Asset Management Plan 2025

TOWN OF GRAVENHURST

psdcitywide

This Asset Management Plan was prepared by:

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

Key Statistics

$497m	2025 Replacement Cost of Asset Portfolio
$60k	Replacement Cost of Infrastructure Per Household
80%	Percentage of Assets in Fair or Better Condition
79%	Percentage of Assets with Assessed Condition Data
$10m	Annual Capital Infrastructure Deficit
10 Years	Recommended Timeframe for Eliminating Annual Infrastructure Deficit
3.85%	Target Reinvestment Rate
1.84%	Actual Reinvestment Rate

Table of Contents

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

This AMP includes the following asset categories:

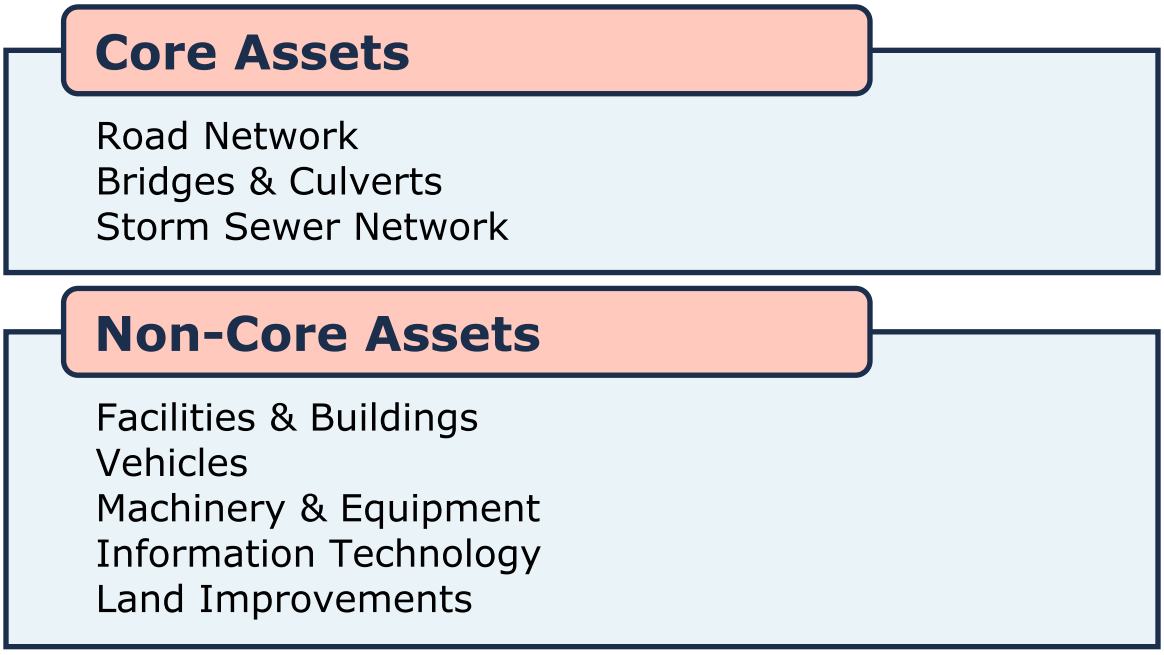


Figure 1 Core and Non-Core Asset Categories

1.2 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 $497.2 million. 80% of the assets analyzed in this AMP, based on replacement cost, are in fair or better condition. Additionally, condition data was available for 79% of the assets assessed. For the remaining 21% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (paved roads, and bridges and culverts) 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 Town's average annual capital requirement totals $19.1 million. Based on a historical analysis of sustainable capital funding sources, the Town is committing approximately $9.1 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $10 million.

It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at the Town of Gravenhurst. 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 Town's annual capital funding gap. The following graphics illustrate the annual tax increase required to eliminate the Town's infrastructure deficit over a 10-year period.

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 Town to proactively manage its assets, stabilize future funding needs, and maintain safe, reliable services for the community:

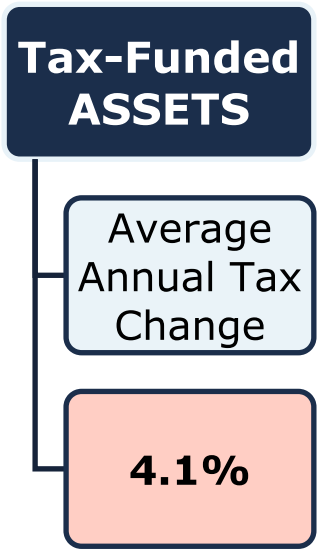


Figure 2 Proposed Tax Changes

2. Introduction & Context

2.1 Community Profile

The Town of Gravenhurst is a lower-tier municipality located in the District Municipality of Muskoka, Ontario. Known as the "Gateway to Muskoka," Gravenhurst is situated approximately 170 kilometers north of Toronto, offering a perfect blend of small-town charm, modern conveniences, and natural beauty.

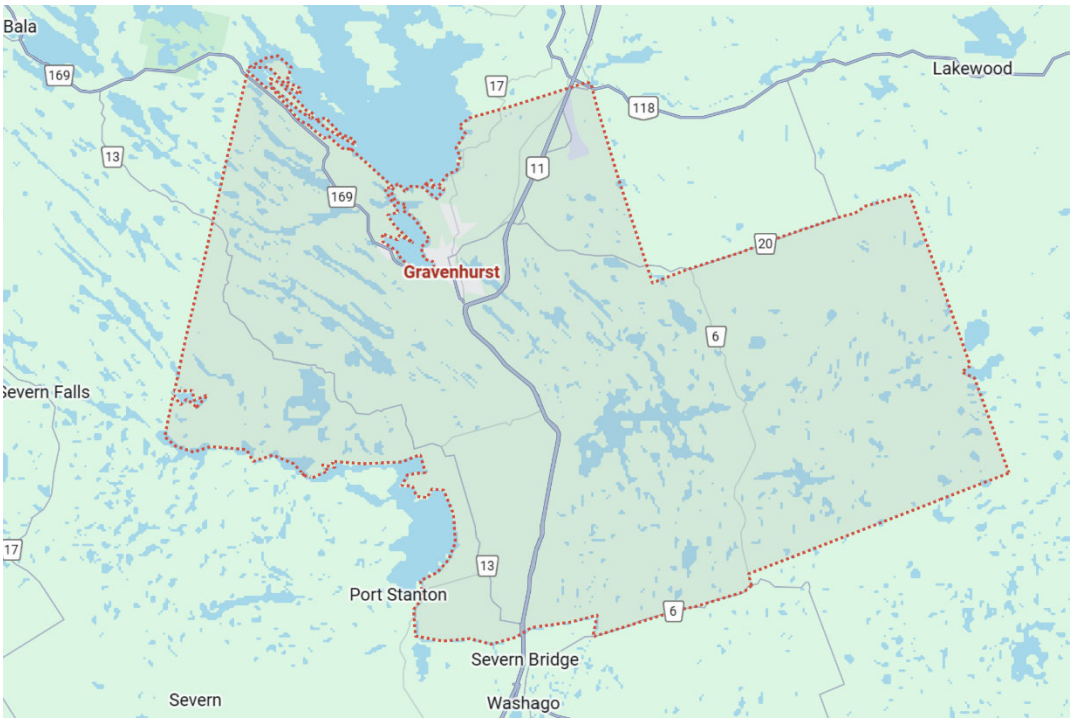


Figure 3: A Google Maps snapshot of the Town of Gravenhurst

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

Table 1 Census data: Town of Gravenhurst & the province of Ontario

Census Characteristic	Gravenhurst	Ontario
Population 2021	13,157	14,223,942
Population Change 2016-2021	+6.9%	+5.8%
Total Private Dwellings	8,271	5,929,250
Population Density	26.9/ km^2	15.9/km^2
Land Area	489.11 km^2	892,411.76 km^2

Gravenhurst is renowned for its picturesque landscapes, including numerous lakes, forests, and rocky outcrops characteristic of the Canadian Shield. The Town's waterfront on Lake Muskoka, along with its historic downtown area, provides residents and visitors with a unique mix of natural splendor and urban amenities. Attractions such as the Muskoka Wharf, the Gravenhurst Opera House, and the Bethune Memorial House contribute to the Town's cultural vibrancy and strong tourist appeal. Additionally, the RMS Segwun, North America's oldest operating steamship, serves as a symbol of Gravenhurst's deep maritime heritage.

The community offers an attractive quality of life, blending the tranquility of cottage country with access to modern conveniences. Recreational opportunities abound, with activities ranging from boating, fishing, and hiking in the summer to skiing and snowmobiling in the winter. The presence of schools, healthcare facilities, and various community services ensures a family-friendly environment suitable for residents of all ages.

Gravenhurst has experienced steady population growth in recent years. According to the 2021 Census, the Town's population reached 13,157, representing a 6.9% increase from 12,311 in 2016. This growth rate surpasses the national average, indicating the Town's increasing attractiveness as a place to live, work, and retire.

The local economy in Gravenhurst is diverse, with key sectors including tourism, retail, construction, and manufacturing. The Town's natural beauty, recreational opportunities, and cultural heritage make it a popular tourist destination, particularly during the summer months.

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 Gravenhurst's Climate Profile

The Town of Gravenhurst, located in the District Municipality of Muskoka, Ontario, is situated near Georgian Bay and surrounded by numerous lakes. The region has

historically experienced a humid continental climate with cold winters and warm summers. However, climate change projections indicate significant shifts, including higher average annual temperatures, increased precipitation, and more frequent extreme weather events. 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 1976 and 2005, the annual average temperature for the region was approximately 5.7°C.
- Under a high-emissions scenario (RCP 8.5), the annual average temperature is expected to increase by 3.5°C by the 2050s and 5.7°C by the 2080s.
- By the end of the 21st century, the annual average temperature could exceed 13.0°C.

Increase in Total Annual Precipitation:

- The average annual precipitation in the region has been around 1,000 mm, including rainfall and snowfall.
- Under a high-emissions scenario, total annual precipitation is projected to increase by up to 12% by the 2050s and 17% by the end of the century.
- Winter months are expected to see the greatest increase in precipitation, which may result in more intense snowfall and rain-on-snow events.

Increase in Frequency of Extreme Weather Events:

- Gravenhurst has already experienced extreme weather, such as the historic snowfall of 140 cm in December 2024, which was the worst storm to hit South Muskoka in 15 years.
- The region is projected to face more frequent and intense storms, floods, droughts, and heat waves.
- Warmer temperatures are affecting lake temperatures, leading to more intense lake-effect snow events.
- Changes in winter conditions may impact traditional winter activities and infrastructure, such as ice roads.

2.2.2 Consideration of Climate Change in Asset Management

Climate Risks to Gravenhurst's Infrastructure

Climate change presents growing risks to Gravenhurst's municipal assets. Rising temperatures, shifting precipitation patterns, and more frequent extreme weather events—such as intense rainfalls, storms, and droughts—accelerate the deterioration of roads, bridges, stormwater systems, and municipal buildings. Being located within the Muskoka region, Gravenhurst is particularly vulnerable to flooding events, freeze-thaw cycles that damage pavement, and shoreline erosion along lakes and rivers. Historical events illustrate these risks. For example, the 2019 Muskoka Flooding caused widespread road washouts, shoreline damage, culvert failures, and emergency repairs across the region, highlighting the potential for severe impacts on municipal infrastructure. Without proactive adaptation, such events threaten service reliability, shorten asset lifespans, and increase long-term maintenance costs.

Current Initiatives

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

- Climate Change Action Plan (2020): Establishes a framework for both greenhouse gas reduction and climate adaptation, with measurable community-wide targets.
- Corporate Energy Management and Conservation Plan: Documents energy efficiency actions across municipal facilities and sets goals for reducing consumption in alignment with provincial requirements.
- Partnerships with the District of Muskoka: Collaboration on watershed management, stormwater planning, and flood mitigation to address region-wide vulnerabilities.
- Participation in FCM's Partners for Climate Protection Program: Supports progress on GHG inventories, action planning, and integration of climate change into decision-making.

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 Gravenhurst

- 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 Gravenhurst'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 Town 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.

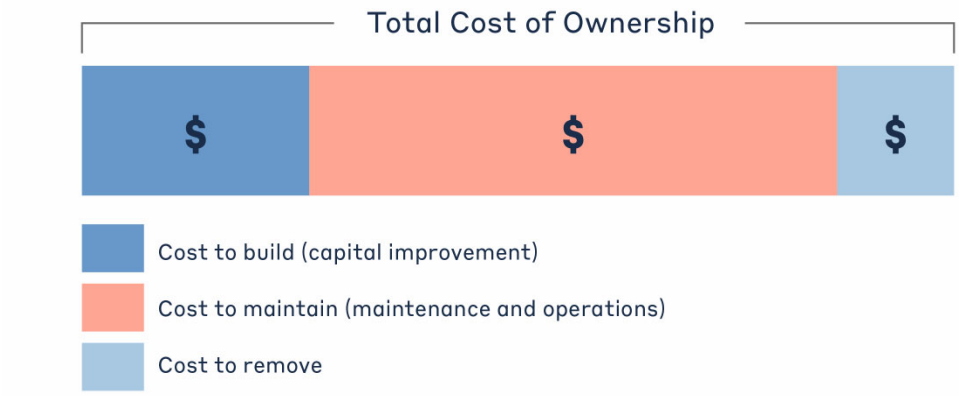


Figure 4 Total Cost of Asset Ownership

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.

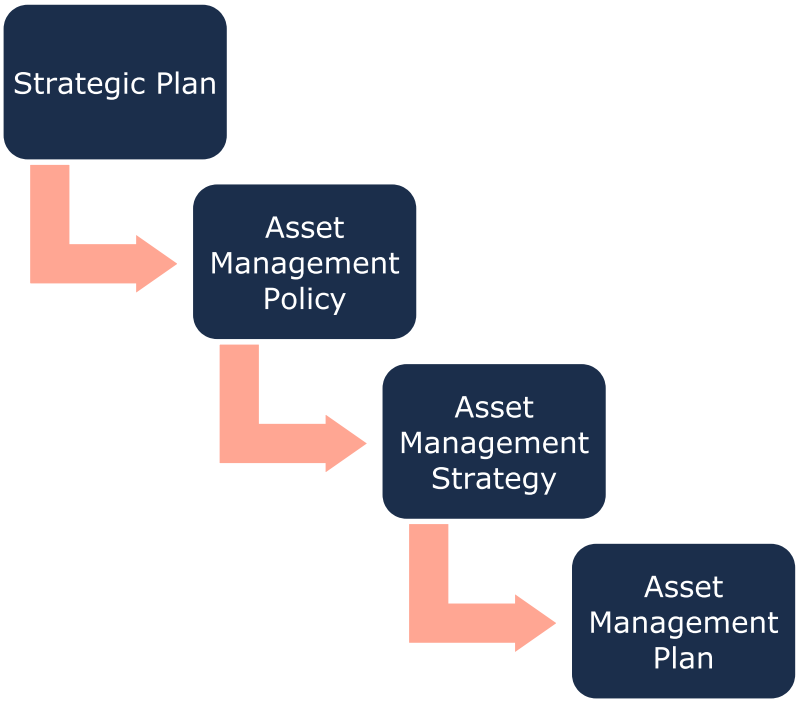


Figure 5 Foundational Asset Management Documents

Strategic Plan (2023-2027)

The Town of Gravenhurst's Strategic Plan for 2023–2027 is guided by the values of Accountability, Collaboration, Integrity, Service Excellence, Respect, and Stewardship. The plan is organized around three strategic pillars, each supported by clear goals and initiatives:

- Community Vibrancy
- Sustainable Growth
- Effective Municipal Services

The connection between this strategic plan and an Asset Management Plan (AMP) is direct and critical. An AMP provides the data-driven framework that allows the Town to operationalize the Strategic Plan's vision through sustainable infrastructure investment.

The AMP directly supports the Town's strategic goals in several ways:

- Under Community Vibrancy, the AMP informs investments in recreational facilities, parks, trails, and cultural spaces that enhance quality of life, support community safety and wellbeing, and celebrate Gravenhurst's identity as a welcoming and inclusive community.
- Under Sustainable Growth, the AMP ensures that growth-related infrastructure such as water, wastewater, stormwater, roads, and shoreline assets are planned and maintained responsibly, balancing economic prosperity with the protection of Gravenhurst's natural environment. It also helps advance climate change adaptation and mitigation measures identified in the Town's Climate Action Plan.

- Under Effective Municipal Services, the AMP strengthens prudent financial and asset management planning by aligning lifecycle renewal, maintenance, and investment decisions with long-term fiscal sustainability. It also supports service delivery improvements, modernization efforts, and risk-based planning that ensures infrastructure remains safe, reliable, and resilient.

By embedding the Strategic Plan priorities into asset management practices, Gravenhurst can make informed investment decisions, protect critical infrastructure, and ensure that the Town's assets continue to meet the community's evolving needs.

Asset Management Policy

The Town of Gravenhurst's Strategic Asset Management Policy represents a statement of the principles guiding the Town's approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

The Town adopted Policy No. A09-STR in accordance with Ontario Regulation 588/17.

The policy is based on the following principles:

- **Delivery of Services/Programs:** Establishing service levels and performance targets that protect public health and safety, provide economic benefits, and promote accessibility.
- **Fiscal Responsibilities:** Using an evidence-based approach to balance service levels, risks, and costs. The Town will seek the lowest lifecycle cost and provide consistent funding for asset management through tax rates and user fees.
- **Public Input/Council Direction:** Providing opportunities for residents and other interested parties to offer input on asset management planning.
- **Risk/Impact Mitigation:** Applying a risk-based approach to minimize service disruptions, protect public safety, and strengthen asset resilience against climate and other hazards.

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

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

Asset Management Plan

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

- State of Infrastructure
- Asset Management Strategies

- Levels of Service
- Financial Strategies

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

2.3.2 Key Concepts in Asset Management

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

Lifecycle Management Strategies

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including 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.
	$$$	• Useful life may not be extended as

Rehabilitation/ Renewal Activities that rectify defects or deficiencies that are already present and may be affecting asset performance		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 Town's approach to lifecycle management is described within each asset category outlined in this AMP. Staff will continue to evolve and innovate current practices for developing and implementing proactive lifecycle strategies to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

Risk & Criticality

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

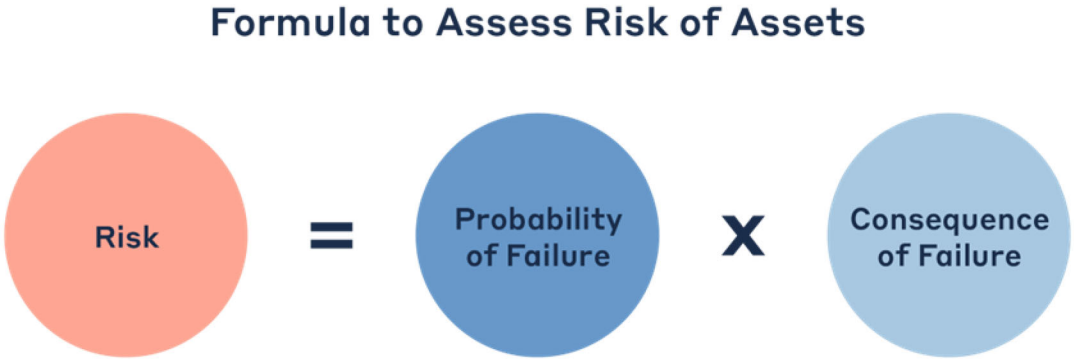


Figure 6 Risk Equations

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 Town 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 Town 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 Town 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 Town's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

For core asset categories as applicable (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 Town of Gravenhurst include:

- Strategic Plan (2023 – 2027)
- Asset Management Policy (2022)
- Official Plan (2016)
- Parks, Recreation and Trails Master Plan (2023)

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 Town'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 (April 2025 – May 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 Town of Gravenhurst 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 Town of Gravenhurst 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 Town'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.

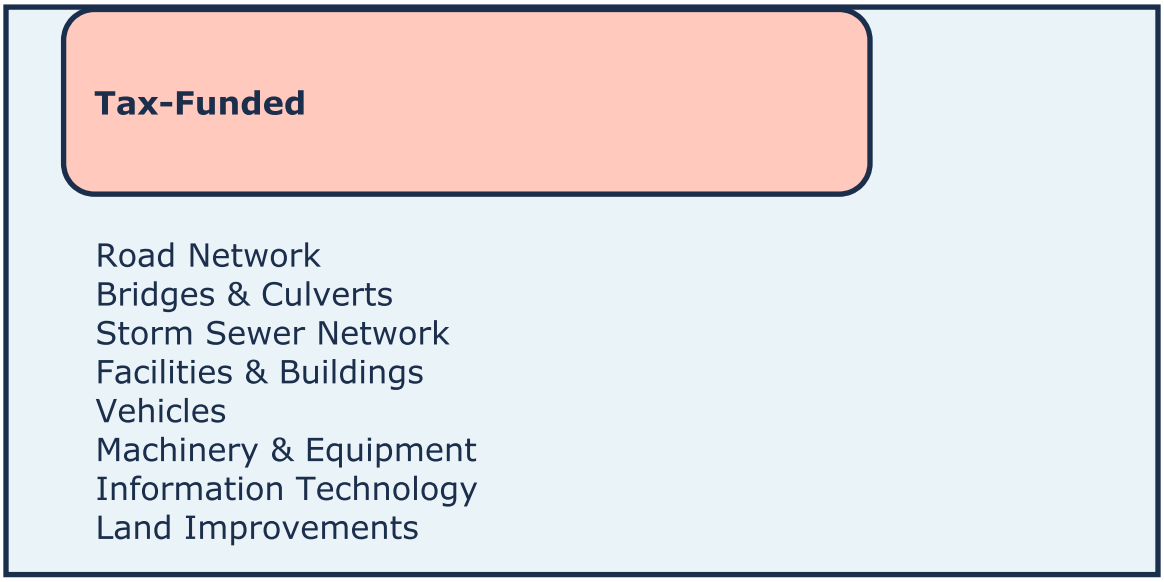


Figure 7 Tax Funded Asset Categories

2.4.2 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.

2.4.3 Deriving Replacement Costs

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

User-Defined Cost and Cost Per Unit

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

Cost Inflation / CPI Tables

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

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the

absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the Town incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.4.4 Estimated Useful Life & Service Life Remaining

The estimated useful life (EUL) of an asset refers to the total period during which the Town 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

2.4.5 Reinvestment Rate

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

The actual reinvestment rate represents the percentage of the asset portfolio's total replacement cost that the Town 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 Town 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:

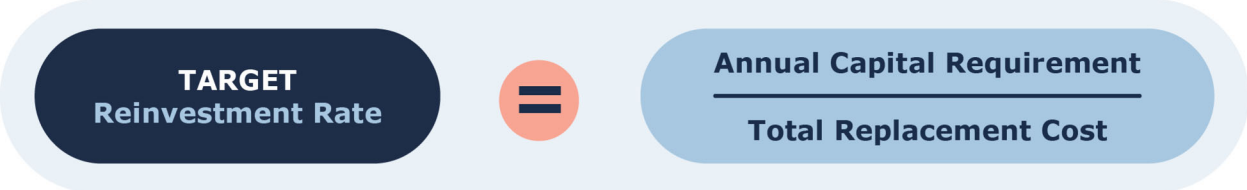


Figure 9 Target Reinvestment Rate Calculation

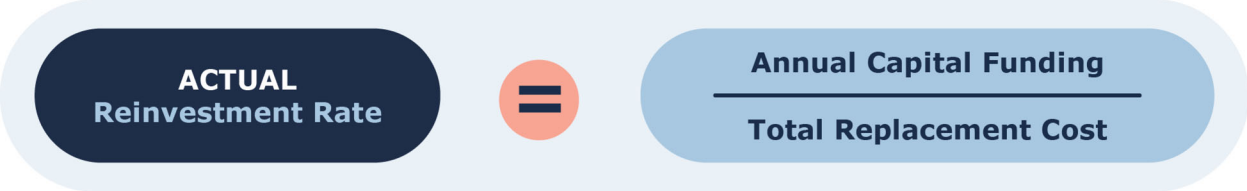


Figure 10 Actual Reinvestment Rate Calculation

2.4.6 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 Town'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, a 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

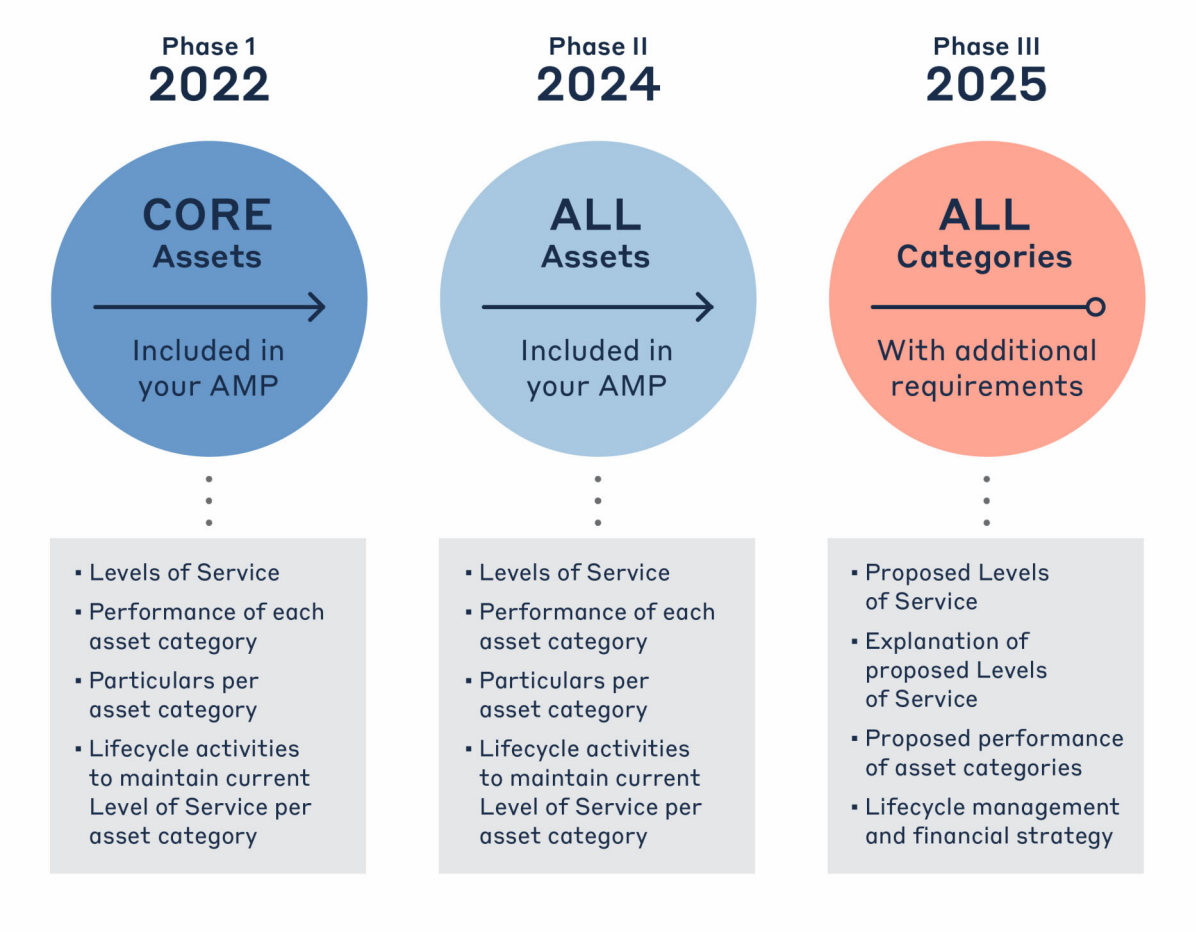


Figure 11 O. Reg. 588/17 Requirements and Reporting Deadlines

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 Town of Gravenhurst'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 storm sewer infrastructure, the AMP provides both regulatory-mandated technical metrics and additional performance indicators tailored to Gravenhurst'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 Town 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 ($19.1M).
- The current reinvestment rate (1.84%), which highlights an existing funding gap.
- Funding strategies to close the gap and ensure long-term sustainability.

Gravenhurst'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 Town of Gravenhurst'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, Gravenhurst 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 Town'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.

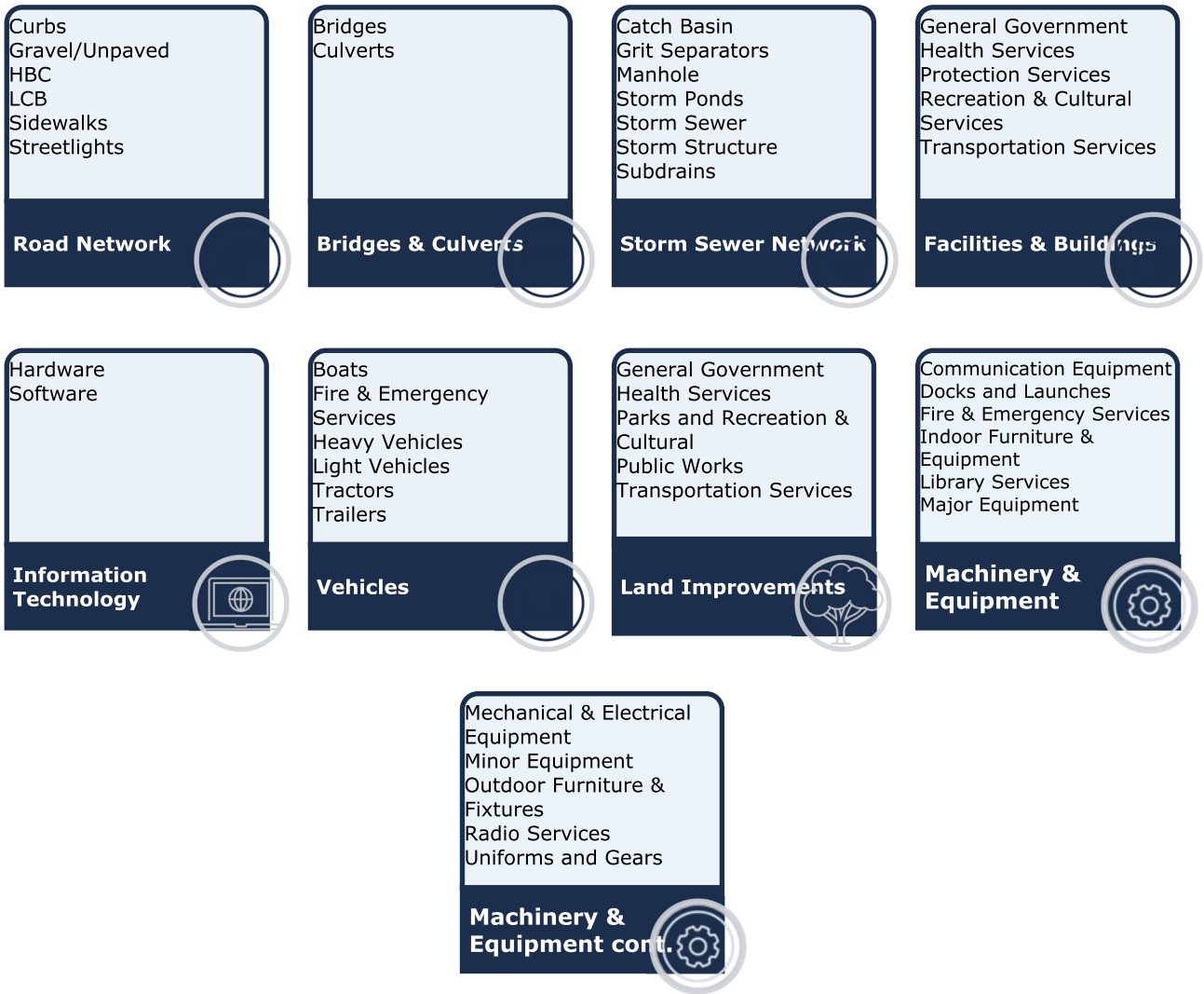


Figure 12 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The eight asset categories analyzed in this Asset Management Plan have a total current replacement cost of $497 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 67% of the total portfolio, the road network forms the largest share of the Town's asset portfolio, followed by facilities & buildings at 16%.

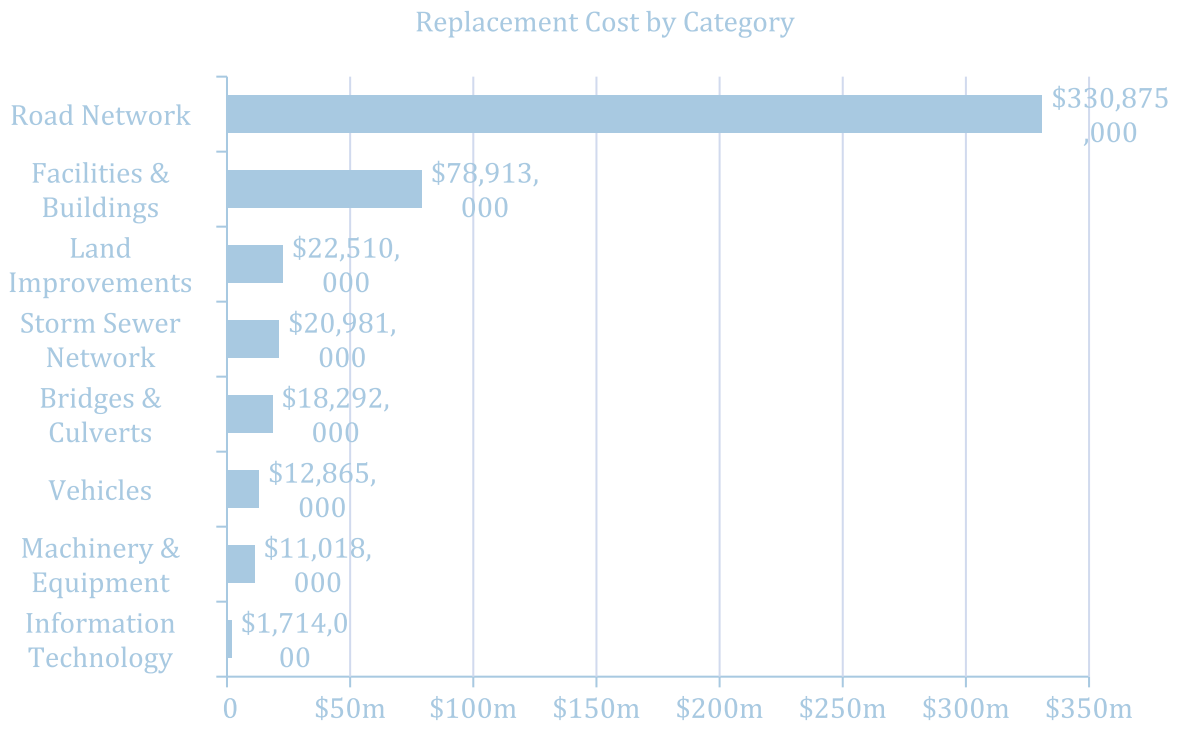


Figure 13 Current Replacement Cost by Asset Category

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 Town requires an annual capital investment of $19.1 million, for a target portfolio reinvestment rate of 3.85%. Currently, the annual investment from sustainable revenue sources is just over $9.1 million, for a current portfolio reinvestment rate of 1.84%. Target and current re-investment rates by asset category are detailed below.

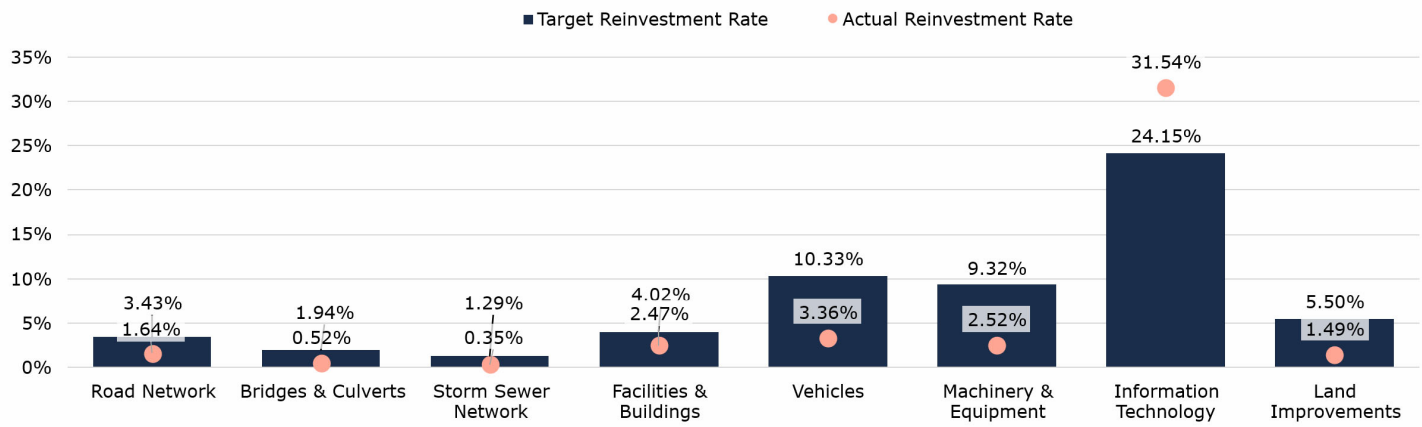


Figure 14 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

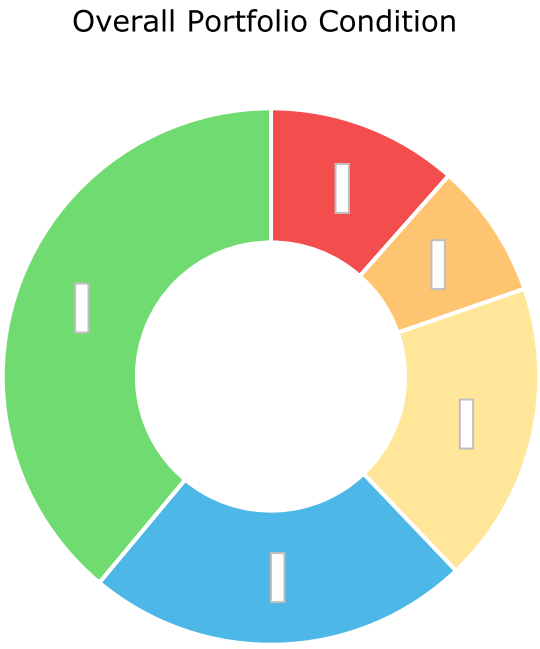


Figure 15 Asset Condition: Portfolio Overview

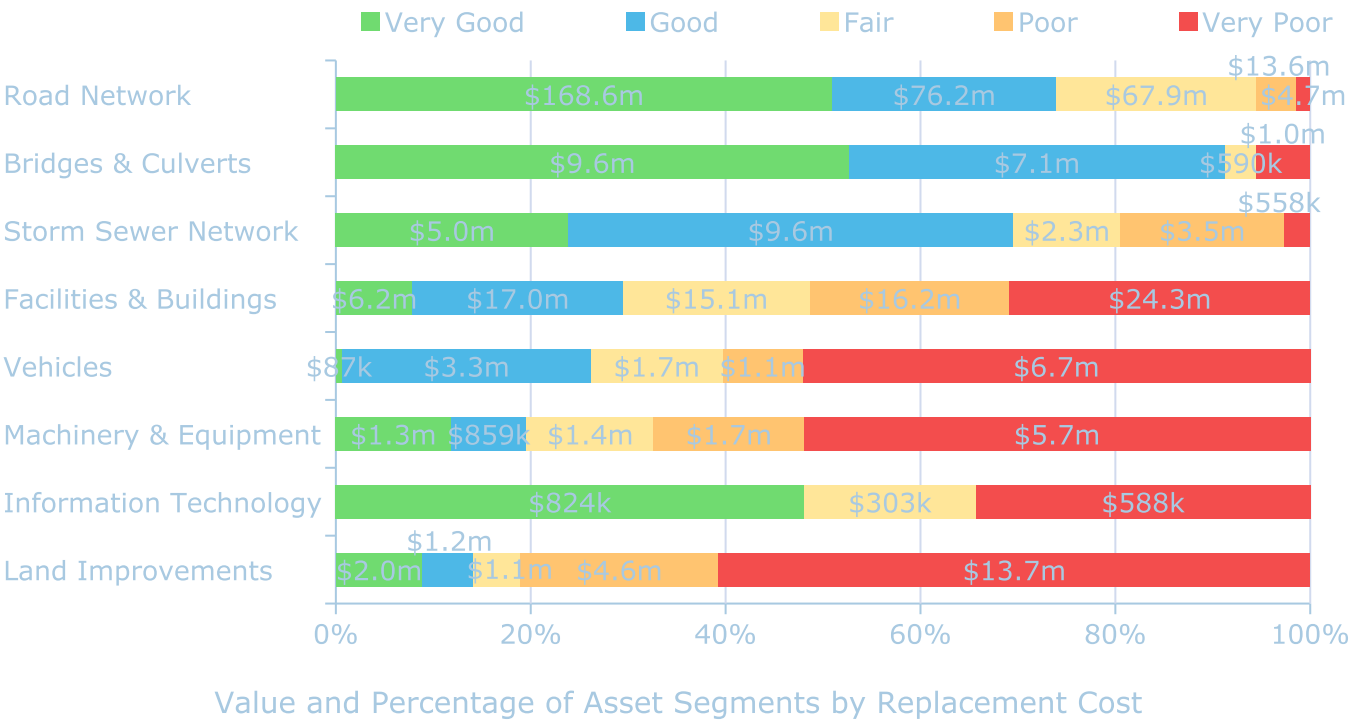


Figure 16 Asset Condition by Asset Category

Figure 15 and Figure 16 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed conditions and age-based analysis, 80% of the Town's infrastructure portfolio is in fair or better condition, with the remaining 20% 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 79% 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	Curbs	0%	Road Needs Study (2025)
	Gravel/Unpaved	98%	
	HCB	100%	
	LCB	98%	
	Sidewalks	0%	
	Streetlights	<1%	
Bridges & Culverts	Bridges Culverts	96%	OSIM (2023)
Storm Sewer Network	Catch Basin	0%	N/A
	Grit Separators		
	Manhole		
	Storm Ponds		
	Storm Sewer		
	Storm Structure		
	Subdrains		
Facilities & Buildings	General Government	71%	Town of Gravenhurst Staff Assessments (2016-2019)
	Health Services	84%	
	Protection Services	67%	
	Recreation & Cultural Services	76%	
	Transportation Services	85%	
Vehicles	Boats	0%	N/A
	Fire & Emergency Services		
	Heavy Vehicles		

	Light Vehicles		
	Tractors		
	Trailers		
Machinery & Equipment	Communication Equipment	0%	N/A
	Docks and Launches		
	Fire & Emergency Services		
	Indoor Furniture & Equipment		
	Library Services		
	Major Equipment		
	Mechanical & Electrical Equipment		
	Minor Equipment		
	Outdoor Furniture & Fixtures		
	Radio Services		
	Uniforms and Gears		
Information Technology	Hardware	0%	N/A
	Software		
Land Improvements	General Government	0%	N/A
	Health Services		
	Parks and Recreation & Cultural Services		
	Public Works		
	Transportation Services		

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	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$116,722,285 (23%)	$132,788,183 (27%)	$36,749,160 (7%)	$91,371,962 (18%)	$119,537,985 (24%)

Figure 17 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 24% of the Town's assets, with a current replacement cost of approximately $119.5 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a high probability of failure based on available condition data and age-based estimates and were considered to be most essential to the Town.

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

We caution that since risk ratings rely on many factors beyond an asset's physical condition or age, assets in a state of disrepair can sometimes be classified as low risk, despite their poor condition rating. In such cases, although the probability of failure for these assets may be high, their consequence of failure ratings 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 Town based on their costs, economic importance, social significance, and other factors. Continued calibration of an asset's criticality and regular data updates are needed to ensure these models more accurately reflect an asset's actual risk profile.

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 115-year time horizon. On average, approximately $19.1 million is required annually to remain current with capital replacement needs for the Town'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 2060–2064 ($168.5 million), 2100–2104 ($160.6 million), and 2105–2109 ($157.4 million). Road network assets account for the majority of capital expenditures, with bridges and culverts, facilities, and storm sewer 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 $40.2 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.

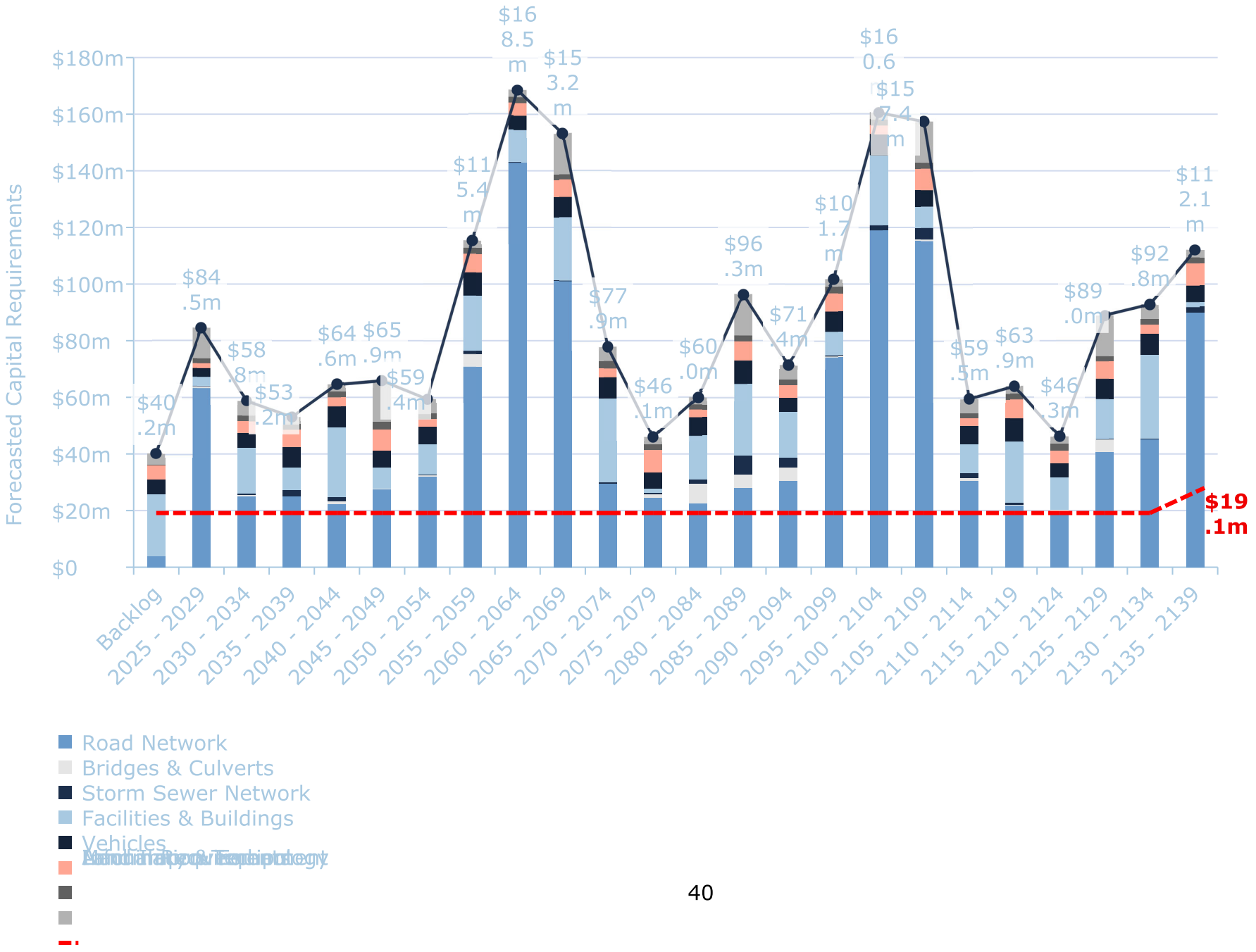

Forecasted Capital Requirements
$180m
$160m
$140m
$120m
$100m
$80m
$60m
$40m
$20m
$0
$40.2m
$84.5m
$58.8m
$53.2m
$64.6m
$65.9m
$59.4m
$115.4m
$168.5m
$153.2m
$77.9m
$46.1m
$60.0m
$96.3m
$71.4m
$101.7m
$160.6m
$157.4m
$59.5m
$63.9m
$46.3m
$89.0m
$92.8m
$112.1m
$19.1m
Backlog
2025 - 2029
2030 - 2034
2035 - 2039
2040 - 2044
2045 - 2049
2050 - 2054
2055 - 2059
2060 - 2064
2065 - 2069
2070 - 2074
2075 - 2079
2080 - 2084
2085 - 2089
2090 - 2094
2095 - 2099
2100 - 2104
2105 - 2109
2110 - 2114
2115 - 2119
2120 - 2124
2125 - 2129
2130 - 2134
2135 - 2139
Road Network
Bridges & Culverts
Storm Sewer Network
Facilities & Buildings
Vehicles

Figure 18 Capital Replacement Needs: Portfolio Overview 2025-2139.

Core Assets

4. Road Network

The Town 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 includes roads, sidewalks, and streetlights and 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 Town'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
Curbs	3	Assets	$164,000	CPI
Gravel/Unpaved	69	Kilometers	$27,808,665	CPI
HCB	122	Kilometers	$220,869,942	Cost per Unit
LCB	107	Kilometers	$71,765,295	CPI
Sidewalks	3,198	Square Meters	$3,606,806	Cost per Unit
Streetlights	1,068	Assets	$6,660,349	CPI
Total			**$330,875,057**	

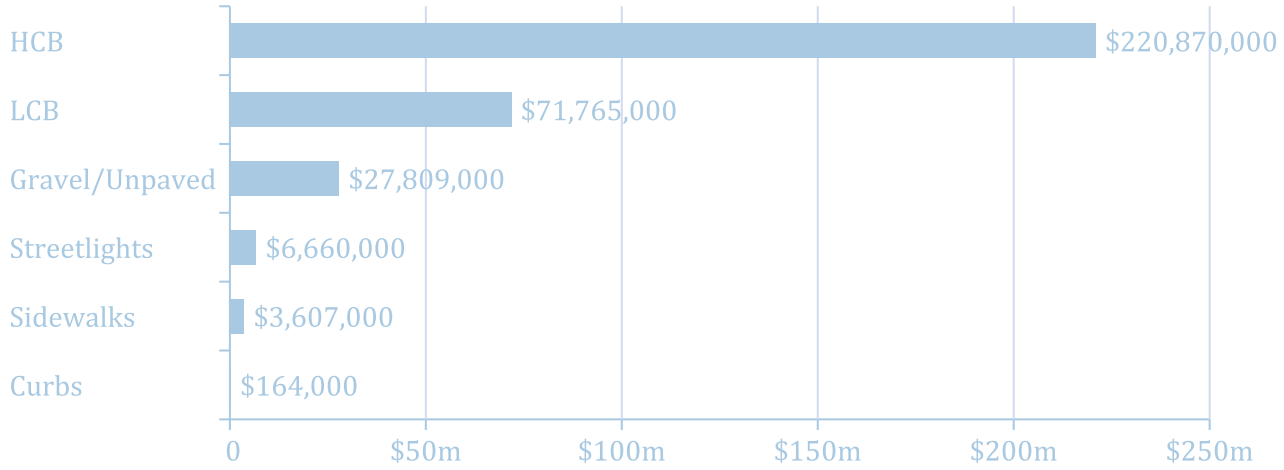


Figure 19: Road Network: Portfolio valuation by Segments

4.2 Asset Condition

Figure 20 summarizes the replacement cost-weighted condition of the Town's Road Network. Based on field inspection data primarily, 94% of assets are in fair or better condition; the remaining 6% of assets are in poor to very poor condition. Based on the total replacement cost of each asset category, condition assessments were completed for 99% of paved roads (HCB and LCB), and 98% of gravel or unpaved roads. 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.

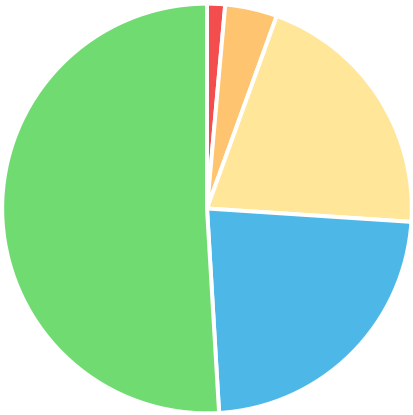


Figure 20 Asset Condition: Road Network Overall

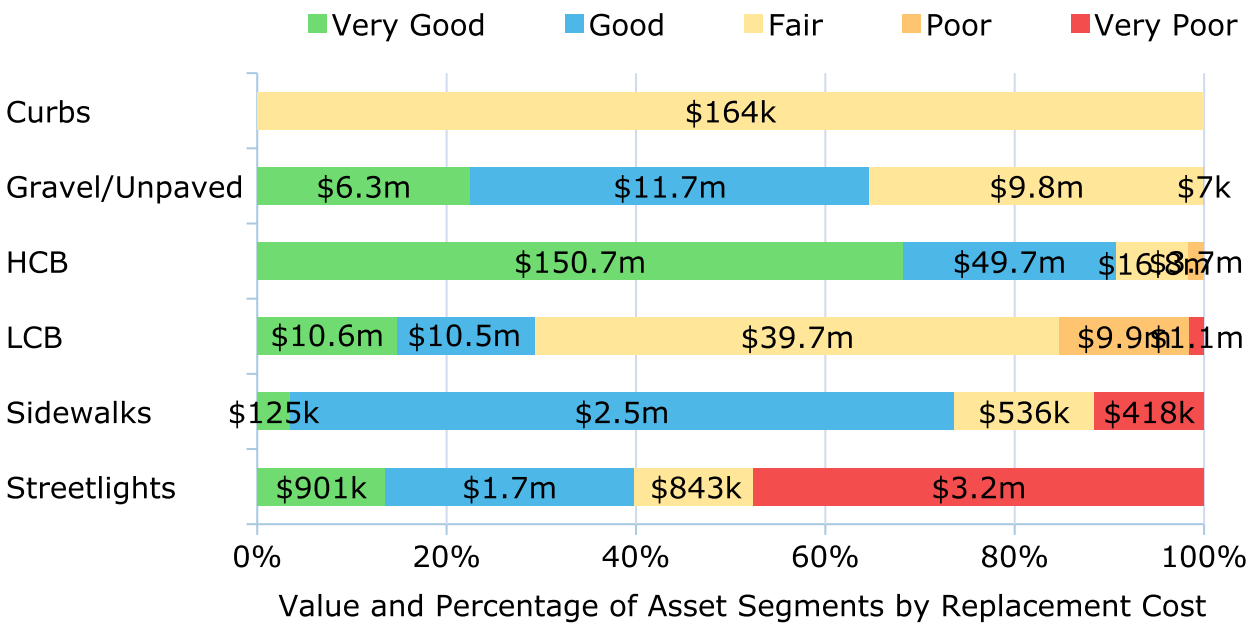


Figure 21 Asset Condition: Road Network by Segment

Figure 21 reveals that gravel and paved (HCB and LCB) roads are mostly in fair or better conditions; however, a significant portion of 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.

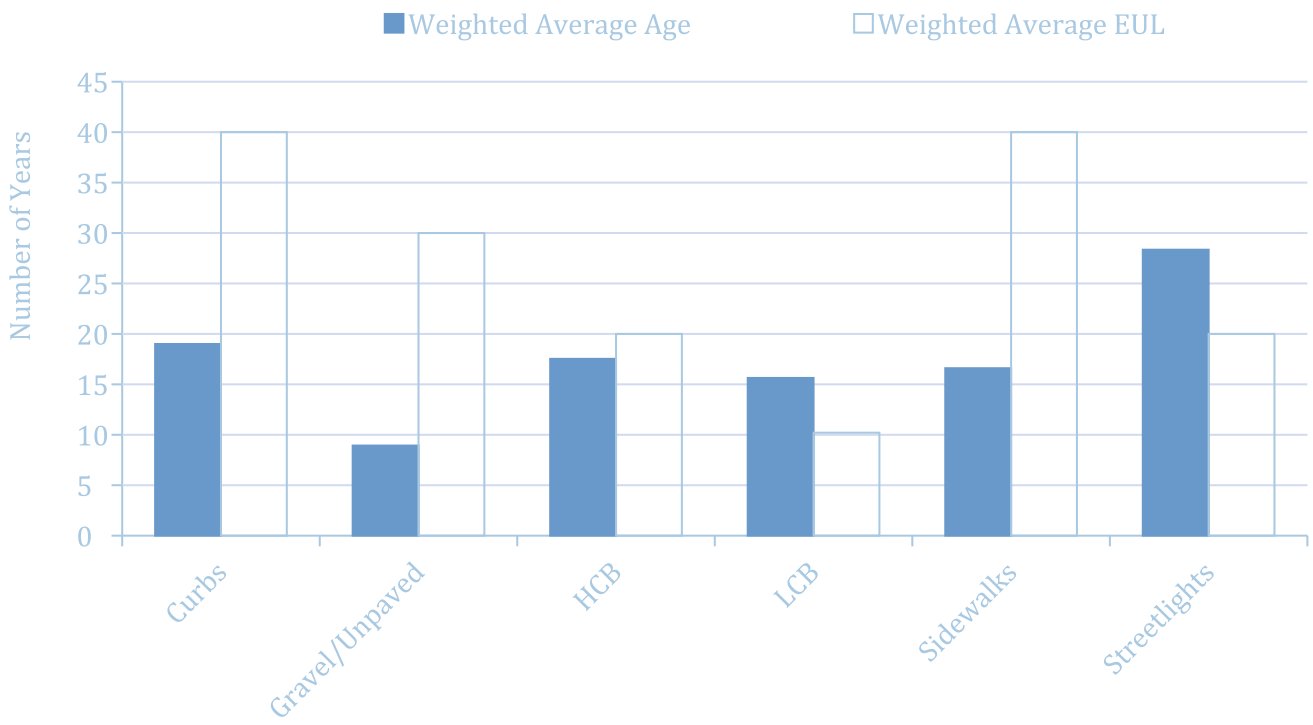


Figure 22 Estimated Useful Life vs. Asset Age: Road Network

Age analysis reveals that all LCB roads and streetlights have exceeded their expected useful lives, with HCB roads approaching the end of their estimated lifespan. Sidewalks, curbs and gravel roads 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.

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	• A Road Needs Study was completed in 2025 that included a detailed assessment of the condition of each road segment • The Road Needs Study is completed every 5 years by external contractors. • Road patrols are completed by internal staff based on the minimum maintenance standards defined for different road classes
Maintenance, Rehabilitation & Replacement	• Refer to Lifecycle Management Strategies in Section 4.4.2

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 Town. 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: HCB Roads

HCB Roads		
Event Name	**Event Class**	**Event Trigger**
Crack Seal (#1)	Maintenance	5 Years
Crack Seal (#2)	Maintenance	10 Years
Patch Repair	Maintenance	At 65 Condition
Micro-Surfacing	Maintenance	At 60 Condition
Asphalt Overlay	Maintenance	At 59 Condition
Pulverize (Pre-Pave)	Rehabilitation	At 59 Condition
Crack Seal (#3)	Maintenance	20 Years
Patch Repair	Maintenance	At 65 Condition

Micro-Surfacing	Maintenance	At 60 Condition
Asphalt Overlay	Maintenance	At 59 Condition
Pulverize (Pre-Pave)	Rehabilitation	At 59 Condition
Patch Repair	Maintenance	At 65 Condition
Micro-Surfacing	Maintenance	At 60 Condition
End of life replacement	Replacement	At 50 Condition

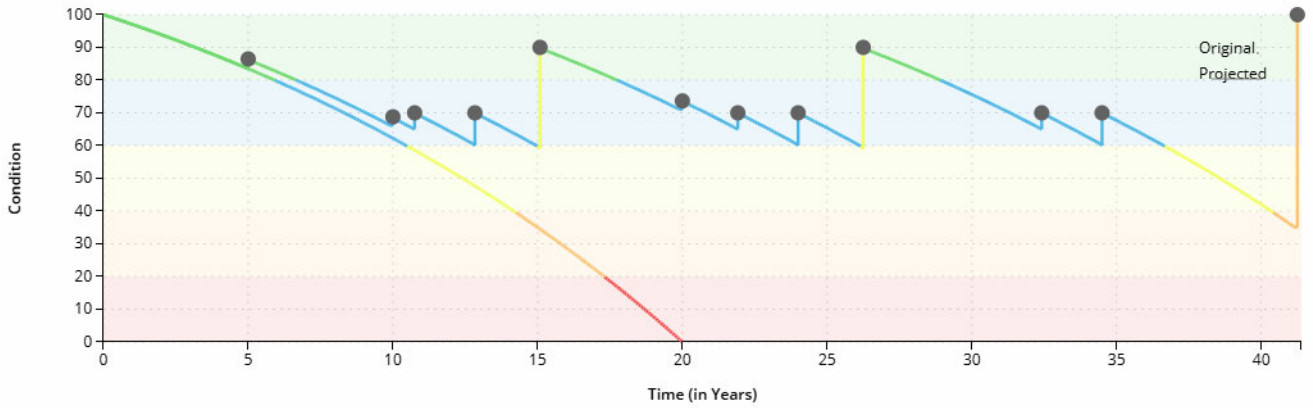


Table 9: Lifecycle Management Strategy: LCB Roads

LCB Roads		
Event Name	**Event Class**	**Event Trigger**
Cold Mix Patch	Maintenance	At 65 Condition
Spray Patch	Maintenance	At 60 Condition
Double Surface Treatment	Rehabilitation	At 59 Condition
Pulverize (Pre-Pave)	Rehabilitation	At 59 Condition
End of life replacement	Replacement	At 40 Condition

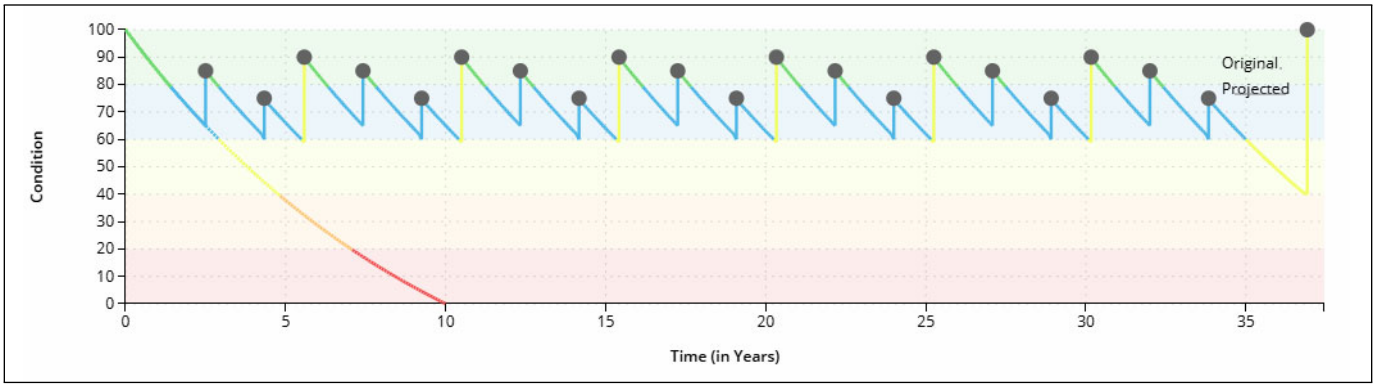
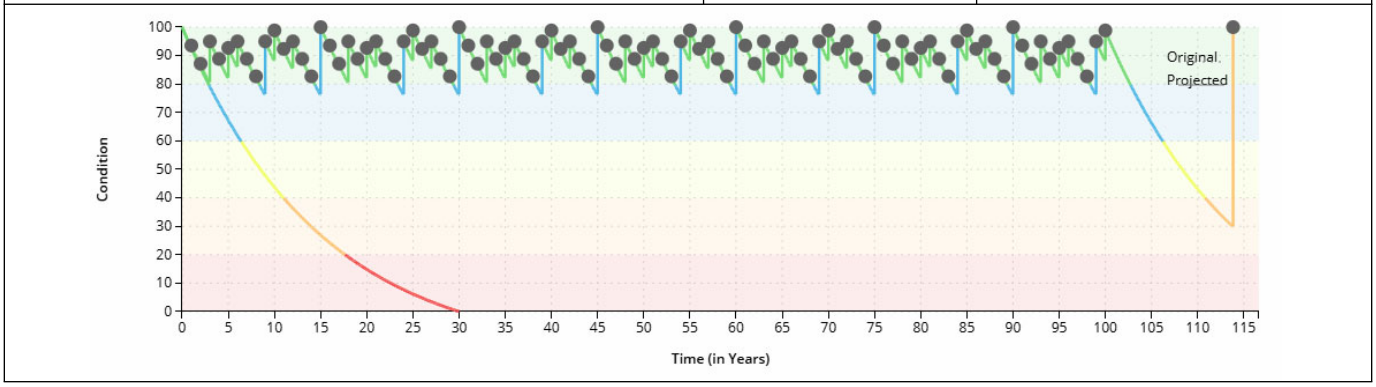


Table 10: Lifecycle Management Strategy: Gravel Roads

Gravel Roads		
Event Name	**Event Class**	**Event Trigger**
Dust Control	Maintenance	Repeat every 1 year
Grading	Maintenance	Repeat every 1 year
Maintenance Gravel	Maintenance	Repeat every 3 years
Spot Gravel	Maintenance	Repeat every 5 years
End of life replacement	Replacement	At 30 Condition



4.5 Forecasted Long-Term Replacement Needs

Figure 23 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Town's Road Network. This analysis was run until 2139 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Town's primary asset management system and asset register. The Town's average annual requirements (red dotted

line) total $11.3 million for all assets in the Road Network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates moderate to substantial capital needs throughout the forecast period. It also shows a backlog of $3.9 million, dominated by streetlights. 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.

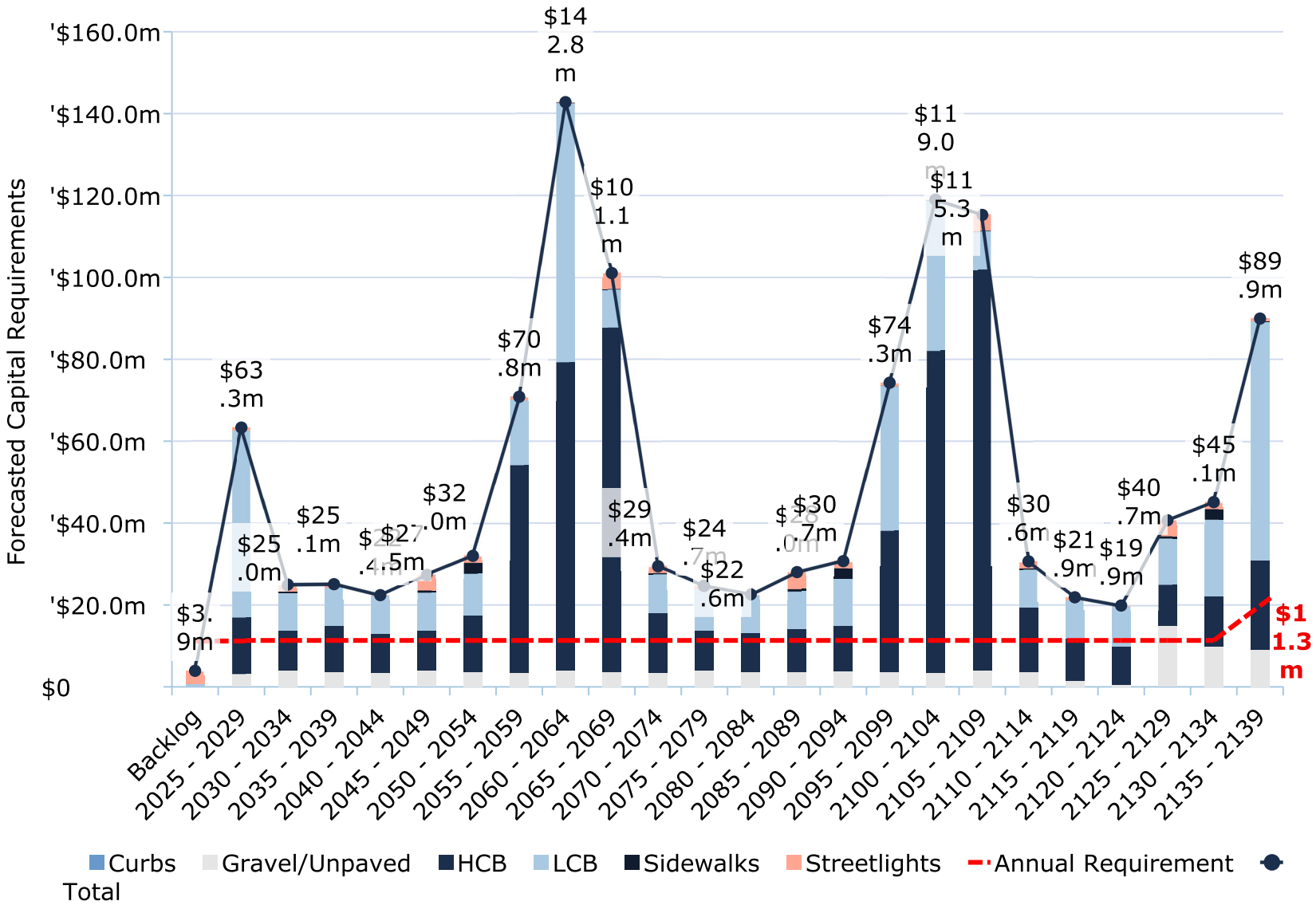

Forecasted Capital Requirements
'$160.0m
'$140.0m
'$120.0m
'$100.0m
'$80.0m
'$60.0m
'$40.0m
'$20.0m
$0
$3.9m
$63.3m
$25.0m
$25.1m
$27.5m
$32.0m
$70.8m
$142.8m
$101.1m
$29.4m
$24.7m
$22.6m
$30.7m
$74.3m
$119.0m
$115.3m
$30.6m
$21.9m
$19.9m
$40.7m
$45.1m
$89.9m
$1
1.3
m
Backlog
2025 - 2029
2030 - 2034
2035 - 2039
2040 - 2044
2045 - 2049
2050 - 2054
2055 - 2059
2060 - 2064
2065 - 2069
2070 - 2074
2075 - 2079
2080 - 2084
2085 - 2089
2090 - 2094
2095 - 2099
2100 - 2104
2105 - 2109
2110 - 2114
2115 - 2119
2120 - 2124
2125 - 2129
2130 - 2134
2135 - 2139
Curbs
Gravel/Unpaved
HCB
LCB
Sidewalks
Streetlights
Annual Requirement
Total

Figure 23 Forecasted Capital Replacement Needs: Road Network 2025-2139

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, (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 Town may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$100,775,428 (30%)	$112,843,767 (34%)	$23,693,526 (7%)	$54,786,926 (17%)	$38,775,410 (12%)

Figure 24 Risk Matrix: Road Network

4.6.1 Risk to Current Asset Management Strategies

Funding Gap

Actual reinvestment is less than half of the target, leaving a significant funding shortfall. Without closing this gap, the network will continue to decline from its current fair state.

Aging Infrastructure

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 for load restrictions, which are governed by the Highway Traffic Act, is a continuous challenge.

4.7 Levels of Service

The Town'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 11: 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 12: O. Reg. 588/17 Technical Levels of Service: Road Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km2)	0
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km2)	0.34
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km2)	1.15
Quality	Average pavement condition index for paved roads in the municipality	HCB: 85 LCB: 56
	Average surface condition for unpaved roads in the municipality (e.g. excellent, good, fair, poor)	Good
	% of sidewalks inspected	0%
	% of road network inspected	96%
	% of streetlights converted to LED	100%
	% of signs meeting retro reflectivity requirements	90%
Performance	Capital reinvestment rate	1.64%

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 quality and maintenance were rated the highest priority by residents, with 85% identifying them as Important or Very Important.
- A total of 25% of respondents indicated they would be willing to pay more for road improvements, though most expressed neutrality or reluctance.

Staff Engagement Results

Staff highlighted both strengths and challenges in the management of Gravenhurst's road network. Overall accessibility was viewed positively, though recurring condition issues and a reliance on reactive maintenance were noted. Limited resources continue to constrain the ability to deliver proactive and cost-effective upkeep. Concerns were raised about drainage, aging infrastructure, and difficulties with record information. While paved roads provide a higher level of service, many lack proper base and drainage, driving up maintenance costs. Staff suggested that converting certain paved roads to gravel could be a more sustainable option.

Condition data supports these observations. Higher-class paved roads are generally in good condition (PCI of 85), while lower-class roads show signs of decline (PCI of 55). Unpaved roads are rated good, though roadside and drainage needs exceed capacity. Sidewalk inspections meet compliance standards, and progress has been made with LED streetlight conversion (90%) and sign reflectivity compliance (98%). Despite these positives, reinvestment levels remain below target. Staff emphasized the need for greater funding, additional staffing, and improved data collection to move toward a more proactive maintenance program that ensures long-term sustainability of the network.

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 4.1% yearly tax increase.

4.7.3.3.

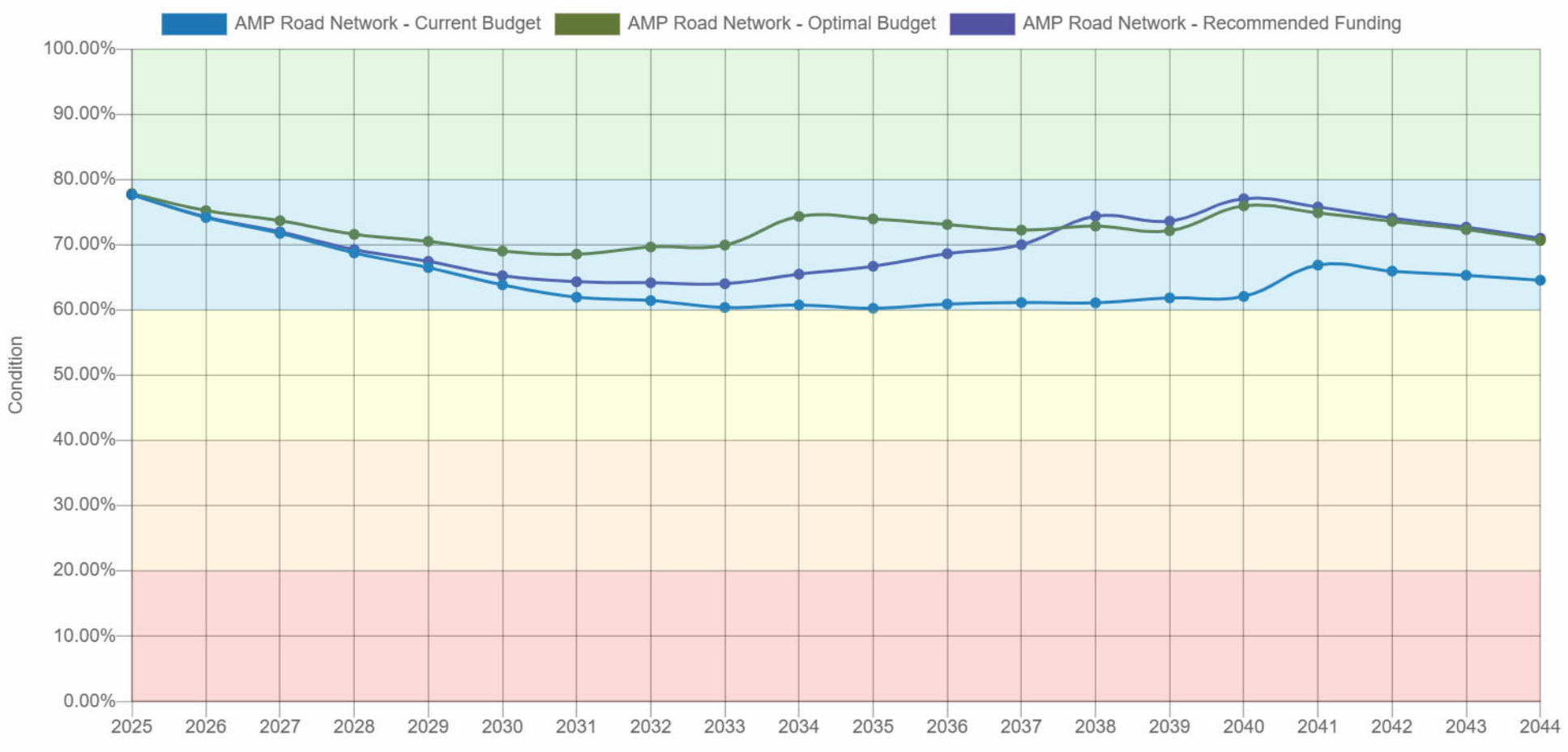


Figure 25: PLOS: Road Network - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

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 gradual decline in the average condition of the road network, falling from 78% in 2025 to around 60% by the early 2030s, before stabilizing at this lower level until a slight improvement to around 65% after 2041. This outcome highlights the widening funding gap under current investment levels, leading to service levels that fall short of community expectations and long-term sustainability goals.
2. In contrast, the Optimal Budget scenario demonstrates a proactive approach, maintaining network condition within the upper "Good" range (above 69%) throughout the forecast period. Under this level of investment, road condition steadily improves after 2031, reaching close to 70–75% by the mid-to-late 2030s. This level of funding would allow the municipality to effectively manage lifecycle needs, reduce reactive maintenance, and prolong asset life.
3. The Recommended Budget scenario reflects a gradual funding increase, with conditions closely tracking the optimal scenario over the 20-year forecast. While initial improvements are slower than under the optimal budget, conditions steadily rise into the 2030s, reaching levels similar to the optimal scenario by 2038. This approach balances financial impact on residents and businesses with the need to close the funding gap, ultimately achieving sustainable service levels without abrupt tax increases.

4.7.3.4. Recommendations

Secure Sustainable Funding

Develop a financial strategy to close the funding gap for the road network, which is currently operating under a deficit compared to annual needs. While recommended funding would stabilize conditions, current investment levels are projected to allow steady deterioration over the long term. Public engagement identified roads as the highest priority for residents, underscoring the need to prioritize increased funding in this category.

Proactive Maintenance

Continue to strengthen the proactive lifecycle strategies already established, including crack sealing, overlays, micro-surfacing, and grading for gravel roads. These treatments extend service life and help delay costly full replacements, but require consistent funding and timely execution.

Optimize Long-Term Planning

Integrate road renewal activities into a coordinated long-term capital plan to align with growth, utility work, and other infrastructure projects. This will maximize

efficiency, reduce lifecycle costs, and minimize service disruptions for the community.

Improve Network Safety and Reliability

Maintain a focus on road safety and accessibility by addressing surface defects, ensuring compliance with Minimum Maintenance Standards, and mitigating risks related to winter maintenance, traffic flow, and congestion. Investments in rehabilitation and reconstruction should be prioritized where conditions fall below acceptable service levels.

Continued Maintenance of Gravel Roads

Continue prioritizing gravel road grading and calcium application, which were highlighted by staff and residents as strengths, maintaining strong levels of satisfaction.

4.7.3.5. Risk for Not Maintaining Acceptable LOS

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

Financial Risk

Underfunding the road network will accelerate deterioration, pushing conditions further into the "Fair" range and below. This will lead to higher lifecycle costs as more extensive reconstructions are required rather than cost-effective preventative maintenance. The funding gap identified in the scenarios shows that delaying investment will only increase long-term financial pressures.

Operational Risk

Declining conditions would increase the likelihood of road closures, detours, and service disruptions. Staff noted challenges with drainage and aging infrastructure, which if left unaddressed, could reduce overall connectivity and efficiency of the road system. This would also impact municipal service delivery and emergency response times.

Public Safety and Community Satisfaction Risk

As road surfaces deteriorate, risks related to potholes, base failures, and poor drainage will rise, increasing the chance of vehicle damage or accidents. Public engagement showed that only 44% of residents are satisfied with current road conditions, while one-third are dissatisfied. Without intervention, these perceptions will worsen, further reducing trust in municipal service delivery.

5. Bridges and Culverts

The inventory in this Asset Management Plan includes structures owned by the Town. The Town owns and maintains 8 bridges and 11 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 13 summarizes the quantity and current replacement cost of bridges and culverts.

Table 13: Detailed Asset Inventory: Bridges & Structural Culverts

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	8	Assets	$12,108,831	CPI
Culverts	11	Assets	$6,183,478	CPI
Total			**$18,292,309**	

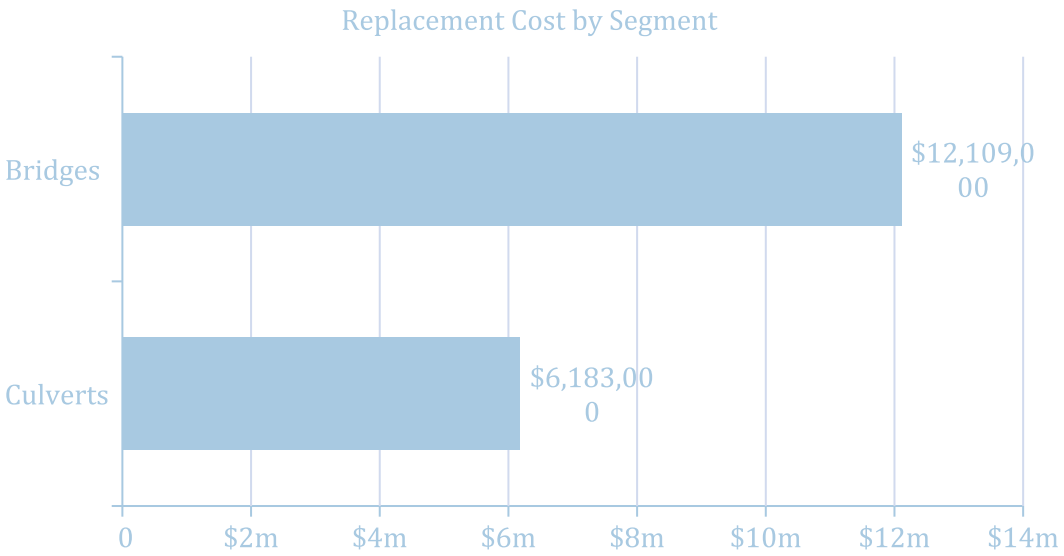


Figure 26 Portfolio Valuation: Bridges & Structural Culverts

5.2 Asset Condition

Figure 27 summarizes the replacement cost-weighted condition of The Town's bridges and structural culverts. Based on The Town's recent Ontario Structures Inspection Manual (OSIM) assessments, 94% 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 6% 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.

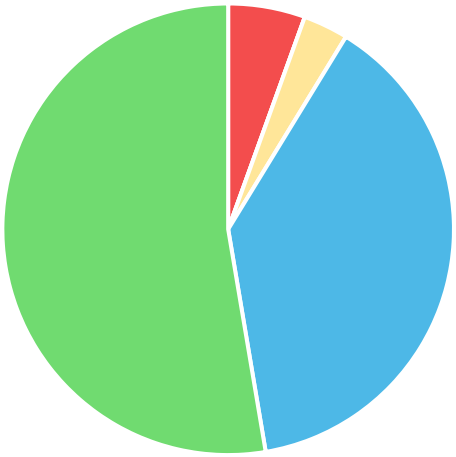


Figure 27 Asset Condition: Bridges & Culverts Overall

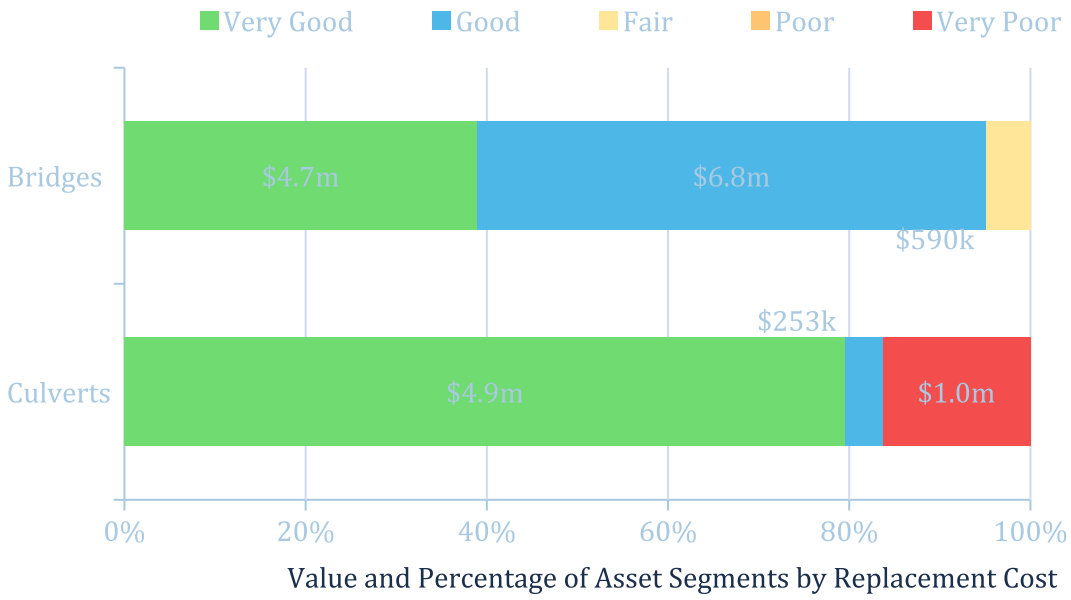


Figure 28 Asset Condition: Bridges & Culverts by Segment

Figure 28 illustrates that majority of bridges and culverts are in fair or better condition. However, about 16% of culverts are in poor or very poor condition.

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.

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.

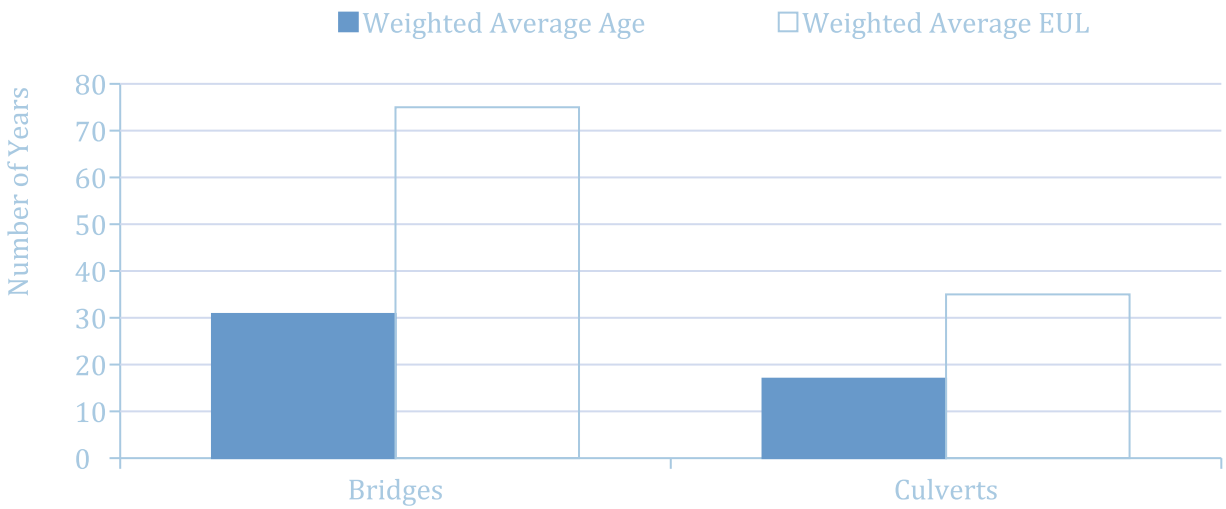


Figure 29: Estimated Useful Life vs. Asset Age: Bridges and Culverts

Age analysis reveals that both bridges and culverts are well under their respective 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 Town's current lifecycle management strategy.

Table 14: Lifecycle Management Strategy: Bridges & Culverts

Activity Type	Description of Current Strategy
Inspection	• The most recent inspection report was completed in 2023 by Tatham Engineering • OSIM inspections conducted as required
Operations & Maintenance	• Expansion joint cleaning is completed by external contractors on an as-needed basis • Bridge deck cleaning is completed annually in the spring.
Rehabilitation & Replacement	• All lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM)

5.5 Forecasted Long-Term Replacement Needs

Figure 30 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for The Town's bridges and culverts. This analysis was run until 2099 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) for bridges and culverts total $355 thousand. 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 2055-2059 at $4.5 million, and peak at $7.1 million between 2085 and 2089 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.

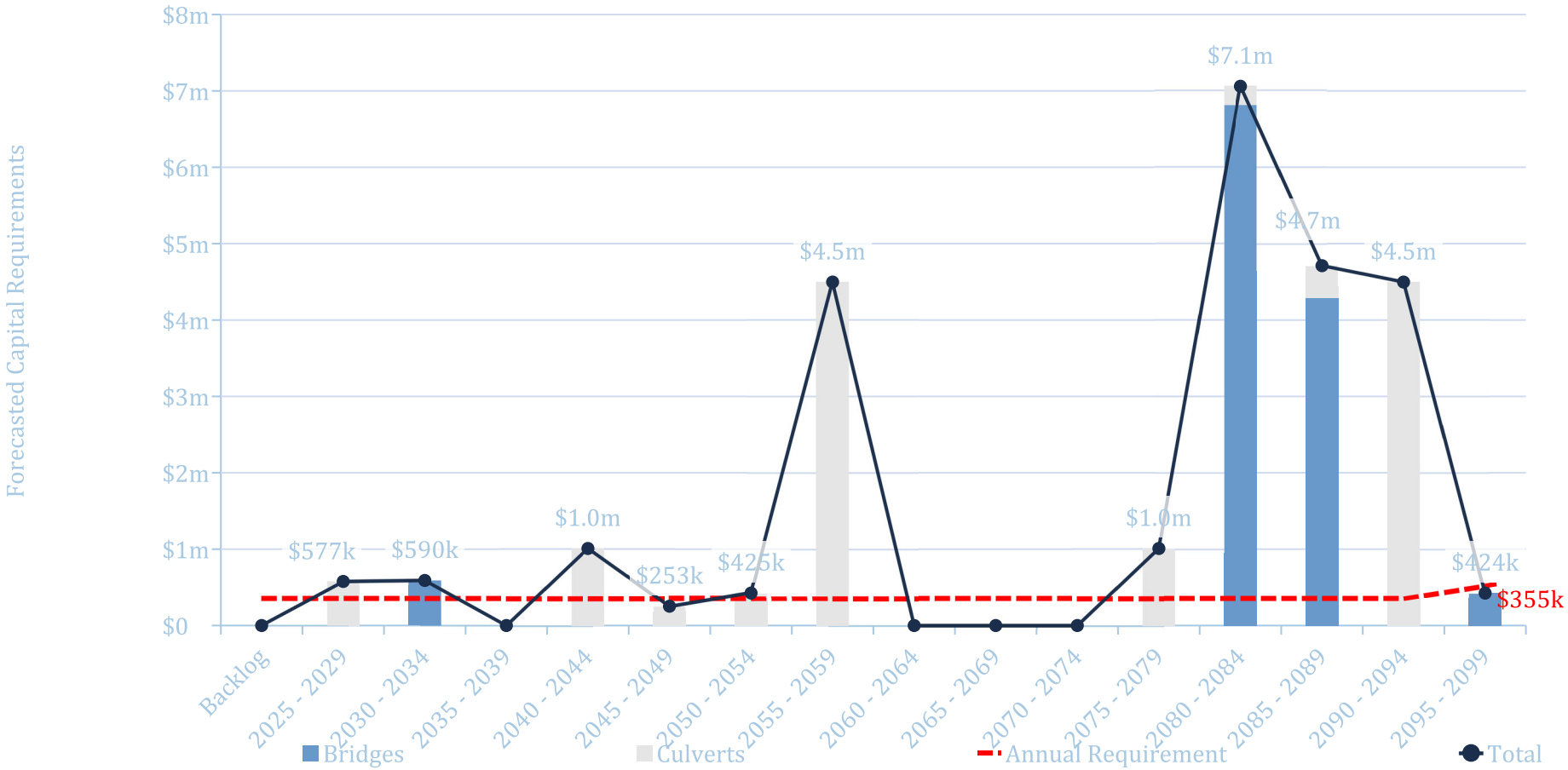


Figure 30: Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2099

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. 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 Town may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

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

1 - 4 **Very Low**	5 - 7 **Low**	8 - 9 **Moderate**	10 - 14 **High**	15 - 25 **Very High**
$6,103,233 (33%)	$3,782,307 (21%)	$819,500 (4%)	$6,578,654 (36%)	$1,008,615 (6%)

Figure 31 Risk Matrix: Bridges & Culverts

5.6.1 Risk to Current Asset Management Strategies

Funding Gap

Although average condition is currently very good, actual reinvestment is below target. Without sustained funding, the network risks a gradual decline that will be costlier to address later.

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.

Climate Resilience

Freeze-thaw cycles and severe weather events continue to accelerate deterioration, but current strategies lack adaptive measures.

5.7 Levels of Service

The Town 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 15: 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).	Bridges and structural culverts are a key component of the municipal transportation network. Only one of the Town's structures have loading or dimensional restrictions meaning that most types of vehicles, including heavy transport, motor vehicles, emergency vehicles and cyclists can cross them without restriction.
Safe & Regulatory	Description of the OSIM inspection process.	External contractor completes OSIM inspections every 2 years providing detailed condition information for the Town’s bridges and structural culverts. The contract between the Town and the external contractor includes OSIM inspections for 6 years.
Quality	Description or images of the condition of bridges	Appendix B

	and culverts and how this would affect use of the bridges and culverts.	

5.7.2 Technical Levels of Service

Table 16: O. Reg. 588/17 Technical Levels of Service: Bridges & Culverts

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Percentage of bridges in The Town with loading or dimensional restrictions	11%
Quality	% of bridges inspected every two years	100%
	Average bridge condition index value for bridges in the Town	80
	% of bridges meeting the minimum maintenance standards defined by the community – BCI 40	100%
	Average bridge condition index value for structural culverts in the Town	80
	% of culverts meeting the minimum maintenance standards defined by the community – BCI 40	88%
Performance	Capital Reinvestment Rate	0.52%

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

- Bridges and culverts were widely recognized as important, with 85% of residents rating them as Important or Very Important.

- Willingness to pay for upgrades was modest, with about 25% supportive and most respondents neutral. Feedback suggests residents view bridge and culvert safety as a core municipal responsibility that should be managed within existing budgets.

Staff Engagement Results

Staff generally rated bridges and culverts as being in good condition, with safety features considered mostly sufficient. Repairs were typically timely and effective, though some noted delays for smaller structures.

The primary concern identified was limited resources, with major bridges adequately supported but smaller culverts needing more attention. While some staff agreed with the current maintenance approach, others emphasized the need for improvements.

Condition data shows strong performance, with inspections completed on schedule and all structures meeting minimum standards. Capital reinvestment is above target, though opinions differed on whether funding should increase further to offset rising project costs.

Recommendations focused on better tracking of culverts and related infrastructure, as well as improved responsiveness to winter control and flooding events.

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. The current funding scenario shows a steady decline in condition, with bridges and culverts falling from about 78% in 2025 to near 50% by the end of the forecast period. This trajectory reflects a widening funding gap and would result in service levels that fail to meet community expectations or long-term sustainability needs.
2. The optimal budget scenario demonstrates a proactive approach, maintaining stronger conditions in the near term but still declining over time without additional investment. Under this model, assets fall from roughly 78% to the 50% range by 2044, showing that while optimal funding slows deterioration initially, it does not provide a long-term sustainable outcome.
3. The recommended funding scenario reflects a gradual funding increase, tracking closely with the current budget until 2028 and then with the optimal model in 2029, eventually reaching a similar end condition by 2044. This approach allows the municipality to spread the financial impact over time, avoiding sharp tax increases while still addressing long-term needs. Although condition levels continue to decline, the recommended strategy balances affordability with the need to sustain essential safety and connectivity standards for bridges and culverts.

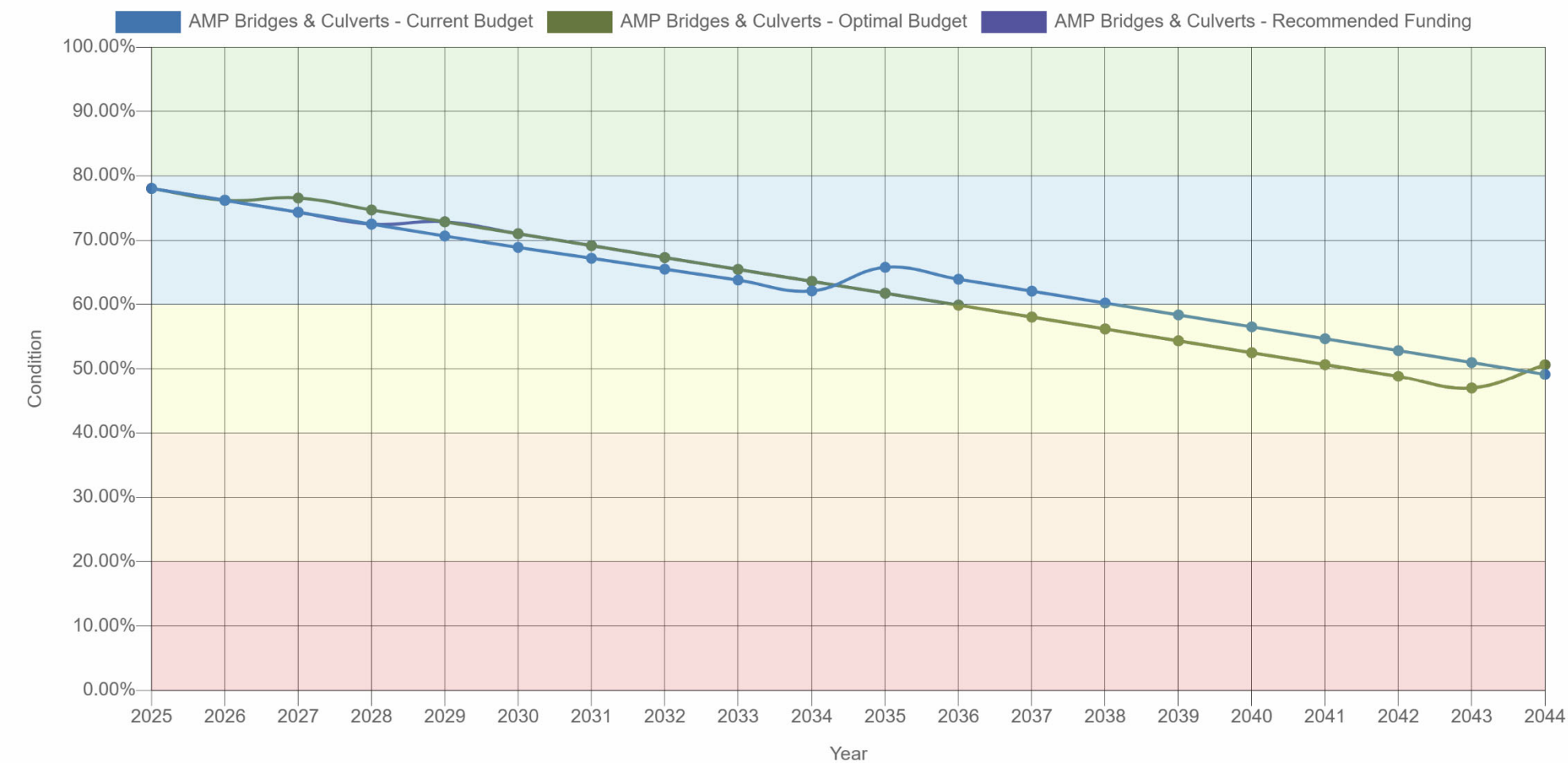


Figure 32: PLOS: Bridges & Culverts - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

6.

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 differences between the optimal and recommended scenarios are minimal, indicating that a gradual funding approach can achieve nearly the same outcome as the optimal model while easing financial pressure on residents.

6.1.1.1. Recommendations

Financial Strategy

Bridges and culverts are currently performing at a very good level of service, and analysis of the funding scenarios shows little difference in condition outcomes across current, optimal, and recommended budgets. This stability, however, depends on ensuring that funding levels are sustained. A financial strategy should aim to close the existing gap between requirements and available resources to maintain strong asset performance over the long term.

Safety and Accessibility

Public engagement emphasized the importance of safe and accessible crossings. Targeted investments in guardrails, signage, and accessibility enhancements should be considered to address community concerns and ensure reliable service for all users.

Proactive Asset Management

Staff highlighted the need for proactive maintenance and lifecycle planning. Consistent inspection, rehabilitation, and timely intervention will help extend asset life cycles, prevent deterioration, and maintain high levels of service.

Enhanced Data and Inspections

Ongoing comprehensive inspections, paired with improved data collection and analysis, will strengthen decision-making. Leveraging this information ensures resources are directed where they are most needed and helps maintain community confidence in the management of these assets.

6.1.1.2. Risk for Not Maintaining Acceptable LOS

Financial Risk

While current conditions are strong, neglecting timely maintenance could lead to accelerated deterioration, resulting in more costly repairs or replacements in the future. Allowing assets to slip from “very good” to lower condition states would significantly increase lifecycle costs.

Safety and Operational Risk

Bridges and culverts are critical to maintaining connectivity across the road network. Failure to invest in ongoing maintenance could result in restrictions, closures, or reduced load capacity, which would disrupt transportation, emergency response, and municipal operations.

Community Satisfaction Risk

Although public engagement shows relatively high confidence in these assets compared to other categories, deterioration over time could create safety hazards such as structural failures, flooding from undersized culverts, or compromised accessibility. Any visible decline in condition would also erode public trust and satisfaction with municipal infrastructure management.

7. Storm Sewer Network

The Town 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 catch basins, storm sewers, and manholes. Storm sewers consist of pipes made of concrete, PVC, HDPE, or galvanized corrugated steel.

7.1 Inventory & Valuation

Table 17 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Town's Storm Sewer Network inventory.

Table 17: Detailed Asset Inventory: Storm Sewer Network

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basin	226	Assets	$3,571,214	User-Defined
Grit Separators	6	Assets	$428,660	CPI
Manhole	63	Assets	$995,515	User-Defined
Storm Ponds	6	Assets	$1,191,147	CPI
Storm Sewer	11,422	Meters	$14,216,333	User-Defined
Storm Structure	31	Assets	$489,857	User-Defined
Subdrains	9	Assets	$88,506	CPI

Total			**$20,981,232**	

Figure 33 provides the portfolio valuation of the Storm Sewer Network by Segments.

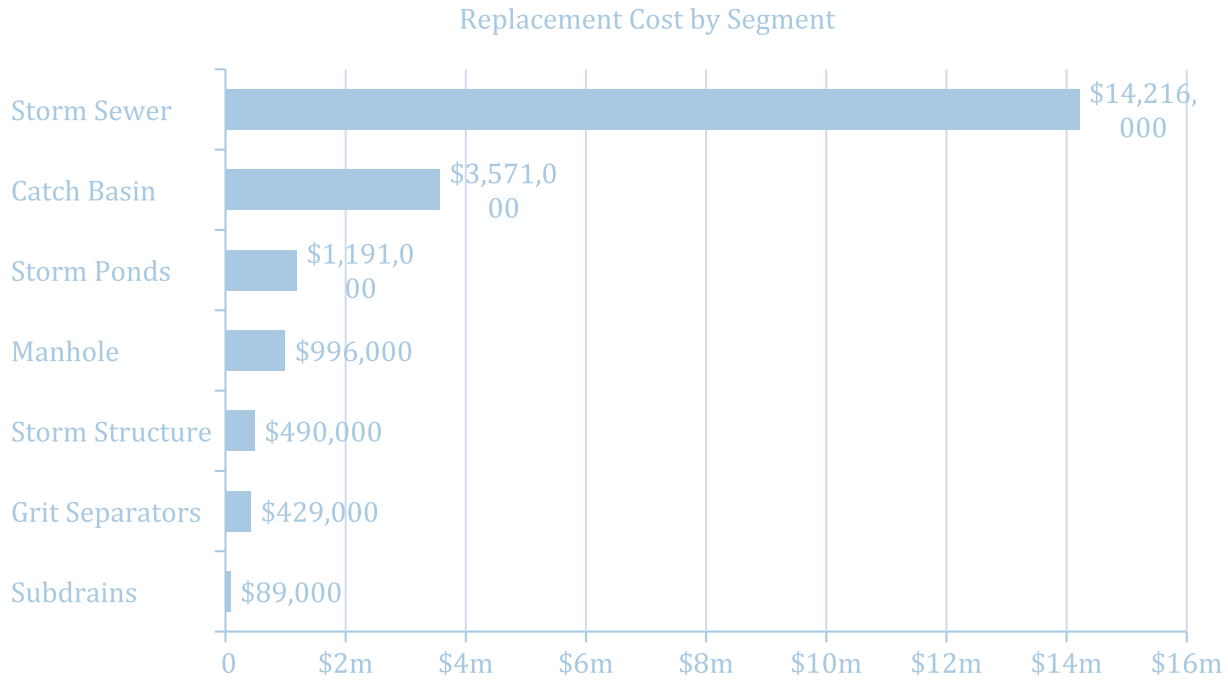


Figure 33: Portfolio Valuation: Storm Sewer Network

7.2 Asset Condition

Figure 34 summarizes the replacement cost-weighted condition of The Town's Storm Sewer Network assets. Based on age data primarily, approximately 20% 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.

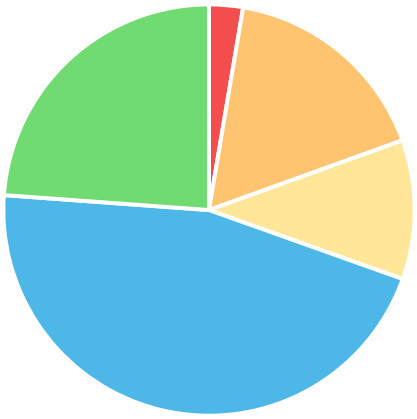


Figure 34: Asset Condition: Storm Sewer Network Overall

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 75% of catch basins are in poor or very poor condition.

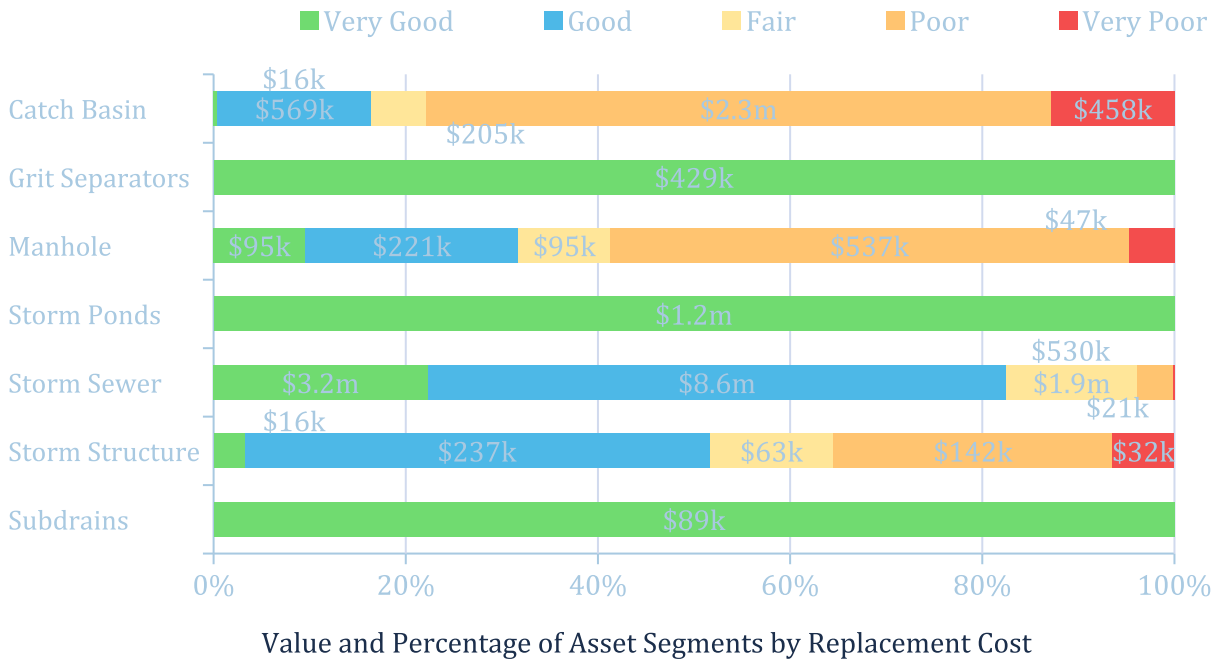


Figure 35: Asset Condition: Storm Sewer Network by Segment

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 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.

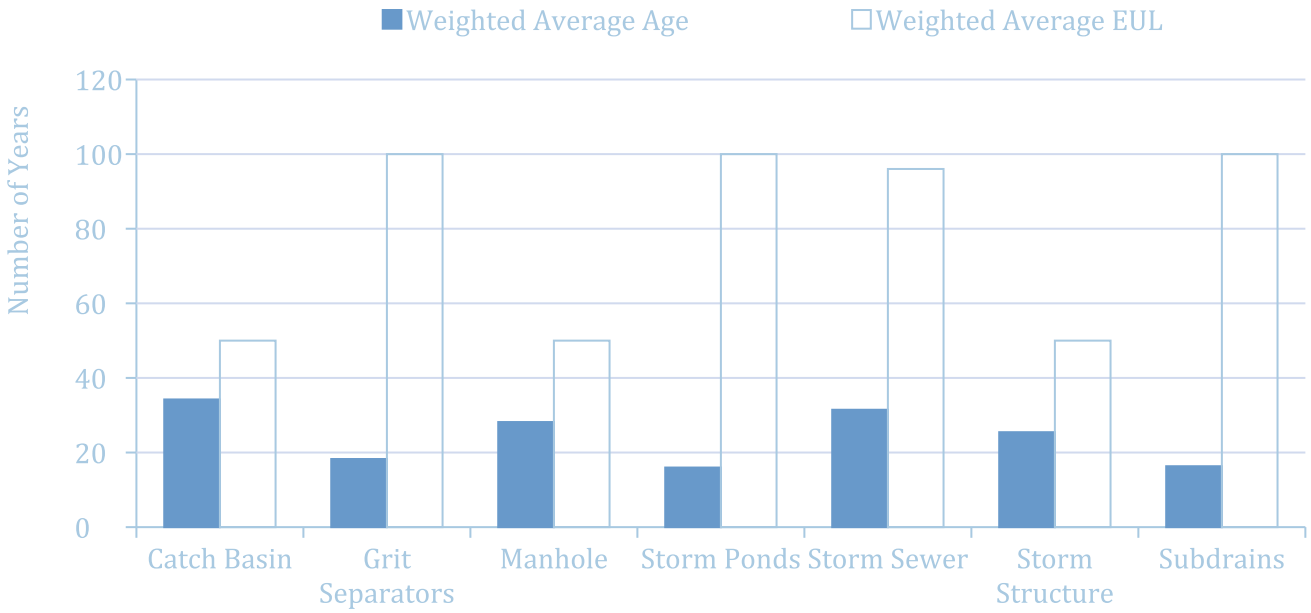


Figure 36: Estimated Useful Life vs. Asset Age: Storm Sewer Network

Age analysis reveals that all Storm Sewer 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.

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.

The following table outlines The Town's current lifecycle management strategy for Storm Sewer Network assets.

Table 18: Lifecycle Management Strategy: Storm Sewer Network Assets

Activity Type	Description of Current Strategy
Maintenance	• A catch basin cleaning program is in place which includes the cleaning of all catch basins every spring. • Storm main flushing occurs reactively on an as-needed basis and storm water separators are cleaned regularly by external contractors. • Storm water ponds undergo periodic inspections presently. It is anticipated that a storm water pond management plan will be required soon. • CCTV inspections were completed in 2016
Rehabilitation/ Replacement	• Recently completed 2021 Master Storm Sewer Report provides recommendations for rehabilitation and reconstruction of the storm sewer assets

7.5 Forecasted Long-Term Replacement Needs

Figure 37 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Town's Storm Sewer Network assets. This analysis was run until 2119 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) total $362,000 for all assets in the Storm Sewer Network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The 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.

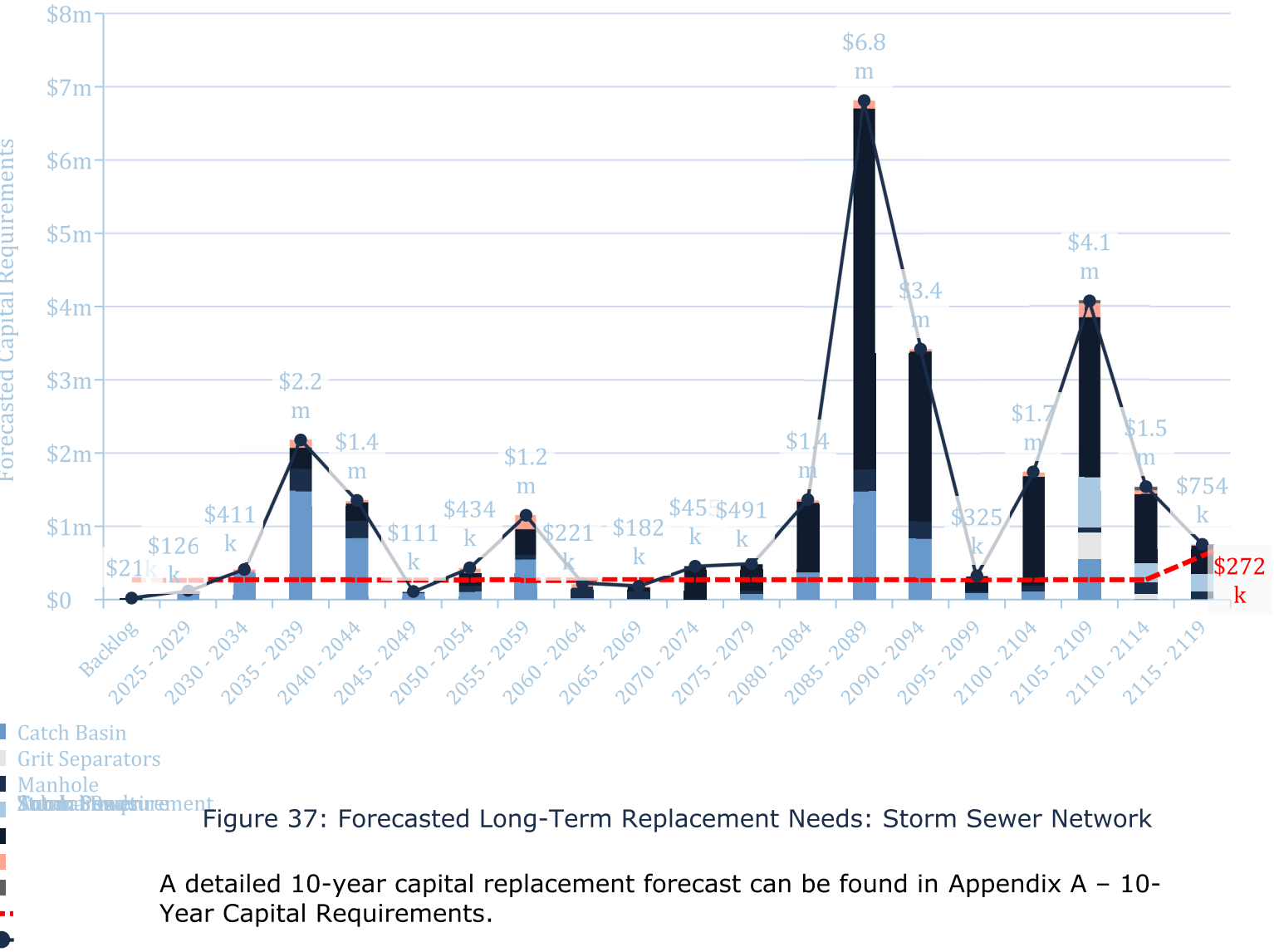


Figure 37: Forecasted Long-Term Replacement Needs: Storm Sewer Network

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$2,171,045 (10%)	$5,368,593 (26%)	$5,621,520 (27%)	$3,640,376 (17%)	$4,179,698 (20%)

Figure 38: Risk Matrix: Storm Sewer Network

7.6.1 Risk to Current Asset Management Strategies

Inspection Gaps

Although inspections occur periodically, the last full CCTV inspection was completed in 2016. Limited monitoring increases the chance that issues remain undetected until failure occurs.

Climate Change & Extreme Weather Events

Extreme weather and heavier rainfall events are expected to increase demand on stormwater systems, but resilience planning is not yet fully integrated into the current strategy.

Infrastructure Re-investment

Reinvestment levels fall well below annual requirements, leaving the network vulnerable to gradual deterioration and costly emergency repairs.

7.7 Levels of Service

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

7.7.1 Community Levels of Service

Table 19: O. Reg. 588/17 Community Levels of Service: Storm Sewer Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description, which may include map, of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal storm sewer system	See Appendix B

7.7.2 Technical Levels of Service

Table 20: O. Reg. 588/17 Technical Levels of Service: Storm Sewer Network

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Percentage of properties in municipality resilient to a 100-year storm.	This data is not currently available. However, the municipality has accurate information on storm sewers deficiencies (Appendix E).
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	
Quality	% of the stormwater system that is in good or very good condition	70%
	% of the stormwater system that is in poor or very poor condition	20%
Performance	Capital reinvestment rate	0.35%

7.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the Storm Sewer 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

- Stormwater management was rated highly, with 85% of residents identifying inspections and flood prevention as Important or Very Important.
- Willingness to pay for improvements was mixed. About half of respondents were supportive of investing more in flood prevention, while the other half were hesitant or unwilling. Comments highlighted issues such as basement flooding and storm impacts, underscoring the need for clearer communication about preventative actions and maintenance practices.

Staff Engagement Results

Staff identified consistent challenges with stormwater management, particularly drainage issues during both regular and heavy rainfall events. Several areas were noted as experiencing frequent standing water and localized flooding.

A major concern raised was insufficient resources, with all respondents indicating current staffing and funding are inadequate to maintain the network reliably. While some municipal properties are resilient, others require upgrades to manage overland flow, and beaver dam failures were highlighted as contributors to washouts and flooding. Condition data shows mixed results. While a majority of the system is rated in good condition, issues such as undersized pipes, damaged structures, and lack of stormwater controls suggest gaps in service. Capital reinvestment is currently at 0% compared to a target of 1.44%, underscoring the funding shortfall.

Recommendations emphasized shifting from reactive to proactive maintenance through programs like sewer flushing and ditch re-profiling. Staff also stressed the need for improved data tracking, expanded resources, and enhanced reporting to meet regulatory requirements and strengthen flood prevention capacity.

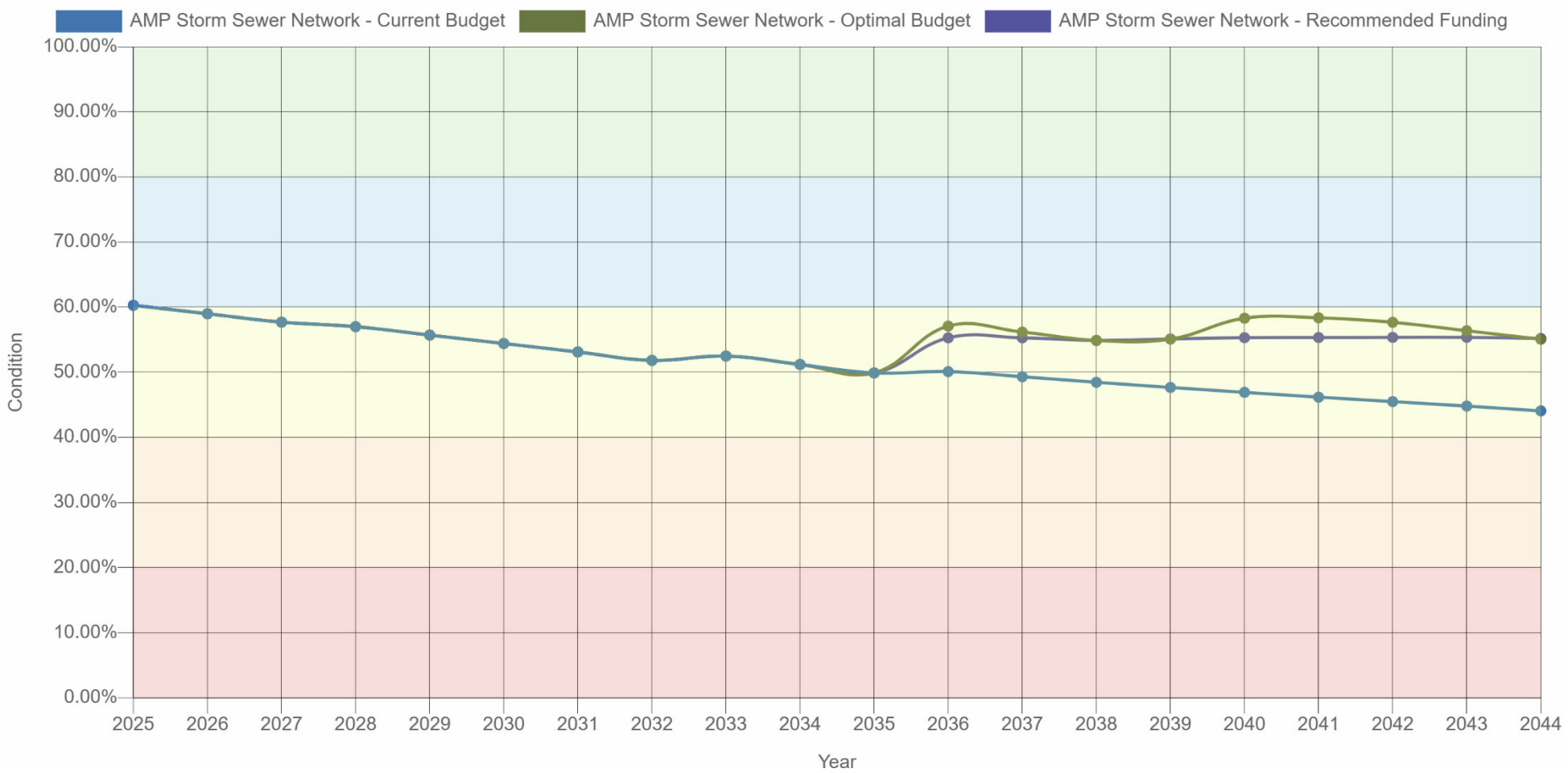


Figure 39: PLOS: Storm Sewer Network - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

8.

8.1.1.1. Proposed Levels of Service Scenarios

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

1. **Current Funding:** The Current Funding scenario shows a steady decline in condition, falling from about 60% in 2025 to below 45% by 2044. This reflects ongoing underfunding, which would result in increasing service gaps, higher risk of flooding, and greater reliance on reactive maintenance.
2. **Optimal Budget:** The Optimal Budget scenario demonstrates a proactive approach. With this investment, conditions improve beginning in the mid-2030s, climbing into the high-50% range and remaining stable through the end of the forecast. This model would allow the municipality to proactively manage deficiencies, upgrade undersized infrastructure, and reduce long-term risks.
3. **Recommended Funding:** The Recommended Budget scenario tracks closely with the optimal model. While initial improvements are more gradual, the network reaches a similar condition of around 55% by 2044. This approach spreads the financial impact more evenly, providing a sustainable balance between affordability and the need to improve service levels in flood prevention and stormwater management.

The analysis of the scenarios shows that without new investment, the Storm Sewer Network will continue to deteriorate, with the current funding model leading to declining conditions, increased service failures, and higher emergency repair costs. The recommended budget, while not providing immediate improvements, offers a gradual and sustainable funding path that allows conditions to stabilize by the mid-2030s and eventually align with the optimal scenario. This approach balances the need to reduce flooding risks and address aging infrastructure with the importance of keeping financial impacts manageable for the community.

8.1.1.2. Recommendations

Secure Sustainable Funding

Funding analysis shows that under current investment levels, storm sewer conditions will continue to decline, creating higher long-term costs and increasing the likelihood of service failures. A sustainable financial strategy is required to close the funding gap and support proactive maintenance, upgrades, and replacements.

Improve System Performance

Staff and public engagement both highlighted concerns with drainage, standing water, and localized flooding. Improving operational performance through programs

such as sewer flushing, ditch re-profiling, and regular inspections will reduce reactive maintenance needs and strengthen day-to-day service delivery.

Increase System Resilience

With climate change and more frequent extreme rainfall events, residents have expressed concern about the municipality's preparedness. Investments should prioritize upsizing undersized pipes, improving end-of-pipe controls, and reinforcing vulnerable areas to enhance long-term resilience against flooding and severe weather.

8.1.1.3. Risk for Not Maintaining Acceptable LOS

Financial Risk

Failure to maintain the storm sewer network will increase long-term costs as minor drainage issues evolve into larger infrastructure failures. Emergency repairs, road washouts, and replacement of undersized or collapsed pipes are significantly more expensive than proactive maintenance and renewal.

Public Safety and Environmental Risk

Inadequate funding and delayed upgrades increase the likelihood of flooding, property damage, and washouts, posing risks to residents, drivers, and municipal assets. Poor drainage and failed stormwater controls can also contribute to erosion, water quality issues, and downstream environmental impacts.

Community Satisfaction Risk

Public engagement revealed low satisfaction with stormwater management, with many residents citing frequent drainage problems and concerns about flooding. If visible issues continue to worsen, community trust and confidence in municipal service delivery will decline, further reinforcing dissatisfaction with investment decisions.

Non-Core Assets

9. Facilities & Buildings

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. Common assets to each segment are as follows:

- Recreation & Cultural Services: Centennial Aquatic Centre, Muskoka Discovery Centre, Gravenhurst Public Library, The Opera House
- General Government: CN Train Station, Municipal Office, Seniors Centre, Terrance Haight Carniege Art Centre
- Protection Services: Communication Towers, Fire Halls
- Transportation Services: Public Works Building, Shop, Storage Garage & Salt Dome

9.1 Inventory & Valuation

Table 21 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Town's Facilities asset inventory.

Table 21: Detailed Asset Inventory: Facilities

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
General Government	115	Assets	$22,274,533	CPI
Health Services	5	Assets	$566,711	CPI
Protection Services	68	Assets	$5,808,472	CPI
Recreation & Cultural Services	184	Assets	$47,538,970	CPI
Transportation Services	35	Assets	$2,724,211	CPI
TOTAL			**$78,912,897**	

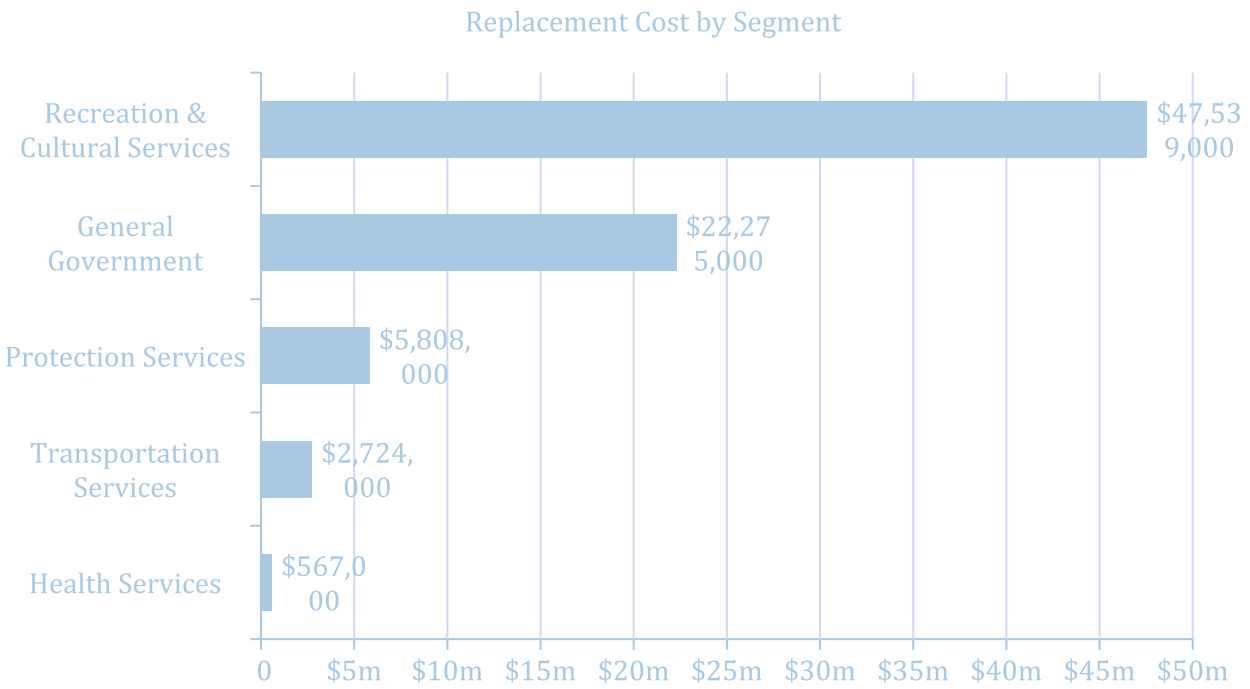


Figure 40: Portfolio Valuation: Facilities & Buildings

9.2 Asset Condition

Figure 41 summarizes the replacement cost-weighted condition of the Town's facilities portfolio. Based on assessed conditions, 51% of facilities assets are in poor or worse condition with a current replacement cost of more than $40 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 41: Asset Condition Overall: Facilities & Buildings

Figure 42 summarizes the age-based condition of facilities by each department. A substantial portion of Protection Services, and Recreation & Culture facility assets are in poor to worse condition.

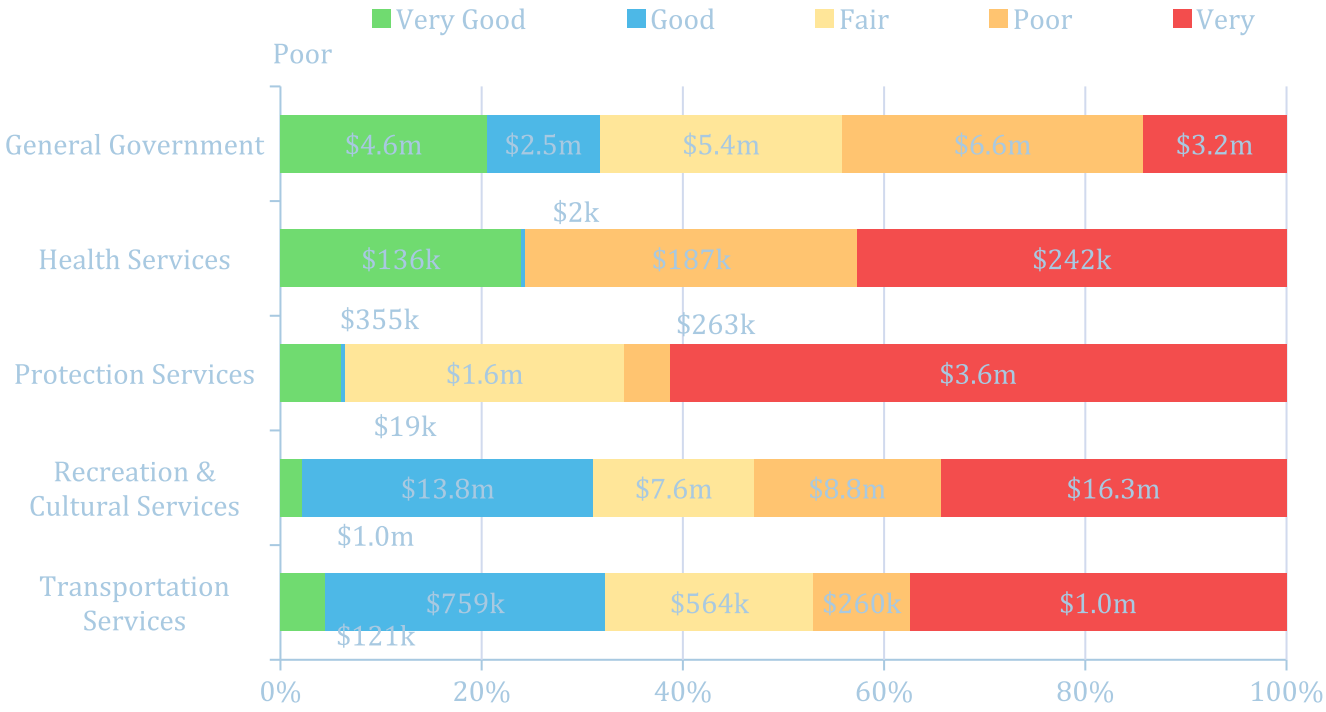


Figure 42: Asset Condition by Segment: Facilities & Buildings

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 Town's broader asset management plan is limited to high level summaries of this information to demonstrate overall trends and conditions.

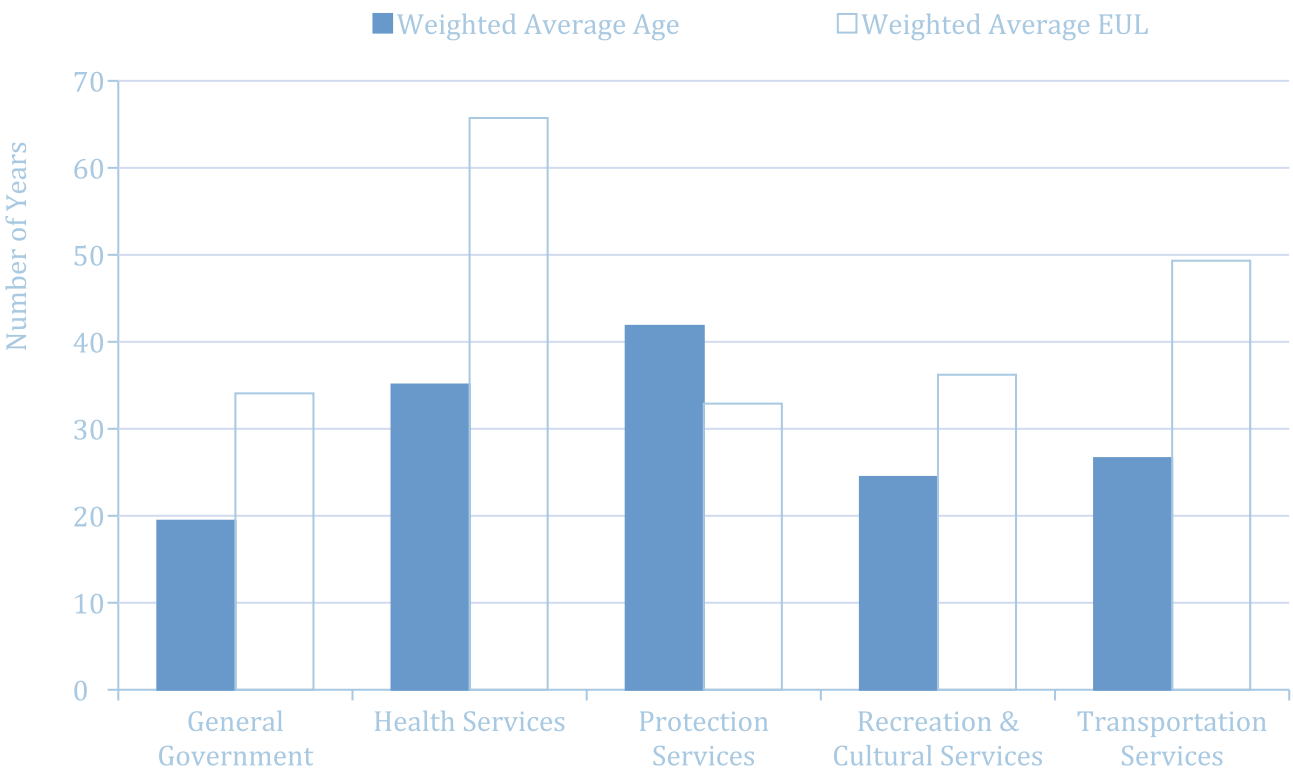


Figure 43: Estimated Useful Life vs. Asset Age: Facilities & Buildings

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.

Age analysis reveals that most facilities' assets are well within their expected useful lives, the exception being protection services assets, which are almost 10 years beyond their estimated useful life.

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

Table 22 outlines The Town's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	• Municipal buildings are subject to regular inspections to identify structural deficiencies that require additional attention. • Critical buildings have a preventative maintenance and rehabilitation schedule, while the maintenance of other facilities are dealt with on a case-by-case basis.
Replacement	• As a supplement to the knowledge and expertise of municipal staff the Town regularly works with contractors to complete Facility Needs Assessment Studies.

Table 22: Lifecycle Management Strategy: Facilities & Buildings

9.5 Forecasted Long-Term Replacement Needs

Figure 44 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Town'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 Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) total $3.2 million for all assets in the facilities and buildings. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The largest replacement spike is forecasted to be $29.7 million in 2070-2074, followed by $25.3 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.

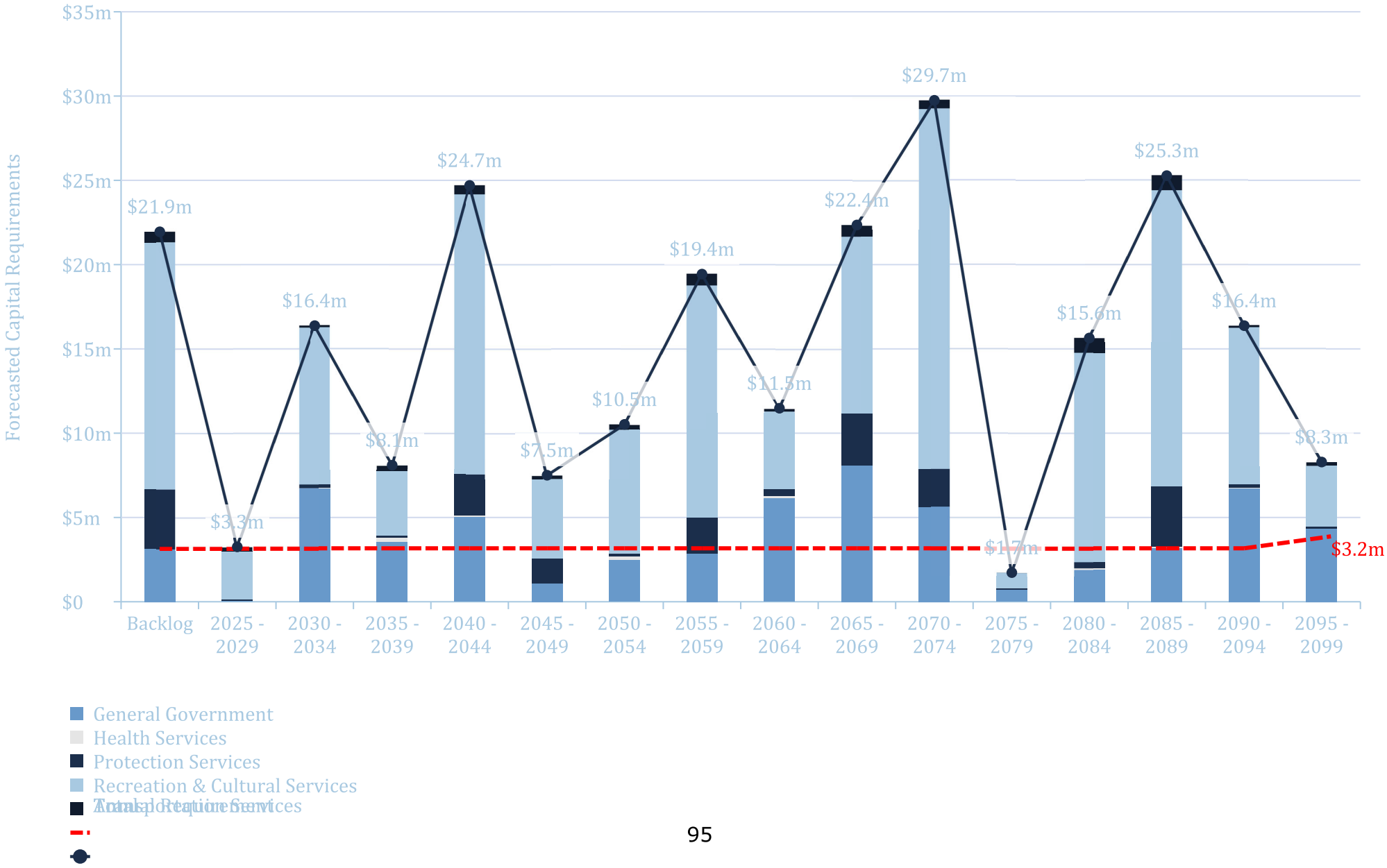

Forecasted Capital Requirements
$35m
$30m
$25m
$20m
$15m
$10m
$5m
$0
$21.9m
$3.3m
$16.4m
$8.1m
$24.7m
$7.5m
$10.5m
$19.4m
$11.5m
$22.4m
$29.7m
$1.7m
$15.6m
$25.3m
$16.4m
$8.3m
$3.2m
Backlog
2025 - 2029
2030 - 2034
2035 - 2039
2040 - 2044
2045 - 2049
2050 - 2054
2055 - 2059
2060 - 2064
2065 - 2069
2070 - 2074
2075 - 2079
2080 - 2084
2085 - 2089
2090 - 2094
2095 - 2099
General Government
Health Services
Protection Services
Recreation & Cultural Services
Transportation Services
Total Requirement

Figure 44: Forecasted long-term requirements: Facilities & Buildings

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

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$4,632,522 (6%)	$7,745,434 (10%)	$3,652,793 (5%)	$17,877,367 (23%)	$45,004,781 (57%)

Figure 45: Risk Matrix: Facilities & Buildings

9.6.1 Risk to Current Asset Management Strategies

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.

Lifecycle Management Limitations

Preventive maintenance is focused on critical buildings, while many other facilities rely on a reactive, case-by-case approach. This increases long-term costs and reduces asset reliability.

Infrastructure Re-investment

Reinvestment levels are insufficient to address the poor overall condition of municipal buildings, leaving a growing backlog of renewal needs.

Accessibility and Service Delivery

Aging and under-maintained facilities may not meet accessibility standards or evolving community needs, which risks reduced service quality and compliance issues.

9.7 Levels of Service

The Town of Gravenhurst is dedicated to providing exceptional services across all municipal facilities. The Town 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 23: Community Levels of Service: Facilities & Buildings

Service Attribute	Qualitative Description	Current LOS (2025)
Scope	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on municipal facilities	A Facility condition index (FCI) scoring was completed in 2017, which resulted in a componentized action plan for maintenance/rehabilitation activities.
	Description of the current condition of municipal facilities and the plans that are in place to maintain or improve the provided level of service	Staff would like to perform more structural condition inspection on facilities, specifically recreation facilities (ex. roof inspections) and to expand scope of inspections to include non-recreational facilities. Staff would also like to develop a framework for facilities inspections to be used to determine what buildings should be inspected with insurance requirements incorporated into the framework.
Sustainable	Description of facilities	Staff are proactively working towards

	that are energy efficient	making buildings more energy efficient by component - for example updating all lighting. If any building component requires replacement, energy efficiency is considered when purchasing a new one.
Accessibility	Description of accessible facilities	An accessibility community has been formed in the town that provide recommendations for improvements to facilities to make them more accessible.

9.7.2 Technical Levels of Service

Table 24: Technical Levels of Service: Facilities & Buildings

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	% of facilities that are in good or very good condition	30%
	% of facilities that are in poor or very poor condition	51%
	Average Risk Rating associated to buildings	14.92 - High
Performance	Capital reinvestment rate	2.47%

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

- Municipal buildings and facilities were rated moderately important, with about 68% of respondents identifying accessibility, condition, and programming as Important or Very Important.
- Satisfaction levels were balanced, with 40% satisfied, 50% neutral, and only 10% dissatisfied. This suggests facilities generally meet basic expectations but do not strongly influence community perception.
- Willingness to fund improvements was limited. Only 10–15% indicated support for higher contributions, while nearly half were neutral. Feedback pointed to aging infrastructure in some locations but also recognition that several facilities are modernized and well-maintained.

Stakeholder Engagement Results

Staff generally rated municipal facilities as being in fair to good condition, with cleanliness and responsiveness to issues described as satisfactory. Accessibility across most buildings was considered adequate.

The main concern raised was limited resources, with some projects delayed due to budget constraints and a need for more staff to support proactive, condition-based inspections. While some staff agreed with the current maintenance approach, others noted that age-based assessments may not fully reflect true facility condition. Condition data shows that only 37% of facilities are in good or very good condition, while 44% are rated poor or very poor. Capital reinvestment (1.53%) remains well below the 4% target, reinforcing concerns about underfunding and reliance on reactive repairs.

Recommendations included increasing staff capacity, conducting more frequent inspections, and adopting condition-based assessments to improve accuracy and reduce project delays.

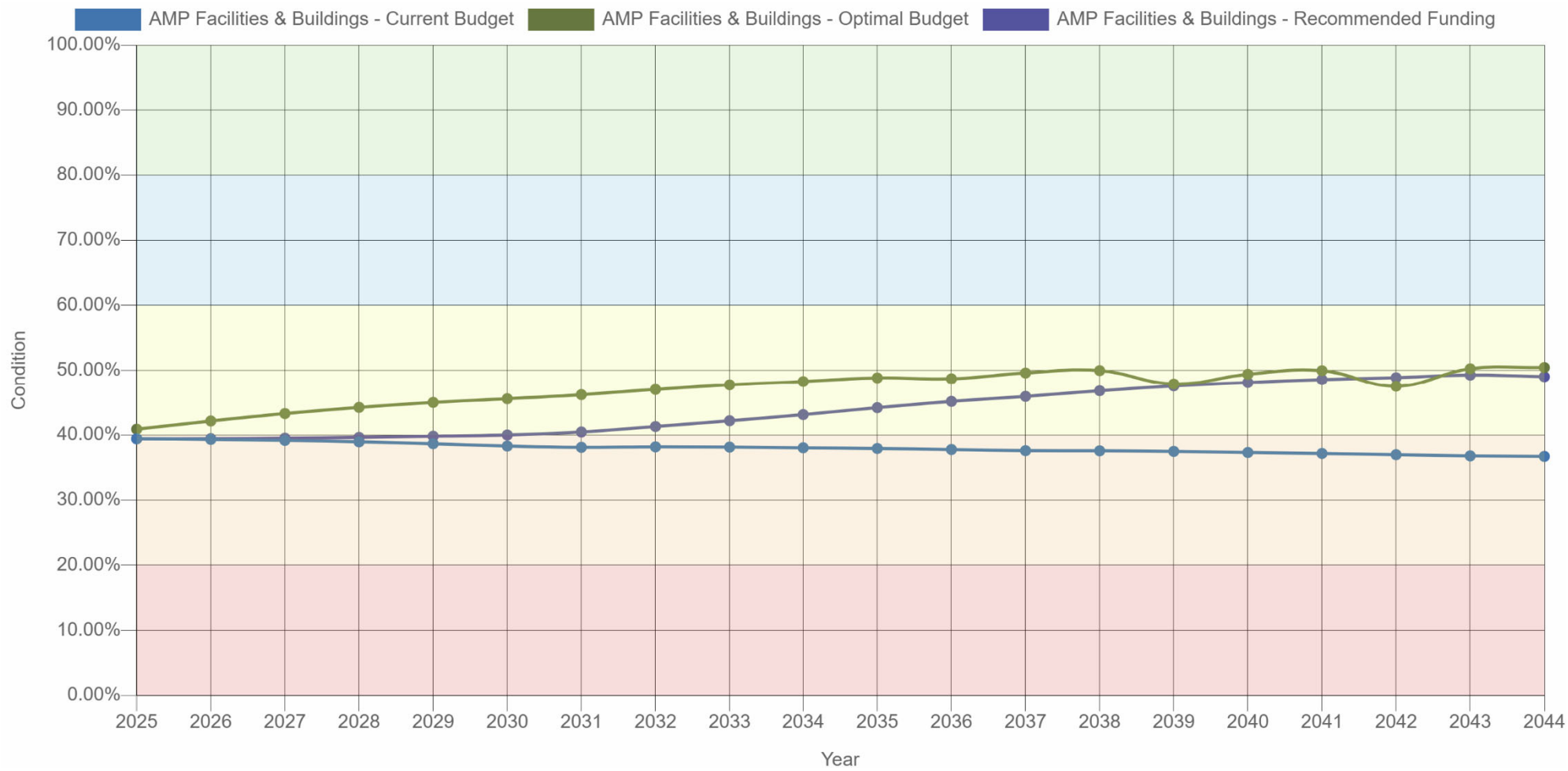


Figure 46: PLOS: Facilities & Buildings - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

10.

10.1.1.1. Proposed Levels of Service Scenarios

Figure 46 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 scenario shows limited improvement, with facility conditions remaining around 38–39% and gradually declining to about 36% by 2044. This reflects an ongoing funding shortfall that keeps buildings in poor to fair condition and reliant on reactive repairs.
2. **Optimal Budget:** This Optimal Budget scenario demonstrates a proactive approach, with steady improvements beginning in the late 2020s and conditions reaching about 50% by the mid-2040s. This level of investment would allow for more consistent reinvestment, reducing reliance on emergency funding and addressing aging infrastructure more effectively.
3. **Recommended Funding**: This Recommended Budget scenario provides a balanced path, beginning closer to the current model but improving gradually over time. By 2044, facility conditions approach 49%, nearly matching the optimal budget outcome. This approach spreads financial impacts more evenly while still achieving long-term gains in condition and reliability.

The analysis of the scenarios shows that maintaining current funding will leave facilities and buildings in consistently poor to fair condition, with little improvement over the long term. Increased investment under the recommended budget offers a more sustainable approach, allowing conditions to gradually rise and nearly match the optimal scenario by 2044. This gradual path balances affordability with the need to reduce reliance on reactive repairs, ensuring facilities remain reliable and better able to serve community needs over time.

10.1.1.2. Recommendations

Secure Sustainable Funding

Current reinvestment levels are well below target, leaving many municipal facilities in fair or poor condition. A sustainable financial plan is required to reduce reliance on reactive repairs, address deferred maintenance, and ensure facilities continue to serve the community effectively.

Improve Building Condition and Accessibility

Staff noted that resources are limited and inspections are not always proactive, while residents emphasized accessibility and modernization as important priorities. Investments should focus on upgrading older facilities, removing barriers to access, and ensuring community spaces remain safe and welcoming.

Enhance Environmental Stewardship

Improving building efficiency through energy retrofits and better maintenance practices can reduce operating costs while advancing sustainability goals. Environmental improvements also align with broader municipal objectives and can help extend facility lifespans.

10.1.1.3. Risk for Not Maintaining Acceptable LOS

Financial Risk

Continued underfunding will accelerate deterioration, increasing reliance on costly emergency repairs and shortening the service life of key facilities. Deferred maintenance raises long-term capital costs, as small issues left unaddressed become major rehabilitation projects.

Operational and Safety Risk

A decline in facility condition can compromise accessibility, building systems, and public safety. Staff have noted that aging infrastructure and reactive repairs create operational inefficiencies and, in some cases, outdated conditions that no longer meet community or regulatory standards.

Community Satisfaction Risk

Public engagement revealed moderate satisfaction, with many respondents neutral, suggesting facilities meet basic needs but lack visibility or impact. If conditions decline further, these neutral perceptions may shift toward dissatisfaction, eroding community confidence and reducing the value residents place on municipal spaces.

11. Vehicles

The Town owns and operates a range of vehicles that support service delivery and asset maintenance across departments. These vary from light to heavy vehicles, ranging from pickup trucks to tractors across multiple departments including public works, recreation culture and emergency services.

11.1 Inventory & Valuation

Table 25 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Town's Other Infrastructure inventory.

Table 25: Detailed Asset Inventory: Vehicles

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Boats	1	Assets	$34,041	CPI
Fire & Emergency Services	9	Assets	$5,587,839	CPI
Heavy Vehicles	15	Assets	$4,438,685	CPI
Light Vehicles	38	Assets	$2,243,969	CPI
Tractors	4	Assets	$307,137	CPI
Trailers	14	Assets	$253,766	CPI
Total			**$12,865,437**	

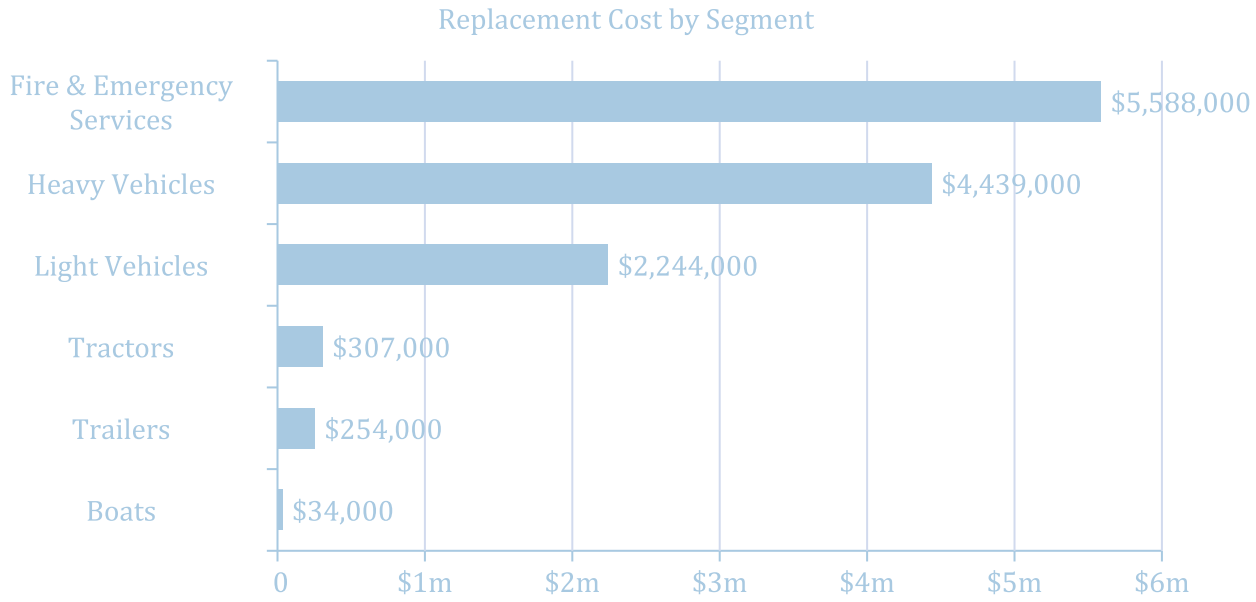


Figure 47: Portfolio Valuation: Vehicles

11.2 Asset Condition

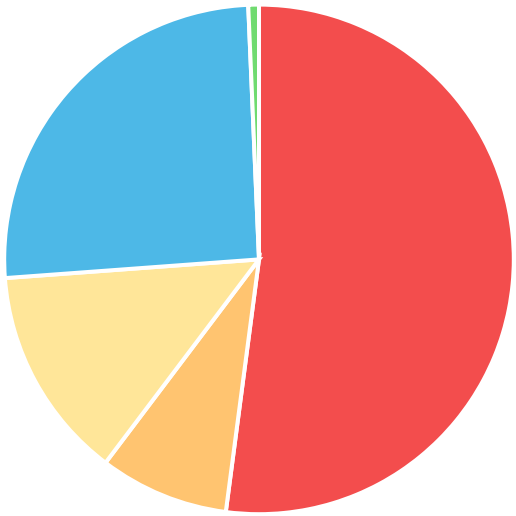


Figure 48: Asset Condition: Vehicles Overall

Figure 48 summarizes the replacement cost-weighted condition of The Town's portfolio. Based primarily on assessed data, 40% of assets are in fair or better condition, with the remaining 60% 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 49 summarizes the condition of fleet by each department. The majority of all vehicles across all asset segments are in poor or worse condition.

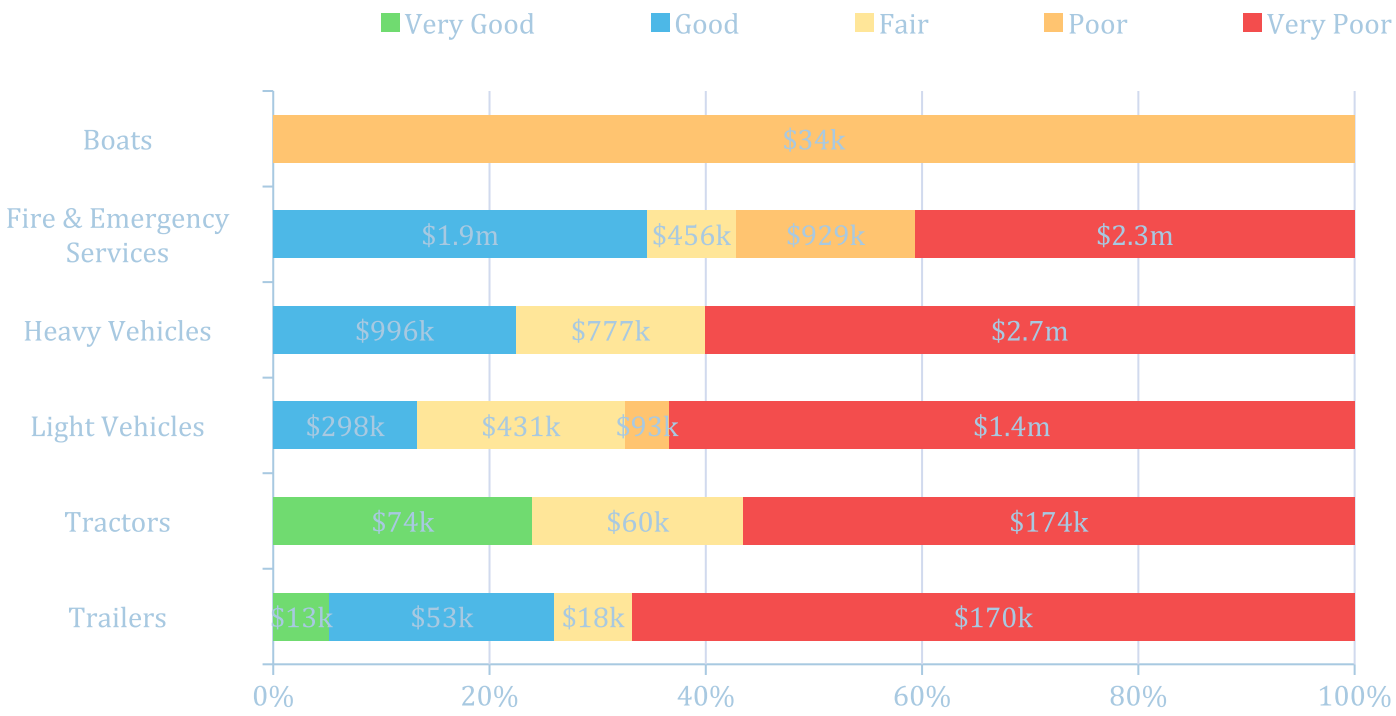


Figure 49: Asset Condition: Vehicles by Segment

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 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.

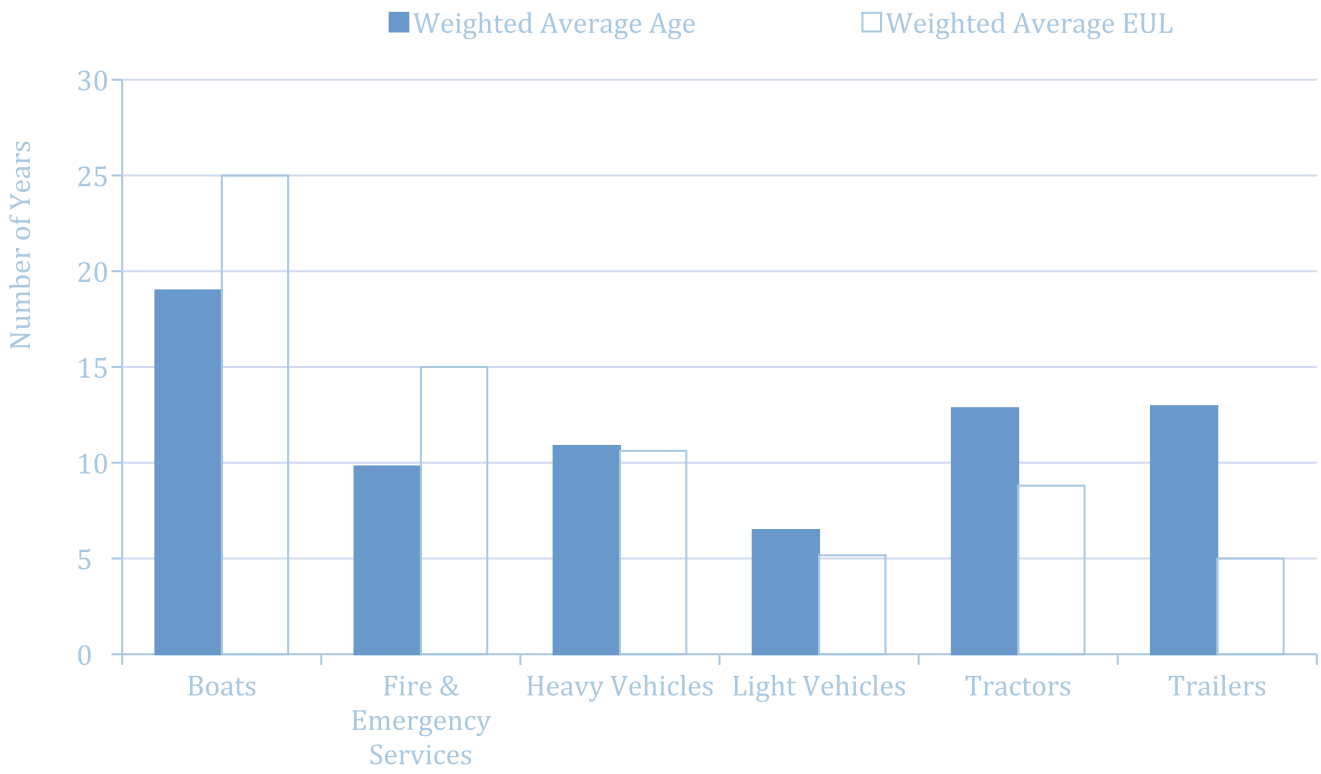


Figure 50: Estimated Useful Life vs. Asset Age: Vehicles

Age analysis reveals that, on average, most assets have surpassed their expected life, except for fleet assets that belong to fire and emergency services, as well as boats.

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.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	• Visual inspections completed and documented daily. • Annual preventative maintenance activities completed where possible.
Replacement	• Vehicle replacements are based on insurance policies and standards, especially for fire vehicles. • Vehicle age is driving factor when determining appropriate treatment options

Table 26: Lifecycle Management Strategy: Vehicles

11.5 Forecasted Long-Term Replacement Needs

Figure 51 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Town's fleet portfolio. This analysis was run until 2039 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) total $1.3 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 $7.1 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.

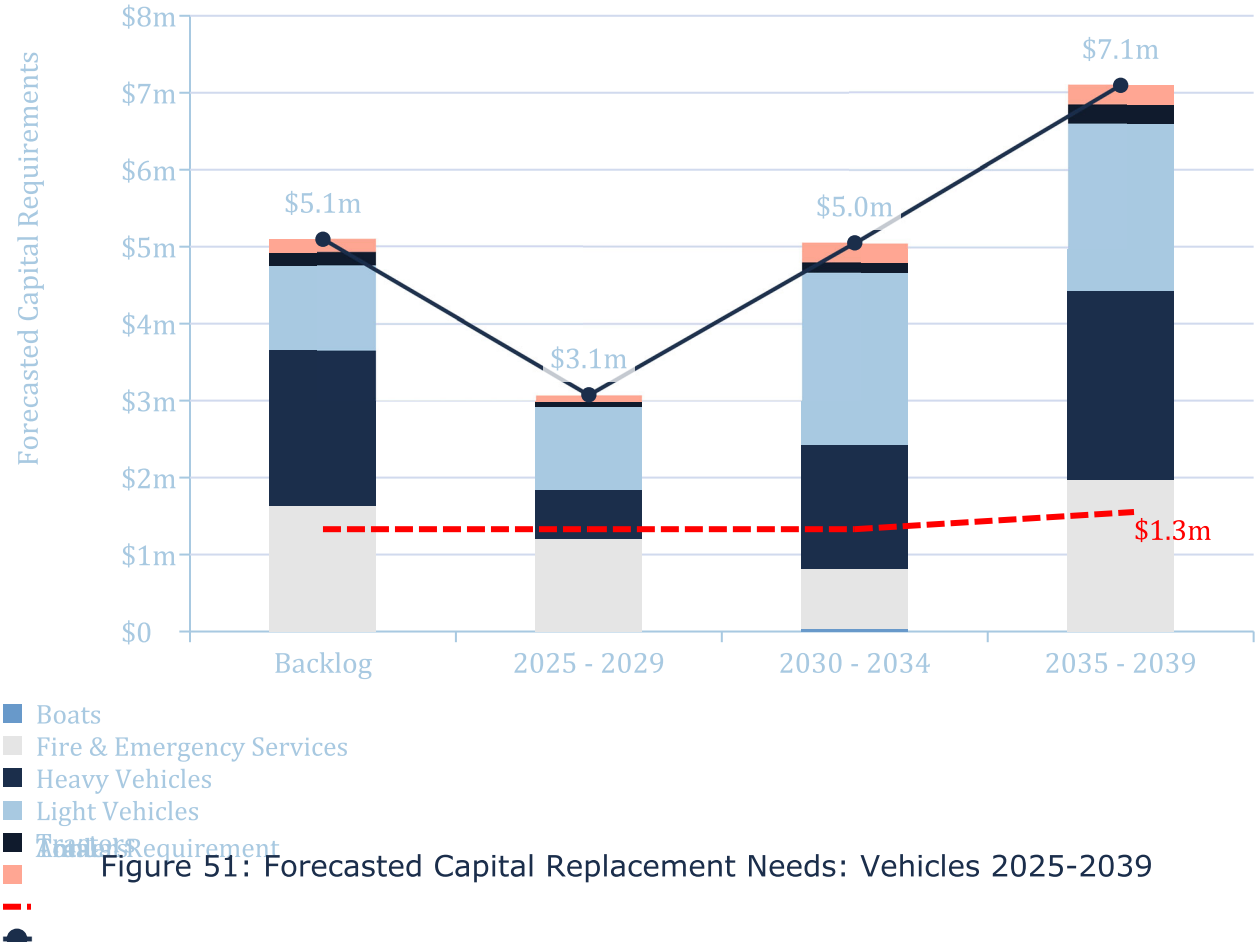


Figure 51: Forecasted Capital Replacement Needs: Vehicles 2025-2039

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

1 - 4 **Very Low** $132,422 (1%)	5 - 7 **Low** $1,101,095 (9%)	8 - 9 **Moderate** $739,667 (6%)	10 - 14 **High** $4,460,457 (35%)	15 - 25 **Very High** $6,431,796 (50%)

Figure 52: Risk Matrix: Vehicles

11.7 Levels of Service

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

11.7.1 Community Levels of Service

Table 27: Community Levels of Service: Vehicles

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description of the Fleet Management and Safety Program	Commercial vehicles meet minimum standards and undergo an inspection twice a year. Staff aim to inspect non-commercial vehicles annually. Training is providing during hiring process for the operation of the vehicles.
	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on vehicles	A replacement program is in place for vehicles with arrangement for the relinquishment of the vehicles to a private company. Vehicle age and condition is considered when replacing vehicles. Legislation requirements are followed for fire vehicle replacement.
Sustainable	Description of vehicles that are fuel efficient	Staff are proactively working towards making vehicles more energy efficient by component. The purchase of electric vehicles is considered when buying new vehicles, along with the environment and emissions.

11.7.2 Technical Levels of Service

Table 28: Technical Levels of Service: Vehicles

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	% of vehicles where asset age exceeds useful life	56%[2]
	% of vehicles in good or very good condition	26%
	% of vehicles in poor of very poor condition	60%
	Average Risk Rating associated to vehicles	15.28 - High
Performance	Capital reinvestment rate	3.36%

[2] Percentage calculated based on the proportion of total vehicle replacement value represented by asset categories where the weighted average age exceeds the estimated useful life. This approach provides a value-weighted measure of lifecycle risk rather than a simple asset count

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

- Municipal vehicles such as snowplows and waste collection trucks were rated highly, with about 80% of residents identifying their safety and reliability as Important or Very Important.
- Satisfaction was generally positive, with 56% satisfied, 25% neutral, and 19% dissatisfied. Concerns raised often linked poor snow removal or delays in waste collection to vehicle reliability.
- Willingness to pay for upgrades was moderate. Around 25% of respondents supported additional investment, while another 25% were slightly willing, and many remained neutral. This reflects recognition that vehicles directly affect visible service delivery but with mixed support for higher funding.

Staff Engagement Results

Staff reported that municipal vehicles generally meet transportation needs, though concerns were raised about older equipment and reliance on costly outside vendors for some repairs. Smaller vehicles were seen as adequately maintained, while heavy equipment such as plows were identified as needing replacement.

Condition data shows that 42% of vehicles are beyond their useful life, with only 14% in good or very good condition and 74% rated poor or very poor. While capital reinvestment is currently above target (13.29% vs. 10.39%), staff emphasized that outdated vehicles increase downtime, lifecycle costs, and can reduce public confidence in municipal services.

Recommendations included earlier replacement of high-maintenance units, adding staff capacity for in-house repairs, and reducing reliance on external vendors.

11.7.3.2. Proposed Levels of Service Scenarios

Figure 53 analyzes and compare three budget scenarios: Optimal, Current, and Recommended.

1. **Current Funding:** The Current Funding scenario shows a steady decline, with vehicle conditions dropping from about 32% in 2025 to near 12% by 2044. This reflects severe underfunding, leading to an aging fleet, higher

maintenance costs, and reduced reliability of critical services like snow clearing and waste collection.

2. **Optimal Budget:** This Optimal Budget scenario demonstrates a proactive strategy, with conditions improving steadily through the 2020s and peaking above 50% by 2030. While some fluctuations occur in the mid-2030s, conditions stabilize in the 40–50% range for the remainder of the forecast period, ensuring a more reliable and sustainable fleet.
3. **Recommended Funding**: This Recommended Budget scenario reflects a gradual funding increase that produces slower gains but steadily improves conditions over time. By the late 2030s and early 2040s, vehicle conditions approach 45–47%, nearly matching the optimal scenario. This model balances affordability with the need to replace aging vehicles and maintain consistent service levels.

The analysis of the scenarios shows that current funding will result in a rapidly deteriorating vehicle fleet, with conditions falling into the very poor range and risking major service disruptions. Increased investment under the recommended budget provides a more sustainable path, gradually improving fleet condition and closely aligning with the optimal model by the 2040s. This balanced approach ensures that critical services such as snow removal and waste collection remain reliable, while spreading financial impacts more evenly across the forecast period.

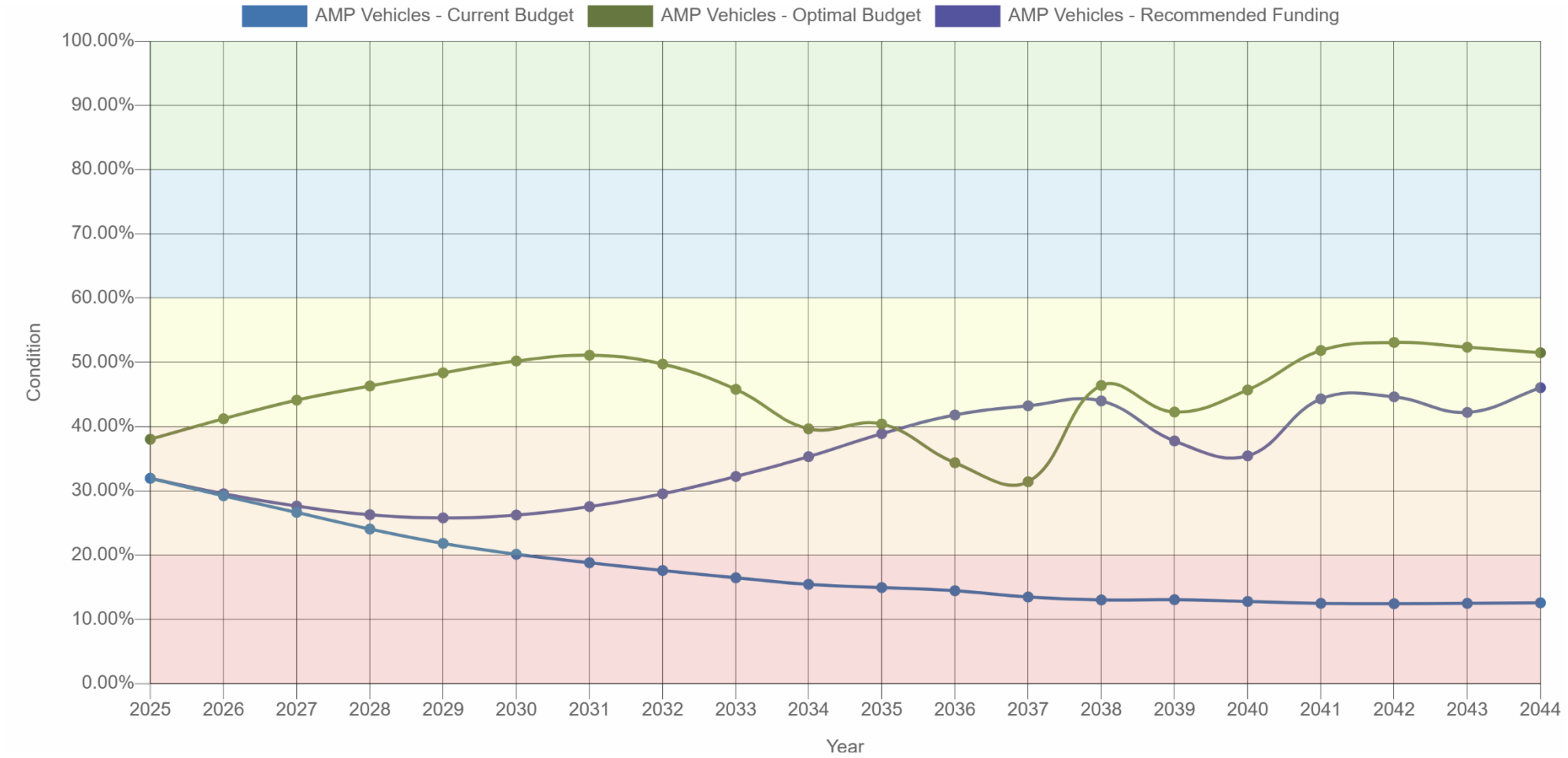


Figure 53: PLOS: Fleet - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

11.7.3.3. Recommendations

Secure Sustainable Funding

Develop a sustainable funding model to support timely vehicle replacements. Current funding is below required levels, creating risks of increased lifecycle costs, reliance on rentals, and higher outsourcing expenses.

Enhance Asset Management Practices

Adopt lifecycle-based replacement planning to avoid vehicles slipping into very poor condition. Expanding in-house capacity for maintenance and repairs will reduce outsourcing costs and improve service turnaround.

Improve Service Reliability

Well-maintained vehicles are essential to delivering visible services that shape public perception, such as plowing and garbage collection. Investing in consistent upgrades will reduce downtime and reinforce community confidence in municipal operations.

11.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

Delaying vehicle replacements will drive up lifecycle costs as aging units require frequent repairs, rentals, or outsourcing to maintain service levels. This reactive approach is more expensive long-term and reduces financial flexibility for other municipal priorities.

Operational and Safety Risk

Older vehicles are more prone to breakdowns, increasing downtime and reducing the municipality’s ability to deliver core services like snow removal and waste collection. Declining condition also heightens safety risks for operators and the public, particularly during winter operations and emergency response.

Community Satisfaction Risk

Residents closely associate vehicle performance with visible service delivery. Poor snow clearing or waste collection resulting from unreliable vehicles would quickly erode public confidence. Public engagement already revealed mixed satisfaction, and further deterioration would likely increase dissatisfaction.

12. Machinery & Equipment

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

12.1 Inventory & Valuation

Table 29 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Town's Other Infrastructure inventory.

Table 29: Detailed Asset Inventory: Machinery & Equipment

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Communication Equipment	22	Assets	$386,542	CPI
Docks and Launches	23	Assets	$647,602	CPI
Fire & Emergency Services	53	Assets	$779,003	CPI
Indoor Furniture & Equipment	199	Assets	$2,761,294	CPI
Library Services	36	Assets	$932,407	CPI
Major Equipment	38	Assets	$2,573,766	CPI
Mechanical & Electrical Equipment	20	Assets	$367,323	CPI
Minor Equipment	103	Assets	$352,841	CPI
Outdoor Furniture & Fixtures	41	Assets	$1,565,479	CPI
Radio Services	12	Assets	$374,384	CPI
Uniforms and Gears	6	Assets	$277,175	CPI
Total			**$11,017,816**	

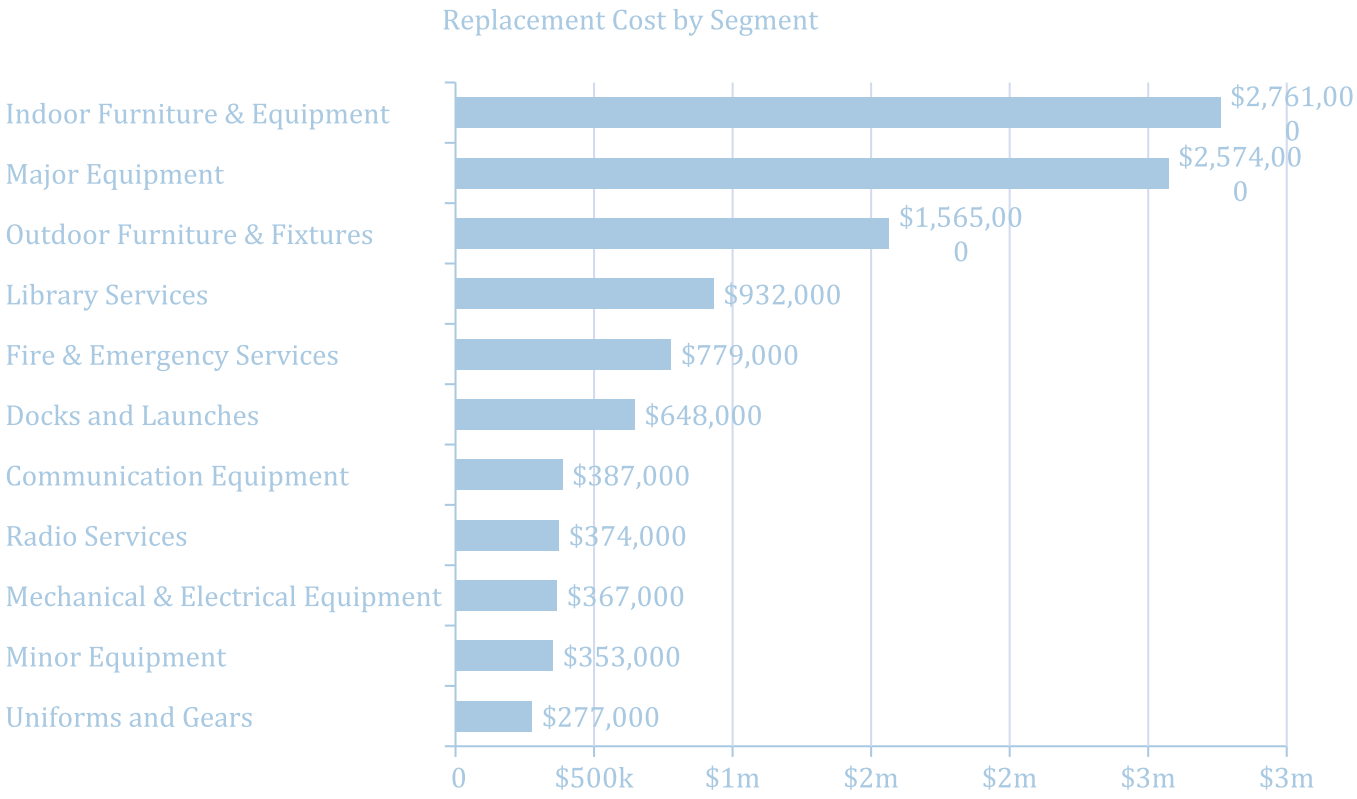


Figure 54: Portfolio Valuation: Machinery & Equipment

12.2 Asset Condition

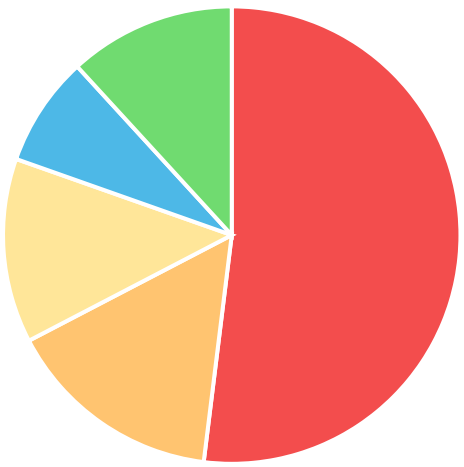


Figure 55: Asset Condition: Machinery & Equipment Assets Overall

Figure 55 summarizes the replacement cost-weighted condition of The Town's portfolio. Based primarily on age-based data, 67% of assets are in very poor condition, with the only remaining 33% 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 56 summarizes the condition of machinery & equipment by each department. All machinery & equipment but for docks and launches, library services, minor equipment and uniforms and gears are in poor or very poor condition.

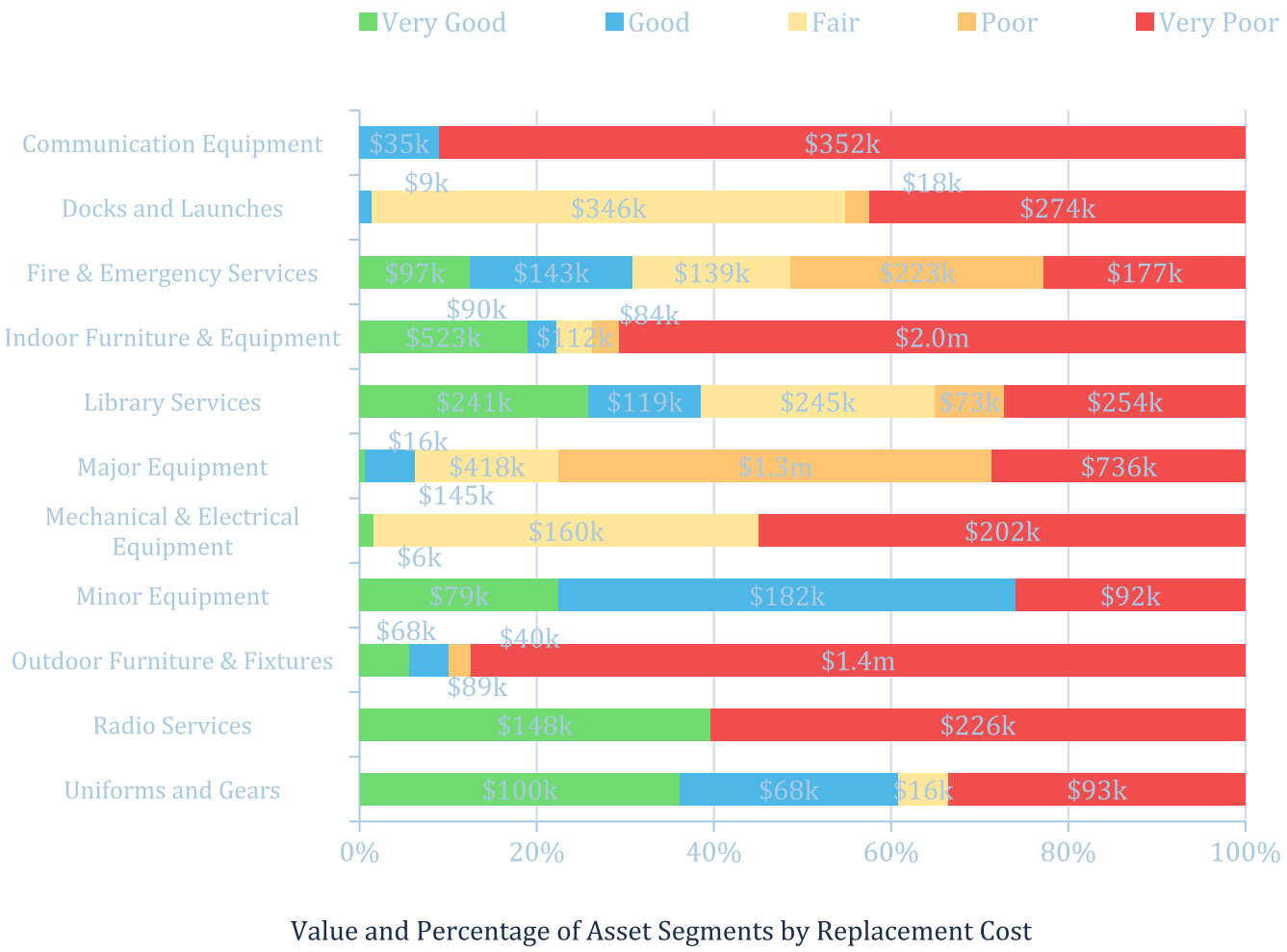


Figure 56: Asset Condition: Machinery & Equipment

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 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.

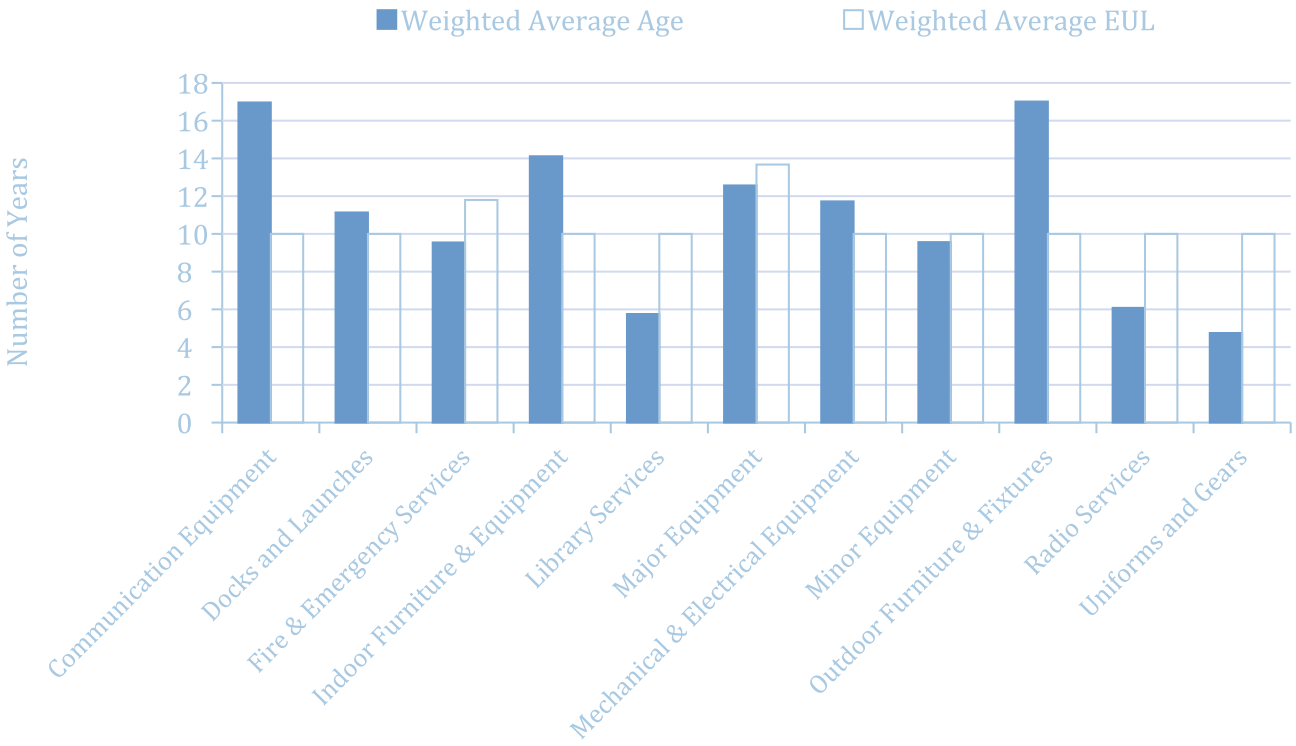


Figure 57: Estimated Useful Life vs. Asset Age: Other Infrastructure Assets

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.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	• Maintenance program varies by department. • Fire Protection Services equipment is subject to a much more rigorous inspection and maintenance program compared to most other departments. • Machinery and equipment is maintained according to insurance recommended actions and supplemented by the expertise of municipal staff
Replacement	• The replacement of machinery and equipment depends on deficiencies identified by operators that may impact their ability to complete required tasks, maintenance costs associated to the machinery & equipment, life cycle replacement identified in the previous AMP, and risk assessments.

Table 30: Lifecycle Management Strategy: Machinery & Equipment

12.5 Forecasted Long-Term Replacement Needs

Figure 58 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Town's machinery & equipment portfolio. This analysis was run until 2039 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) total $1 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 peak at $6.3 million from 2035-2039, 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.

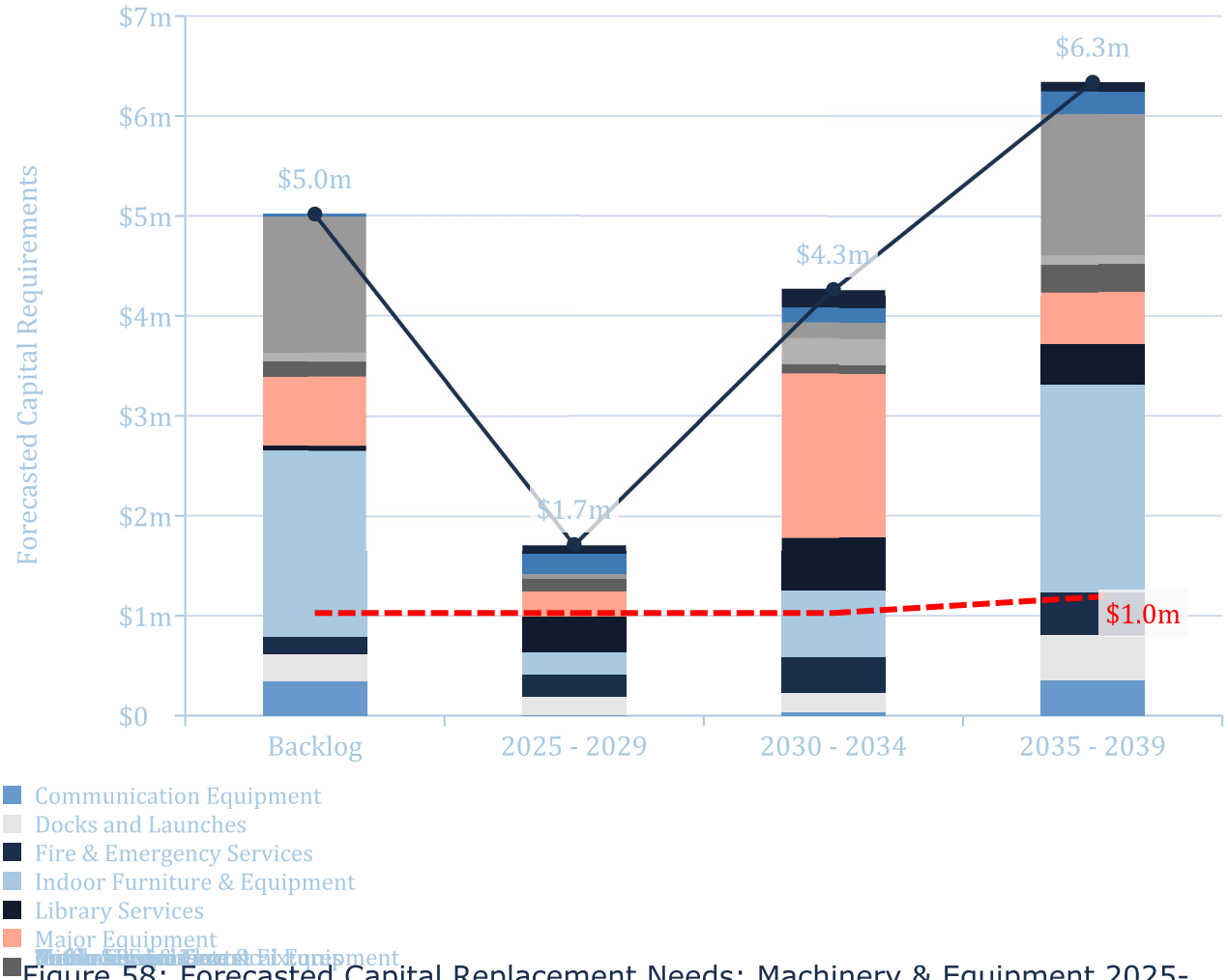


Figure 58: Forecasted Capital Replacement Needs: Machinery & Equipment 2025-2039

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

1 - 4 Very Low $955,398 (9%)	5 - 7 Low $580,605 (5%)	8 - 9 Moderate $697,113 (6%)	10 - 14 High $2,947,620 (27%)	15 - 25 Very High $5,837,080 (53%)

Figure 59: Risk Matrix: Machinery & Equipment

12.7 Levels of Service

The Town of Gravenhurst 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 31: Community Levels of Service: Machinery & Equipment

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on machinery and equipment assets	Some assets are run to failure, such as radios, speakers, etc., as their service lives vary. Dock renewal activities are based on public complaints; staff then performs inspections, and an external contractor also performs an inspection to determine work plans. Furniture and fixtures are replaced on an as-needed basis, often the result of staff complaints relating to the ergonomics of the office furniture.
Sustainable	Description of the current condition of machinery & equipment and the plans that are in place to maintain or improve the provided level of service	The average condition of the machinery and equipment is poor, as it relies on age-based condition. A master Parks Maintenance & Operations Plan has recently been developed, which includes the docks and launches, to address lifecycle activities more proactively.

12.7.2 Technical Levels of Service

Table 32: Technical Levels of Service: Machinery & Equipment

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	% of machinery and equipment in good or very good condition	20%
	% of machinery and equipment in poor of very poor condition	67%
	Average Risk Rating associated to machinery and equipment	15.29 – Very High
Performance	Capital reinvestment rate	1.84%

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

- Machinery and public works equipment were rated as moderately important, with about 60% of residents identifying them as Important or Very Important.
- Machinery and public works equipment were rated as moderately important, with about 60% of residents identifying them as Important or Very Important.
- Willingness to pay for upgrades was limited. Half of respondents were neutral, with only about 12% willing to fund improvements. Feedback suggests residents see equipment as necessary but expect it to be managed within existing budgets.

Staff Engagement Results

Staff reported frequent challenges with outdated equipment, band-aid fixes, and slow repairs, which contribute to downtime and frustration. While recent purchases such as a new grader and backhoe were noted as positive, many smaller assets like loaders, chainsaws, and chippers remain in poor condition. Condition data shows only 18% of equipment is in good or very good condition, while 66% is rated poor

or very poor. Capital reinvestment is well below target (1.53% vs. 9.22%), leaving staff reliant on rentals or outsourcing to meet operational needs.

Recommendations focused on increasing investment in small and medium-sized equipment, hiring additional staff such as a second mechanic, and adopting proactive maintenance practices to improve efficiency and reduce service interruptions..

12.7.3.2. Proposed Levels of Service Scenarios

Figure 60 illustrates three scenarios analyzed using three funding models: Optimal Budget, Current Funding, and Recommended Funding.

1. **Current Funding**: Current Funding scenario shows a sharp decline, with equipment condition falling from about 28% in 2025 to below 15% by 2044. This trajectory reflects severe underfunding, leaving much of the fleet in very poor condition and potentially increasing reliance on rentals and outsourcing.
2. **Optimal Budget:** This Optimal Budget scenario demonstrates a proactive approach, with conditions steadily improving to about 45% by the late 2030s and holding near that level through the forecast period. This investment would allow the municipality to replace outdated equipment, reduce downtime, and support more efficient service delivery.
3. **Recommended Funding:** This Recommended Budget scenario reflects a gradual funding increase, producing steady gains beginning in the mid-2030s. By 2044, conditions reach just over 40%, closely aligning with the optimal model. This path balances financial impacts with the need to replace aging equipment and ensures long-term service reliability.

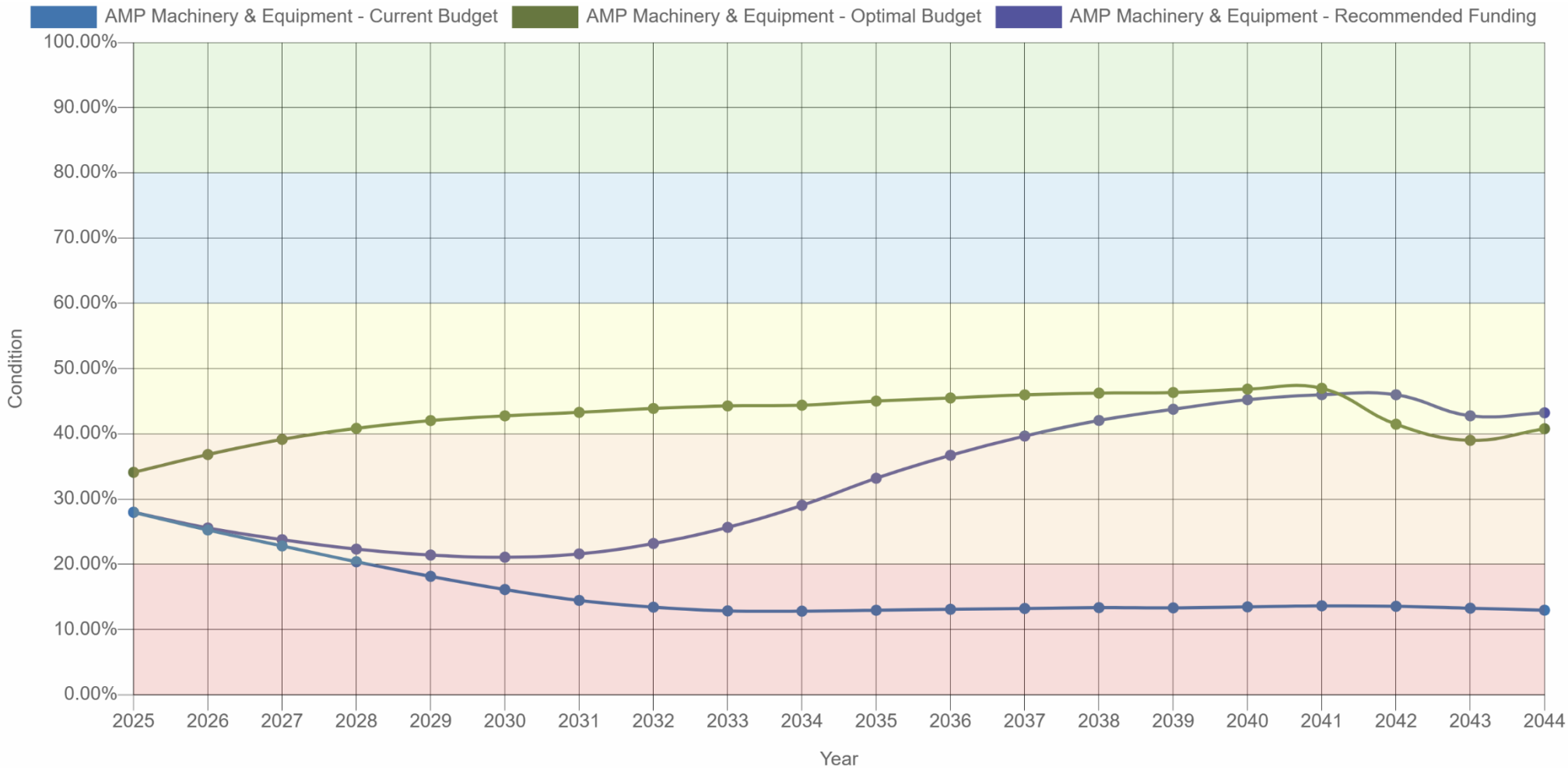


Figure 60: PLOS: Machinery & Equipment - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

The analysis of the scenarios shows that without new investment, machinery and equipment will continue to deteriorate into the very poor range, increasing reliance on costly rentals and outside services. The recommended budget provides a sustainable path forward, gradually improving conditions beginning in the 2030s and reaching levels close to the optimal scenario by 2044. This approach balances affordability with the need to modernize equipment, reduce downtime, and ensure reliable service delivery over the long term.

12.7.3.3. Recommendations

Financial Strategy

Develop a funding plan that prioritizes replacement of aging machinery and small equipment. Current reinvestment is well below target, forcing reliance on rentals and outsourcing, which increases long-term costs.

Proactive Asset Management

Shift from band-aid fixes and reactive maintenance to lifecycle-based replacement. Staff recommended earlier replacement of high-use units and adding resources such as a second mechanic to support in-house servicing and reduce delays.

Increase Safety

Replacing outdated or poorly functioning equipment will reduce risks to operators and improve overall efficiency. Ensuring safe, modern equipment is especially important for heavy-use assets such as loaders, graders, and chippers.

Improve Service Reliability

Well-maintained and modernized equipment supports timely service delivery, reducing downtime and interruptions to municipal operations. Investments in smaller, high-turnover assets will improve efficiency and ensure staff have the right tools to complete work effectively.

12.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

Deferring investment in machinery and equipment will increase long-term costs, as aging units require more frequent repairs, rentals, and outsourcing. This reactive approach is less cost-effective than planned replacements and strains municipal budgets.

Operational and Safety Risk

Outdated or poorly functioning equipment reduces efficiency, creates downtime, and increases risks to staff operating heavy or specialized units. Equipment failures during critical operations, such as road or park maintenance, can disrupt municipal services and compromise staff safety.

Community Satisfaction Risk

While less visible than vehicles, equipment reliability directly affects the quality and timeliness of municipal services. Frequent breakdowns or delays caused by failing equipment can reduce resident satisfaction and erode confidence in the municipality’s ability to manage core infrastructure.

13. Information Technology

Information technology assets include a range of hardware and software that support municipal operations, service delivery, and communication. These systems enable efficient data management, financial tracking, customer service, regulatory compliance, and inter-departmental coordination. By ensuring reliable access to digital tools and secure platforms, IT assets enhance decision-making, streamline processes, and protect sensitive information, ultimately supporting effective governance and responsive service to the community.

13.1 Inventory & Valuation

Table 33 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Town's Information Technology asset inventory.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Hardware	129	Assets	$622,743	CPI
Software	14	Assets	$1,091,628	CPI
TOTAL			**$1,714,371**	

Table 33: Detailed Asset Inventory: Information Technology

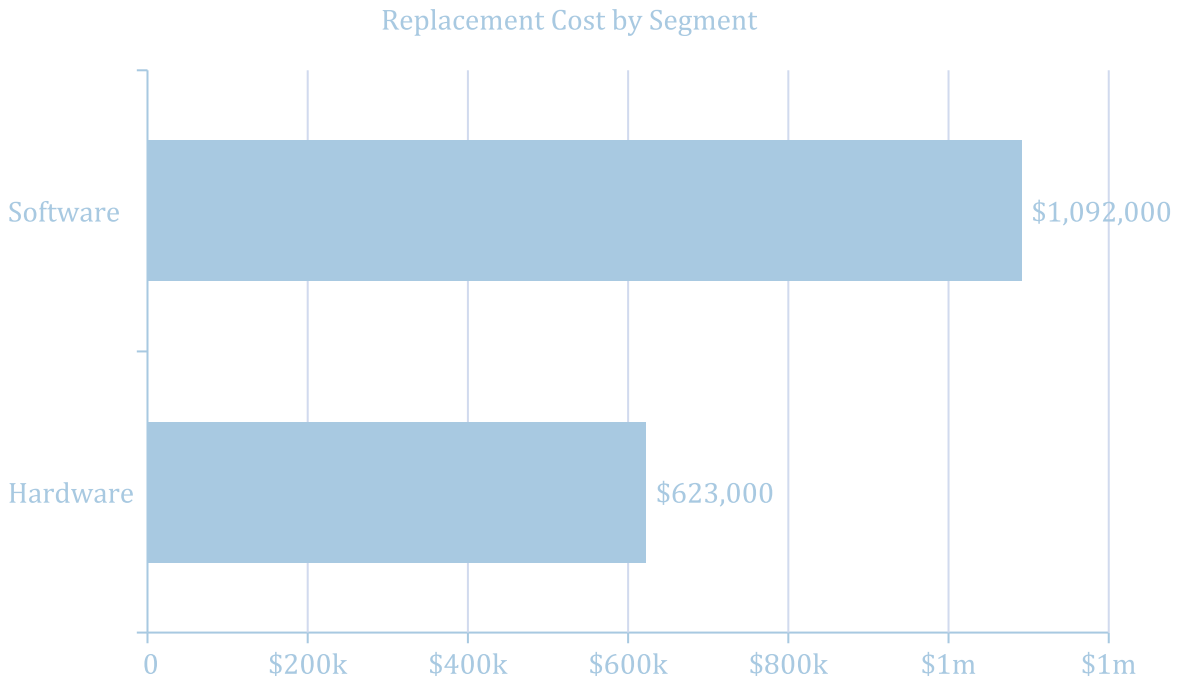


Figure 61: Portfolio Valuation: Information Technology

13.2 Asset Condition

The assets condition, lifecycle strategies and investment requirements information were collected as part of projections based on current asset knowledge, in-service dates and overall historical data.

Figure 62 shows that 34% of fire services assets are in poor or worse condition.

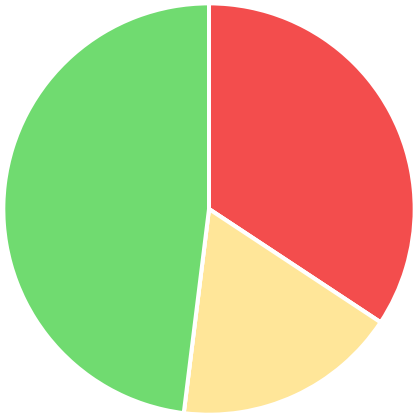


Figure 62: Asset Condition: Information Technology: Overall

Figure 63 illustrates that most assets across both hardware and software assets are in fair or better condition but there is still a significant portion in very poor condition.

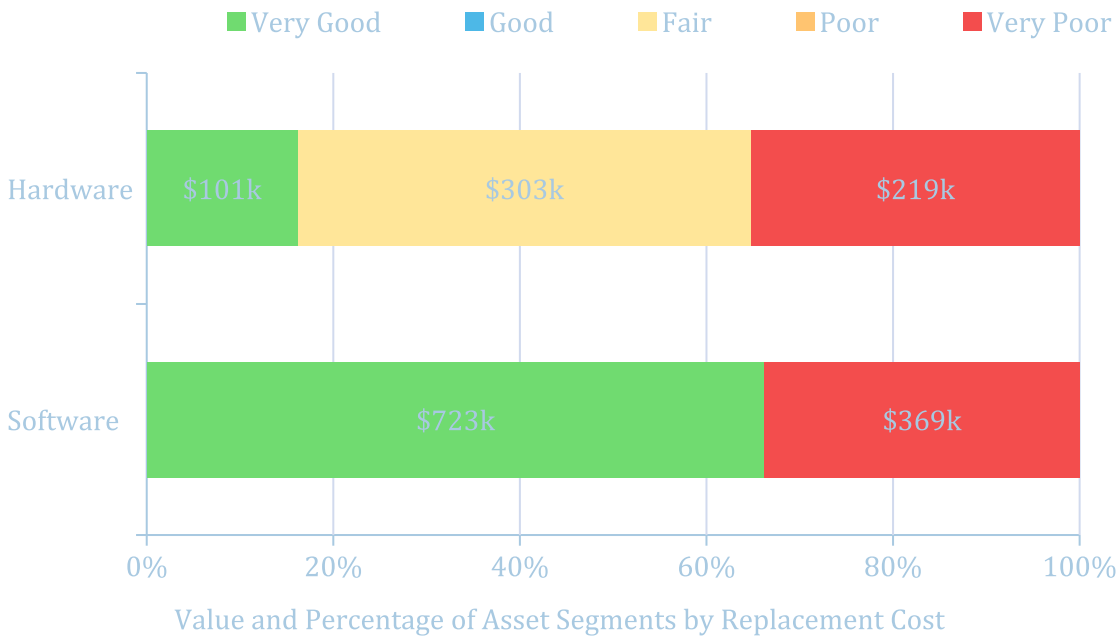


Figure 63: Asset Condition by Segments: Information Technology

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.

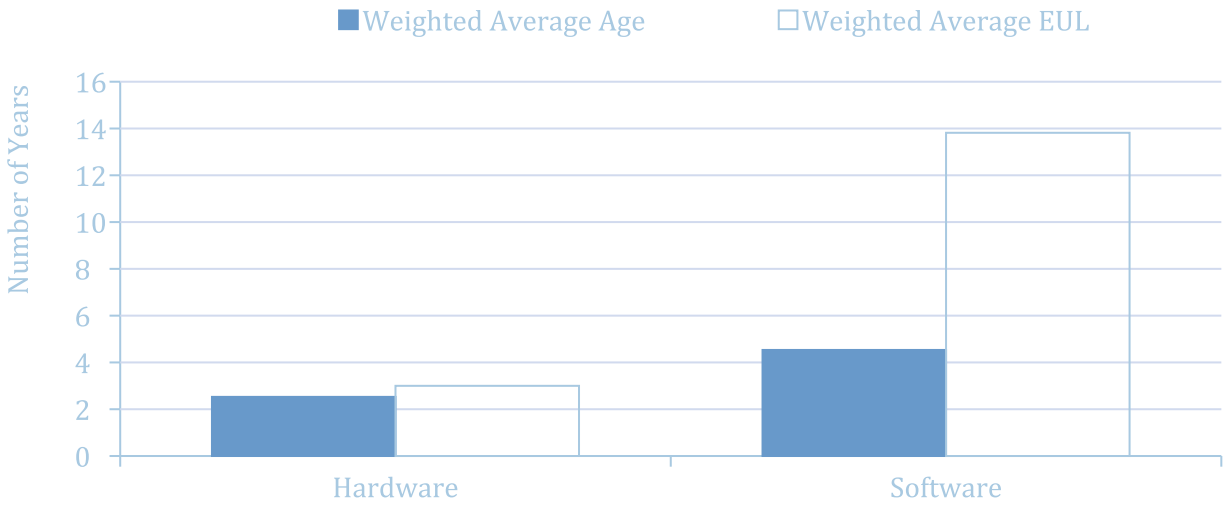


Figure 64: Estimated Useful Life vs. Asset Age: Information Technology

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 information technology assets are yet to exceed their useful life. Software have yet to reach the halfway point whereas hardware is approaching its estimated useful 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 stakeholders, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

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

Table 34: Lifecycle Management Strategy: Information Technology

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation & Replacement	• Upper tier municipality provides hardware, software and IT support. The contractual agreement determines the timeline for the replacement of IT equipment.

13.5 Forecasted Long-Term Replacement Needs

Figure 65 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Town's fire services assets. This analysis was run until 2049 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) total $414,000 for all information technology 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.

The largest replacement spike is forecasted to be $2.6 million in 2045-2049, 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.

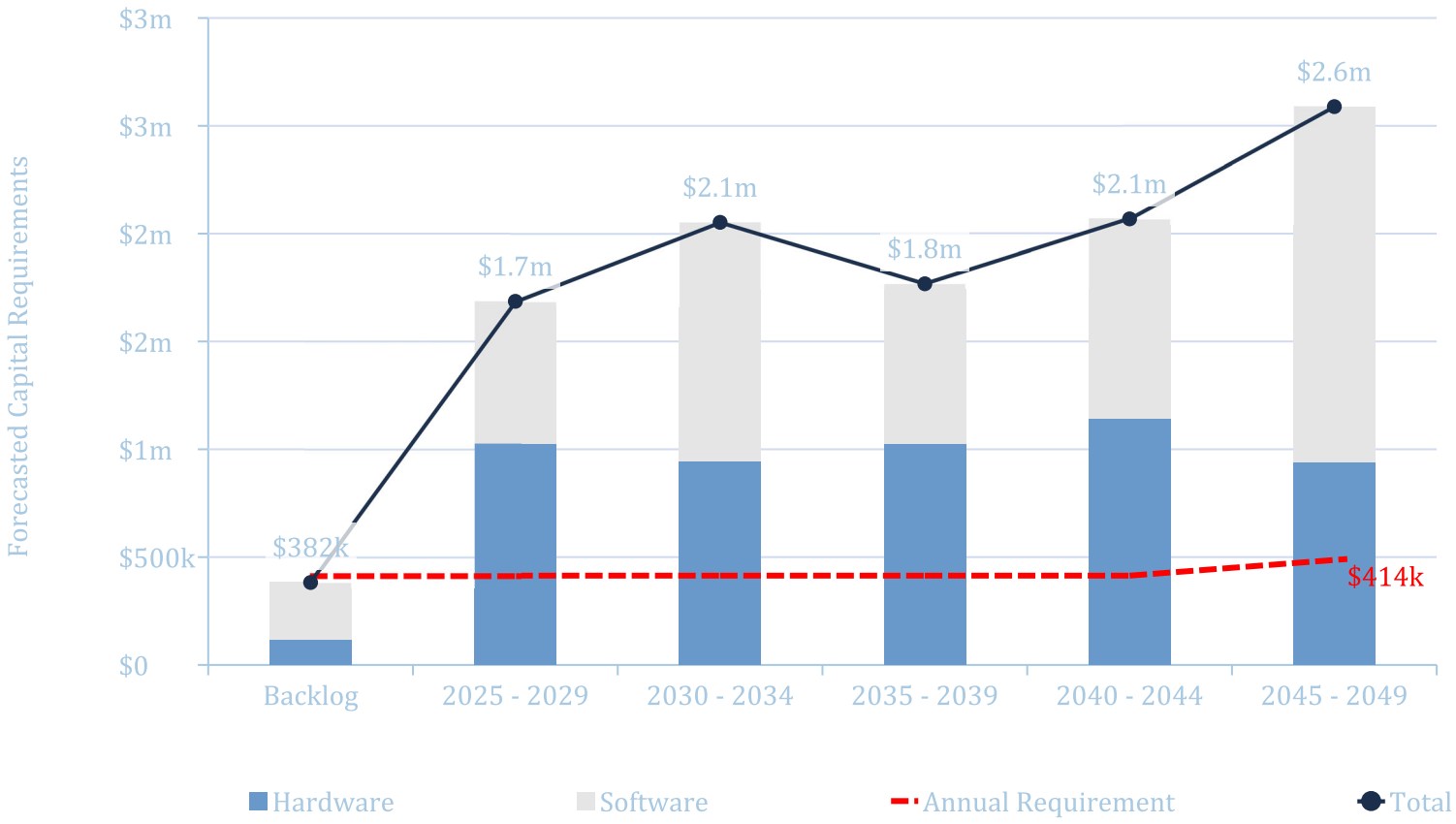


Figure 65: Forecasted long-term financial requirements: Information Technology

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

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

1 - 4 Very Low $572,196 (33%)	5 - 7 Low $261,208 (15%)	8 - 9 Moderate $30,261 (2%)	10 - 14 High $46,551 (3%)	15 - 25 Very High $804,155 (47%)

Figure 66: Risk Matrix: Information Technology

13.7 Levels of Service

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

13.7.1 Community Levels of Service

Table 35: Community Levels of Service: Information Technology

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on IT assets	All hardware, software and IT support is purchased from the upper tier municipality who provides all the required hardware software and IT support. The contractual agreement determines the timeline for when replacement of IT equipment is required.
Sustainable	Description of the current condition of IT assets and the plans that are in place to maintain or improve the provided level of service	The Town requests a software that is required, and the district provides recommendations. The Town can investigate different options for software other than the recommendations, but it must be compatible with the district's server.

13.7.2 Technical Levels of Service

Table 36: Technical Levels of Service: Information Technology

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	% of IT assets that are in good or very good condition	48%
	% of IT assets that are in poor of very poor condition	34%
	Average Risk Rating associated to IT	11.35 - High

	assets	
Performance	Capital reinvestment rate	31.54%

13.7.3 Proposed Levels of Service

This section provides recommendations for maintaining and improving the information technology 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

- Information technology was rated as less visible but still important, with 55% of residents identifying reliable municipal systems, digital access, and secure data management as Important or Very Important.
- Satisfaction levels were mixed, with 30% satisfied, 50% neutral, and 20% dissatisfied. Neutral responses suggest that while IT systems are not highly visible to the public, residents expect them to function reliably in the background.
- Willingness to pay for IT upgrades was limited, with most respondents neutral and only about 10% supportive of higher investment. Feedback emphasized the importance of maintaining cybersecurity and ensuring consistent access to online municipal services, but many felt this should be managed within existing resources.

Staff Engagement Results

Staff emphasized the importance of IT assets in supporting day-to-day operations, from financial systems and records management to communications and customer service. Hardware and software were generally rated as adequate but aging, with concerns raised about system reliability, outdated equipment, and limited integration between platforms. The primary challenge identified was insufficient resources to keep pace with upgrades and cybersecurity demands. Staff noted that reactive maintenance and delays in replacing outdated systems can reduce efficiency and increase risk.

Recommendations included moving toward proactive replacement cycles, improving system integration, and strengthening cybersecurity measures. Additional training and support were also highlighted as key to improving staff efficiency and service delivery.

13.7.3.2. 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 scenario shows stable conditions in the fair range (around 45–50%) across the forecast period. This reflects a level of funding that exceeds long-term IT needs, with the current allocation of $540,750 in 2025 gradually declining only under the recommended strategy.
2. **Optimal Budget:** This Optimal Budget scenario demonstrates that lower funding can still maintain conditions near current levels, fluctuating between 40–45% over time. This outcome reflects the shorter lifecycle of IT assets, where proactive replacement and upgrades can be sustained at reduced cost.
3. **Recommended Funding:** This Recommended Budget scenario follows the same line as the current budget in the forecast, with conditions and performance outcomes identical across both scenarios. The difference lies in the funding approach: recommended funding reduces allocations gradually from $540,750 in 2025 to about $414,000 in 2035, while sustaining service levels. This allows surplus funds to be reallocated to higher-need asset categories without compromising IT reliability or security.

The analysis shows that Information Technology assets are currently overfunded, with the recommended budget line overlapping the current budget throughout the forecast period. Conditions remain stable in the fair range (around 45–50%) under all scenarios, demonstrating that IT services can be reliably sustained at lower funding levels. The gradual reduction in allocation from $540,750 in 2025 to about $414,000 by 2035 allows the municipality to reallocate surplus funds to asset categories with greater needs, without compromising the reliability or security of IT systems.

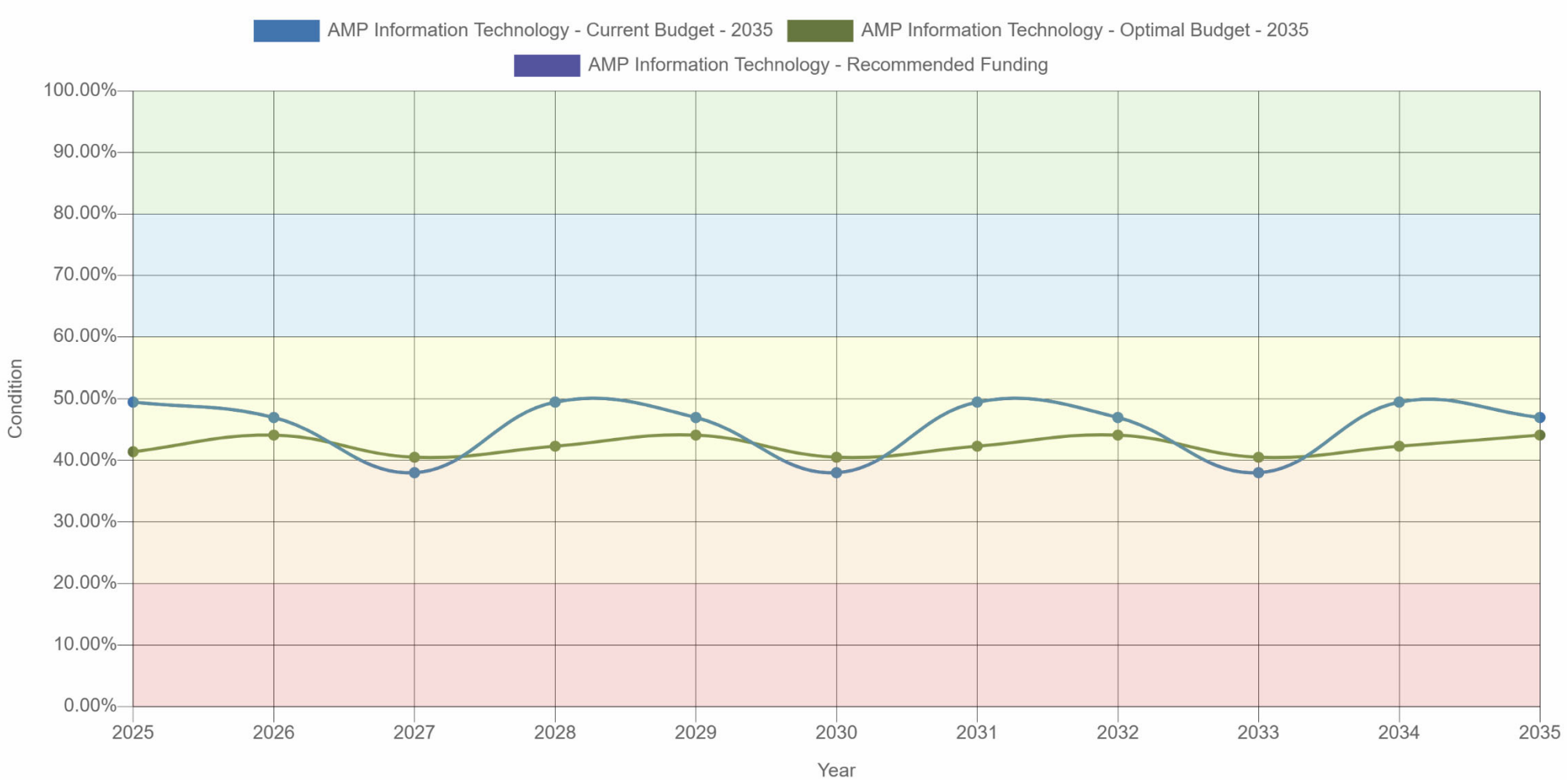


Figure 67: PLOS: Fire Services- Current vs Optimal Budget vs Recommended Budget – 10-Year Forecast

14.

14.1.1.1. Recommendations

Financial Strategy

IT assets are currently overfunded relative to lifecycle requirements. A gradual reduction in funding, as reflected in the recommended budget, will maintain stable service levels while freeing resources for other priority asset categories.

Proactive Asset Management

Adopt lifecycle-based replacement schedules for hardware and software to avoid downtime and ensure smooth operations. Timely upgrades will reduce reliance on reactive fixes and extend the useful life of systems.

Improve System Reliability

Staff identified outdated and poorly integrated systems as a challenge. Investments should focus on upgrading legacy platforms, improving integration, and ensuring that digital tools remain reliable for daily operations and public-facing services.

Strengthen Cybersecurity and Data Protection

As reliance on IT systems grows, so do risks related to data security. Enhancing cybersecurity measures and providing staff training will protect sensitive information and reduce exposure to service interruptions or cyberattacks

14.1.1.2. Risk for Not Maintaining Acceptable LOS

Financial Risk

Overfunding IT relative to its lifecycle needs diverts resources away from higher-priority assets, while underfunding or delaying upgrades can lead to costly emergency fixes, inefficiencies, and reliance on outdated systems.

Operational Risk

Failure to maintain IT hardware and software will reduce system reliability, creating downtime, slower processes, and disruptions to both internal operations and public-facing services. Poor integration across platforms also limits efficiency and decision-making capacity.

Community Satisfaction Risk

Residents expect consistent access to municipal digital services. Service outages, security breaches, or unreliable online platforms would erode community confidence and reduce satisfaction with municipal service delivery.

Cybersecurity and Data Protection Risk

Aging or unsupported systems increase vulnerability to cyberattacks and data breaches. Without proactive investment in cybersecurity and regular updates, the municipality risks compromised data security, service interruptions, and potential liability.

15. Land Improvements

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 a variety of departments with the shared goal of keeping assets in a state of good repair, through ongoing maintenance, repair, and replacement.

15.1 Inventory & Valuation

Table 25 includes the quantity, replacement cost method and total replacement cost of each asset segment in The Town's Land Improvements inventory.

Table 37: Detailed Asset Inventory: Land Improvements

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
General Government	8	Assets	$1,486,458	CPI
Health Services	6	Assets	$294,995	CPI
Parks and Recreation & Cultural Services	155	Assets	$14,866,784	CPI
Public Works	7	Assets	$141,894	CPI
Transportation Services	48	Assets	$5,720,324	CPI
Total			**$22,510,455**	

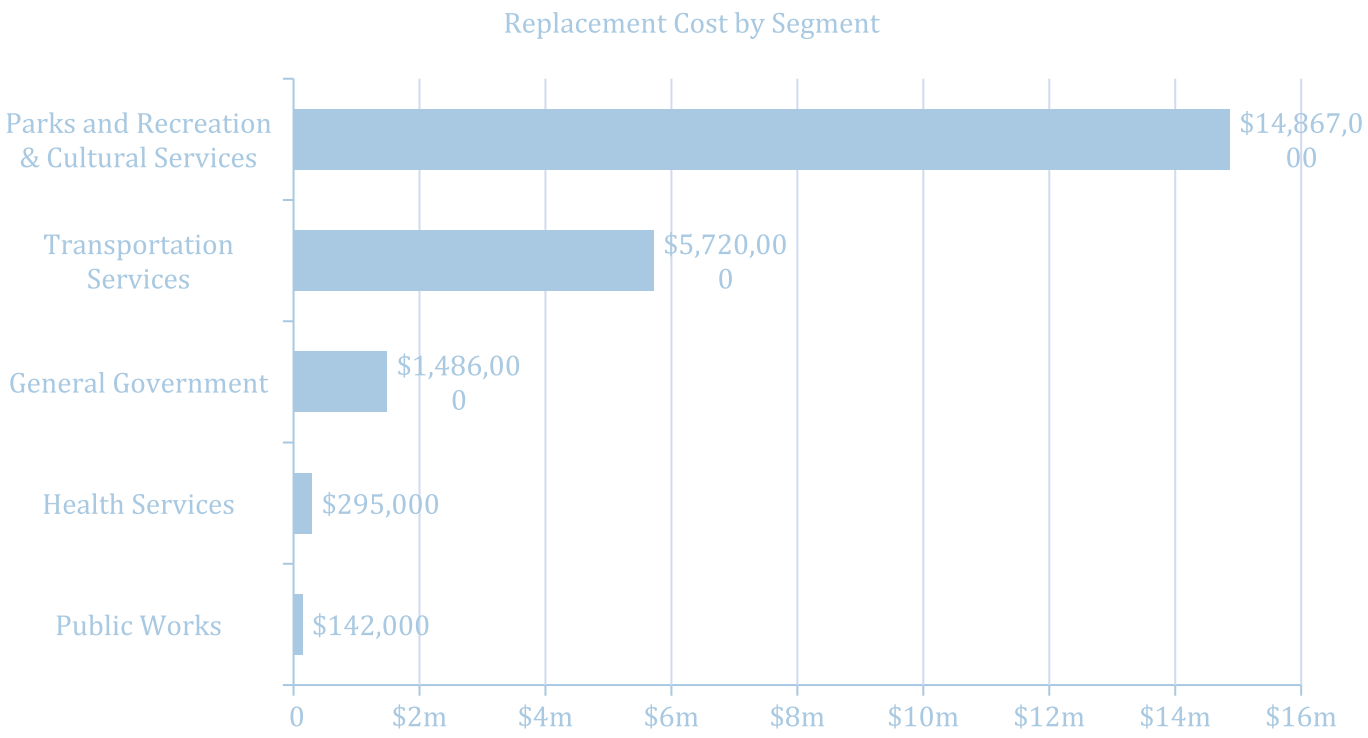


Figure 68: Portfolio Valuation: Land Improvements

15.2 Asset Condition

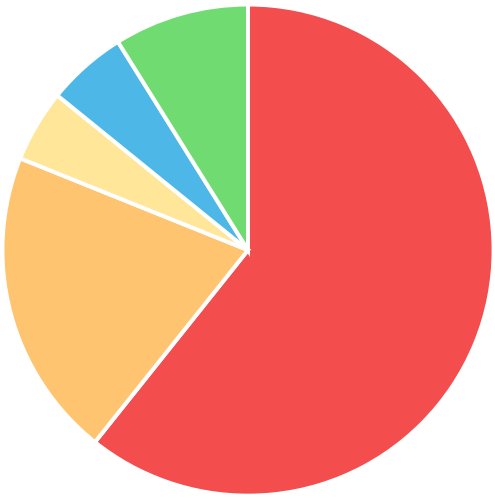


Figure 69: Asset Condition: Land Improvements Overall

Figure 69 summarizes the replacement cost-weighted condition of The Town's portfolio. Based primarily on age-based data, 19% of assets are in fair or better condition, with the remaining 81% 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 vehicles by each department. All public works assets, the majority of transportation and general government assets are in poor or worse condition.

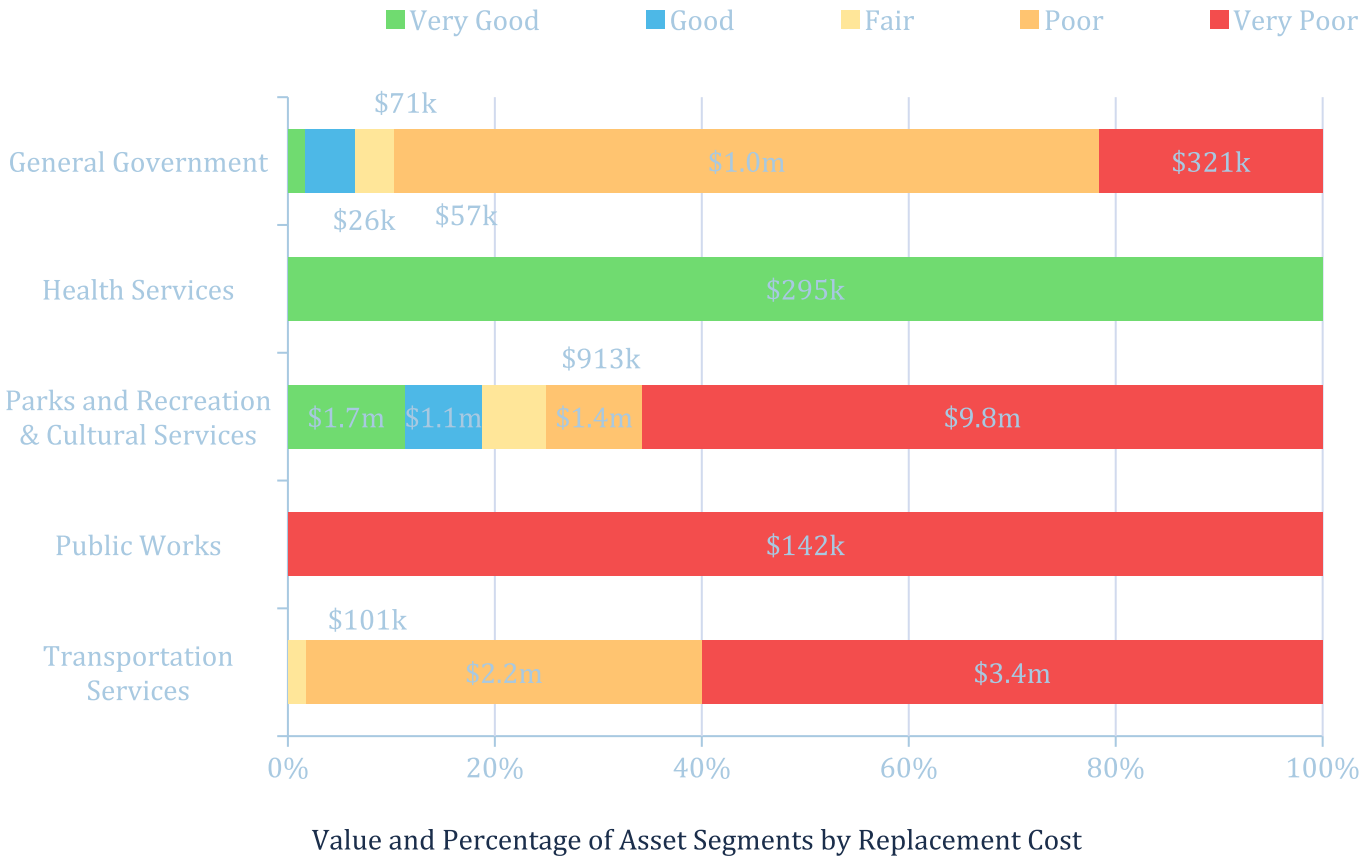


Figure 70: Asset Condition: Land Improvements

15.3 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.

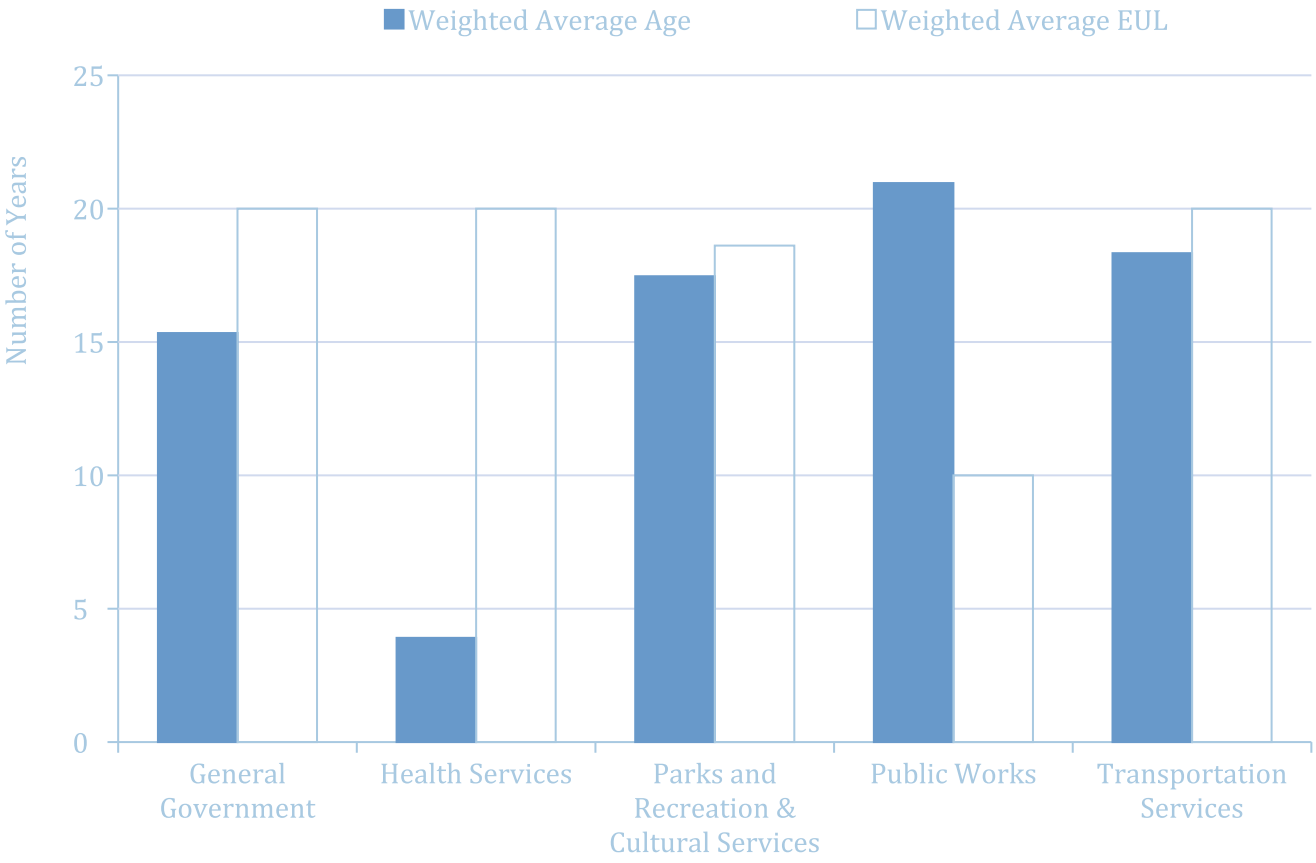


Figure 71: Estimated Useful Life vs. Asset Age: Land Improvements

Age analysis reveals that, on average, most assets have surpassed or are nearing the end of their expected life. The exception to the observation are health services assets.

15.4 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 Town's current lifecycle management strategy.

Table 38: Lifecycle Management Strategy: Land Improvements

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation & Replacement	• All maintenance, rehabilitation and replacement activities for the land improvement assets are governed by the Parks Maintenance and Operations Plan and the Standard Operating Procedures.

15.5 Forecasted Long-Term Replacement Needs

Figure 51 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for The Town's outdoor recreation & land improvements portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, The Town's primary asset management system and asset register. The Town's average annual requirements (red dotted line) total $1.2 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 peak in 2025-2029 forecasted at $10.7 million, as assets are reaching 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: Land Improvements 2025-2044

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

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

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

1 - 4 Very Low $1,380,042 (6%)	5 - 7 Low $1,105,174 (5%)	8 - 9 Moderate $1,494,780 (7%)	10 - 14 High $1,034,010 (5%)	15 - 25 Very High $17,496,449 (78%)

Figure 73: Risk Matrix: Land Improvements

15.7 Levels of Service

15.7.1 Community Levels of Service

Table 39: Community Levels of Service: Land Improvements

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on land improvement assets	A Parks Operation Plan identifies all assets overseen by the Parks Division. Standard operating procedures are developed to maintain these assets. The location of these assets is known and identified in the park's operations documents. A full inventory, including components of assets, is included in the park operations plan. There is also an inventory of cemetery assets. Legislation requirements (CSA) also help determine if asset should be replaced if they do not meet the requirements. Additionally, AODA needs are identified.
Sustainable	Description of the current	Staff are working towards including a

	condition of machinery & equipment and the plans that are in place to maintain or improve the provided level of service	condition score for all land improvement assets (such as park benches, lighting) to have an accurate idea of the condition of each asset.

15.7.2 Technical Levels of Service

Table 40: Technical Levels of Service: Land Improvements

Service Attribute	Key Performance Indicator	Current LOS (2025)
Scope	% of land improvement assets in good or very good condition	14%
	% of land improvement assets with accessible parking	81%
	Average Risk Rating associated to land improvements	16.96 – Very High
Performance	Capital reinvestment rate	1.49%

15.7.3 Proposed Levels of Service

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

15.7.3.1. Stakeholder Engagement Analysis

Public Engagement Results

- Land improvements such as parks, trails, sports fields, and cemeteries were valued by the community, with 72% of residents rating them as Important or Very Important to quality of life.
- Satisfaction levels were moderate, with 42% satisfied, 40% neutral, and 18% dissatisfied. Comments emphasized the importance of maintaining existing parks and green spaces, while some residents expressed interest in expanded recreational amenities.
- Willingness to pay for upgrades was limited. About one in five respondents supported higher funding, while most remained neutral. Feedback indicated that while residents value these assets, many feel upgrades should be balanced with core infrastructure priorities.

Staff Engagement Results

Staff reported that land improvements such as parks, trails, and cemeteries are generally well-maintained, with cemetery upkeep noted as a particular strength. Accessibility across most sites was considered adequate, and routine maintenance like grass cutting and small repairs was described as consistent. However, limited resources and aging amenities were identified as ongoing challenges, restricting the ability to expand services or complete major upgrades.

Condition data reflects a mixed portfolio, with many assets in fair condition but a notable share rated poor or very poor. Capital reinvestment remains below target, reinforcing reliance on reactive work. Staff recommended a more proactive replacement plan for aging amenities, expanded accessibility features, and greater resources to sustain service levels as demand for recreational spaces continues to grow.

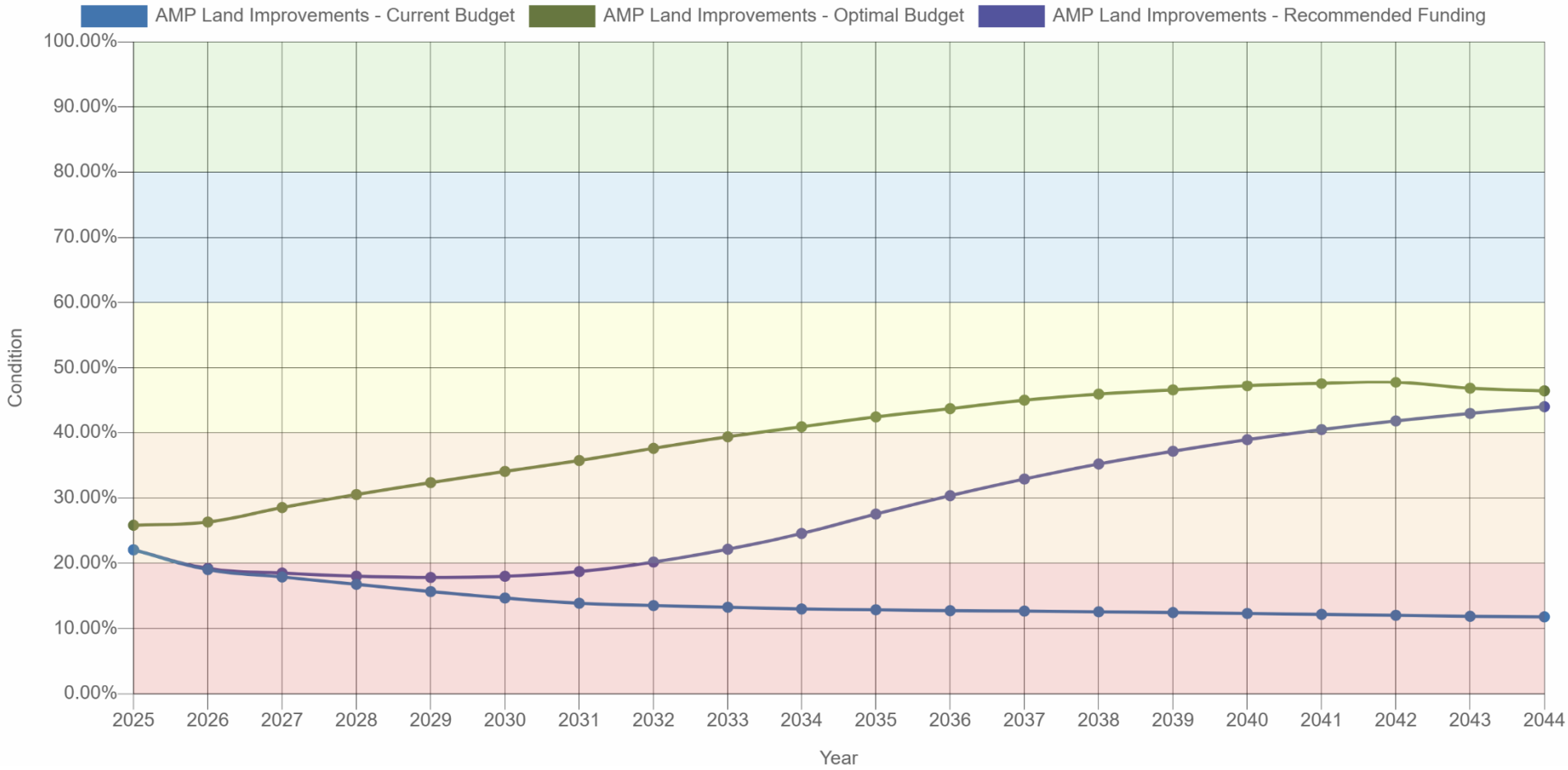


Figure 74: PLOS: Outdoor Recreation & Land Improvements - Current vs Optimal Budget vs Recommended Budget – 20-Year Forecast

15.7.3.2. Proposed Levels of Service Scenarios

Figure 74 compares three funding models: Optimal, Current, and Recommended.

- **Current Funding**: The Current Funding scenario shows a steady decline in condition, dropping from about 22% in 2025 to near 12% by the early 2030s, where it remains for the rest of the forecast period. This outcome reflects ongoing underfunding and would result in assets remaining in very poor condition, with limited capacity for upgrades or replacements.
- **Optimal Budget:** This Optimal Budget scenario demonstrates a proactive strategy, with conditions steadily improving from 25% in 2025 to nearly 50% by 2044. This approach would allow the municipality to gradually rehabilitate and replace aging amenities, ensuring a higher level of service and more sustainable recreational spaces.
- **Recommended Funding:** This Recommended Budget scenario provides a gradual improvement pathway. While conditions remain low in the near term, beginning around 18% in 2025, they rise steadily after 2030, reaching over 40% by 2044. This approach balances affordability with the need to address aging land improvement assets, ensuring visible progress while avoiding large spikes in investment.

15.7.3.3. Recommendations

Secure Sustainable Funding

Funding for land improvements remains below lifecycle needs, with conditions projected to stay in the poor range under the current budget. A sustainable funding approach should prioritize gradual increases to support the renewal of aging parks, trails, and recreational amenities.

Enhance Community Value

Public engagement confirmed that residents value parks and green spaces, though upgrades are not viewed as the highest priority compared to core infrastructure. Where feasible, expanding recreational capacity and modernizing amenities can improve community satisfaction and support quality of life.

Proactive Asset Management

Staff noted that many playgrounds and recreational features are reaching the end of their useful life. A proactive replacement plan, supported by condition-based inspections, will help extend service life and reduce reliance on reactive repairs.

Improve Safety and Accessibility

Investments should prioritize safety upgrades and accessibility improvements at community parks, trails, and cemeteries. Enhancing features such as pathways, seating, and play structures will ensure facilities remain safe and inclusive for all residents.

15.7.3.4. Risk for Not Maintaining Acceptable LOS

Financial Risk

Underfunding land improvements will increase reliance on reactive maintenance and shorten the useful life of parks, trails, and recreational features. Deferred investment leads to higher long-term rehabilitation costs as amenities fall into poor or unusable condition.

Operational and Safety Risk

Aging playgrounds, trails, and park infrastructure can pose safety risks to users if not proactively maintained. Accessibility features may also fall behind modern standards, limiting inclusivity and reducing the overall functionality of these community spaces.

Community Satisfaction Risk

Residents value parks, trails, and green spaces as contributors to quality of life. Public engagement showed moderate satisfaction, but further decline in condition would reduce community enjoyment, erode confidence in municipal stewardship, and negatively affect the town’s attractiveness.

Strategies

16. 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 Town 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.

16.1 Gravenhurst Official Plan Official Plan (2016)

The Town of Gravenhurst adopted an Official Plan to develop a foundation for decisions making, and to establish the pattern which development within the town should follow from the years 2016 to 2036. The policies included in the Official Plan describe development policies and the plans of the Town, and to outline a future development plan for the Town.

The Official Plan has been approved by the Town as of December 20th, 2016.

The Town of Gravenhurst is structured such that it contains an Urban Centre, Five Rural Settlement Areas, a Waterfront Area, and a Rural Area. The goal of the Official Plan is to support the viability of this community structure by promoting the sustainable, efficient use of land in these areas. The Town anticipates that many seasonal residents will seek to retire in the Town. This changing demographic will require the town to provide a wide range of housing types and services in the urban area.

The majority of new permanent residential and employment growth it to be directed to the fully serviced Urban Centre, with a target of 80% of new residential dwellings allocated to the fully serviced Urban Centre, and 20% to Rural and Waterfront areas, which rely on private water and sewer services. Development in identified Rural Settlement Areas is intended to be through infilling and minor expansions of existing residential areas within the community. Continued growth in the season/second home market in the Waterfront Areas is also anticipated.

To accommodate anticipated employment growth and accommodate up to 1,690 new employees, sufficient land is to be designated for employment uses and provide a variety of opportunities and options for employment uses throughout the Town.

16.2 The District Municipality of Muskoka Growth Strategy (2013)

The District of Muskoka has developed a Growth Strategy which focuses on population, housing and employment forecasts for the district and it’s six

Municipalities, including the Town of Gravenhurst. The intent of this data is to guide decision making and policy development related to planning and growth management.

A population increase of approximately 4,600 people is expected in the Town by 2041, and the Town's seasonal population is expected to grow by approximately 1,700. The employment growth in the Town is anticipated to be 1,690 jobs by 2041.

The following table outlines the population and employment forecasts allocated to the Town of Gravenhurst.

Table 41: Growth Projections: Gravenhurst & Surrounding Communities

	2011	2041	Growth 2011-2014
Permanent Population Summary	12,700	17,300	4,600
Seasonal Population Summary	11,900	13,600	1,700
Employment Summary	4,300	5,990	1,690

17. 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 Town of Gravenhurst 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. Annual grants

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

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

17.1 Annual Requirements & Capital Funding

17.1.1 Annual Requirements

The annual requirements represent the amount The Town 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 Town must allocate approximately $19.1 million annually to address capital requirements for the assets included in this AMP.

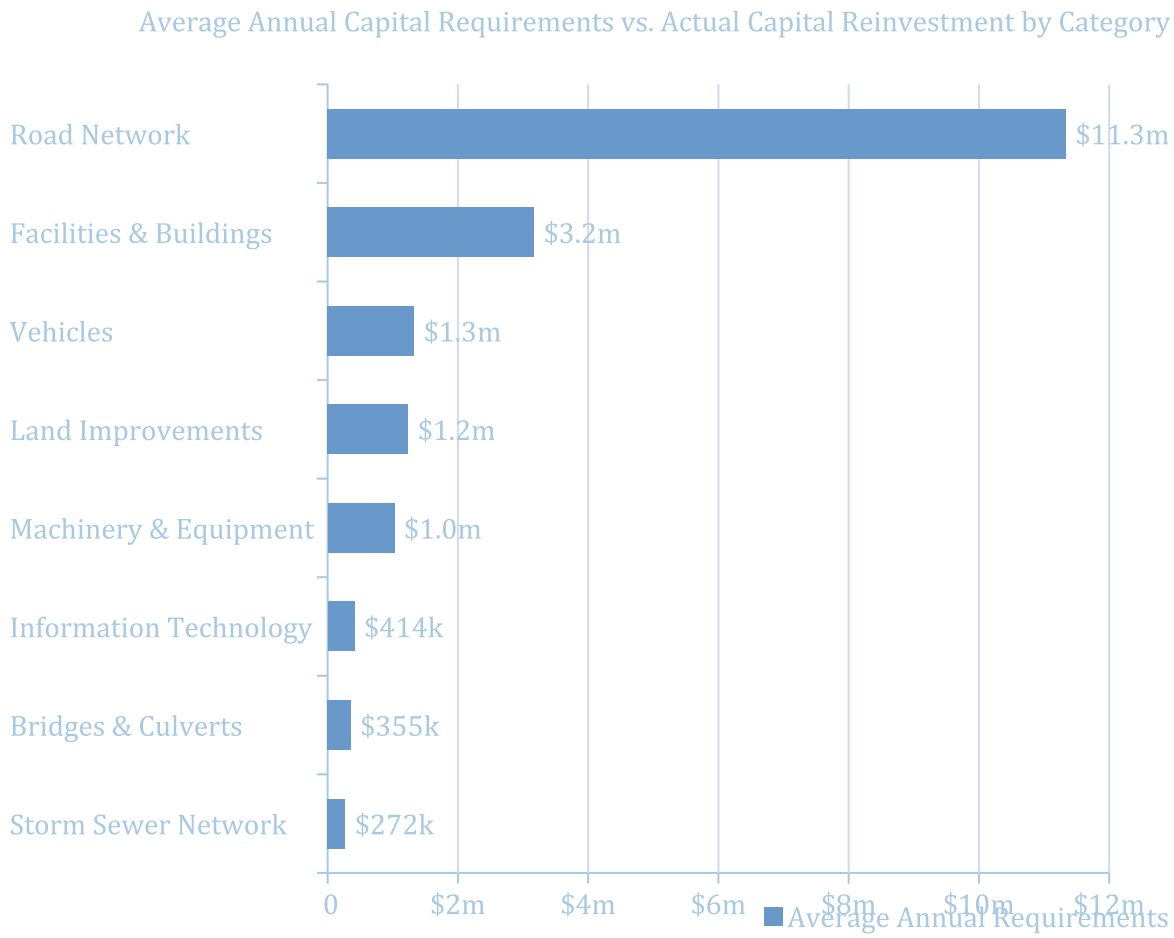


Figure 75: Annual Capital Funding Requirements by Asset Category

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 Town'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 42: Lifecycle Strategies Annual Savings

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	$19,514,968	$11,336,093	$8,178,875

The implementation of a proactive lifecycle strategy for roads leads to potential annual cost avoidance of $8.2 million for the road network. This represents an overall reduction of 42% in terms of annual requirements for the road corridor. As the lifecycle strategy scenario represents the lowest cost option available to The Town, we have used these annual requirements in the development of the financial strategy.

17.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, The Town is committing approximately $9.1 million towards capital projects per year. Given the annual capital requirement of $19.1 million, there is currently a funding gap of $10 million annually.

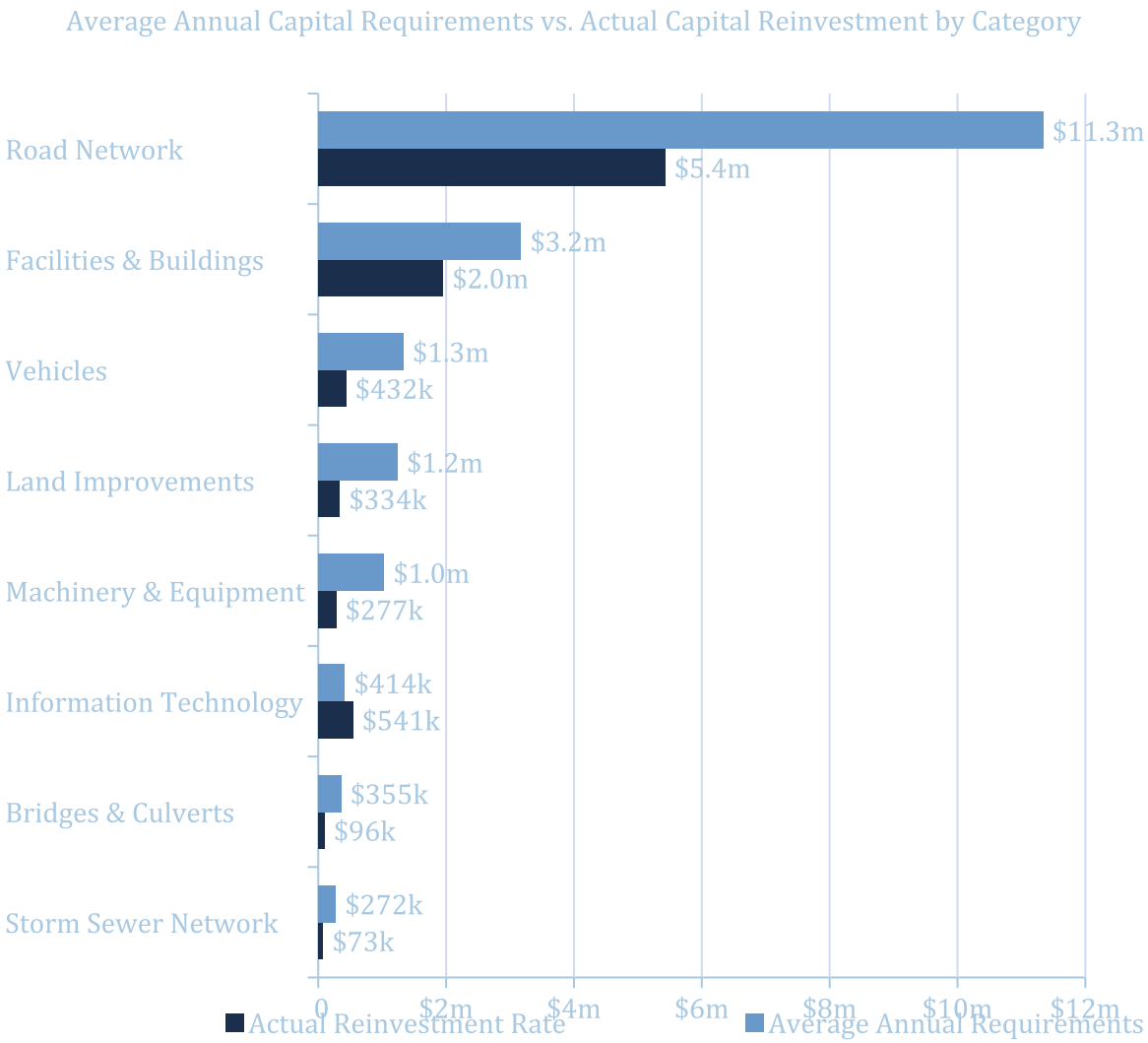


Figure 76: Annual Requirements vs. Capital Funding Available

17.2 Funding Objective

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

- **Tax Funded Assets:** Road Network, Bridges & Culverts, Storm Sewer Network, Facilities & Buildings, Vehicles, Machinery & Equipment, Information Technology, 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.

17.3 Financial Profile: Tax Funded Assets

17.3.1 Current Funding Position

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

Table 43: Annual Available Funding for Tax Funded Assets

Asset Category	Avg. Annual Requirement	Annual Funding Available					
		Taxes	CCBF	OCIF	CRIF Repayment	Total Available	Deficit
Bridges & Culverts	$354,608	-	-	-	$95,733	$95,733	$258,874
Buildings & Facilities	$3,170,379	$1,500,000	-	-	$450,951	$1,950,951	$1,219,428
Information Technology	$414,021	$540,750	-	-	-	$540,750	$-126,729
Land Improvements	$1,238,589	-	-	-	$334,381	$334,381	$904,208
Machinery & Equipment	$1,027,053	-	-	-	$277,273	$277,273	$749,780
Road Network	$11,336,093	$2,194,000	$430,893	$612,930	$2,186,285	$5,424,109	$5,911,984
Storm Sewer Network	$271,699	-	-	-	$73,350	$73,350	$198,349
Vehicles	$1,329,493	$100,000	-	-	$331,925	$431,925	$897,567
Total	**$19,141,935**	**$4,334,750**	**$430,893**	**$612,930**	**$3,749,900**	**$9,128,473**	**$10,013,462**

The average annual investment requirement for the above categories is $19.1 million. The annual revenue currently allocated to these assets for capital purposes is $9.1 million, leaving an annual deficit of just over $10 million. Put differently, these infrastructure categories are currently funded at 47.7% of their long-term requirements.

17.3.2

17.3.3 Full Funding Requirements

In 2025, the Town of Gravenhurst budgeted annual tax revenues of approximately $4.3 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 44: Tax Increase Requirements for Full Funding

Asset Category	Tax Change Required for Full Funding
Bridges & Culverts	1.3%
Buildings & Facilities	5.9%
Information Technology	-0.6%
Machinery & Equipment	3.6%
Road Network	28.6%
Vehicles	4.3%
Total	**43.1%**

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

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	$10,013,462	$10,013,462	$10,013,462	$10,013,462
Change in Debt Costs	$0	$0	$0	$0
Resulting Infrastructure Deficit:	**$10,013,462**	**$10,013,462**	**$10,013,462**	**$10,013,462**
Tax Increase Required	48.4%	48.4%	48.4%	48.4%
Annually:	**8.3%**	**4.1%**	**2.7%**	**2.0%**

Table 46: Tax Increase Options 5-20 Years (with debt reallocation)

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	$10,013,462	$10,013,462	$10,013,462	$10,013,462
Change in Debt Costs	$0	$0	$-179,949	$-542,850
Resulting Infrastructure Deficit:	**$10,013,462**	**$10,013,462**	**$9,833,512**	**$9,470,612**
Tax Increase Required	48.4%	48.4%	47.6%	45.8%
Annually:	**8.3%**	**4.1%**	**2.7%**	**2.0%**

17.3.4 Financial Strategy Recommendations

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

a) increasing tax revenues by 4.1% 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 Town'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.

17.4 Use of Debt

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

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

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

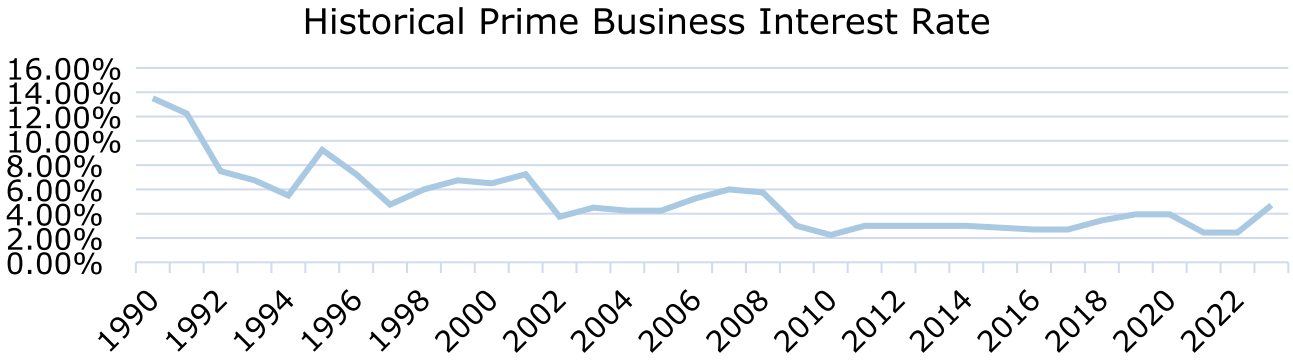


Figure 77 Historical Prime Rate

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 Gravenhurst has historically used debt for investing in the asset categories as listed. As of year-end 2024, there is currently $6.2 million of external debt outstanding for the assets covered by this AMP.

Table 47 Use of Debt 2020-2024

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2020	2021	2022	2023	2024
Bridges & Culverts	-	-	-	-	-	-
Buildings & Facilities	$6,211,494	-	-	-	-	-
Information Technology	-	-	-	-	-	-
Machinery & Equipment	-	-	-	-	-	-
Road Network	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-
Bridges & Culverts	-	-	-	-	-	-
Total Tax funded	**$6,211,494**	**-**	**-**	**-**	**-**	**-**

Asset Category	Principal & Interest Payments in the Next Ten Years							Year 15	Year 20
	2025	2026	2027	2028	2029	2030	2035	2040	2045
Bridges & Culverts	-	-	-	-	-	-	-	-	-
Buildings & Facilities	$542,850	$542,850	$542,850	$542,850	$542,849	$542,850	$542,850	$362,900	-
Information Technology	-	-	-	-	-	-	-	-	-
Machinery & Equipment	-	-	-	-	-	-	-	-	-
Road Network	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-
Bridges & Culverts	-	-	-	-	-	-	-	-	-
Total Tax Funded	$542,850	$542,850	$542,850	$542,850	$542,849	$542,850	$542,850	$362,900	**-**
Total	**$542,850**	**$542,850**	**$542,850**	**$542,850**	**$542,849**	**$542,850**	**$542,850**	**$362,900**	-

Table 48 Gravenhurst's Principal and Interest Payments

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

17.5 Use of Reserves

17.5.1 Available Reserves

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

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

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

Table 49: Gravenhurst's Reserve Balances

Asset Category	Balance on December 31, 2024
Category 1	
Category 2	
Category 3	
Category 4	
Category 5	
Category 6	
Category 7	
Total	

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

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

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Gravenhurst's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves

and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

17.5.2 Recommendation

To achieve the proposed levels of service goals outlined in this Asset Management Plan, The Town 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 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 Town 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 Town will face continued infrastructure deterioration, increasing maintenance costs, and higher long-term financial risks. Proactive funding strategies will ensure that The Town's tax-funded assets can meet service level expectations while maintaining fiscal responsibility.

18. Recommendations & Key Considerations

This section outlines key financial and asset management recommendations to ensure the Town of Gravenhurst 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.

18.1 Financial Sustainability & Long-Term Funding Strategy

To achieve the proposed levels of service goals, The Town 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., 4.1% 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.

18.2 Growth-Related Financial Planning & Asset Rationalization

As Gravenhurst's infrastructure portfolio expands, The Town 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 Town 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 Town'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 Town risks accumulating infrastructure that cannot be adequately maintained without substantial future tax increases.

18.3 Improving Asset Data for Better Decision-Making

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

- 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 Town's growing asset base.

18.4 Conclusion

Gravenhurst'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 Town must commit to a phased financial strategy, integrate growth considerations, and optimize asset management practices.

By implementing these recommendations, The Town 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 4.1% annual tax increase for tax-funded assets. 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 Town's capital planning.

Road Network

Table 50: System Generated 10-Year Capital Replacement Forecast: Road Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Curbs	-	-	-	-	-	-	-	-	-	-	-
Gravel/Unpaved	-	$681k	$438k	$1.0m	$731k	$431k	$1.0m	$731k	$431k	$1.0m	$724k
HCB	-	$554k	$3.6m	$326k	$3.2m	$6.0m	$2.6m	$1.9m	$1.4m	$2.2m	$1.6m
LCB	$619k	$10.8m	$17.2m	$16.6m	$256k	$615k	$1.2m	$2.9m	$4.1m	$644k	$508k
Sidewalks	$123k	-	-	-	-	-	-	$295k	-	-	-
Streetlights	$3.2m	-	$843k	-	-	-	$867k	-	$882k	-	-
Total	**$3.9m**	**$12.1m**	**$22.0m**	**$17.9m**	**$4.2m**	**$7.1m**	**$5.7m**	**$5.8m**	**$6.8m**	**$3.9m**	**$2.8m**

Bridges & Culverts

Table 51: System Generated 10-Year Capital Replacement Forecast: Bridges & Culverts

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	-	-	-	-	-	-	-	-	-	-	-
Culverts	-	-	-	-	-	$577k	-	-	-	-	-
Total	**-**	-	-	-	-	**$577k**	-	-	-	-	-

Storm Sewer Network

Table 52: System Generated 10-Year Capital Replacement Forecast: Storm Sewer Network

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basin	-	-	-	-	$79k	-	-	-	-	$379k	-
Grit Separators	-	-	-	-	-	-	-	-	-	-	-
Manhole	-	-	-	-	$47k	-	-	-	-	-	-
Storm Ponds	-	-	-	-	-	-	-	-	-	-	-
Storm Sewer	$21k	$21k	-	-	-	-	-	-	-	-	-
Storm Structure	-	-	-	-	-	-	-	-	-	$32k	-
Subdrains	-	-	-	-	-	-	-	-	-	-	-
Total	**$21k**	$21k	-	-	$126k	-	-	-	-	$411k	-

Facilities & Buildings

Table 53: System Generated 10-Year Capital Replacement Forecast: Facilities & Buildings

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
General Government	$3.1m	$4k	$158k	-	-	$391k	$7k	$626k	$518k	$199k	$2.3m
Health Services	-	-	-	-	-	-	-	-	-	-	-
Protection Services	$3.5m	$1.0m	$535k	$10k	$435k	-	$1.5m	$82k	$76k	-	-
Recreation & Cultural Services	$14.6m	$915k	$1.3m	$2.1m	$1.7m	$1.7m	$932k	$1.9m	$2.1m	$2.7m	$681k
Transportation Services	$622k	-	$80k	$29k	$139k	$287k	-	$9k	$71k	-	$6k
Total	**$21.9m**	**$2.0m**	**$2.0m**	**$2.1m**	**$2.3m**	**$2.4m**	**$2.5m**	**$2.6m**	**$2.7m**	**$2.9m**	**$3.0m**

Vehicles

Table 54: System Generated 10-Year Capital Replacement Forecast: Vehicles

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Boats	-	-	-	-	-	-	-	-	-	-	-
Fire & Emergency Services	$1.6m	-	-	$441k	$567k	$567k	-	-	$630k	$992k	-
Heavy Vehicles	$2.0m	-	-	-	-	-	$315k	$378k	$315k	-	$1.0m
Light Vehicles	$1.1m	$429k	$486k	$92k	-	$99k	$429k	$441k	-	$46k	$181k
Tractors	$174k	-	-	-	-	-	-	-	-	-	-
Trailers	$170k	-	-	$6k	$38k	$13k	$13k	$29k	-	$26k	-
Total	**$5.1m**	**$429k**	**$486k**	**$539k**	**$605k**	**$679k**	**$756k**	**$849k**	**$946k**	**$1.1m**	**$1.2m**

Machinery & Equipment

Table 55: System Generated 10-Year Capital Replacement Forecast: Machinery & Equipment

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Communication Equipment	$345k	$13k	$182k	$45k	-	-	-	-	-	-	-
Docks and Launches	$274k	-	-	$162k	-	-	$34k	-	-	-	$364k
Fire & Emergency Services	$177k	-	-	-	-	-	-	-	-	$2k	$2k
Indoor Furniture & Equipment	$1.9m	$45k	$97k	$14k	$246k	$106k	$473k	$256k	$107k	$78k	$140k
Library Services	$50k	-	-	-	-	-	$3k	$5k	-	$140k	$175k
Major Equipment	$688k	$212k	-	$51k	$161k	$331k	-	$347k	$582k	$231k	-
Mechanical & Electrical Equipment	$149k	-	$16k	$9k	$4k	$23k	$18k	-	$5k	$81k	$160k
Minor Equipment	$92k	$7k	-	-	-	$7k	$6k	-	-	-	-
Outdoor Furniture & Fixtures	$1.4m	-	-	$43k	-	-	-	-	-	-	$44k
Radio Services	$29k	-	$20k	$7k	-	-	-	-	-	$196k	-
Uniforms and Gears	-	-	-	$30k	-	-	-	-	-	$63k	$16k
Total	**$5.0m**										

		$277k	**$316k**	**$360k**	**$411k**	**$468k**	**$534k**	**$608k**	**$693k**	**$791k**	**$901k**

Information Technology

Table 56: System Generated 10-Year Capital Replacement Forecast: Information Technology

Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hardware	$117k	$159k	$363k	$101k	$159k	$363k	$101k	$159k	$363k	$101k	$159k
Software	$265k	$369k	-	$186k	$369k	-	$186k	$369k	-	$186k	$369k
Total	**$382k**	**$528k**	**$363k**	**$287k**	**$528k**	**$363k**	**$287k**	**$528k**	**$363k**	**$287k**	**$528k**

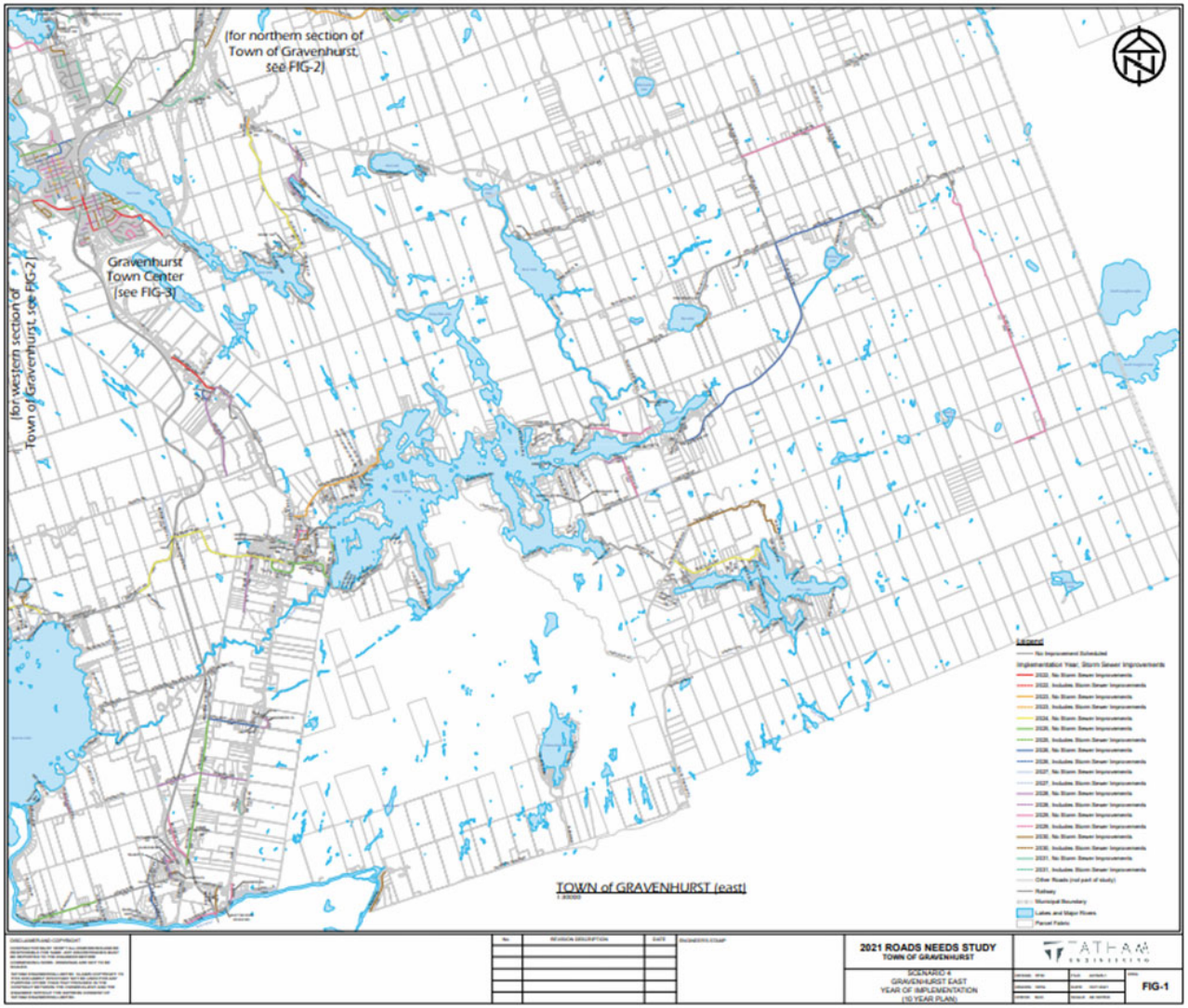
Land Improvements

Table 57: System Generated 10-Year Capital Replacement Forecast: Land Improvements

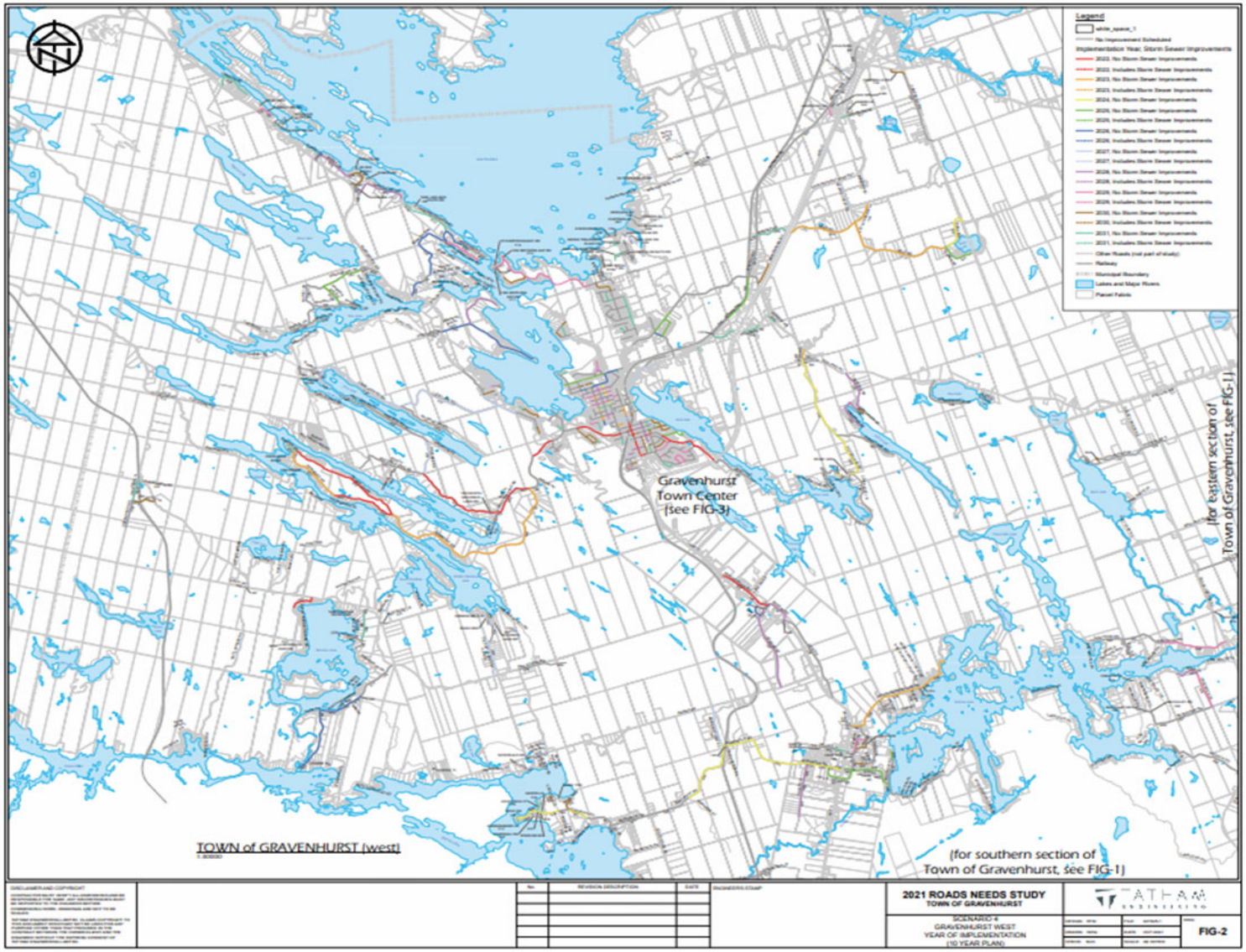
Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
General Government	$321k	-	-	-	$14k	-	-	-	-	-	-
Health Services	-	-	-	-	-	-	-	-	-	-	-
Parks and Recreation & Cultural Services	$2.8m	$298k	$345k	$385k	$475k	$565k	$641k	$706k	$819k	$934k	$680k
Public Works	$142k	$33k	$34k	$41k	-	-	-	-	-	-	-
Transportation Services	$533k	$3k	-	$8k	$8k	-	-	$30k	$18k	$16k	$408k
Total	**$3.8m**	**$334k**	**$379k**	**$434k**	**$498k**	**$565k**	**$641k**	**$736k**	**$836k**	**$950k**	**$1.1m**

Appendix B – Level of Service Maps & Photos

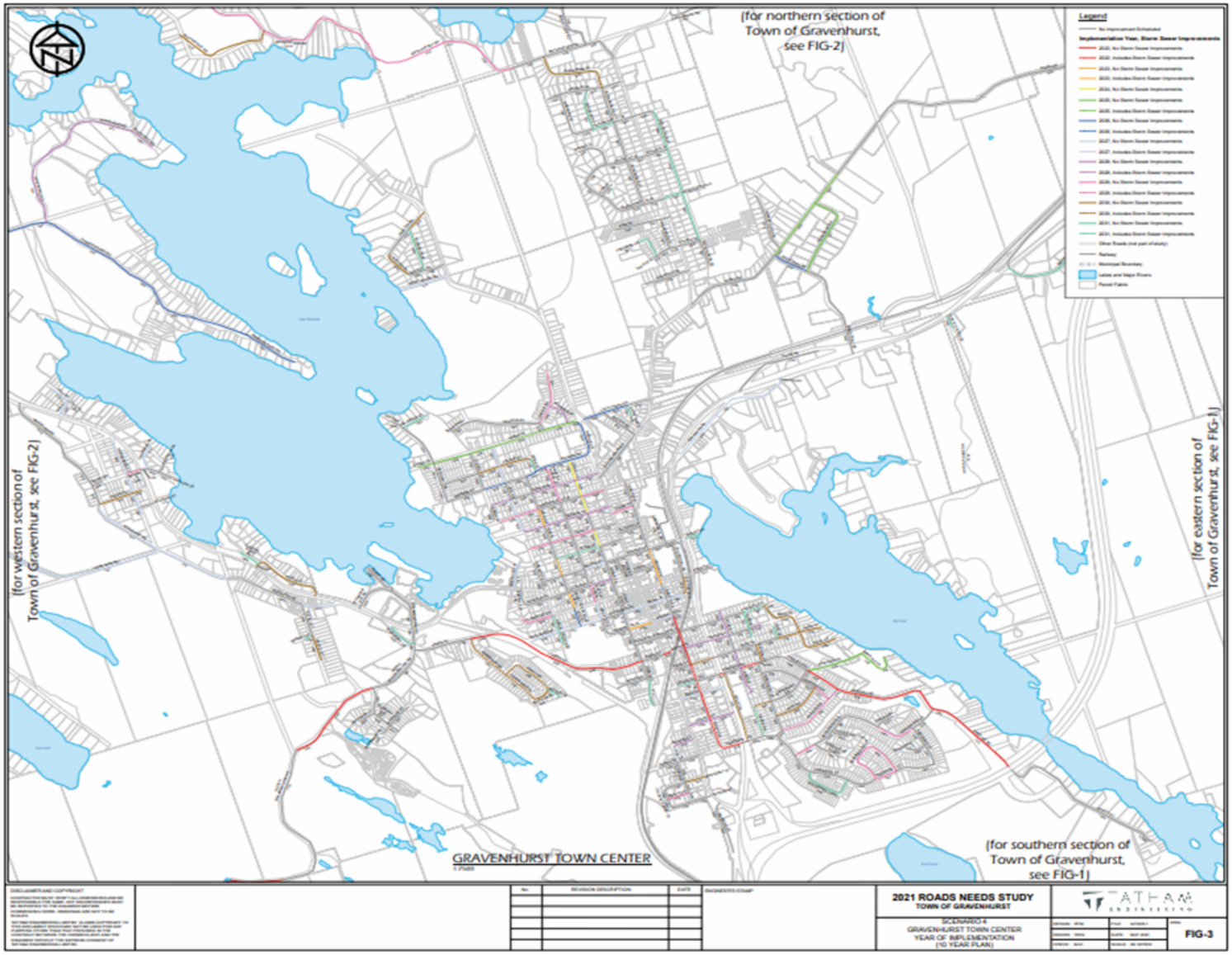
Road Network – Gravenhurst East


(for northern section of Town of Gravenhurst, see FIG-2)
Gravenhurst Town Center (see FIG-3)
(for western section of Town of Gravenhurst, see FIG-2)
TOWN of GRAVENHURST (east)
2021 ROADS NEEDS STUDY
TOWN OF GRAVENHURST
SCENARIO 4
GRAVENHURST EAST
YEAR OF IMPLEMENTATION
(10 YEAR PLAN)
FIG-1

Road Network – Gravenhurst West



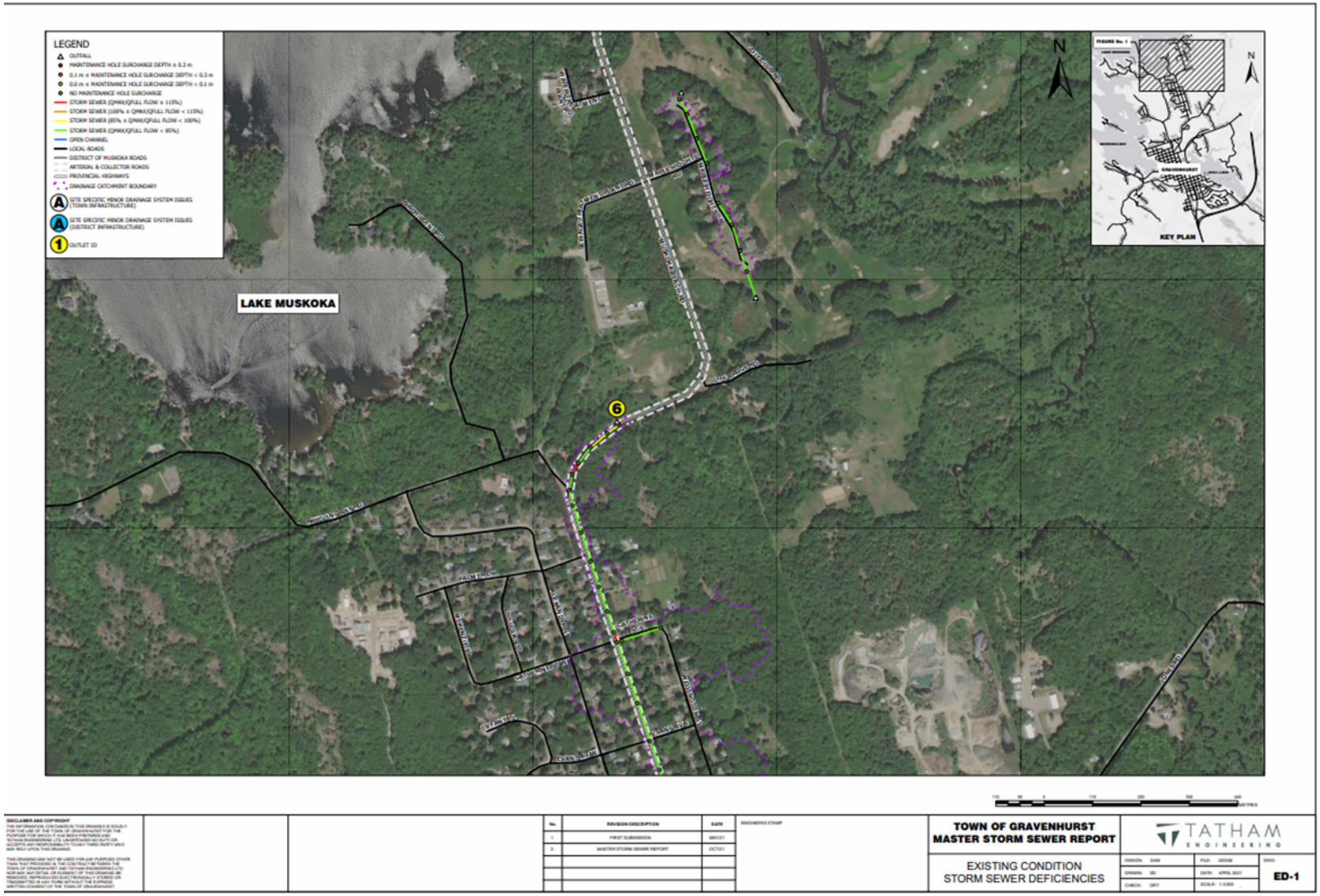
Road Network – Gravenhurst Town Center



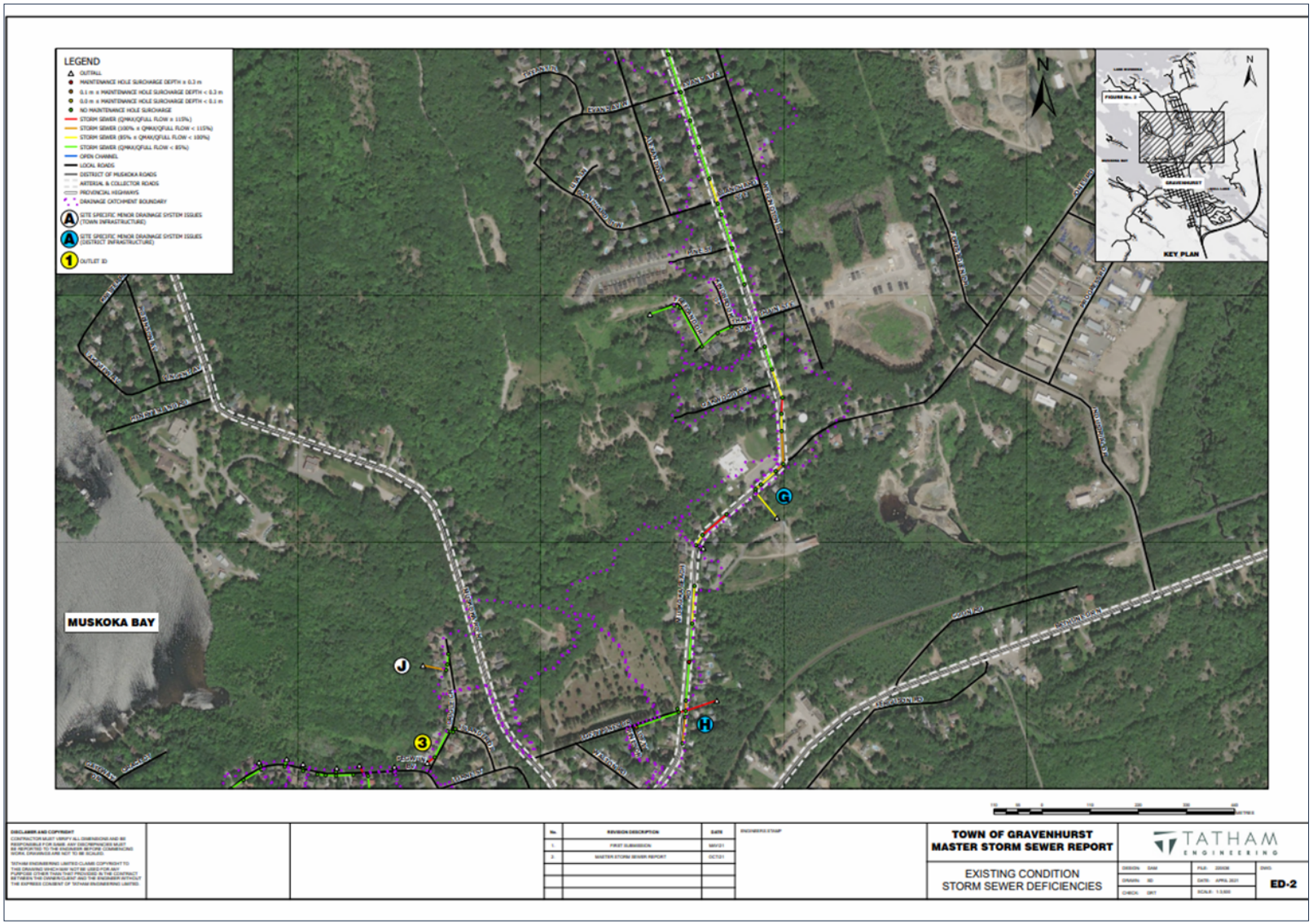
Bridges & Culverts – Condition Images

Images of Bridge in Very Good Condition Robinson Bridge Inspected: August 7th, 2021	**Images of Culvert in Very Good Condition** Sniders Bay Culvert Inspected: August 7th, 2021
	

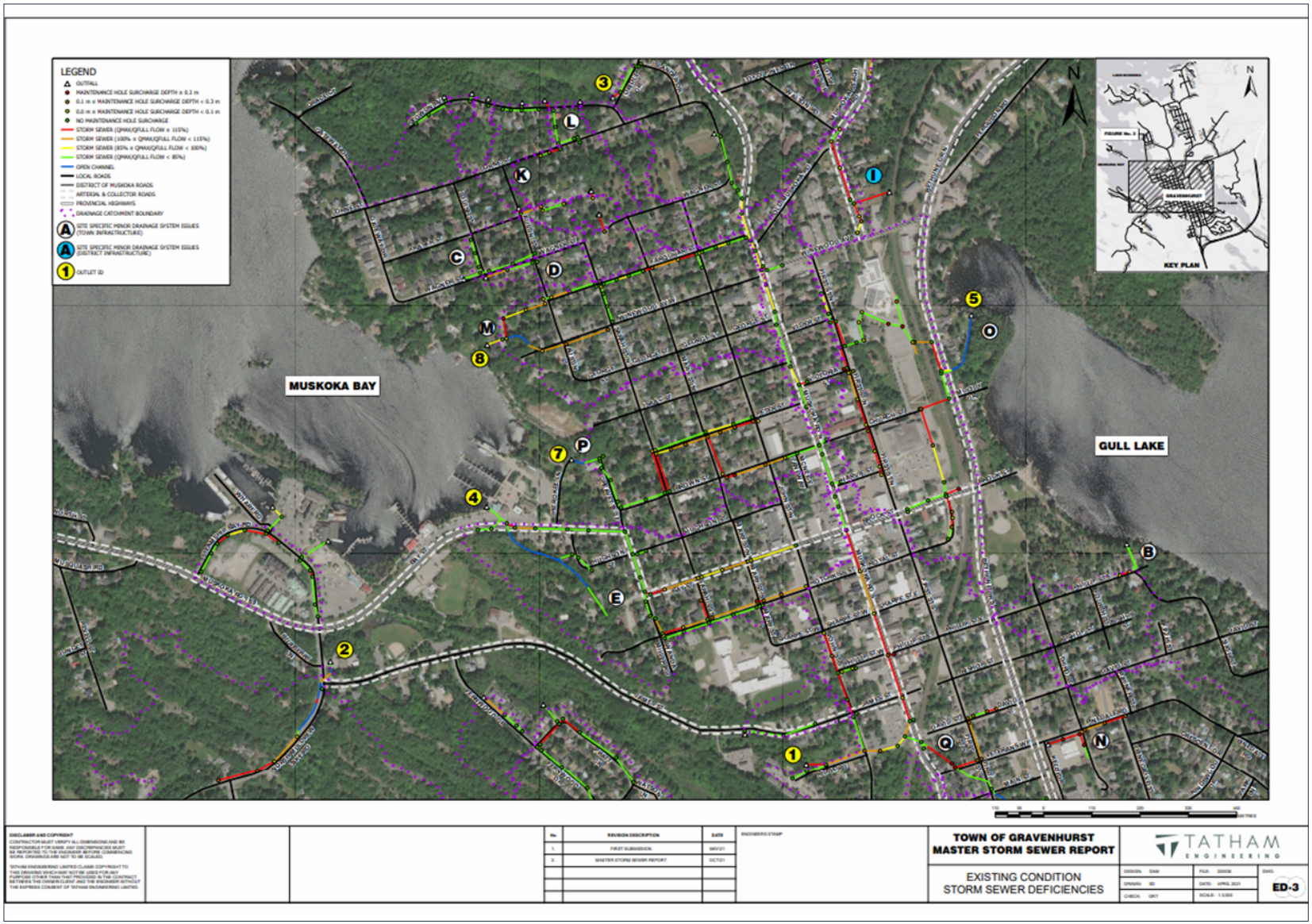
Storm Sewer Network Map – Part 1


LEGEND
OUTFALL
MAINTENANCE HOLE SURCHARGE DEPTH ≥ 0.3 m
0.1 m ≤ MAINTENANCE HOLE SURCHARGE DEPTH < 0.3 m
0.0 m ≤ MAINTENANCE HOLE SURCHARGE DEPTH < 0.1 m
NO MAINTENANCE HOLE SURCHARGE
STORM SEWER (QMAX/QFULL FLOW ≥ 115%)
STORM SEWER (100% ≤ QMAX/QFULL FLOW < 115%)
STORM SEWER (85% ≤ QMAX/QFULL FLOW < 100%)
STORM SEWER (QMAX/QFULL FLOW < 85%)
OPEN CHANNEL
LOCAL ROADS
DISTRICT OF MUSKOKA ROADS
ARTERIAL & COLLECTOR ROADS
PROVINCIAL HIGHWAYS
DRAINAGE CATCHMENT BOUNDARY
SITE SPECIFIC MINOR DRAINAGE SYSTEM ISSUES (TOWN INFRASTRUCTURE)
SITE SPECIFIC MINOR DRAINAGE SYSTEM ISSUES (DISTRICT INFRASTRUCTURE)
OUTLET ID
LAKE MUSKOKA
KEY PLAN
N
TOWN OF GRAVENHURST
MASTER STORM SEWER REPORT
EXISTING CONDITION
STORM SEWER DEFICIENCIES
TATHAM ENGINEERING
ED-1

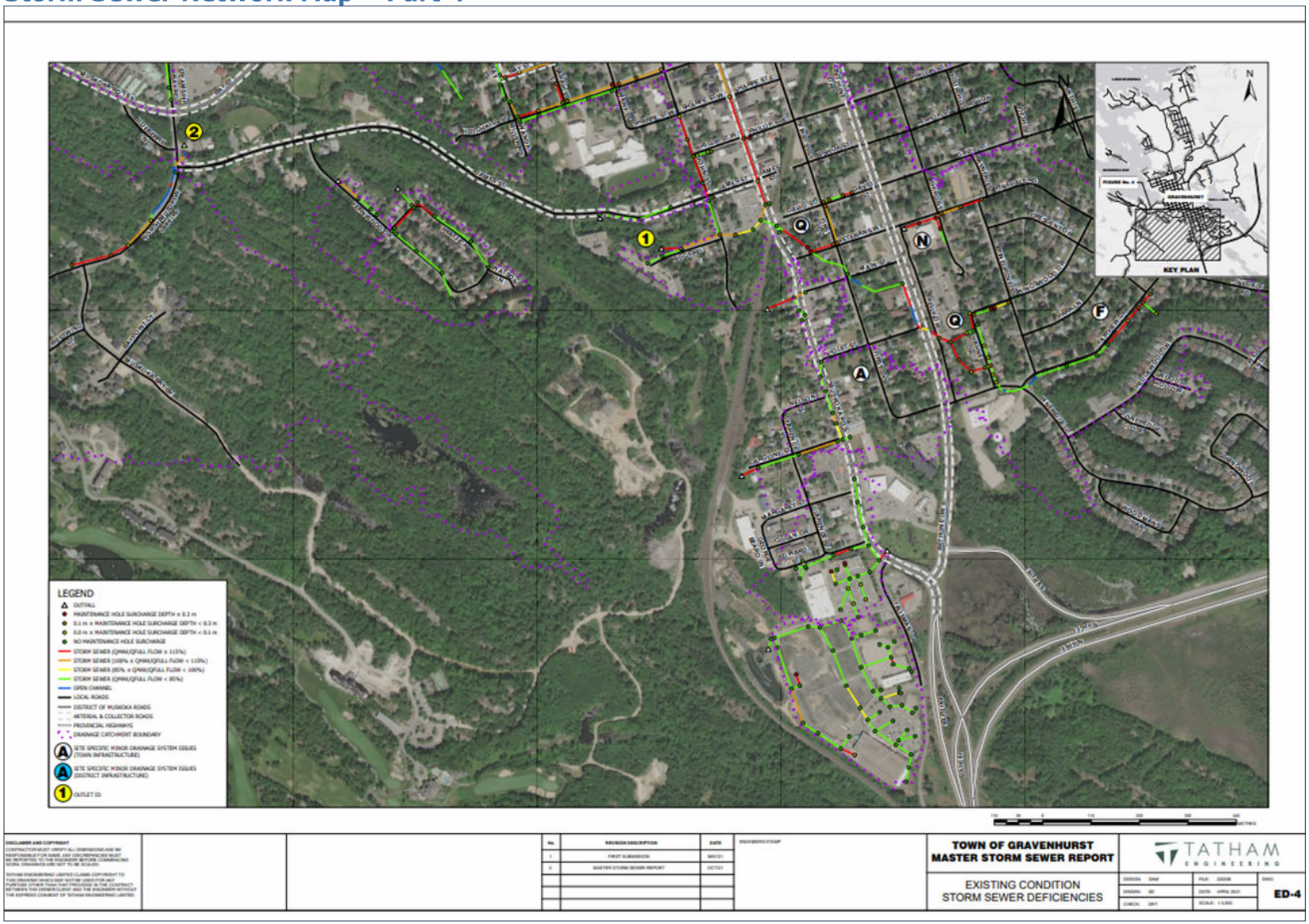
Storm Sewer Network Map – Part 2



Storm Sewer Network Map – Part 3


LEGEND
OUTFALL
MAINTENANCE HOLE SURCHARGE DEPTH ≥ 0.3 m
0.1 m ≤ MAINTENANCE HOLE SURCHARGE DEPTH < 0.3 m
0.0 m ≤ MAINTENANCE HOLE SURCHARGE DEPTH < 0.1 m
NO MAINTENANCE HOLE SURCHARGE
STORM SEWER (QMAX/QFULL FLOW ≥ 115%)
STORM SEWER (100% ≤ QMAX/QFULL FLOW < 115%)
STORM SEWER (85% ≤ QMAX/QFULL FLOW < 100%)
STORM SEWER (QMAX/QFULL FLOW < 85%)
OPEN CHANNEL
LOCAL ROADS
DISTRICT OF MUSKOKA ROADS
ARTERIAL & COLLECTOR ROADS
PROVINCIAL HIGHWAYS
DRAINAGE CATCHMENT BOUNDARY
SITE SPECIFIC MINOR DRAINAGE SYSTEM ISSUES (TOWN INFRASTRUCTURE)
SITE SPECIFIC MINOR DRAINAGE SYSTEM ISSUES (DISTRICT INFRASTRUCTURE)
OUTLET ID
MUSKOKA BAY
GULL LAKE
KEY PLAN
N
TOWN OF GRAVENHURST
MASTER STORM SEWER REPORT
EXISTING CONDITION
STORM SEWER DEFICIENCIES
TATHAM ENGINEERING
ED-3

Storm Sewer Network Map – Part 4



Appendix C – Risk Rating Criteria

Probability of Failure (PoF)

Table 58: Probability of Failure Rating Criteria

Asset Category	Risk Metric	Risk Criteria	Value/ Range	PoF/ Score
Bridges & Culverts	Economic (90%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Operational (10%)	Loading Requirements (100%)	TBD[3]	N/A
Road Network (HCB, LCB, Gravel Roads)	Economic (100%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Environmental (20%)	Drainage Adequacy (100%)	Unlikely	2
			Likely	4
Storm Sewer Network (Storm Sewers)	Economic (90%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5
	Operational (10%)	Material (100%)	Concrete Pipe (non-reinforced)	1
			Polyethylene	1
			Polypropylene	1
			Polyvinyl Chloride	1
			PVC	1
			CONC	1
			HDPE_RIBBED	1

[3] Loading requirements for bridges would like to be used in future by staff in probability of failure

			HDPE	1
			RIBBED_HDPE	1
			PE	1
			DITCH	1
			CHANNEL	1
			Steel Pipe	5
			STEEL	5
			CSP	5
Vehicles - (Fire & Emergency Services, Light Vehicles, Heavy Vehicles)	Economic (100%)	Condition (100%)	5	1
			4	2
			3	3
			2	4
			1	5
Facilities & Buildings, Information Technology, Machinery & Equipment, Road Network (all other assets), Storm Sewer Network (All other assets), Land Improvements, Vehicles (All Other Assets)	Economic (100%)	Condition (100%)	80-100	1
			60-79	2
			40-59	3
			20-39	4
			0-19	5

Consequence of Failure (CoF)

Table 59: Consequence of Failure Rating Criteria

Asset Category	Risk Metric	Risk Criteria	Value/ Range	CoF Score
Bridges & Culverts	Economic (100%)	Replacement Cost (100%)	0-100,000	1
			100,001-250,000	2
			250,001-500,000	3
			500,001-1,000,000	4
			1,000,001+	5
Road Network (HCB Roads)	Economic (100%)	Replacement Cost (100%)	0-100,000	1
			100,001-250,000	2
			250,001-500,000	3
			500,001-1,000,000	4
			1,000,001+	5
Road Network (LCB Roads)	Economic (100%)	Replacement Cost (100%)	0-100,000	1
			100,001-350,000	2
			350,001-500,000	3
			500,001-1,000,000	4
			1,000,001+	5
Road Network (Gravel Roads)	Economic (100%)	Replacement Cost (100%)	0-5,000	1
			5,001-10,000	2
			10,001-35,000	3
			35,001-50,000	4
			50,000+	5
Road Network (Curbs, Sidewalks, Streetlights)	Economic (100%)	Historical Cost (100%)	0-100,000	1
			100,001-250,000	2
			250,001-500,000	3
			500,001-1,000,000	4
			1,000,001+	5
Storm Sewer Network (Storm Sewer)	Economic (80%)	Replacement Cost (100%)	0-300	1
			301-2,000	2
			2,001-10,000	3
			10,001-50,000	4
			50,000+	5
	Operational (20%)	Pipe Diameter (mm) (100%)	0-200	1
			201-300	2
			301-525	3

			526-600	4
			601-1,000	5
Storm Sewer Network (All Other Assets)	Economic (100%)	Replacement Cost (100%)	0-300	1
			301-2,000	2
			2,001-10,000	3
			10,001-50,000	4
			50,000+	5
Facilities & Buildings (All Assets)	Economic (100%)	Replacement Cost (100%)	0-50,000	1
			50,001-100,000	2
			100,001-250,000	3
			250,001-350,000	4
			350,001+	5
Information Technology (Hardware)	Economic (100%)	Replacement Cost (100%)	0-500	1
			501-1,000	2
			1,001-5,000	3
			5,001-10,000	4
			10,001+	5
Information Technology (Software)	Economic (60%)	Replacement Cost (100%)	0-1,000	1
			1,001-5,000	2
			5,001-10,000	3
			10,001-20,000	4
			20,001+	5
Land Improvements	Economic (90%)	Replacement Cost (100%)	0-50,000	1
			50,001-100,000	2
			100,001-250,000	3
			250,001-500,000	4
			500,001+	5
	Social (10%)	Number of Vistors (100%)	TBD[4]	N/A
Machinery & Equipment	Economic (100%)	Replacement Cost (100%)	0-1,000	1
			1,001-5,000	2
			5,001-20,000	3
			20,001-100,000	4
			100,001+	5
Vehicles	Economic (80%)	Replacement Cost (100%)	0-10,000	1
			10,001-50,000	2
			50,001-200,000	3
			200,001-350,000	4

[4] Number of visitors is not presently tracked but staff would like to track in future.

			350,001+	5
	Health and Safety (20%)	Department (100%)	Building	2
			By Law	2
			Infrastructure Services	2
			Recreation & Cultural Services	2
			Fire & Emergency Services	5