Mapleton's 2025 AMP has been developed in accordance with O. Reg. 588/17 requirements. It provides a comprehensive evaluation of infrastructure conditions, proposed levels of service, lifecycle strategies, financial planning, and risk considerations. Through this plan, Mapleton ensures compliance while adopting best practices for asset management and long-term sustainability.

3. Portfolio Overview – 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 12 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The ten asset categories analyzed in this Asset Management Plan have a total current replacement cost of $548 million. This estimate was calculated using user-defined costing, as well as unit costs derived from the most recent projects. This estimate reflects replacement of historical assets with like-for-like assets available for procurement today. Figure 13 illustrates the replacement cost of each asset category; at 47% of the total portfolio, the road network forms the largest share of The Township's asset portfolio, followed by bridges & culverts at 21%.

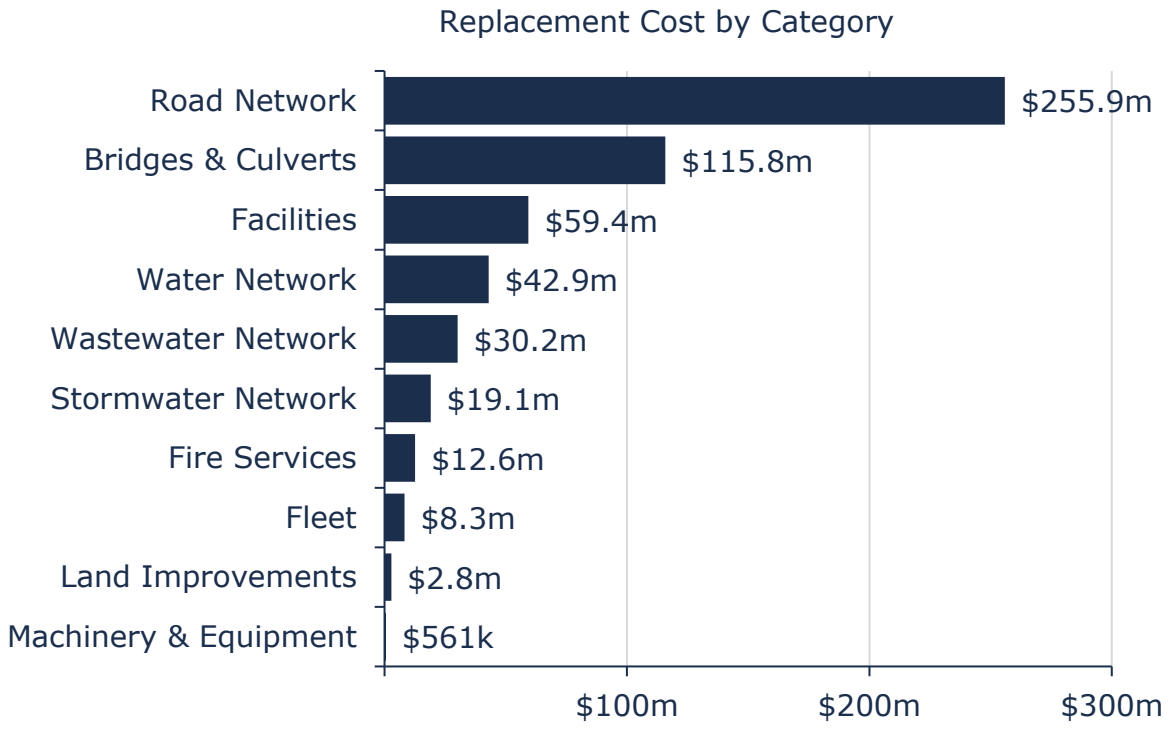


Figure 13 Current Replacement Cost by Asset Category

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 $11.9 million, for a target portfolio reinvestment rate of 2.18%. Currently, the annual investment from sustainable revenue sources is $5.4 million, for a current portfolio reinvestment rate of 0.98%. Target and current re-investment rates by asset category are detailed below.

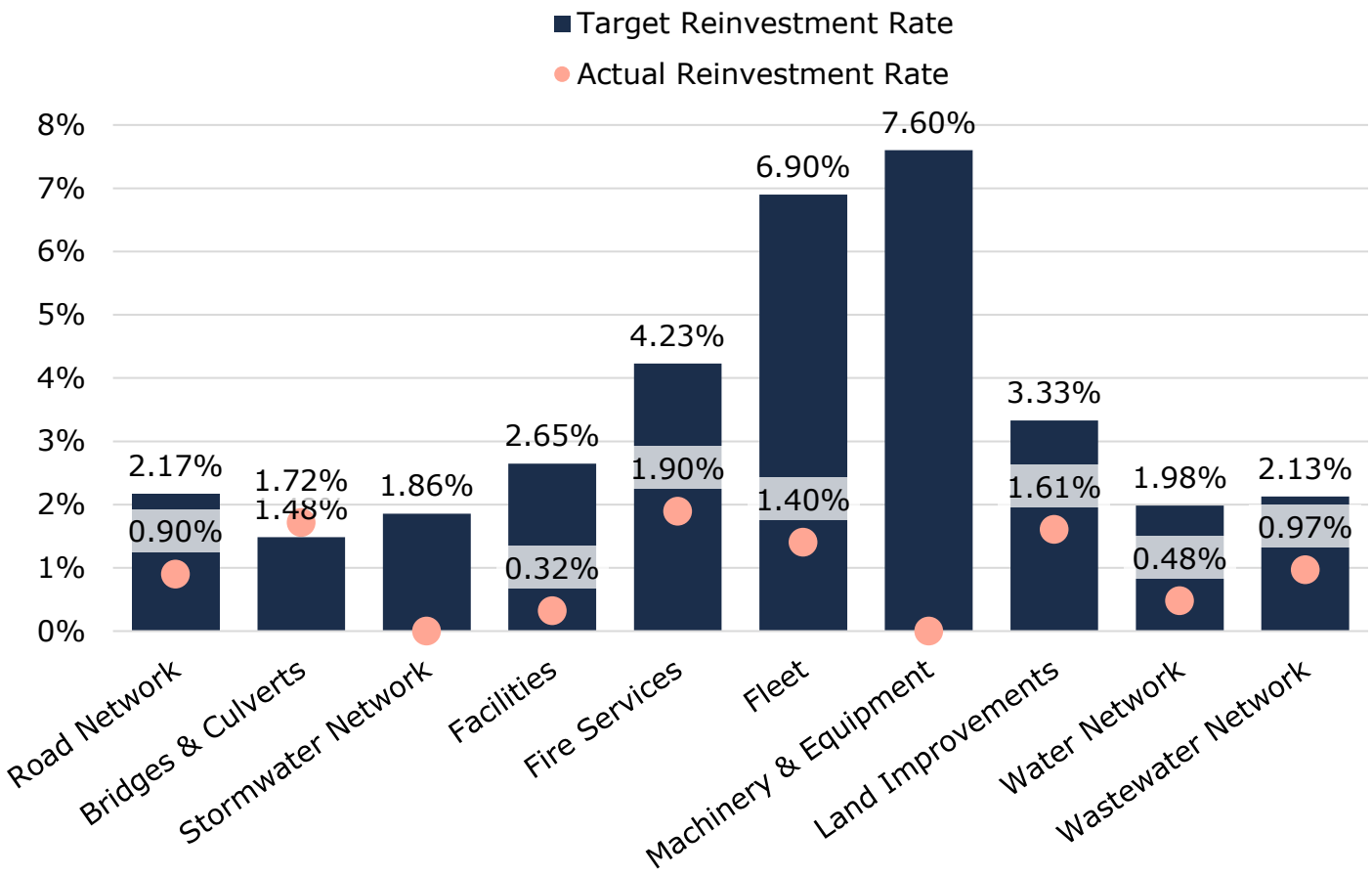


Figure 14 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

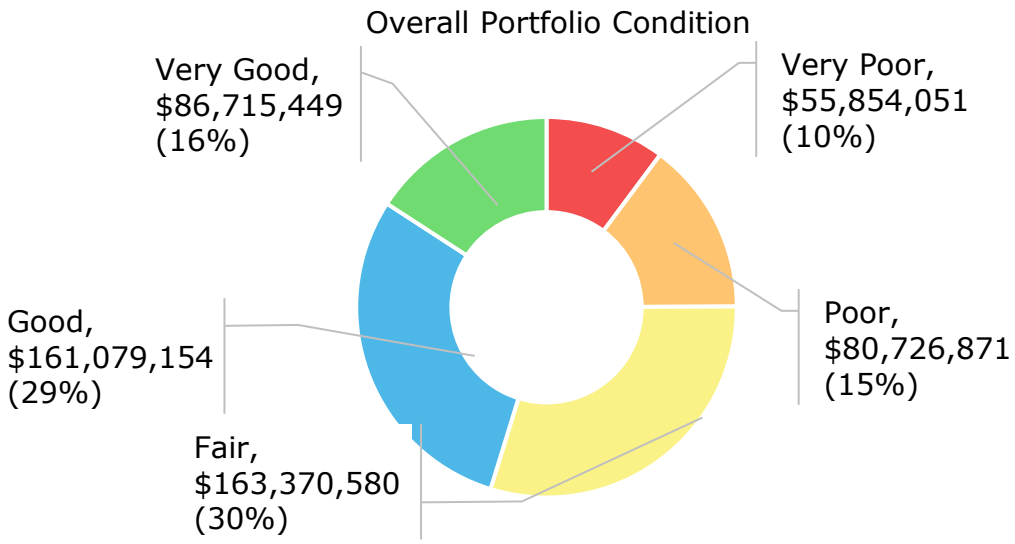
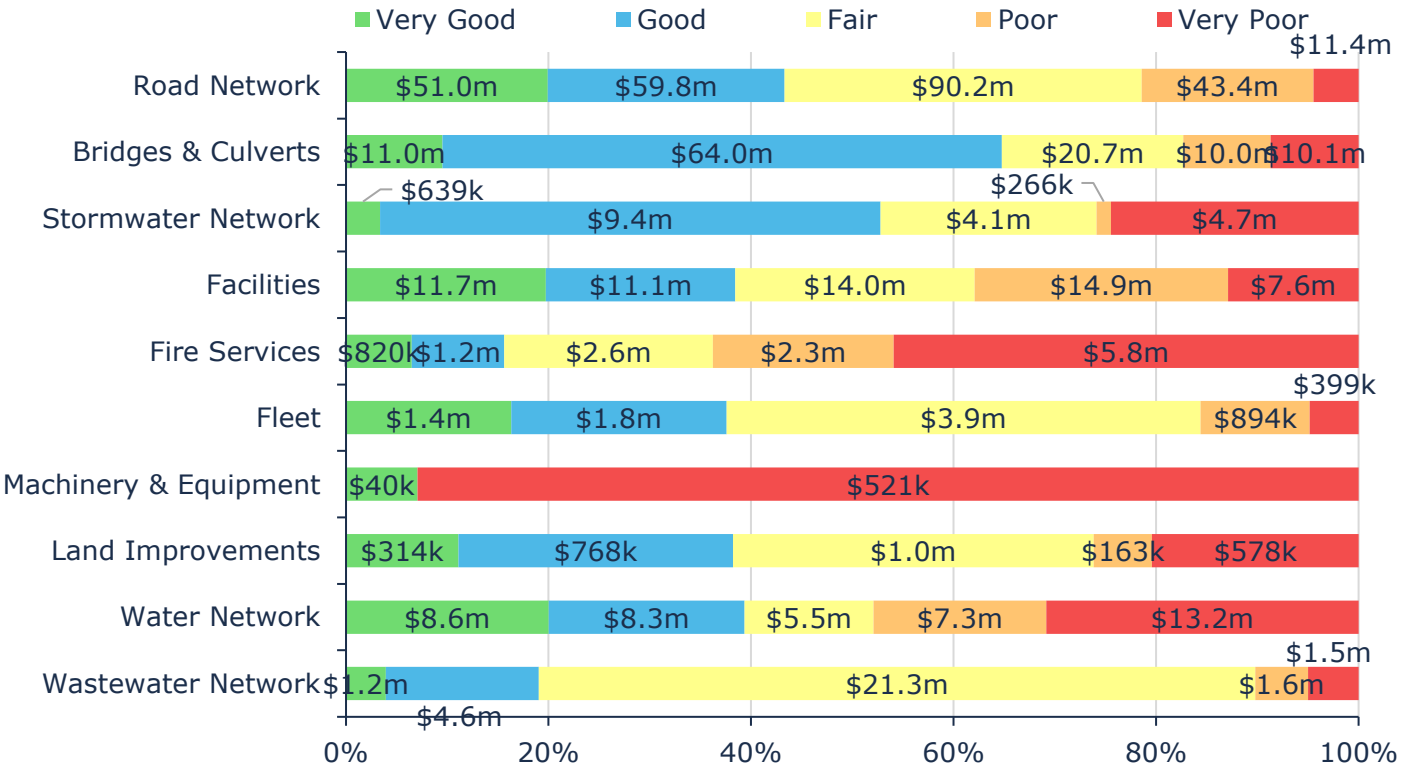


Figure 15 Asset Condition: Portfolio Overview



Value and Percentage of Asset Segments by Replacement Cost

Figure 16 Asset Condition by Asset Category

Figure 15 and Figure 16 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed conditions and age-based analysis, 75% of The Township's infrastructure portfolio is in fair or better condition, with the remaining 25% in poor or very poor 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 the majority of the asset categories. For categories without assessments, age was used as an approximation of condition. Age-based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

Source of Condition Data

This AMP relies on assessed condition for 81% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Table 5: Source of Condition Data

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	Paved Roads	100%	Roads Needs Study by GM BluePlan (2023-2024)
	Traffic Signs	83%	Advantage Data Collection (2024)
	All other	0%	Age-based
Bridges & Culverts	Bridges	100%	OSIM (2022)
	Culverts (>3m)	100%	OSIM (2022)
	Culverts (<3m)	0%	Age-based
Water Network	Drayton Drinking Water System	62%	CIMA+ (2021)
	Moorefield Drinking Water System	46%	
	All Other	0%	Age-based
Stormwater Network	Manholes	100%	Staff (2022)
	SWM Ponds	36%	
	All Other	0%	Age-based
	Force Mains	100%	CIMA+ (2021)
	Drayton Sewage Pumping Station	86%	Roth IAMS Ltd. (2023)
	Mapleton Wastewater Treatment Plant	98%	& CIMA+ (2021)
	Moorefield Sewage Pumping Station	78%	CIMA+ (2021)
Fire Services	Fire Facilities	100%	Roth IAMS Ltd. (2023)
	Fire Fleet	2%	Staff (2025)

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Facilities	Administration & Other	99%	Building Condition Assessments by Roth IAMS Ltd. (2023)
	Cemetery Services	80%	
	Public Works	99%	
	Recreation & Culture	99%	
Land Improvements	Fields & Courts	8%	Roth IAMS Ltd. (2023)
	Picnic Shelters & Concession Booths	97%	
	Playgrounds & Play Structures	73%	
	Washrooms	100%	
Fleet	Administration & Other	41%	Staff (2025)
	Cemetery Services	83%	
	Public Works	91%	
	Recreation & Culture	92%	
Machinery & Equipment	All assets	0%	Age-based

3.2.4 Risk Matrix

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

1 - 4 Very Low $88,651,898 (16%)	5 - 7 Low $136,646,894 (25%)	8 - 9 Moderate $68,586,947 (13%)	10 - 14 High $178,878,113 (33%)	15 - 25 Very High $74,738,060 (14%)

Figure 17 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 14% of The Township's assets, with a current replacement cost of approximately $75 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 was determined to be low based on the attributes used and the data available.

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

3.2.5 Forecasted Capital Requirements

Aging infrastructure assets require ongoing maintenance, rehabilitation, and eventual replacement. Figure 18 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements across all asset categories analyzed in this AMP over a 145-year time horizon. On average, approximately $11.9 million is required annually to remain current with capital replacement needs for The Township's asset portfolio. This benchmark, represented by the red dotted line, serves as a guide for setting annual capital expenditure targets or allocating funds to reserves to prevent deferred maintenance and ensure timely asset replacement. While actual spending may fluctuate significantly due to varying infrastructure renewal cycles, this figure provides a reference point for sustainable financial planning.

The forecasted capital requirements show periods of heightened investment needs, particularly in 2085–2089 ($66.4 million), 2090–2094 ($112.0 million), 2095–2099 ($109.3 million), and 2100–2104 ($88 million). Road network assets account for the majority of capital expenditures, with bridges and culverts, facilities, and stormwater networks representing significant secondary contributors. The analysis relies on asset age and available condition data to project future needs, highlighting the importance of proactive asset management strategies to smooth funding requirements and prevent financial strain during peak investment periods.

The chart also highlights a backlog of approximately $12.7 million, representing assets that have exceeded their estimated useful life but remain in service. While not all of these assets necessarily require immediate replacement, their continued use underscores the importance of targeted and consistent condition assessments. Expanding these assessments will help differentiate between assets in critical condition and those that can remain operational with maintenance or rehabilitation. A proactive approach incorporating risk frameworks, lifecycle strategies, and levels of service targets will allow for more effective prioritization of projects and refinement of both backlog and long-term capital needs.

To support long-term financial sustainability, it is important to distinguish between the Township's average annual requirements and its 10-year capital requirements. The average annual requirement represents the steady-state level of investment needed each year to sustainably replace assets over their full lifecycle—approximately $11.9 million per year for the Township. This figure smooths out the natural peaks and valleys of infrastructure renewal cycles and serves as a long-term funding benchmark for budgeting and reserve contributions. In contrast, the 10-year capital requirements reflect the actual timing of renewals based on the current age, condition, and lifecycle stage of individual assets. These needs fluctuate significantly from year to year and are often higher than the long-term average when large asset classes—such as roads, bridges, or facilities—reach end-of-life at the same time. By understanding both the stable long-term investment target and the more variable near-term needs, the Township can better anticipate funding pressures, manage risk, and plan proactively for upcoming infrastructure renewal demands.

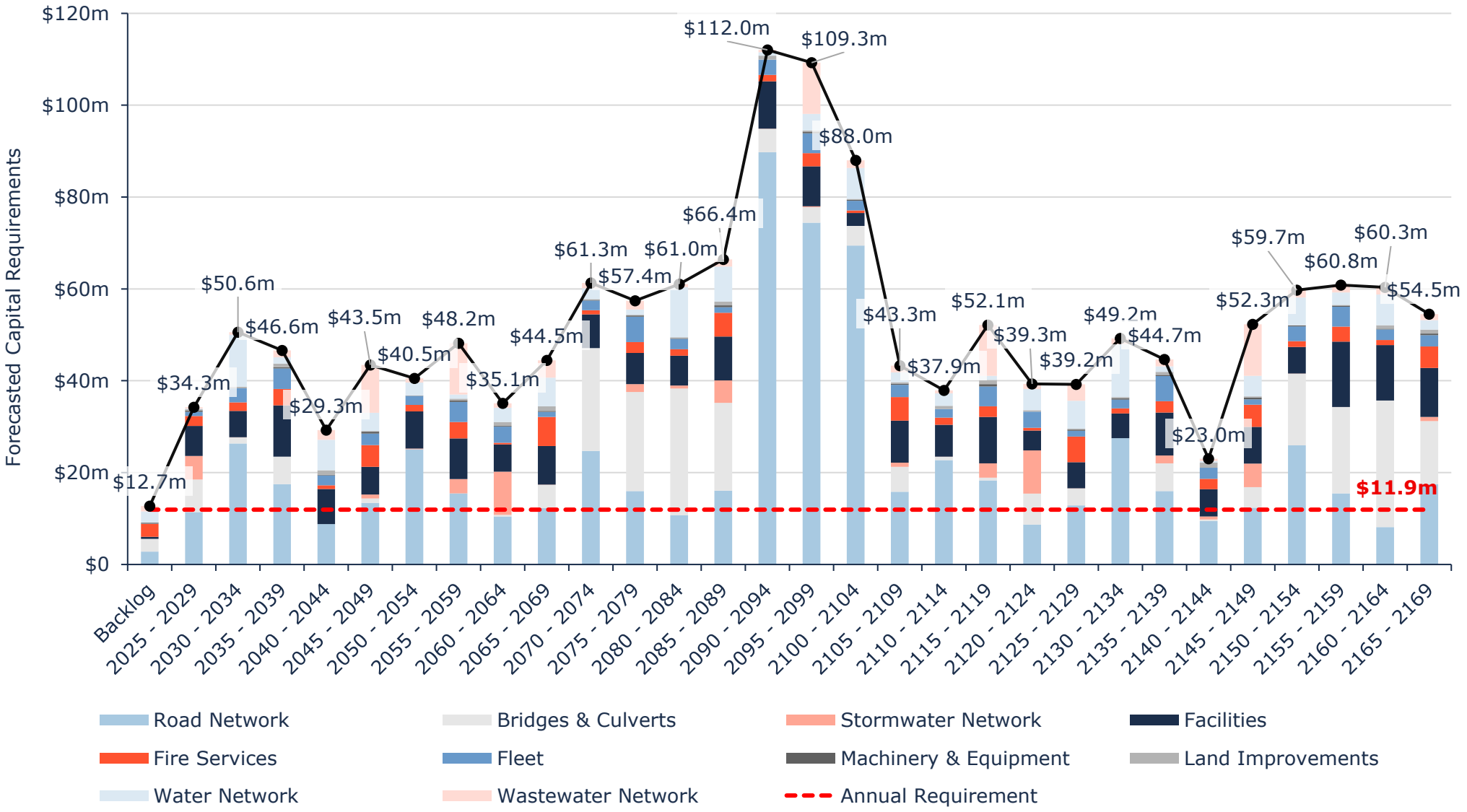


Figure 18 Capital Replacement Needs: Portfolio Overview 2025-2169.

Core Assets

4. Road Network

The Township is responsible for ensuring the safe, reliable, timely and cost-effective movement of goods, services, people and businesses in a sustainable manner. The road network forms the backbone of the local economy and quality of life by enabling access to markets, promoting business growth and supporting employment. As the largest asset category by replacement value, the road network including roads, sidewalks, traffic signs, signals, streetlights and pavement markings requires effective asset management to maintain its safety, functionality and long-term serviceability.

4.1 Inventory & Valuation

Table 6 summarizes the quantity and current replacement cost of the Township's various Road Network assets as managed in its primary asset management register, citywide.

Table 6: Detailed Asset Inventory: Road Network

Segment	Quantity	Unit of Measure	Replacement Cost (RC)	Primary RC Method
Paved Roads	209,013	Meters	$247,490,593	CPI
Sidewalks	18,353	Meters	$4,298,589	User-Defined
Streetlights	546	Assets	$3,341,422	User-Defined
Traffic Signs	1,546	Assets	$734,093	Cost per Unit
Earth Roads[2]	10,008	Meters	N/A	N/A
Gravel Roads[3]	155,862	Meters	N/A	N/A

[2] Not planned for replacement.

[3] Not planned for replacement.

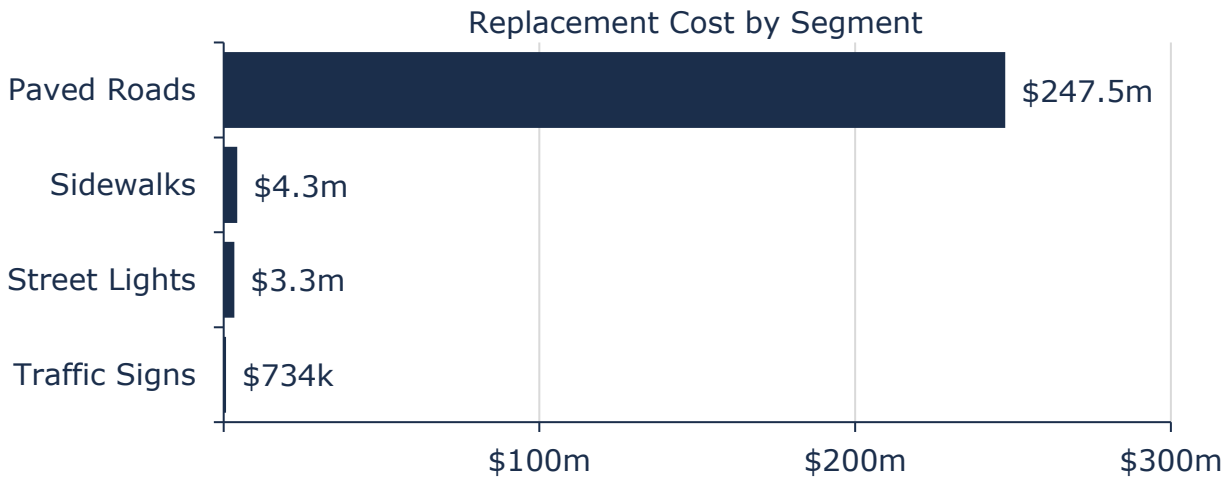


Figure 19: Road Network: Portfolio valuation by Segments

4.2 Asset Condition

Figure 20 summarizes the replacement cost-weighted condition of The Township's Road Network. Based on field inspection data primarily, 78% of assets are in fair or better condition; the remaining 22% of assets are in poor to very poor condition. Based on the total replacement cost of each asset category, condition assessments were completed for all of paved roads, and 83% of traffic lights. 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.

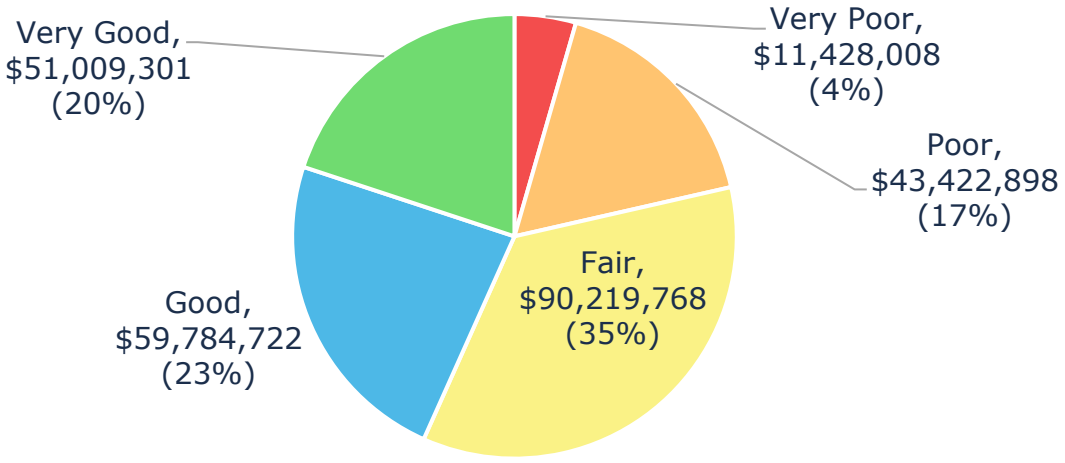


Figure 20 Asset Condition: Road Network Overall

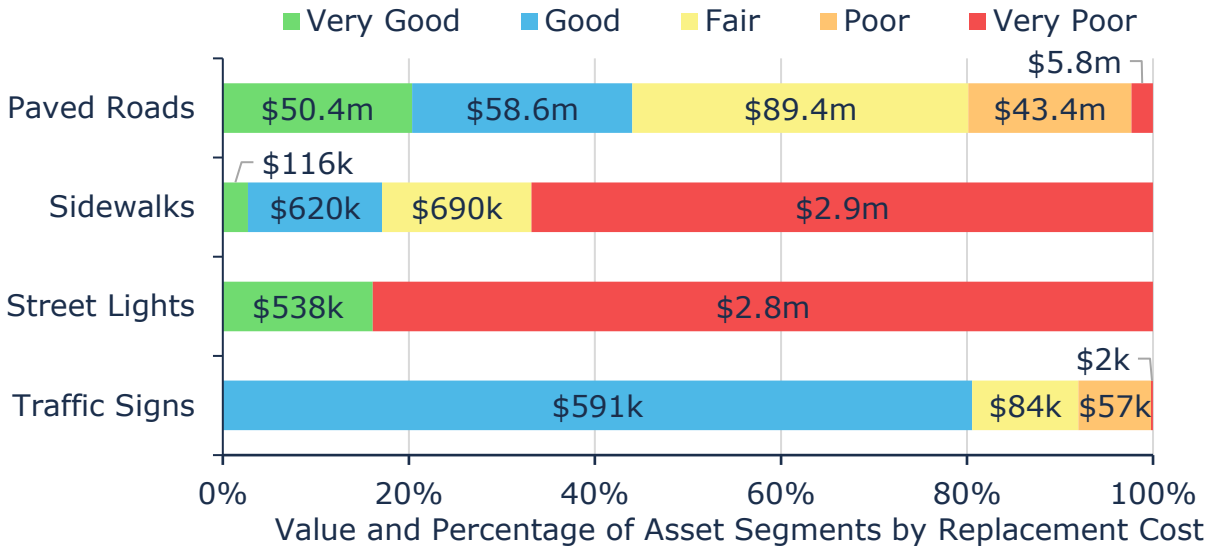


Figure 21 Asset Condition: Road Network by Segment

Figure 21 reveals a contrast in the condition of Road Network assets. While paved roads and traffic signs are mostly in fair or better conditions, a significant portion of sidewalks and streetlights are rated poor or very poor.

4.3 Age Profile

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

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

Figure 22 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

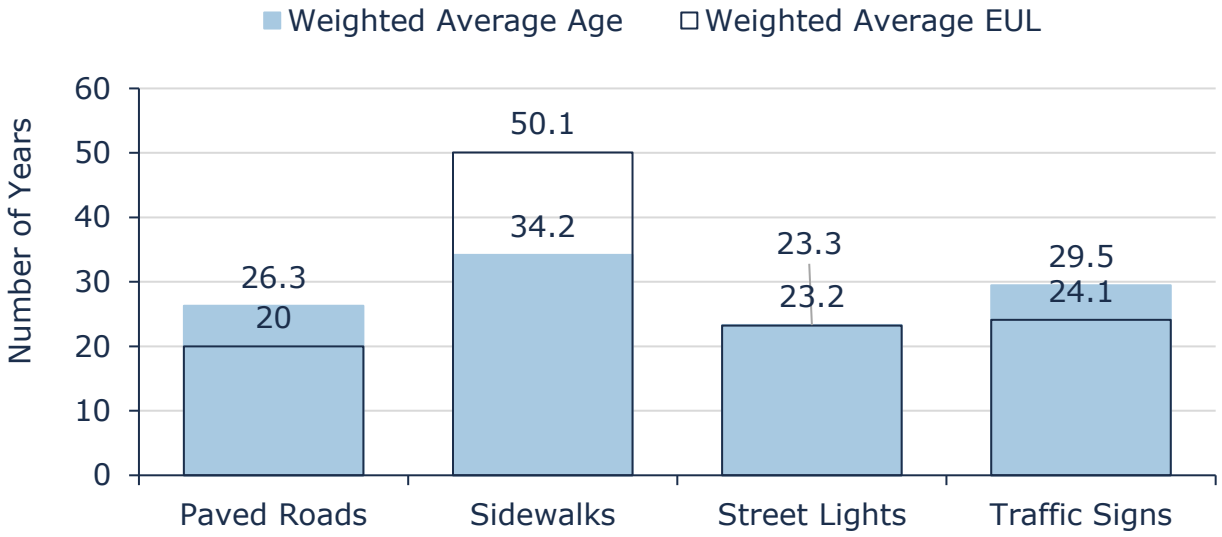


Figure 22 Estimated Useful Life vs. Asset Age: Road Network

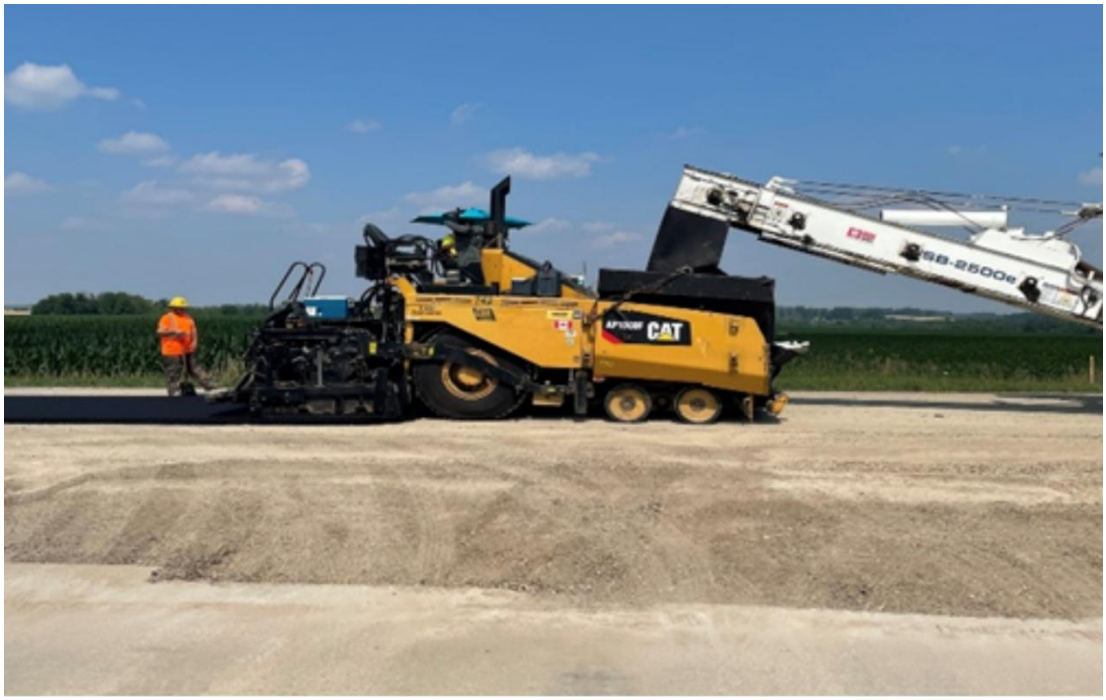
Age analysis reveals that all road network assets except for sidewalks have exceeded their expected useful lives. Sidewalks are currently well within their expected useful lives.

With the current and proposed lifecycle management strategies, the useful lives of paved & unpaved roads can be extended well beyond their expected useful lives because of rehabilitation events.

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

4.4 Current and Proposed Approach to Lifecycle Management

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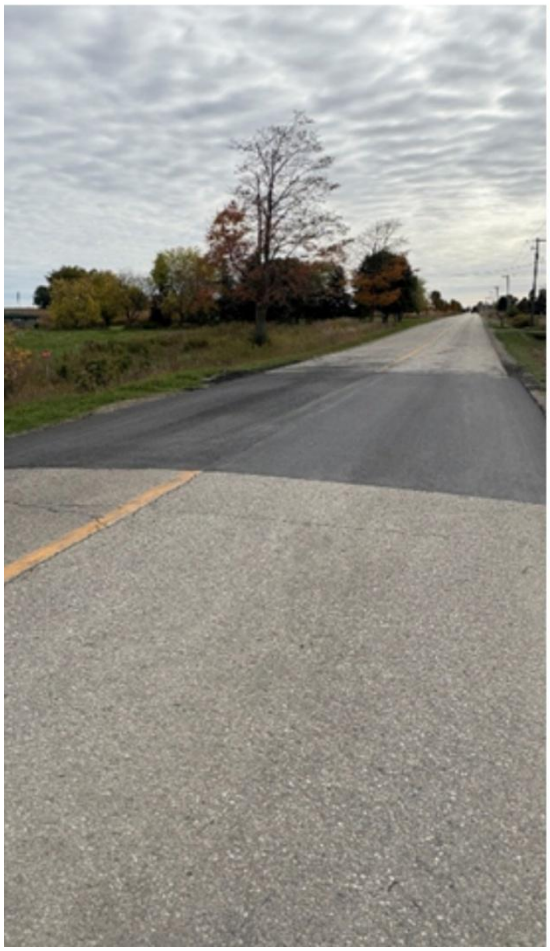


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4.4.1 Current Lifecycle Management Activities

The following table expands on maintenance and inspection activities for Road Network assets.

Table 7: Lifecycle Management Strategy: Road Network

Activity Type	Description of Current Strategy
Inspections	• The latest Roads Needs Study was conducted by GM Blue Plan Engineering in 2023-2024 period. • Engineering and traffic-related studies are conducted to predict and analyze traffic volumes.
Maintenance	• Pavement: Maintenance activities include patching potholes and cracks in asphalt, sweeping paved intersections, and controlling dust with magnesium chloride. • Gravel Roads: Activities include applying new gravel, grading and compacting it, and repairing washouts caused by heavy rain. • Shoulders and Roadsides: This includes building up gravel shoulders, mowing roadsides to improve visibility and control weeds, removing hazardous trees, cutting brush, and picking up debris. • Other: Dead animal removal and coordinating roadside cleanup through programs like "Adopt-a-road" are also considered maintenance.
Rehabilitation	• Resurfacing: This is a treatment applied early in the pavement's useful life, which involves removing and replacing the top layer of asphalt when surface cracking begins to expand. Crack sealing and micro-resurfacing can also be done prior to this. • Minor Reconstruction: When cracking is more extensive, both layers of asphalt (wearing surface and base asphalt) are removed and replaced. • Hot Mix Patches: A more extensive asphalt repair than cold mix or smaller pothole repairs.
Replacement	• This is typically done when the pavement cannot be resurfaced due to extensive wear, and it is often combined with work on underlying pipe infrastructure. • Underground Utilities: Rehabilitation and reconstruction treatments for pavement assets also provide an opportunity to renew other assets, such as underground utilities.

4.4.2 Proposed Lifecycle Management Strategies

The following lifecycle strategies have been developed as a proactive approach to managing the lifecycle of paved & unpaved roads within the Township. Instead of allowing the roads to deteriorate until replacement is required, strategic rehabilitation is expected to extend the service life of roads at a lower total cost.

Table 8: Lifecycle Management Strategy: Paved Roads

Paved Roads		
Event Name	**Event Class**	**Event Trigger**
PR1: Pulverize & Single Lift Hot Mix Overlay	Rehabilitation	10-10 Condition
End of life replacement	Replacement	0 Condition

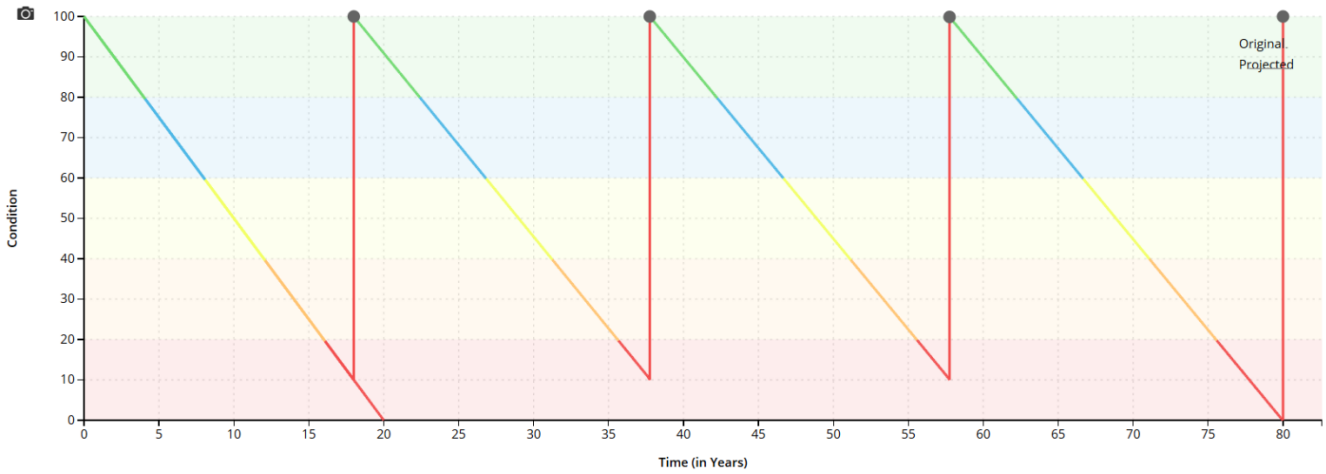


Table 9: Lifecycle Management Strategy: Gravel Roads

Paved Roads		
Event Name	**Event Class**	**Event Trigger**
Grading	Maintenance	50-50 Condition
Grading and Gravel	Rehabilitation	20-20 Condition
Maintenance Gravel	Maintenance	Every 2 years

4.5 Forecasted Long-Term Replacement Needs

Figure 23 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for The Township's Road 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 $5.6 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 moderate to substantial capital needs throughout the forecast period. It also shows a backlog of $2.8 million, dominated by streetlights[4]. 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.

[4] The streetlight backlog maybe inflated due to outdated inventory data. All cobra-head fixtures were replaced in 2015, yet the current inventory still lists 1998 as the installation year. This will be reviewed and updated in the next iteration of the Asset Management Plan.

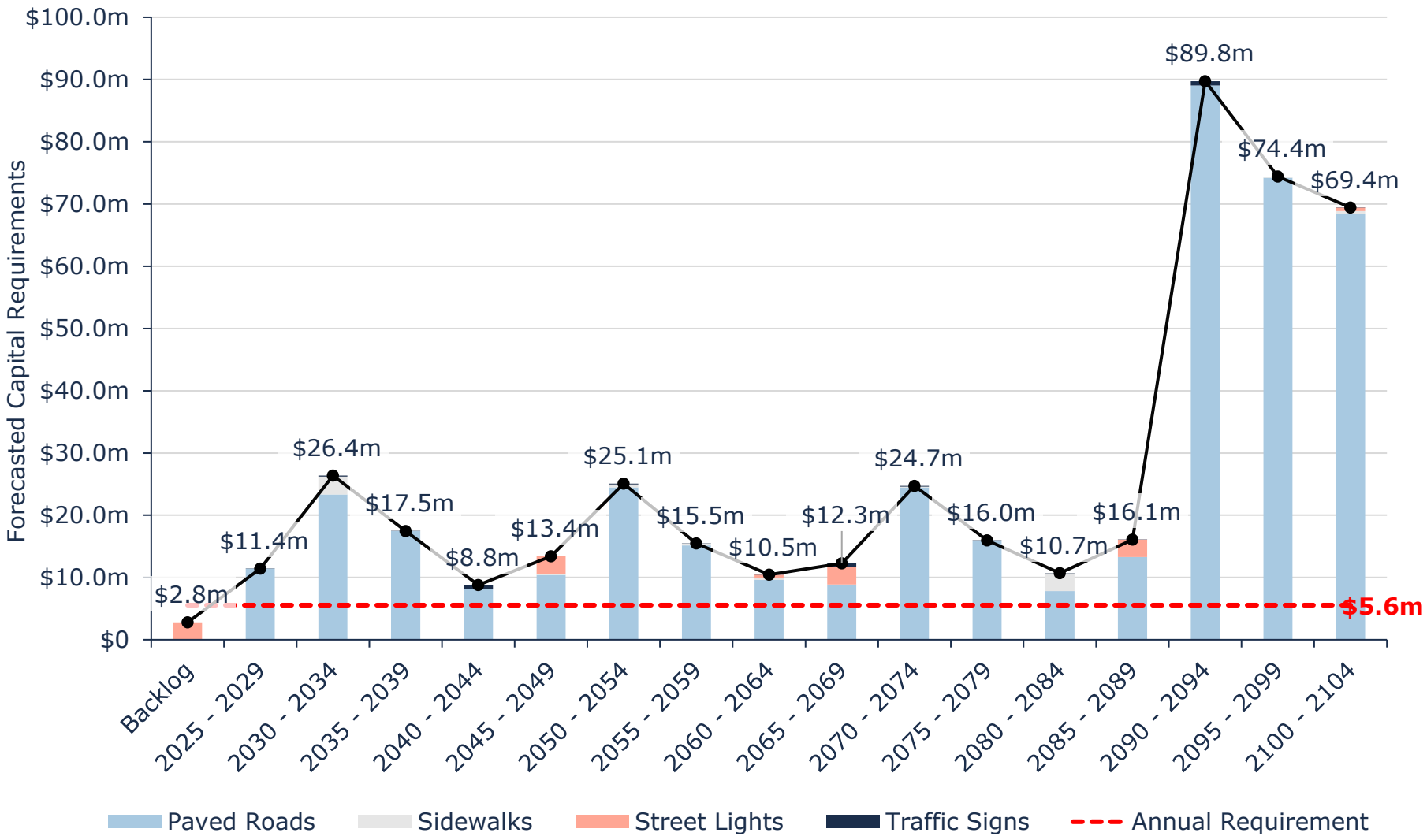


Figure 23 Forecasted Capital Replacement Needs: Road Network 2025-2104

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 pavement condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

A detailed 10-year capital replacement forecast can be found in Appendix A – 10-Year Capital Requirements.

4.6 Risk Analysis

The risk matrix below is generated using available asset data, including condition, surface material, fill pot holes (maintenance data), traffic data, speed and replacement cost. 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.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$19,314,503 (8%)	$88,032,725 (34%)	$38,679,150 (15%)	$77,307,994 (30%)	$32,530,324 (13%)

Figure 24 Risk Matrix: Road Network

4.6.1 Risk to Current Asset Management Strategies

Asset Data Confidence

Low confidence in some data poses a risk to informed decision-making, particularly with data for paved and earth roads being rated differently than that for gravel roads.

Aging Infrastructure

The overall fair condition of road assets indicates that aging infrastructure is a key challenge that requires continued funding for replacement.

Infrastructure Re-investment

Inadequate funding is a major challenge for the roads team, hindering the ability to increase the pavement condition index and prevent asset deterioration.

Other

Ensuring regulatory compliance with load restrictions, which are governed by the Highway Traffic Act, is a continuous challenge.

4.7 Levels of Service

The Township's Road Network is maintained to provide a safe and efficient means of transportation. The network is inspected in accordance with the Minimum Maintenance Standards for Municipal Highways, wherein the Provincial Government mandates the frequency of the inspection of roads based on traffic volume and posted speed limits. Roads with higher volumes and higher speed limits are required to be inspected more frequently. The inspection evaluates the existence of shoulder drop offs, cracks, and pavement surface discontinuities that would compromise the driving ability on the road section at the posted speed limit. Once a defect has been identified, the MMS prescribes the maximum time for repair based on the traffic volume and posted speed limit.

4.7.1 Community Levels of Service

Table 10: O. Reg. 588/17 Community Levels of Service: Road Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description, which may include maps of the road network in the municipality and its level of connectivity.	Appendix B
Quality	Description or images that illustrate the different levels of road class pavement condition.	Appendix B

4.7.2 Technical Levels of Service

Table 11: O. Reg. 588/17 Technical Levels of Service: Road Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Number of lane-kilometers of paved road as a proportion of square kilometers of land area of the municipality.	0.8
	Number of lane-kilometers of gravel road as a proportion of square kilometers of land area of the municipality.	0.6
	Number of lane-kilometers of earthen road as a proportion of square kilometers of land area of the municipality.	0.04
Quality	For paved roads in the municipality, the average pavement condition index value	55 (Fair)
	For Gravel roads in the municipality, the average surface condition (e.g., excellent, good, fair or poor).	Good
	For earth roads in the municipality, the average surface condition (e.g., excellent, good, fair or poor).	Fair

4.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Road Network based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

4.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- Road maintenance and connectivity was the highest-ranked priority for future investment with a weighted average rating of 3.7 out of 5 stars.
- Of the respondents, 44.44% were satisfied with road conditions. A combined 33.34% expressed dissatisfaction (25.93% were dissatisfied and 7.41% were very dissatisfied).
- A total of 66.07% of respondents were willing to support an annual tax increase for roads. The most supported increase was a 0.5-1.0% annual increase, which was favored by 25.93% of respondents.

Staff Engagement Results

Feedback from municipal staff on the road network reveals a mixed perspective, with several positive aspects alongside clear challenges and opportunities for improvement. The Municipality's approach to road maintenance is largely effective, supported by a solid 10-year capital plan. Staff believe that current resources are adequate for maintaining the network. The existing distribution of paved and unpaved roads is considered appropriate, with a logical basis for road surface type determined by factors such as Annual Average Daily Traffic (AADT). The maintenance of gravel roads is particularly well-regarded, with programs for grading and calcium application described as exceptional. Reports indicate that road closures are infrequent and are primarily caused by accidents or reconstruction rather than poor infrastructure.

Despite these strengths, the primary challenge identified is a need for more funding to address specific issues. This financial constraint is a significant barrier to enhancing the condition of paved roads, which are currently rated as "Fair" and require continuous funding for replacement. Some staff members expressed that an ideal approach would involve more proactive measures, and that increased funding would accelerate the pace of road updates and rebuilding. Opportunities exist to enhance service levels by paving more unpaved roads, especially those with significant usage, to address safety concerns, reduce vehicle damage, and lower long-term maintenance costs. Other suggestions include improving sidewalk accessibility to downtown shops and implementing better tools to measure and report on KPI's in a timely manner to enhance performance management. A new Key Performance Indicator (KPI) was also suggested to track the percentage of the network with crack sealing over the past year.

4.7.3.2. Proposed Levels of Service Scenarios

The scenarios for the Road Network are analyzed using three funding models.

1. The Current Funding scenario is based on the current available funding.
2. The Optimal Budget scenario represents the average annual funding required to maintain or improve the network's condition, allowing for proactive asset management
3. The Recommended Budget scenario is a financial strategy designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase.

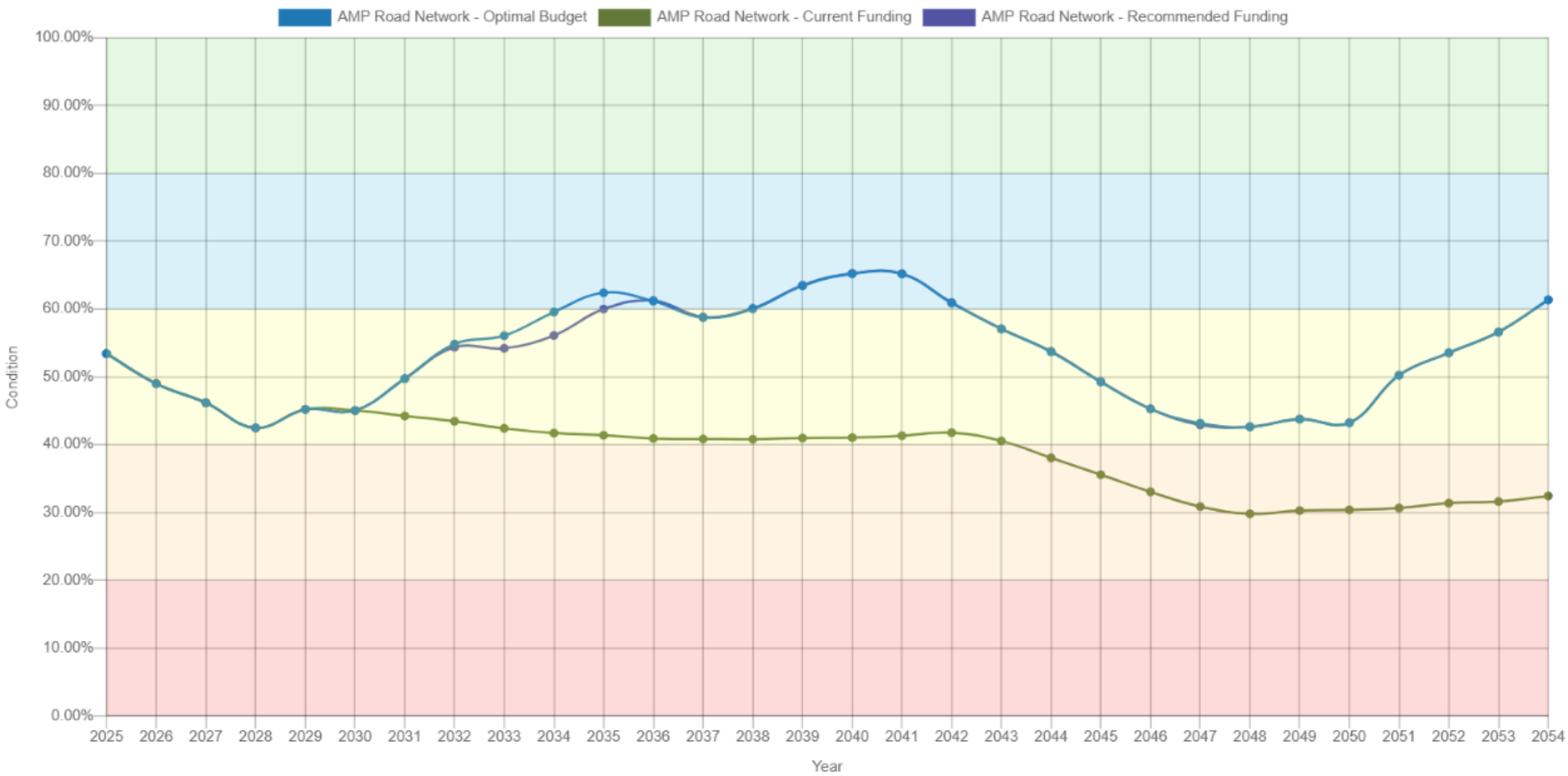


Figure 25: PLOS: Road Network - Current vs Optimal Budget vs Recommended Budget – 30-Year Forecast

Figure 25 compares current, optimal & recommended budget scenarios, and provide a forecast of corresponding average condition of road network assets.

1. Current Funding scenario shows a steady decline in the average condition of the road network, indicating a significant funding gap and a failure to meet desired service levels.
2. In contrast, the Optimal Budget scenario demonstrates a proactive strategy. With this level of investment, the road network's condition would remain within the *'fair'* range (above 40%) for most of the forecast period. This budget would allow the municipality to proactively manage assets and prevent significant deterioration.
3. The recommended budget, which includes a gradual tax increase, allows for a planned approach to managing the road network's condition. This financial strategy is designed to close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The impact on the average condition of the network is only slightly less than the optimal scenario for the next 30 years. Once the funding requirements are met, the recommended budget scenario has the same impact on the average condition as the optimal budget. This gradual increase allows the municipality to improve the road network's condition over time without an immediate and drastic financial impact on residents and businesses, ultimately reaching a sustainable level similar to the optimal budget.

4.7.3.3. Recommendations

Secure Sustainable Funding

Develop a financial strategy to increase funding for paved roads, which are currently rated as 'Fair'. Staff have indicated that more funding is required for continuous replacement and proactive maintenance. This is supported by public feedback, which ranked road maintenance as the highest priority for investment.

Proactive Maintenance

Implement more proactive measures to extend the life of equipment and assets. A new Key Performance Indicator (KPI) to track the percentage of the network with crack sealing over the past year could be used to ensure the sustainability of the road network.

Optimize Network Connectivity

Implement strategies to improve network connectivity and address critical bottlenecks to resolve the high dissatisfaction rate with traffic flow and congestion identified in public engagement results.

Continued Maintenance of Gravel Roads

Continue prioritizing the maintenance of gravel roads to uphold community satisfaction and service reliability, given that staff consider the current maintenance to be 'exceptional'.

4.7.3.4. Risk for Not Maintaining Acceptable LOS

Failing to maintain the levels of service for the road network carries several risks:

Financial Risk

Neglecting the network’s investment requirements will lead to a continued decline in asset conditions. As assets deteriorate, they will require more expensive and extensive repairs or full replacements in the future, ultimately increasing the long-term financial burden on the municipality.

Operational Risk

A worsening road network could lead to an increase in road closures, which would disrupt transportation and negatively impact the efficiency of municipal services and emergency response times.

Public Safety and Community Satisfaction Risk

A lower pavement condition index increases the risk of road defects that can compromise driving ability and potentially lead to accidents, as defined by the Minimum Maintenance Standards for Municipal Highways. Public engagement has already revealed that a third of the community is dissatisfied with road conditions, and this dissatisfaction is likely to grow as the network deteriorates further.

5. Bridges and Culverts

The inventory in this Asset Management Plan includes structures owned by the Township. The Township owns and maintains 91 bridges and 234 culverts. It is responsible for ensuring that these assets are safe and reliable for the movement of goods, people, and services, while also maintaining cost-efficiency and timeliness. These structures play a critical role in keeping the community connected.

5.1 Inventory & Valuation

Table 12 summarizes the quantity and current replacement cost of bridges and culverts.

Table 12: Detailed Asset Inventory: Bridges & Structural Culverts

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	91	Quantity	$99,622,949	CPI
Structural Culverts	234	Quantity	$16,198,068	CPI
Total	**325**		**$115,821,017**	

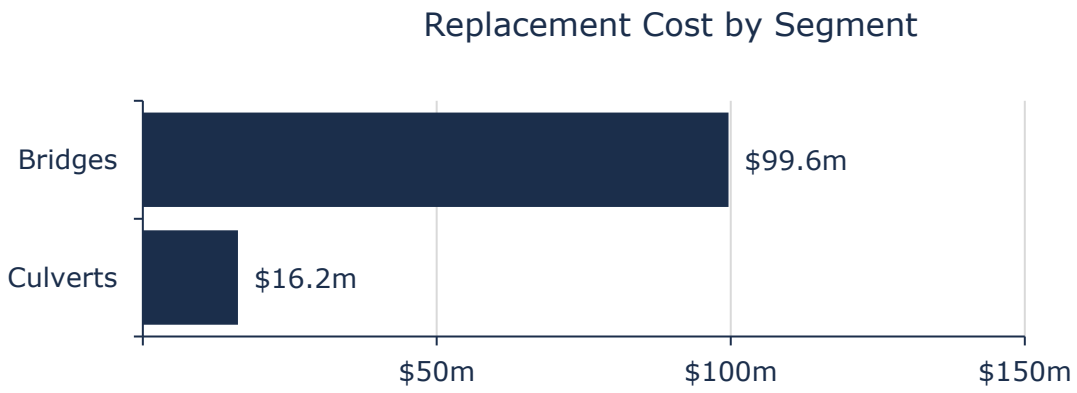


Figure 26 Portfolio Valuation: Bridges & Structural Culverts

5.2 Asset Condition

Figure 27 summarizes the replacement cost-weighted condition of The Township's bridges and structural culverts. Based on The Township's recent Ontario Structures Inspection Manual (OSIM) assessments, 83% of bridges and structural culverts are in fair or better condition. Some elements or components of these structures may be candidates for replacement or rehabilitation in the medium term and should be monitored for further degradation in condition. At 17% of the total bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

As bridges and structures reach a poor or worse rating (i.e., a bridge condition index of less than 40), they are not necessarily unsafe for regular use, individual circumstances must be considered. The OSIM ratings are designed to identify repairs needed to elevate condition ratings to fair or higher.

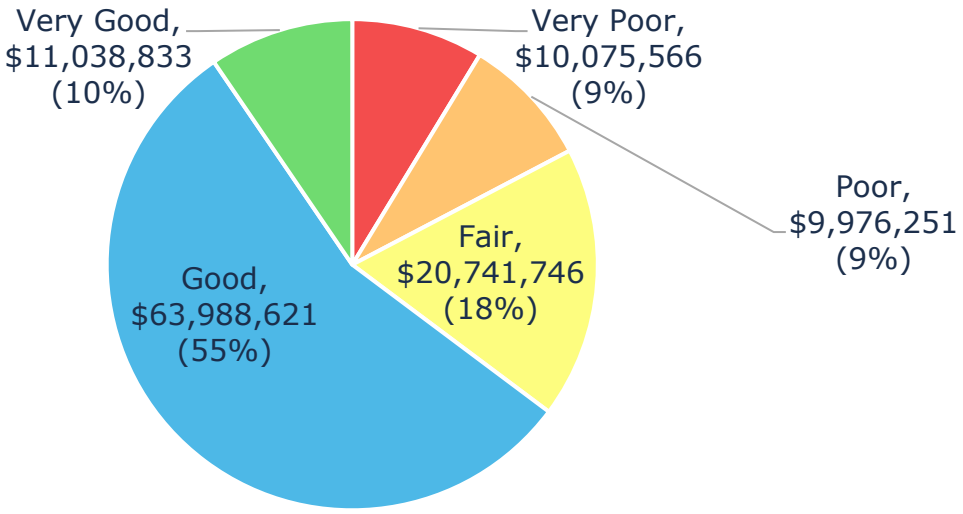


Figure 27 Asset Condition: Bridges & Structural Culverts Overall

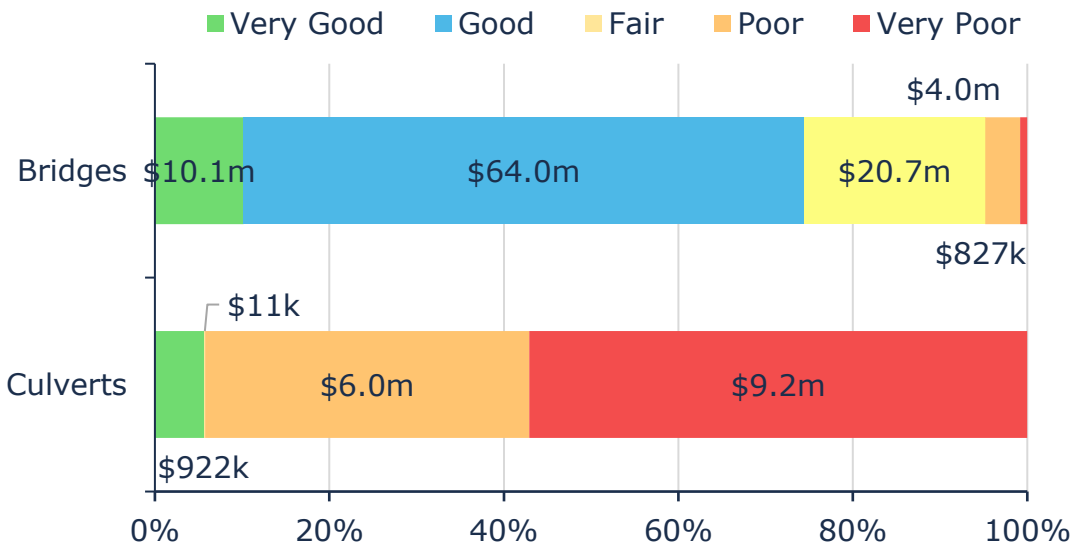


Figure 28 Asset Condition: Bridges & Structural Culverts by Segment

Figure 28 illustrates that majority of bridges are in fair or better condition. However, about 90% of culverts are in poor or very poor condition. [5]

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 replacement spikes.

[5] The culvert condition results are largely age-based, as the inventory is still being improved. An initial inventory update was completed in 2025, with inspections planned for 2026 to align with the OSIM structures cycle.

Figure 29 illustrates the average current age of each asset type and its EUL. Both values are weighted by the replacement cost of individual assets.

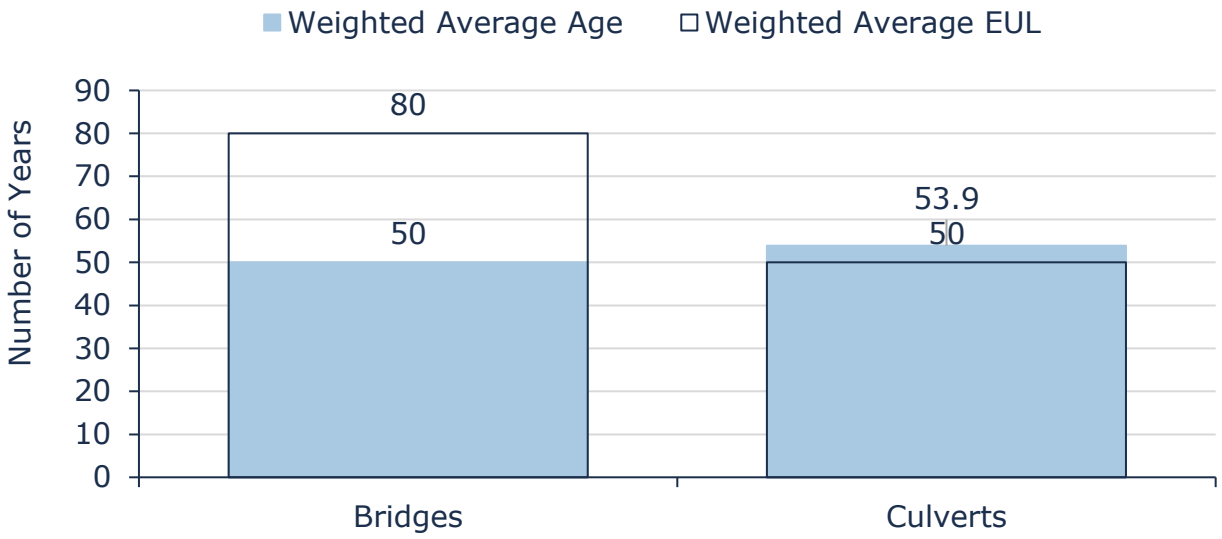


Figure 29: Estimated Useful Life vs. Asset Age: Bridges and Structural Culverts

Age analysis reveals that bridges are well under their respective estimated useful lives. On the contrary, culverts are past their estimated useful lives. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

5.4 Current and Proposed 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.

Table 13: Lifecycle Management Strategy: Bridges & Structural Culverts

Activity Type	Description of Current Strategy
Inspection	• Biennial OSIM inspection reports including a Capital Needs List identifying recommended rehabilitation and replacement activities with estimated costs. • Monitoring for minimum maintenance standards, including safety systems and signs • Functional needs assessment (width, vertical clearance, and geometric standards) • Assessing barrier and/or guide rail condition, design, and compliance with standards • Prioritizing needs based on condition/design, traffic volumes, speed, road alignment, and hazard severity
Maintenance	• Annual washing to remove debris from winter operations (sand and salt) • Crack sealing of wearing surface • Regular re-coating of railing systems • Preventative maintenance and cleaning of wearing items • Regular clearance of debris around and within structures • Ditching for drainage and erosion control • Installing and repairing culverts under roadways and driveways • Cleaning and re-coating exposed steel trusses • Barrier/guide rail installation and updates as part of ongoing maintenance

Rehabilitation	• Minor repairs (<$50,000 per structure) such as:
	  ○ Extending deck drains
	  ○ Adding scour protection
	  ○ Repairing undermined foundations
	  ○ Sealing leaking expansion joints
	• Major repairs (>$50,000 per structure) when required to restore serviceability without full replacement
	• Structural rehabilitation of aging steel truss bridges to extend useful life

Replacement	• Rehabilitation and replacement at the end of life • Major repairs that constitute full replacement of structural components • Full bridge or culvert replacement when beyond serviceable condition

5.5 Forecasted Long-Term Replacement Needs

Figure 30 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 2114 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) for bridges and culverts total $1.7 million. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Capital needs will rise between 2070-2074 at $22.4 million[6], and peak at $27.6 million between 2080 and 2084 as assets reach the end of their useful life. 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.

[6] Many of the structures with limited remaining useful life are scheduled for future rehabilitation or maintenance under the OSIM program. However, these assets effectively represent immediate needs and should be closely monitored to ensure planned interventions proceed as scheduled.

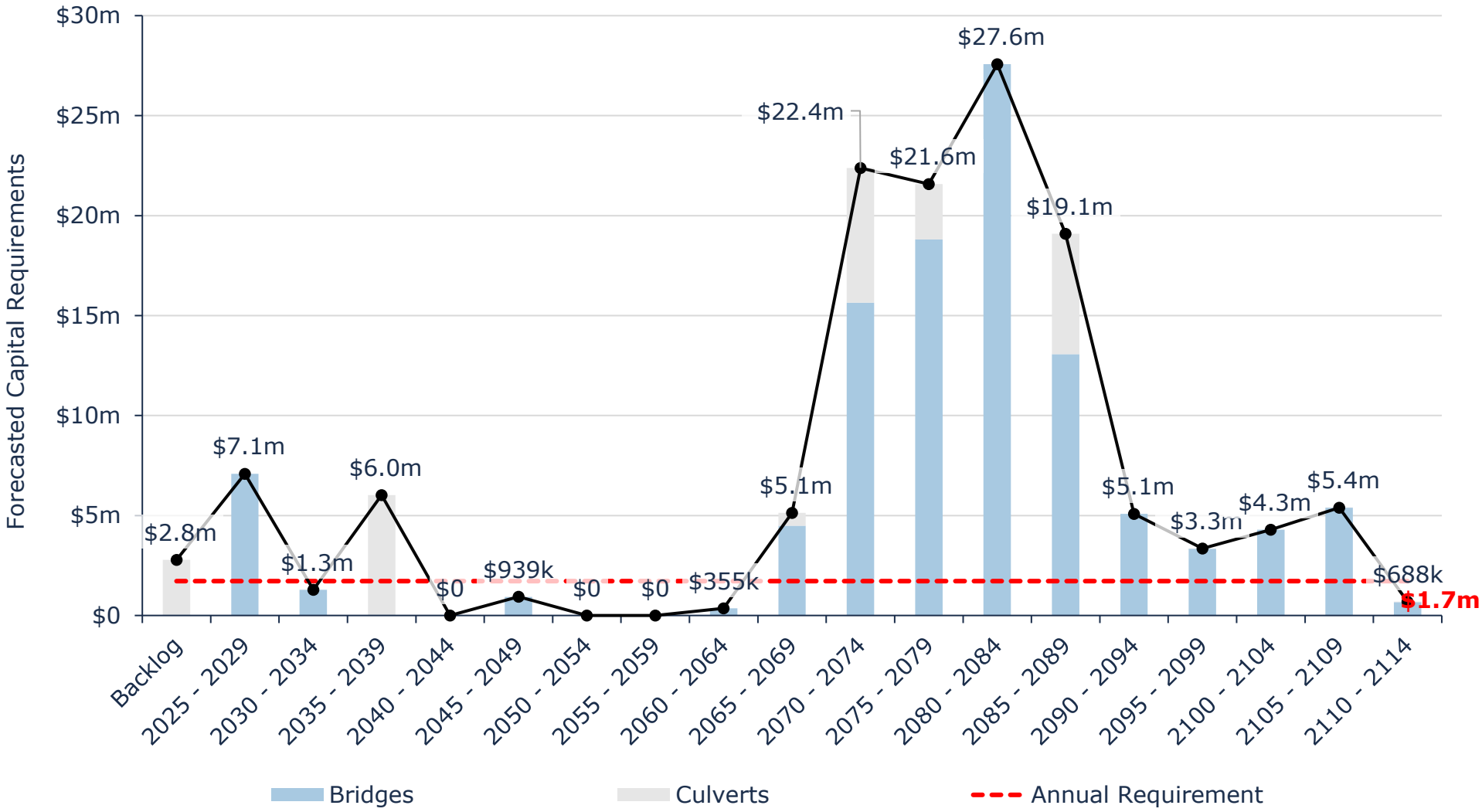


Figure 30: Forecasted Capital Replacement Needs: Bridges & Structural Culverts 2025-2114

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 detailed 10-year capital 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, speed, traffic volume, and replacement costs.

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$14,383,740 (12%)	$7,241,532 (6%)	$18,214,328 (16%)	$60,727,382 (52%)	$15,254,035 (13%)

Figure 31 Risk Matrix: Bridges & Structural Culverts

5.6.1 Risk to Current Asset Management Strategies

Lifecycle Management Strategies

The current lifecycle management approach is not considered proactive enough, with more maintenance needed to prolong the lifespan of culverts and prevent further deterioration.

5.7 Levels of Service

The Township must meet legislated requirements to ensure that local bridges are safe, including:

- Provincial government mandates, through Ontario Regulation 239/02 – Minimum Maintenance Standards for Municipal Highways, that bridges are inspected for deck spalling on regular intervals based on road class.
- Biennial inspections completed in accordance with Ontario Regulation 104/97 using methodology outlines in the Ontario Structure Inspection Manual (OSIM). Any safety-related deficiencies identified during the OSIM inspection are prioritized.
- Bridge and large culvert design work must be done in accordance with CSA S6-14 Standard – Canadian Highway Bridge Code, and Ontario Regulation 104/97: Standards for Bridges

5.7.1 Community Levels of Service

Table 14: O. Reg. 588/17 Community Levels of Service: Bridges & Culverts

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	All types of traffic supported. No restriction.
Quality	Description or images of the condition of bridges and how this would affect use of the bridges.	Appendix B
	Description or images of the condition of culverts and how this would affect use of the culverts.	Appendix B

5.7.2 Technical Levels of Service

Table 15: O. Reg. 588/17 Technical Levels of Service: Bridges & Structural Culverts

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Percentage of bridges in The Township with loading or dimensional restrictions	3.3%
	Percentage of culverts in the municipality with loading or dimensional restrictions.	0%
Quality	For bridges in the municipality, the average bridge condition index value.	67
	For structural culverts in the municipality, the average bridge condition index value.	30

5.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and optimizing the bridges and culverts based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

5.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- The public is generally satisfied with the current level of service for Bridges and Culverts. The weighted average satisfaction rating is 3.59 out of 5 stars. About 66% respondents rated their satisfaction as *'Satisfied'* or better.
- When asked to rank priorities, Bridge and Culvert Safety received an average rating of 3.27 stars out of 5. This places it as a moderate priority for residents
- A majority of respondents would support a gradual annual increase in property taxes to fund bridge and culvert services. The most popular choice for an increase was 'Up to 0.25%', which was supported by 25.93% of respondents.
- One specific suggestion for the bridge on Main Street in Drayton was the need for a pedestrian barrier.

Staff Engagement Results

Feedback from municipal staff on the bridges and culverts network highlights both its current strengths and areas for improvement. The Municipality's approach to maintenance and repairs is considered excellent, with work often planned around school bus routes and conducted outside of the school year when possible. The majority of staff members believe that there are sufficient safety features such as railings and signage. They also note that closures and restrictions are infrequent, typically occurring only when a structure is being replaced. Staff rate the overall condition of the assets as 'Fair' and agree with the current lifecycle and maintenance activities.

Despite these positive aspects, there are clear challenges related to funding and proactive management. Staff indicate that current resources are sufficient, though additional funding could enhance the reliability of asset maintenance. The current level of service for availability (percentage of bridges with restrictions) is considered satisfactory, but staff note that some structures are rehabilitated to a load restriction, which is 'not ideal'. Staff believe that the value for reliability, measured by the Bridge Condition Index (BCI), should be increased to allow for a more proactive approach to maintenance. They also suggest that confidence in the data for availability is 'Fair' because structures under 3 meters are not inspected. A key recommendation is to continue with inspections and use two working lists that 'weigh all the aspects of the BCI's to better inform decisions. Staff also suggest that culvert maintenance should be increased to prolong the life cycle of the assets.

5.7.3.2. Proposed Levels of Service Scenarios

The scenarios for Bridges & Culverts are analyzed using three funding models: Optimal Budget, Current Funding, and Recommended Funding.

1. Optimal Budget: This scenario represents the average annual funding required to maintain or improve the bridge and culvert network's condition.
2. Current Funding: The current budget is more than the average annual requirement, resulting in a budget surplus. The graph shows the network's condition is projected to remain stable, slightly above 60% for the first few years before a gradual decline to around 50% by 2044.
3. Recommended Funding: This financial strategy involves a slight decrease in funding each year for the next 10 years to address the current budget surplus.

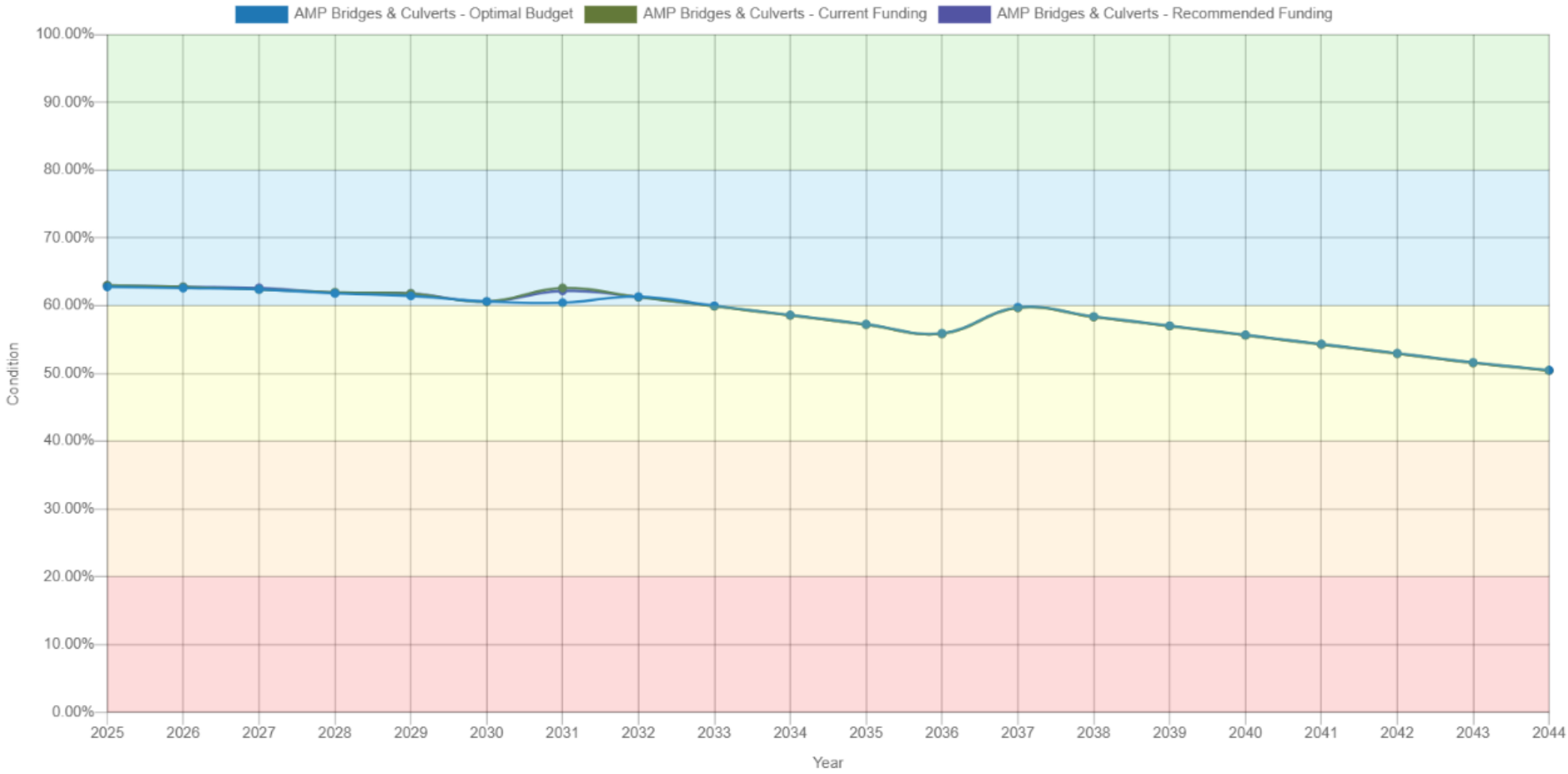


Figure 32: PLOS: Bridges & Culverts - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

Figure 32 compares the three budget scenarios. The analysis indicates that there is no significant difference in the projected conditions of the bridge and culvert network across the different funding scenarios. This makes it feasible to reduce funding for bridges and use the surplus to fund other categories with higher deficits. The recommended budget's gradual decrease in funding over the next 10 years would allow the municipality to reallocate financial resources to other priority areas without compromising the current level of service for bridges and culverts.

5.7.3.3. Recommendations

Financial Strategy

Develop a financial strategy that reallocates the budget surplus from bridges and culverts to fund other categories with higher deficits, as the recommended budget scenario shows no significant difference in the projected conditions of the network.

Safety and Accessibility

Implement specific safety enhancements, such as installing a pedestrian barrier on the Main Street bridge in Drayton, to address public concerns.

Proactive Asset Management

Adopt a more proactive maintenance approach for the network, focusing on extending asset life cycles, particularly for culverts.

Enhanced Data and Inspections

Continue with comprehensive inspections and develop a methodology to use data more effectively, such as employing 'two working lists' that 'weigh all the aspects of the BCI'S' to better inform maintenance and replacement decisions.

5.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

While the current budget has a surplus, a lack of proactive maintenance could lead to increased infrastructure backlog and the potential for costly, unbudgeted repairs to maintain services.

Safety and Operational Risk

Although closures are currently infrequent, a decline in asset condition could lead to an increase in loading or dimensional restrictions. This would impact traffic flow and

disrupt transportation, particularly for the heavy transport vehicles that the network is designed to support.

Community Satisfaction Risk

While public satisfaction is currently high, a decline in the condition or safety of bridges and culverts could lead to a decrease in community satisfaction, especially for specific structures where safety concerns have already been raised, such as the need for a pedestrian barrier on the Main Street bridge in Drayton.

6. Stormwater Network

The Township manages stormwater to protect people, property, and the environment by reducing flood risk, directing rainwater away from roads and buildings, and regulating discharge to rivers and streams. Runoff from newer developed areas is often treated to remove sediment and pollutants before release, and groundwater aquifers are protected through infiltration management and compliance with source water protection rules.

The network includes open ditches, storm sewers, and culverts under 3 m in diameter. Storm sewers consist of pipes made of brick, concrete, PVC, HDPE, or galvanized corrugated steel, and structures such as catch basins, manholes, ponds, oil and water separators, and sub drains.

6.1 Inventory & Valuation

Table 16 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Stormwater Network inventory.

Table 16: Detailed Asset Inventory: Stormwater Network

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch basins	213	Assets	$2,373,952	CPI
Headwalls	11	Assets	$220,000	User-Defined
Manholes	386	Assets	$3,693,068	CPI
Storm Mains	90,558	Meters	$11,489,130	CPI
SWM Ponds	8	Assets	$1,277,593	CPI
Total			**$19,053,743**	

Figure 33 provides the portfolio valuation of the Stormwater Network by Segments.

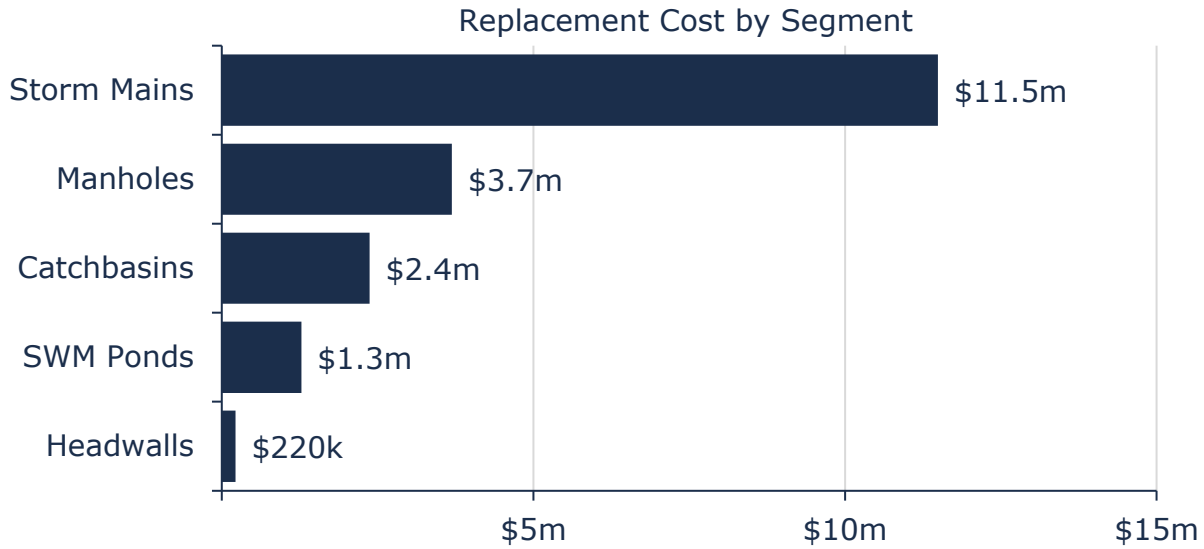


Figure 33: Portfolio Valuation: Stormwater Network

6.2 Asset Condition

Figure 34 summarizes the replacement cost-weighted condition of The Township's Stormwater Network assets. Based on age data primarily, approximately 25% of assets are in poor to very poor condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

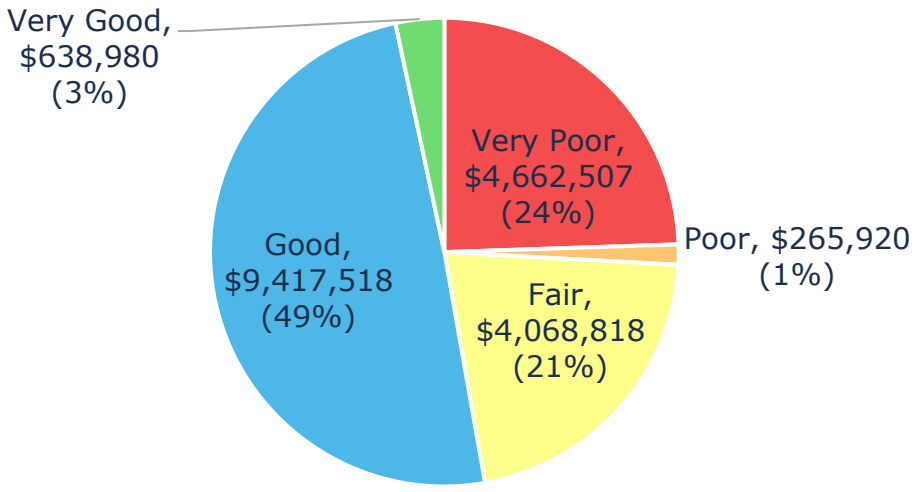


Figure 34: Asset Condition: Stormwater Network Overall

Figure 35 summarizes the age-based condition of stormwater assets. The analysis illustrates that the majority of stormwater mains are in fair or better condition, except for catch basins. More than 90% of catch basins are in very poor condition.

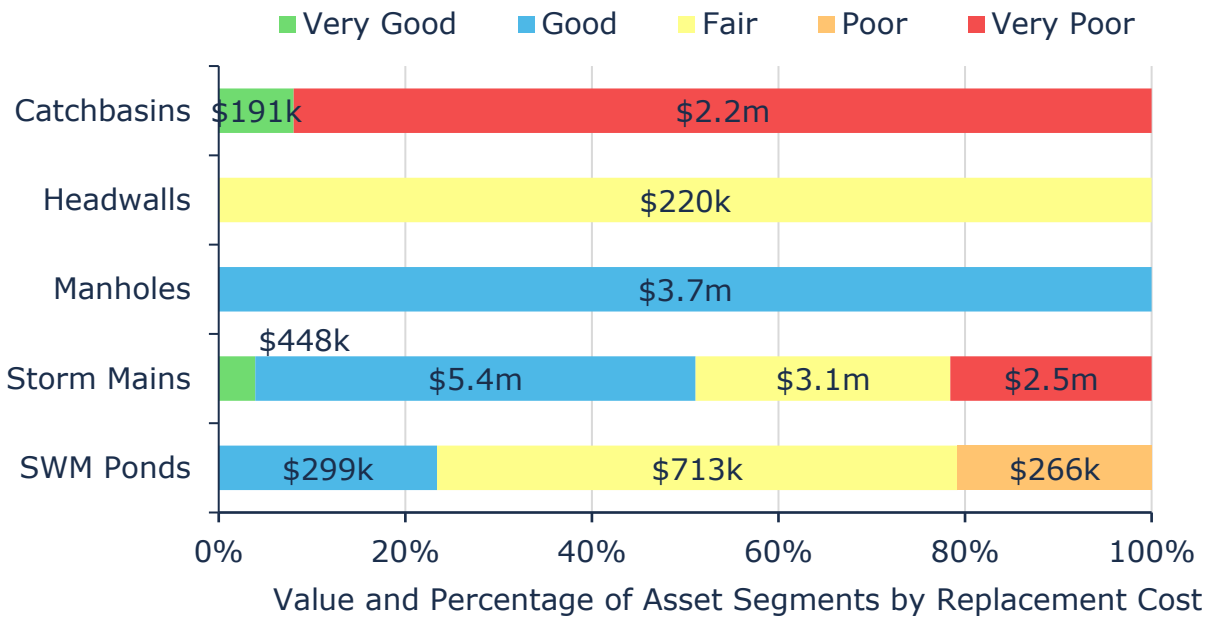


Figure 35: Asset Condition: Stormwater Network by Segment

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

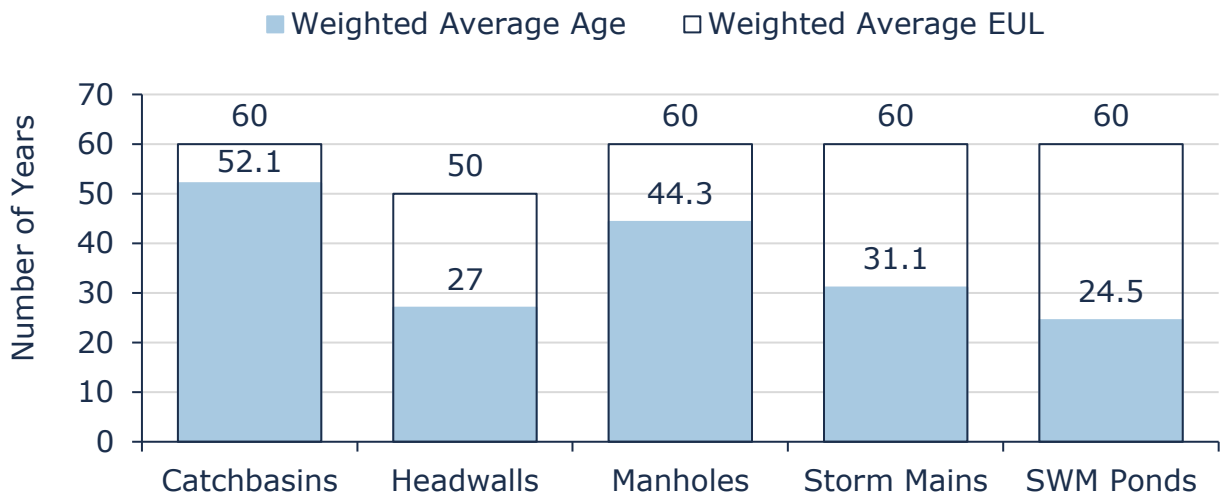


Figure 36: Estimated Useful Life vs. Asset Age: Stormwater Network

Age analysis reveals that all stormwater network assets are well within their estimated useful lives.

6.4 Current Approach to Lifecycle Management

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

Storm sewers and connecting structures undergo regular flushing or hydrovacing, to clear out debris. The pipes are used to the end of their useful life, and then replaced, as regular rehabilitation activities require excavating and digging up surface roads, which is prohibitively costly. All rehabilitation and replacement activities are typically coordinated with pavement rehabilitation projects unless the defect is critical and/or threatens public safety. Catch basins are cleaned every year.

The following table outlines The Township's current lifecycle management strategy for stormwater network assets.

Table 17: Lifecycle Management Strategy: Stormwater Network Assets

Activity Type	Description of Current Strategy
Minor Maintenance	Planned regularly scheduled maintenance and inspection programs and have a flexibility to modify and adapt to Township based specific practices • Includes inspection 5-10-year cycle for the smaller diameter mains, • For larger diameter mains inspections based on projected age-based condition and criticality, • Cleaning and flushing, annual street cleaning, field staff monitoring the fundamental safety issues related to manhole and its repairs, • CCTV inspections, and minor repairs to stormwater structures and piping • Catch basin cleaning every 3-5 years and annual street cleaning (Spring) • Feld staff to check for general safety issues, and visual inspection for blockages at high risk
Major Maintenance	Major maintenance typically includes activities that will ensure estimated useful life of the assets specific with their design, construction process, materials and the regular operation and maintenance requirements • Proactive flushing of mains that ensure the prevention of the blockages and scheduled/reactive flushing if pipes get blocked emergency repairs, root cutting, leaf clearing and spill response • Proactive flushing of manhole that ensure the prevention of the blockages and scheduled/reactive flushing if pipes get blocked emergency repairs, root cutting, leaf clearing and spill response • Other emergency repairs of inlets, outlets, culverts, and ditches to maintain service for the stormwater systems.
Rehabilitation	Rehabilitation is generally a one-time repair event designed to extend the service life of the asset to its established life expectancy and more. • Trenchless rehabilitation of the mains at later life • Replacement of the grade adjustment units and grates as required of the catch basins

Activity Type	Description of Current Strategy
	• Replacement of the grade adjustment units and manhole covers as required as required • Activities can include sewer lining programs and seal & grout programs. Replacement of assets occurs at the end of the useful service life where renewal/rehabilitation is no longer an option. The life expectancy of an asset is impacted by the natural properties of its materials of construction and can vary greatly from this depending on several environmental factors that impact the degree of deterioration and performance.
Replacement	• Replacement of grade adjustment units (if broken or compromised) or addition of grade adjustment unit, replacement of grates that are used in both manhole and catch basins • Replacement of maintenance hole cover / lid as required • Replace of storm mains at End of Life
Disposal	Disposal activities associated with the disposal of a decommissioned asset including sale, donation, demolition & abandonment. • Decommission at End of Life if asset is no longer required

6.5 Forecasted Long-Term Replacement Needs

Figure 37 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's Stormwater Network assets. This analysis was run until 2089 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $354,000 for all assets in the Stormwater 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 largest replacement spike is forecasted to be $9.4 million in 2060-2064 followed by $5.1 million in 2025 - 2029 as assets reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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

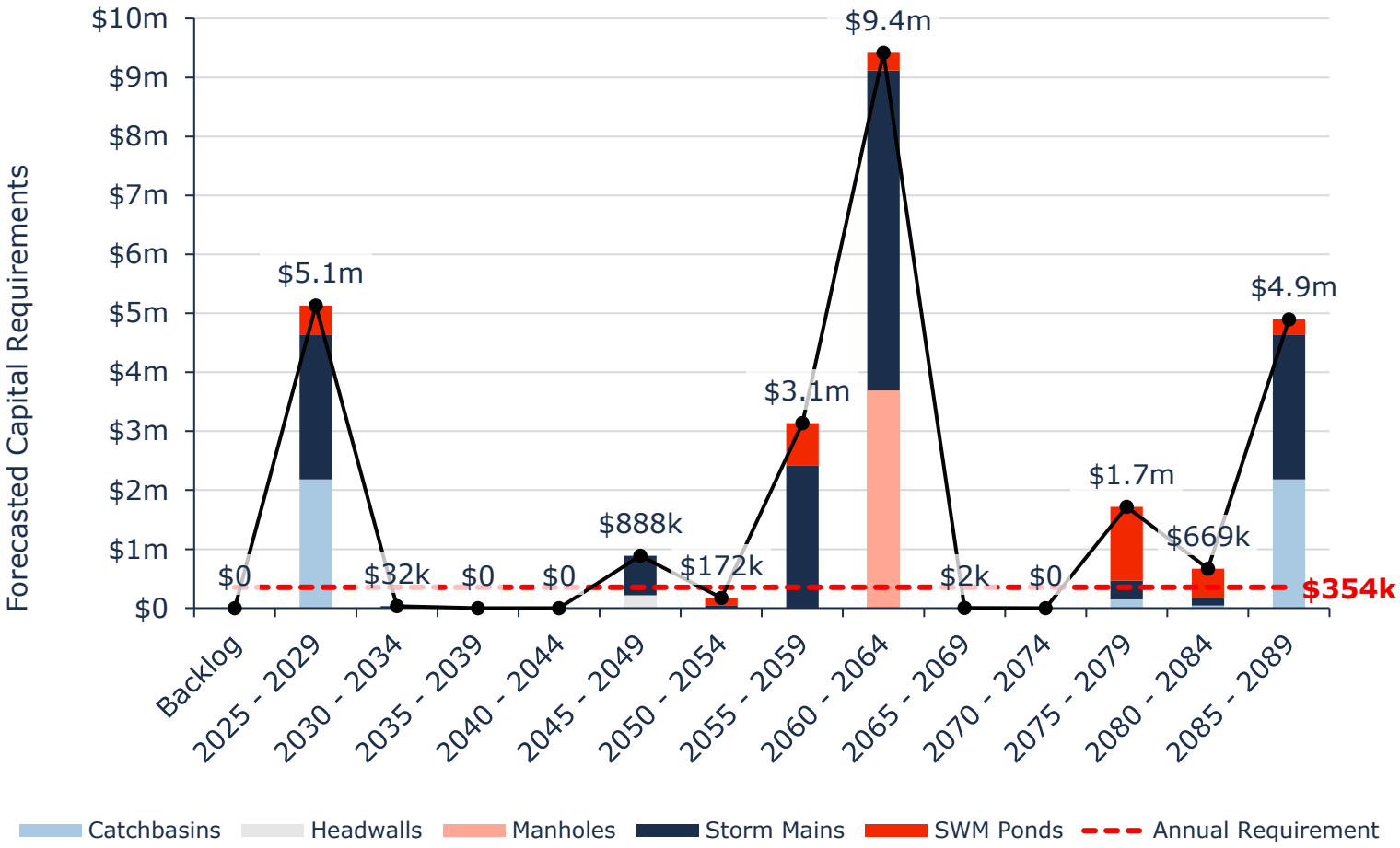


Figure 37: Forecasted Long-Term Replacement Needs: Storm Sewers

A detailed 10-year capital 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 costs. As no additional attribute data was available for storm assets, the risk ratings for assets were calculated using only these asset fields.

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

highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, The Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$11,855,866 (62%)	$5,629,486 (30%)	- (0%)	$825,755 (4%)	$742,636 (4%)

Figure 38: Risk Matrix: Stormwater Network

6.6.1 Risk to Current Asset Management Strategies

Asset Data Confidence

Low confidence in data and the community's preparedness poses a risk to the asset management plan, with concerns expressed about the system's ability to manage heavy rainfall.

Infrastructure Design/Installation

Poor drainage in residential neighborhoods and reports of annual flooding suggest that there are design and installation issues with the current infrastructure.

Climate Change & Extreme Weather Events

The threat of annual flooding and poor drainage after storms, which impacts the system's effectiveness and the community's preparedness, is a clear risk to the current asset management strategy.

Infrastructure Re-investment

The current budget is insufficient to maintain the network's condition, which shows a steady decline over the forecast period, highlighting a significant funding deficit.

6.7 Levels of Service

The Township of Mapleton is committed to maintaining a high standard of service for its stormwater management system, ensuring it effectively meets the needs of the community while safeguarding the environment and public well-being.

The Township strives to balance affordability with the necessary investments in stormwater infrastructure maintenance, and upgrades. The following tables summarize The Township's current levels of service, including KPIs under Ontario Regulation 588/17 and additional performance measures selected for this AMP.

6.7.1 Community Levels of Service

Table 18: O. Reg. 588/17 Community Levels of Service: Stormwater Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Accessibility	Description, which may include maps, of the user groups or areas of The Township that are protected from flooding, including the extent of the protection provided by the Municipal stormwater management system	Appendix B – Level of Service Maps & Photos

6.7.2 Technical Levels of Service

Table 19: O. Reg. 588/17 Technical Levels of Service: Stormwater Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Percentage of properties in municipality resilient to a 100-year storm.	80%
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	80%
Quality	For storm sewers in the municipality, the average condition value.	70
	For storm sewers in the municipality, the average condition value.	54 (Fair)

6.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Stormwater Network based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

6.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- The Stormwater System, including flood prevention and maintenance, has a weighted average satisfaction rating of 3.11 out of 5. While 33.33% of respondents were satisfied, 22.22% were dissatisfied, and a significant portion (37.04%) remained neutral.
- Stormwater and flood control were ranked with a weighted average priority rating of 3.04 out of 5 stars.
- A majority of respondents (55.56%) would support a 0% tax increase for stormwater services. However, 33.33% would support the target increase of 0.25-0.5%.

Staff Engagement Results

Feedback from staff on the stormwater network reveals a mixed perspective, with a range of sentiments from confident to concerned. Some staff members believe the system is functioning adequately and that the municipality appears to have a plan for heavy storms. The general feeling among these staff is that the community is 'Adequately prepared' and that issues are addressed in a timely manner. There is also a belief among some that resources for maintenance are sufficient, with a biennial capital program being noted as an example.

However, there is also a general sentiment of concern about the network's performance among other staff members. Issues such as poor drainage in residential neighborhoods and the threat of annual flooding are cited as reasons for a negative outlook on the system's effectiveness. Some staff express a low level of confidence in the community's preparedness for heavy storms, and there is a view that the system's ability to manage rainfall is uncertain. While some feel the current level of service is 'Satisfactory,' others believe it should be 'Increased' to address existing issues. Recommendations from staff include a focus on sump pump systems, grading, and addressing water pooling on sidewalks.

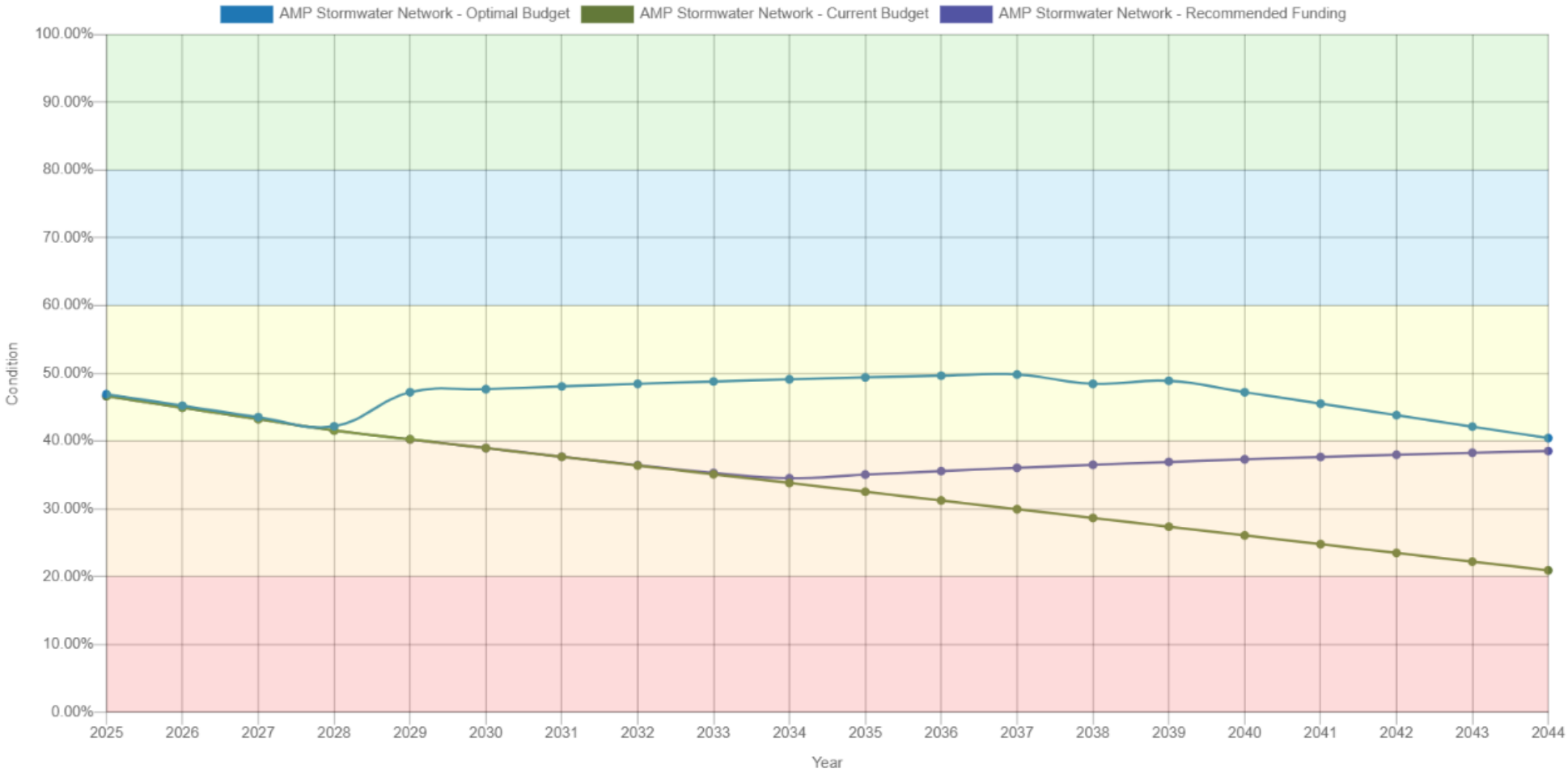


Figure 39: PLOS: Stormwater Network - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

6.7.3.2. Proposed Levels of Service Scenarios

As illustrated in Figure 39, the scenarios for the Stormwater Network are analyzed using three funding models: Optimal Budget, Current Funding, and Recommended Funding.

1. **Current Funding:** The current funding level is insufficient to maintain the stormwater network's condition. The graph shows the network's condition steadily declining from a 'Fair' range in 2025 to a low of approximately 20% by 2044. This indicates a significant funding deficit and a failure to meet the desired service levels, leading to a deteriorating network over the long term.
2. **Optimal Budget:** This scenario represents the average annual funding required to maintain or improve the stormwater network's condition. The graph demonstrates that with this level of investment, the network's condition would recover from its current state and remain stable at a satisfactory level for most of the forecast period.
3. **Recommended Funding:** This financial strategy is designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The graph shows that the average condition of the network will initially decline slightly but then begin a gradual recovery, eventually aligning with the optimal budget scenario by 2044.

The analysis of the scenarios reveals a clear need for increased funding to prevent the deterioration of the stormwater network. The current funding model leads to a steady decline in the network's condition, which will likely result in increased service failures and costly emergency repairs in the future. The recommended budget, while not providing an immediate solution, offers a feasible and sustainable pathway to long-term financial stability. The graph demonstrates that the gradual increase in funding will allow the network's condition to stabilize and eventually align with the optimal level of service. This approach balances the need for infrastructure investment with the financial impact on the community.

6.7.3.3. Recommendations

Secure Sustainable Funding

Implement the recommended funding strategy, which includes a 4.4% yearly tax increase over the next 10 years, to close the funding gap and reverse the declining trend in the network's condition. This will allow the municipality to make necessary investments and ensure long-term sustainability.

Improve System Performance

Address concerns about poor drainage and the threat of flooding in residential neighborhoods. Staff recommendations include a focus on sump pump systems, grading, and addressing water pooling on sidewalks.

Increase System Resilience

Take steps to improve the network's resilience to heavy rainfall events. This is a key concern for staff who have expressed a low level of confidence in the community's preparedness for storms and a view that the system's ability to manage rainfall is uncertain.

6.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

The continued decline in the network's condition under the current budget will lead to a growing infrastructure backlog. This will result in an increased number of service failures and a higher long-term financial burden on the municipality due to the need for more expensive and extensive emergency repairs.

Public Safety and Environmental Risk

The current system's inability to manage heavy rainfall and poor drainage in some areas poses a direct risk of flooding, which can damage private property and threaten public well-being. A deteriorating system also increases the risk of erosion and impacts on waterways.

Community Satisfaction Risk

Public satisfaction with the stormwater network is moderate, with a significant number of residents expressing dissatisfaction or remaining neutral. Failure to address the system's deficiencies could further erode public confidence and lead to a decline in community satisfaction with municipal services.

7. Water Network

The Township's water network consists of about 18 kilometers of water mains, 86 hydrants, 88 water valves, 7 blow off valves, 4 supply wells, 1 water tower, 2 pump station buildings (Moorefield and Drayton), and related equipment. It delivers safe, clean water to residents and businesses, meeting quality, flow, and pressure standards for drinking, recreation, irrigation, sanitation, fire protection, and commercial needs.

The network has two main asset classes: water mains and supporting structures. Pipes are made of concrete, PVC, HDPE, or galvanized corrugated steel, while structures include wells, the water tower, and pump stations.

7.1 Inventory & Valuation

Table 20 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Water Network inventory.

Table 20: Detailed Asset Inventory: Water Network

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Blow Off Valves	7	Assets	$123,879	CPI
Drayton Drinking Water System	145	Components	$3,207,776	CPI
Drayton Water Tower	8	Components	$6,854,391	CPI
Hydrants	86	Assets	$1,032,000	User-Defined
Moorefield Drinking Water System	154	Components	$3,571,164	CPI

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Water Mains	17,714	Meters	$17,822,119	CPI
Water Services	9,710	Meters	$9,710,000	Cost per Unit
Water Valves	88	Assets	$611,089	CPI
Total			**$42,932,418**	

Figure 40 provides the portfolio valuation of the Water Network by Segments.

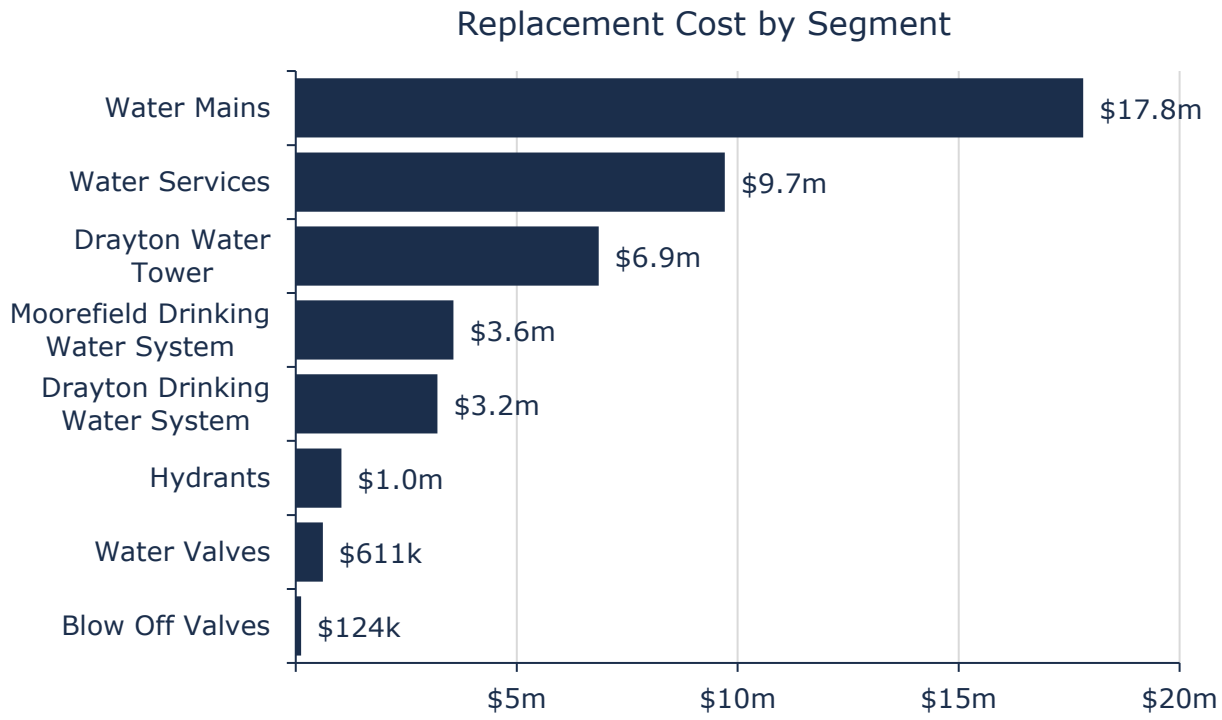


Figure 40: Portfolio Valuation: Water Network

7.2 Asset Condition

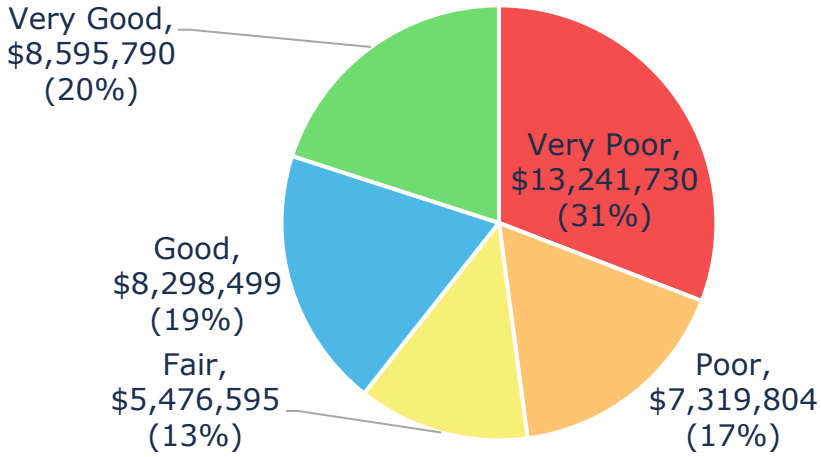


Figure 41: Asset Condition: Water Network Overall

Figure 41 summarizes the replacement cost-weighted condition of The Township's Water Network assets. Relying primarily on age-based data, 48% of assets are in poor to very poor condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

Figure 42 summarizes the age-based condition of stormwater assets. The analysis illustrates that blow off valves & Drayton water tower are in good & very good conditions. On the contrary, all water services, and majority of hydrants are in poor or worse condition.

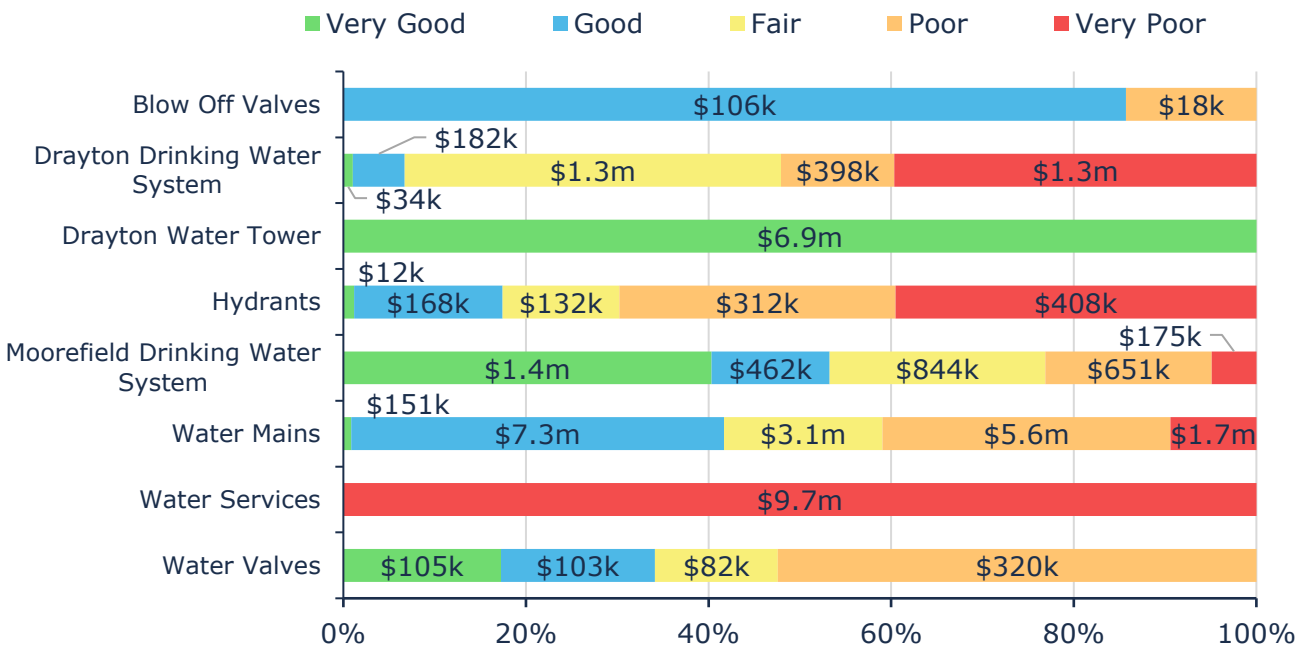


Figure 42: Asset Condition: Water Network by Segment

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 replacement spikes.

Figure 43 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.

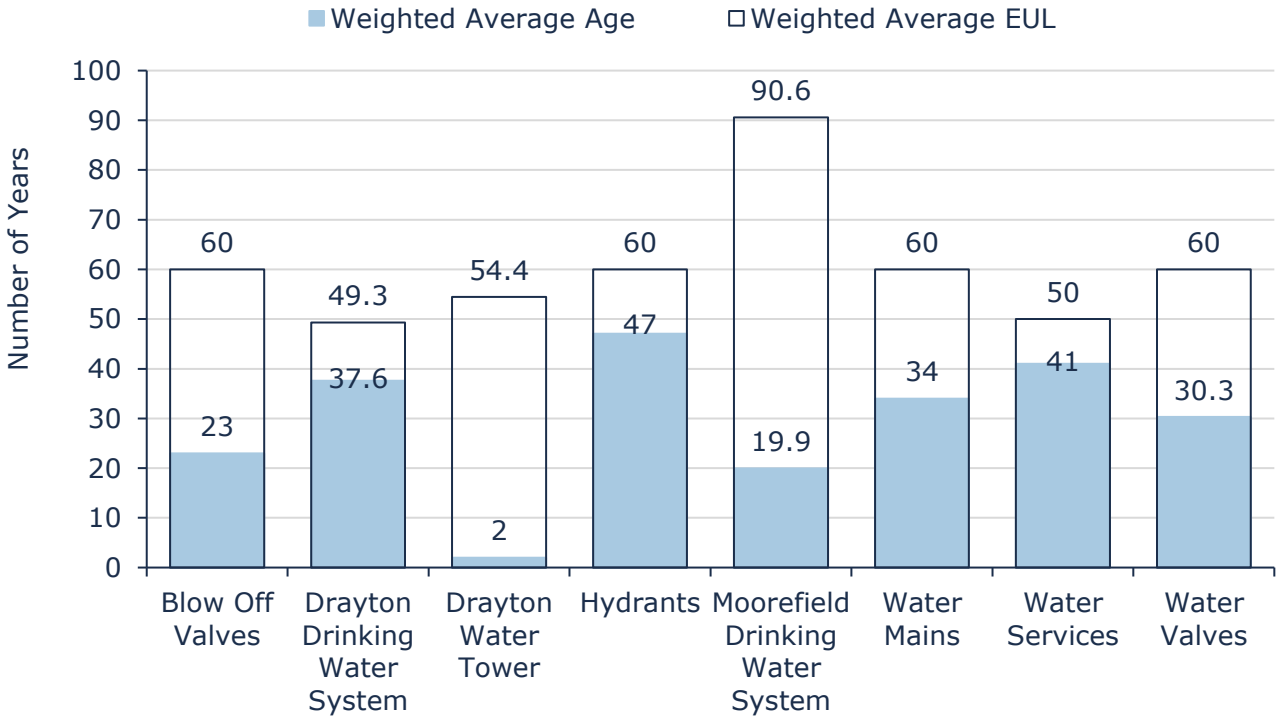


Figure 43: Estimated Useful Life vs. Asset Age: Water Network

Age analysis reveals that all water network assets are well within their estimated useful lives.

7.4 Current Approach to Lifecycle Management

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

Water mains and connecting structures undergo regular flushing as a regular cleaning. The pipes are used to the end of their useful life, and then replaced, as regular rehabilitation activities require excavating and digging up surface roads, which is prohibitively costly. All rehabilitation and replacement activities are typically coordinated with pavement rehabilitation projects unless the defect is critical and/or threatens public safety.

The following table outlines The Township's current lifecycle management strategy for Water Network Assets

Table 21: Lifecycle Management Strategy: Water Network Assets

Activity Type	Description of Current Strategy
Minor Maintenance	Planned regularly scheduled maintenance and inspection programs including cleaning and flushing, manhole repairs, CCTV inspections, and minor repairs to water main structures and piping. These would be modified to adapt to specific practices of the municipality.
Major Maintenance	• Typically includes activities such as repairing or replacing broken or major defects in the watermains, • Scheduled preventative maintenance programs including air and vacuum valve maintenance program • Scheduled inspection programs for key assets – e.g. leak detection and pipeline detection • Continuous condition monitoring for key assets through Acoustic Fiber Optic Monitoring • Reactive maintenance for significant portion of asset inventory • Maintenance also triggered by public complaints through phone and web interface available for public reports/complaints and facility inspection report • Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets • And similar unscheduled or unplanned emergency type activities carried out to maintain service for the water systems.
Rehabilitation	Rehabilitation is generally a one-time repair event designed to extend the service life of the asset to its established life expectancy and more. • Activities can include pipe re-lining, seal & grout programs, and cathodic protection (anode program) • Water meter rehabilitation would generally not be performed – the asset would be replaced. • Water facilities are rehabilitated based on facility inspection reports which recommend replacing pumps, valves, roofs, etc. • Adopt the latest technology that maintains the current level of service.
Replacement	• Watermain replacement is based on the condition rating of the infrastructure and the infrastructure needs of other service areas. In most cases, once the pipe has been

Activity Type	Description of Current Strategy
	inspected and given a condition rating, staff can determine the best method for replacement: complete open cut replacement, horizontal directional drilling • Lead service replacement program • Water meter replacement using newer technology that maintains the current level of service • Coordinate with wastewater, roads projects and through service are coordination

7.5 Forecasted Long-Term Replacement Needs

Figure 44 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's Water Network assets. This analysis was run until 2159 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 $851,000 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.

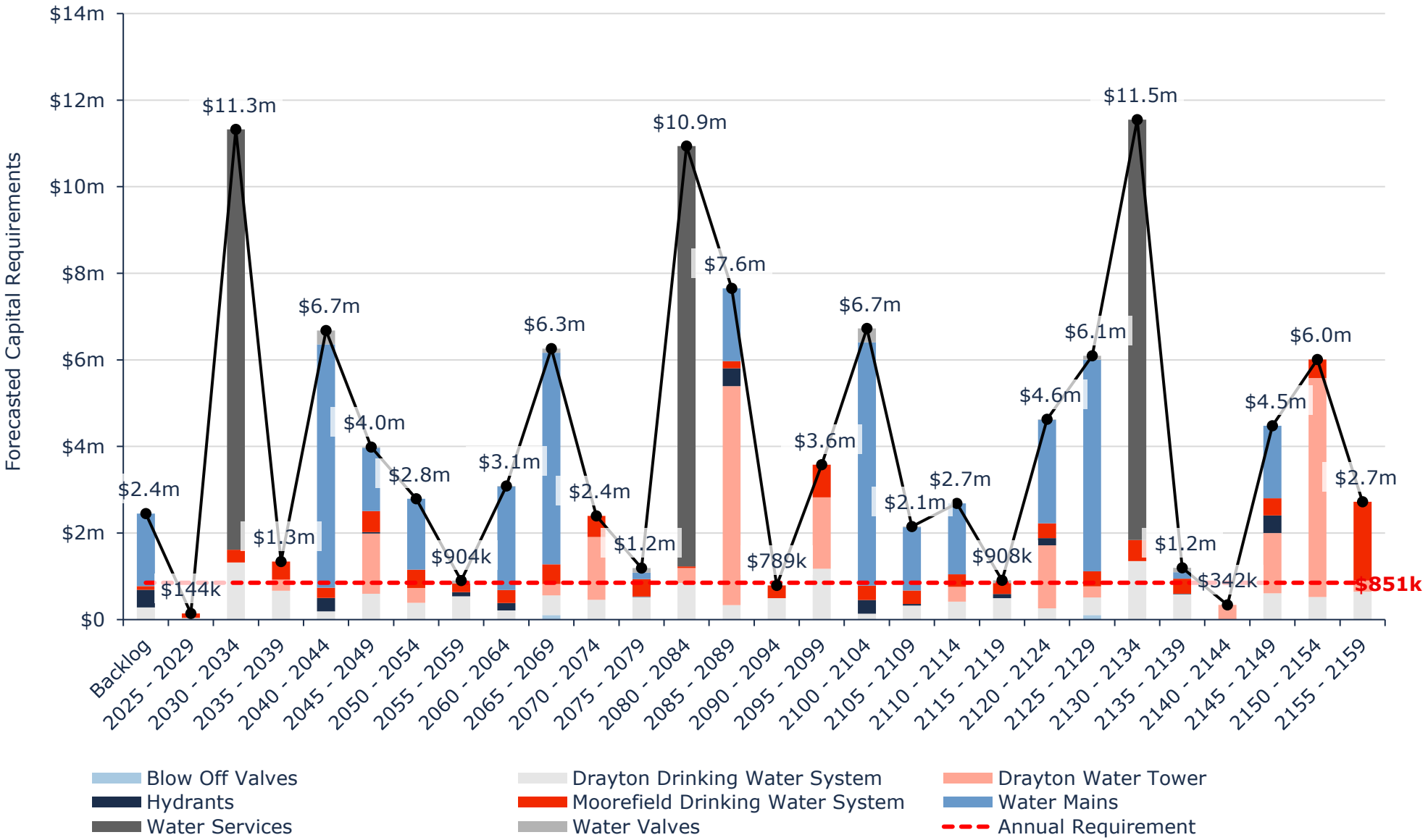


Figure 44: Forecasted Long-Term Replacement Needs: Water Network

The largest replacement spike is forecasted to be $11.5 million in 2130-2034 followed by $11.3 million in 2030 - 2034 as assets reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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

A detailed 10-year capital 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, service & maintenance, pipe material, pipe diameter, and replacement costs.

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

integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

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

1 - 4 **Very Low** $12,695,166 (30%)	5 - 7 **Low** $14,826,758 (35%)	8 - 9 **Moderate** $749,142 (2%)	10 - 14 **High** $4,152,686 (10%)	15 - 25 **Very High** $10,508,666 (24%)

Figure 45: Risk Matrix: Water Network[7]

[7] The risk rating of water service assets is generally high. While an in-service date of 1984 was used, actual installation dates vary by subdivision. This data will be updated as the asset inventory is improved.

7.6.1 Risk to Current Asset Management Strategies

Asset Data Confidence

Age-based condition metrics are considered insufficient for critical infrastructure, which is a challenge that requires a dedicated condition assessment program. There is also a challenge related to data management, as there is a need to integrate data from the third-party contractor into the municipality's internal system for improved tracking and planning.

Growth

The network's current capacity may not be sufficient to support community growth, which poses a challenge to service delivery and network reliability.

Infrastructure Re-investment

The current budget is insufficient to maintain the network's condition, which shows a steady decline over the forecast period, highlighting a significant funding deficit. There is also a need to leverage grants for network expansion to keep up with community growth.

7.7 Levels of Service

7.7.1 Community Levels of Service

Table 22: O. Reg. 588/17 Community Levels of Service: Water Network

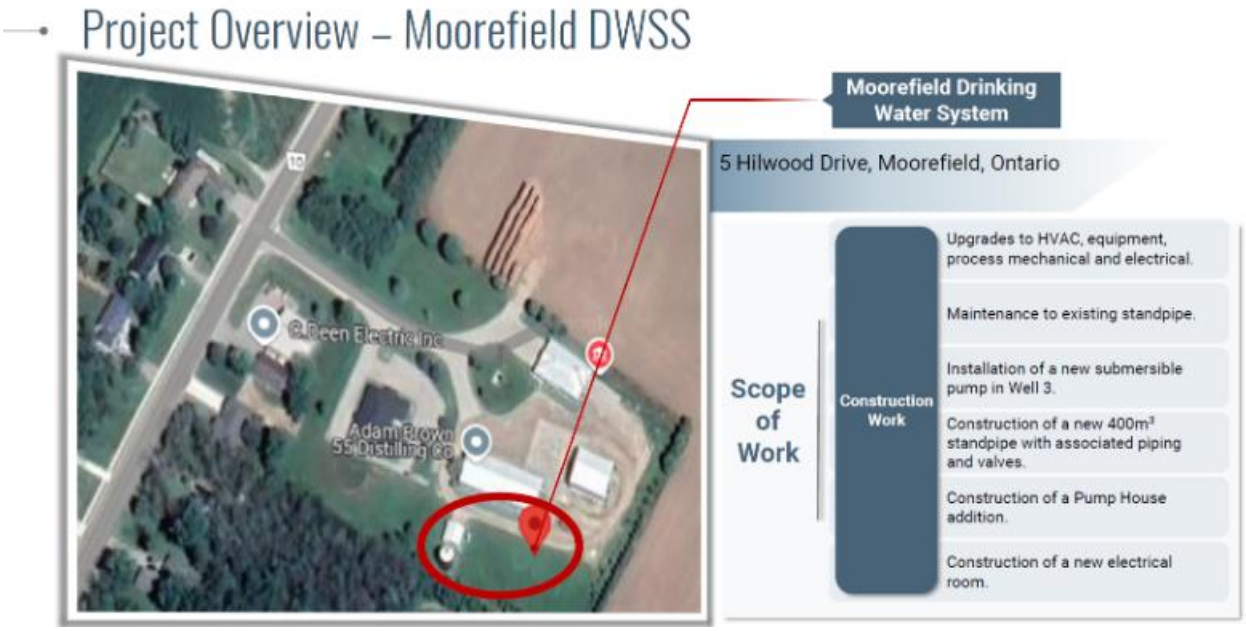
Service Attribute	Key Performance Indicator	LOS (2025)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.	Appendix B

Service Attribute	Key Performance Indicator	LOS (2025)
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	N/A
Reliability	Description of boil water advisories and service interruptions.	No advisories

7.7.2 Technical Levels of Service

Table 23: O. Reg. 588/17 Technical Levels of Service: Water Network

Service Attribute	Key Performance Indicator	LOS (2025)
Scope	Percentage of properties connected to the municipal water system.	26
	Percentage of properties where fire flow is available.	25
Reliability	The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.	None
	The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system. compared to the total number of properties connected to the municipal wastewater system.	None



7.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Water Network based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

7.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- Drinking water quality and reliability received a weighted average satisfaction rating of 3.56 out of 5. A combined 51.85% of respondents were either satisfied or very satisfied.
- Drinking water safety and supply were ranked with a weighted average priority rating of 3.48 out of 5 stars.
- 55.56% of respondents would support a 0% rate increase for water supply. The target increase of 5.1% was supported by 11.11% of respondents.

Staff Engagement Results

Feedback from staff on the water network reveals a general sentiment of satisfaction with the current level of service, alongside clear concerns for the network's future. Staff generally find the response to water service issues to be 'very responsive' and 'timely', with one noting a typical turnaround of one to two days for a service break. Some believe that age-based condition is a legitimate way to measure the network's assets. There is also a view that resources are currently

adequate and that the service provided to the urban centers of Drayton and Moorefield is 'good' with minimal disruptions.

However, there is also a strong belief that the network needs to be improved to keep pace with community growth. Some staff suggest that the level of service should be 'Increased' to better support the community and that the network needs expansion. This perspective is accompanied by a call for a more proactive approach to maintenance, with one staff member suggesting that the third-party contractor 'could be more proactive in lifecycle activities' and that more oversight may be necessary. Another significant point of contention is the use of age-based condition, which one staff member argues is 'Absolutely not' sufficient for critical infrastructure, which instead requires a dedicated condition assessment program. Staff also recommend leveraging grants for network expansion and integrating data from the third-party contractor into the municipality's internal system.

7.7.3.2. Proposed Levels of Service Scenarios

Figure 46 compares three scenarios that use the following funding models: Optimal, Current, and Recommended.

1. **Current Funding:** The current funding level is not sufficient to maintain the water network's condition. The graph shows the network's condition steadily declining from approximately 45% in 2025 to a low of approximately 25% by 2041. This indicates a significant funding deficit and a failure to meet desired service levels, which will lead to a deteriorating network over the long term.
2. **Optimal Budget:** This scenario represents the average annual funding required to maintain and improve the network's condition. The graph demonstrates that with this level of investment, the network's condition would remain relatively stable, fluctuating between 45% and 50% for most of the forecast period.
3. **Recommended Budget**: This financial strategy is designed to gradually close the funding gap over the next 10 years. It includes a 5.1% annual rate increase to achieve a condition similar to the optimal budget. The graph shows that the average condition of the network will initially decline slightly but then begin a gradual recovery, eventually closing the gap with the optimal budget scenario by 2044.

The analysis of the scenarios reveals a clear need for increased funding to prevent the deterioration of the water network. The current funding model leads to a steady decline in the network's condition, which will likely result in increased service failures and costly emergency repairs in the future. The recommended budget, while not providing an immediate solution, offers a feasible and sustainable pathway to long-term financial stability. The graph demonstrates that the gradual increase in funding will allow the network's condition to stabilize and eventually align with the optimal level of service. This approach balances the need for infrastructure investment with the financial impact on the community.

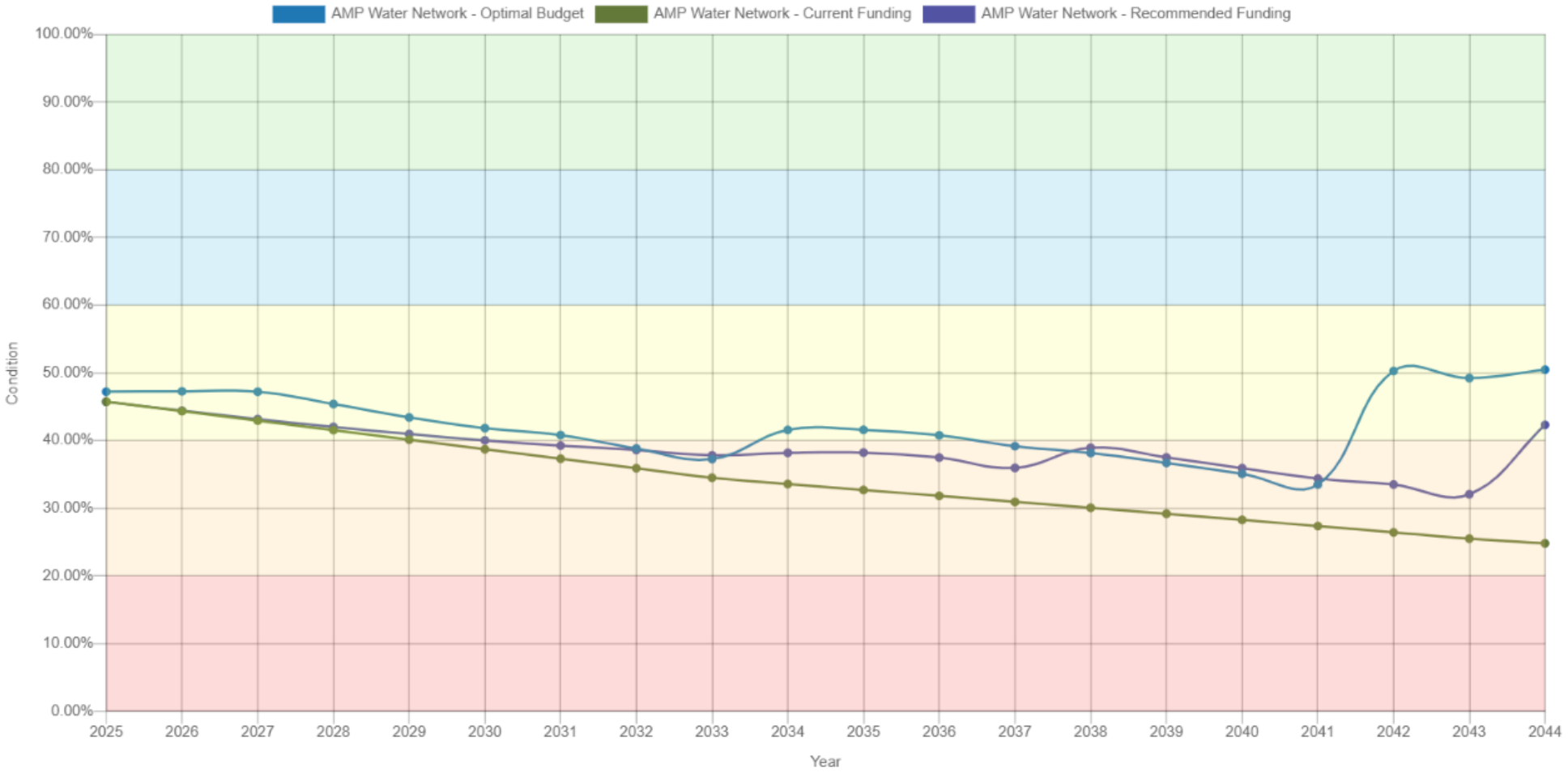


Figure 46: Projected Water Network Conditions in Mapleton Under Optimal vs. Current vs Recommended Budget Scenarios"

7.7.3.3. Recommendations

Secure Sustainable Funding

Implement the recommended funding strategy, which includes a 5.1% annual rate increase, to close the funding gap and support future network expansion. Leverage grants for network expansion to keep up with community growth.

Enhance Asset Management Practices

Develop a dedicated condition assessment program for critical infrastructure, as age-based condition metrics are considered insufficient.

Improve Oversight and Data Management

Ensure robust oversight of maintenance activities and integrate contractor data into the municipality's internal system to improve long-term tracking and planning.

7.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

A continued decline in the network's condition will lead to a growing infrastructure backlog, resulting in a higher long-term financial burden on the municipality due to more expensive emergency repairs and replacements.

Operational and Safety Risk

The network may fail to keep pace with community growth and the demands of more connected properties. This could impact the reliability of service and pose a safety risk to the community, as water supply is a critical service.

Community Satisfaction Risk

While public satisfaction with the service is currently high, failure to address the need for network expansion and proactive maintenance could lead to a decline in community confidence and satisfaction with municipal services.

8. Wastewater Network

The Township's sanitary wastewater system includes about 17 kilometers of wastewater mains, 159 sanitary manholes, 1 sanitary valve, 7 kilometers of sanitary force mains, 2 sewage pumping stations (Drayton and Moorefield), and 1 waste pollution control plant. This network collects and conveys residential, commercial, institutional, and industrial wastewater to the treatment plant, where it is purified to meet strict provincial standards before being discharged to the Conestoga River.

Efficient management and treatment protect citizens and the natural and built environments, ensuring the system operates reliably and sustainably.

8.1 Inventory & Valuation

Table 24 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Wastewater Network inventory.

Table 24: Detailed Asset Inventory: Wastewater Network

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Drayton Sewage Pumping Station	56	Components	$917,962	CPI
Force Mains	2	Assets	$2,470,786	CPI
Manholes	159	Assets	$2,191,775	CPI

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Mapleton Wastewater Treatment Plant	224	Components	$4,521,634	CPI
Moorefield Sewage Pumping Station	44	Components	$704,293	CPI
Sanitary Mains	16,301	Meters	$9,624,203	Cost per Unit
Sanitary Services	9,710	Meters	$9,710,000	Cost per Unit
Valves[8]	1	Assets	$28,741	CPI
Total			**$30,169,394**	

Figure 47 provides the portfolio valuation of the Wastewater Network by Segments.

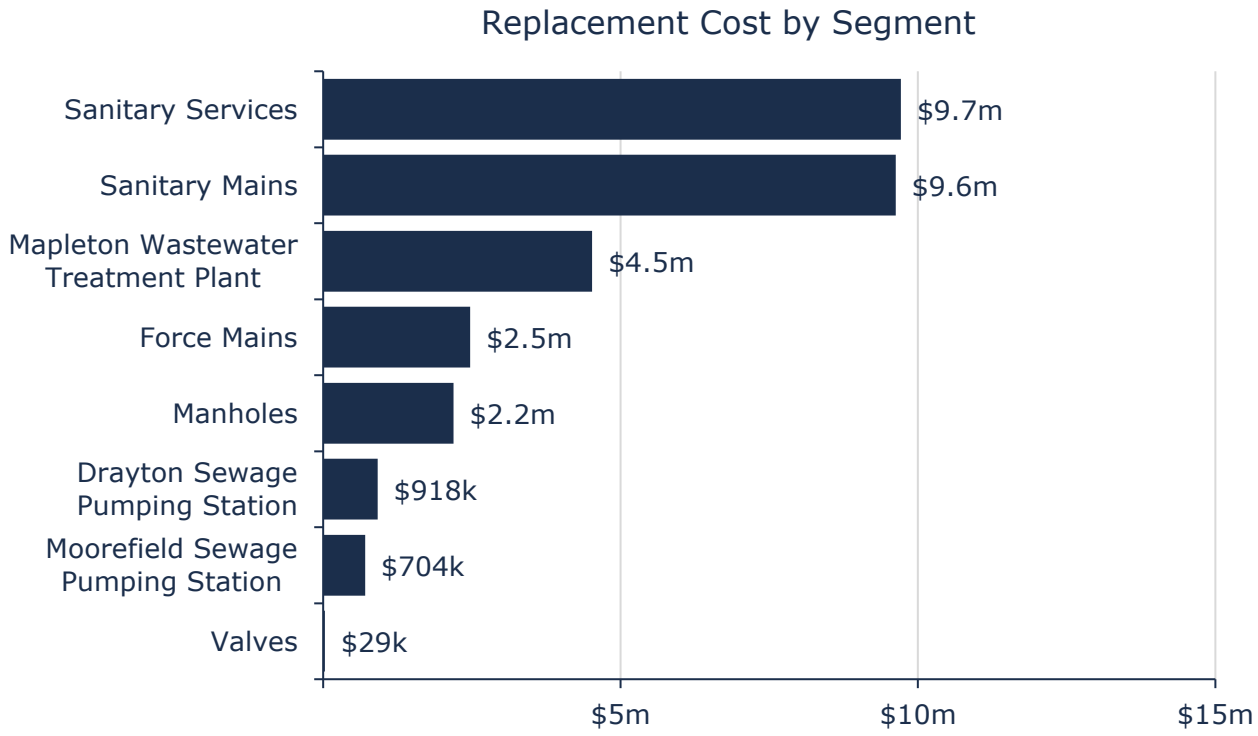


Figure 47: Portfolio Valuation: Wastewater Network

[8] Sanitary Valves are considered as pooled assets in this AMP.

8.2 Asset Condition

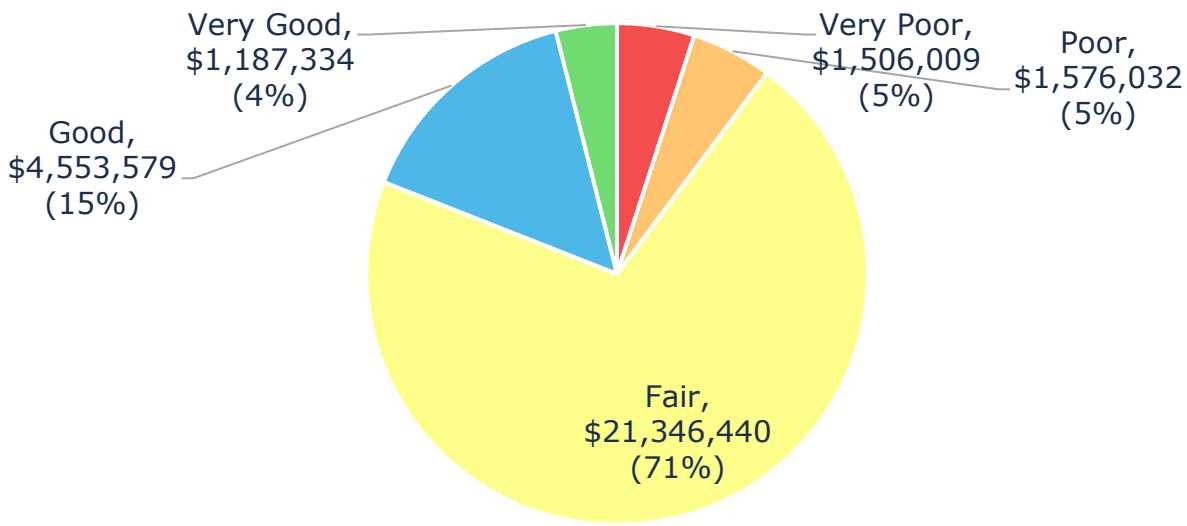


Figure 48: Asset Condition: Wastewater Network Overall

Figure 48 summarizes the replacement cost-weighted condition of The Township's Wastewater Network assets. Based on age data only, approximately 10% of assets are in poor to very poor condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

Figure 49 summarizes the age-based condition of stormwater assets. The analysis illustrates that the majority of wastewater assets are in fair or better condition. Approximately 50% of Drayton Sewage Pumping Station, and about 30 % Moorfield Sewage Pumping Station assets are in poor or worse condition.

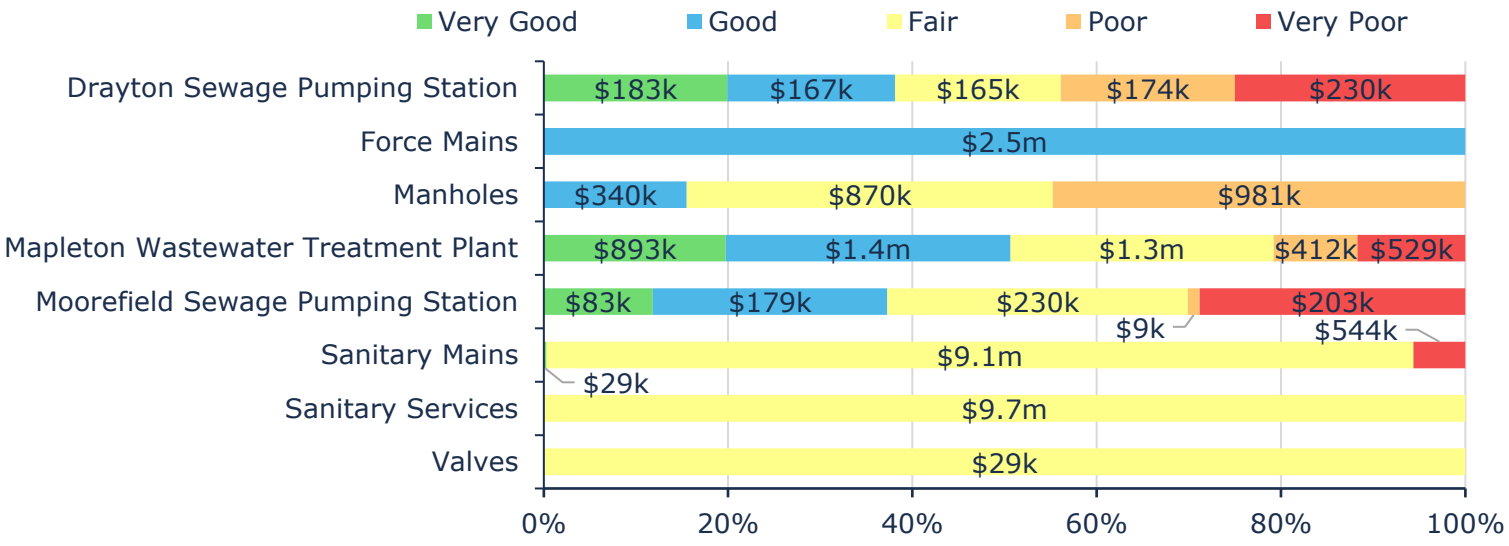


Figure 49: Asset Condition: Wastewater Network by Segment

8.3 Age Profile

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

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

Figure 50 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.

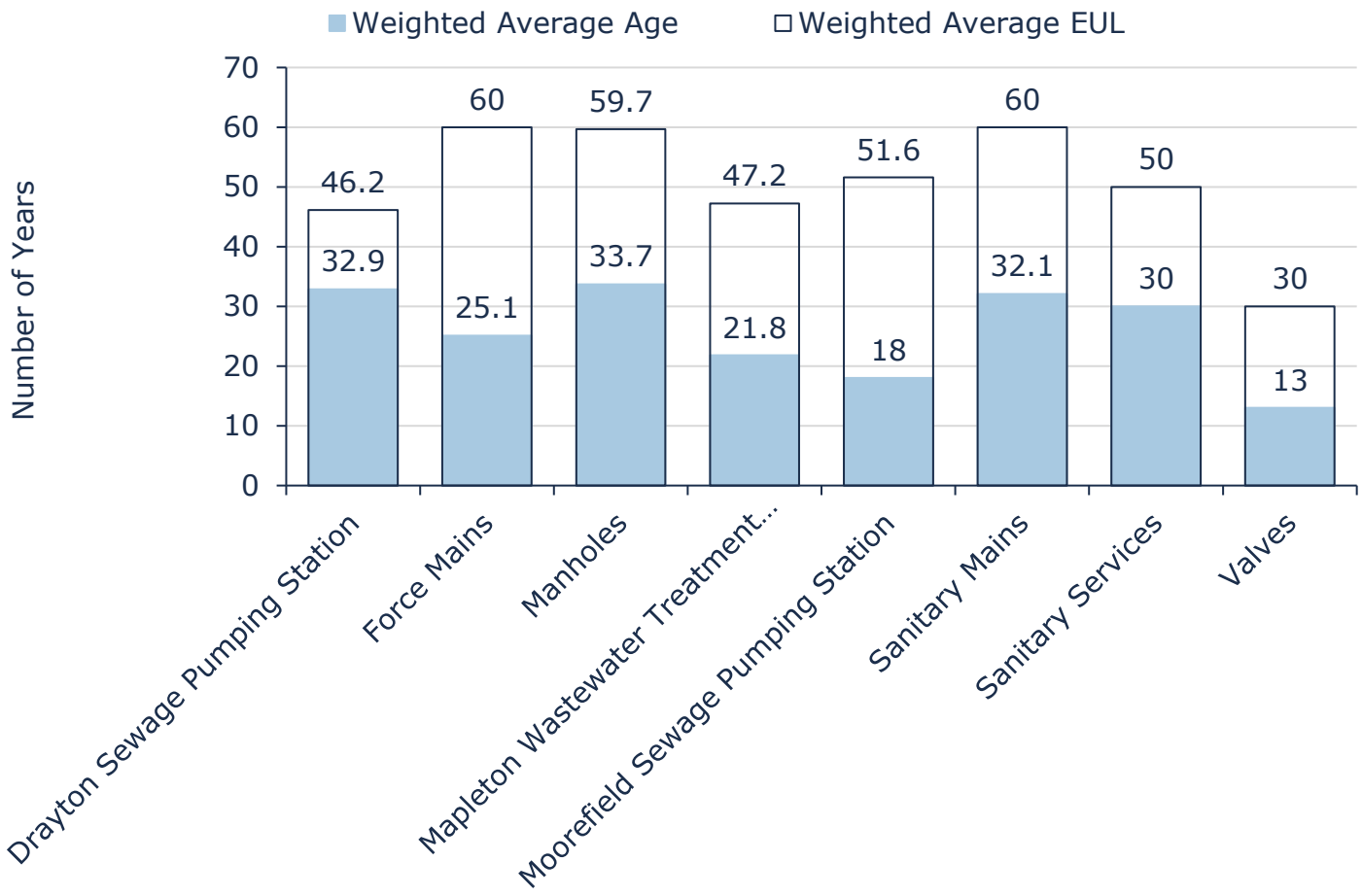


Figure 50: Estimated Useful Life vs. Asset Age: Wastewater Network

Age analysis reveals that all wastewater network assets are approaching halfway through their estimated useful lives.

8.4 Current Approach to Lifecycle Management

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

Wastewater and connecting structures undergo regular maintenance. The pipes are used to the end of their useful life, and then replaced, as regular rehabilitation activities require excavating and digging up surface roads, which is prohibitively costly. All rehabilitation and replacement activities are typically coordinated with pavement rehabilitation projects unless the defect is critical and/or threatens public safety.

The following table outlines The Township's current lifecycle management strategy for Wastewater Assets

Table 25: Lifecycle Management Strategy: Stormwater Management Facilities

Activity Type	Description of Current Strategy
Maintenance	Includes regularly scheduled inspection and maintenance programs along with major significant repair and activities associated with unexpected events which helps to ensure the life of assets at least to expected useful life. Typically includes activities such as repairing or replacing broken or major defects in the sanitary sewers, and similar unscheduled or unplanned emergency type activities carried out to maintain service for the sanitary sewer systems. • Cleaning and flushing, manhole repairs, CCTV inspections, and minor repairs to sanitary sewer/wastewater structures and piping. • Joint Sealing and instant/spot repairs • These would be modified to adapt to specific practices of the municipality.
Rehabilitation	• Pipe re-lining, immediate field repairs, flushing & cleaning. • Manhole replacement, joint and crack sealing. • Facilities rehabilitated are based on facility inspection reports and engineering judgement of service area like refurbish tanks, pumps, mixers, aerators, filters etc., Incinerator refurbished routinely. • Failures in one facility can be inspected at other facilities and added to scheduled preventative maintenance routines.
Replacement	Sanitary sewer replacement is based on the condition rating of the infrastructure. In most cases, once the pipe has been inspected and given a condition rating, Township staff can determine the best method for replacement: • Full replacement is the most common method for collapsed or heavily deteriorating pipe. • Look for clusters of poor condition rated sewers and apply high priority. • Coordinate with water, roads projects and through UCC. • Facilities are replaced based on facility inspection reports, engineering judgement and are carried on the components within the facility rather than the replacement of an entire wastewater treatment plant such as replace pump station, tankage, incinerator refurbishments, etc. • More stringent effluent criteria, new technology and the fact that major components of many wastewater facilities are approaching the end of their service life may drive the

Activity Type	Description of Current Strategy
	replacement of much of the existing wastewater infrastructure over the next 20-40 years.
Disposal	• Dispose of assets under the applicable regulation and environmental standards. • Assessment of material type and special considerations of health and safety concerns is part of disposal process.

8.5 Forecasted Long-Term Replacement Needs

Figure 51 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's Wastewater Network assets. This analysis was run until 2159 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 $643,000 for all assets in the Wastewater 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 largest replacement spike is forecasted to be $11.2 million in 2055-2059, 2095-2099, and 2145-2149 as assets reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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

A detailed 10-year capital replacement forecast can be found in Appendix A – 10-Year Capital Requirements.

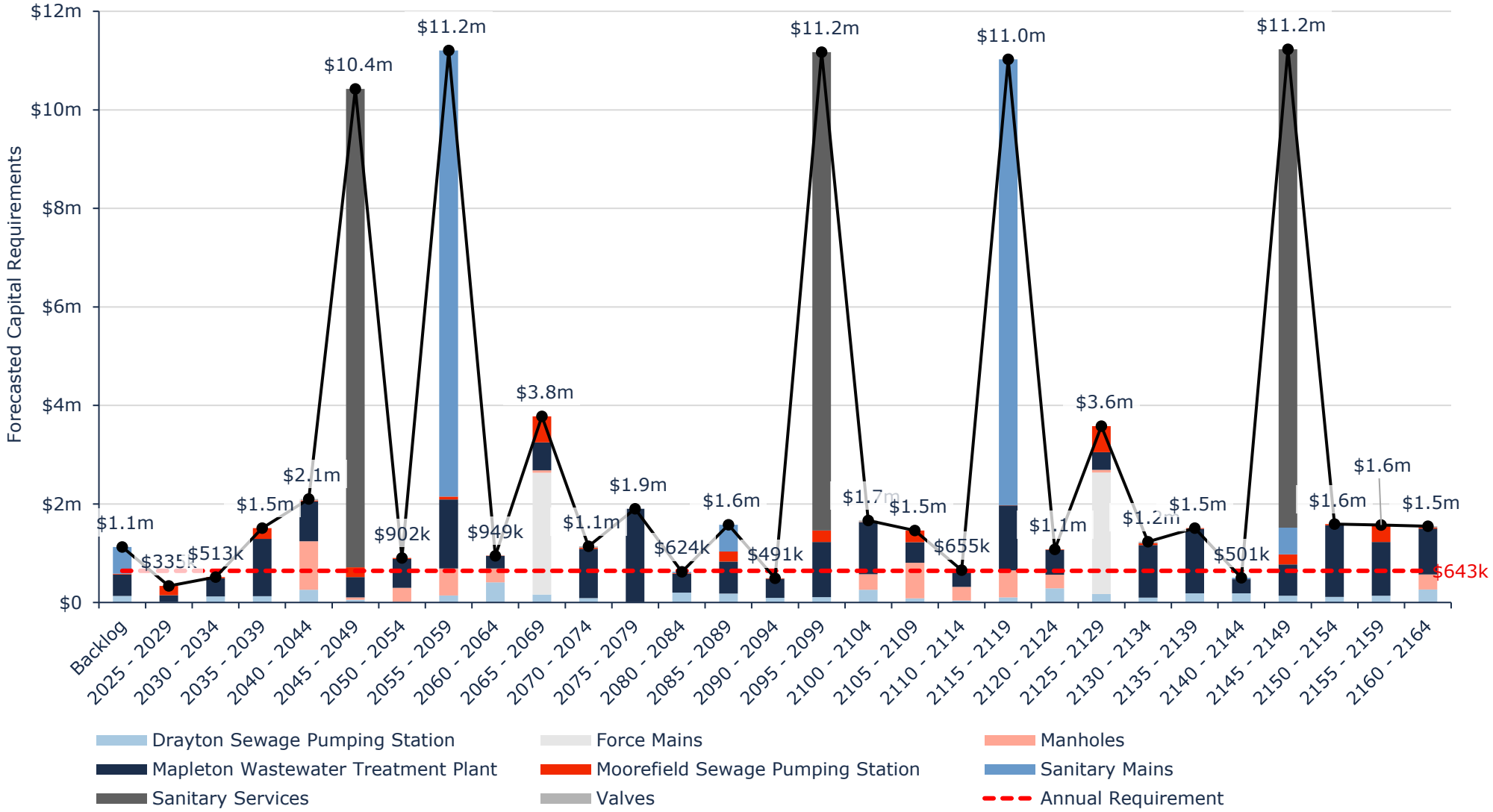


Figure 51: Forecasted Long-Term Replacement Needs: Wastewater Network

8.6 Risk Analysis

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

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$13,233,247 (44%)	$3,734,716 (12%)	$1,218,616 (4%)	$1,938,870 (6%)	$10,043,945 (33%)

Figure 52: Risk Matrix: Wastewater Network

8.6.1 Risk to Current Asset Management Strategies

Asset Data Confidence

The record of backup or overflow events is managed by a third-party contractor, which poses a data risk to the asset management plan. There is also a need to include condition-based assessments in the improvement plan to move beyond age-based metrics.

Lifecycle Management Strategies

Resources for maintenance are insufficient, and more is needed to extend the life of equipment.

Infrastructure Design/Installation

The long-term sustainability of the assets is a concern because some new systems were 'poorly designed and cheap materials'.

Aging Infrastructure

The network's condition is showing a steady decline, and there is a need for new construction and twinning of force mains to address aging infrastructure.

Infrastructure Re-investment

Resources for maintenance are considered insufficient, and there is a significant funding deficit, as the current budget is insufficient to maintain the network's condition.

8.7 Levels of Service

8.7.1 Community Levels of Service

Table 26: O. Reg. 588/17 Community Levels of Service: Wastewater Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	Appendix B
	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.	N/A
Reliability	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.	N/A
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.	Sump Pump Connection and Through manhole cover

Service Attribute	Key Performance Indicator	Current LOS (2025)
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described above.	Sump Pump Connections are illegal. Not permitted.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	Excellent

8.7.2 Technical Levels of Service

Table 27: O. Reg. 588/17 Technical Levels of Service: Wastewater Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Percentage of properties connected to the municipal wastewater system.	N/A
	The number 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
Reliability	The number of connection days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.	0
	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.	0

8.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Wastewater Network based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

8.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- The weighted average satisfaction rating for Wastewater (sewage backups, treatment) was 3.52 out of 5. A combined 48.14% of respondents were satisfied or very satisfied, while 44.44% were neutral.

- Wastewater treatment and reliability received a weighted average priority rating of 3.00 out of 5 stars.
- 44.44% of respondents would support a 0% rate increase for wastewater services. The target increase of 2.1% was supported by 14.81% of respondents.

Staff Engagement Results

Feedback from staff on the wastewater network reveals a general sentiment that the service is currently functional, though opinions differ on its future capacity and the strategy for long-term sustainability. The majority of staff rate the reliability of the service as 'Reliable' or 'Good' and note that odor control is rated 'Excellent' to 'Good' due to the use of lagoons. A sentiment among some staff is that the current level of service is 'Satisfactory' and that the network is being managed well, often with a third-party contractor.

However, there is a clear sentiment among other staff that the network's capacity and maintenance approach must be improved to support community growth. Some staff report one backup or overflow event a year during the spring flood season, with a pumper truck needed. While some find age-based condition acceptable, other staff believe it is not sufficient for a critical asset category that is vital to growth. A sentiment of concern also exists that resources for maintenance are not sufficient, and that more is needed to extend the life of equipment. Some staff also suggest that the level of service should be 'Increased' to support community needs, with a key recommendation to include condition-based assessments in the improvement plan. Staff also note that some systems are 'Fairly new but poorly designed and cheap materials'.

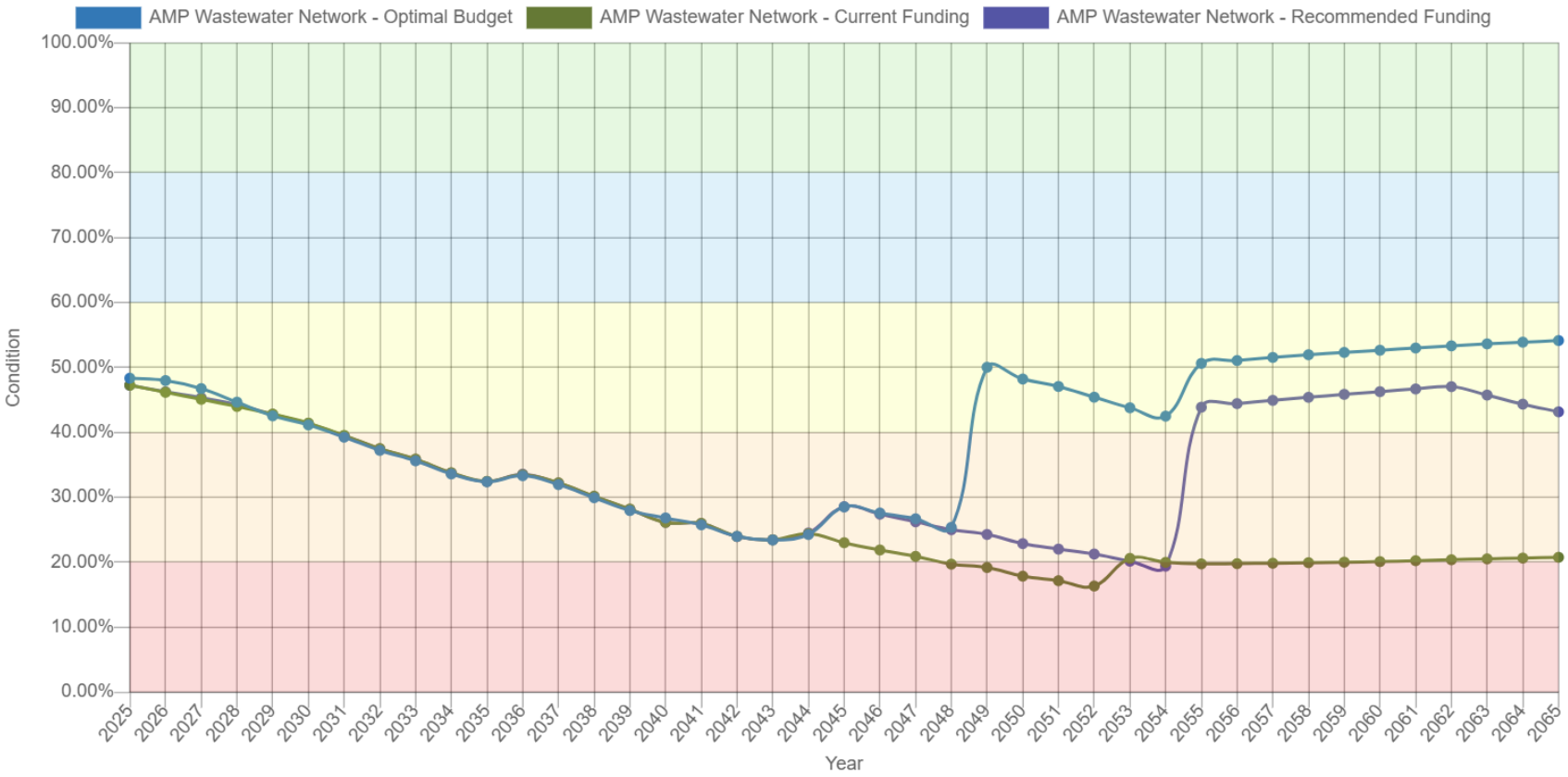


Figure 53: Projected Wastewater Network Conditions in Mapleton Under Optimal vs. Current vs Recommended Budget Scenarios"

8.7.3.2. Proposed Levels of Service Scenarios

Figure 53 illustrates the scenarios for the Wastewater Network that are analyzed using three funding models: Optimal Budget, Current Funding, and Recommended Funding.

- **Current Funding:** The current funding level is insufficient to sustain the wastewater network's condition. The graph shows a steady decline from approximately 45% in 2025 to about 25% by 2044, highlighting a widening funding gap and a failure to meet desired service levels. This trajectory signals increasing risks of service failures and costly emergency interventions.
- **Optimal Budget:** This scenario illustrates the level of investment required to maintain and improve the network's condition over the long term. Under this approach, the network's performance stabilizes at acceptable levels, preventing premature deterioration and avoiding higher long-term costs.
- **Recommended Budget:** This scenario incorporates a 3.2% annual rate increase to gradually close the funding shortfall. While the short-term outcomes overlap with the current funding scenario, the recommended budget progressively stabilizes conditions and approaches the performance levels seen under the optimal budget scenario. This strategy represents a financially feasible and sustainable pathway that balances infrastructure investment needs with the community's financial capacity.

The analysis underscores the critical importance of increased funding. Continuing with the current funding model will result in significant deterioration, reduced service reliability, and higher future costs. In contrast, the recommended budget provides a practical route to long-term stability, ensuring that major rehabilitation and replacement needs can be addressed without imposing unsustainable financial pressures.

8.7.3.3. Recommendations

Secure Sustainable Funding

Implement a funding strategy, which includes a 3.2% annual rate increase, to support the network's capacity for community growth.

Enhance Maintenance and Condition Assessment

Adopt a more proactive approach to maintenance, with a focus on including condition-based assessments in the improvement plan to move beyond age-based metrics.

Address Network Capacity

Address the need for new construction, such as a new pump station, and the twinning of force mains to prevent backup and overflow events, which have been reported by staff as occurring during the spring flood season.

8.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

A failure to increase wastewater rates will result in a funding gap, a growing infrastructure backlog, and a higher long-term financial burden on the municipality due to insufficient maintenance and aging assets.

Operational and Safety Risk

The network may fail to keep up with community growth, which is a critical driver for long-term sustainability. This could lead to a higher frequency of overflow events, which poses a risk to the environment and public health.

Community Satisfaction Risk

While satisfaction is currently moderate, failure to address network capacity and maintenance could lead to a decline in community confidence and satisfaction with municipal services.

Non-Core Assets

9. Facilities

The facilities asset category includes a diverse range of building types which serve various functions. These assets provide critical services like municipal operations, recreation, and community engagement. Facility assets are often highly valued by the community and represent the highest valued non-core asset category in the portfolio. For reporting purposes facility assets are reported by segment (fire halls are included within the Fire Services Section).Common assets to each segment are as follows:

- Recreation & Social Services: PMD Arena, Community Centers, Festival Theatre
- Public Works: Maintenance Building, Sand/salt building and storage buildings.
- Administrative and other: Municipal Office, Medical Clinic, and offices
- Cemetery Services: Chapel and Columbarium

9.1 Inventory & Valuation

Table 28 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Facilities asset inventory.

Table 28: Detailed Asset Inventory: Facilities

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration & Other	2	Buildings	$8,192,691	CPI
Cemetery Services	1	Buildings	$671,877	CPI
Public Works	5	Buildings	$13,531,261	CPI
Recreation & Culture	9	Buildings	$36,954,768	CPI
TOTAL			**$59,350,597**	

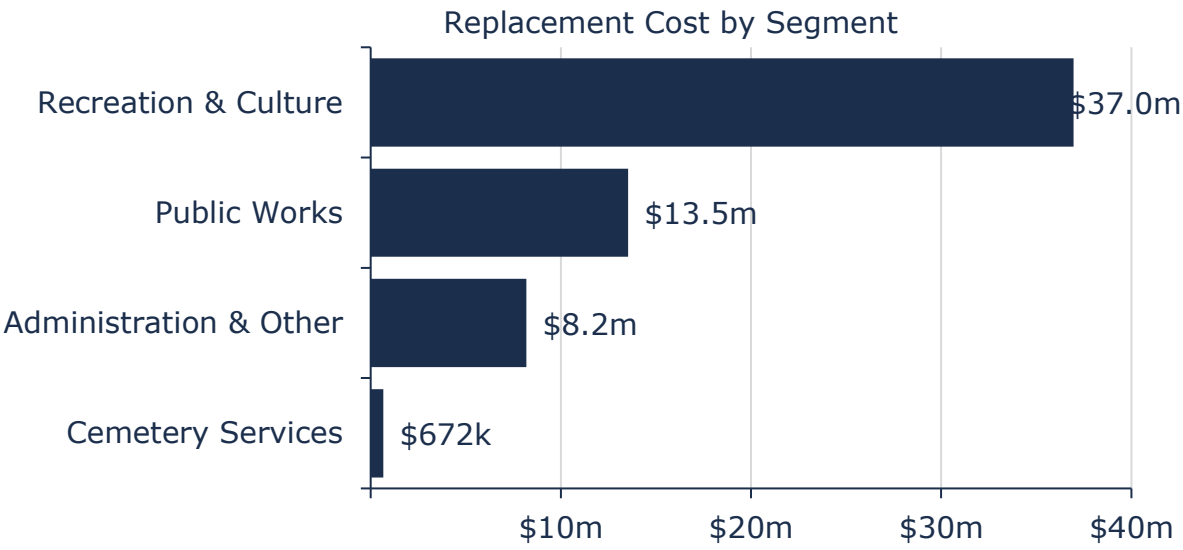


Figure 54: Portfolio Valuation: Facilities

9.2 Asset Condition

Figure 55 summarizes the replacement cost-weighted condition of the Township's facilities portfolio. Based on assessed conditions, 38% of facilities assets are in poor or worse condition with a current replacement cost of more than $22 million.

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.

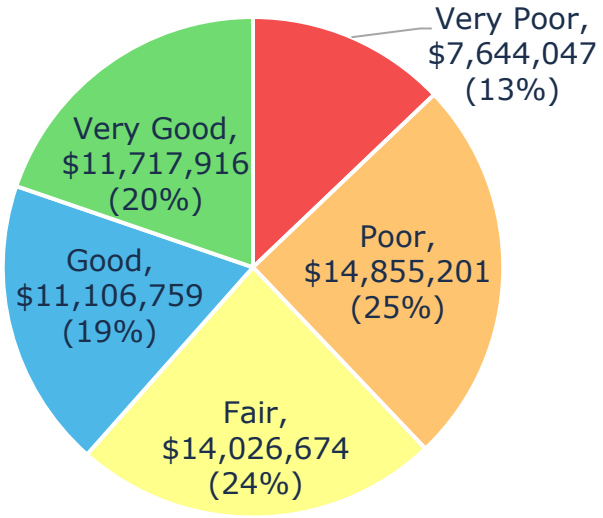


Figure 55: Asset Condition Overall: Facilities

Figure 56 summarizes the age-based condition of facilities by each department. A substantial portion of Cemetery Services, and Recreation & Culture facility assets are in poor to worse condition.

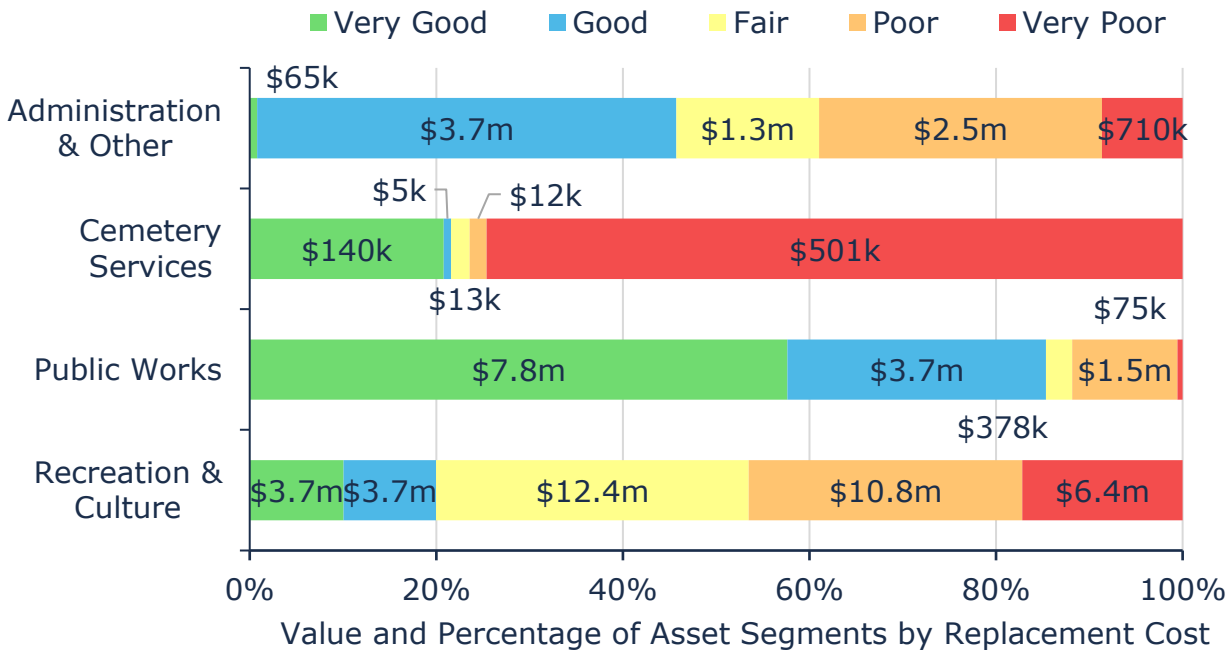


Figure 56: Asset Condition by Segment: Facilities

9.3 Age Profile

An asset's age profile comprises two key values: estimated useful life (EUL), or design life; and service life remaining (SLR). EUL is the initial estimated 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. With proper care and maintenance, SLR can be extended beyond the initial EUL.

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. Data and analysis provided in The Township's broader asset management plan is limited to high level summaries of this information to demonstrate overall trends and conditions.

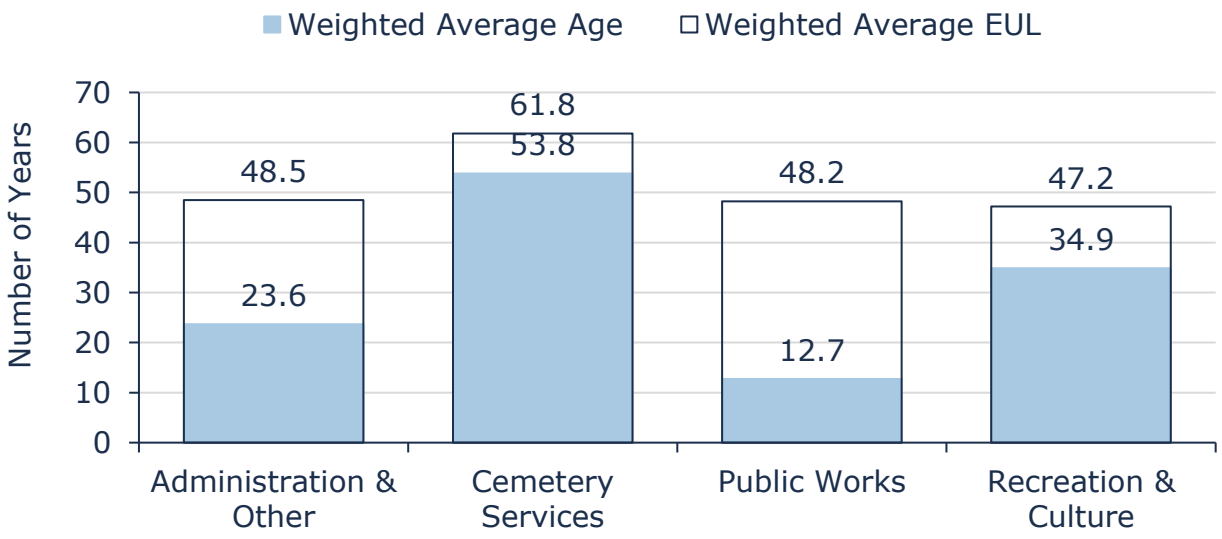


Figure 57: Estimated Useful Life vs. Asset Age: Facilities

Figure 57 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. Age analysis reveals that all the facilities' assets are well within their expected useful lives.

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 stakeholders, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

A number of Township facilities are approaching the end of their serviceable lives and will compete with growth-related and other priorities for limited available capital funds. The Township's Facilities Renewal Study provides guidelines to help develop the required strategies, and feed into The Township's broader asset management objectives.

Table 29 outlines The Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	• Inspections and servicing are completed as per manufacturer specifications; Health & Safety inspections conducted monthly, and Facilities are inspected annually. • Snow and ice removal maintenance • TSSA inspections for the PMD Arena Equipment every two years. Beginning in 2023 Building Condition Assessments (BCA) was completed on all facility assets. The data collected through the assessments identified recommended repairs and replacement schedules. This information is central to the selection of long-term capital projections. In some cases, the BCA recommends studies to better understand existing state, functionality, and risks (i.e., presence of asbestos) and develop infrastructure management solutions accordingly. • Residents can submit complaints to the Township regarding the state of Facilities assets. Complaints are reviewed, recorded, and responded to accordingly.
Rehabilitation/ Replacement	• Historically many asset replacements have been reactive based on asset component failure. With the completion of the BCA the Township intends to become more proactive in their asset lifecycle activities. • Currently, capital projects are forecasted based on a 10-year planning horizon. Generally, clarity of projects is highest in the first 1-4 years of the plan with projects planned in years 5 and beyond more likely to change over time.
Disposal	• Obsolete assets are decommissioned as needed.

Activity Type	Description of Current Strategy
Growth	• Space requirements will change as the Township continues to grow and staffing requirements increase to maintain the levels of service also increase • New developments would require more community facilities to ensure all residents have access to the services provided by the Township

Table 29: Lifecycle Management Strategy: Facilities

9.5 Forecasted Long-Term Replacement Needs

Figure 58 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's facilities assets. 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 $1.6 million for all assets in the Facilities. 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 largest replacement spike is forecasted to be $11.2 million in 2035-2039, followed by $10.3 million in 2090-2094, as assets reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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

A detailed 10-year capital replacement forecast can be found in Appendix A – 10-Year Capital Requirements.

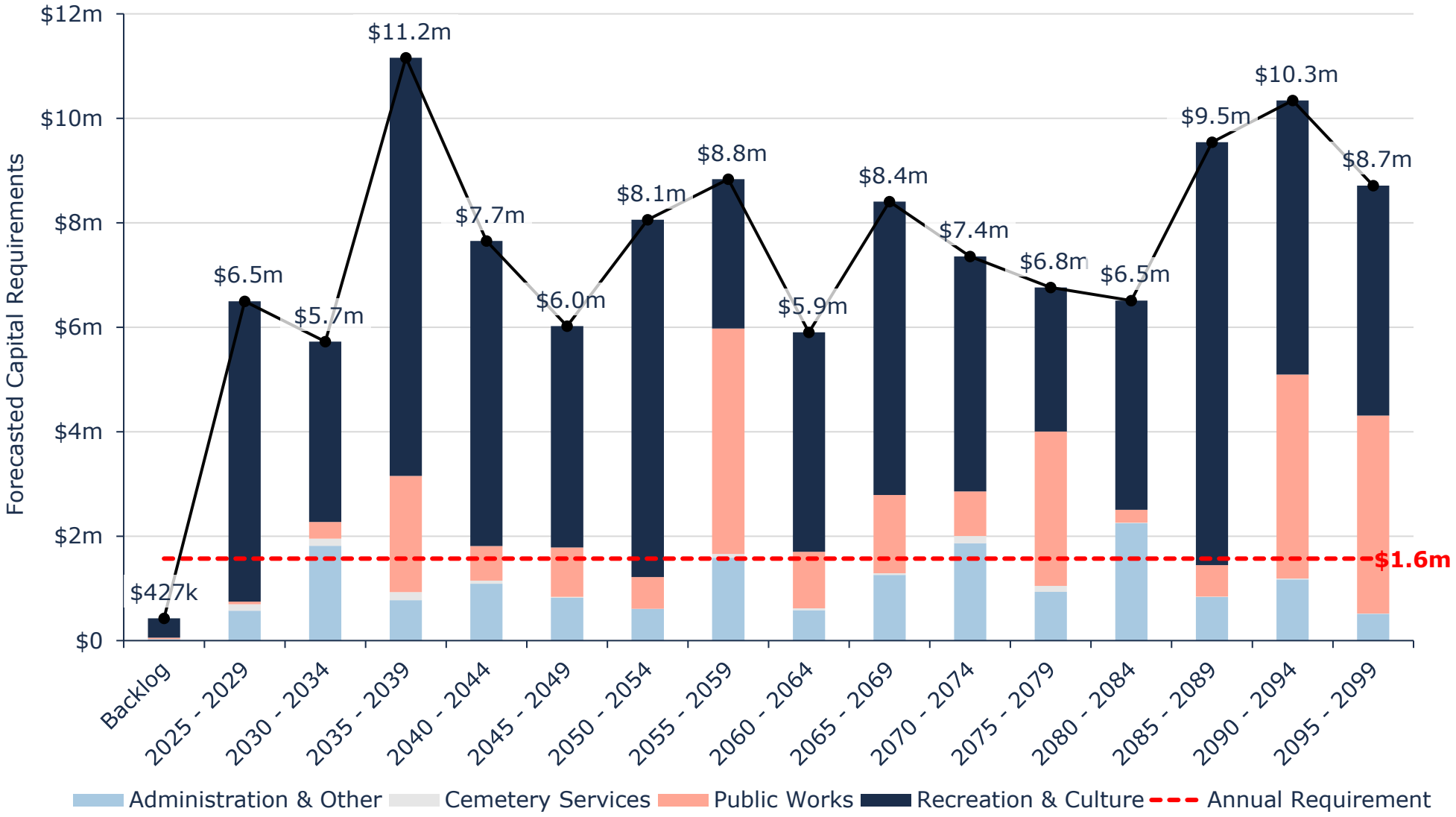


Figure 58: Forecasted long-term requirements: Facilities

9.6 Risk Analysis

The risk matrix below is generated using available asset data, condition, 5-Year FCI, Facility type, Impact of Failure, and replacement costs. Breakdowns of the risk criteria used for probability and consequence of failure can be found in Appendix C – Risk Rating Criteria.

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$13,629,612 (23%)	$12,436,374 (21%)	$5,687,599 (10%)	$23,465,533 (40%)	$4,131,479 (7%)

Figure 59: Risk Matrix: Facilities

9.6.1 Risk to Current Asset Management Strategies

Infrastructure Design/Installation

The need to improve accessibility with ramps and elevators, and to update older buildings, indicates potential design or installation issues.

Aging Infrastructure

A significant portion of the assets are in poor or very poor condition, which is a key risk to the reliability and safety of the network.

Growth

The asset management plan may be at risk of not meeting future community needs, as staff have recommended creating more community recreation space to support an evolving population.

Infrastructure Re-investment

More investment is necessary to address deficiencies in buildings, such as the Fire Halls and Festival theatre.

Other

A key regulatory risk is the need to maintain and increase AODA compliance as assets are replaced. Energy consumption should be decreased to support the municipality's sustainability objectives.

9.7 Levels of Service

The Township of Mapleton is dedicated to providing exceptional services across all municipal facilities. The Township strives to ensure that all residents and visitors to the community can access and benefit from its facilities Regular inspections and maintenance ensure that these facilities remain safe, secure, and resilient, while also being reliably responsive to emergencies.

9.7.1 Community Levels of Service

Table 30: Community Levels of Service: Facilities

Service Attribute	Qualitative Description	Current LOS (2025)
Condition	Description of building/ facility condition (includes maps and images)	Residents are satisfied with the overall condition of the community facilities and the services provided (based on online reviews and customer feedback to the staff). The PMD arena needs more capital work to maintain current levels of service.
Scope	Description of quality, quantity, and diversity of recreational and cultural facilities, programs, and services provided	The Township has one Arena-Community Center and two other community centers in three urban hamlets in the Township. The Municipal office is for administrative services and Public Works operation buildings are maintained in good state of repair.
Capacity/ Availability	Description of building/facility capacity and how assets are	The arena accommodates both hockey and figure skating, owing to a new ice allocation policy ensuring fair ice time. Community centers host various

Service Attribute	Qualitative Description	Current LOS (2025)
	meeting needs of user groups (user feedback)	events, while the municipal office serves residents for taxes, information, and permits. Public works buildings are crucial for community operations. Overall, the building capacity is adequate.
Affordability	Description of affordability from the residents' perspective	The fee for the services is provided is on the lower end of the surrounding communities.
Environmental Stewardship	Providing facilities that are energy efficient.	The community is increasingly prioritizing environmental protection and energy efficiency. The Environment Advisory Committee is producing various strategies to promote sustainability. To support these initiatives, the Township also has a shared Resource – Climate Change Coordinator.

9.7.2 Technical Levels of Service

Table 31: Technical Levels of Service: Facilities

Service Attribute	Key Performance Indicator	Current LOS (2025)
Condition	% of assets that are in fair or better condition	62
	% of assets that are in poor or very poor condition	38

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	# of Buildings	1 Arena, 3 Community centers, 1 Festival Theatre, 1 Chapel, 1 Municipal Office, 1 Medical clinic & office, 1 Maintenance Building, 2 Storage Buildings, 2 Sand/salt buildings, 1 Splashpad mechanical building,
Capacity/Availability	Average wait times	Same day bookings available for Arena and Community Centers, except during prime time.
	Utilization %	Seasonal Utilization
Accessibility	Percentage (%) of occupied Facilities that are accessibility (AODA) compliant.	The Community centers, Maintenance building and Municipal office are 100% accessible.
Environmental Stewardship	Annual electric energy consumption (eKWH)	Appendix D – Facility Energy Consumption (2024)

9.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Facilities based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

9.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- The maintenance of Public Buildings and Facilities received a weighted average satisfaction rating of 3.54 out of 5. A combined 57.70% of respondents were either satisfied or very satisfied.
- Municipal Buildings and Facilities were ranked with a weighted average priority rating of 2.44 out of 5 stars, making it one of the lowest-ranked priorities.

- 37.04% of respondents would support a 0% tax increase for facilities. The target increase of 2.1% was supported by 11.11% of respondents.

Stakeholder Engagement Results

Feedback from staff on the municipal buildings and facilities reveals a general sense of satisfaction with their current condition and management, while also highlighting specific areas for improvement and future investment. Staff members are largely satisfied with the reliability, availability, and responsiveness of building services, with one respondent noting that issues are addressed 'immediately (same day)' which is considered 'above average when compared to other municipalities'. The overall condition and cleanliness of the buildings are rated as 'good' or 'very clean' by several staff members, and it's felt that the buildings are generally meeting the community's needs for sociality and governance. Some staff note that all buildings are in a 'satisfactory condition'.

However, there is also a clear sentiment that improvements are needed, particularly for long-term sustainability and to address specific deficiencies. While some staff agree that resources are adequate, others believe that more investment is necessary, especially for the Fire Halls and Festival theatre. The current approach to maintenance is described as proactive, but with a recommendation for a more strategic approach to lifecycle activities. The level of service for building condition should be 'Increased' according to several staff, who also suggest that a high percentage of buildings in 'poor condition' might be misleading and that no buildings should be in that state. Furthermore, there is a strong sentiment that energy consumption should be 'Decreased' and that the municipality should seek opportunities to make replacements more energy efficient. Specific recommendations include creating more community recreation space, such as an additional ice pad or a pool, improving accessibility with ramps and elevators, and updating some buildings like the Firehalls and the Public Works building.

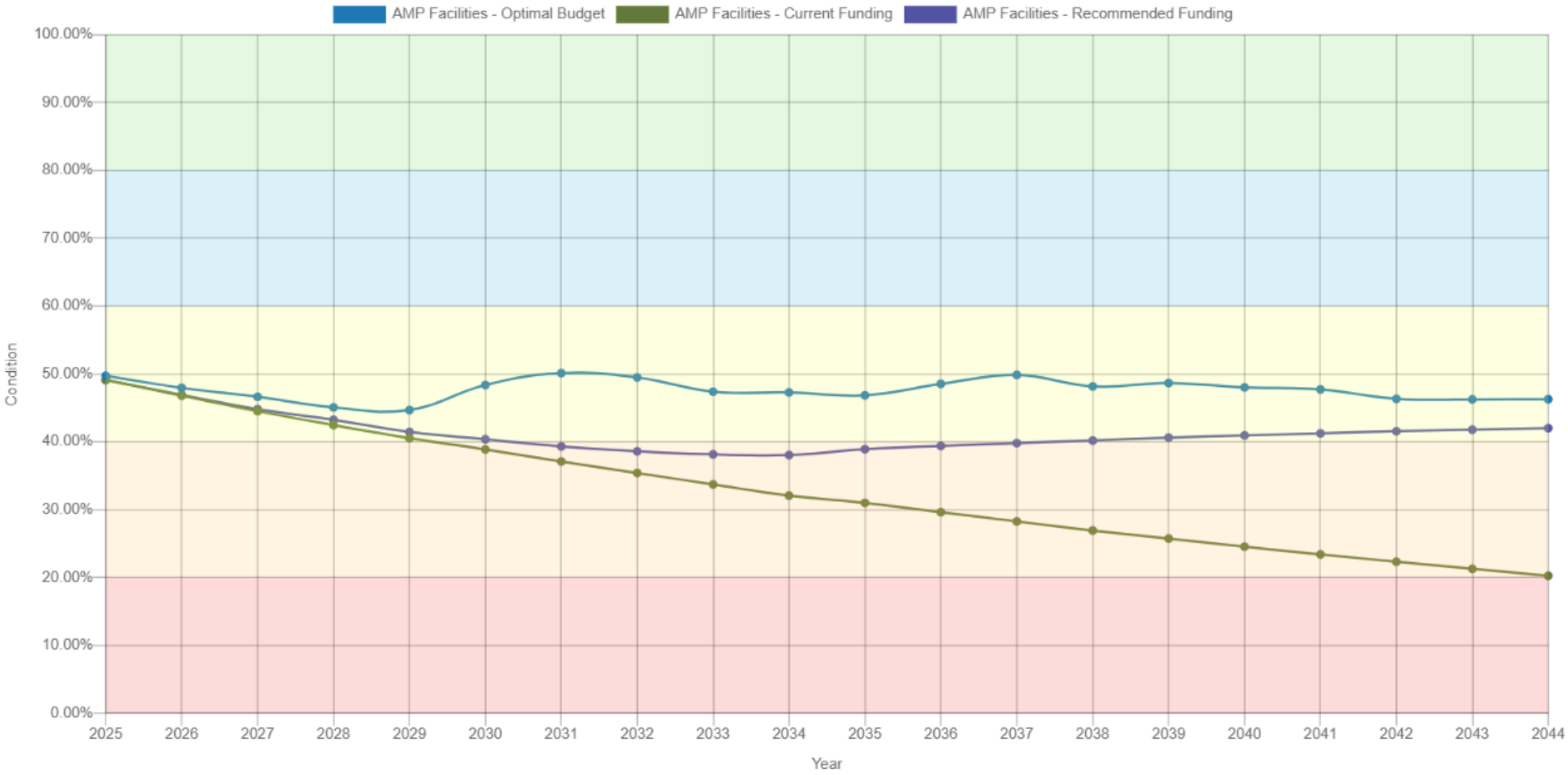


Figure 60: PLOS: Facilities - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

9.7.3.2. Proposed Levels of Service Scenarios

Figure 60 illustrates the scenarios for the Facilities network are analyzed using three funding models: Optimal Budget, Current Funding, and Recommended Funding.

1. **Current Funding:** The current funding level is insufficient to maintain the facilities network's condition. The graph shows the condition steadily declining from approximately 48% in 2025 to a low of approximately 20% by 2044. This indicates a significant funding deficit and a failure to meet desired service levels, which will lead to a deteriorating network over the long term.
2. **Optimal Budget:** This scenario represents the average annual funding required to maintain or improve the facilities network's condition. The graph demonstrates that with this level of investment, the network's condition would remain stable. This budget would allow the municipality to proactively manage assets and prevent significant deterioration.
3. **Recommended Funding**: This financial strategy is designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The graph shows that the average condition of the network will initially decline slightly but then begin a gradual recovery, eventually aligning with the optimal budget scenario by 2044.

The analysis of the scenarios reveals a clear need for increased funding to prevent the deterioration of the facilities network. The current funding model leads to a steady decline in the network's condition, which will likely result in increased service failures and costly emergency repairs in the future. The recommended budget, while not providing an immediate solution, offers a feasible and sustainable pathway to long-term financial stability. The graph demonstrates that the gradual increase in funding will allow the network's condition to stabilize and eventually align with the optimal level of service. This approach balances the need for infrastructure investment with the financial impact on the community.

9.7.3.3. Recommendations

Secure Sustainable Funding

Implement the recommended funding strategy, which includes a 4.4% yearly tax increase over the next 10 years, to close the funding gap and reverse the declining

trend in the network's condition. This will allow the municipality to make necessary investments and ensure long-term sustainability.

Improve Building Condition and Accessibility

Staff believe that more investment is necessary, especially for the Fire Halls and Festival theatre. There is a strong sentiment that no buildings should be in a 'poor' state, and accessibility should be improved with ramps and elevators.

Enhance Environmental Stewardship

Staff express a strong sentiment that energy consumption should be 'Decreased' and that the municipality should seek opportunities to make replacements more energy efficient.

Expand Recreational Capacity

Recommendations from both the public and staff include creating more community recreation space, such as an additional ice pad or a pool.

9.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

The continued decline in the network's condition under the current budget will lead to a growing infrastructure backlog. This will result in an increased number of service failures and a higher long-term financial burden on the municipality due to the need for more expensive and extensive emergency repairs.

Operational and Safety Risk

Staff suggest that a high percentage of buildings in 'poor condition' might be misleading, but it could still be associated with unsafe conditions. A deteriorating network could impact the reliability of building services and pose a risk to public health and safety.

Community Satisfaction Risk

Public satisfaction with facilities is moderate. Failure to address issues like aging buildings, lack of recreational capacity, and accessibility could further erode public confidence and lead to a decline in community satisfaction with municipal services.

10. Fire Services

Fire related assets represent a variety of asset types that serve to provide fire suppression, rescue operations, fire prevention inspections, public fire safety education, and first response emergency medical services. These comprehensive fire-related services ensure the safety and well-being of the community, protecting life and property through skilled and prepared firefighting teams.

10.1 Inventory & Valuation

Table 32 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Parks asset inventory.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fire Facilities	2	Buildings	$5,542,176	User-Defined
Fire Fleet	10	Assets	$5,583,916	User-Defined
Fire Machinery & Equipment	30	Assets	$1,500,000	User-Defined
TOTAL			**$12,626,092**	

Table 32: Detailed Asset Inventory: Fire Services

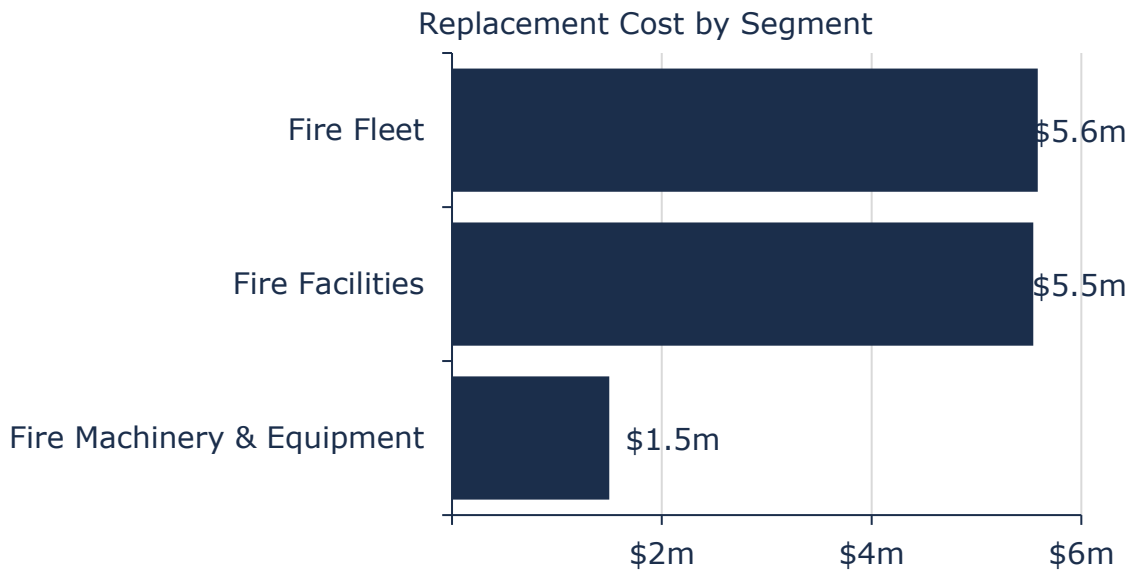


Figure 61: Portfolio Valuation: Fire Services

10.2 Asset Condition

The assets condition, lifecycle strategies and investment requirements information were collected as part of the Building Condition Assessments (BCA), draft Fire Master Plan and from the expertise of Fire Management Team.

Figure 62 shows that 64% of fire services assets are in poor or worse condition.

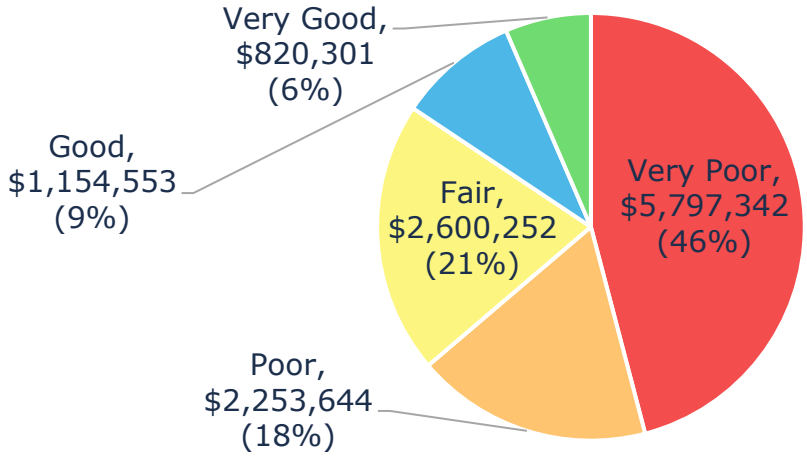


Figure 62: Asset Condition: Fire Services: Overall

Figure 63 illustrates that most fire fleet, machinery, and equipment are in a very poor condition.

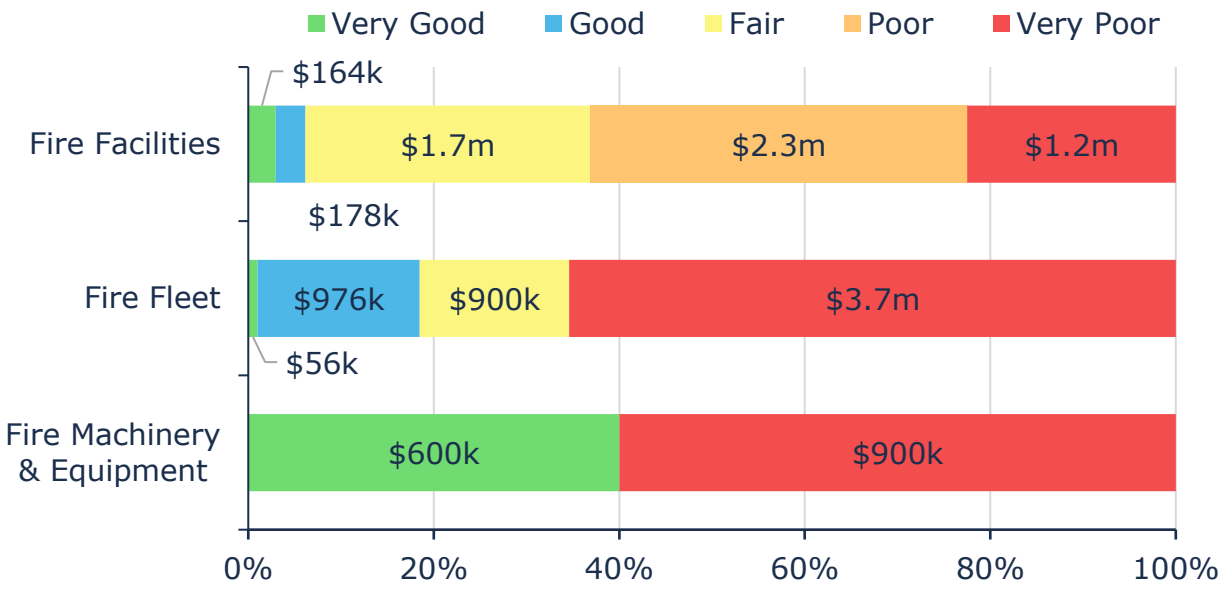


Figure 63: Asset Condition by Segments: Fire Services

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.

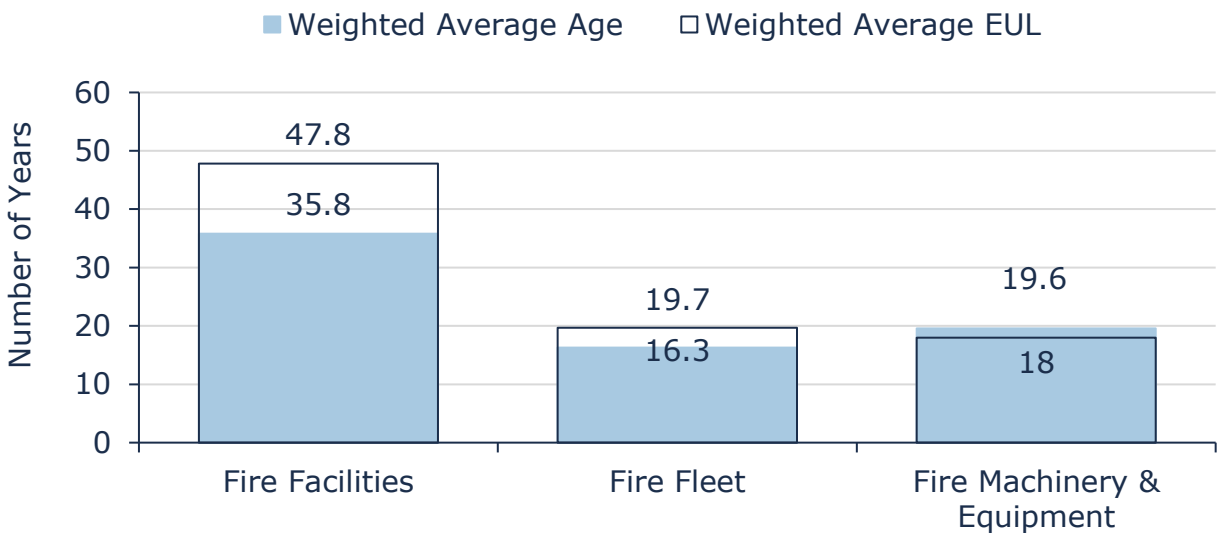


Figure 64: Estimated Useful Life vs. Asset Age: Parks

Figure 64 illustrates the average current age of each Fire services asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets. Age analysis reveals that Fire machinery & equipment have exceeded their useful lives, whereas, fire fleet are quickly approaching their estimated useful lives.

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 stakeholders, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table further expands on The Township's current approach to lifecycle management:

Table 33: Lifecycle Management Strategy: Fire Services

Activity Type	Description of Current Strategy
Maintenance & Inspection	• Fire fleet and equipment assets inspections are completed through a combination of internal fire staff and an external contractor. Fire hose inspections are completed by the staff internally. • Snow and ice removal maintenance on Fire Facilities assets (Drayton and Moorefield Fire Hall). • Building condition assessments completed in 2023 for the Drayton and Moorefield Fire halls. The data collected through the assessments identified recommended

Activity Type	Description of Current Strategy
	repairs and replacement schedules. This information is central to the selection of long-term capital projections. In some cases, the BCA recommend studies to better understand existing state, functionality, and risks and develop infrastructure management solutions accordingly • For Fleet, Mapleton Fire staff has a management plan in works.
Rehabilitation & Replacement	• Replacement plan is under the work for all our fleet and major equipment. The Township of Mapleton plans to advance replacement and rehabilitation projects, based on recommendations from the internal replacement plan and the expertise of Fire Management Team.

10.5 Forecasted Long-Term Replacement Needs

Figure 65 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's fire services assets. This analysis was run until 2089 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $534,000 for all assets in the Facilities. 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 largest replacement spike is forecasted to be $6.3 million in 2065-2069, followed by $5.2 million in 2085-2089, as assets reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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

A detailed 10-year capital replacement forecast can be found in Appendix A – 10-Year Capital Requirements.

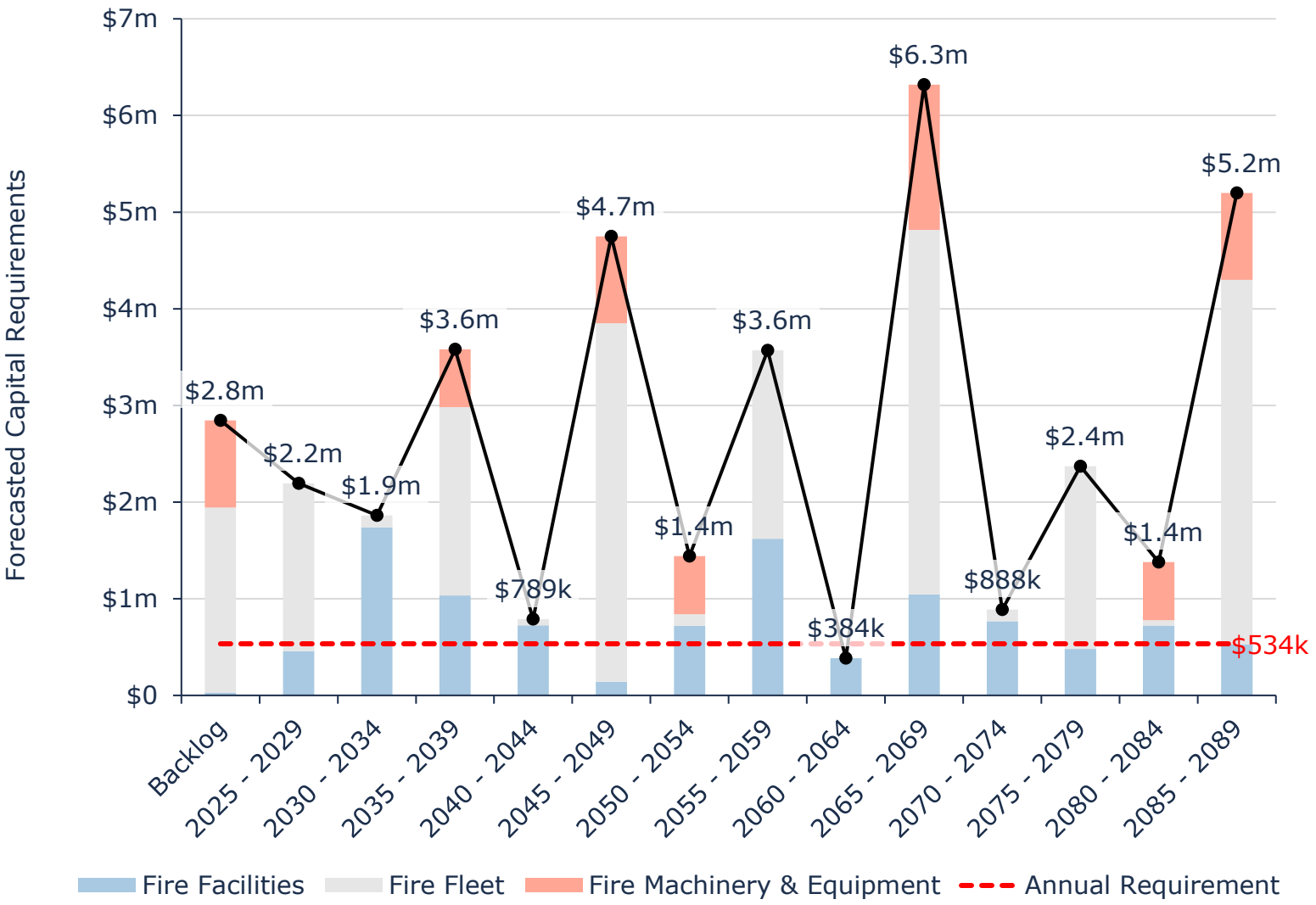


Figure 65: Forecasted long-term financial requirements: Fire Services

10.6 Risk Analysis

The risk matrix below is generated using available asset data, condition and replacement costs. Breakdowns of the risk criteria used for probability and consequence of failure can be found in Appendix C – Risk Rating Criteria.

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$923,520 (7%)	$1,174,142 (9%)	$1,208,504 (10%)	$7,792,950 (62%)	$1,526,975 (12%)

Figure 66: Risk Matrix: Fire Services

10.6.1 Risk to Current Asset Management Strategies

Asset Data Confidence

The current condition rating for fire services might be misleading and a lack of data makes it hard to determine past actions and plan for the future.

Lifecycle Management Strategies

Reserve contributions are lacking to replace equipment, which indicates a risk to effective lifecycle management and asset sustainability.

Infrastructure Design/Installation

Facilities need to be upgraded to include shower and decontamination areas, and the fleet needs some trucks replaced due to age.

Aging Infrastructure

A significant portion of the fleet and facilities are aging, with some trucks being over 20 years old and a high percentage of assets in poor condition.

Other

Officially setting a service level for response time in a by-law is a regulatory risk that needs to be addressed in the asset management strategy.


Mapleton
FIRE & RESCUE
DRAYTON STATION
EVERY SECOND COUNTS
PLAN 2 WAYS OUT

10.7 Levels of Service

Following tables identify the Township's current community and technical level of service (LOS) for Fire related assets. These metrics were determined by Mapleton based on data availability and local relevance.

10.7.1 Community Levels of Service

Table 34: Community Levels of Service: Fire Services

Service Attribute	Key Performance Indicator	Current LOS (2025)
Fire Suppression	Well trained and equipped firefighters directed by capable officers to stop the spread of fires once they occur and to assist in protecting the lives and safety of residents.	At present, Mapleton shares joint Fire Management agreement with Wellington North and Minto. This includes the Fire chief, two Deputy Fire Chiefs as well as a Training Officer, a Fire Prevention Officer and Admin Coordinator. Mapleton has 40 volunteer firefighters. Fire fleet and equipment assets undergo regular and rigorous inspection and testing. Inspections are completed both by internal staff and external contractors based on the asset type (yearly external and as well as internal staff).
Fire Prevention & Public Education	Providing education to the community residents to fulfill responsibilities for their own fire safety. Ensuring that buildings have the required fire protection systems, safety features including fire safety plans, and that these systems are maintained, to minimize the severity of fires	Mapleton participates in school and youth group visits to deliver educational messages, attends the Seniors Centre for Excellence to provide fire safety tips annually and hosts a Safe Kids Day. Mapleton is a partner in a jointly owned Fire Safety Trailer, which is used to promote fire safety public education at shared events. For Fire Prevention, the inspections are completed arising out of complaint, request or self-initiated and fire investigations are provided.

Service Attribute	Key Performance Indicator	Current LOS (2025)
Training	Fire Services personnel receive the training necessary to meet legislative requirements.	The Fire services are working towards compliance for the legislative requirements effective in 2026 and the training programs meet the appropriate NFPA standards.
Condition	Assets are maintained in a state of good repair	The comments received from firefighters highlight the need for Drayton fire station to go under repairs and renovations. Moorefield fire hall is in adequate condition but needs some cosmetic and routine maintenance completed. The Township also has a relatively modern fleet and equipment inventory with some needed renewals.

10.7.2 Technical Levels of Service

Table 35: Technical Levels of Service: Fire Services

Service Attribute	Key Performance Indicator	Current LOS (2025)
Fire Suppression	NFPA 1720 - Emergency Response (Rural): 6 Firefighters in 14 Minutes, 80% of time	Working on data to reflect compliance
	NFPA 1720 - Emergency Response (Suburban – Drayton, Moorefield and Alma): 10 Firefighters in 10 Minutes, 80% of time	Working on data to reflect compliance
	Dispatch Response - 95% of Calls Answered in 15 Seconds	Working on data to reflect compliance
	Dispatch Response - 99% of Calls Answered in 40 Seconds	Working on data to reflect compliance
Fire Prevention & Public Education	Fire Inspection Cycles (based on type of building) followed.	Part of Mapleton's fire services risk assessment and currently working on internal inspection program
	Number of request and complaint inspections completed in 2024	10 (Total Inspections) 12 (Total Complaints)

Service Attribute	Key Performance Indicator	Current LOS (2025)
	Public Education	12 Events that include 250 School Students
Training	Volunteer Firefighter Complement	NFPA 1001 Standard for Firefighter training
Condition	% of assets that are in fair or better condition (in terms of replacement cost)	36%
	% of assets that are in poor or worse condition (in terms of replacement cost)	64%

10.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Fire Services based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

10.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- Fire and Emergency Services received the highest weighted average satisfaction rating at 4.04 out of 5. A combined 80.77% of respondents were satisfied or very satisfied.
- Fire and Emergency Services received a weighted average priority rating of 3.56 out of 5 stars.

Staff Engagement Results

Feedback from staff on fire services reveals a general sentiment of high satisfaction with the current level of service, particularly concerning reliability and response times. Staff members are confident that fire services are meeting the municipality's needs appropriately. The condition of fire facilities, fleet, and equipment is rated as 'Good' or 'Excellent', with one staff member noting that the fleet and equipment have recently been upgraded. Most staff also believe that the current approach to lifecycle and maintenance activities is sufficient.

However, there is a strong sentiment that the level of service and long-term funding should be increased to support future growth and address aging assets. While day-to-day resources are considered adequate, staff express concern that reserve contributions are 'lacking to be able to replace the equipment'. Specific facilities, such as the Drayton Fire Station, are noted as needing upgrades, and the fleet has some trucks that are over 20 years old. Staff also believe that the level of service should be increased because emergency service equipment should be in 'top shape to respond to incidents' and that the current rating for 'fair or better' is 'very low' and 'unacceptable'. Recommendations include officially setting a service level for response time in a by-law, making sure equipment and training are up to date, and upgrading facilities to include shower and decontamination areas.

10.7.3.2. Proposed Levels of Service Scenarios

Figure 67 illustrates three scenarios analyzed using these funding models: Optimal, Current, and Recommended.

1. **Current Funding**: The current funding level is insufficient to maintain the fire services network's condition. The graph shows the network's condition declining from approximately 35% in 2025 to a low of approximately 22% by 2044. This indicates a significant funding deficit and a failure to meet desired service levels, which will lead to a deteriorating network over the long term.
2. **Optimal Budget:** This scenario represents the average annual funding required to maintain or improve the fire services network's condition. The graph demonstrates that with this level of investment, the network's condition would recover from its current state and remain stable for most of the forecast period.
3. **Recommended Funding:** This financial strategy is designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The graph shows that the average condition of the network will

initially decline slightly but then begin a gradual recovery, eventually aligning with the optimal budget scenario by 2044.

The analysis of the scenarios reveals a clear need for increased funding to prevent the deterioration of fire service assets. The Current Funding model leads to a steady decline in the network's condition, which will result in an increase in aging assets and a higher long-term financial burden on the municipality. The Recommended Budget, while not providing an immediate solution, offers a feasible and sustainable pathway to long-term financial stability. The graph demonstrates that the gradual increase in funding will allow the network's condition to stabilize and eventually align with the optimal level of service. This approach balances the need for infrastructure investment with the financial impact on the community.

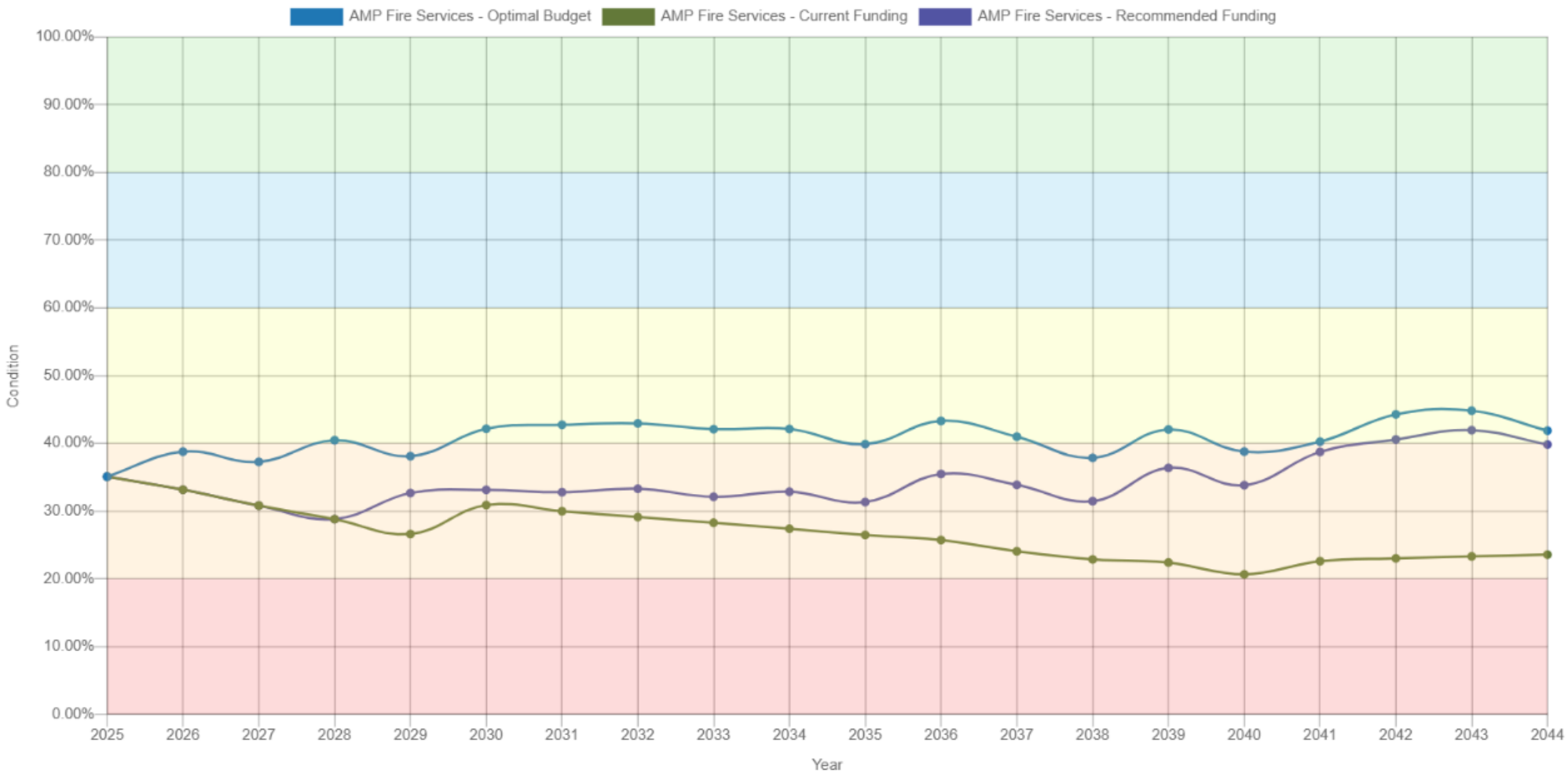


Figure 67: PLOS: Fire Services- Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

10.7.3.3. Recommendations

Secure Sustainable Funding

Implement the recommended funding strategy, which includes a 4.4% yearly tax increase over the next 10 years, to close the funding gap and reverse the declining trend in the network's condition. Develop a financial strategy to increase reserve contributions for the timely replacement of fire service equipment.

Upgrade Fire Facilities and Fleet

Address the need for upgrades to specific facilities, such as the Drayton Fire Station, and the fleet, which has some trucks that are over 20 years old. This includes upgrading facilities to include shower and decontamination areas.

Improve Service Level Metrics

Officially set a service level for response time in a by-law to ensure the department is meeting community expectations for timeliness and reliability.

10.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

A continued decline in the network's condition will lead to a growing infrastructure backlog, resulting in a higher long-term financial burden on the municipality due to the need for more expensive and extensive emergency repairs and replacements.

Operational and Safety Risk

A deteriorating network could impact response times and the reliability of equipment, posing a significant risk to public health and safety. This is particularly critical as emergency service equipment must be in top shape to respond to incidents.

Community Satisfaction Risk

While public satisfaction with the service is currently high, the low condition rating for some assets could lead to a decline in community confidence and satisfaction with fire services if not addressed.

11. Fleet

The Township owns and operates a range of vehicles that support service delivery and asset maintenance across departments. Public Works fleet assets include tandem trucks, pick-up trucks, trailers, and vehicles used by By-law and Building Services. Recreation and Culture operates two pick-up trucks for staff access to facilities, parks, and cemeteries.

11.1 Inventory & Valuation

Table 36 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Other Infrastructure inventory.

Table 36: Detailed Asset Inventory: Fleet

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration & Other	3	Assets	$290,000	User-Defined
Cemetery Services	2	Assets	$20,991	CPI
Public Works	43	Assets	$7,574,038	User-Defined
Recreation & Culture	13	Assets	$405,199	User-Defined
Total			**$8,290,228**	

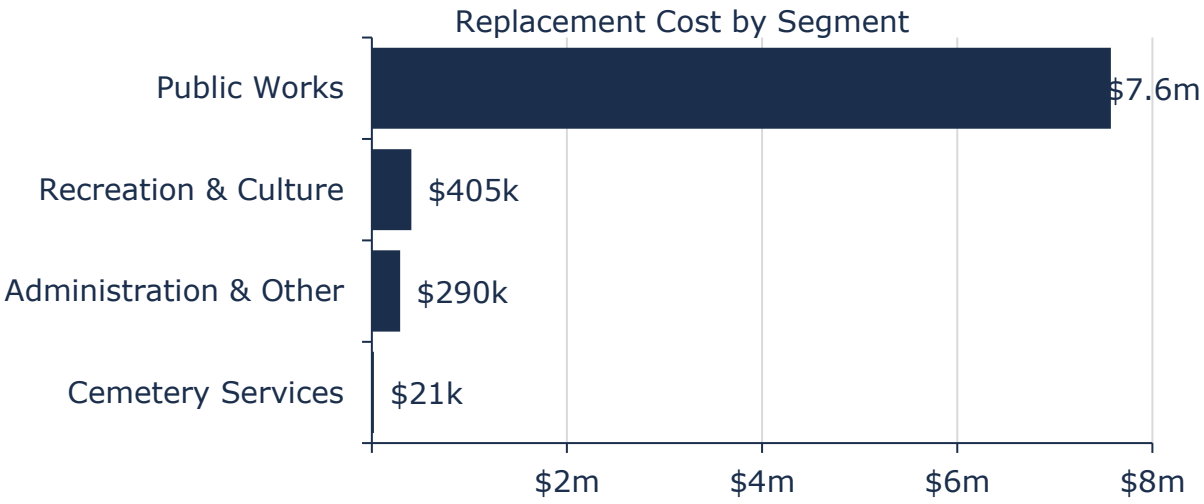


Figure 68: Portfolio Valuation: Fleet

11.2 Asset Condition

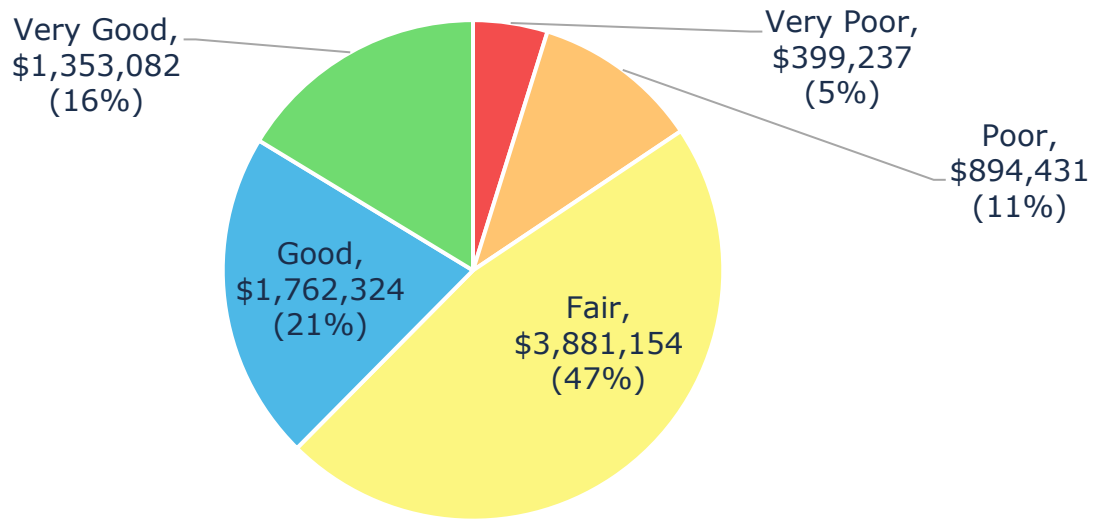


Figure 69: Asset Condition: Fleet Overall

Figure 69 summarizes the replacement cost-weighted condition of The Township's portfolio. Based primarily on assessed data, 84% of assets are in fair or better condition, with the remaining 16% 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 70 summarizes the condition of fleet by each department. The majority of all vehicles across all asset segments are in poor or worse condition.

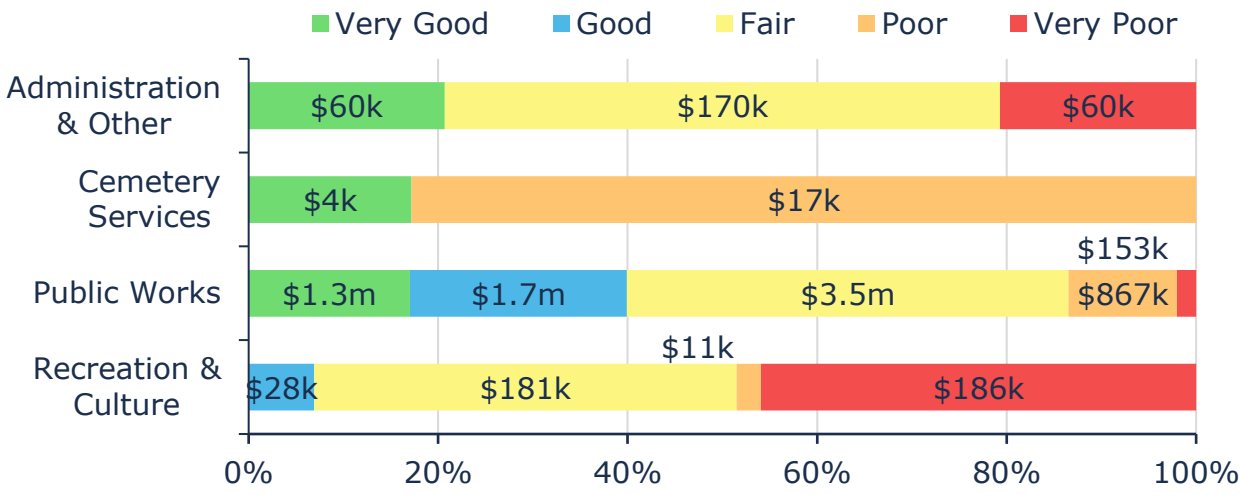


Figure 70: Asset Condition: Fleet by Segment

11.3 Age Profile

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

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

Figure 71 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

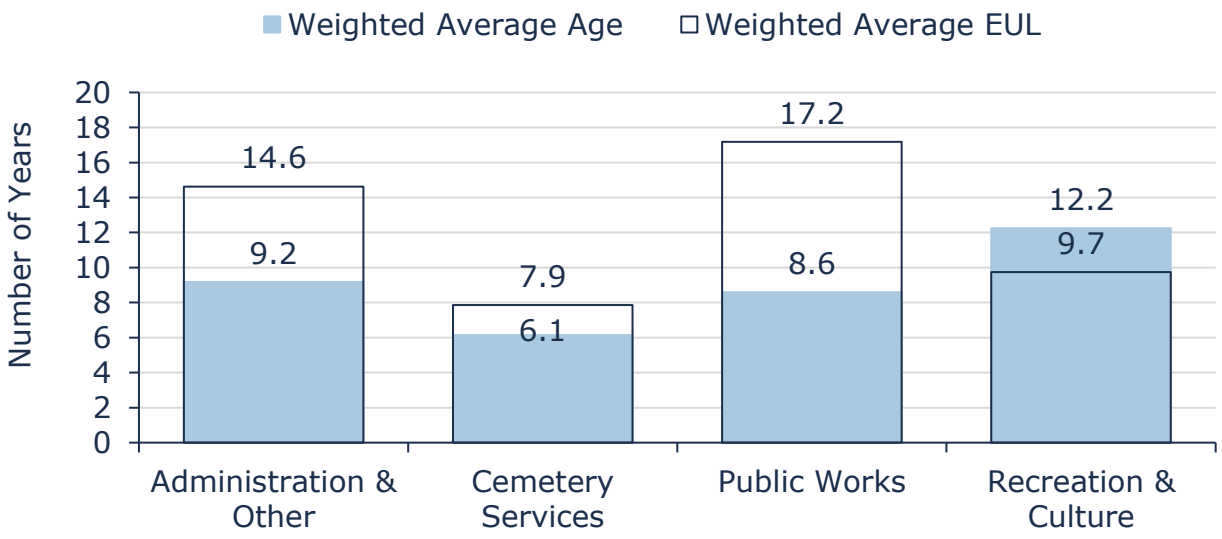


Figure 71: Estimated Useful Life vs. Asset Age: Other Infrastructure Assets

Age analysis reveals that, on average, most assets are in moderate stages of their expected life, except for fleet assets that belong to Recreation & Culture.

11.4 Current Approach to Lifecycle Management

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

The following section outlines The Township's current lifecycle management strategy.

Maintenance & Inspection

- Annually, all non-fire related fleet are inspected by staff and local mechanics.
- Additional fleet assets inspections occur based on mileage and/or service hour requirements.
- All non-fire fleet assets are maintained and repaired by staff and/or external contractor.

Renewal

- There is a 10-year capital replacement forecasts for fleet assets.
- Replacement activities are determined based on internal expertise (organizational priorities, available budget etc.)
- A well-performing asset will continue to be utilized beyond its expected useful life; in contrast a poor performing asset may be replaced in advance of its expected useful life.

Disposal

- Obsolete assets are decommissioned as needed.

11.5 Forecasted Long-Term Replacement Needs

Figure 72 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's fleet 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 $6.6 million for all assets. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are expected to reach a peak of $4.5 million for the 2035-2039 period, as assets reach the end of their useful life. 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.

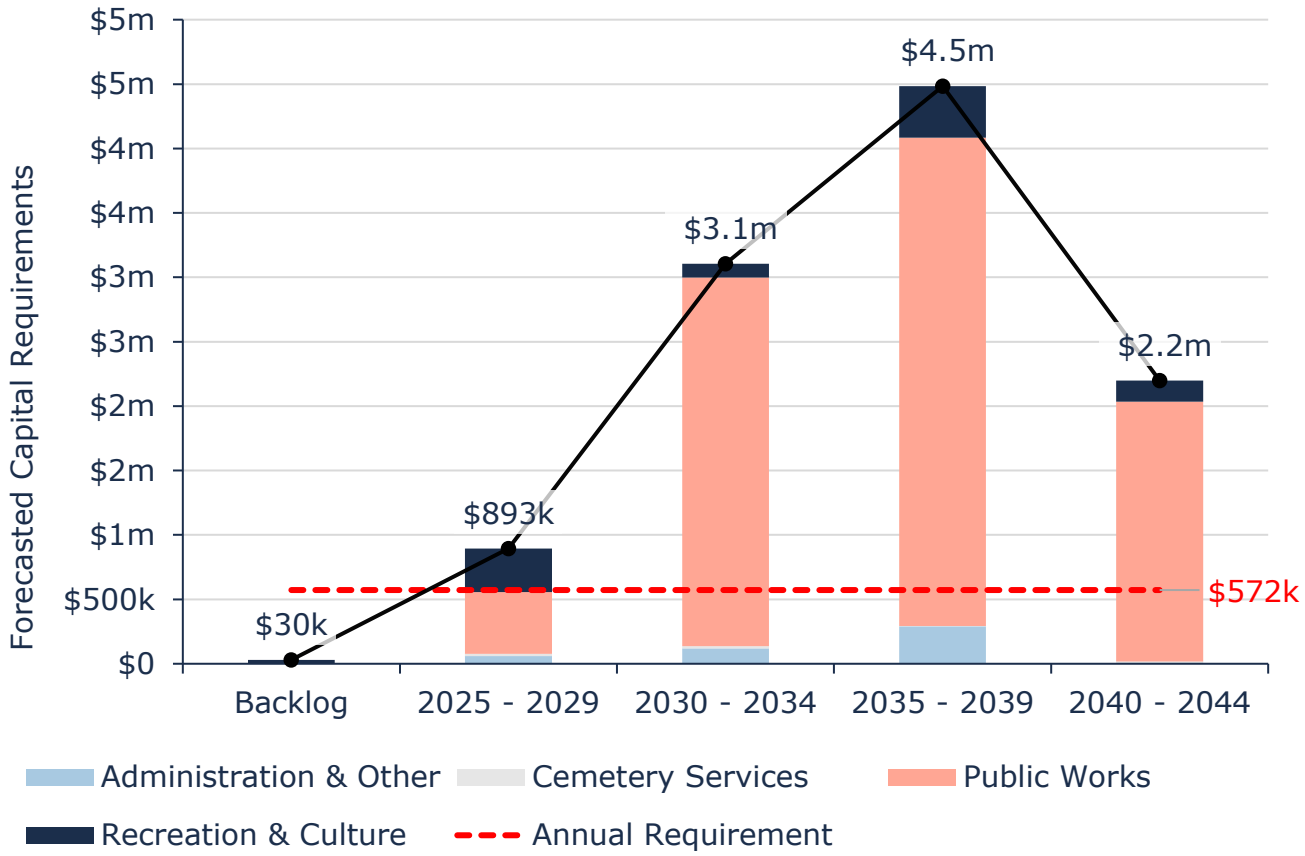


Figure 72: Forecasted Capital Replacement Needs: Vehicles 2025-2059

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 detailed 10-year capital 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, work order cost, replacement costs, and fleet components. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$1,894,174 (23%)	$2,391,904 (29%)	$2,211,000 (27%)	$1,793,150 (22%)	- (0%)

Figure 73: Risk Matrix: Other Infrastructure Assets

11.7 Levels of Service

Following tables identify Mapleton's current community and technical level of service (LOS) for their fleet and exclude all fire fleet assets. These LOS have been set by Mapleton based on existing data availability, reliability, and value to asset management tracking.

11.7.1 Community Levels of Service

Table 37: Community Levels of Service: Fleet

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	List of day-to-day fleet in operation and description of services provided	The Township's fleet asset class comprises various vehicles used across different departments, including Roads, Parks, Facilities, Cemetery, By-law, and Building Departments. The assets include pick-up trucks, tandem trucks, SUVs, etc. These vehicles are essential for day-to-day operations such as maintenance, transportation, and specialized tasks.

Service Attribute	Key Performance Indicator	Current LOS (2025)
Capacity	Description of capacity and how fleet is meeting the needs of user groups	The capacity of the fleet is designed to meet the operational needs of various departments within the Township. The fleet includes vehicles of different sizes and capabilities to ensure that all tasks, from routine maintenance to heavy-duty operations, can be performed efficiently. The diverse range of vehicles allows the Township to allocate resources effectively and ensure that all user groups have access to the necessary equipment.
Reliability	Description of service reliability	The fleet's reliability is maintained through a comprehensive inspection and maintenance program. Each vehicle undergoes regular inspections based on its usage. Daily inspections are conducted for frequently used vehicles like pick-up trucks. This systematic approach ensures that potential issues are identified and addressed promptly, maintaining high reliability and minimizing downtime.
Safety	Description of routine maintenance and check-up procedures	All fleet & machinery assets are inspected regularly by Township staff depending on the usage (e.g. daily for pick-up trucks, monthly for grader during use). Repairs are completed as needed based on inspections and asset servicing requirements.

11.7.2 Technical Levels of Service

Table 38: Technical Levels of Service: Fleet

Service Attribute	Key Performance Indicator	Current LOS (2024)
Scope	# of vehicles	Pick-up Trucks =13 Tandem Trucks =8
Capacity	Utilization %	Pick-up Trucks =90% Tandem Trucks =50% (utilization during winter is 100%)

Service Attribute	Key Performance Indicator	Current LOS (2024)
Reliability	# days to repair defects	1 (as the equipment is fairly new, repairs are needed less
	# of out-of-service days / service disruptions	1.5-2 days
Condition	% of assets that are in fair or better condition (in terms of replacement cost)	84%
	% of assets that are in poor or very poor condition	16%
Safety	% of fleet with pre-trip inspections completed regularly	100%
	# of safety complaints/ service requests about unsafe conditions	Zero

11.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Fleet based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

11.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- The survey did not include a specific question on satisfaction with fleet services.
- The combined category of Municipal Vehicles and Equipment received a low weighted average priority rating of 2.26 out of 5 stars.
- 55.56% of respondents would support a 0% tax increase for vehicles. The target increase of 0.27% was supported by 11.11% of respondents.

Staff Engagement Results

Feedback from staff on the municipal fleet indicates a high level of satisfaction with its current condition, reliability, and availability. The fleet is widely considered best-in-class and is consistently rated as 'Excellent' or 'Very well' for meeting the municipality's transportation needs. The condition and cleanliness of the assets are also highly rated, with staff noting that vehicles are washed and maintained on a daily basis. There is a general agreement that the current approach to lifecycle and maintenance activities is effective.

However, there is a strong sentiment that improvements are needed in long-term strategy and resources. While some staff believe that resources are adequate, others express concern about the oversight of the fleet, suggesting that a more comprehensive fleet management program with KPIs would be beneficial. There is also a clear disagreement with using age-based condition as the sole metric, with staff recommending that condition assessments and a review of usage data, such as kilometers or hours, would be a better way to evaluate assets. Staff also believe that the capital reinvestment rate should be 'Increased' to meet the target and avoid future operational impacts from poor fleet condition. Confidence in the current data is high, but with a caveat that it is artificially low and could be improved with better resourcing and data collection.

11.7.3.2. Proposed Levels of Service Scenarios

Figure 74 analyzes and compare three budget scenarios: Optimal, Current, and Recommended.

1. **Current Funding:** The current funding level is insufficient to maintain the fleet's condition. The graph shows the network's condition steadily declining to approximately 10% by 2044. This indicates a significant funding deficit and a failure to meet desired service levels, which will lead to a deteriorating network over the long term.
2. **Optimal Budget:** This scenario represents the average annual funding required to maintain or improve the fleet's condition. The graph demonstrates that with this level of investment, the network's condition would remain stable at a high level, above 40% from 2034 and beyond.
3. **Recommended Funding**: This financial strategy is designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The graph shows that the average condition of the network will initially decline but will begin a gradual recovery from 2034.

The analysis of the scenarios reveals a clear need for increased funding to prevent the deterioration of the fleet network. The current funding model leads to a steady decline in the network's condition, which will likely result in increased service failures and costly emergency repairs in the future. The recommended budget, while not providing an immediate solution, offers a feasible and sustainable pathway to long-term financial stability. The graph demonstrates that the gradual increase in funding will allow the network's condition to improve. This approach balances the need for infrastructure investment with the financial impact on the community.

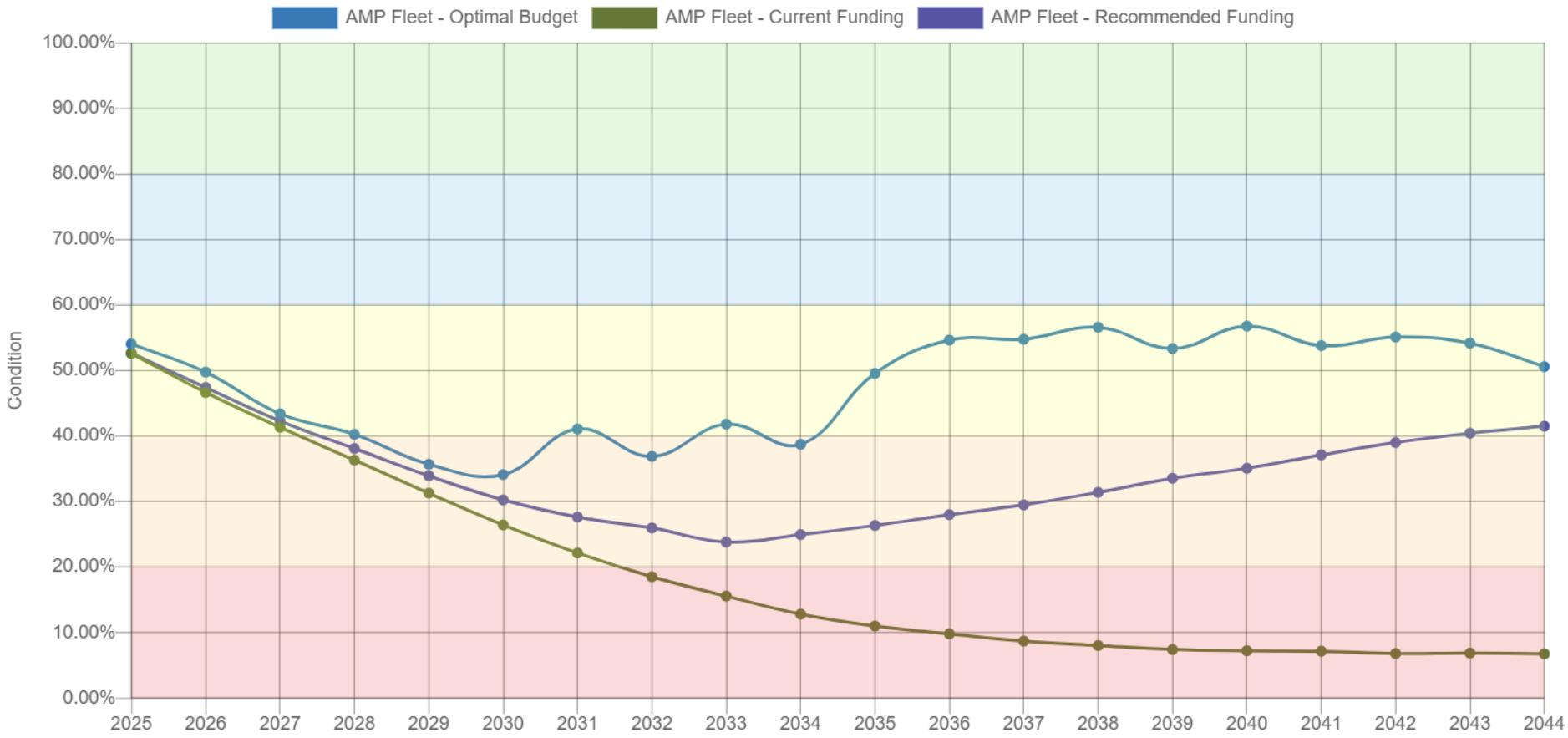


Figure 74: PLOS: Fleet - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

11.7.3.3. Recommendations

Secure Sustainable Funding

Increase the capital reinvestment rate to meet the target, thereby ensuring the long-term sustainability of the fleet and mitigating future operational impacts from poor asset condition.

Enhance Asset Management Practices

Develop a more comprehensive fleet management program that includes KPIs and moves beyond age-based condition assessments. Staff recommend that condition assessments and a review of usage data, such as kilometers or hours, would be a better way to evaluate assets.

Improve Data Collection

Improve data collection to gain a better understanding of the fleet's condition. Staff note that current data could be 'artificially low' and could be improved with better resourcing and data collection.

11.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

A continued decline in the network's condition will lead to a growing infrastructure backlog. This will result in a higher long-term financial burden on the municipality due to the need for more expensive and extensive emergency repairs and replacements for an aging fleet.

Operational and Safety Risk

A deteriorating fleet could lead to a decline in reliability and availability, posing a risk to the timely delivery of municipal services. This could also compromise safety, as a significant portion of the public relies on the municipality's fleet for essential services.

Community Satisfaction Risk

The combined category of Municipal Vehicles and Equipment received a low priority rating from the public. A decline in fleet performance, while not yet a major concern, could lead to a decrease in community confidence and satisfaction with municipal services.

12. Machinery & Equipment

Machinery & Equipment assets provide the equipment needed for maintenance, construction, and seasonal operations.

12.1 Inventory & Valuation

Table 39 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Other Infrastructure inventory.

Table 39: Detailed Asset Inventory: Machinery & Equipment

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration & Other	1	Assets	$39,597	CPI
Public Works	6	Assets	$234,163	CPI
Recreation & Culture	18	Assets	$287,048	User-Defined
Total			**$560,808**	

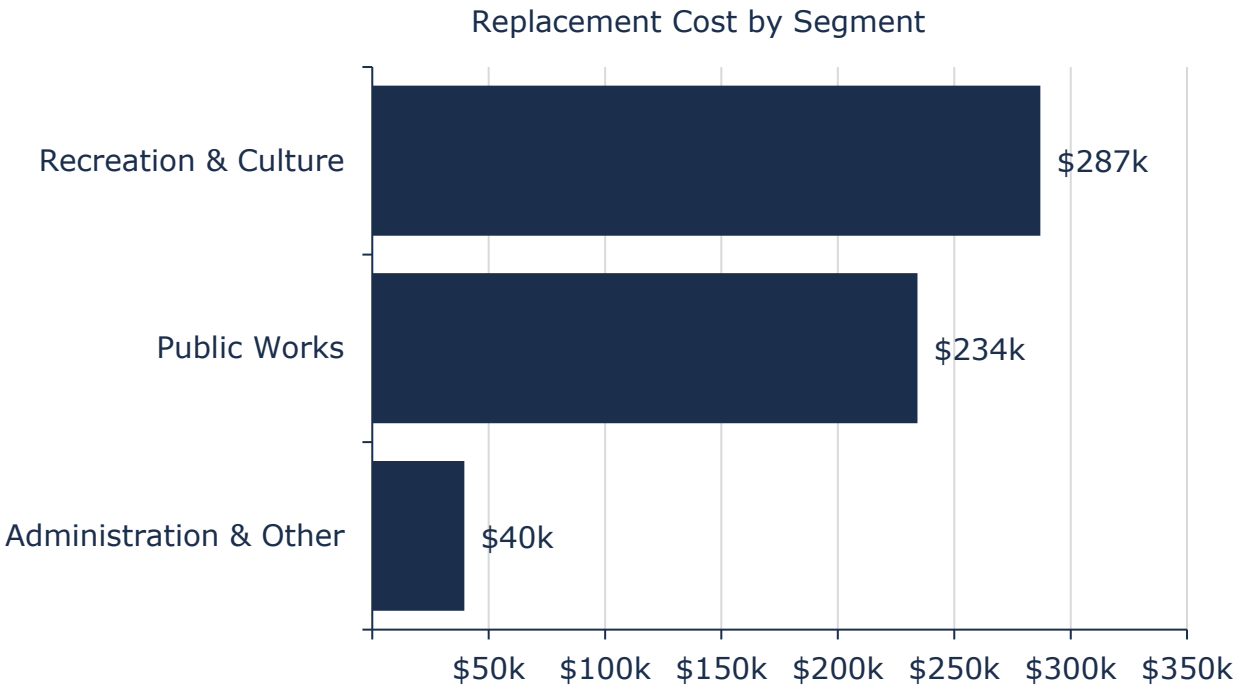


Figure 75: Portfolio Valuation: Machinery & Equipment

12.2 Asset Condition

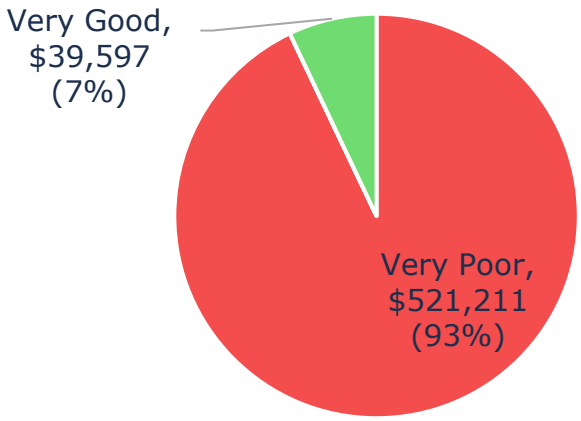


Figure 76: Asset Condition: Machinery & Equipment Assets Overall

Figure 76 summarizes the replacement cost-weighted condition of The Township's portfolio. Based primarily on age-based data, 93% of assets are in very poor condition, with the only remaining 7% in very good 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 77 summarizes the condition of machinery & equipment by each department. All machinery & equipment across public works, and recreation & culture department are in poor or worse condition.

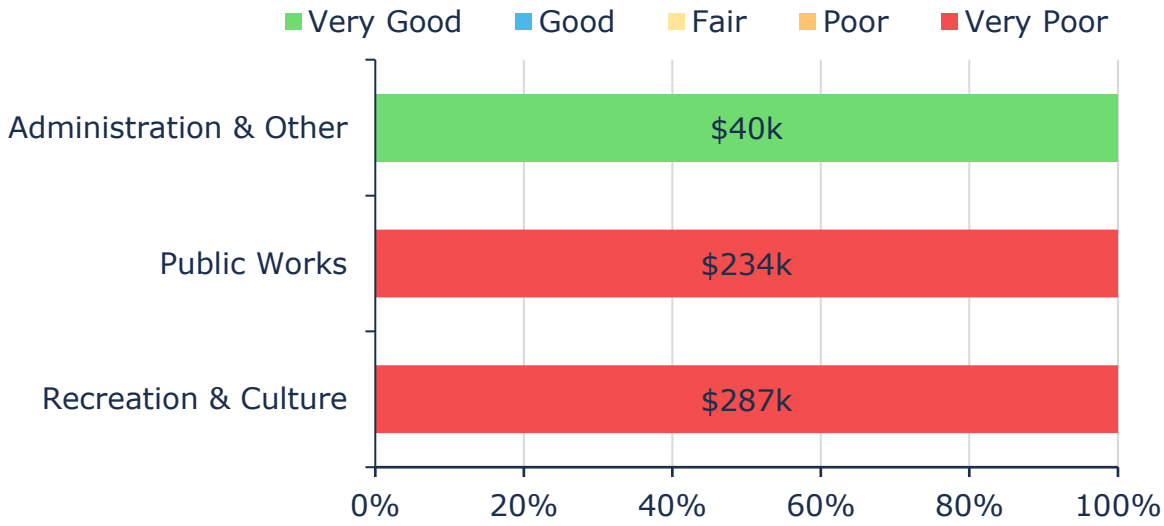


Figure 77: Asset Condition: Other Assets by Segment

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

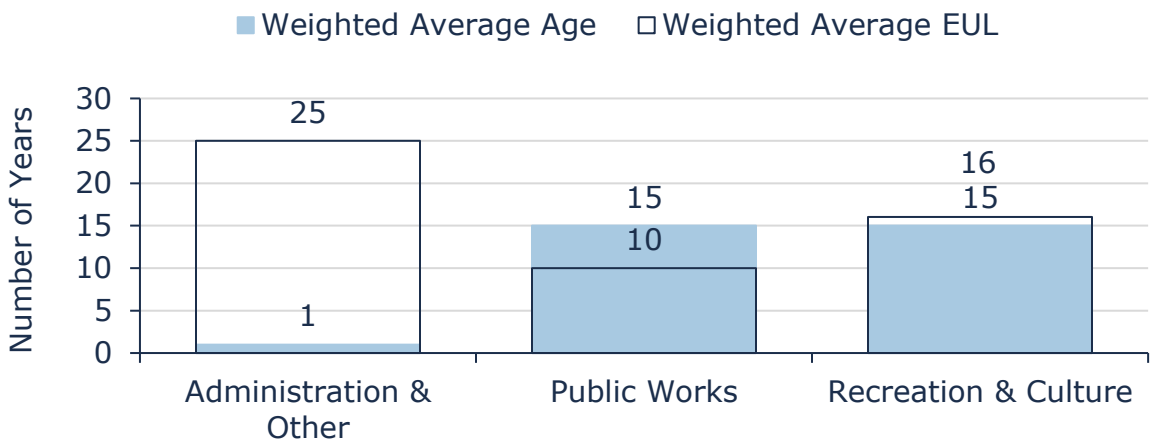


Figure 78: Estimated Useful Life vs. Asset Age: Other Infrastructure Assets

Age analysis shows that administration assets are still in the early stages of their lifespan, public works machinery and equipment are already beyond their expected useful lives, and recreation and culture assets are rapidly approaching the end of theirs.

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 section outlines The Township's current lifecycle management strategy.

Maintenance & Inspection

- Annually, all non-fire related Machinery & Equipment are inspected by staff and local mechanics.
- Additional Machinery & Equipment assets inspections occur based on mileage and/or service hour requirements.
- All non-fire Machinery & Equipment assets are maintained and repaired by staff and/or external contractor.

Renewal

- Replacement activities are determined based on internal expertise (organizational priorities, available budget etc.)
- A well-performing asset will continue to be utilized beyond its expected useful life; in contrast a poor performing asset may be replaced in advance of its expected useful life.

Disposal

- Obsolete assets are decommissioned as needed.

12.5 Forecasted Long-Term Replacement Needs

Figure 79 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's machinery & equipment portfolio. This analysis was run until 2054 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Township's primary asset management system and asset register. The Township's average annual requirements (red dotted line) total $43,000 for all assets. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are expected to peak at $384,000 from 2045-2049, as assets reach the end of their useful life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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

A detailed 10-year capital replacement forecast can be found in Appendix A – 10-Year Capital Requirements.

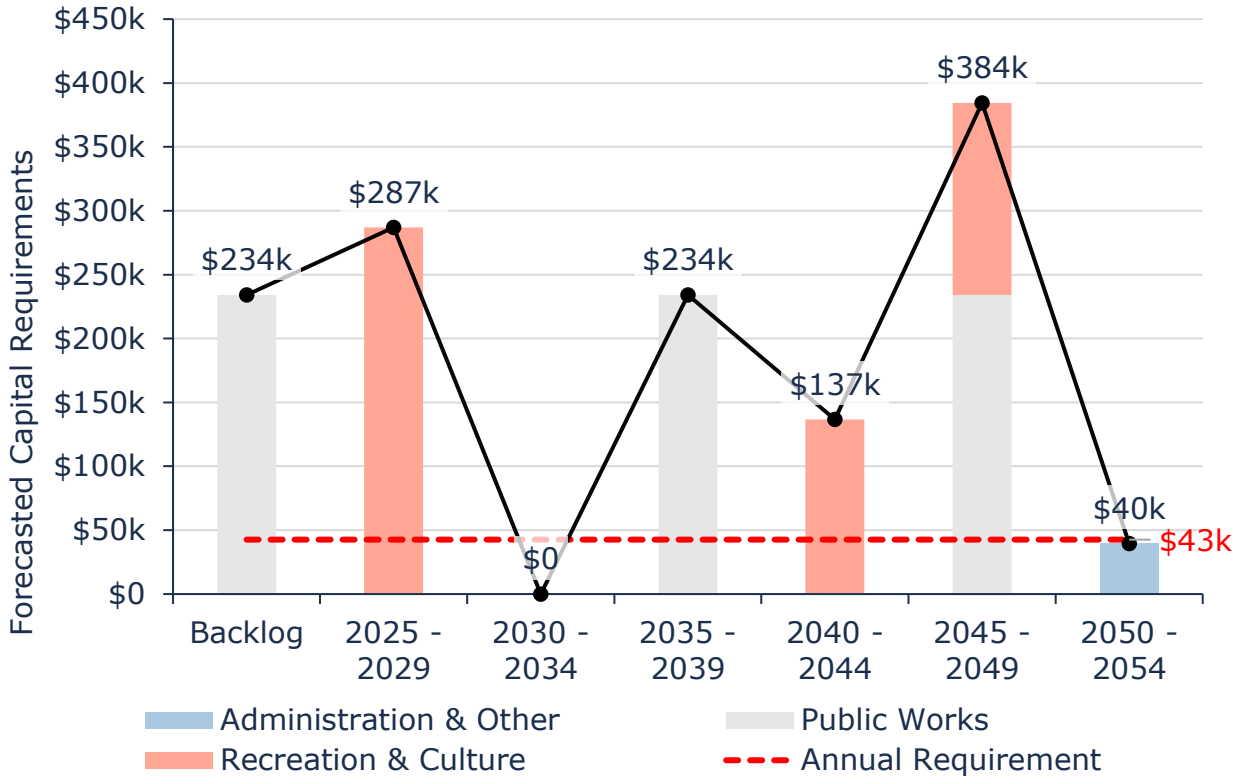


Figure 79: Forecasted Capital Replacement Needs: Vehicles 2025-2059

12.6 Risk Analysis

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

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$39,597 (7%)	- (0%)	- (0%)	$521,211 (93%)	- (0%)

Figure 80: Risk Matrix: Machinery & Equipment

12.7 Levels of Service

The Township of Mapleton is dedicated to providing high-quality service through its fleet of municipal vehicles, machinery, equipment, and other assets. These resources are managed to ensure reliability, safety, and efficiency in delivering the services residents rely on.

12.7.1 Community Levels of Service

Table 40: Community Levels of Service: Machinery & Equipment

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	List of day-to-day fleet in operation and description of services provided	The Township's machinery asset class comprises various equipment used across different departments, including Roads, Parks, Facilities, Cemetery, By-law, and Building Departments. The assets include trailers, loaders, Graders, Mowers, Snowblowers etc. These equipment are essential for day-to-day operations such as maintenance, and specialized tasks.
Reliability	Description of service reliability	Equipment reliability is maintained through a comprehensive inspection and maintenance program. Each equipment undergoes regular inspections based on its usage. This systematic approach ensures that potential issues are identified and addressed promptly, maintaining high reliability and minimizing downtime.
Safety	Description of routine maintenance and check-up procedures	All machinery assets are inspected regularly by Township staff depending on the usage. Repairs are completed as needed based on inspections and asset servicing requirements.

12.7.2 Technical Levels of Service

Table 41: Technical Levels of Service: Machinery & Equipment

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	# of vehicles	Trailers =3 Graders =4 Mowers =8 Snowblowers =3
Capacity	Utilization %	Trailers = 50% (seasonal) Lawnmowers, graders, snowblowers have high seasonal utilization
Condition	% of assets that are in fair or better condition (in terms of replacement cost)	7% (Machinery)
	% of assets that are in poor or very poor condition	93%

12.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Machinery & Equipment based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

12.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- The survey did not include a specific question on satisfaction with machinery and equipment.
- The combined category of Municipal Vehicles and Equipment received a low weighted average priority rating of 2.26 out of 5 stars.
- A majority of respondents (53.85%) would support a 0% tax increase for machinery and equipment. The target increase of 0.25% was supported by 26.92% of respondents.

Staff Engagement Results

Feedback from staff on municipal machinery and equipment indicates general satisfaction with the reliability and availability of these assets. The condition of the assets is rated as 'Excellent' by one staff member, and it is noted that the current approach to lifecycle and maintenance activities is effective. Staff also agree that the use of a third-party contractor is a good way to manage equipment.

However, a strong sentiment exists that improvements are necessary to ensure long-term sustainability and employee safety. Some staff members believe that resources for maintenance are not sufficient to extend the life of the equipment and that more money is needed. There is also a strong feeling that the level of service for machinery should be 'Increased' because it directly affects the health and safety of workers and the quality of work performed. There is a shared view that age-based condition is not a sufficient metric, with one staff member suggesting that the equipment should be evaluated at the end of its lifecycle to determine capital replacement. Staff also note that the data for machinery condition is well below actual experience, and a comprehensive program with KPIs would be beneficial for understanding long-term capital needs.

12.7.3.2. Proposed Levels of Service Scenarios

Figure 81 illustrates three scenarios analyzed using three funding models: Optimal Budget, Current Funding, and Recommended Funding:

1. **Current Funding:** The current funding level is insufficient to maintain the fleet's condition. The graph shows the network's condition steadily declining to approximately 10% by 2044. This indicates a significant funding deficit and a failure to meet desired service levels, which will lead to a deteriorating network over the long term.
2. **Optimal Budget:** This scenario represents the average annual funding required to maintain or improve the fleet's condition. The graph demonstrates that with this level of investment, the network's condition would remain stable at a high level, above 40% from 2034 and beyond.
3. **Recommended Funding**: This financial strategy is designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The graph shows that the average condition of the network will initially decline but will begin a gradual recovery from 2034.

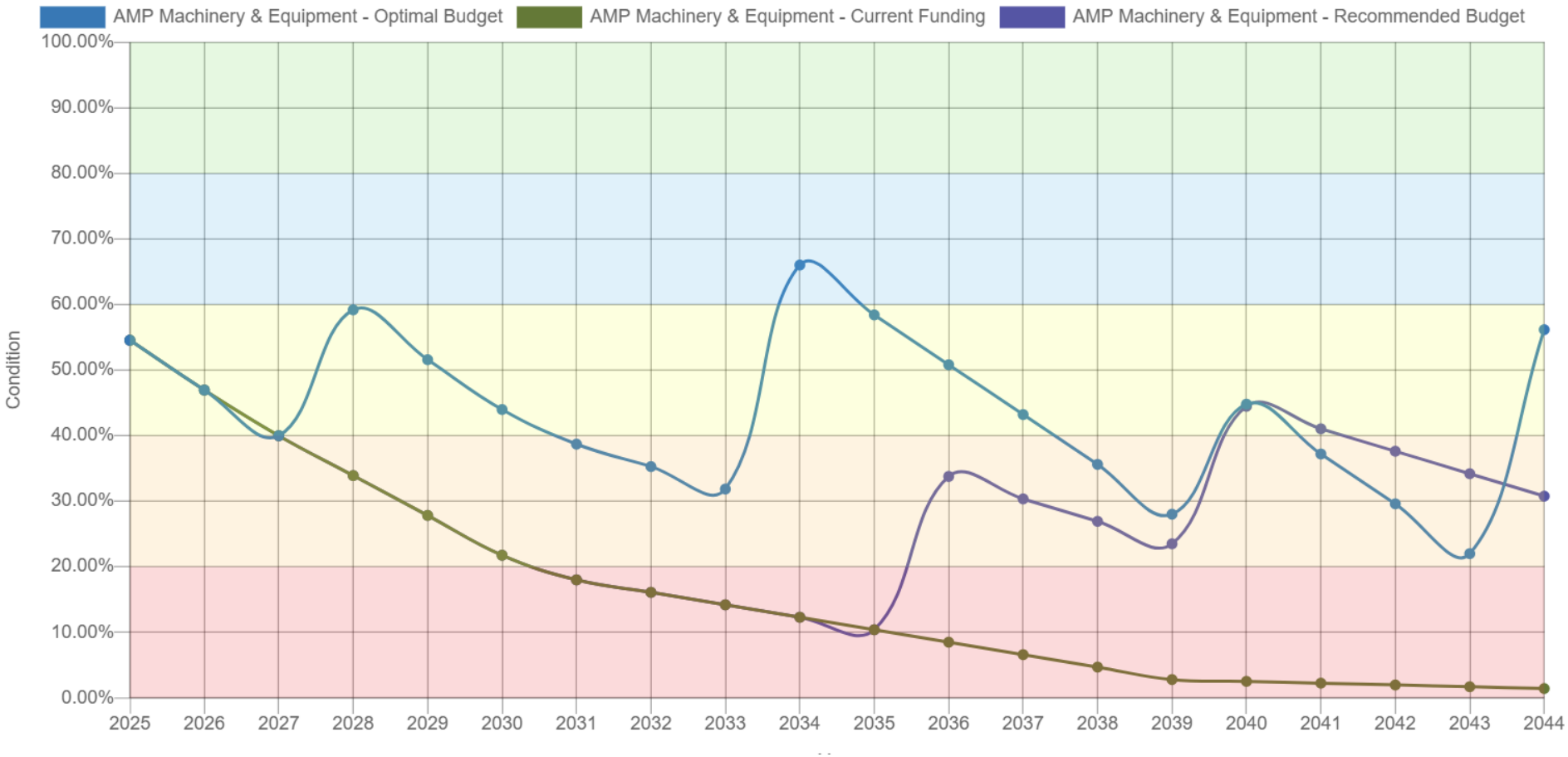


Figure 81: PLOS: Machinery & Equipment - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

12.7.3.3. Recommendations

Financial Strategy

Implement the recommended funding strategy to reduce the current budget and reallocate the surplus to other categories with higher deficits, as this would not compromise the network's projected condition.

Proactive Asset Management

Develop a comprehensive asset management program that moves beyond age-based condition assessments. Staff suggest that equipment should be evaluated at the end of its lifecycle to determine capital replacement, as this is a better way to assess asset health.

Increase Safety

Increase the level of service for machinery to improve worker health and safety and the quality of work performed, as this is a strong concern among staff.

12.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

The low condition rating for machinery and equipment, with 93% of assets in poor or very poor condition, could lead to an increased infrastructure backlog. This will result in a higher long-term financial burden on the municipality due to the need for more expensive and extensive emergency repairs and replacements.

Operational and Safety Risk

The poor condition of the machinery and equipment poses a significant risk to worker health and safety and could affect the quality of work performed. A low level of service for machinery could also lead to a decline in reliability and availability, posing a risk to the timely delivery of municipal services.

Community Satisfaction Risk

While the combined category of Municipal Vehicles and Equipment received a low priority rating from the public, a decline in equipment performance could indirectly affect service delivery and lead to a decrease in community satisfaction with municipal services.

13. Outdoor Recreation & Land Improvements

Outdoor Recreation & Land Improvement assets represent a variety of asset types that serve to improve the quality of life and enjoyment of outdoor spaces. These assets are managed by the Public Works department with the shared goal of keeping assets in a state of good repair, through ongoing maintenance, repair, and replacement.

13.1 Inventory & Valuation

Table 36 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Township's Outdoor Recreation & Land Improvements inventory.

Table 42: Detailed Asset Inventory: Other Infrastructure

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fields & Courts	6	Assets	$523,587	User-Defined
Picnic Shelters & Concession Booths	8	Buildings	$599,275	CPI
Playgrounds & Play Structures	9	Assets	$983,515	CPI
Trails	3	Assets	$86,962	CPI
Washrooms	2	Buildings	$639,579	CPI
Total			**$2,832,918**	

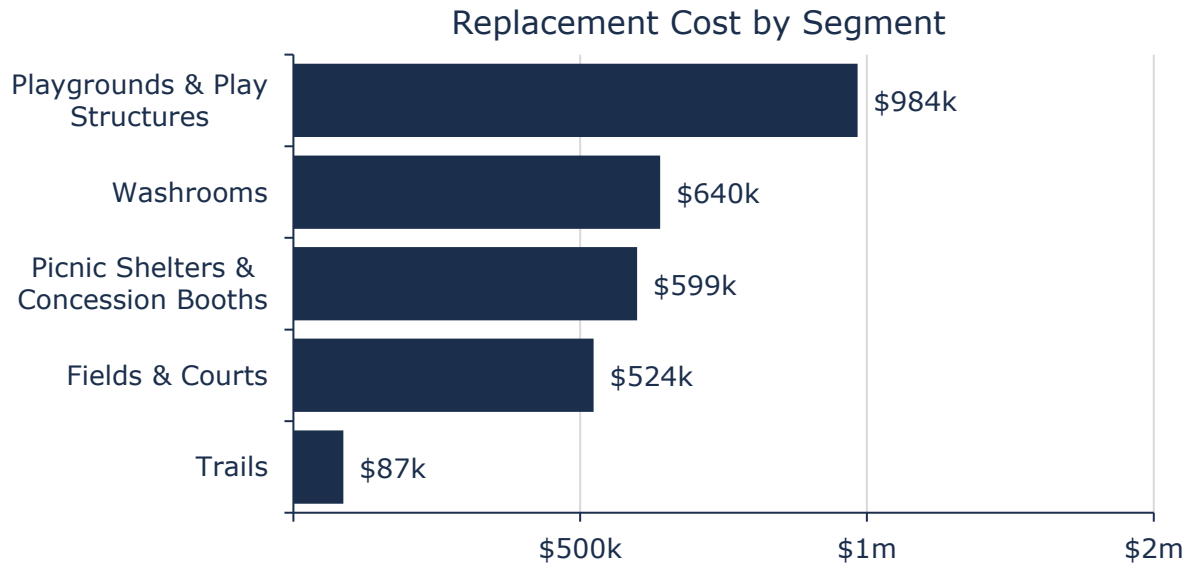


Figure 82: Portfolio Valuation: Other Infrastructure

13.2 Asset Condition

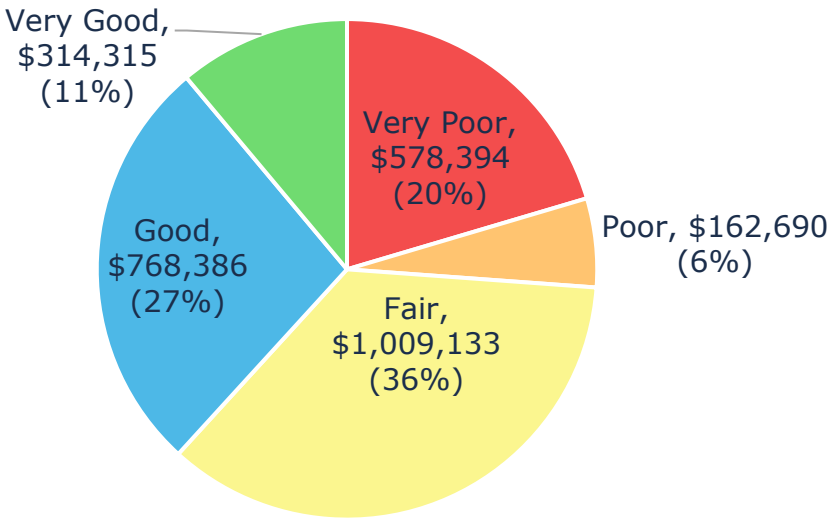


Figure 83: Asset Condition: Outdoor Recreation & Land Improvements Overall

Figure 83 summarizes the replacement cost-weighted condition of The Township's portfolio. Based primarily on age-based data, 74% of assets are in fair or better condition, with the remaining 26% in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

Figure 84 summarizes the condition of vehicles by each department. The majority of washrooms are in poor or worse condition.

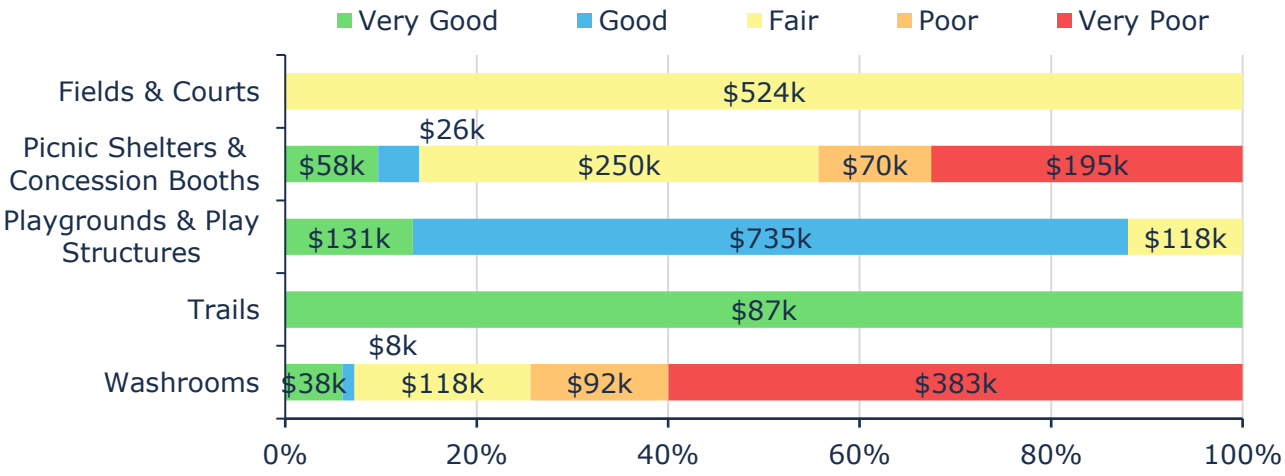


Figure 84: Asset Condition: Other Assets by Segment

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 85 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.

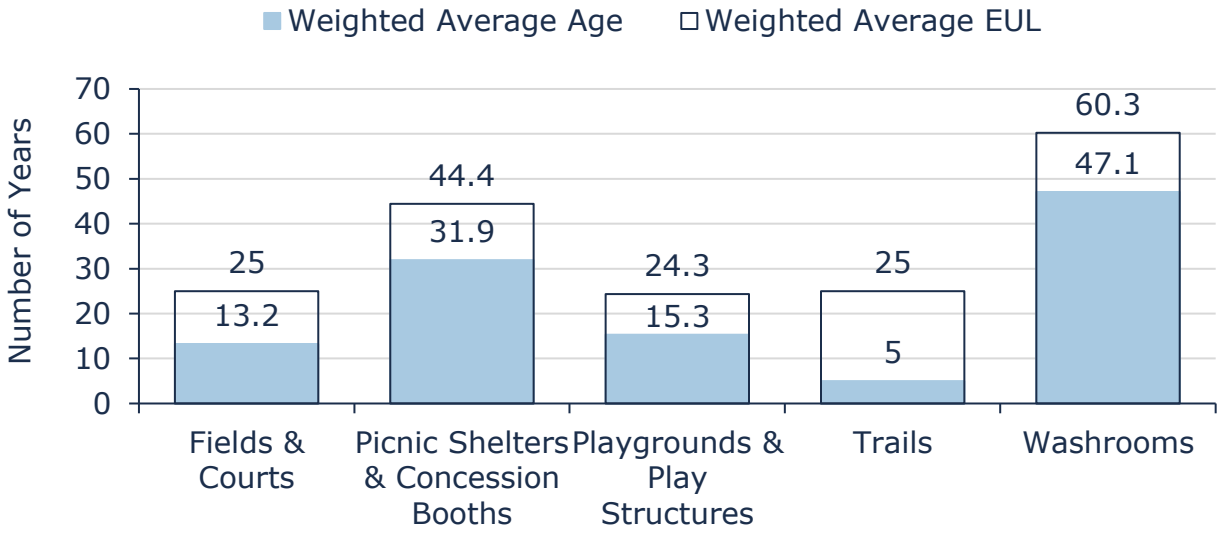


Figure 85: Estimated Useful Life vs. Asset Age: Outdoor Recreation & Land Improvements

Age analysis reveals that, on average, most assets are in moderate stages of their expected life.

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 section outlines The Township's current lifecycle management strategy.

Inspection & Maintenance:

- On a weekly basis, staff cut the grass at all Township Parks, trails and managed cemeteries. During this time, a walk-through inspection of outdoor recreation assets is conducted, and routine maintenance is done.
- Snow and ice removal maintenance
- Play structures inspected and preventative maintenance done on the picnic shelters, concession booths & public washrooms.
- Township has two playground inspectors and inspections are done monthly.
- Residents can submit complaints to the Township regarding the state of outdoor recreation assets. Complaints are reviewed, recorded, and responded to accordingly.

Replacement & Rehabilitation:

- In 2021 the Township of Mapleton published a Parks & Recreation Strategic Master Plan which included Facilities & Outdoor Recreation assets. The purpose of doing so was to better understand current and projected future needs, assess the parks and recreation services, human resources, policies, and infrastructure and recommend a framework for prioritizing future decisions.
- The Township continues to advance replacement and rehabilitation projects, often based on recommendations of the staff.

Disposal:

- Obsolete assets are decommissioned as needed.

Growth:

- Space requirements will change as the Township continues to grow and staffing requirements increase to maintain the levels of service also increase
- Expansion of the new developments would require more parkland and trails to ensure all residents have access to the services provided by the Township.

13.5 Forecasted Long-Term Replacement Needs

Figure 72 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Township's outdoor recreation & land improvements portfolio. 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) total $94,000 for all assets. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are expected to increase from 2025 with a forecasted peak of $972,000 for the 2070-2074 period, as assets reach the end of their useful life. 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.

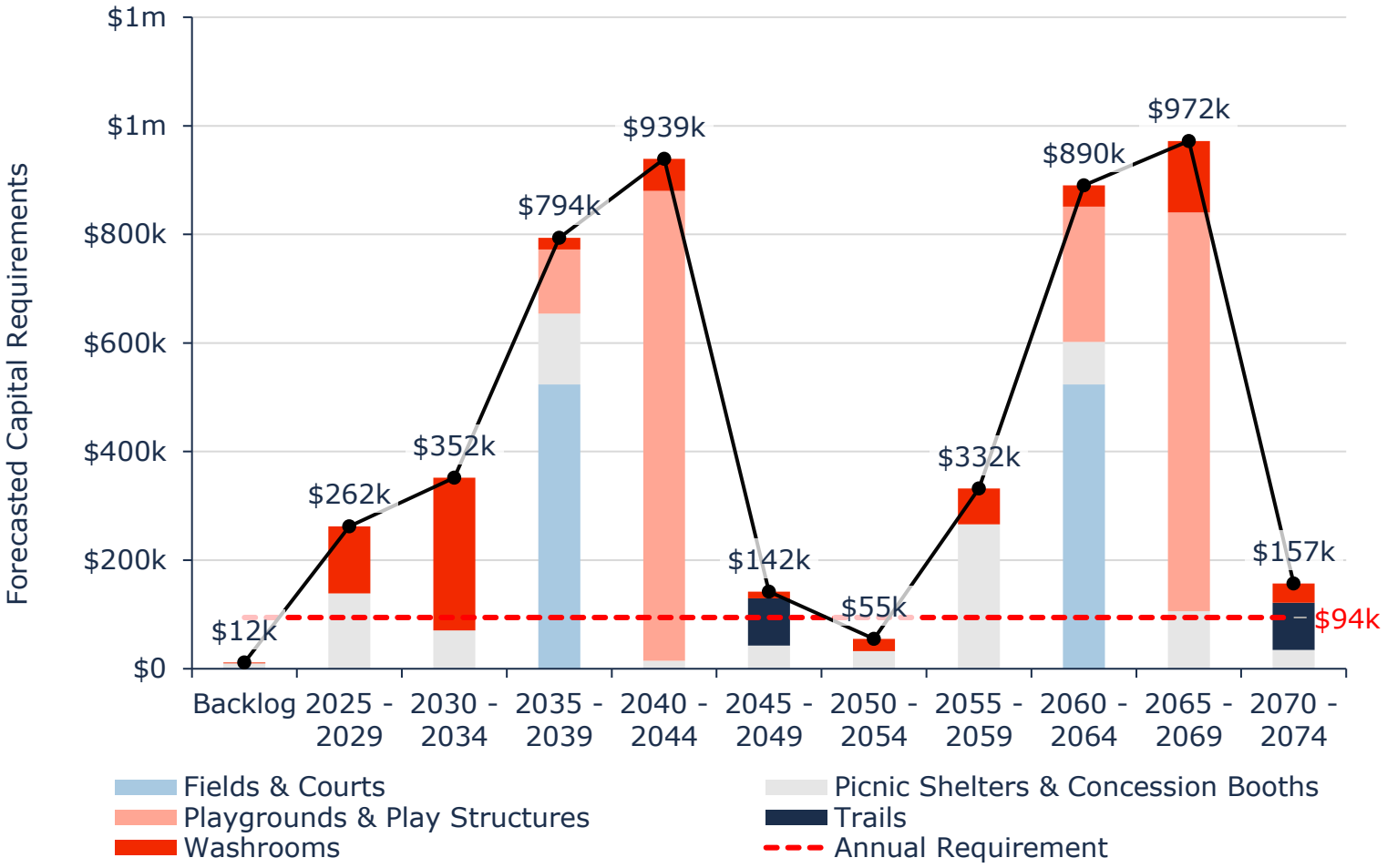


Figure 86: Forecasted Capital Replacement Needs: Vehicles 2025-2059

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 detailed 10-year capital 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 risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$682,472 (24%)	$1,179,256 (42%)	$618,608 (22%)	$352,582 (12%)	- (0%)

Figure 87: Risk Matrix: Other Infrastructure Assets

13.7 Levels of Service

13.7.1 Community Levels of Service

Table 43: Community Levels of Service: Outdoor Recreation & Land Improvements

Service Attribute	Key Performance Indicator	Current LOS (2025)
Accessible & Reliable	Outdoor Recreation assets provide adequate physical access and are available for their defined use within prescribed working hours	The assets primarily consist of sports fields and courts, playground structures, splashpads, and trails. To the extent possible based on budget and existing asset design, these assets are accessible, or plans are in development to improve their accessibility.

Service Attribute	Key Performance Indicator	Current LOS (2025)
Safe & Regulatory	Appropriate actions and interventions are taken to ensure the regular safe use of outdoor recreation assets.	Outdoor Recreation & Land Improvement assets are inspected at various intervals based on the asset type and in most cases are inspected at least weekly. Residents can also file service requests if they identify issues relevant to any of the Township's assets.
Quality	Outdoor Recreation assets are managed cost-effectively and deliver quality service.	Various maintenance and inspection activities are performed including weekly grass cutting and general inspection. Long-term rehabilitation and replacement decisions are supported by the staff based on Township's near- and long-term recreation needs based on demographics and suitability of existing assets.

13.7.2 Technical Levels of Service

Table 44: Technical Levels of Service: Outdoor Recreation & Land Improvements

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Average Building code compliance rate for Picnic shelters, Concession booths, washrooms and gazebo	90%
Accessible & Reliable	Average AODA compliance rate for the playground structures in the Township.	91%
	Number of hectares of parkland (sports fields, children’s parks, nature parks)	33
Quality	% of Park assets in fair or better condition	74
	% of playgrounds that meet regulated requirements.	100%

13.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Outdoor Recreation & Land Improvements assets based on the current Levels of Service (LOS) assessment, public engagement results, and risk analysis.

13.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- Parks, Green Spaces, and Trails had a weighted average satisfaction rating of 3.50 out of 5. A combined 57.70% of respondents were either satisfied or very satisfied.
- Parks and Trails were ranked with a weighted average priority rating of 2.74 out of 5 stars.
- 37.04% of respondents would support a 0% tax increase for parks and trails. The target increase of 0.05% was supported by 29.63% of respondents.
- One respondent explicitly suggested that the town needs a pool.

Staff Engagement Results

Staff feedback on the outdoor recreation and land improvements portfolio indicates a general sentiment that the current level of service is satisfactory, though there is a clear recognition that resources and investments need to be strategically managed for long-term sustainability and to meet evolving community needs. Staff are generally 'very responsive' to repair issues and agree that the current approach to lifecycle and maintenance, which includes weekly or monthly inspections, is adequate. It is also widely felt that the current distribution of these assets is sufficient for a rural community, with some staff noting that 80% of assets being in 'fair or better condition' is a good indicator of reliability.

However, there is a strong sentiment that more funding and a more strategic approach are needed to improve service levels and ensure long-term sustainability. While some believe resources are adequate, others express the need for increased reinvestment to maintain assets in a good state of repair. A common recommendation is to increase accessibility for all structures, with some staff noting that AODA (Accessibility for Ontarians with Disabilities Act) compliance should be maintained or increased as assets are replaced. There is also a call to expand outdoor recreation opportunities, such as creating an extended trail system or updating play structures at soccer fields. Staff disagree on the sole use of age-based condition for all assets, with some arguing that high-use assets like benches and playground equipment require condition-based assessments to properly reflect their state. Recommendations also include involving front-line workers in the tracking of levels of service and leveraging grants to achieve the municipality’s goals.

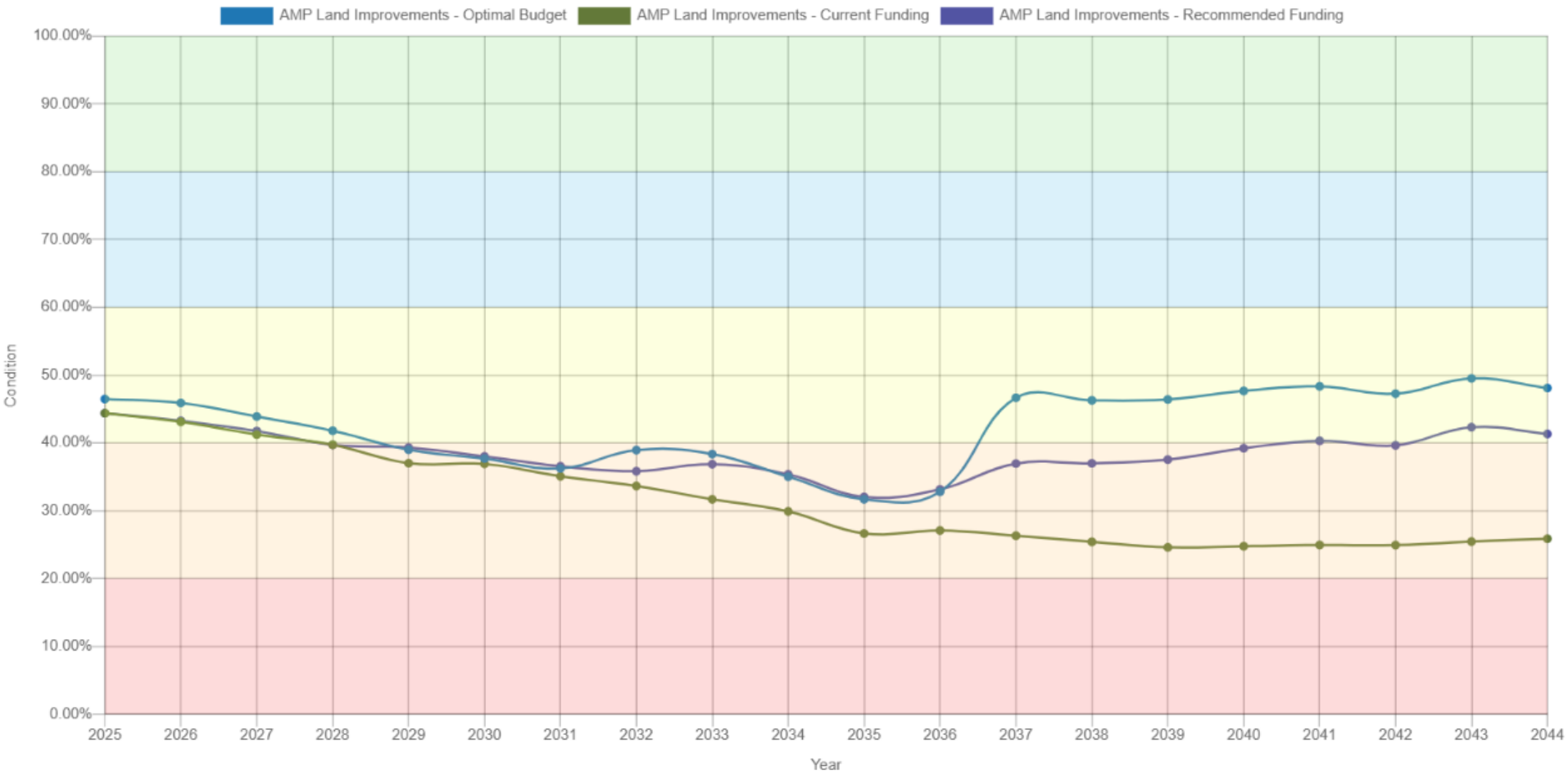


Figure 88: PLOS: Outdoor Recreation & Land Improvements - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

13.7.3.2. Proposed Levels of Service Scenarios

Figure 88 compares three funding models: Optimal, Current, and Recommended.

- **Current Funding**: The current funding level is insufficient to maintain the network's condition. The graph shows the network's condition steadily declining from its current level of approximately 45% to a low of approximately 25% by 2044. This indicates a significant funding deficit and a failure to meet desired service levels, which will lead to a deteriorating network over the long term.
- **Optimal Budget:** This scenario represents the average annual funding required to maintain or improve the network's condition. The graph demonstrates that with this level of investment, the network's condition would remain relatively stable for most of the forecast period.
- **Recommended Funding:** This financial strategy is designed to gradually close the funding gap over the next 10 years, which includes a 4.4% yearly tax increase. The graph shows that the average condition of the network will initially decline slightly but then begin a gradual recovery, eventually aligning with the optimal budget scenario by 2044.

13.7.3.3. Recommendations

Secure Sustainable Funding

Implement the recommended funding strategy, which includes a 4.4% yearly tax increase over the next 10 years, to close the funding gap and reverse the declining trend in the network's condition.

Enhance Accessibility and Expansion

Increase accessibility for all structures, with a focus on AODA (Accessibility for Ontarians with Disabilities Act) compliance as assets are replaced. Consider expanding outdoor recreation opportunities, such as creating an extended trail system or updating play structures at soccer fields.

Proactive Asset Management

Move beyond the use of age-based condition for high-use assets like benches and playground equipment to properly reflect their state.

13.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

The continued decline in the network's condition under the current budget will lead to a growing infrastructure backlog. This will result in a higher long-term financial burden on the municipality due to the need for more expensive and extensive emergency repairs and replacements.

Operational and Safety Risk

A deteriorating network could impact the reliability and safety of outdoor recreation assets. This poses a risk to the regular safe use of assets and could compromise the Township's ability to meet regulated requirements for playgrounds.

Community Satisfaction Risk

While public satisfaction is currently moderate, a failure to address issues like aging assets, lack of accessibility, and a perceived need for expanded recreational opportunities could lead to a decline in community confidence and satisfaction with municipal services.

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, as well as upgrade or dispose 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.

The Township's long-term vision is guided by Wellington County's official plan.

14.1 Wellington County Official Plan (2016)

Wellington Council's Official Plan, first adopted in 1998 and last updated in 2016, is a comprehensive document that guides the long-term physical and resource development of the County. It aims to ensure that future residents have access to a variety of housing, shopping, services, and cultural opportunities, while also protecting the environment and promoting healthy communities.

The plan discusses growth in terms of managing and directing it in a sustainable and cost-effective way. It emphasizes directing growth to urban areas that offer municipal services, while limiting growth in areas with only partial or individual services. The plan also sets targets for population and employment growth, with a focus on accommodating growth within existing urban areas and promoting efficient land use. Additionally, it highlights the importance of providing a variety of housing options and supporting a culture of conservation.

Table 45: Growth Projections: Mapleton & Surrounding Communities

Township of Mapleton			
Year	**2016**	**2036**	**2041**
Total Population	10,785	13,575	14,060
Households	3,065	4,050	4,235
Total Employment	4,590	6,360	6,670
Drayton			
Year	**2016**	**2036**	**2041**
Total Population	2,285	3,650	3,990
Households	780	1,210	1,315
Moorefield			
Year	**2016**	**2036**	**2041**
Total Population	440	1,730	1,970
Households	160	545	625
Outside Urban Centres			
Year	**2016**	**2036**	**2041**
Total Population	8,060	8,195	8,100
Households	2,125	2,295	2,295

Table 45 summarizes the Township's growth projections as mentioned in the county's official plan. The Township is expected to undergo significant growth by 2041, primarily concentrated in its urban centers of Drayton and Moorefield. These areas are projected to experience substantial increases in population and households, while the outside urban centers will likely remain stable. This trend suggests a shift towards urbanization within the Township, with growth focused on developing existing urban areas and promoting efficient land use.

15. Financial Strategy

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and multi-year capital forecasting. The development of a comprehensive financial plan will allow the Township of Mapleton 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
    e. Reserve Funds
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. Ontario Community Infrastructure Fund (OCIF)

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

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

1. In order to reduce financial requirements, consideration has been given to revising service levels downward.

2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.
    b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

15.1 Annual Requirements & Capital Funding

15.1.1 Annual Requirements

The annual requirements represent the amount The Township should allocate each year 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 $11.9 million annually to address capital requirements for the assets included in this AMP.

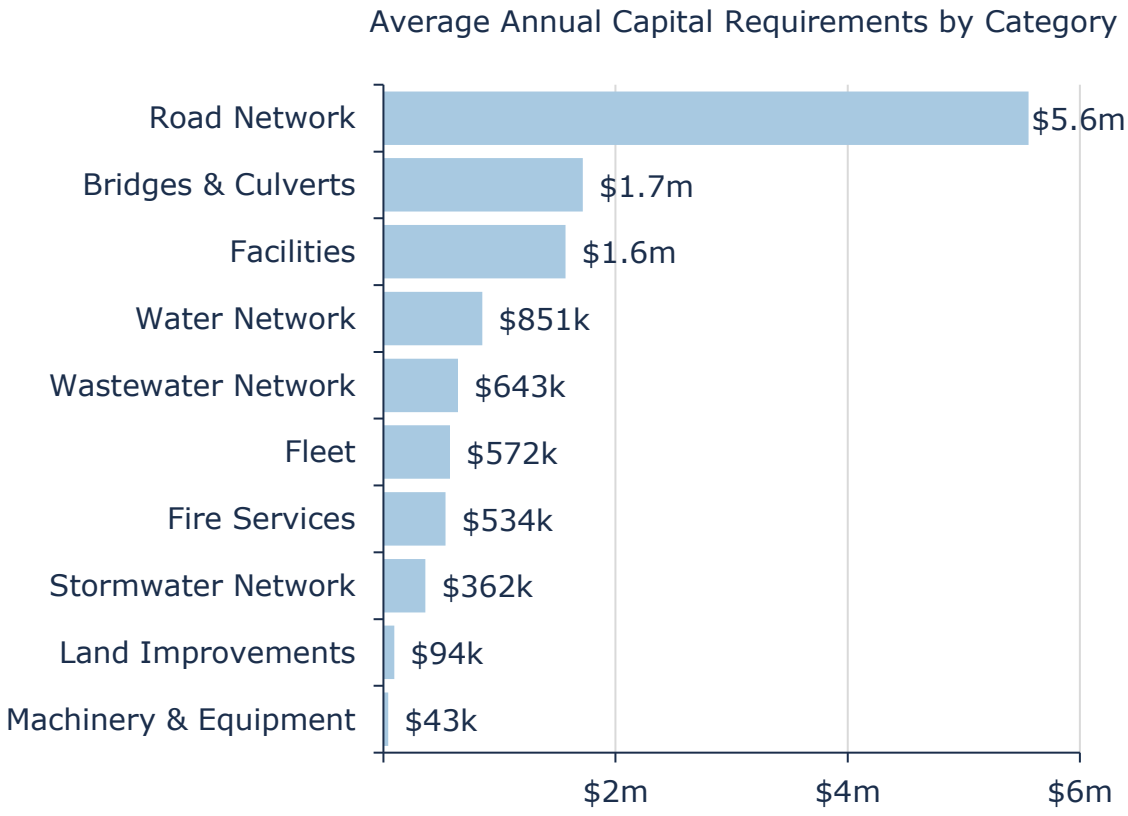


Figure 89: Annual Capital Funding Requirements by Asset Category

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

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.

Table 46: Lifecycle Strategies Annual Savings

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	$12,658,602	$5,556,714	$7,101,888

The implementation of a proactive lifecycle strategy for roads leads to potential annual cost avoidance of $7.1 million for the road network. This represents an overall reduction of 56% in terms of annual requirements for the road corridor. As the lifecycle strategy scenario represents the lowest cost option available to The Township, we have used these annual requirements in the development of the financial strategy.

15.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, The Township is committing approximately $5.4 million towards capital projects per year. Given the annual capital requirement of $11.9 million, there is currently a funding gap of $6.5 million annually.

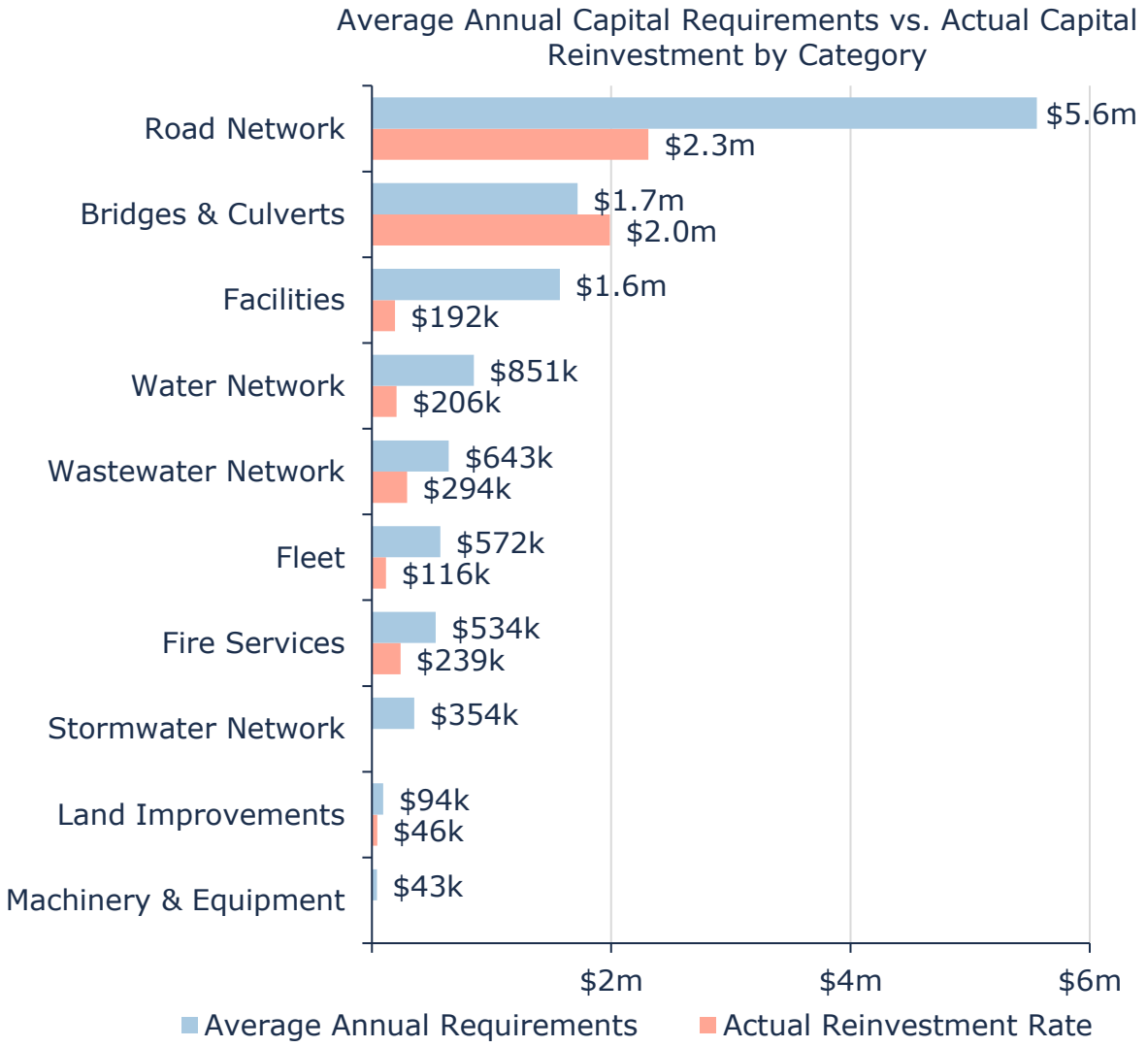


Figure 90: Annual Requirements vs. Capital Funding Available

15.2 Funding Objective

We have developed a scenario that would enable Mapleton to achieve full funding within 5-20 years for the following assets:

- **Tax Funded Assets:** Road Network, Stormwater Network, Bridges & Culverts, Facilities, Fire Services, Fleet, Machinery & Equipment, and Outdoor Recreation & Land Improvements

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, Mapleton's average annual asset investment requirements, current funding positions, and funding increases required to achieve full funding on assets funded by taxes.

Table 47: Annual Available Funding for Tax Funded Assets

		Annual Funding Available					
Asset Category	**Avg. Annual Requirement**	**Taxes**	**CCBF**	**OCIF**	**Capital Reserve Allocation**	**Total Available**	**Deficit**
Bridges & Culverts	$1,717,903	-	$177,489	$655,678	$1,156,700	$1,989,867	$-271,964
Facilities	$1,569,986	-	-	-	$191,500	$191,500	$1,378,486
Outdoor Recreation & Land Improvements	$94,381	-	-	-	$45,600	$45,600	$48,781
Machinery & Equipment	$42,619	-	-	-			$-42,619
Road Network	$5,556,714	-	$177,489	$655,678	$1,477,800	$2,310,967	$3,245,747
Stormwater Network	$361,888	-	-	-	-	-	$361,888
Fleet	$572,152	-	-	-	-$116,400	$116,400-	$455,752
Fire Services	$533,724	-	-	-	$239,400	$239,400	$294,324
Total	**10,449,365**	**-**	**$354,978**	**$1,311,355**	**$3,227,400**	**$4,893,734**	**$5,555,631**

The average annual investment requirement for the above categories is $10.4 million. The annual revenue currently allocated to these assets for capital purposes is $4.9 million, leaving an annual deficit of $5.5 million. Put differently, these infrastructure categories are currently funded at 46.9% of their long-term requirements.

15.3.2 Full Funding Requirements

In 2025, the Township of Mapleton budgeted annual tax revenues of approximately $10.6 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Table 48: Tax Increase Requirements for Full Funding

Asset Category	Tax Change Required for Full Funding
Bridges & Culverts	-2.6%
Facilities	13.0%
Outdoor Recreation & Land Improvements	0.5%
Machinery & Equipment	0.4%
Road Network	30.6%
Stormwater Network	3.4%
Fleet	4.3%
Total	**52.4%**

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

Table 49: Tax Increase Options 5-20 Years (without debt reallocation)

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	$5,555,631	$5,555,631	$5,555,631	$5,555,631
Change in Debt Costs	$0	$0	$0	$0
Resulting Infrastructure Deficit:	**$5,555,631**	**$5,555,631**	**$5,555,631**	**$5,555,631**
Tax Increase Required	52.4%	52.4%	52.4%	52.4%
Annually:	**8.8%**	**4.4%**	**2.9%**	**2.2%**

Table 50: Tax Increase Options 5-20 Years (with debt reallocation)

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	$5,555,631	$5,555,631	$5,555,631	$5,555,631
Change in Debt Costs	$-108,322	$-163,024	$-520,642	$-520,642
Resulting Infrastructure Deficit:	**$5,447,309**	**$5,392,608**	**$5,034,989**	**$5,034,989**
Tax Increase Required	51.4%	50.9%	47.5%	47.5%
Annually:	**8.7%**	**4.4%**	**2.7%**	**2.0%**

15.3.3 Financial Strategy Recommendations

Considering all the above information, and the requirement to build sustainable financing for the entire life of Township owned infrastructure, we recommend the 10-year option. This involves full funding being achieved over 10 years by:

a) increasing tax revenues by 4.4% each year for the next 10 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
b) allocating the current revenue streams 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:

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

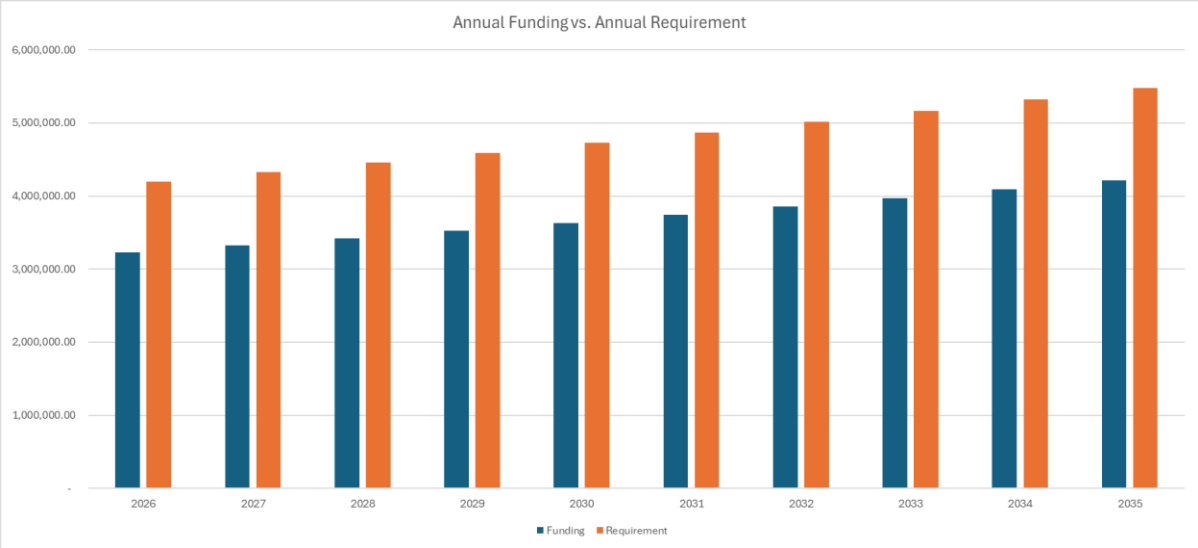
Although this option achieves full funding on an annual basis in 10 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. It is recommended to start by addressing the critical assets that are within The Township's infrastructure backlog.

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 be required otherwise.

15.3.4 Current Financial Strategy

The Township's current approach to funding infrastructure investments is based on the Long-Term Integrated Financial Strategy. Under this strategy the Township seeks to build a sustainable capital program over the 10-year horizon with a mix of funding from various sources including: infrastructure renewal reserve funds, senior government funding, development charges and debt financing.

This approach has been successful at maintaining a sustainable capital forecast with annual inflationary adjustments to the transfers to infrastructure renewal reserve funds. However, as the graphic below shows, by deferring the recommendations outlined in Section 15.3.3, the Township will continue to grow the gap between funding transferred into reserve funds and funding drawn from the reserve funds for infrastructure investments.



15.4 Financial Profile: Rate Funded Assets

15.4.1 Current Funding Position

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

Table 51 Annual Available Funding for Rate Funded Assets

Asset Category	Avg. Annual Requirements	Annual Funding Available				Annual Deficit
		Rates	Other	OCIF	Total Available	
Water Network	$850,988	$206,198	-	-	$206,198	$644,790
Wastewater Network	$642,601	$293,513	-	-	$293,513	$349,088
Total	**$1,493,589**	**$499,711**	**-**	**-**	**$499,711**	**$993,878**

The average annual investment requirement for the above categories is $1.5 million. Annual revenue currently allocated to these assets for capital purposes is $500,000 leaving an annual deficit of $1 million. Put differently, these infrastructure categories are currently funded at 33.5% of their long-term requirements.

15.4.2 Full Funding Requirements

In 2024, Mapleton had budgeted annual wastewater revenues of $1,005,600 and annual water revenues of $969,500. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Table 52 Rate Increase Requirements for Full Funding

Asset Category	Rate Change Required for Full Funding
Water Network	64.1%
Wastewater Network	36.0%
Total	**50.3%**

In the following tables, we have expanded the above scenario to present multiple options that include:

- Net infrastructure deficit with capturing decrease in debt payments
- Net infrastructure deficit without capturing decrease in debt payments

Due to the significant increases required, we have provided phase-in options of up to 20 years:

Table 53 Water Rate Increase Options 5-20 Years (with and without capturing decrease in debt payments)

	Water Network			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	$644,790	$644,790	$644,790	$644,790
Change in Debt Costs	$0	$0	$0	$0
Resulting Infrastructure Deficit:	**$644,790**	**$644,790**	**$644,790**	**$644,790**
Rate Increase Required	64.1%	64.1%	64.1%	64.1%
Annually:	**10.5%**	**5.1%**	**3.4%**	**2.6%**

Table 54 Wastewater Rate Increase Options 5-20 Years (without capturing decrease in debt payments)

	Wastewater Network			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	$349,088	$349,088	$349,088	$349,088
Change in Debt Costs	$0	$0	$0	$0
Resulting Infrastructure Deficit:	**$349,088**	**$349,088**	**$349,088**	**$349,088**
Rate Increase Required	36.0%	36.0%	36.0%	36.0%
Annually:	**6.4%**	**3.2%**	**2.1%**	**1.6%**

Table 55 Wastewater Rate Increase Options 5-20 Years (with capturing decrease in debt payments)

	Wastewater Network			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	$349,088	$349,088	$349,088	$349,088
Change in Debt Costs	$-65,620	$-173,789	$-173,789	$-173,789
Resulting Infrastructure Deficit:	**$283,468**	**$175,299**	**$175,299**	**$175,299**
Rate Increase Required	29.2%	18.1%	18.1%	18.1%
Annually:	**5.3%**	**1.7%**	**1.2%**	**0.9%**

15.4.3 Financial Strategy Recommendations

Considering all of the above information, we recommend the 10-year option. This involves full funding being achieved over 10 years by:

a) increasing water services rate by 5.1% and increasing wastewater services by 3.2% each year for the next 10 years solely for the purpose of phasing in full 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 full funding on an annual basis in 10 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

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

15.4.4 Current Financial Strategy

In 2025, the Township established a Municipal Service Corporation (MSC) for water and wastewater infrastructure. As part of the due diligence, a series of statistical models were run to develop a long-term sustainable financial plan. This modelling was valuable in determining the feasibility of establishing an MSC.

The new MSC – Northern Maple Utilities Inc. reached financial close in May 2025. The funding model was used to access debt financing, and included projected rate increases of 5.25% over 12 years.

Subsequent to financial close, the Township received additional funding from senior government valued at approximately $10M. As such the models were updated and rates are now anticipated to increase by approximately 3.57% annually for a period of 12 years.

The next iteration of the asset management plan for rate-based infrastructure will utilize the funding model from Northern Maple Utilities Inc.

15.5 Use of Debt

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

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

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

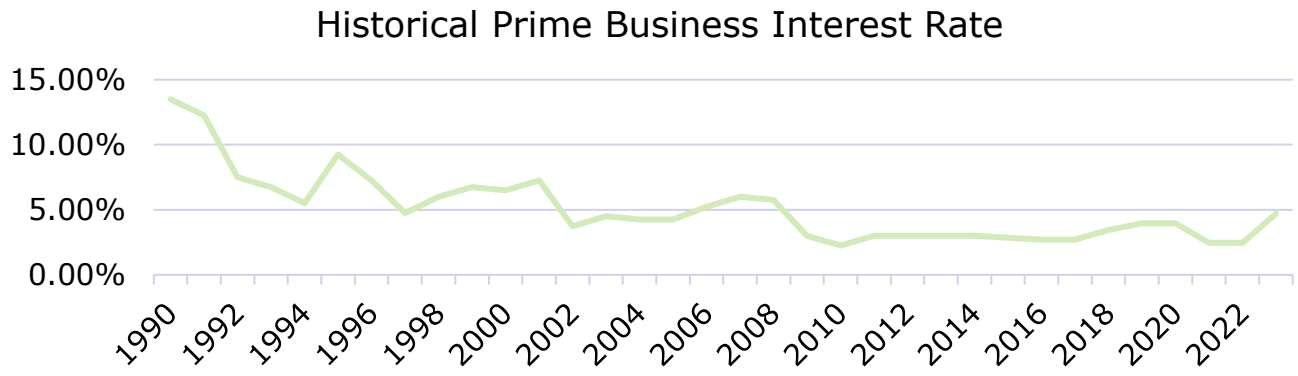


Figure 91 Historical Prime Rate

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.

The following tables outline how Mapleton has historically used debt for investing in the asset categories as listed. As of year-end 2024, there is currently $7.9 million of external debt outstanding for the assets covered by this AMP.

Table 56 Use of Debt 2020-2024

Asset Category	Outstanding	Use of Debt in the Last Five Years				
		2020	2021	2022	2023	2024
Bridges & Culverts	$1,154,107	-	-	-	-	-
Facilities	$2,007,080	-	-	-	-	-
Outdoor Recreation & Land Improvements	-	-	-	-	-	-
Machinery & Equipment	-	-	-	-	-	-
Road Network	$1,149,717	-	-	-	-	-
Stormwater Network	-	-	-	-	-	-
Fleet	-	-	-	-	-	-
Total Tax funded	**$4,310,904**	**-**	**-**	**-**	**-**	**-**
Water Network	$2,763,899	-	-	$2,961,000	-	-
Wastewater Network	$807,840	-	-	-	-	-
Total Rate Funded	**$3,571,739**	**-**	**-**	**$2,961,000**	**-**	**-**

Table 57 Mapleton's Principal and Interest Payments (2025-2030)

Asset Category	2025	2026	2027	2028	2029	2030
Bridges & Culverts	340,926	332,939	324,953	317,185	308,980	300,994
Facilities	26,573	25,733	221,874	221,041	220,193	219,353
Recreation & Land	-	-	-	-	-	-
Machinery & Equipment	-	-	-	-	-	-
Road Network	173,833	123,142	120,188	117,315	114,280	111,326
Stormwater Network	-	-	-	-	-	-
Fleet	-	-	-	-	-	-
Total Tax Funded Debt	541,332	481,814	667,014	655,542	643,453	631,673
Water Network	146,922	146,922	146,922	146,922	146,922	146,922
Wastewater Network	173,789	116,138	114,272	112,337	110,283	108,169
Total Rate Funded Debt	**320,711**	**263,060**	**261,194**	**259,259**	**257,205**	**255,091**

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

15.6 Use of Reserves and Reserve Funds

15.6.1 Available Reserves and Reserve Funds

Reserves and Reserve Funds 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

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

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

The Township's Reserve and Reserve Fund Framework was updated in 2025 to better align with the asset management program. Opening balances were re-stated into the updated categories. Each category is dedicated to funding specific asset categories within this Asset Management Plan.

The Core Infrastructure Reserve Fund is in place to fund road network assets, bridges and culverts, and stormwater assets. The Parks and Trails Reserve Fund is intended to fund Outdoor Recreation and Land Improvements.

The table below outlines the details of the reserves available to Mapleton as of January 1, 2025.

Table 58: Mapleton's Reserve Fund Balances

Reserve Category	Balance on December 31, 2024
Core Infrastructure	$7,672,018
Fire Services	905,730
Parks and Trails	776,708
Facilities	1,442,456
Fleet	881,841
Machinery & Equipment	176,368
Street Lighting	183,917
IT Infrastructure	88,184
Cemetery	10,370
Total	**$12,137,593**
Water Network	$1,945,739
Wastewater Network	862,870
Total	**$2,808,609**

15.6.2 Recommendation

To achieve the proposed levels of service goals outlined in this Asset Management Plan, The Township must address the funding gap for tax-funded, and rate funded assets. The analysis indicates that the current annual capital investment falls short of the required sustainable levels, creating risks to infrastructure condition and service reliability over time.

To bridge this gap and maintain long-term financial sustainability, the following strategies should be considered:

- Gradual tax levy, and utility rate increases to phase in additional funding for capital rehabilitation and replacement. A structured annual increase would help align funding with lifecycle needs while minimizing short-term financial strain.
- Strategic reallocation of budget surpluses and reserve contributions to prioritize critical infrastructure needs and reduce reliance on debt financing.
- Increased grant and partnership funding to support major capital investments while reducing the burden on taxpayers. The Township should proactively apply for available provincial and federal funding programs such as OCIF and CCBF.

- Enhanced asset lifecycle management strategies to extend the useful life of tax-funded assets and optimize long-term capital planning, reducing the immediate financial burden.

Without these adjustments, The Township will face continued infrastructure deterioration, increasing maintenance costs, and higher long-term financial risks. Proactive funding strategies will ensure that The Township's tax-funded assets can meet service level expectations while maintaining fiscal responsibility.

16. Recommendations & Key Considerations

This section outlines key financial and asset management recommendations to ensure the Township of Mapleton can achieve long-term financial sustainability, service reliability, and infrastructure resilience. The focus is on aligning capital investment with service level expectations while accounting for growth impacts and the increasing complexity of asset management.

16.1 Financial Sustainability & Long-Term Funding Strategy

To achieve the proposed levels of service goals, The Township must address the annual funding gap for assets. The following strategies should be considered:

- Structured tax levy increases: Implementing a phased tax increase (e.g., 4.4% annually over 10 years) to close the infrastructure deficit while balancing affordability.
- Structured water and wastewater rate increases: Implementing a phased rate increase (e.g., 5.1% for Water, and 3.2% for Wastewater annually over 10 years) to close the infrastructure deficit while balancing affordability.
- Reallocating existing revenue sources: Redirecting funding from asset categories with surpluses to those facing deficits.
- Expanding the use of senior government grants: Prioritizing applications for funding programs such as the OCIF and CCBF.
- Adjusting future budgets for inflation: Ensuring annual infrastructure funding accounts for construction cost escalations and inflationary pressures.

Failure to implement these strategies could result in accelerated asset deterioration, increased maintenance costs, and reduced service reliability, making long-term infrastructure sustainability difficult to achieve.

16.2 Growth-Related Financial Planning & Asset Rationalization

As Mapleton’s infrastructure portfolio expands, The Township must account for the long-term cost of growth. While new development often brings additional tax revenue, it also creates new financial liabilities for maintenance, rehabilitation, and eventual replacement. To ensure sustainable expansion, The Township should:

- Develop a long-term growth cost model: Incorporate lifecycle funding requirements for new infrastructure in financial planning to avoid creating unfunded liabilities.
- Assess the cost-benefit of new asset acquisitions: Before assuming ownership of new infrastructure, ensure that the long-term maintenance and replacement costs are accounted for.

- Review opportunities for asset disposal: As The Township's portfolio grows, some underutilized or redundant assets may be candidates for divestment, reducing financial strain and allowing reinvestment in critical infrastructure.
- Increase development charge allocations for infrastructure renewal: Ensuring that new developments contribute fairly to the cost of maintaining the overall infrastructure network.

Without integrating growth planning into financial forecasting, The Township risks accumulating infrastructure that cannot be adequately maintained without substantial future tax increases.

16.3 Improving Asset Data for Better Decision-Making

To enhance capital planning and risk management, The Township should:

- Update and validate asset inventory data (e.g., streetlight installation dates) to eliminate placeholder and ensure accuracy in financial forecasting.
- Expand condition assessments across all asset classes to reduce reliance on age-based deterioration models.
- Refine risk models to prioritize high-impact assets and optimize capital investment decisions.
- Improve lifecycle cost modeling to identify cost-effective intervention points and maximize infrastructure longevity.
- Leverage emerging technologies (e.g., GIS, IoT sensors) for real-time monitoring and predictive maintenance.

Better data will enable more accurate funding requirements and support strategic reinvestment in The Township's growing asset base.

16.4 Conclusion

Mapleton's infrastructure portfolio is not only expanding but also aging and deteriorating, and increasing financial pressures present significant challenges for effective management and maintenance. To maintain service reliability and compliance with O. Reg. 588/17, The Township must commit to a phased financial strategy, integrate growth considerations, and optimize asset management practices.

By implementing these recommendations, The Township can balance infrastructure investment, financial sustainability, and community expectations, ensuring long-term resilience and responsible asset stewardship.

Appendices

Appendix A – 10-Year Capital Requirements

Appendix B – Level of Service Maps & Photos

Appendix C – Risk Rating Criteria

Appendix A – 10-Year Capital Requirements

The tables below summarize the projected costs of lifecycle activities (rehabilitation and replacement) expected over the next 10 years to support the proposed levels of service. These projections are based on a 4.4% annual tax increase for tax-funded assets, 5.1% annual rate increase for water network assets, and 1.7% annual rate increase for wastewater network assets over 10 years. The estimates are generated using Citywide, drawing from data in the asset register.

Where available, condition assessments and replacement costs were used to forecast asset replacement needs. For assets lacking condition data, age-based estimates were applied. Projected needs were then compared to available funding, and any shortfalls are reflected as backlog—indicating overdue investment at the time of analysis.

These projections may differ from actual capital forecasts. Ongoing updates to condition data, replacement costs, and lifecycle models will improve alignment between system-generated requirements and the City's capital planning.

Road Network

Table 59: System Generated 10-Year Capital Replacement Forecast: Road Network[9]

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Sidewalks	-	-	-	-	-	-	-	-	-	$1.5m	$1.4m
Paved Roads	-	-	$348k	$1.4m	$1.7m	$4.9m	$3.0m	$5.3m	$6.0m	$3.1m	$3.7m
Traffic Signs		-	-	-	-	-	$7k	$50k	-	$78k	-
Streetlights	$2.8m	-	-	-	-	-	-	$2.8m	-	-	-
Total	**$2.8m**	**-**	**$349k**	**$1.4m**	**$1.7m**	**$4.9m**	**$3.0m**	**$8.2m**	**$6.0m**	**$4.7m**	**$5.1m**

[9] Streetlights are replaced on an as-needed basis; however, this information has not yet been updated in the Citywide System

Bridges & Culverts

Table 60: System Generated 10-Year Capital Replacement Forecast: Bridges & Culverts

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	-	-	$1.4m	$1.9m	$2.0m	$1.8m	$400k	$555k	$595k	-	-
Culverts	$2.8m	$2.0m	$471k	-	$21k	-	-	$2.6m	-	-	-
Total	**$2.8m**	**$2.0m**	**$1.9m**	**$1.9m**	**$2.0m**	**$1.8m**	**$400k**	**$3.2m**	**$595k**	**-**	**-**

Stormwater Network

Table 61: System Generated 10-Year Capital Replacement Forecast: Stormwater Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch basins	-	-	-	-	-	-	-	-	-	-	-
Manholes	-	-	-	-	-	-	-	-	-	-	-
Storm Mains	-	-	-	-	-	-	$2k	$8k	$28k	$100k	-
SWM Ponds	-	-	-	-	-	-	-	-	-	-	-
Headwalls	-	-	-	-	-	-	-	-	-	-	-
Total	**-**						**$2k**	**$8k**	**$28k**	**$100k**	

Fire Services

Table 62: System Generated 10-Year Capital Replacement Forecast: Fire Services

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fire Fleet	$1.9m	$15k	-	$20k	-	$805k	-	$65k	$56k	-	-
Fire Machinery & Equipment	$900k	-	-	-	-	-	-	-	-	-	-
Fire Facilities	$29k	$39k	$179k	$97k	$135k	$59k	$421k	$300k	$383k	$265k	$471k
Total	**$2.8m**	**$54k**	**$179k**	**$117k**	**$135k**	**$864k**	**$421k**	**$365k**	**$440k**	**$265k**	**$471k**

Water Network

Table 63: System Generated 10-Year Capital Replacement Forecast: Water Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hydrants	$408k	-	$36k	-	-	$360k	$12k	-	-	-	-
Blow Off Valves	-	-	-	-	-	-	-	-	-	-	-
Water Valves	-	-	-	-	-	-	-	-	-	-	-
Water Mains	$1.7m	$140k	$127k	$247k	$310k	-	$408k	$445k	-	-	-
Drayton Water Tower	-	-	-	-	-	-	-	-	-	-	-
Drayton Drinking Water System	$278k	$57k	$5k	$14k	$6k	$3k	-	$22k	$441k	$262k	$811k
Moorefield Drinking Water System	$86k	$9k	$67k	$15k	-	-	-	$17k	$115k	$254k	-
Water Services	-	-	-	-	-	-	-	-	-	-	-
Total	**$2.4m**	**$206k**	**$236k**	**$275k**	**$316k**	**$363k**	**$420k**	**$483k**	**$556k**	**$516k**	**$811k**

Wastewater Network

Table 64: System Generated 10-Year Capital Replacement Forecast: Wastewater Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Manholes	-	$293k	$318k	$343k	$319k	$189k	$220k	$73k	$30k	$155k	$7k
Force Mains	-	-	-	-	-	-	-	-	-	-	-
Valves	-	-	-	-	-	-	-	-	-	-	-
Sanitary Mains	$544k	-	-	-	-	-	-	-	-	-	-
Drayton Sewage Pumping Station	$131k	$287k	-	$110k	$147k	-	-	-	-	-	-
Mapleton Wastewater Treatment Plant	$439k	-	-	$106k	$35k	-	$100k	$13k	-	$5k	-
Moorefield Sewage Pumping Station	$13k	$7k	$318k	$122k	$120k	$7k	$111k	$61k	$30k	$150k	$7k
Sanitary Services	-	-	-	$5k	$16k	$182k	$9k	-	-	-	-
Total	**$1.1m**	**$587k**	**$635k**	**$686k**	**$637k**	**$378k**	**$440k**	**$147k**	**$60k**	**$311k**	**$15k**

Facilities

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

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Recreation & Culture	$372k	$155k	$208k	$238k	$299k	$247k	$72k	$415k	$135k	$789k	$1.1m
Cemetery Services	$4k	$4k	-	$30k	-	$121k	-	$146k	$13k	-	-
Administration & Other	$25k	$25k	$8k	$5k	$58k	$78k	$478k	$116k	$618k	$31k	$163k
Public Works	$27k	$7k	$20k	$18k	-	-	-	-	$68k	$212k	$3k
Total	**$427k**	**$191k**	**$236k**	**$292k**	**$357k**	**$446k**	**$550k**	**$677k**	**$833k**	**$1.0m**	**$1.3m**

Fleet

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

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Public Works	$3k	-	-	-	-	-	-	$3k	-	-	$66k
Recreation & Culture	$27k	-	-	-	-	-	-	-	$11k	$15k	$85k
Cemetery Services	-	-	-	-	-	-	-	-	-	$17k	-
Administration & Other	-	-	-	-	-	-	-	-	-	-	-
Total	**$30k**	**-**	**-**	**-**	**-**	**-**	**-**	**$3k**	**$11k**	**$32k**	**$151k**

Machinery & Equipment

Table 67: System Generated 10-Year Capital Replacement Forecast: Machinery & Equipment

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Recreation & Culture	-	-	-	$150k	-	-	-	-	-	-	-
Public Works	$234k	-	-	-	-	-	-	$234k	-	-	-
Administration & Other	-	-	-	-	-	-	-	-	-	-	-
Total	**$234k**	**-**	**-**	**$150k**	**-**	**-**	**-**	**$234k**	**-**	**-**	**-**

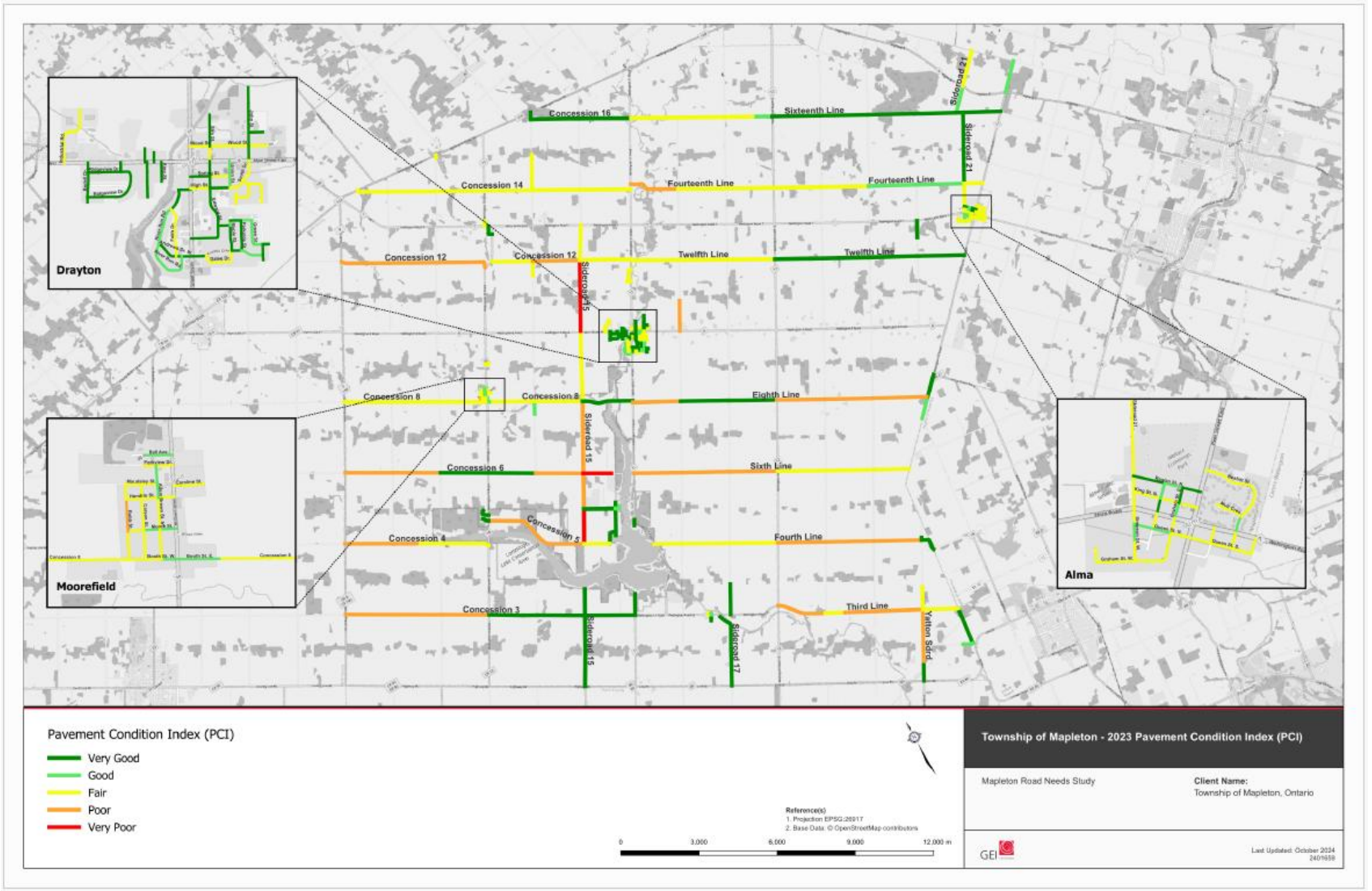
Outdoor Recreation & Land Improvements

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

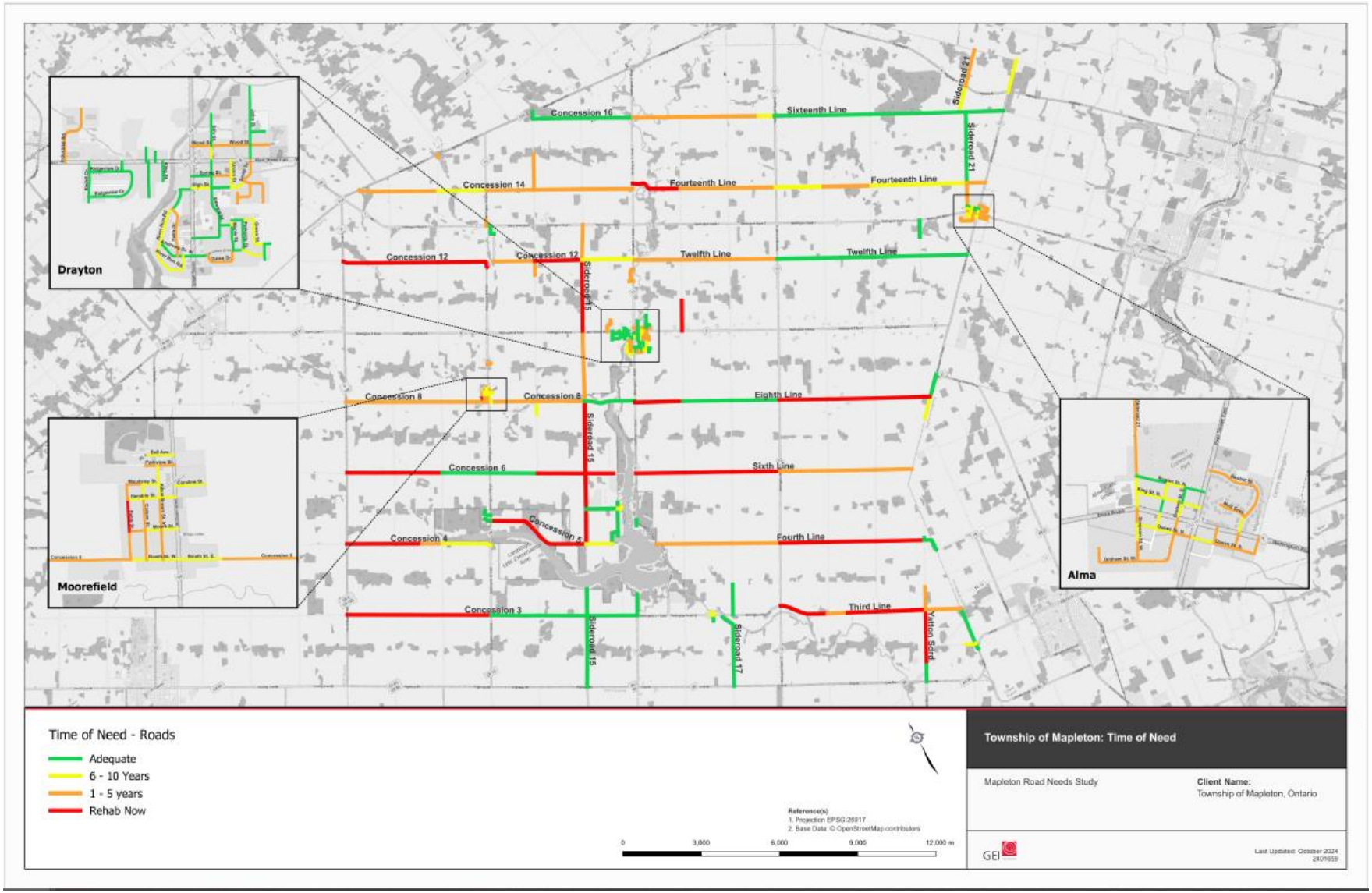
Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Playgrounds & Play Structures	-	-	-	-	-	-	-	-	-	-	-
Fields & Courts	-	-	-	-	-	-	-	-	-	-	-
Trails	-	-	-	-	-	-	-	-	-	-	-
Picnic Shelters & Concession Booths	$10k	$10k	$24k	$16k	-	$68k	$33k	-	-	$26k	$13k
Washrooms	$2k	$21k	$37k	$33k	$35k	$7k	$19k	$53k	$74k	$97k	$39k
Total	**$12k**	**$31k**	**$60k**	**$49k**	**$35k**	**$74k**	**$52k**	**$53k**	**$74k**	**$123k**	**$52k**

Appendix B – Level of Service Maps & Photos

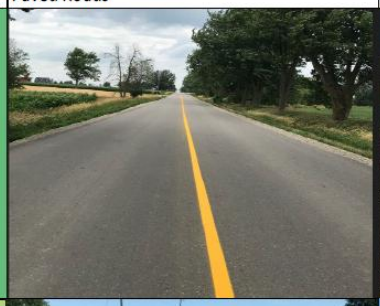
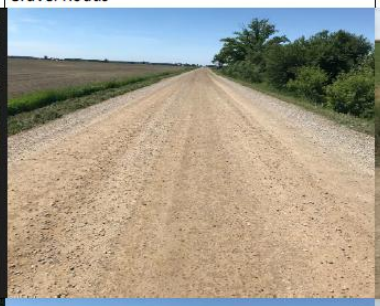
Road Network – Pavement Condition Index Map



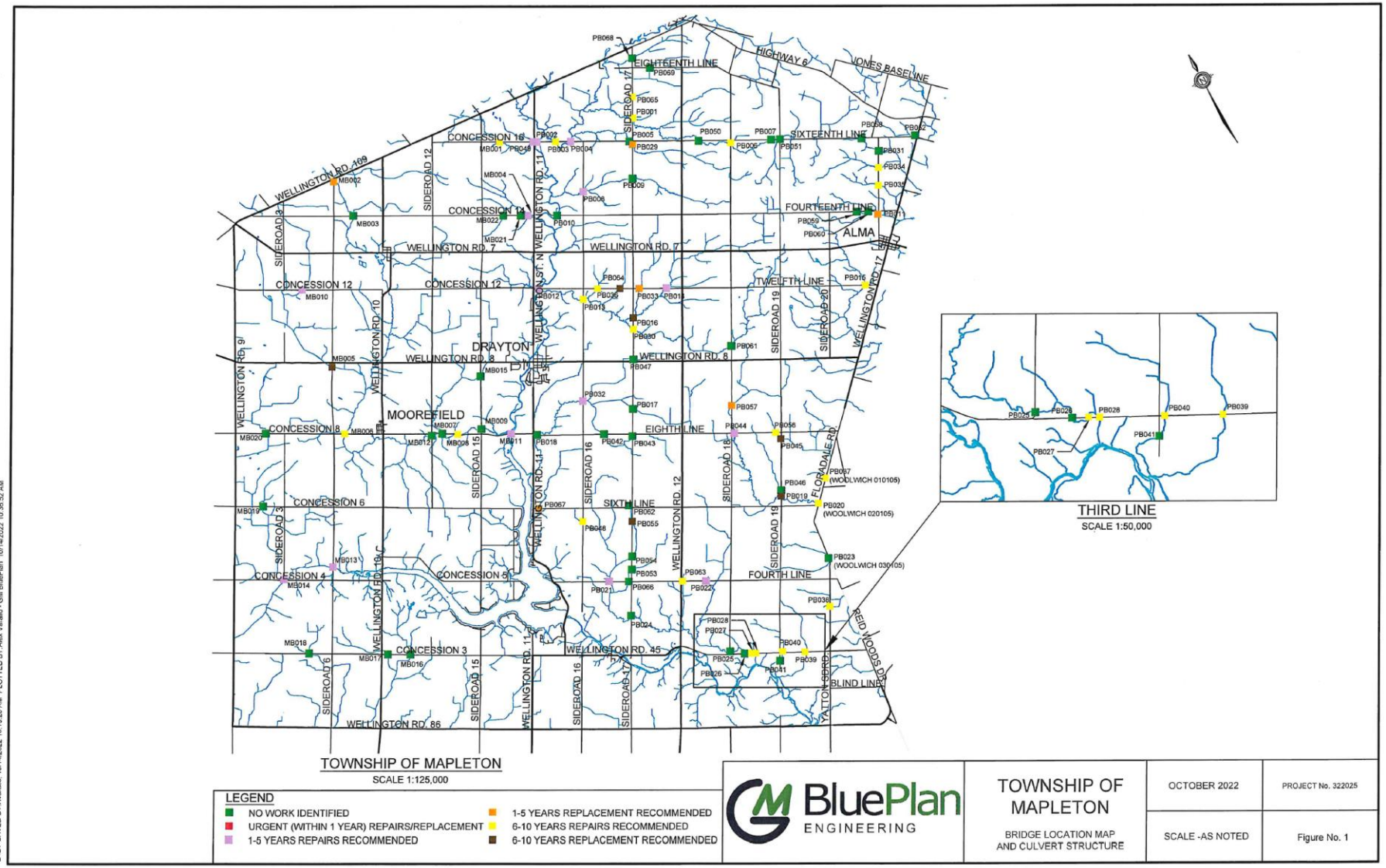
Road Network – Time of Need Map



Road Condition Images

Images	Paved Roads	Gravel Roads	Earth Roads
Very Good (PCI 80+)			
Good (PCI 60- 79)			
Fair (PCI 40 - 59)			
Poor (PCI 20 -39)			
Very Poor (PCI 0 - 19)	N/A	N/A	N/A

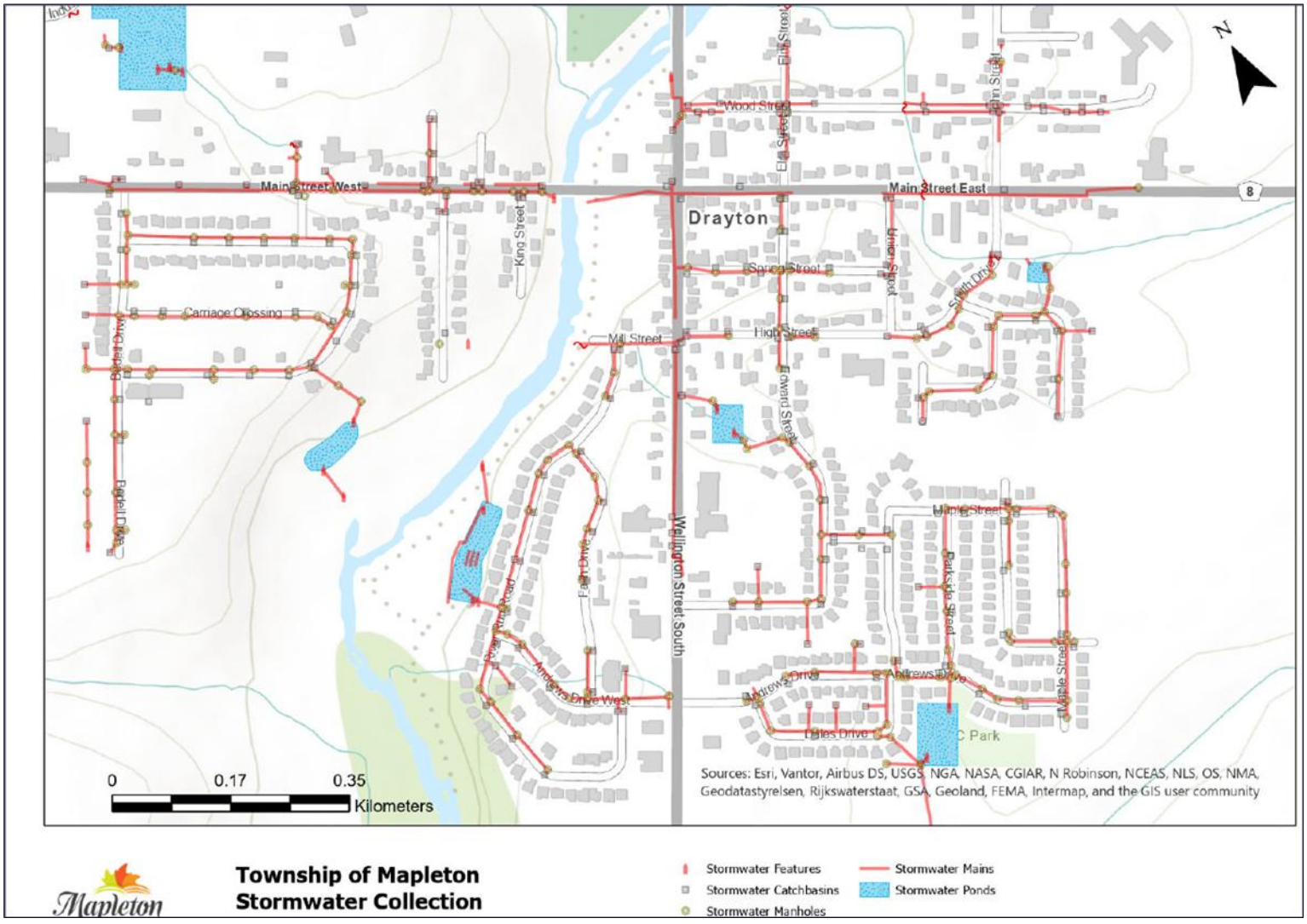
Bridges & Culverts Location Map



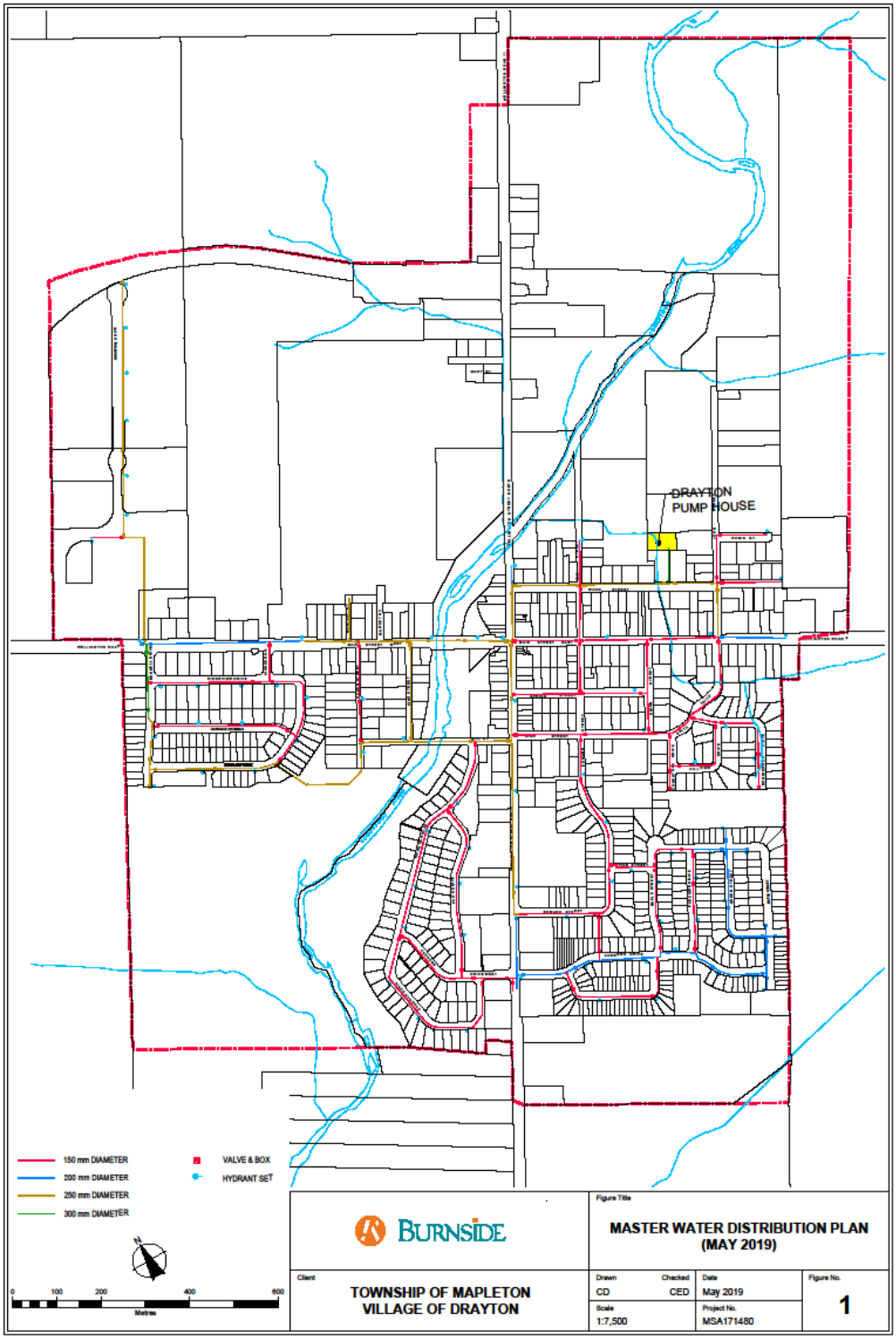
Bridges & Culverts Condition Images

Condition	Bridges	Culverts
Very Good (80-100)	MB003 Concession 14 just east of sideroad 6 	
Good (BCI 60 - 79)	MB006 Sideroad 6 Just south of Wellington Road 8 	
Fair (BCI 40 - 59)	MB005 South of Wellington Road 8 	
Poor (BCI 20 - 39)	PB0037 Yatton Side Road North of Fourth Line 	
Very Poor (BCI 0 - 20)	No Bridges in very poor condition	No culverts in very poor condition

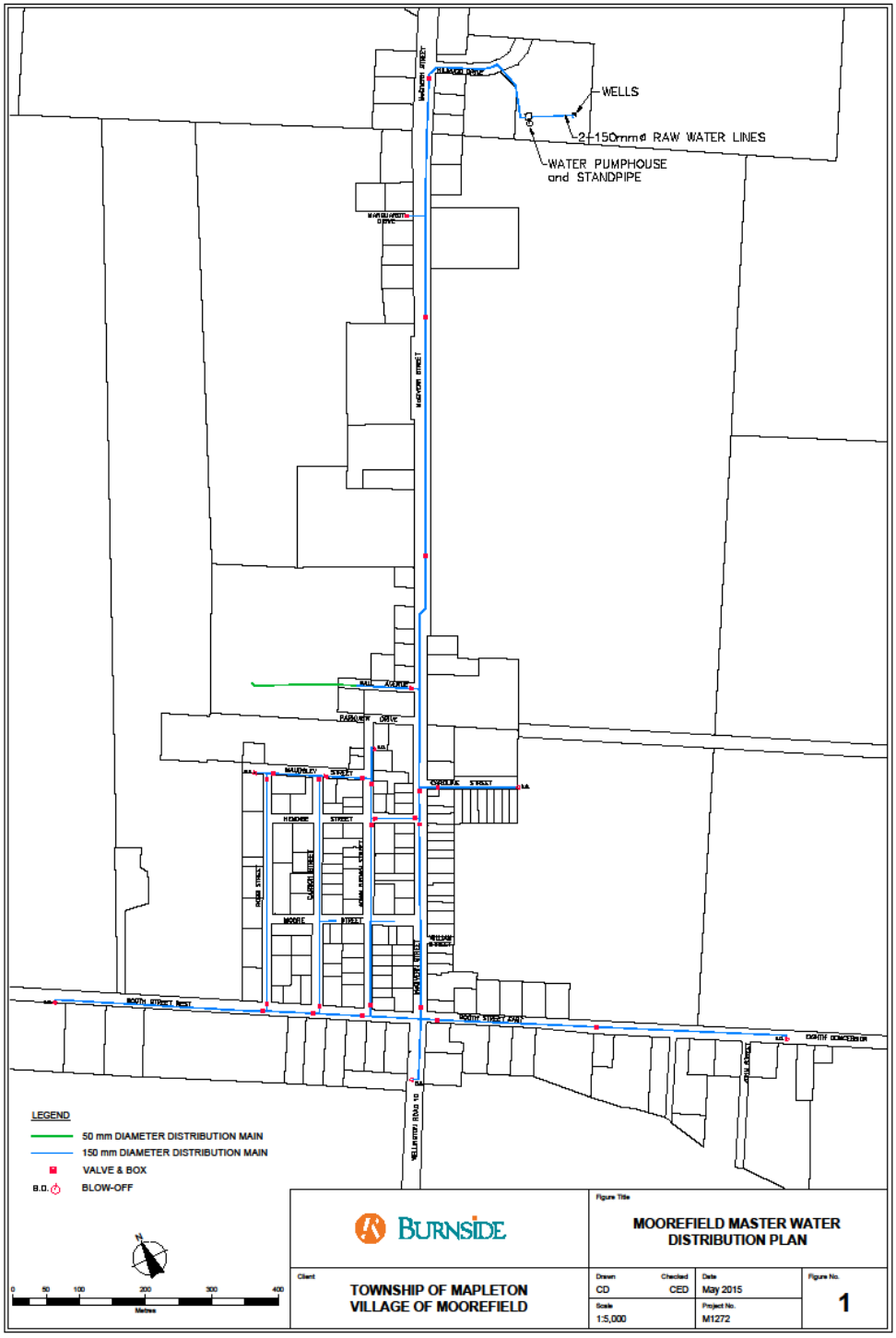
Stormwater System Map – Drayton



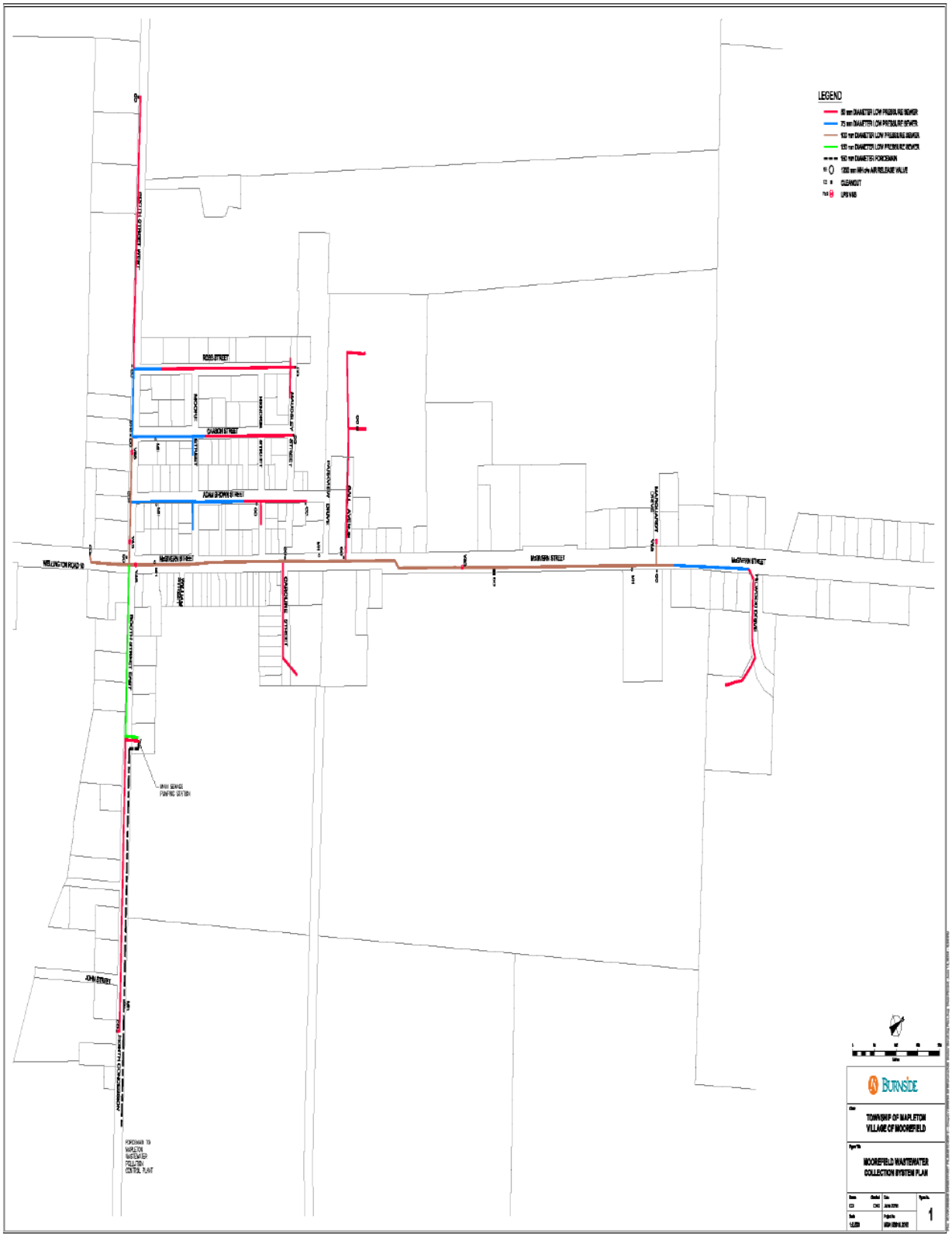
Water Network – Master Distribution Plan (2019)



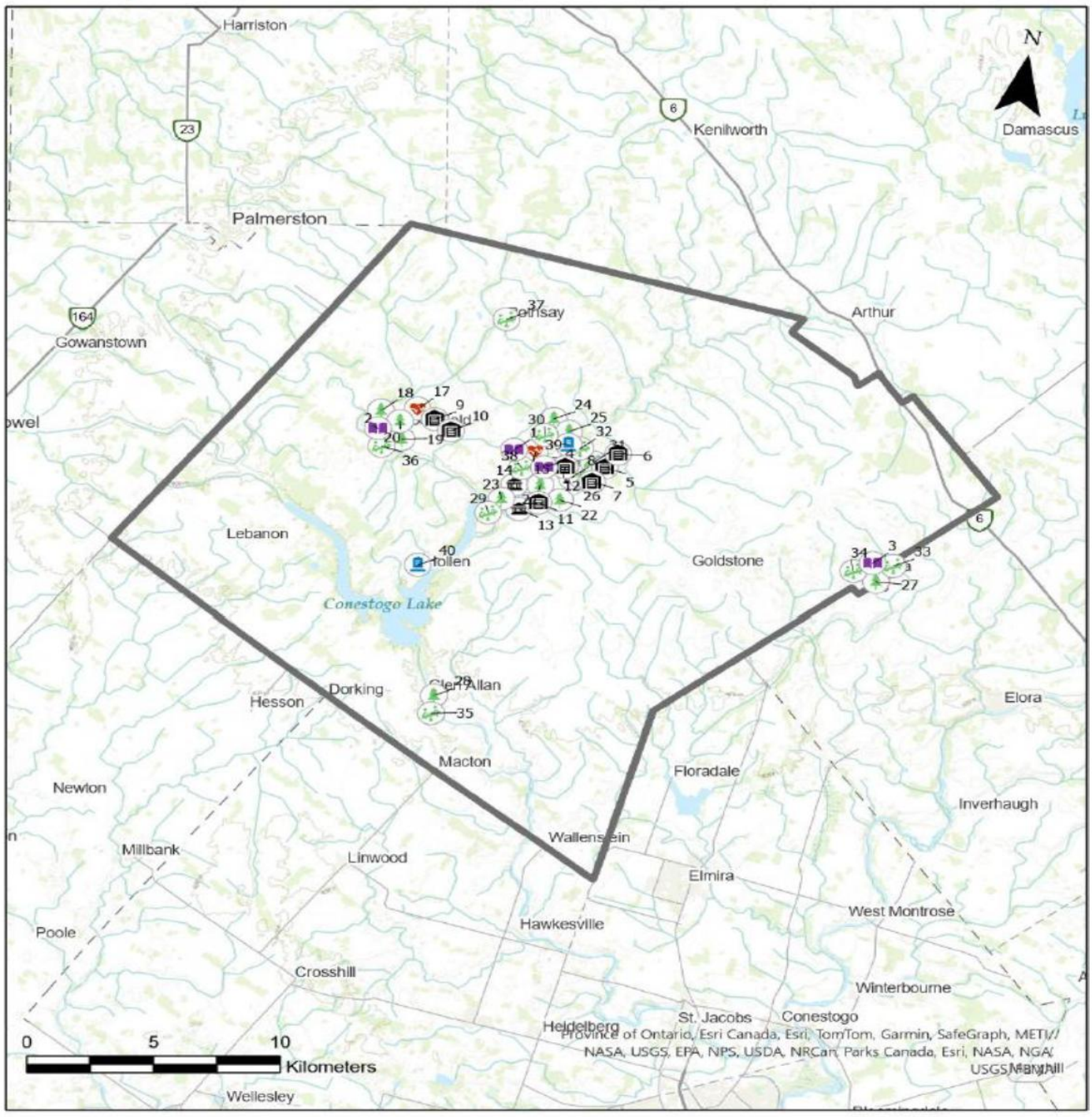
Water Network – Moorefield Master Distribution Plan



Water Network – Moorefield Wastewater System Collection Plan



Township Owned Facilities Map (1/2)



Township of Mapleton
Owned Buildings

Department
- Administration & Other
- Emergency Services
- Outdoor Recreation
- Parks & Playgrounds
- Public Works
- Recreation & Culture
- Cemetery

Township Owned Facilities Map Legends (2/2)

ID	Name	Address
1	PMD Arena	68 Main Street West
2	MCC	15 Ball Ave
3	Alma Community Centre	51 Simpson Street East
4	Drayton Festival Theatre	33 Wellington Street South
5	Maintenance Building- Mapleton Works Shop	7275 SDR 16
6	Sand/Salt Building - Peel Drayton	7275 SDR 16
7	Bldg-30 - Traffic Sign Storage Room	7275 SDR 16 Drayton
8	Municipal Administration Office	7275 SDR 16
9	Sand/Salt Building - Moorefield	5-7 Hilwood Drive
10	Storage Building- Moorefield Behind MCC	5-7 Hilwood Drive
11	Splash Pad Mechanical Building	85 Andrew Drive East
12	Storage Building	58 Wood Street
13	Chapel	138 Wellington County Road 11
14	Medical Clinic & Offices	11 Andrew Drive West
15	Drayton Fire Hall	12 Main Street West
17	Moorefield Fire Hall	5-7 Hilwood Drive
18	Bldg 20 Washrooms Moorefield	16 Ball Ave Moorefield
19	Bldg 21 Concesston Booth	15 Ball Ave Moorefield
20	Bldg 22 Picnic Shelter	15 Ball Ave Moorefield
21	Bldg 26 ABC Gazebo	88 Andrew Drive East Drayton
22	ABC Picnic Shelter	87 Andrew Drive East Drayton
23	ABC Washrooms	86 Andrew Drive East Drayton
24	Bldg 27 Picnic Shelter Centennial Park	58 Wellington Street North Drayton
25	Bldg 28 Washrooms/Booth Kinsmen	38 Elm Street Drayton
26	Bldg 31 Picnic Shelter Kinsmen Park	38 Elm Street Drayton
27	Picnic Shelter	40 Peel Street East Alma
28	Bldg 29 Picnic Shelter	6525 SDR 17 Glen Allan
29	ABC Park	85 Andrew Drive East Drayton
30	Riverside Park	57 Wellington Street North Drayton
31	Drayton Ball Diamonds, Soccer Pitch & Agricultural Fairgrounds	56 John Street Drayton
32	Kinsmen Park Playground	38 Elm Street, Drayton, ON
33	Wallace Cummings Park	40 Peel Street East, Alma, ON
34	Alma Ball Diamond	4 Simpson Street East, Alma, ON
35	Glen Allan Park	6525 Sideroad 17, Glen Allan, ON
36	Moorefield Ball Park	15 Ball Avenue, Moorefield, ON
37	Rothsay Optimist Park	110 Head Street, Rothsay, ON
38	Rotary Park	33 Queen St, Drayton
39	Drayton Cemetery	187 Wellington Street North, Drayton
40	Hollen Cemetery	8051 Hollen Road, Moorefield

Appendix C – Risk Rating Criteria

Probability of Failure (PoF)

Table 69: Probability of Failure Rating Criteria

Asset Category	Risk Metric	Risk Criteria	Value/ Range	PoF/ Score
Paved Roads	Economic (60%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Operational (40%)	Surface Type	Asphalt	2
			Surface Treated	3
Facilities	Economic (100%)	Condition (80%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
		5 Year FCI(%) (20%)	0-20	1
			21-40	2
			41-60	3
			61-80	4
			81-100	5
Water Mains	Economic (60%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Operational (40%)	Service & Maintenance (40%)	2 and below	1
			4 and below	2
			6 and below	3
			8 and below	4
			10 and below	5
		Material (60%)	PVC	3
			HDPE DR 11	2
All Other Assets	Economic (100%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3

Asset Category	Risk Metric	Risk Criteria	Value/ Range	PoF/ Score
Fleet	Economic (60%)	Condition (100%)	20-39	4
			0-19	5
			80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Operational (40%)	Work Order Cost/ Replacement Cost	5 and below	1
			10 and below	2
			15 and below	3
			20 and below	4
			100 and below	5

Appendix D – Facility Energy Consumption (2024)

Table 70: Facility Energy Consumption (2024)

Facility	Total Energy (eKWH)
ABC Park and Splash Pad	349
Alma Community Centre	135,525
Drayton Ball Park	1,330
Drayton Cemetery - Chapel	15
Drayton Fire Station	103,975
Drayton Water Tower	113,858
Mapleton Health Centre	186,741
Mapleton Township Office	101,125
Maryborough Fire Hall	76,691
Moorefield Community Centre	149,126
PMD Arena	964,576
Roads Shop - Drayton	633,358
Roads Shop - Peel	48,448
Sewage Lagoon - Drayton	165,650
Sewage Pump Station- Drayton	70,578
Sewage Pump - Moorefield	17,562
Streetlights	22,439
Water Pump House - Drayton	144,620
Water Pump House - Moorefield	70,618