# Asset Management Plan 2025

## Municipality of Brockton

July 2025

psdcitywide

This Asset Management Plan was prepared by:


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

# Key Statistics

| | |
|---|---|
| **$829 m** | 2024 Replacement Cost of Asset Portfolio |
| **75%** | Percentage of Assets in Fair or Better Condition |
| **73%** | Percentage of Assets with Assessed Condition Data |
| **$14.4 m**<br>**$7.2 m** | Annual Capital Infrastructure Deficit (Ideal)<br>Annual Capital Infrastructure Deficit (PLOS) |
| **15 Years** | Recommended Timeframe to achieve Proposed Levels of Service |
| **2.2%**<br>**1.3%** | Target Reinvestment Rate (Ideal)<br>Target Reinvestment Rate (PLOS) |
| **0.4%** | Actual Reinvestment Rate |

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# 1. Executive Summary

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

## 1.1. Scope

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

This AMP includes the following asset categories:

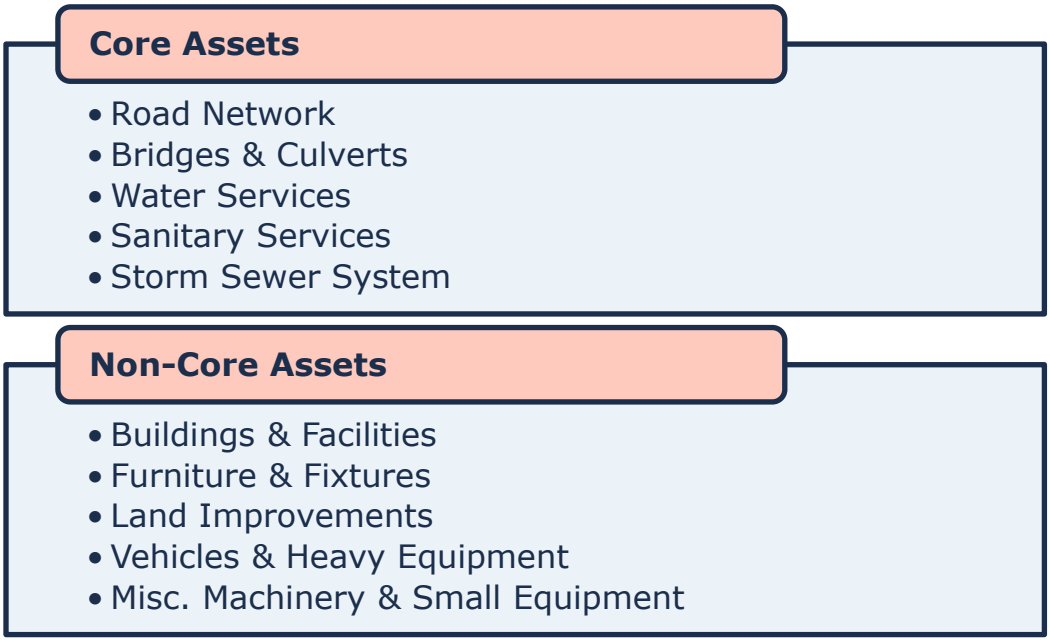


*Figure 1 Core and Non-Core Asset Categories*

## 1.2. Compliance

With the development of this AMP the Municipality of Brockton has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. This includes requirements for proposed levels of service and inventory reporting for all asset categories.

## 1.3. Findings

The overall replacement cost of the asset categories included in this AMP totals $829 million. 75% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 73% of assets. For the remaining 27% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

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

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Municipality's average annual capital requirement totals $18.0 million for ideal circumstances, however, the Municipality has selected a proposed level of service of funding assets at 60% of the ideal investment. This results in an annual capital investment of $10.8 million. Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately $3.6 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $7.2 million to reach the proposed level of service.

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 Municipality. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

## 1.4. Recommendations

A financial strategy was developed to address the annual capital funding gap to meet the desired levels of service. The following graphics shows annual tax/rate change required to eliminate the Municipality's infrastructure deficit based on a 15-year plan:

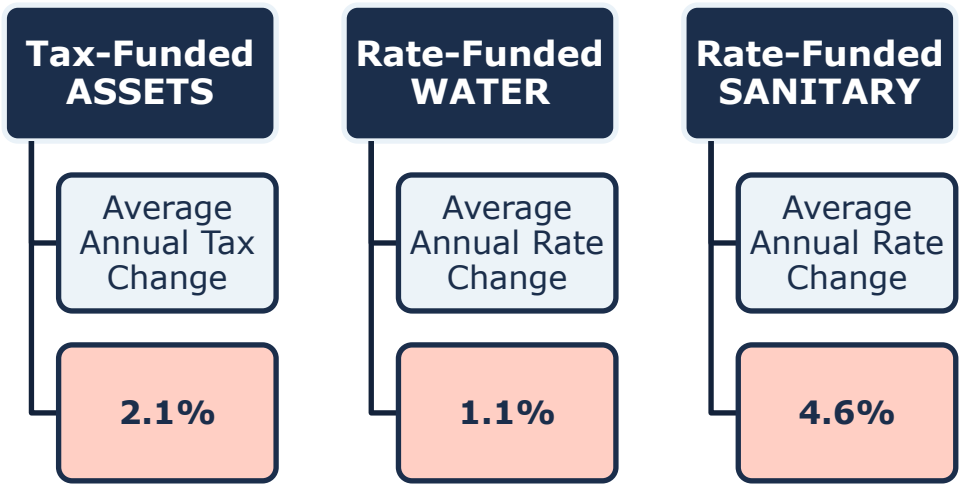


*Figure 2 Proposed Tax/Rate Changes*

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

- Consider conducting a water/sanitary rate study to provide a more in-depth analysis of funding options for utilities
- Continuously review, refine, and calibrate lifecycle management models
- Ensure replacement costs reflect current economic conditions
- Implement condition assessment programs, especially for critical infrastructure
- Conduct a review of current Citywide inventory to ensure accuracy
- Incorporate reports (such as building condition assessments) into Citywide inventory where there are currently gaps
- Calibrate risk models as further information becomes available
- Monitor evolving environmental trends
- Implement a KPI tracking program to report on proposed level of service progress

# 2. Introduction & Context

## 2.1. Community Profile

The Municipality of Brockton, located in Bruce County, Ontario, is home to nearly 10,000 residents. It was established in 1999 through the amalgamation of the former municipalities of Brant, Greenock, and Walkerton, with the combined names forming "Brockton."

While Brockton operates as a single rural municipality, it has worked to maintain the distinct character of its original hamlets: Cargill, Chepstow, Elmwood, Glammis, the Lake Communities, Pinkerton, and Riversdale, along with the former town of Walkerton, where the municipal offices are based.

According to the 2021 Census of Population conducted by Statistics Canada, the demographics of Brockton are as follows:

| Census Characteristic | Municipality of Brockton | Bruce County | Ontario |
|---|---|---|---|
| Population 2021 | 9,784 | 73,396 | 14,223,942 |
| Population Change 2016-2021 | +3.4% | +7.7% | +5.8% |
| Total Private Dwellings | 4,406 | 42,592 | 5,929,250 |
| Population Density | 17.3/ $km^2$ | 18/ $km^2$ | 15.9/$km^2$ |
| Land Area | 564.64 $km^2$ | 4,076.22 $km^2$ | 892,411.76 $km^2$ |

*Table 1 Municipality of Brockton Community Profile*

Brockton's agricultural roots trace back to the mid-1800s, when settlers first began cultivating the fertile land. Though agriculture remains a key part of the community's heritage, Brockton is now recognized for a variety of other strengths.

The municipality boasts a close-knit, welcoming community, offering a wide range of programs, events, and activities for all ages. It fosters inclusivity and brings together people from all generations and backgrounds. With excellent schools, childcare, healthcare, and government services, Brockton is a safe, affordable, and attractive place to call home.

Brockton's economy thrives with a mix of urban vibrancy, rural charm, and modern innovation. The town features unique local shops, a strong agri-business sector, and a reputation for leading in drinking water excellence. While offering the amenities of urban living, Brockton is set within a beautiful natural environment, providing opportunities for outdoor recreation year-round.

## 2.2. Climate Change

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

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

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

### 2.2.1 Brockton Climate Profile

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

#### *Higher Average Annual Temperature*

- Between the years 1971 and 2000 the annual average temperature was 6.7ºC
- Under a high emissions scenario, the annual average temperatures are projected to be 9.5ºC by the year 2050, 11.6ºC for the 2051-2080 period, and 13.3ºC by the end of this century.

#### *Increase in Total Annual Precipitation*

- Under a high emissions scenario, Brockton is projected to experience a 12% increase in precipitation by the year 2080 and a 15% increase by the end of the century.

### 2.2.2 Consideration of Climate Change with Asset Management Strategies

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

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

## 2.3. Asset Management Overview

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% comes from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.

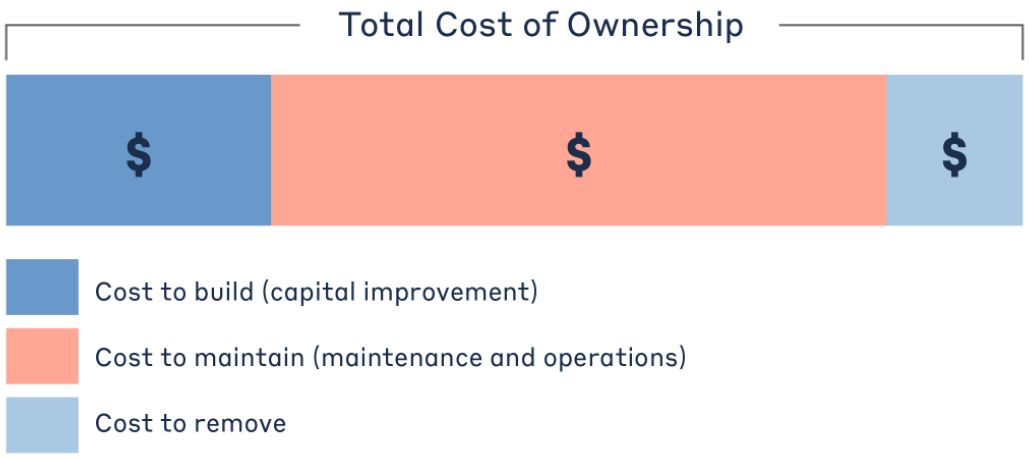


*Figure 3 Total Cost of Asset Ownership*

These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a

Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

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

### 2.3.1 Foundational Asset Management Documentation

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

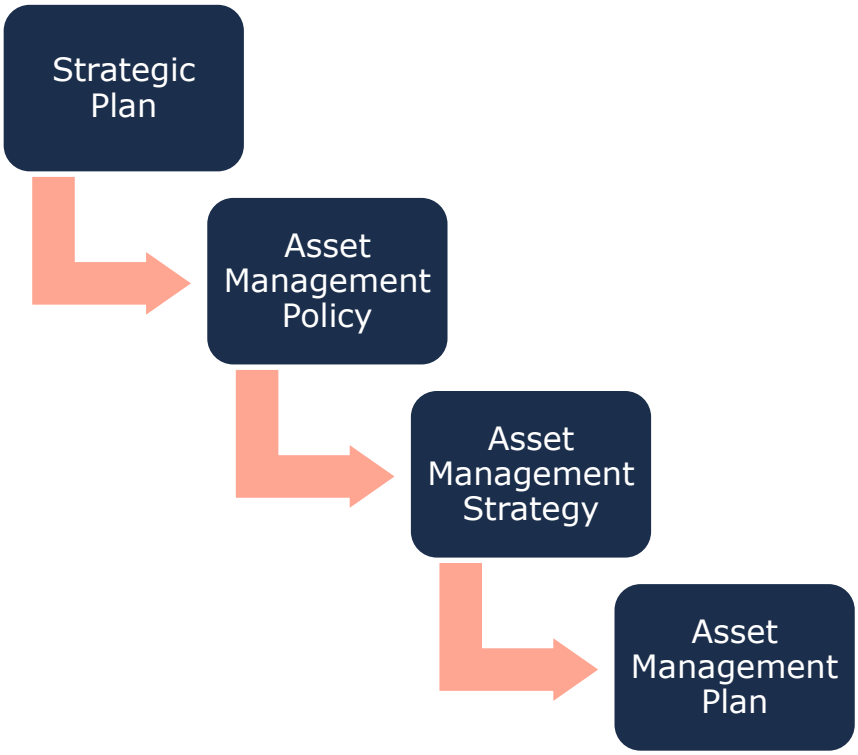


*Figure 4 Foundational Asset Management Documents*

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

#### *Asset Management Policy*

An asset management policy represents a statement of the principles guiding the Municipality'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 Municipality of Brockton adopted **Policy Number: F06-0500-18** "Strategic Asset Management Policy", on September 10th, 2018, in accordance with accordance with Ontario Regulation 588/17. The stated objectives of the Policy are to:

- Provide a framework for implementing asset management to enable a consistent and strategic approach to all levels of the organization;
- Demonstrate Council's commitment to support the implementation of asset management methods that are consistent with their priorities and objectives;
- Provide guidance to staff responsible for asset management;
- Provide transparency and accountability and demonstrate the validity of decision-making process which combine strategic plans, budgets, service levels and risks.

The Policy provides a foundation for the development of an asset management program within the Municipality. It covers key components that define a comprehensive asset management policy:

- The policy's objectives dictate the use of asset management practices to ensure all assets meet the agreed levels of service in the most efficient and effective manner;
- The policy commits to, where appropriate, incorporating asset management in the Municipality's other plans;
- There are formally defined roles and responsibilities of internal staff and stakeholders;
- The policy statements are well defined.

## *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 Municipality plans to achieve asset management objectives through planned activities and decision-making criteria.

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

## *Asset Management Plan*

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

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

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

### 2.3.2 Key Concepts in Asset Management

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

#### *Lifecycle Management Strategies*

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

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

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

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

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

*Table 2 Lifecycle Management: Typical Lifecycle Interventions*

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

## *Risk & Criticality*

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

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

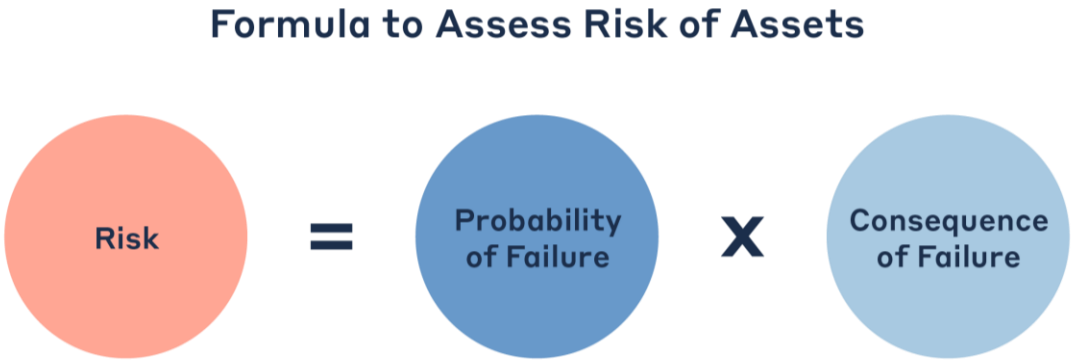


*Figure 5 Risk Equations*

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

### Probability of Failure

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

### Consequence of Failure

Estimating criticality also requires identifying the types of consequences that the organization and community may face from an asset's failure, and the magnitude of those consequences. Consequences of asset failure will vary across the infrastructure portfolio; the failure of some assets may result primarily in high direct financial cost but may pose limited risk to the community. Other assets may have a relatively minor financial value, but any downtime may pose significant health and safety hazards to residents.

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

| Type of Consequence | Description |
|---|---|
| ***Direct Financial*** | Direct financial consequences are typically measured as the replacement costs of the asset(s) affected by the failure event, including interdependent infrastructure. |
| ***Economic*** | Economic impacts of asset failure may include disruption to local economic activity and commerce, business closures, service disruptions, etc. Whereas direct financial impacts can be seen immediately or estimated within hours or days, economic impacts can take weeks, months and years to emerge, and may persist for even longer. |
| ***Socio-political*** | Socio-political impacts are more difficult to quantify and may include inconvenience to the public and key community stakeholders, adverse media coverage, and reputational damage to the community and the Municipality. |
| ***Environmental*** | Environmental consequences can include pollution, erosion, sedimentation, habitat damage, etc. |
| ***Public Health and Safety*** | Adverse health and safety impacts may include injury or death, or impeded access to critical services. |
| ***Strategic*** | These include the effects of an asset's failure on the community's long-term strategic objectives, including economic development, business attraction, etc. |

*Table 3 Risk Analysis: Types of Consequences of Failure*

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

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

## *Levels of Service*

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

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

### Community Levels of Service

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

### Technical Levels of Service

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

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

### Current and Proposed Levels of Service

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

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

## 2.4. Scope & Methodology

### 2.4.1 Asset Categories for this AMP

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

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

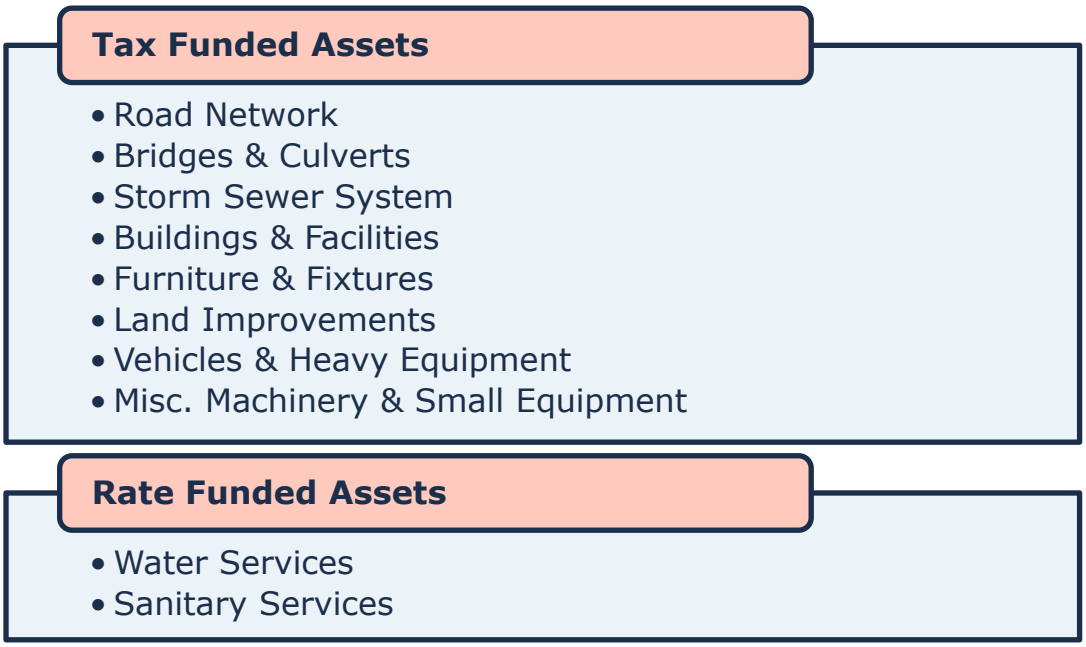


*Figure 6 Tax Funded and Rate Funded Asset Categories*

### 2.4.2 Data Effective Date

It is important to note that this plan is based on data as of **December 2024**; therefore, it represents a snapshot in time using the best available processes, data, and information at the 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 Municipality incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

### 2.4.4 Estimated Service Life & Service Life Remaining

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

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


*Figure 7 Service Life Remaining Calculation*

### 2.4.5 Reinvestment Rate

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

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

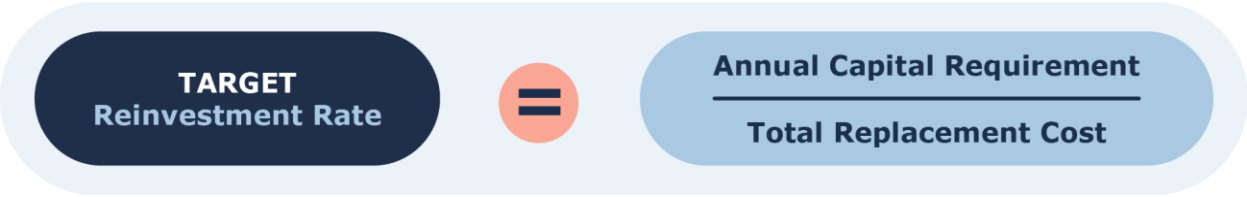


*Figure 8 Target Reinvestment Rate Calculation*

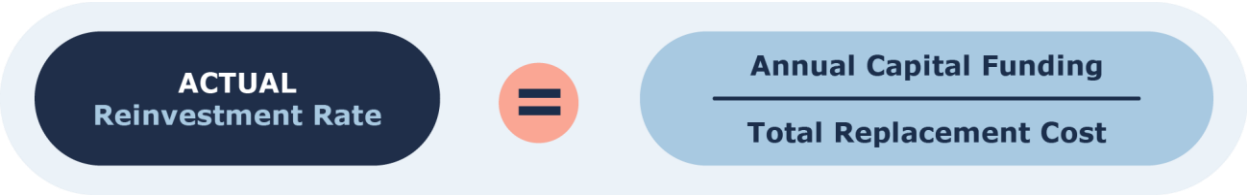


*Figure 9 Actual Reinvestment Rate Calculation*

### 2.4.6 Deriving Asset Condition

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

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

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

*Table 4 Standard Condition Rating Scale*

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

## 2.5. Ontario Regulation 588/17

As part of the Infrastructure for Jobs and Prosperity Act, 2015, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17)[1]. Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

Figure 10 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

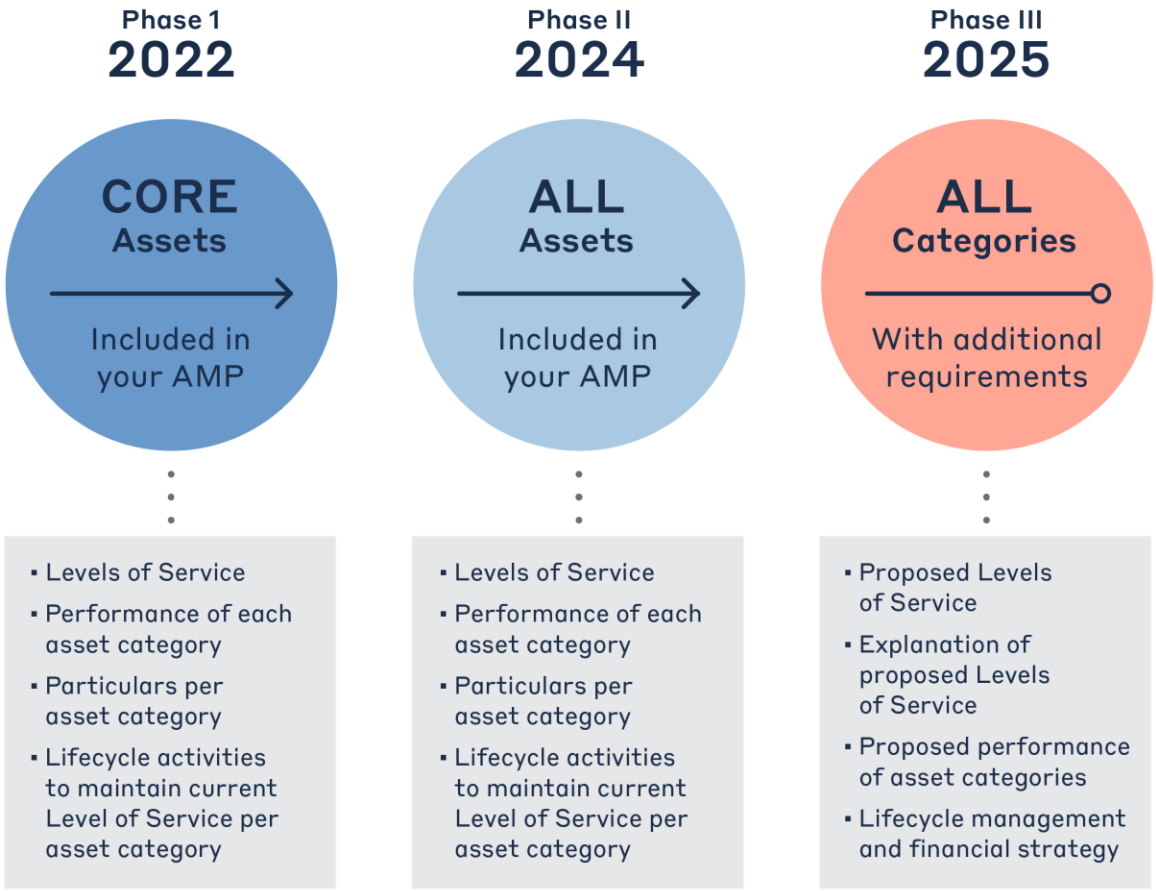


*Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines*

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

### 2.5.1 O. Reg. 588/17 Compliance Review

| Requirement | O. Reg. 588/17 Section | AMP Section Reference | Status |
|---|---|---|---|
| Summary of assets in each category | S.5(2), 3(i) | Appendix B - K | Complete |
| Replacement cost of assets in each category | S.5(2), 3(ii) | Appendix B - K | Complete |
| Average age of assets in each category | S.5(2), 3(iii) | Appendix B - K | Complete |
| Condition of core assets in each category | S.5(2), 3(iv) | Appendix B - K | Complete |
| Description of municipality's approach to assessing the condition of assets in each category | S.5(2), 3(v) | Appendix B - K | Complete |
| Current levels of service in each category | S.5(2), 1(i-ii) | Appendix B - K | Complete |
| Current performance measures in each category | S.5(2), 2 | Appendix B - K | Complete |
| Lifecycle activities needed to maintain current levels of service for 10 years | S.5(2), 4 | Appendix B - K | Complete |
| Costs of providing lifecycle activities for 10 years | S.5(2), 4 | Appendix M | Complete |
| Growth considerations | S.6(1), 5 | Section 5.1 – 5.2 | Complete |
| Proposed levels of service for each category for next 10 years | S.6(1), 1(i-ii) | Appendix B - K | Complete |
| Explanation of appropriateness of proposed levels of service | S.6(1), 2(i-iv) | Section 4.3 | Complete |
| Lifecycle management activities for proposed levels of service | S.6(1), 4(i) | Section 4.3 | Complete |
| 10-year capital costs for proposed levels of service | S.6(1), 4(ii) | Appendix B | Complete |
| Annual funding availability projections | S.6(1), 4(iii) | Section 4.3 | Complete |

*Table 5 O. Reg. 588/17 Compliance Review*

# Portfolio Overview

# 3. State of the Infrastructure

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

## 3.1. Asset Hierarchy & Data Classification

Asset hierarchy explains the relationship between individual assets and their components, and a wider, more expansive network and system. How assets are grouped in a hierarchy structure can impact how data is interpreted. Assets were structured to support meaningful, efficient reporting and analysis. Key category details are summarized at asset segment level.


*Figure 11 Asset Hierarchy and Data Classification*

## 3.2. Portfolio Overview

### 3.2.1 Total Replacement Cost of Asset Portfolio

The ten asset categories analyzed in this Asset Management Plan have a total current replacement cost of $829 million. This estimate was calculated using user-defined costing, as well as inflation of historical or original costs to current date. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 12 illustrates the replacement cost of each asset category; at 46% of the total portfolio, the road network forms the largest share of the Municipality's asset portfolio, followed by sanitary services at 25%.

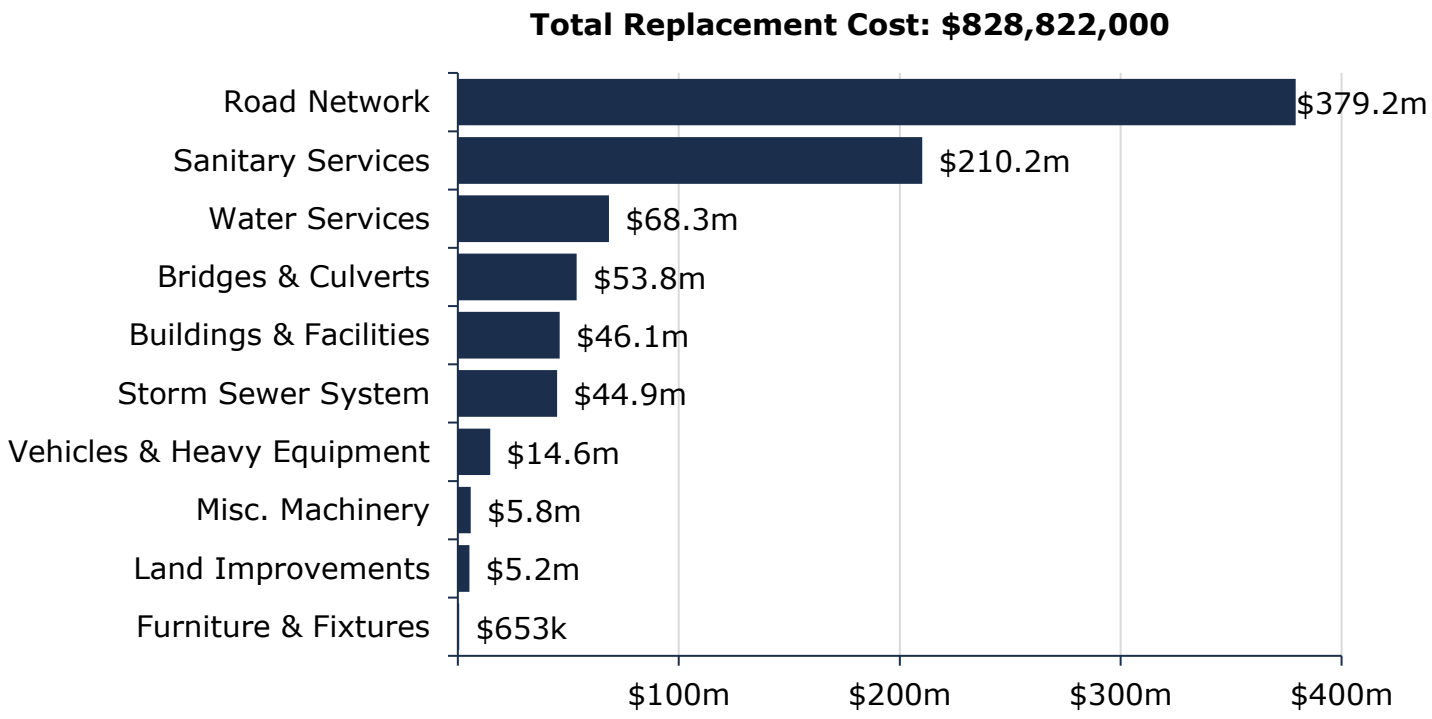


*Figure 12 Current Replacement Cost by Asset Category*

### 3.2.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps by comparing the target to the current reinvestment rate. To meet the existing long-term capital requirements, the Municipality requires an annual capital investment of $18.0 million, for a target portfolio reinvestment rate of 2.2%. Currently, annual investment from sustainable revenue sources is $3.6 million, for a current portfolio reinvestment rate of 0.4%. Target and current re-investment rates by asset category are detailed below.

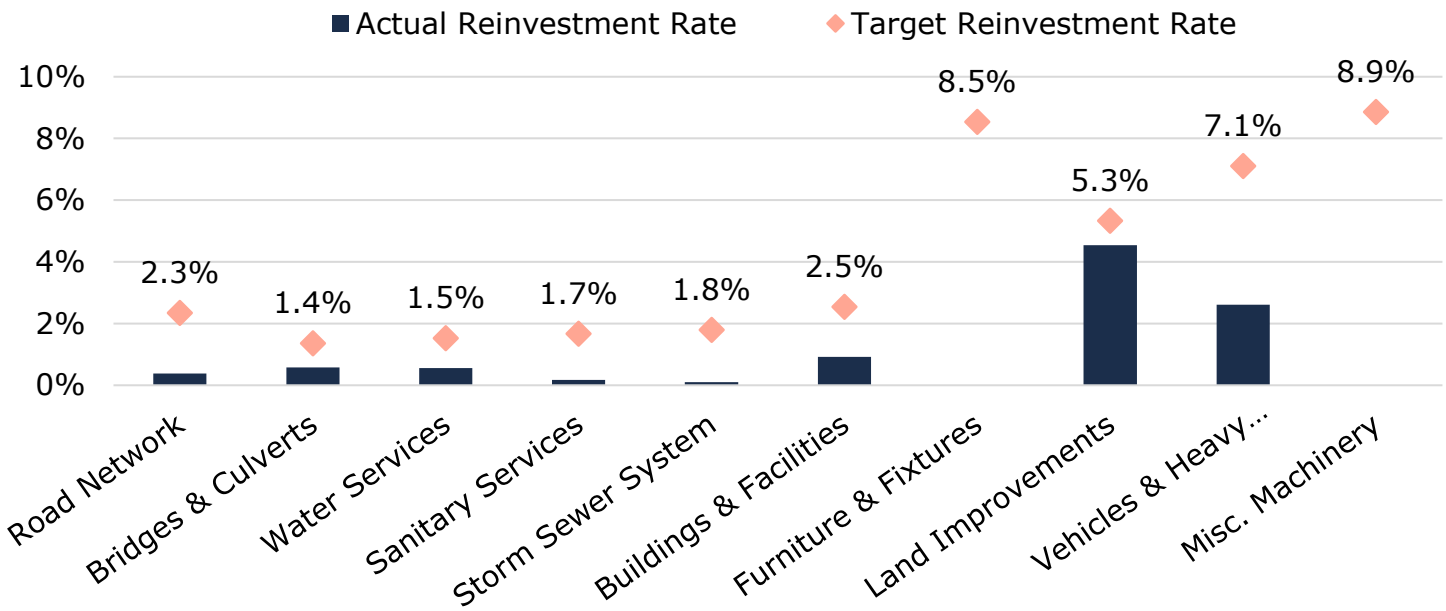


*Figure 13 Current Vs. Target Reinvestment Rate*

### 3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 75% of the Municipality's infrastructure portfolio is in fair or better condition, with the remaining 25% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

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

Condition data was available for majority of the road network, bridges and culverts, sanitary services, buildings, and vehicles. For all remaining assets, including major infrastructure such as storm mains and water services assets, age was used as an approximation of condition for these assets. Age-based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

Further, when past assessed condition data was available, it was projected to the current year-end (2024). This 'projected condition' can generate lower condition ratings than those established at the time of the original condition assessment. The rate of this deterioration will also depend on lifecycle curves used to project condition over time.

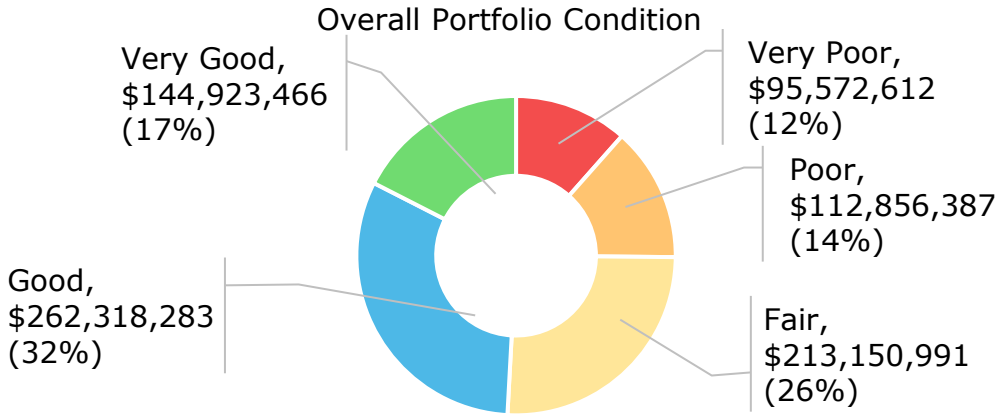


*Figure 14 Asset Condition: Portfolio Overview*

As further illustrated in Figure 15 at the category level, the majority of major, core infrastructure including roads, bridges, and structural culverts are in fair or better condition, based on in-field condition assessment data. See Table 6 for details on how condition data was derived for each asset segment.

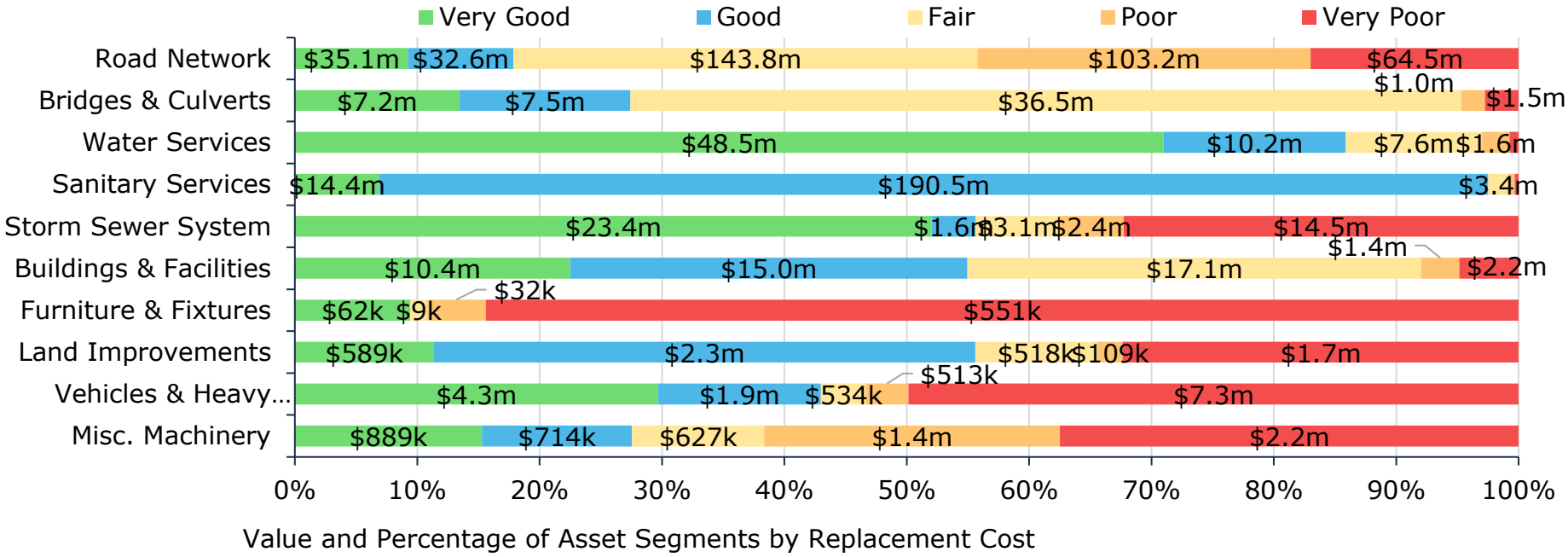


*Figure 15 Asset Condition by Asset Category*

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

## *Source of Condition Data*

This AMP relies on assessed condition for 73% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. Table 6 below identifies the source of condition data used throughout this AMP.

| Asset Category | Asset Segment(s) | % of Assets with Assessed Conditions | Source of Condition Data |
|---|---|---|---|
| Road Network | Hot Mix Roads<br>Surface Treated Roads<br>Gravel Roads | 83%<br>92%<br>96% | BM Ross – 2019 Assessments |
| | Supporting Infrastructure | 0% | None available |
| Bridges & Culverts | All | 86% | 2021/2022 OSIM Reports |
| Water Services | All | 5% | 2023 Building Condition Assessments |
| Sanitary Services | Pollution Control Plant | 100% | Staff Assessment |
| | Other | 0% | None available |
| Storm Sewer System | All | 0% | None available |
| Buildings & Facilities | All | 93% | 2023 Building Condition Assessments |
| Furniture & Fixtures | All | 0% | None available |
| Land Improvements | All | 0% | None available |
| Vehicles & Heavy Equipment | All | 93% | Staff Assessments |
| Misc. Machinery & Small Equipment | All | 5% | Staff Assessments |

*Table 6 Source of Condition Data*

### 3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 14% of the Municipality's assets will require replacement within the next 10 years. Refer to Appendix M – 10-Year Capital Requirements.

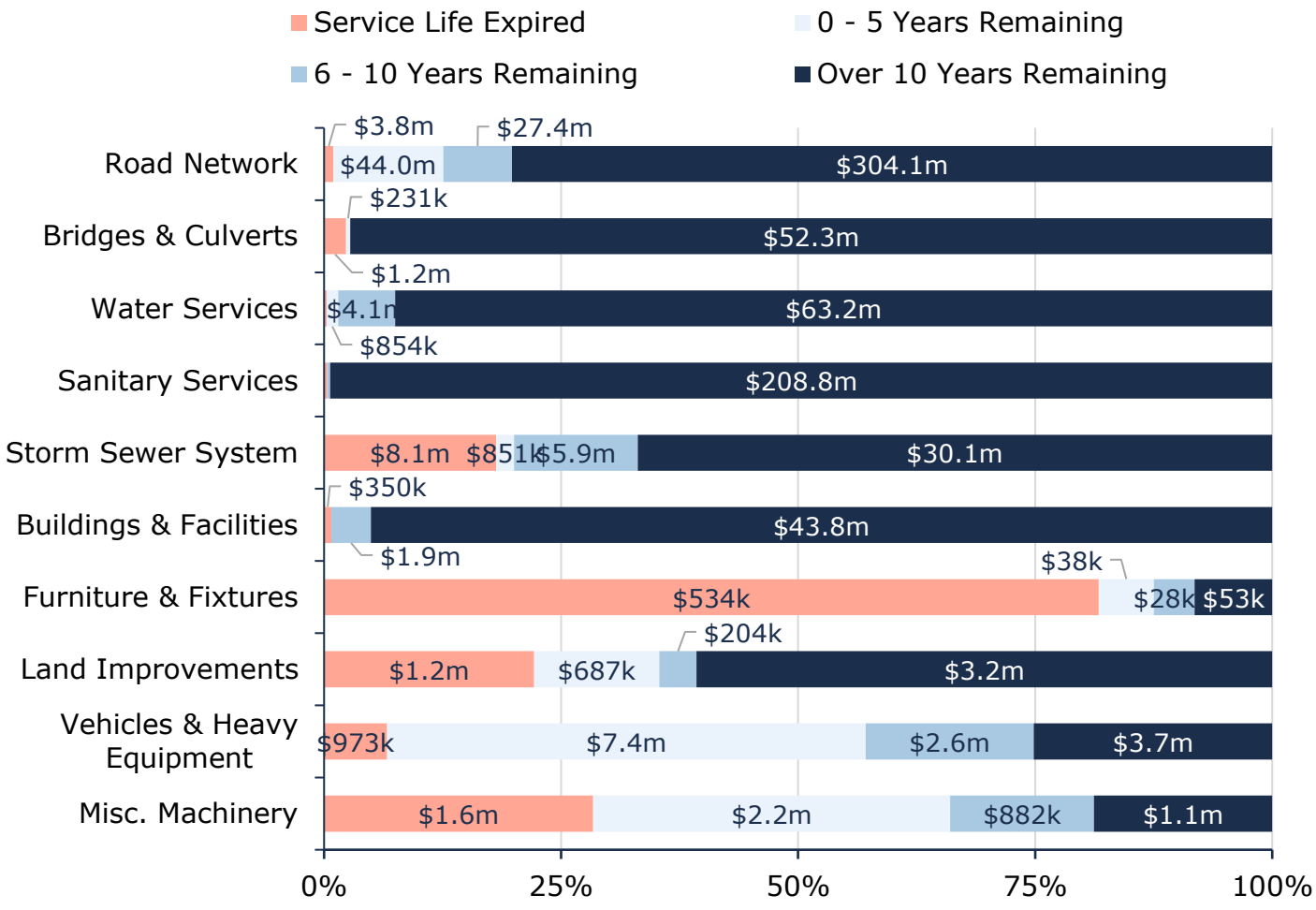


*Figure 16 Service Life Remaining by Asset Category*

### 3.2.5 Risk Matrix

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

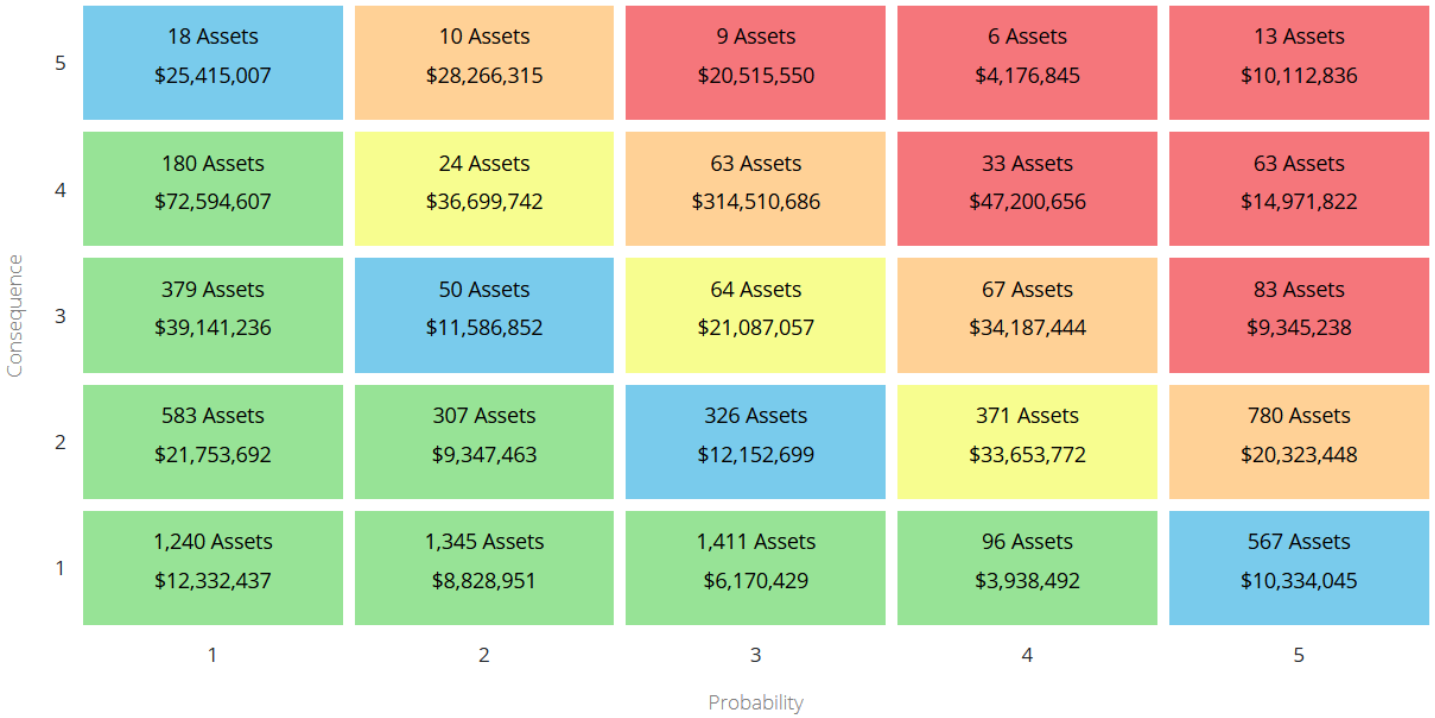


*Figure 17 Risk Matrix: All Assets*

The analysis shows that based on current risk models, approximately 15% of the Municipality's assets, with a current replacement cost of approximately $124 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 Municipality.

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

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

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

### 3.2.6 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 18 below illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for all asset categories analyzed in this AMP over an 80-year time horizon. On average, $18.0 million is required each year to remain current with capital replacement needs for the Municipality's asset portfolio (red dotted line). Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise. This figure relies on age and available condition data.

The chart also illustrates a backlog of more than $18.7 million, comprising assets that remain in service beyond their estimated useful life. It is unlikely that all such assets are in a state of disrepair, requiring immediate replacements. This makes continued and expanded targeted and consistent condition assessments integral. Risk frameworks, proactive lifecycle strategies, and levels of service targets can then be used to prioritize projects, continuously refine estimates for both backlogs and ongoing capital needs, and help select the right treatment for each asset. In addition, more effective componentization of buildings will improve these projections, including backlog estimates.

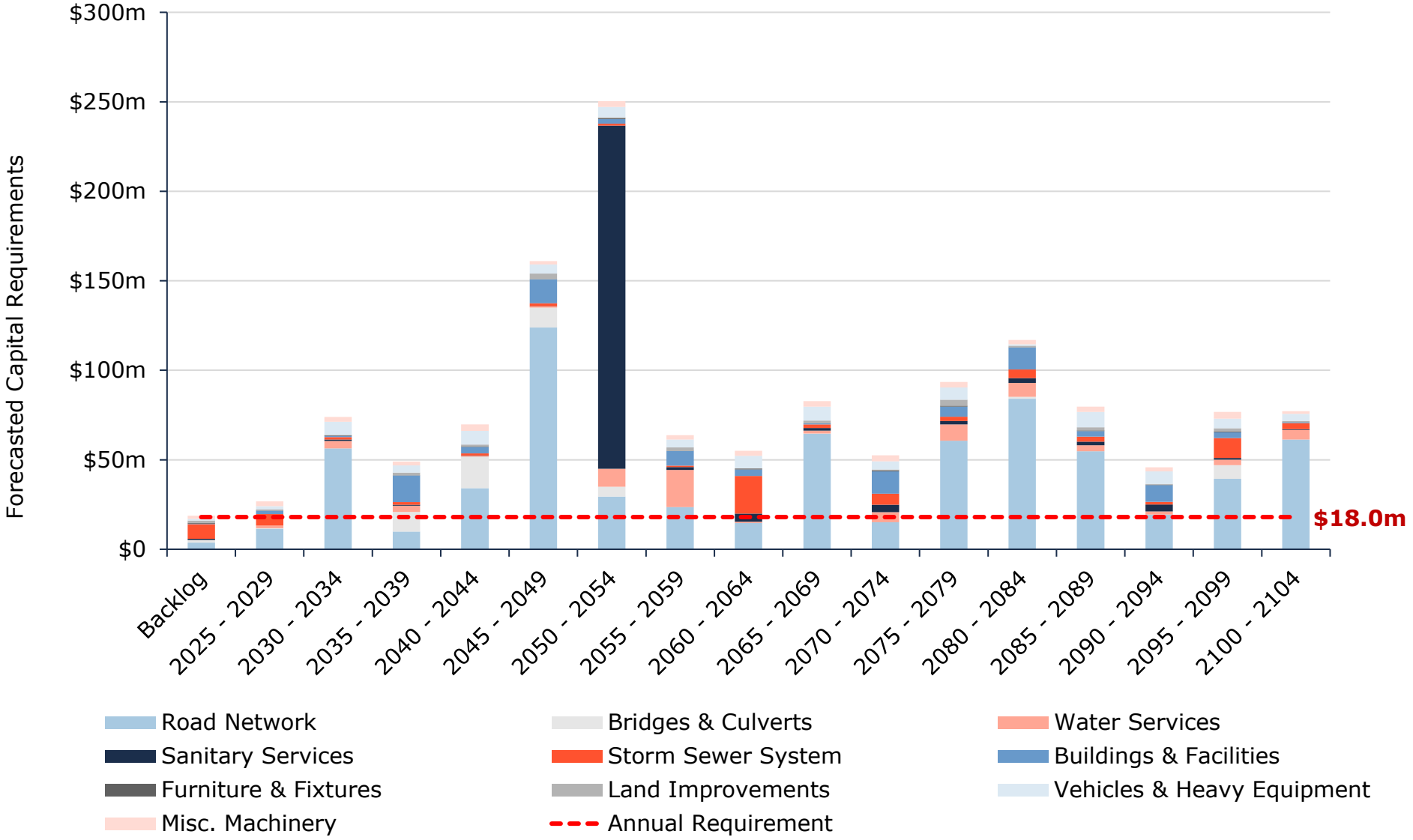


*Figure 18 Capital Replacement Needs: Portfolio Overview 2025-2104*

# Proposed Levels of Service

# 4. Proposed Levels of Service Analysis

## 4.1. Overview

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

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

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

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

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

### 4.1.2 Considerations

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

#### *Financial Impact Assessments*

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

#### *Infrastructure Condition Assessments*

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

#### *Service Metrics*

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

### *Service Impact Assessments*

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

### *Key Lifecycle Activities*

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

### *Risk Management*

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

### *Infrastructure Condition Enhancements*

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

### *Timelines*

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

### *Stakeholder Engagement*

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

### *Flexibility*

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

## 4.2. Stakeholder Engagement

In order to determine appropriate levels of service, Municipality of Brockton engaged with administration and residents to solicit feedback on areas of focus/improvement. These engagement activities took place throughout winter 2025. Summaries of stakeholder engagement results can be found in the following sections.

### 4.2.1 Administration

Surveys were issued for each asset category, summarizing the results of the 2022/2024 Asset Management Plans and requesting feedback on levels of confidence in the statistics, whether respondents felt that existing service levels met the current needs of the Municipality, and whether they felt they had the resources (financial, man power, or otherwise) to appropriately manage existing assets.

The survey results were analyzed and used to inform further workshops with departments. Individual department workshops were conducted in February 2025. The general themes of those workshops are summarized below.

| | |
|---|---|
| **Roads** | -There is potential for upgrading some surface treated roads to pavement<br>-Maintenance staff are seeing more rapid deterioration than projected on surface treated roads in areas where specialized equipment frequents the roadways (examples: certain farming equiment, Amish buggies, etc.)<br>-Concerns over seasonal staffing levels to meet winter maintenance needs |
| **Bridges** | -While short-term objectives are being addressed, concern with long-term funding availability to ensure upcoming replacement needs are met |
| **Facilities** | -Condition doesn't tell the whole story, as many facilities are in acceptable condition but do not meet the current needs (i.e. Public Works facility not large enough for equipment)<br>-Arena has critical components at point of failure<br>-Health and safety concerns due to budget constrictions impacting compliance and maintenance |
| **Vehicles and Equipment** | -More emphasis needs to be placed on ensuring front-line fire equipment does not exceed NFPA service life recommendations (i.e. how many years equipment should remain in operation)<br>-History of Council rejecting funding requests for equipment replacements/upgrades resulting in higher than tolerable backlogs |
| **Land Improve-ments** | -Baseball facilities are at capacity and no longer meeting the demands of the community, based on current facility bookings and usage |
| **Utilities** | -Water network is functioning well, could always use additional funding to ensure backlog is kept to a minimum<br>-Concerns over long-term funding availability for pollution control plant replacement, which is expected to cost $175 million<br>-General satisfaction with current relationship with operating contractor, Veolia |

*Figure 19 Highlights of Administration Engagement Workshops*

### 4.2.2 Residents

Municipality of Brockton understands that services are provided for the benefit of the people including residents, businesses, and visitors. The Municipality made available a public survey on its website for multiple weeks in the winter of 2025 to allow stakeholders to voice their opinions of the services that were most important to them, affordability, and their experiences with those services. Highlights of the survey results are summarized below:

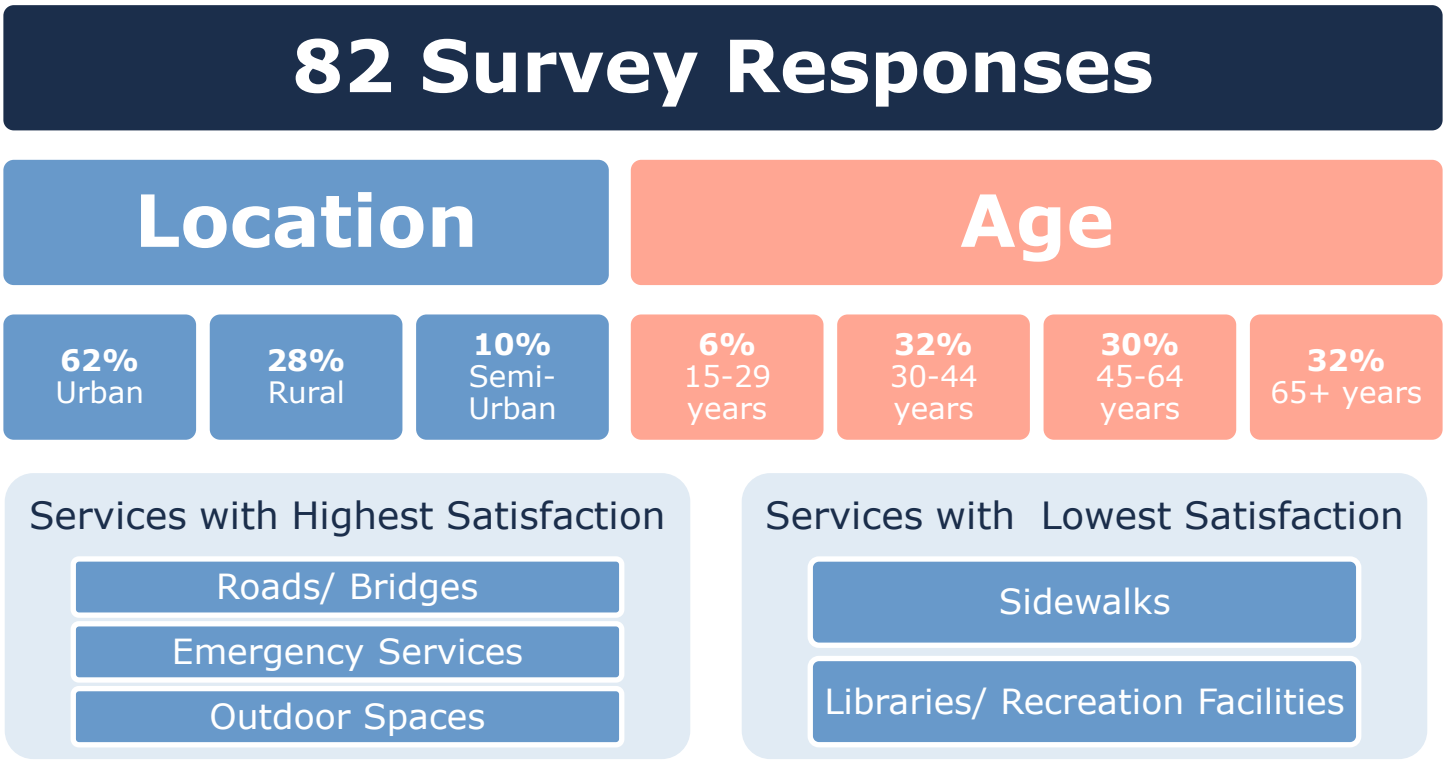


*Figure 20 Highlights of Resident Engagement Survey*

#### *General Themes of Comments*

- The majority of respondents favored maintaining or increasing spending on roads, utilities, parks, and recreational services. There is clear public support for additional investment in infrastructure that directly impacts daily life.
- Geographic Inequity: Many rural residents feel that spending is too concentrated in Walkerton or urban areas, leading to a sense of neglect in rural regions.
- Comments pointed toward a desire for balanced growth that prioritizes core services while also ensuring fiscal responsibility. Residents advocated for transparency in spending decisions, emphasizing that investments should equitably benefit both current and future community members.

## 4.3. Scenario Analysis

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


*Figure 21 PLOS Scenario Overview*

While all three scenarios were reviewed, ***the Municipality of Brockton selected Scenario 2 as their preferred path forward regarding proposed levels of service***, which is reflected in the financial strategy and 10-year capital replacement forecasts.

### 4.3.1 Scenario 1: Maintain Existing Funding Levels

This scenario assumes no tax or rate increases for the purpose of increasing capital funding.

- Annual capital allocation for tax-funded assets: $2.8 million
- Annual capital allocation for water rate-funded assets: $380,000
- Annual capital allocation for sanitary rate-funded assets: $371,000

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

#### *Lifecycle Changes Required for Scenario 1*

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

## *Affordability/Achievability of Scenario 1*

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

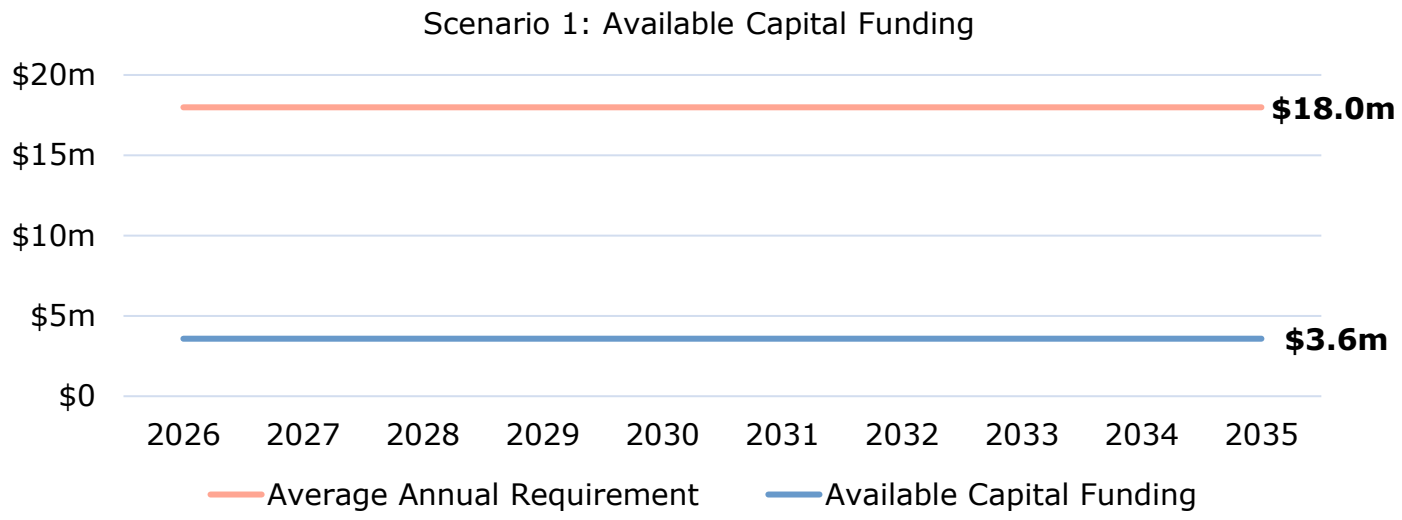


*Table 7 Scenario 1 Available Capital Funding Over Next 10 Years*

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

## *Changes to Community and Technical Levels of Service for Scenario 1*

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

### *Risks Associated with Scenario 1*

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

- Increased infrastructure backlog
  - While modelling no financial increases is beneficial for the personal finances of residents and businesses, knowingly continuing with insufficient infrastructure funding forces the Municipality to commit to sub-optimal lifecycle management of its assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, increase resident complaints, and the potential for costly unbudgeted repairs to maintain services.
  - The risks of maintaining a funding level of 20% of the recommendation, Scenario 1 increases the risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
  - As Scenario 1 maintains a position of 20% of recommended funding levels, the Municipality will be more reliant on conditional grants, as they become available. While these are beneficial to all municipalities to reduce their tax/rate burden on residents, they are considered an unsustainable revenue source. The Municipality will be more vulnerable to changes in provincial and federal policy and funding programs.
- Missed opportunities for efficiencies
  - While analyzing Scenario 1, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the Municipality risks paying more than necessary to maintain their asset inventory.

### 4.3.2 Scenario 2: Achieving 60% Funding in 15 Years (Preferred Scenario)

This scenario assumes gradual tax and rate increases, stabilizing at 60% of recommended funding in 15 years.

- Annual Tax Increase ~2.1%
- Annual Water Rate Increase ~1.1%
- Annual Wastewater Rate Increase ~4.6%

#### *Lifecycle Changes Required for Scenario 2*

For all asset classes, no changes to lifecycle strategies are required in order to achieve Scenario 2. With the lack of funding, although existing lifecycle strategies are modelled within the Municipality's asset management system, a significant number of lifecycle events will not have sufficient funds and will move from projected events into the infrastructure backlog.

#### *Affordability/Achievability of Scenario 2*

Of the three scenarios analyzed, Scenario 2 is a middle option in terms of tax/rate increases. Reaching 60% of full funding immediately would require an increase of 39% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the recommended implementation timeframe of 15 years, tax revenue would be increased gradually from $13.1 million to $17.3 million, water revenue from $1.4 million to $1.6 million, and sanitary revenue from $1.9 million to $3.5 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available **capital** funding over the next 10 years for Scenario 2 is indicated in the table below:

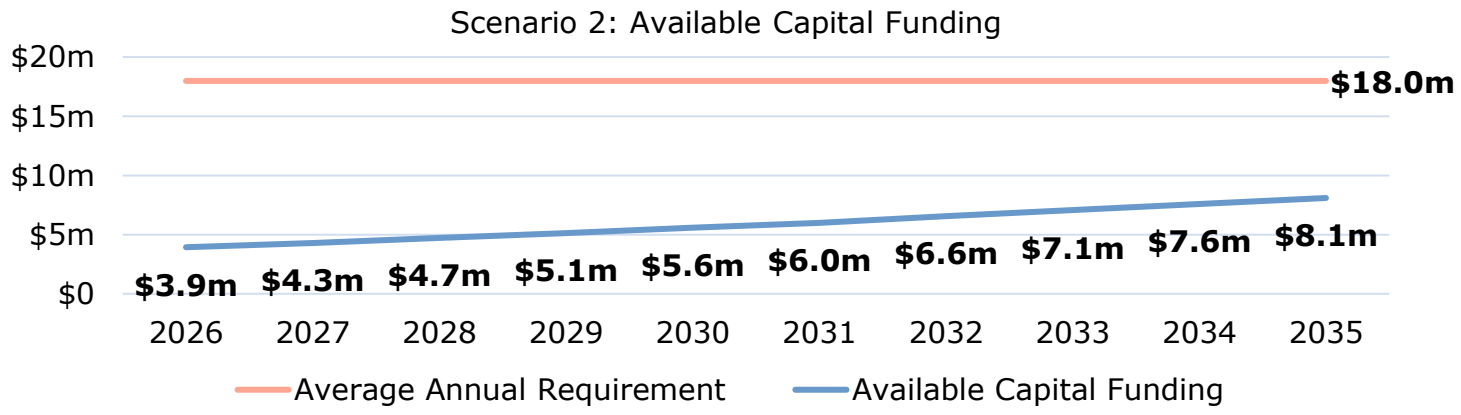


*Table 8 Scenario 2 Available Capital Funding Over Next 10 Years*

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

## *Changes to Community and Technical Levels of Service for Scenario 2*

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

## *Risks Associated with Scenario 2*

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

- Increased infrastructure backlog
  - While mitigating the impact of financial increases on residents and businesses, taking 15 years to reach the targeted funding levels means 15 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
  - In addition to the risks of reaching the desired funding levels gradually, Scenario 2 only targets 60% funding. By intentionally underfunding the Municipality's asset portfolio, there is increased risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
  - As Scenario 2 targets 60% of recommended funding levels, the Municipality will be more reliant on conditional grants, as they become available. While these are beneficial to all municipalities to secure to reduce their tax/rate burden on residents, they are considered an unsustainable revenue source. The Municipality will be more vulnerable to changes in provincial and federal policy and funding programs.
- Missed opportunities for efficiencies
  - While analyzing Scenario 2, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the Municipality risks paying more than necessary to maintain their asset inventory.

## *Appropriateness of Scenario 2 to Meet the Municipality's Needs*

Municipality staff emphasized a need to balance financial impacts on residents with the reality of the current state of infrastructure within the municipality. Upon review of all three scenarios, Scenario 2 was selected as the most appropriate option as an annual tax increase of 2.0% was determined to be subjectively manageable to implement, while creating a more sustainable future for the Municipality's infrastructure, although not ideal. The risks associated with relying on conditional grants from higher levels of government were considered and deemed to be an acceptable risk in order to balance the desire for reasonable tax and utility rates.

### 4.3.3 Scenario 3: Achieving 100% Funding in 15 Years

This scenario assumes gradual tax and rate increases, stabilizing at 100% of recommended funding in 15 years.

- Annual Tax Increase ~3.8%
- Annual Water Rate Increase ~2.7%
- Annual Wastewater Rate Increase ~7.0%

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

#### *Lifecycle Changes Required for Scenario 3*

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

#### *Affordability/Achievability of Scenario 3*

Of the three scenarios analyzed, Scenario 3 is the most expensive option. Reaching 100% of recommended funding immediately would require an increase of 79% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the recommended implementation timeframe of 15 years, tax revenue would be increased gradually from $13.3 million to $22.5 million, water revenue from $1.4 million to $2.1 million, and sanitary revenue from $1.9 million to $4.9 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 10 years for Scenario 3 is indicated in the table below:

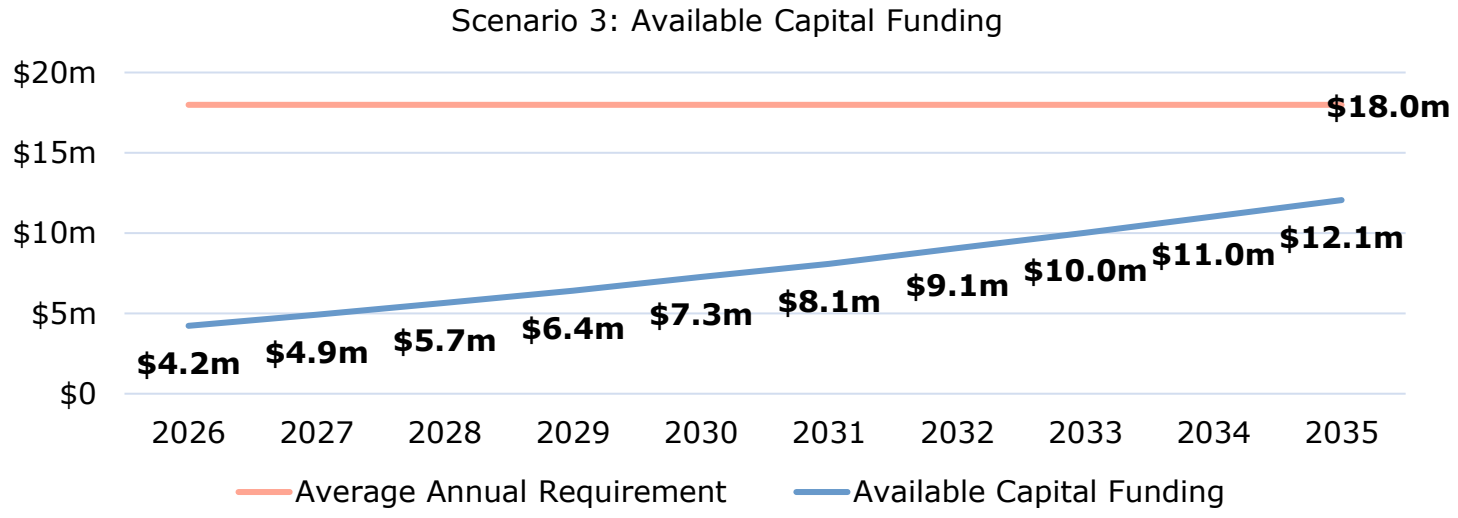


*Table 9 Scenario 3 Available Capital Funding Over Next 10 Years*

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

## *Changes to Community and Technical Levels of Service for Scenario 3*

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

## *Risks Associated with Scenario 3*

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

- Increased infrastructure backlog during 15-year implementation
  - While mitigating the impact of financial increases on residents and businesses, taking 15 years to reach the targeted funding levels means 15 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
- Missed opportunities for efficiencies
  - While analyzing Scenario 3, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the Municipality risks paying more than necessary to maintain their asset inventory.
- Political resistance tax/rate increases
  - Scenario 3 is the most expensive option analyzed in this asset management plan. It is likely that implementing a strategy which would require annual tax increases of 3.8% would result in stakeholder pushback with extreme pressure on politicians to reduce the tax burden on residents.

# Strategies

# 5. 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 Municipality to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure. Increases or decreases in demand can affect what assets are needed and what level of service meets the needs of the community.

## 5.1. Growth Assumptions

Understanding the key drivers of growth and demand will allow the township to more effectively plan for new infrastructure, as well as the upgrade or disposal of existing infrastructure. The costs of growth should be considered in long-term funding strategies designed to maintain the current level of service.

### 5.1.1 Brockton Development Charges Background Study (2024)

The purpose of the Brockton Development Charges Background Study was to conform to the requirements of the *Development Charges Act* and to support the costs that can be collected as a development charge. As a part of the study, it also provides latest population, and household forecasts for Brockton. For the purposes of this study, recent growth forecasts developed by Watson and Associates Economists Ltd for the County of Bruce as part of the Official Plan Review process were utilized. Brockton and Walkerton's allocations are as follows:

| Year | Population | | Households | |
|---|---|---|---|---|
| | **Walkerton** | **Brockton** | **Walkerton** | **Brockton** |
| 2021 | 4724 | 9784 | 2149 | 4406 |
| 2023 | 5047 | 10127 | 2293 | 4501 |
| 2028 | 5621 | 10749 | 2594 | 4827 |
| 2033 | 6195 | 11370 | 2894 | 5140 |
| 2038 | 6769 | 11992 | 3194 | 5453 |
| 2043 | 7343 | 12613 | 3495 | 5765 |
| **10-Year Change** | +1148 **(+23%)** | +1243 **(+12%)** | +601 **(+26%)** | +639 **(+14%)** |
| **20-Year Change** | +2296 **(+45%)** | +2486 **(+25%)** | +1202 **(+52%)** | +1264 **(+28%)** |

*Table 10 Population & Household forecasts for Walkerton and Brockton (2023-2043)*

As indicated above, while the entirety of the Municipality is expected to experience growth in the coming decades, it is more focused in the urban area of Walkerton at approximately double the rate of the Municipality as a whole.

### 5.1.2 Bruce County Official Plan (2024)

> ***Note:*** *The 2024 Bruce County Official Plan is currently in the review process, and has not been adopted by the Municipality at the time of this Asset Management Plan. Current projections in the plan are outdated. Check for updated projections when an updated plan becomes available.*

Brockton' goals and objectives for future growth are informed by Bruce County's Official Plan. The Bruce County Official Plan was first adopted in 1997, revised four times since, with the most recent revision in 2024 (currently in review, and not confirmed/adopted).

Through this Official Plan it is County Council's intent to:

- Achieve an orderly pattern of settlement
- Protect and conserve good agricultural land
- Protect and when possible, enhance the quality of the natural environment
- Encourage economic development and prosperity
- Encourage necessary social, cultural, and educational facilities and services.

The County is responsible for the allocation of growth to the local municipalities, which is based on a combination of local factors including: local planning policy; historic and recent growth trends; market demand; and the capacity to accommodate growth from land supply and servicing perspectives.

The County's latest approval of the Official Plan is dated 2010 and includes outdated population projections. In the draft 2024 Official Plan, population projections follow a very similar trajectory to the Development Charges Background Study described in the previous section.

The data shows Brockton's population growth outpacing the 2010 Official Plan's expectations, signaling that the earlier projections were underestimated.

## 5.2. Impact of Growth on Lifecycle Activities

Planning for forecasted population growth may require the expansion of existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated into the Municipality's AMP. While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, the Municipality will need to review the lifecycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to, at a minimum, maintain the current level of service.

As Brockton has elected to set their level of service targets based on reinvestment rates in existing infrastructure, as the Municipality's portfolio increases, capital needs will increase in a linear fashion. Expanded infrastructure offerings will need to be accounted for in future plans to ensure the Municipality can maintain long-term sustainability in infrastructure investment.

# 6. Financial Strategy

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Municipality of Brockton 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 proposed changes in service levels, as indicated in Section *4. Proposed Levels of Service Analysis*
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community-Building Fund (CCBF)
    b. Annual grants

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

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

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

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

## 6.1. Annual Requirements & Capital Funding

### 6.1.1 Annual Requirements

The annual requirements represent the amount the Municipality should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability. In total, the Municipality would need to allocate approximately $18.0 million annually to address all capital requirements for the assets included in this AMP. As discussed in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton has selected a funding scenario where the target investment is 60% of 'full funding', which required an annual capital investment of $10.8 million.

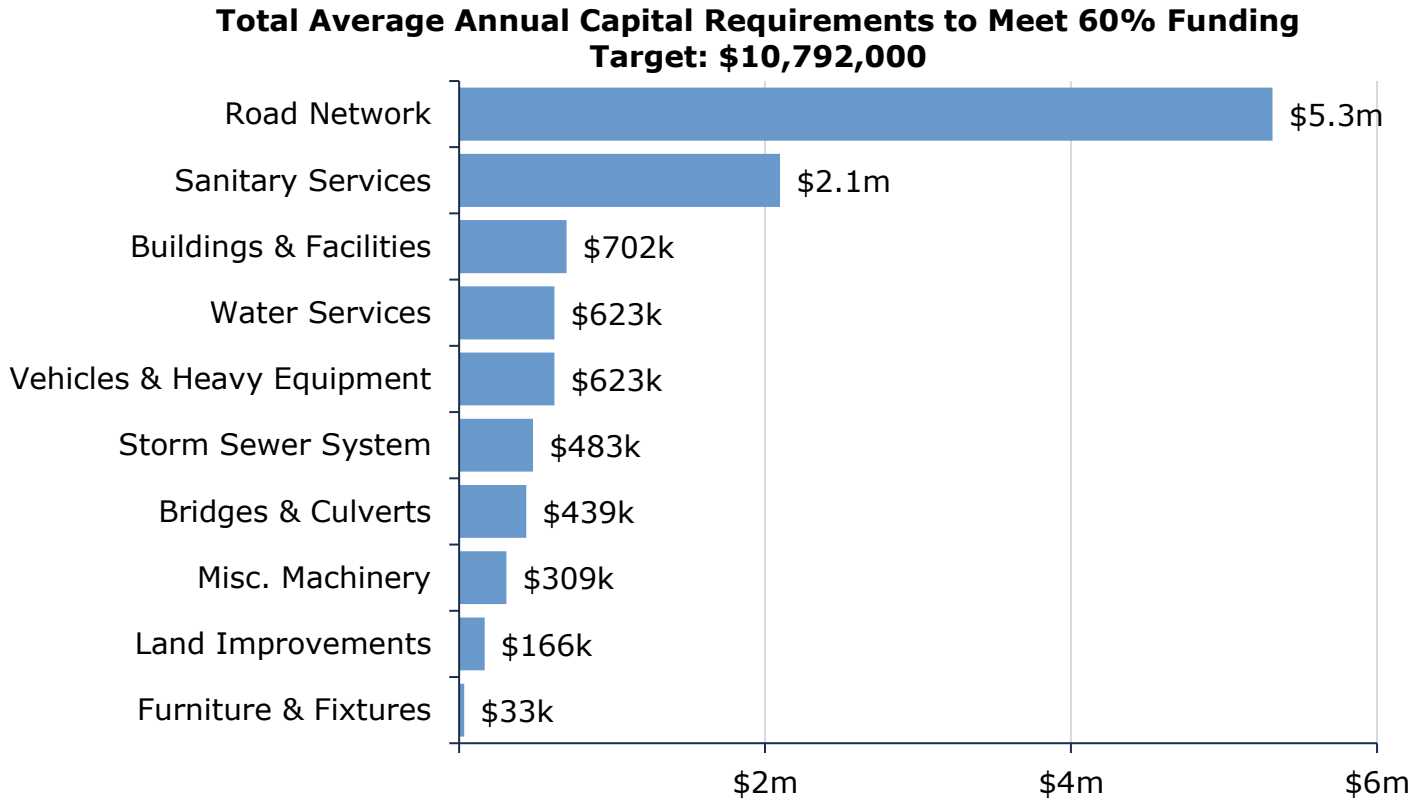


*Figure 22 Annual Capital Funding Requirements by Asset Category*

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 Municipality's roads. The development of these strategies allows for a comparison of potential

cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the Road Network:

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

| | Annual Requirements (Replacement Only) | Annual Requirements (Lifecycle Strategy) | Difference |
|---|---|---|---|
| Road Network Lifecycle - Full Funding | $13,708,000 | $8,862,000 | $4,846,000 |
| Road Network Lifecycle – Proposed LOS (60% Funding) | $8,225,000 | $5,317,000 | $2,908,000 |

*Table 11 Lifecycle Strategies Annual Savings*

The implementation of a proactive lifecycle strategy for roads leads to a potential annual cost avoidance of $4.8 million for the road network in ideal funding circumstances. In the proposed 60% funding modelling, this cost avoidance is reduced to $2.9 million. This represents an overall reduction of the annual requirements of 35%. As the lifecycle strategy scenario represents the lowest cost option available to the Municipality, we have used these annual requirements in the development of the financial strategy.

### 6.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately $3.6 million towards capital projects per year. Given the proposed LOS of 60% funding requiring an annual capital investment of $10.8 million, there is currently a funding gap of $7.2 million annually.

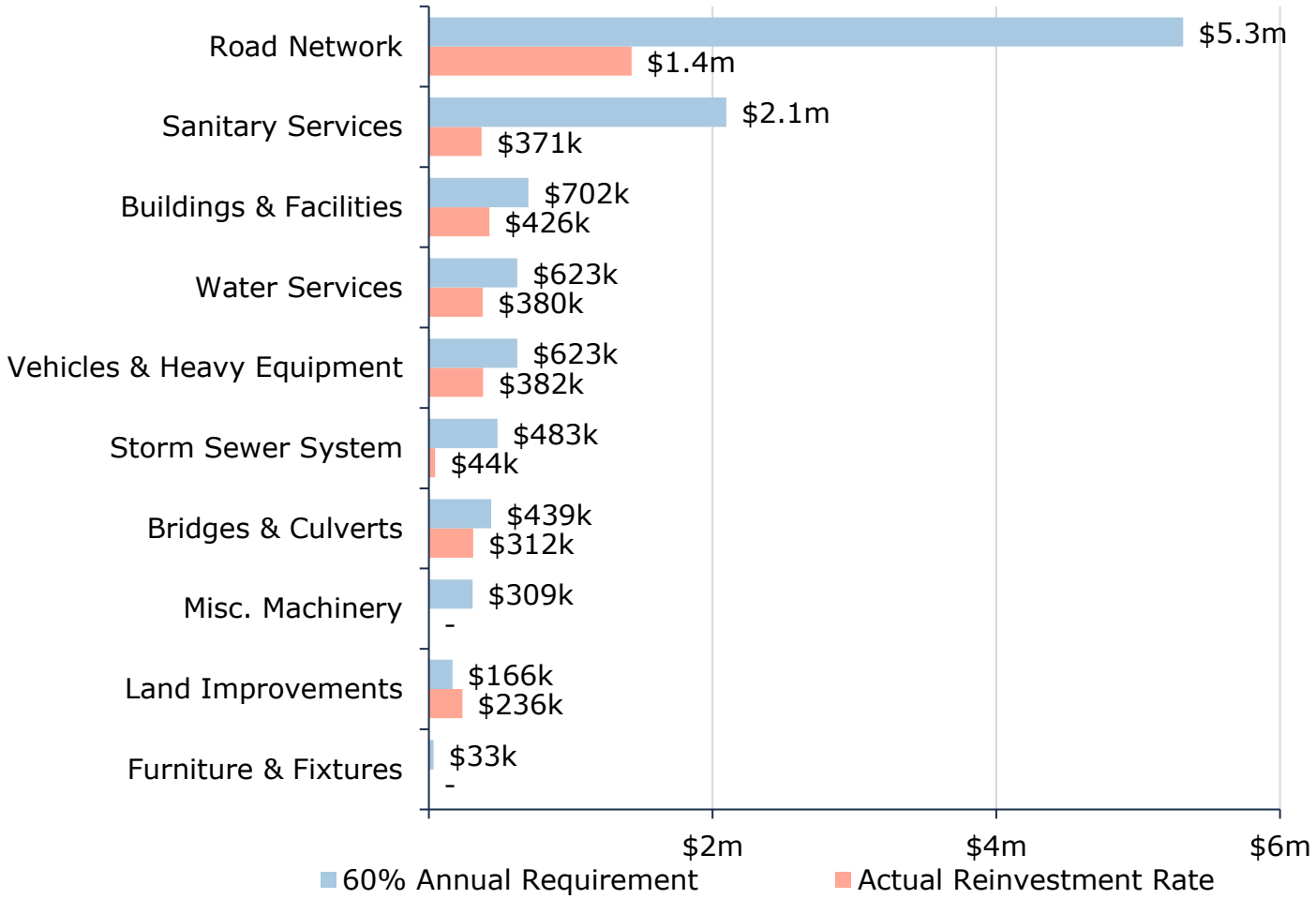


*Figure 23 60% Annual Requirements vs. Capital Funding Available*

## 6.2. Funding Objective

We have developed a scenario that would enable Municipality of Brockton to achieve 60% of full funding within 15 years for the following assets:

1. **Tax Funded Assets:** Road Network, Bridges & Culverts, Storm Sewer System, Buildings & Facilities, Furniture & Fixtures, Land Improvements, Vehicles & Heavy Machinery, Misc. Machinery & Small Equipment

2. **Rate-Funded Assets:** Water Services, Sanitary Services

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

## 6.3. Financial Profile: Tax Funded Assets

### 6.3.1 Current Funding Position

The following tables show, by asset category, Brockton's average annual asset investment requirements, current funding positions, and funding increases required to achieve the proposed level of service of 60% funding for assets funded by taxes.

| Asset Category | 60% Avg. Annual Require-ment | Annual Funding Available | | | | Annual Deficit |
|---|---|---|---|---|---|---|
| | | Taxes | CCBF | OCIF | Total Available | |
| Road Network | 5,316,909 | 598,076 | 0 | 830,296 | 1,428,372 | 3,888,537 |
| Bridges & Culverts | 438,889 | 0 | 312,285 | 0 | 312,285 | 126,604 |
| Storm Sewer System | 482,952 | 43,759 | 0 | 0 | 43,759 | 439,193 |
| Buildings & Facilities | 702,223 | 426,045 | 0 | 0 | 426,045 | 276,178 |
| Furniture & Fixtures | 33,445 | 0 | 0 | 0 | 0 | 33,445 |
| Land Improvements | 166,098 | 236,035 | 0 | 0 | 236,035 | -69,937 |
| Vehicles & Heavy Equipment | 622,515 | 381,935 | 0 | 0 | 381,935 | 240,580 |
| Misc. Machinery & Small Equipment | 308,745 | 0 | 0 | 0 | 0 | 308,745 |
| **Total** | **8,071,775** | **1,685,850** | **312,285** | **830,296** | **2,828,431** | **5,243,344** |

*Table 12 Annual Available Funding for Tax Funded Assets*

The average annual investment requirement for the above categories is $8.1 million to meet the 60% funding target. Annual revenue currently allocated to these assets for capital purposes is $2.8 million leaving an annual deficit of $5.2 million. Put differently, these infrastructure categories are currently funded at 21% of their long-term/ideal requirements, while targeting 60% within 15 years.

### 6.3.2 Proposed LOS Funding Requirements

In 2024, the Municipality of Brockton had budgeted annual tax revenues of approximately $12.8 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, increasing funding would require the following tax change over time:

| Asset Category | Tax Change Required for Full Funding | Tax Change Required for 60% Funding (Proposed LOS) |
|---|---|---|
| Road Network | 57.9% | 30.3% |
| Bridges & Culverts | 3.3% | 1.0% |
| Storm Sewer System | 5.9% | 3.4% |
| Buildings & Facilities | 5.8% | 2.2% |
| Furniture & Fixtures | 0.4% | 0.3% |
| Land Improvements | 0.3% | -0.5% |
| Vehicles & Heavy Equipment | 5.1% | 1.9% |
| Misc. Machinery & Small Equipment | 4.0% | 2.4% |
| **Total** | **82.7%** | **41.0%** |

*Table 13 Tax Increase Requirements for Full Funding vs. PLOS*

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

a) Brockton's debt payments for these asset categories will be decreasing by $644,000 over the next 15 years.

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

| | 5 Years | 10 Years | 15 Years | 20 Years |
|---|---|---|---|---|
| Infrastructure Deficit | 5,243,344 | 5,243,344 | 5,243,344 | 5,243,344 |
| Change in Debt Costs | 0 | -320,296 | -644,412 | -703,225 |
| **Resulting Infrastructure Deficit:** | **5,243,344** | **4,923,049** | **4,598,933** | **4,540,119** |
| Tax Increase Required | 40.8% | 38.3% | 35.8% | 35.4% |
| **Annually:** | **7.1%** | **3.3%** | **2.1%** | **1.6%** |

*Table 14 Tax Increase Options 5-20 Years*

### 6.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 15-year option. This involves 60% of full funding being achieved over 15 years by:

a) increasing tax revenues by 2.1% each year for the next 15 years solely for the purpose of phasing in the target of 60 % of full funding to the asset categories covered in this section of the AMP.
b) allocating the current CCBF and OCIF revenue as outlined previously.
c) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
d) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[2].
2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

As the above option achieves 60% of recommended funding on an annual basis in 15 years and provides improvements to financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of $17.8 million for tax-funded assets, concentrated primarily in the storm sewer system ($8.1 million) and the road network ($3.8 million).

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

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

## 6.4. Financial Profile: Rate Funded Assets

### 6.4.1 Current Funding Position

The following tables show, by asset category, Brockton's average annual asset investment requirements, current funding positions, and funding increases required to achieve the proposed level of service of 60% funding for assets funded by rates.

| Asset Category | Avg. Annual Require-ment | Annual Funding Available | | | | Annual Deficit |
|---|---|---|---|---|---|---|
| | | Rates | To Operating | OCIF | Total Available | |
| Water Services | 622,680 | 1,357,315 | -977,571 | 0 | 379,744 | 242,936 |
| Sanitary Services | 2,097,575 | 1,573,155 | -1,201,723 | 0 | 371,432 | 1,726,143 |
| **Total** | **2,720,256** | **2,930,470** | **-2,179,294** | **0** | **751,176** | **1,969,080** |

*Table 15 Annual Available Funding for Rate Funded Assets*

The average annual investment requirement for the above categories is $2.7 million to meet the 60% funding target. Annual revenue currently allocated to these assets for capital purposes is $751,000 leaving an annual deficit of $2.0 million. Put differently, these infrastructure categories are currently funded at 17% of their long-term/ideal requirements, while targeting 60% within 15 years.

### 6.4.2 Proposed LOS Funding Requirements

In 2024, Brockton had annual sanitary revenues of $1.8 million and annual water revenues of $1.4 million. As illustrated in the table below, without consideration of any other sources of revenue, increasing funding would require the following changes over time:

| Asset Category | Rate Change Required for Full Funding | Rate Change Required for 60% Funding (Proposed LOS) |
|---|---|---|
| Water Services | 47.4% | 17.5% |
| Sanitary Services | 176.5% | 97.5% |

*Table 16 Rate Increase Requirements for Full Funding vs. PLOS*

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

| | Water Network | | | |
|---|---|---|---|---|
| | **5 Years** | **10 Years** | **15 Years** | **20 Years** |
| Infrastructure Deficit | 242,936 | 242,936 | 242,936 | 242,936 |
| Change in Debt Costs | 0 | 0 | 0 | 0 |
| **Resulting Infrastructure Deficit:** | **242,936** | **242,936** | **242,936** | **242,936** |
| Rate Increase Required | 17.5% | 17.5% | 17.5% | 17.5% |
| **Annually:** | **3.3%** | **1.7%** | **1.1%** | **0.9%** |

*Table 17 Water Rate Increase Options 5-20 Years*

| | Sanitary Sewer Network | | | |
|---|---|---|---|---|
| | **5 Years** | **10 Years** | **15 Years** | **20 Years** |
| Infrastructure Deficit | 1,726,143 | 1,726,143 | 1,726,143 | 1,726,143 |
| Change in Debt Costs | 0 | -56,164 | -56,164 | -56,164 |
| **Resulting Infrastructure Deficit:** | **1,726,143** | **1,669,980** | **1,669,980** | **1,669,980** |
| Rate Increase Required | 97.5% | 94.4% | 94.4% | 94.4% |
| **Annually:** | **14.6%** | **6.9%** | **4.6%** | **3.4%** |

*Table 18 Sanitary Rate Increase Options 5-20 Years*

### 6.4.3 Financial Strategy Recommendations

Considering all of the above information, we recommend the 15-year option. This involves 60% of full funding being achieved over 15 years by:

a) increasing rate revenues by 1.1% for water services and 4.6% for sanitary services each year for the next 15 years solely for the purpose of phasing in the target of 60 % of full funding to the asset categories covered in this section of the AMP.
b) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

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

As the above option achieves 60% of recommended funding on an annual basis in 15 years and provides improvements to financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of $170,000 for Water Services and $679,000 for Sanitary Services.

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

## 6.5. Use of Debt

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

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

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

The following tables outline how Brockton has historically used debt for investing in the asset categories as listed. As of year-end 2024, there is currently $16.8 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $1.5 million.

***Note:*** *These debt figures exclude any debt used for purposes outside of assets covered by this AMP (for example, land purchases).*

| Asset Category | Current Debt Out-standing Dec. `24 | Use of Debt in the Last Five Years | | | | |
|---|---|---|---|---|---|---|
| | | 2020 | 2021 | 2022 | 2023 | 2024 |
| Road Network | 8,451,102 | 362,460 | 1,021,876 | 97,119 | 4,914,461 | 581,600 |
| Bridges & Culverts | 3,712,140 | | 588,207 | 606,412 | 2,372,159 | |
| Storm Sewer System | 0 | 0 | 0 | 0 | 0 | 0 |
| Buildings & Facilities | 230,392 | 0 | 0 | 0 | 0 | 0 |
| Furniture & Fixtures | 0 | 0 | 0 | 0 | 0 | 0 |
| Land Improvements | 3,050,128 | 0 | 0 | 0 | 0 | 3,053,386 |
| Vehicles & Heavy Equipment | 977,817 | 0 | 0 | 238,353 | 0 | 880,280 |
| Misc. Machinery & Small Equipment | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Tax funded** | **16,421,579** | **362,460** | **1,610,083** | **941,884** | **7,286,620** | **4,515,266** |
| Water Services | 0 | 0 | 0 | 0 | 0 | 0 |
| Sanitary Services | 399,179 | 0 | 0 | 0 | 456,294 | 0 |
| **Total Rate Funded** | **399,179** | **0** | **0** | **0** | **456,294** | **0** |

*Table 19 Brockton Use of Debt 2020-2024*

| Asset Category | Principal & Interest Payments in the Next Ten Years | | | | | |
|---|---|---|---|---|---|---|
| | **2025** | **2026** | **2027** | **2028** | **2029** | **2034** |
| Road Network | 736,414 | 742,642 | 741,132 | 715,233 | 712,879 | 550,008 |
| Bridges & Culverts | 335,532 | 335,532 | 335,532 | 335,532 | 334,100 | 211,606 |
| Storm Sewer System | 0 | 0 | 0 | 0 | 0 | 0 |
| Buildings & Facilities | 28,868 | 28,868 | 28,868 | 28,868 | 28,868 | 26,462 |
| Furniture & Fixtures | 0 | 0 | 0 | 0 | 0 | 0 |
| Land Improvements | 200,425 | 200,425 | 200,425 | 200,425 | 200,425 | 197,963 |
| Vehicles & Heavy Equipment | 149,167 | 149,148 | 146,545 | 127,972 | 108,059 | 50,195 |
| Misc. Machinery & Small Equipment | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Tax Funded** | **1,450,406** | **1,456,614** | **1,452,502** | **1,408,029** | **1,384,330** | **1,036,234** |
| | | | | | | |
| Water Services | 0 | 0 | 0 | 0 | 0 | 0 |
| Sanitary Services | 56,164 | 56,164 | 56,164 | 56,164 | 56,164 | 0 |
| **Total Rate Funded** | **56,164** | **56,164** | **56,164** | **56,164** | **56,164** | **0** |

*Table 20 Brockton Principal and Interest Payments*

The revenue options outlined in this plan allow the Municipality of Brockton to achieve 60% funding of infrastructure requirements without further use of debt, however, targeting of less than ideal funding increases uncertainty, which may result in the necessity of further use of debt.

## 6.6. Use of Reserves

### 6.6.1 Available Reserves

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

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

e) normalizing infrastructure funding requirement

Split into tax funded vs. rate funded reserves, the table below outlines the value of the capital reserve funds currently available to Brockton.

| Asset Category | Approximate Balance at December 31, 2023 |
|---|---|
| Total Tax Funded | **7,131,497** |
| Total Rate Funded | **1,830,602** |

*Table 21 Brockton Reserve Balances*

Brockton currently has a variety of reserves that range from specific allocations, such as the Brant/Greenock Landfill Equipment Reserve, to broad allocations like the Brockton Infrastructure Equipment Reserve which can be used for any asset category. By having reserves with broad applications across multiple asset categories the municipality gains the flexibility to spend funds on needs as they arise, regardless of asset type, however, risks losing sight of long-term funding requirements which may require analysis on a more granular basis.

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

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

These reserves are available for use by applicable asset categories during the phase-in period to achieve targeted funding levels. This coupled with Brockton’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.

# 7. Recommendations & Key Considerations

## 7.1. Financial Strategies

1. Review the feasibility of increasing capital funding to achieve 60% of ideal average annual funding requirements for the asset categories analyzed. This includes:
    a. Increasing taxes by 2.1% per year over a period of 15 years;
    b. Increasing water rates by 1.1% per year over a period of 15 years; and
    c. Increasing sanitary rates by 4.6% per year over a period of 15 years.

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

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

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

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

6. Consider conducting a water/sanitary rate study, to provide more in-depth options for funding of utilities.

## 7.2. Asset Data

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

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

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

4. Many assets are being assessed solely based on age compared to their originally established useful lives. This can lead to an overestimation of replacement needs. The Municipality should consider condition assessment programs for categories with limited data. Utility infrastructure (particularly sanitary and storm mains) would benefit from a CCTV inspection program.

5. A comprehensive review of the Citywide asset inventory should be conducted to verify accuracy of historical assets. During the development of this asset management plan, the following data was flagged for needing improvement, however, was not within the scope of this project:

    a. There is a discrepancy between the number of bridges indicated in this report and what Public Works has in their records.
    b. Sidewalk inventory may be missing inherited assets from new developments.

6. A comprehensive building condition assessment was completed by a consultant in 2023, however, this componentized assessment does not line up with the existing Citywide inventory, limiting the usefulness of these valuable assessments in prediction of future capital needs. It is recommended to incorporate the componentized inventory into Citywide.

7. The Municipality has a GIS inventory of natural assets which have not yet been incorporated into the asset management system, Citywide. This data exercise is recommended to be conducted prior to the next iteration of the asset management plan if the Municipality's intention is to incorporate natural assets into the AMP.

## 7.3. Risk & Levels of Service

1. Risk models and matrices can play an important role in identifying high-value assets, and developing an action plan which may include repair, rehabilitation, replacement, or further evaluation through condition assessments. As a result, project selection and the development of multi-year capital plans can become more strategic and objective. Initial models have been built into Citywide for all asset groups. These models reflect current data, which was limited. As the data evolves and new attribute information is obtained, these models should also be refined and updated.

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

3. As O. Reg. 588/17 requires on-going updates to municipal asset management plans every 5 years moving forward, it is recommended to implement a KPI tracking program to report on proposed level of service progress.

# Appendices

# Appendix A – Infrastructure Report Card

| Asset Category | Replacement Cost | Average Condition | Financial Capacity[3] | | % Funded |
|---|---|---|---|---|---|
| Road Network | **$379 m** | **Fair** | Annual Requirement: | $8,861,000 | **16%** |
| | | | Funding Available: | $1,428,000 | |
| | | | **Annual Deficit:** | **$7,433,000** | |
| Bridges & Culverts | **$54 m** | **Fair** | Annual Requirement: | $731,000 | **43%** |
| | | | Funding Available: | $312,000 | |
| | | | **Annual Deficit:** | **$419,000** | |
| Water Services | **$68 m** | **Very Good** | Annual Requirement: | $1,038,000 | **37%** |
| | | | Funding Available: | $380,000 | |
| | | | **Annual Deficit:** | **$658,000** | |
| Sanitary Services | **$210 m** | **Good** | Annual Requirement: | $3,496,000 | **37%** |
| | | | Funding Available: | $371,000 | |
| | | | **Annual Deficit:** | **$3,125,000** | |
| Storm Sewer System | **$45 m** | **Fair** | Annual Requirement: | $805,000 | **11%** |
| | | | Funding Available: | $44,000 | |
| | | | **Annual Deficit:** | **$761,000** | |
| Buildings & Facilities | **$46 m** | **Fair** | Annual Requirement: | $1,170,000 | **36%** |
| | | | Funding Available: | $426,000 | |
| | | | **Annual Deficit:** | **$744,000** | |
| Furniture & Fixtures | **$653 k** | **Very Poor** | Annual Requirement: | $56,000 | **0%** |
| | | | Funding Available: | $0 | |
| | | | **Annual Deficit:** | **$56,000** | |
| Land Improvements | **$5 m** | **Fair** | Annual Requirement: | $277,000 | **85%** |
| | | | Funding Available: | $236,000 | |
| | | | **Annual Deficit:** | **$41,000** | |
| Vehicles & Heavy Equipment | **$15 m** | **Fair** | Annual Requirement: | $1,038,000 | **37%** |
| | | | Funding Available: | $382,000 | |
| | | | **Annual Deficit:** | **$656,000** | |
| Misc. Machinery & Small Equipment | **$6 m** | **Poor** | Annual Requirement: | $515,000 | **0%** |
| | | | Funding Available: | $0 | |
| | | | **Annual Deficit:** | **$515,000** | |

[3] Annual Requirement is based on ideal funding scenarios. Note that the Municipality has selected a proposed level of service of 60% of ideal funding levels.

# Appendix B – Road Network

The Municipality's road network comprises the largest share of its infrastructure portfolio, with a current replacement cost of more than $379 million, distributed primarily between paved and unpaved roads. The Municipality also owns and manages other supporting infrastructure and capital assets, including sidewalks, and streetlights.

## 1. Inventory & Valuation

Table 22 summarizes the quantity and current replacement cost of the Municipality's various road network assets as managed in its primary asset management register, Citywide.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Gravel & Dirt Roads | 179.3 | Length (km) | $57,140,590 | Cost per Unit |
| Hot Mix Roads | 153.8 | Length (km) | $244,116,602 | Cost per Unit |
| Sidewalks | 11.6 | Length (km) | $3,392,071 | Cost per Unit |
| Streetlights | 1,017 | Assets | $1,720,438 | CPI |
| Surface Treated Roads | 83.3 | Length (km) | $72,864,356 | Cost per Unit |
| **TOTAL** | | | **$379,234,057** | |

*Table 22 Detailed Asset Inventory: Road Network*

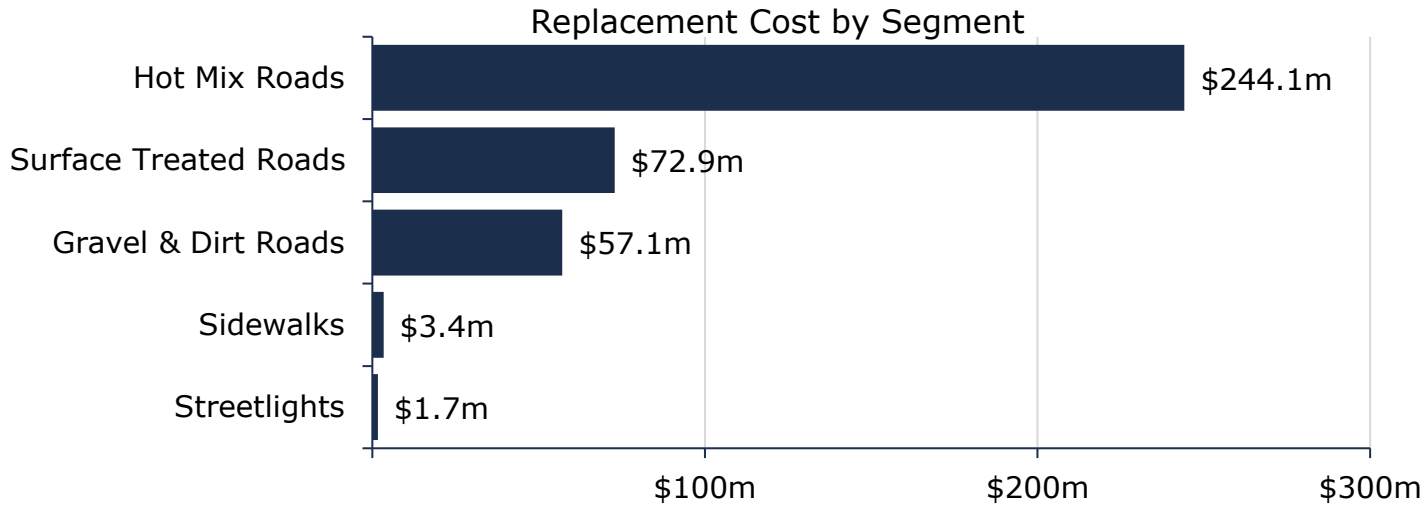


*Figure 24 Portfolio Valuation: Road Network*

## 2. Asset Condition

Figure 25 summarizes the replacement cost-weighted condition of the Municipality's road network. Based on a combination of field inspection data and age, 56% of assets are in fair or better condition; the remaining 44% of assets are in poor to very poor condition. Condition assessments were available for 83% of hot mix roads, 92% of surface treated roads, and 96% of gravel roads, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remaining asset types.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 25, the majority of the Municipality's road network assets are in fair or better condition.

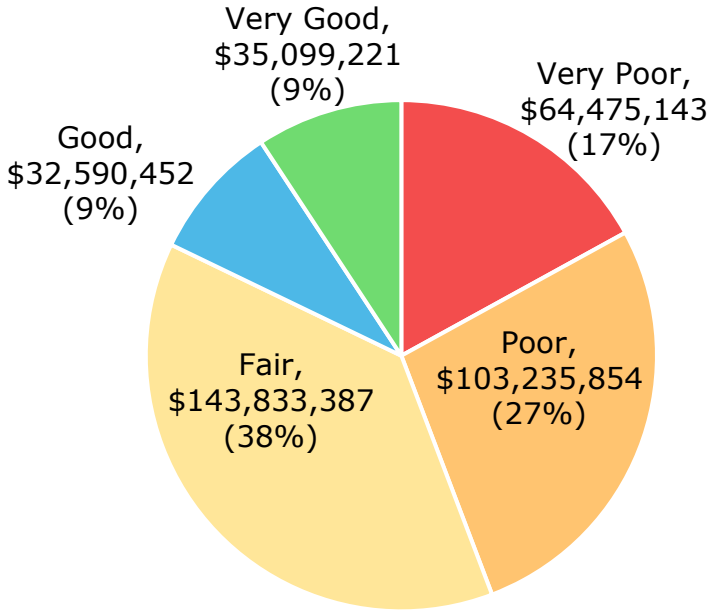


*Figure 25 Asset Condition: Road Network Overall*

As illustrated in Figure 26, based on condition assessments, the majority of the Municipality's hot mix roads are in fair or better condition; however, a significant proportion of surface treated and gravel roads are in poor or worse condition.

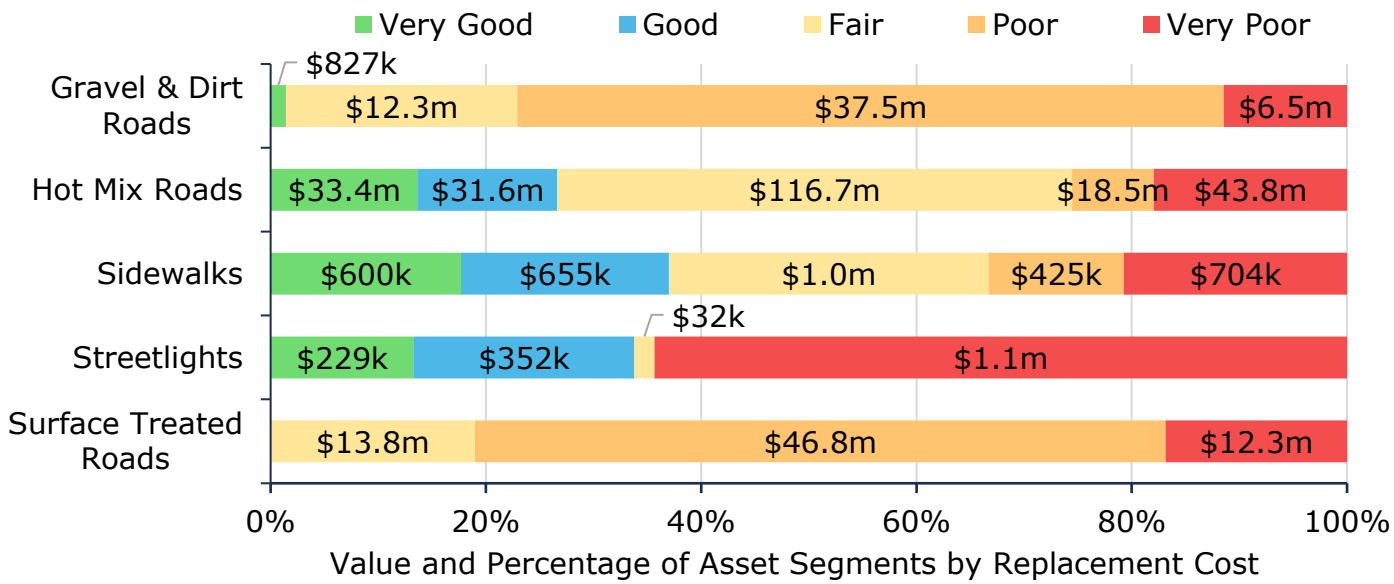


*Figure 26 Asset Condition: Road Network by Segment*

## 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 27 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.

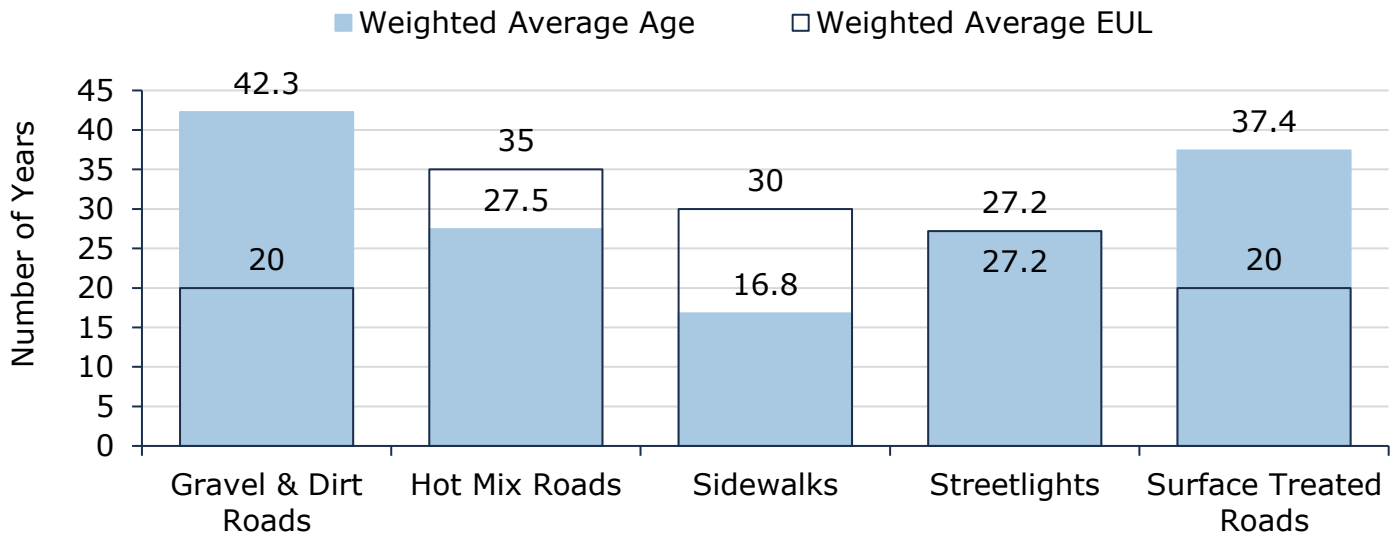


*Figure 27 Estimated Useful Life vs. Asset Age: Road Network*

Age analysis shows that the majority of gravel and surface treated roads have exceeded their originally expected useful life, however, these road types can be maintained on a perpetual cycle through the operational maintenance budget with a regular roadway granular replacement program and surface treatments. The exceedance of original lifespans is an expected outcome when regular maintenance is conducted.

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

## 4. Current Approach to Lifecycle Management

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

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

| Asphalt Roads | | |
|---|---|---|
| **Event Name** | **Event Class** | **Event Trigger** |
| Crack Sealing | Preventative Maintenance | Every five years (12 times) |
| Mill & Pave | Rehabilitation | Every 15 years (two times) |
| Full Reconstruction | Replacement | Condition: 20 |

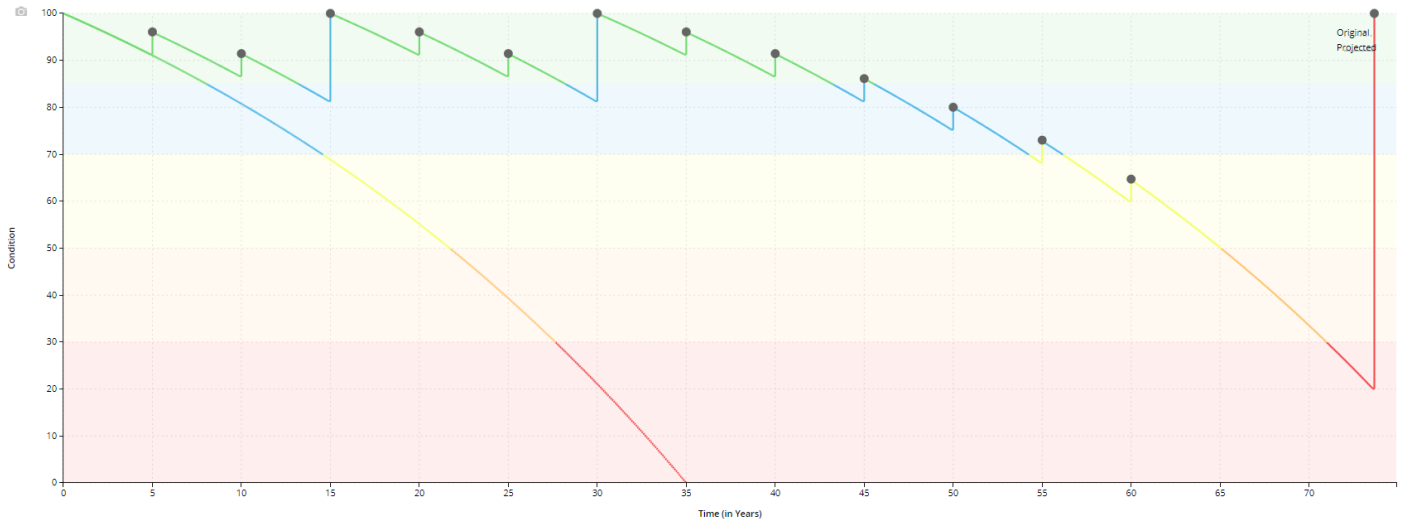


*Table 23 Lifecycle Management Strategy: Road Network (Asphalt Roads)*

| Surface Treated Roads | | |
|---|---|---|
| **Event Name** | **Event Class** | **Event Trigger** |
| Single Surface Treatment | Rehabilitation | Every seven years (seven times) |
| Full Reconstruction | Replacement | Condition: 0 |

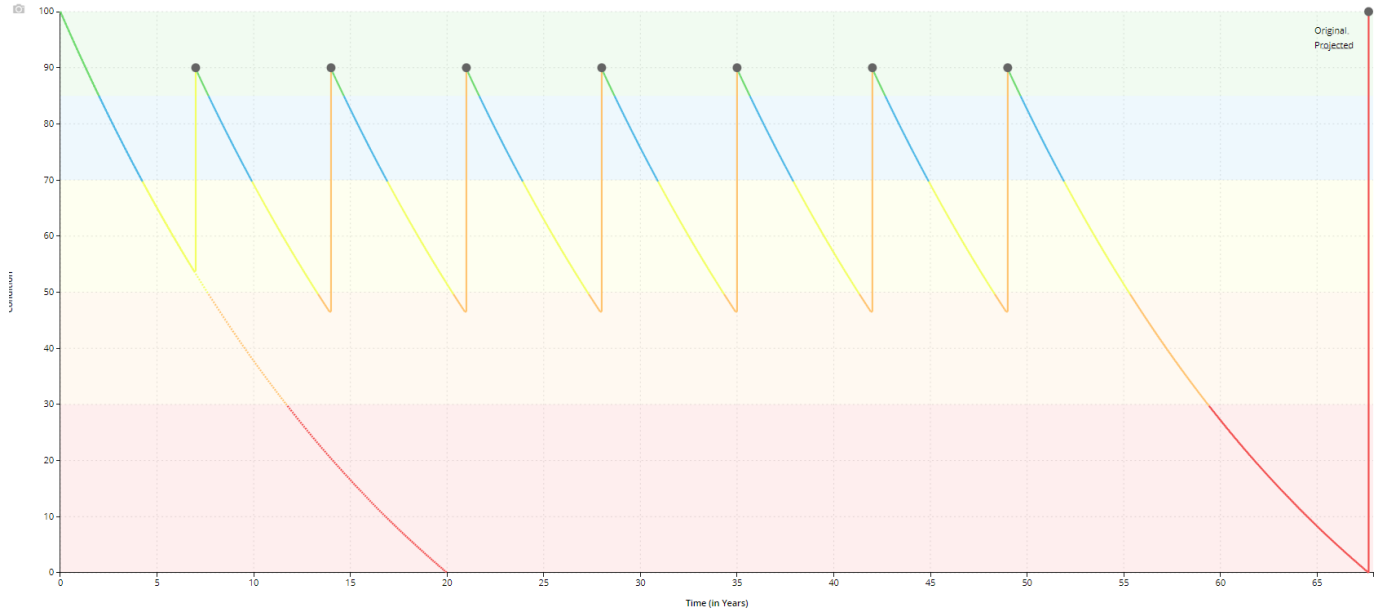


*Table 24 Lifecycle Management Strategy: Road Network (Surface Treated Roads)*

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Municipal roads crews apply patching, crack sealing, chip sealing on an as needed and severity basis. The frequency of maintenance activities occurs on an as needed basis. Road crews respond to requests in areas of higher priority. |
| Rehabilitation | The Municipality follows the standards provided by the Roads Needs Studies and Provincial Regulation procedures. This will include single and double surface treatment procedures. Traffic counts and road conditions influence the prioritization of activities. |
| Replacement | Road reconstruction projects are identified based on road condition and traffic count. |

*Table 25 Lifecycle Management Strategy: Road Network*

## 5. Forecasted Long-Term Replacement Needs

Figure 28 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's road network. This analysis was run until 2104 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$8.9 million per year** for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs through the forecast period. It also shows a backlog $3.8 million, dominated by gravel and dirt roads. These projections are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling (roads only). They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

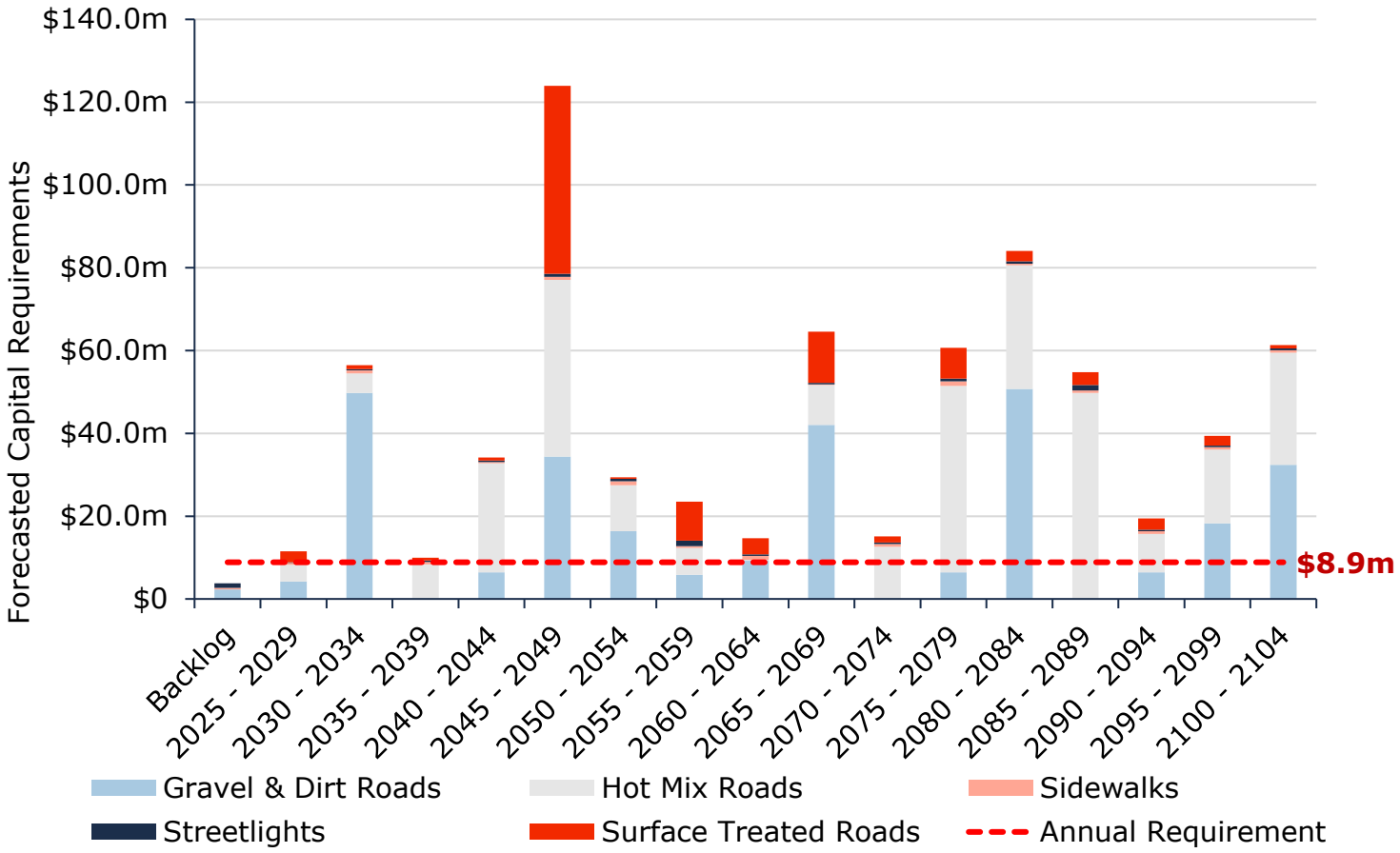


*Figure 28 Forecasted Capital Replacement Needs: Road Network 2025-2104*

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

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

## 6. Risk Analysis

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

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

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

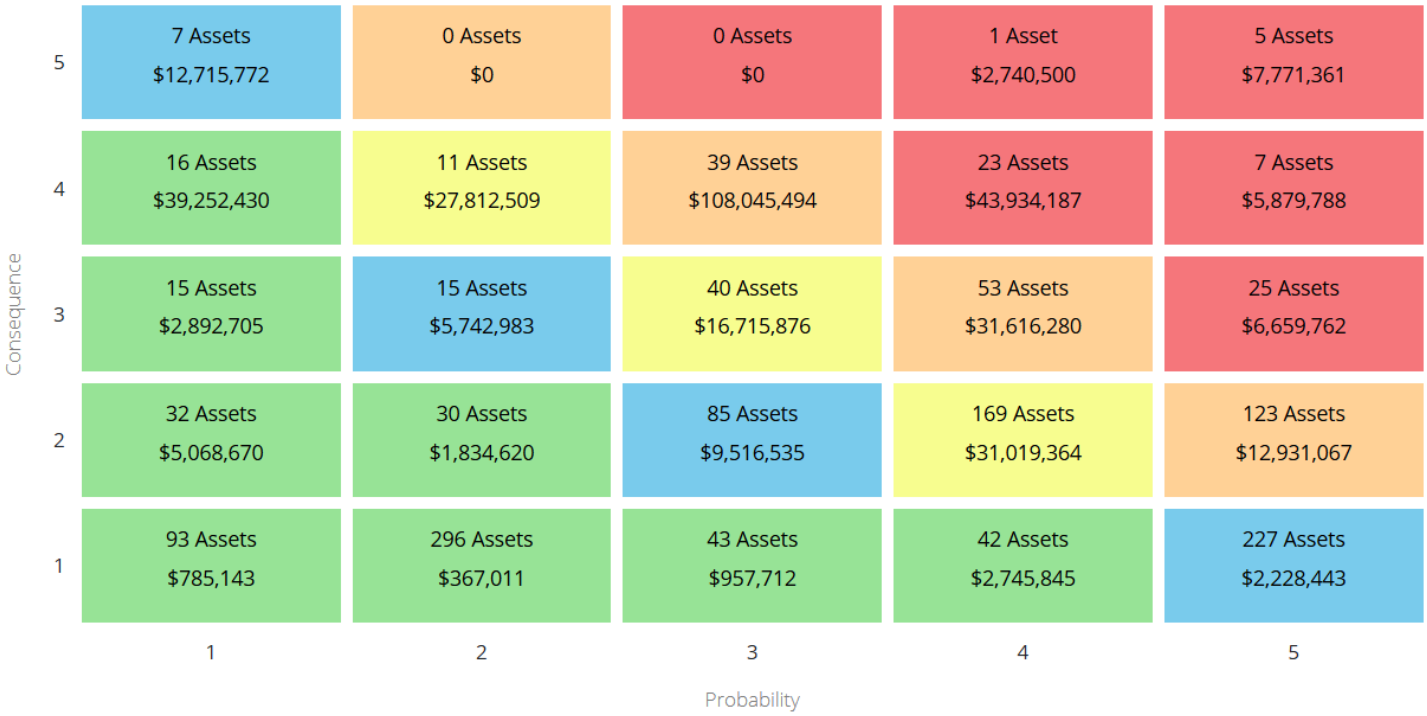


*Figure 29 Risk Matrix: Road Network*

## 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Scope | Description, which may include maps, of the road network in the municipality and its level of connectivity | See Appendix N – Level of Service Maps & Photos |
| Quality | Description or images that illustrate the different levels of road class pavement condition | The Municipality completed an Urban Roads Need Assessment Study in 2018 and a Rural Roads Needs Assessment Study in 2019 in coordination with BM Ross. The Condition Rating number is a visual assessment of the structural condition or integrity of the road.<br>The rating numbers were assigned on a scale of 1 to 10 with the lower numbers describing those roads with the most structural distress or poorest shaped road cross section.<br>♦ (1-5) Road surface exhibits moderate to significant deterioration and requires improvement.<br>♦ (6-10) Road surface is in generally good condition, with localized deficiencies. |
| Environment | Description of the Municipality's policy towards using LEDs or other energy efficient bulbs, and other efficiency strategies | The Municipality uses LED bulbs in all new streetlights. Existing streetlights are currently being retrofitted, and the majority of them have been switched to LED bulbs. All incandescent bulbs will be replaced with LED bulbs in coming years. |

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

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Scope | Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km$^2$) | 0.01 km/km$^2$ |
| | Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km$^2$) | 0.04 km/km$^2$ |
| | Lane-km of local roads (MMS classes 5 and 6) per land area (km/km$^2$) | 1.3 km/km$^2$ |
| Quality | Average pavement condition index for paved roads in the Municipality | Hot Mix Roads: 57% |
| | | Surface Treated Roads: 37% |
| | Average surface condition for unpaved roads in the Municipality (e.g. excellent, good, fair, poor) | 39% (Poor) |
| Environment | % of lights operating with energy efficient bulbs | 94% |
| Performance | Target vs. Actual capital reinvestment rate | 2.3% vs. 0.4% |

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

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Road Network capital funding is maintained at $1.4m/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Road Network capital funding gradually increases from $1.4m/year to $5.3m/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Road Network capital funding gradually increases from $1.4m/year to $8.9m/year over a span of 15 years |

*Table 28 Road Network PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 67% | 55% | 47% | |
| | Average Asset Risk | 9.3 | 10.4 | 11.5 | |
| | Average Annual Investment | | $1,428,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.4% | | |
| Scenario 2 (60%) | Average Condition | 67% | 60% | 57% | |
| | Average Asset Risk | 9.3 | 9.6 | 10.6 | |
| | Average Annual Investment | | $5,317,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 1.4% | | |
| Scenario 3 (100%) | Average Condition | 67% | 64% | 68% | |
| | Average Asset Risk | 9.3 | 9.1 | 9.3 | |
| | Average Annual Investment | | $8,862,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 2.3% | | |

*Table 29 Road Network PLOS Scenario Analysis*

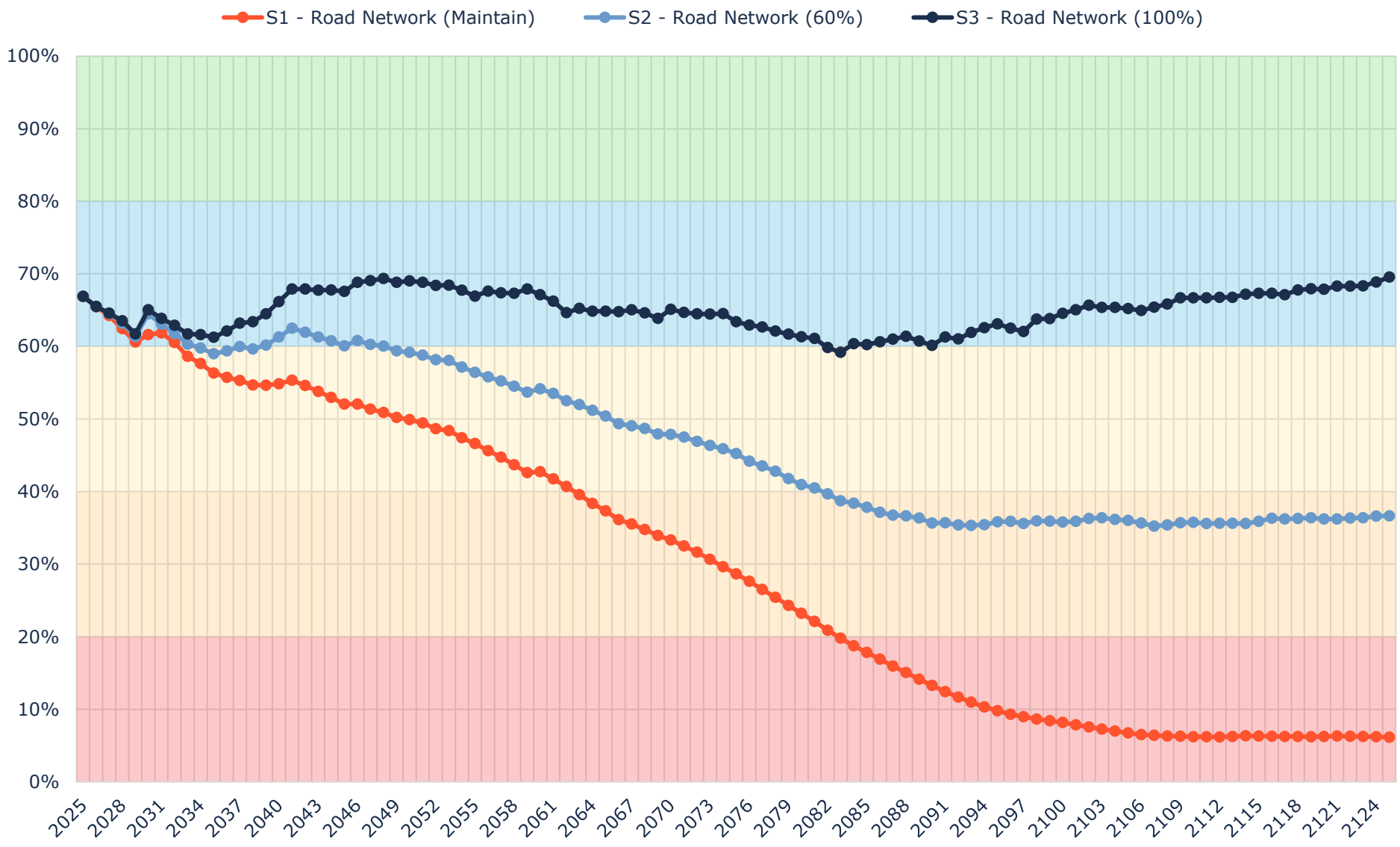


*Figure 30 Road Network PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the road network if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** | **$5.3m** |
| **Projected Capital Spending** | $1.7m | $1.9m | $2.1m | $2.3m | $2.6m | $2.8m | $3.1m | $3.4m | $3.6m | $3.9m |
| **Funding Deficit** | $3.6m | $3.5m | $3.2m | $3.0m | $2.7m | $2.5m | $2.2m | $2.0m | $1.7m | $1.4m |
| **Target Reinvestment Rate** | **1.4%** | **1.4%** | **1.4%** | **1.4%** | **1.4%** | **1.4%** | **1.4%** | **1.4%** | **1.4%** | **1.4%** |
| **Projected Reinvestment Rate** | 0.4% | 0.5% | 0.6% | 0.6% | 0.7% | 0.7% | 0.8% | 0.9% | 1.0% | 1.0% |

*Table 30 Road Network 10-Year PLOS Financial Projections*

# Appendix C – Bridges & Culverts

The Municipality's transportation network also includes bridges and structural culverts, with a current replacement cost of just under $54 million.

The Public Works department is responsible for the planning and managing of all bridges and structural culverts located across municipal roads with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

## 1. Inventory & Valuation

Table 31 summarizes the quantity and current replacement cost of bridges and culverts. The Municipality owns and manages 26 bridges, 11 structural culverts, and one pedestrian bridge.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Bridges | 26 | Assets | $48,190,288 | User-Defined |
| Culverts | 11 | Assets | $5,517,650 | User-Defined |
| Pedestrian Bridges | 1 | Assets | $56,021 | CPI |
| **TOTAL** | **38** | | **$53,763,959** | |

*Table 31 Detailed Asset Inventory: Bridges & Culverts*

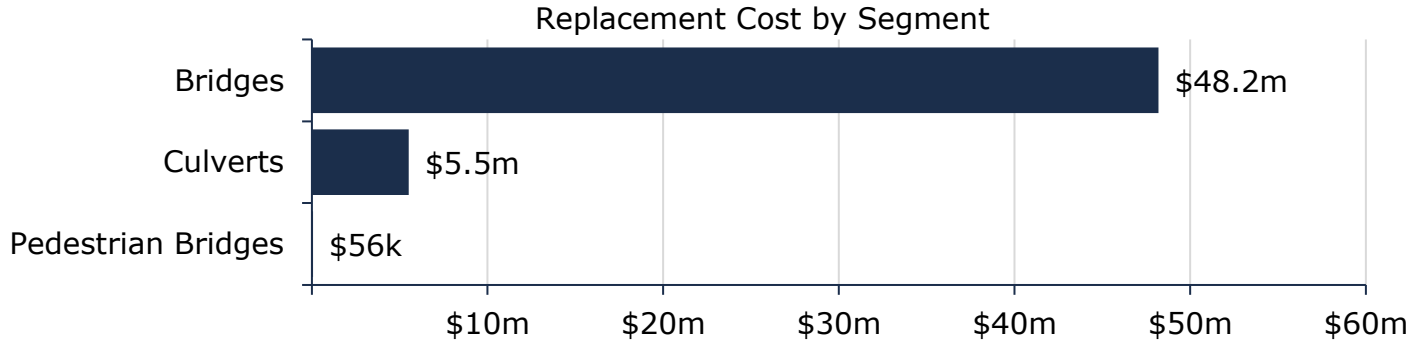


*Figure 31 Portfolio Valuation: Bridges & Culverts*

## 2. Asset Condition

Figure 32 summarizes the replacement cost-weighted condition of the Municipality's bridges and culverts. Based on the Municipality's recent Ontario Structures Inspection Manual (OSIM) assessments, 95% of bridges and culverts are in fair or better condition. Some elements or components of these structures may be candidates for replacement or rehabilitation in the medium term and should be monitored for further degradation in condition. At 5% of the total

bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

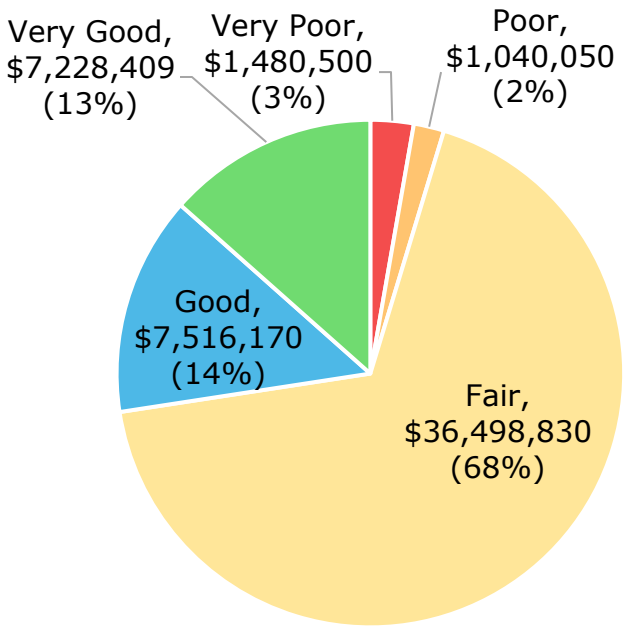


*Figure 32 Asset Condition: Bridges & Culverts Overall*

As further detailed in Figure 33, based on in-field condition assessments, $1.5 million of bridge assets were assessed as being in poor or very poor condition. Similarly, 18% of structural culverts, with a current replacement cost of $1.0 million were identified as poor or worse. Bridges and structures with a poor or worse rating (i.e., a bridge condition index of less than 60) are not necessarily unsafe for regular use. The OSIM ratings are designed to identify repairs needed to elevate condition ratings to a fair or higher.

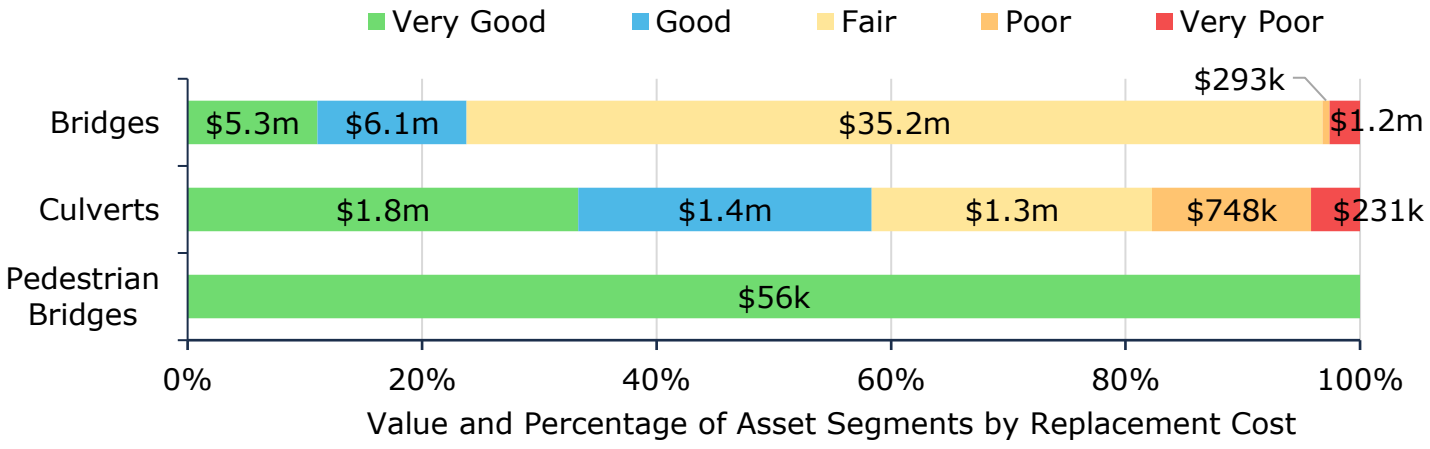


*Figure 33 Asset Condition: Bridges & Culverts by Segment*

## 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 34 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.

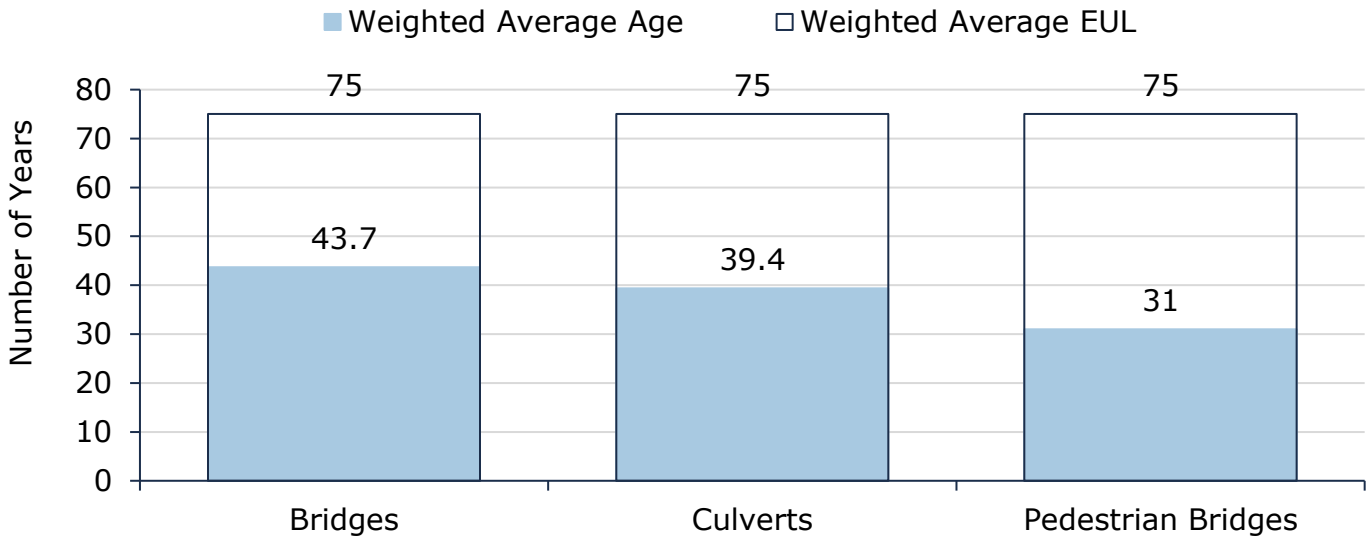


*Figure 34 Estimated Useful Life vs. Asset Age: Bridges & Culverts*

Age analysis reveals that on average, bridges are in the moderate stages of their useful lives. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | The Municipality performs maintenance activities and treatments such as guardrail inspections, grass cutting, debris removal, patching/sealing on a need's basis. Load weights and traffic volumes are usually collected periodically. |
| Rehabilitation / Replacement | Biennial OSIM inspection identifies recommended rehabilitation and replacement activities with estimated costs. OSIM reports will determine priority bridges and culverts to address based on traffic counts, condition ratings, and types of traffic. The Municipality relies on our OSIM reports to identify highest priority bridges and culverts. The highest priority bridges and culverts will inform and influence capital project investments. |
| Inspection | The most recent inspection reports were completed by B. M. Ross and Associates Limited in 2021 and Associates Limited and by GM BluePlan in 2020 |

*Table 32 Lifecycle Management Strategy: Bridges & Culverts*

## 5. Forecasted Long-Term Replacement Needs

Figure 35 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality'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 Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) for bridges and culverts total **$731,000 per year**. 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.

Although no major replacement spikes are anticipated for the next 10 years, capital needs will sharply increase starting in 2035 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.

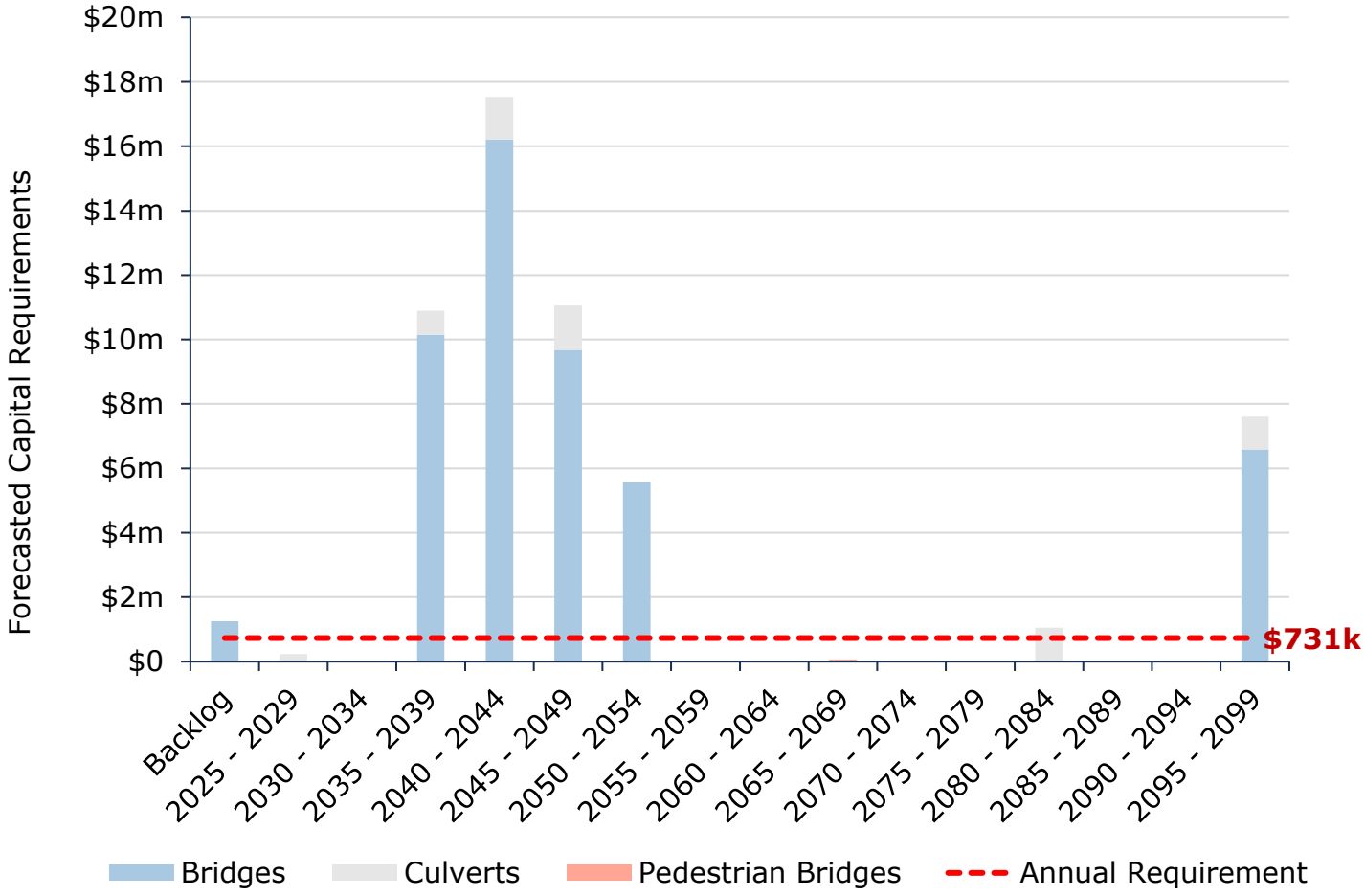


*Figure 35 Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2099*

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

## 6. Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and detour distance. 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 36 Risk Matrix: Bridges & Culverts*

## 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Scope | Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists) | The majority of the bridges in the Municipality of Brockton supports local residential traffic, emergency vehicles, pedestrians and cyclists. Many of the rural bridges and culverts are used by farming equipment and vehicles supporting agricultural transport. Most heavy transport vehicles use the County and Provincial roads throughout the Municipality. |
| Quality | Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts | Good (BCI 70-100): Generally considered to be in good-excellent condition, and repair or rehabilitation work is not usually required within the next 5 years. Routine maintenance, such as sweeping, cleaning, and washing are still recommended.<br>Fair (BCI 50-70): Generally considered to be in good-fair condition. Repair or rehabilitation work recommended is ideally scheduled to be completed within the next 5 years.<br>Poor (BCI Less than 50): Generally considered poor with lower numbers representing structures nearing the end of their service life. The repair or rehabilitation of these structures is ideally best scheduled to be completed within approximately 1 year. However, if it is determined that the replacement of the structure would be a more viable, the structure can be identified for continued monitoring and scheduled for replacement within the short-term.<br>Also refer to Appendix N – Level of Service Maps & Photos |

*Table 33 O. Reg. 588/17 Community Levels of Service: Bridges & Culverts*

### Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Scope | % of bridges in the Municipality with loading or dimensional restrictions | 8% |
| Quality | Average bridge condition index value for bridges in the Municipality | 69% (Fair) |
| | Average bridge condition index value for structural culverts in the Municipality | 75% (Good) |
| Performance | Target vs. Actual capital reinvestment rate | 1.4% vs. 0.6% |

*Table 34 O. Reg. 588/17 Technical Levels of Service: Bridges & Culverts*

## 8. Proposed Levels of Service

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

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

### PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Bridges capital funding is maintained at $312,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Bridges capital funding gradually increases from $312,000/year to $439,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Bridges capital funding gradually increases from $312,000/year to $731,000/year over a span of 15 years |

*Table 35 Bridges & Culverts PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 71% | 49% | 29% | |
| | Average Asset Risk | 12.3 | 17.1 | 17.9 | |
| | Average Annual Investment | | $312,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.6% | | |
| Scenario 2 (60%) | Average Condition | 71% | 51% | 33% | |
| | Average Asset Risk | 12.3 | 16.9 | 17.3 | |
| | Average Annual Investment | | $439,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 0.8% | | |
| Scenario 3 (100%) | Average Condition | 71% | 53% | 44% | |
| | Average Asset Risk | 12.3 | 16.6 | 15.4 | |
| | Average Annual Investment | | $731,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 1.4% | | |

*Table 36 Bridges & Culverts PLOS Scenario Analysis*

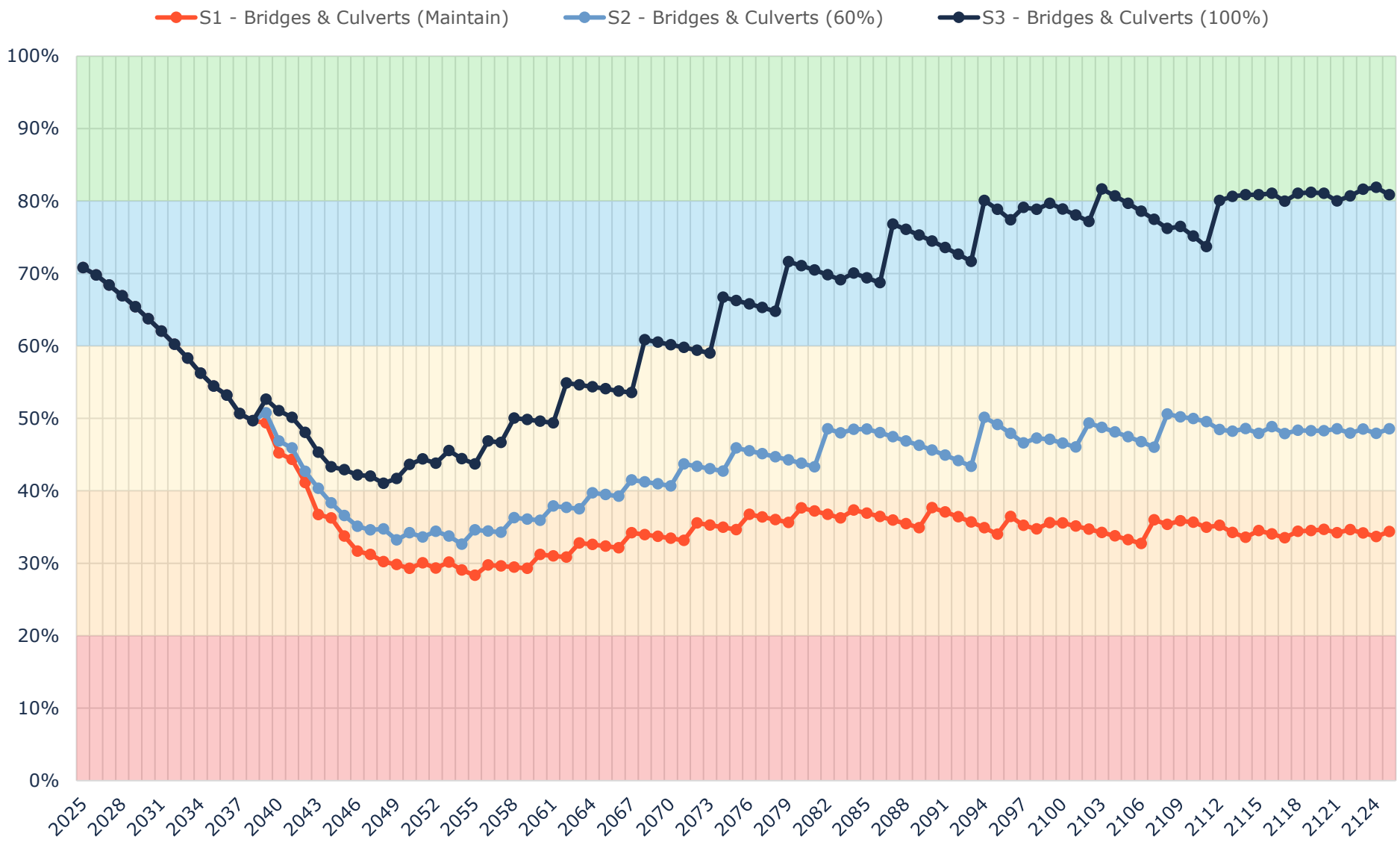


*Figure 37 Bridges & Culverts PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis* the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for bridges and culverts if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$439k** | **$439k** | **$439k** | **$439k** | **$439k** | **$439k** | **$439k** | **$439k** | **$439k** | **$439k** |
| **Projected Capital Spending** | $320k | $326k | $334k | $341k | $349k | $356k | $367k | $375k | $384k | $392k |
| **Funding Deficit** | $119k | $112k | $105k | $98k | $90k | $83k | $72k | $64k | $55k | $46k |
| **Target Reinvestment Rate** | **0.8%** | **0.8%** | **0.8%** | **0.8%** | **0.8%** | **0.8%** | **0.8%** | **0.8%** | **0.8%** | **0.8%** |
| **Projected Reinvestment Rate** | 0.6% | 0.6% | 0.6% | 0.6% | 0.6% | 0.7% | 0.7% | 0.7% | 0.7% | 0.7% |

*Table 37 Bridges & Culverts 10-Year PLOS Financial Projections*

# Appendix D – Water Services

While the Municipality of Brockton is responsible for overseeing water services in the community, the day-to-day operations are managed by Veolia Water Canada Inc. Assets within water services have a total current replacement cost of approximately $68 million and includes systems encompassing Chepstow, Lake Rosalind, and Walkerton.

## 1. Inventory & Valuation

Table 38 summarizes the quantity and current replacement cost of the Municipality's various water services assets as managed in its primary asset management register, Citywide Assets.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Hydrants | 248 | Assets | $1,430,130 | Cost per Unit |
| Pumphouse | 4 | Assets | $3,746,743 | User-Defined |
| Valves | 1,921 | Assets | $1,040,679 | Cost per Unit |
| Water Equipment | 27 | Assets | $2,623,611 | CPI |
| Water Mains | 45,054 | Length (m) | $47,648,527 | Cost per Unit |
| Water Tower | 2 | Assets | $11,853,000 | CPI |
| **TOTAL** | | | **$68,342,690** | |

*Table 38 Detailed Asset Inventory: Water Services*

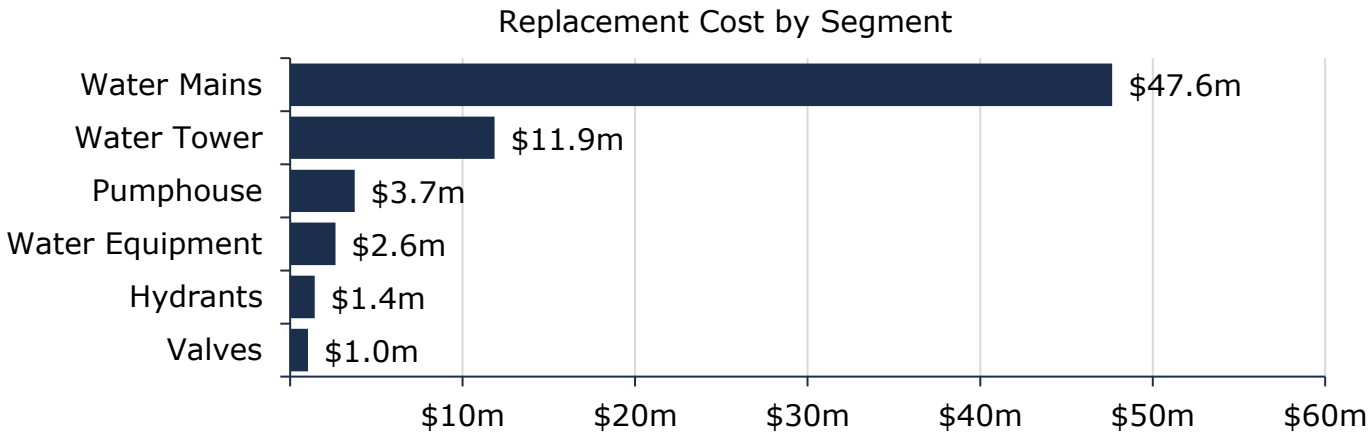


*Figure 38 Portfolio Valuation: Water Services*

## 2. Asset Condition

Figure 39 summarizes the replacement cost-weighted condition of the Municipality's water services. Based on a combination of field inspection data and age, 97% of assets are in fair or better condition; the remaining 3% of assets are in poor to very poor condition. Condition assessments were available for 89% of pumphouses, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for water equipment, mains, valves, towers, or hydrants.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 39, the majority of the Municipality's water services assets are in fair or better condition.

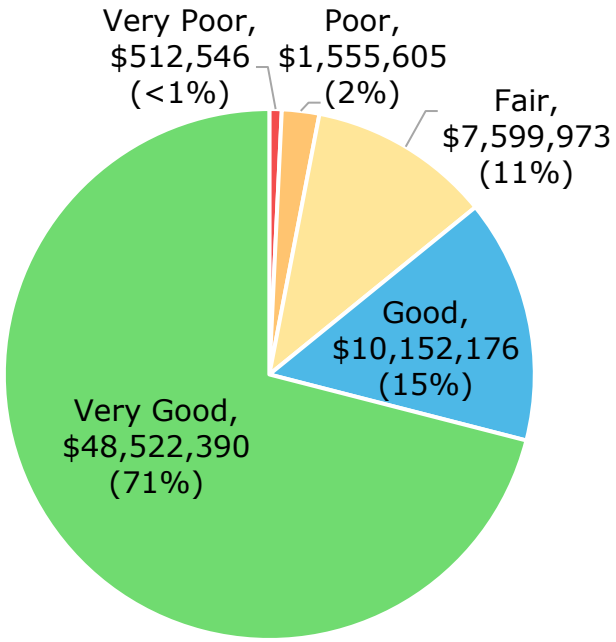


*Figure 39 Asset Condition: Water Services Overall*

As illustrated in Figure 40, based on condition assessments and age-based conditions, the majority of the Municipality's water mains are in very good condition; however, 39% of hydrants and 40% of water equipment are in poor or worse condition (note: these are based on age and may be skewed).

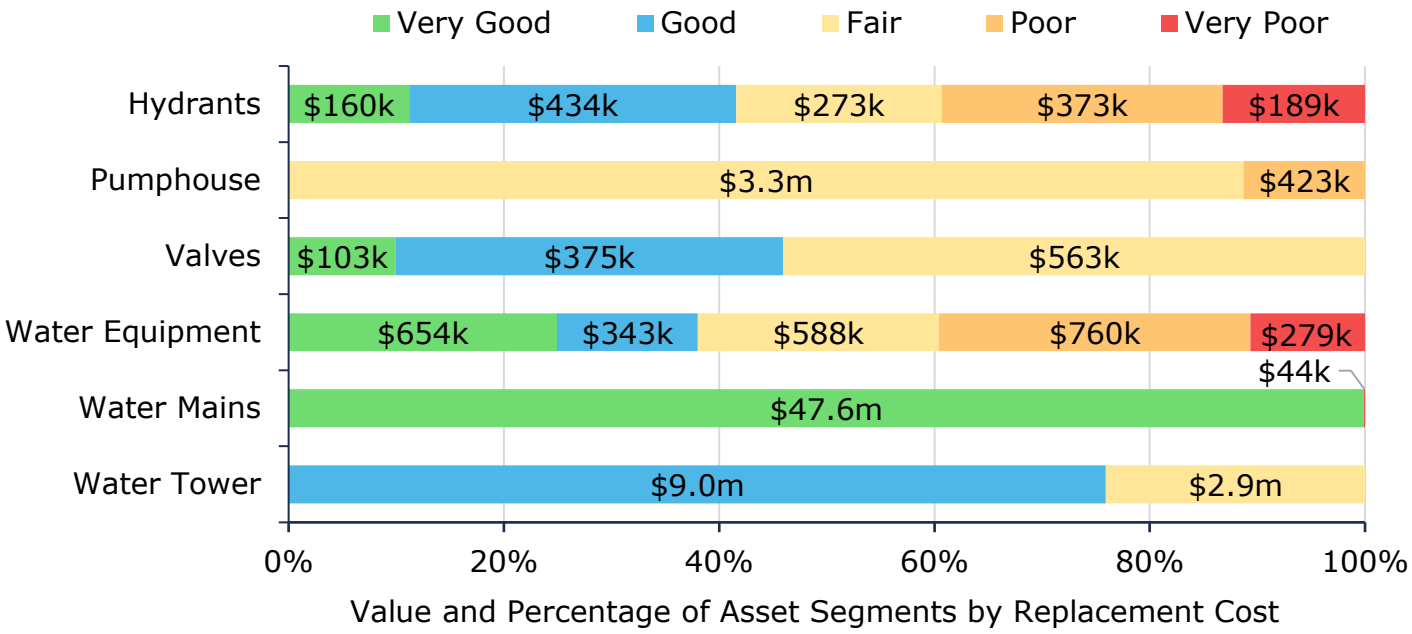


*Figure 40 Asset Condition: Water Services by Segment*

## 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 41 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.

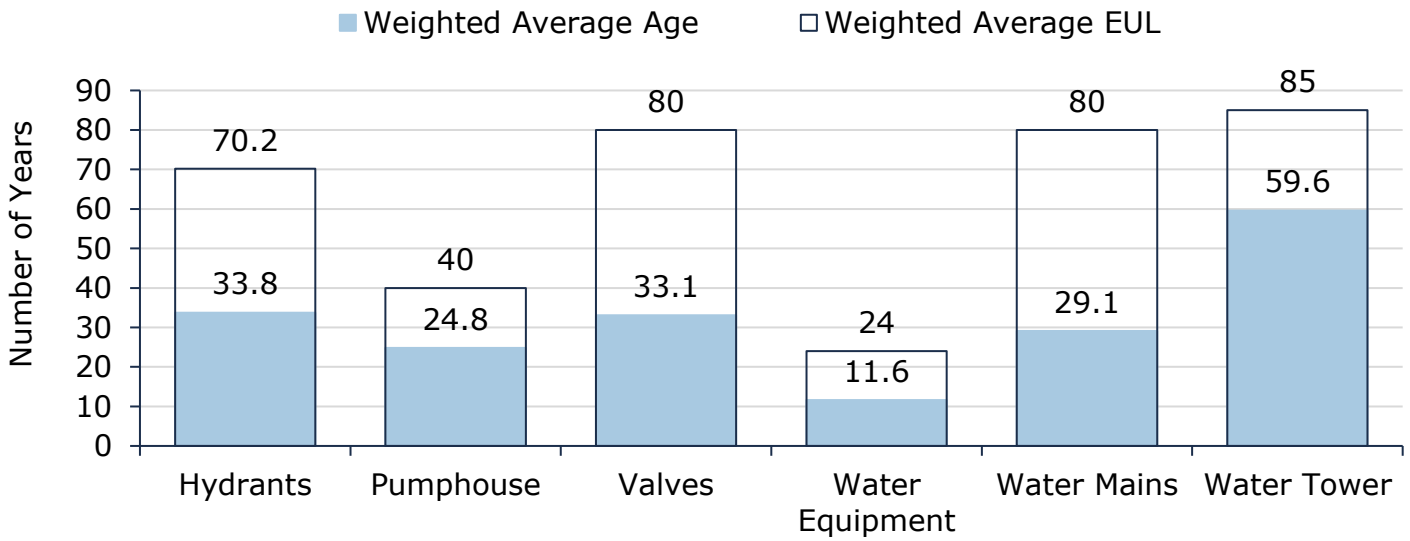


*Figure 41 Estimated Useful Life vs. Asset Age: Water Services*

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Flushing, valve turning and fire flow testing comprise of the Municipality's current O&M strategy. Water towers and wells are inspected by Veolia on a 5-year cycle and on a need's basis. Approximately, 300 valves/year or 50% of the water valves are turned each year. The watermain system is flushed annually. Fire flow & pressure testing occurs periodically. The last complete Fire flow testing on the entire system was completed September 25, 2015. |
| Rehabilitation & Replacement | Rehabilitation projects are prioritized primarily by main breaks, critical and coordinated with other assets to prioritize. Water services are replaced through road reconstruction projects. High priority areas are identified, assessed, and strategized. |

*Table 39 Lifecycle Management Strategy: Water Services*

## 5. Forecasted Long-Term Replacement Needs

Figure 42 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's water services. This analysis was run until 2104 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$1.0 million per year** for all assets in the water services. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog of $170,000, solely comprised of water equipment. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

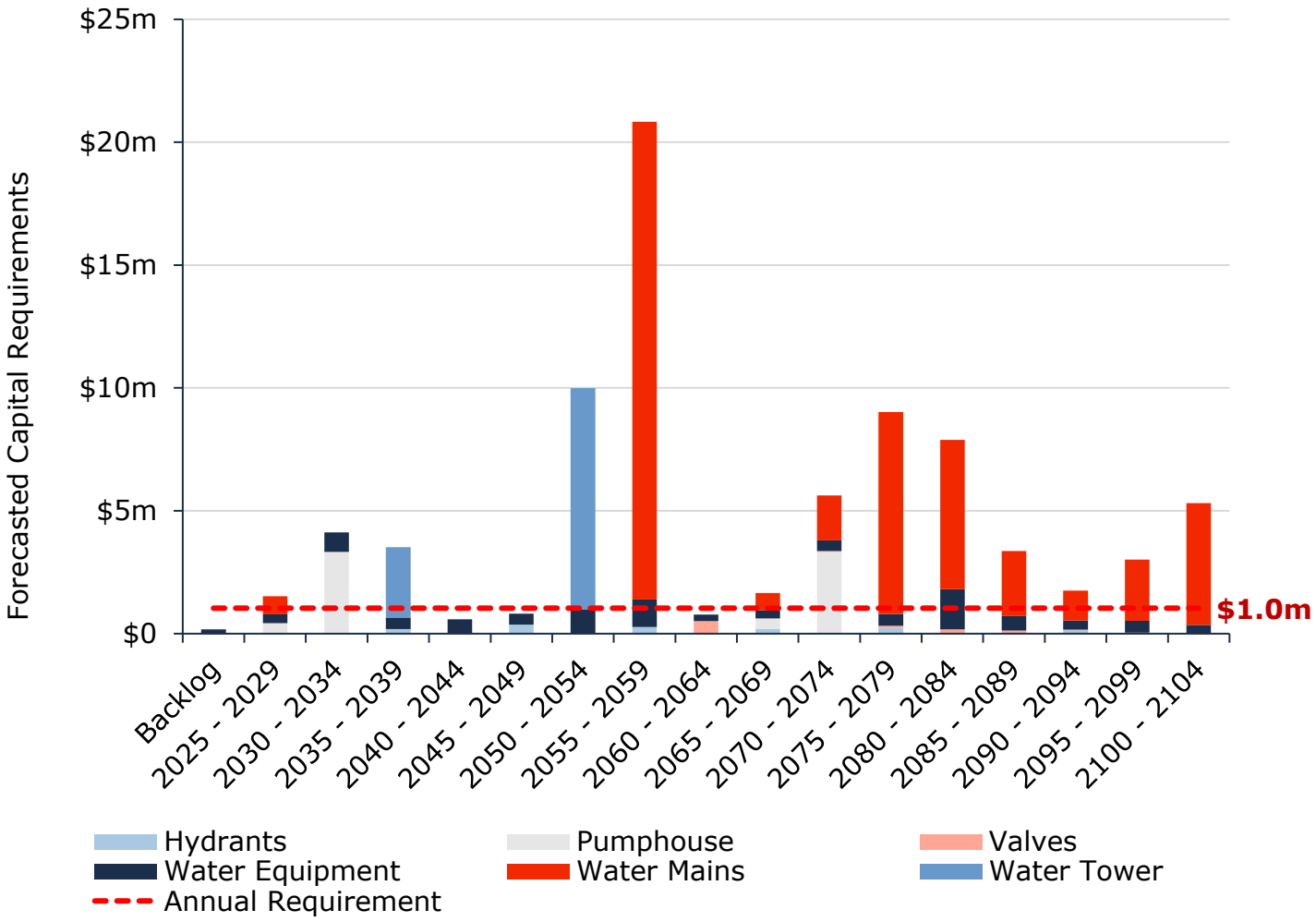


*Figure 42 Forecasted Capital Replacement Needs: Water Services 2025-2104*

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and

monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. Regular condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

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

## 6. Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, pipe diameter, and pipe material. 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

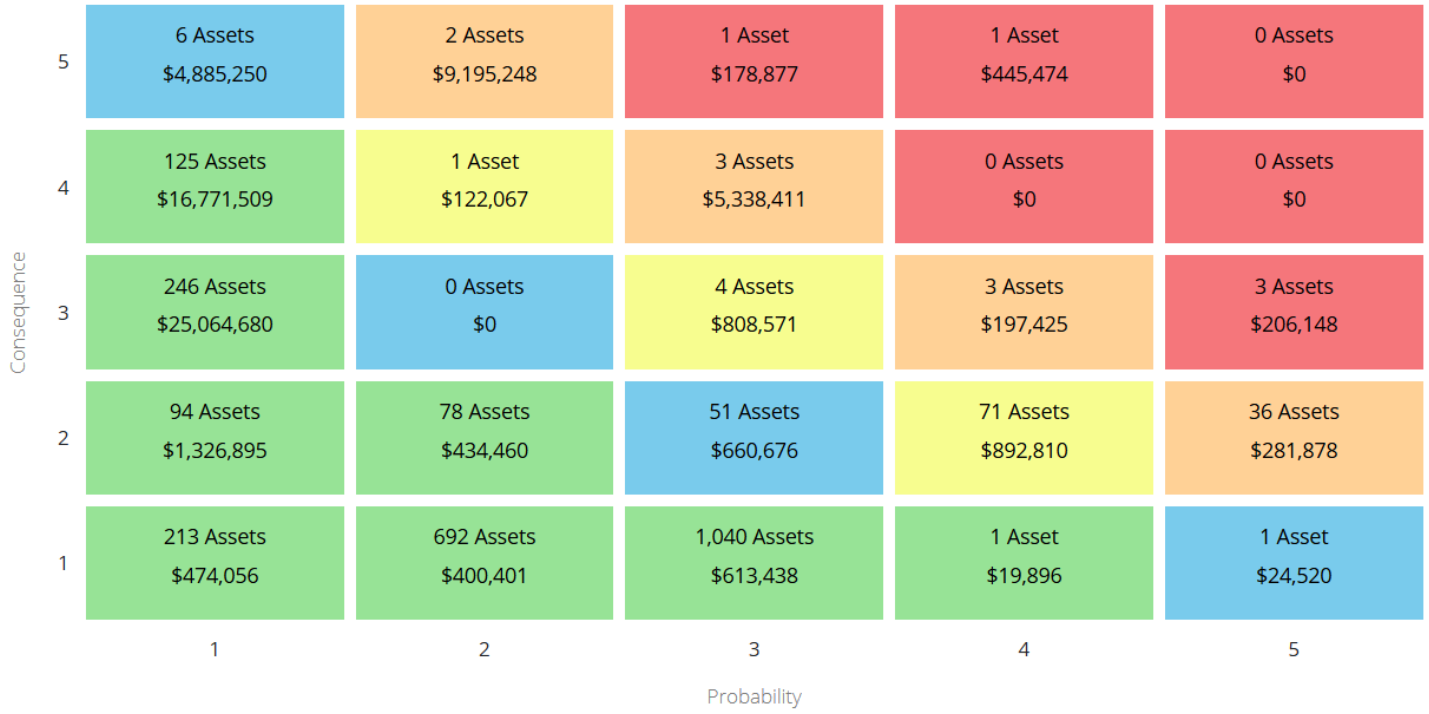


*Figure 43 Risk Matrix: Water Services*

# 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Scope | Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system | The Municipality of Brockton has Water services for the Town of Walkerton and partial services for the hamlets of Chepstow and Marl Lake. Brockton has approximately 45.1 km of watermain piping and there are 4135 active water service accounts. Also refer to Appendix N – Level of Service Maps & Photos. |
| | Description, which may include maps, of the user groups or areas of the municipality that have fire flow | Brockton has fire flow services for the Town of Walkerton and partial services for the hamlet of Marl Lake. There is a total of 248. Hydrants in the Municipality of Brockton. Also refer to Appendix N – Level of Service Maps & Photos. |
| Reliability | Description of boil water advisories and service interruptions | There have been zero water boil advisories and 3 temporary service disruptions caused by Watermain breaks. All breaks were minimal and did not affect the main trunk distribution lines. |

*Table 40 O. Reg. 588/17 Community Levels of Service: Water Services*

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Scope | % of properties connected to the municipal water system | 51% |
| | % of properties where fire flow is available | 45% |
| Reliability | # of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system | 0 |
| | # of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system | 0 |
| Quality | Average condition of water services assets | 83% (Very Good) |
| Performance | Target vs. Actual capital reinvestment rate | 1.5% vs. 0.6% |

*Table 41 O. Reg. 588/17 Technical Levels of Service: Water Services*

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Water Services capital funding is maintained at $380,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual water rate increases of ~1.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Water Services capital funding gradually increases from $380,000/year to $623,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual water rate increases of ~2.7%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Water Services capital funding gradually increases from $380,000/year to $1.0m/year over a span of 15 years |

*Table 42 Water Services PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 82% | 72% | 55% | |
| | Average Asset Risk | 6.1 | 7.9 | 11.4 | |
| | Average Annual Investment | | $380,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.6% | | |
| Scenario 2 (60%) | Average Condition | 82% | 73% | 55% | |
| | Average Asset Risk | 6.1 | 7.9 | 11.4 | |
| | Average Annual Investment | | $623,000 | | Increase water rates by ~1.1% per year for 15 years |
| | Average Capital re-investment rate | | 0.9% | | |
| Scenario 3 (100%) | Average Condition | 82% | 77% | 68% | |
| | Average Asset Risk | 6.1 | 7.2 | 8.7 | |
| | Average Annual Investment | | $1,038,000 | | Increase water rates by ~2.7% per year for 15 years |
| | Average Capital re-investment rate | | 1.5% | | |

*Table 43 Water Services PLOS Scenario Analysis*

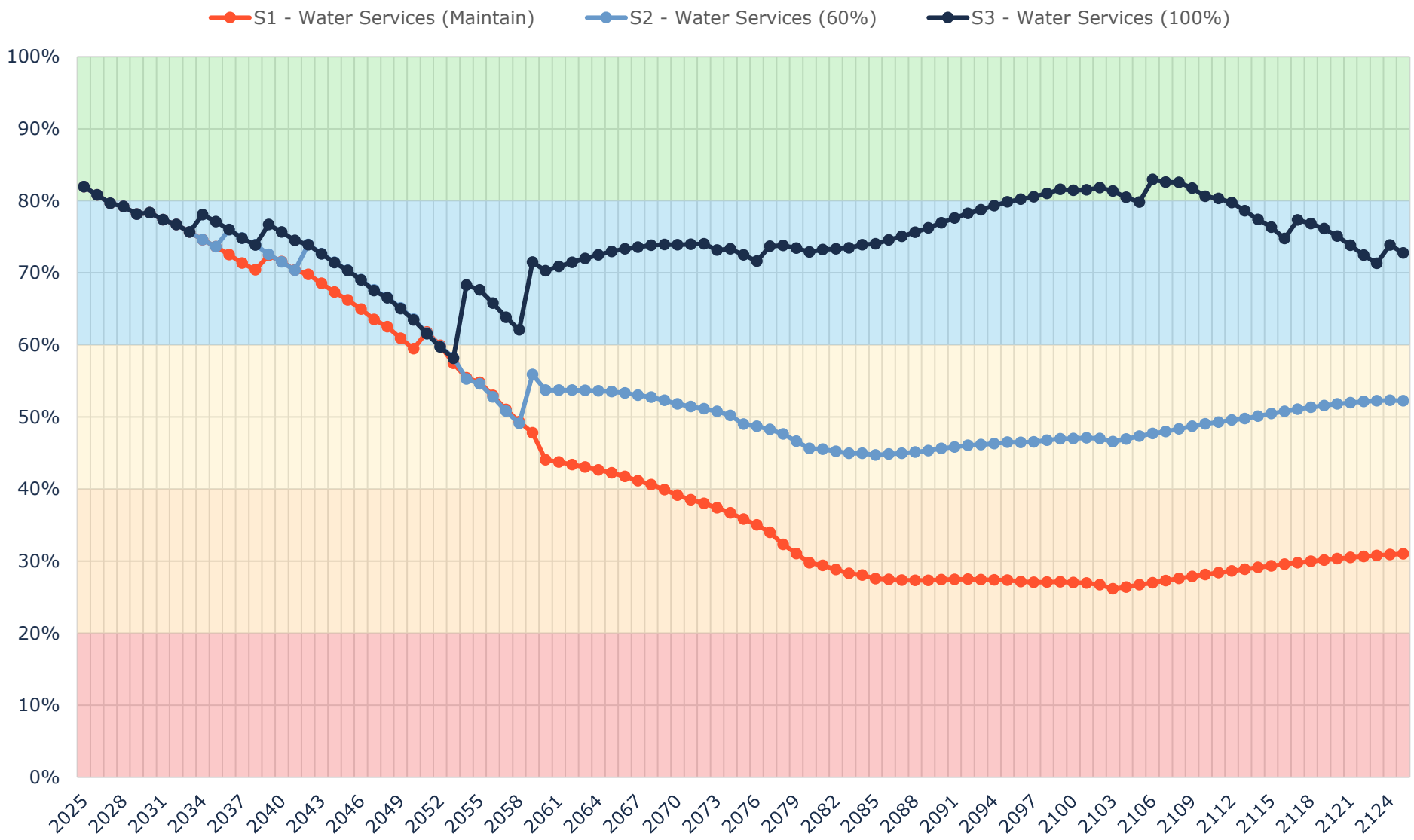


*Figure 44 Water Services PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the water services if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** |
| **Projected Capital Spending** | $395k | $410k | $426k | $442k | $458k | $474k | $490k | $507k | $523k | $540k |
| **Funding Deficit** | $228k | $212k | $197k | $181k | $165k | $149k | $132k | $116k | $99k | $82k |
| **Target Reinvestment Rate** | **0.9%** | **0.9%** | **0.9%** | **0.9%** | **0.9%** | **0.9%** | **0.9%** | **0.9%** | **0.9%** | **0.9%** |
| **Projected Reinvestment Rate** | 0.6% | 0.6% | 0.6% | 0.6% | 0.7% | 0.7% | 0.7% | 0.7% | 0.8% | 0.8% |

*Table 44 Water Services 10-Year PLOS Financial Projections*

# Appendix E – Sanitary Services

The Municipality's sanitary services provides the essential service of wastewater collection, disposal, and treatment for the community, and has a current replacement value of over $210 million, dominated by the pollution control plant with a total replacement cost of approximately $175 million alone.

## 1. Inventory & Valuation

Table 45 summarizes the quantity and current replacement cost of the Municipality's various sanitary services assets as managed in its primary asset management register, Citywide Assets.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Sanitary Equipment | 22 | Assets | $2,730,481 | CPI |
| Sanitary Mains | 38,263 | Length (m) | $23,749,626 | Cost per Unit |
| Sanitary Manholes | 475 | Assets | $5,882,137 | Cost per Unit |
| Sanitary Treatment | 4 | Assets | $177,798,740 | User-Defined |
| **TOTAL** | | | **$210,160,984** | |

*Table 45 Detailed Asset Inventory: Sanitary Services*

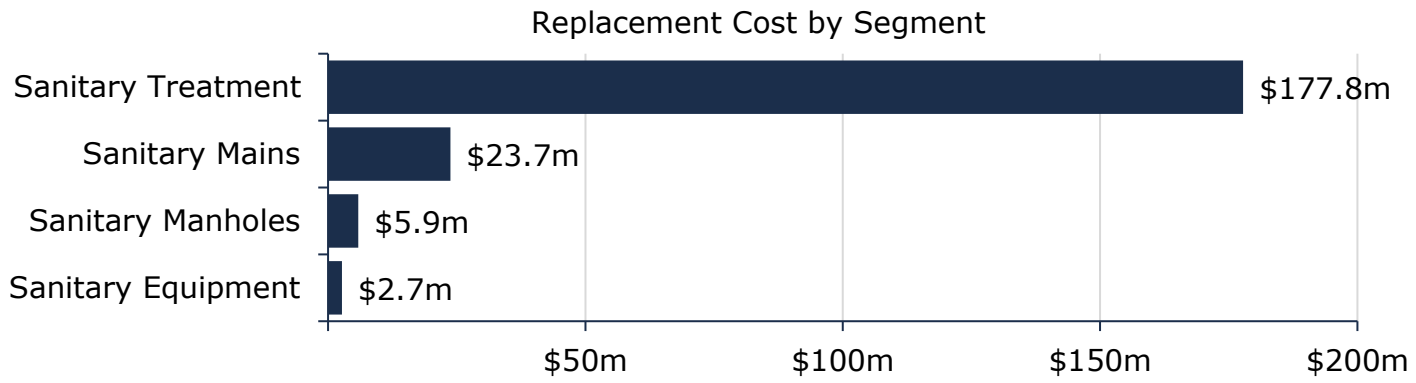


*Figure 45 Portfolio Valuation: Sanitary Services*

## 2. Asset Condition

Figure 46 summarizes the replacement cost-weighted condition of the Municipality's sanitary services. Field condition assessments were only available for the pollution control plant, with all other assets being assessed based on age. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for sanitary equipment.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 46 the majority of the Municipality's sanitary services assets are in fair or better condition.

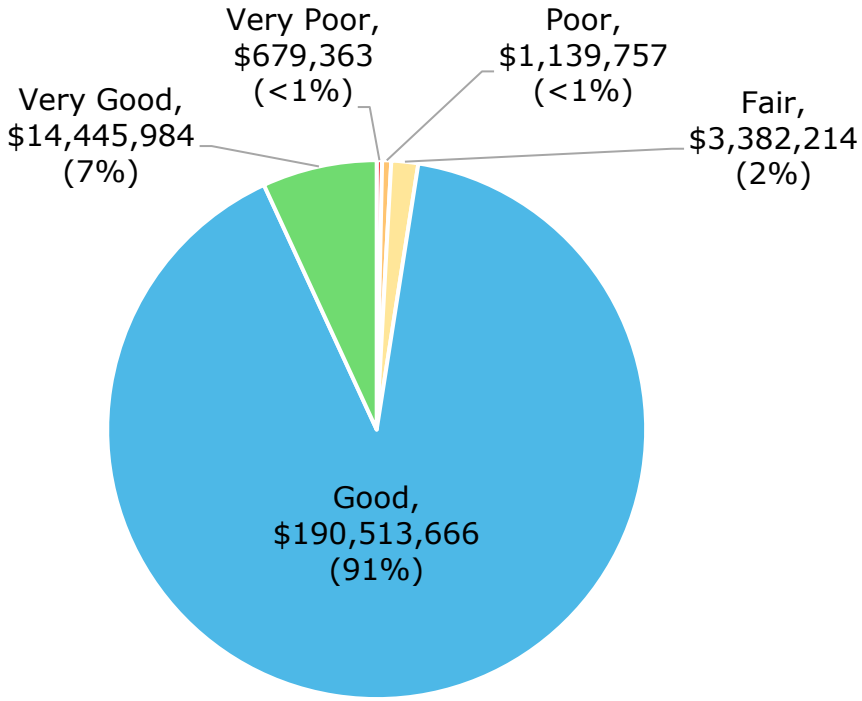


*Figure 46 Asset Condition: Sanitary Services Overall*

As illustrated in Figure 47, based on age-based conditions (with the exception of the pollution control plant), all of the Municipality's sanitary sewer mains are in good or very good condition however, 67% of sanitary equipment is assumed to be in poor or worse condition.

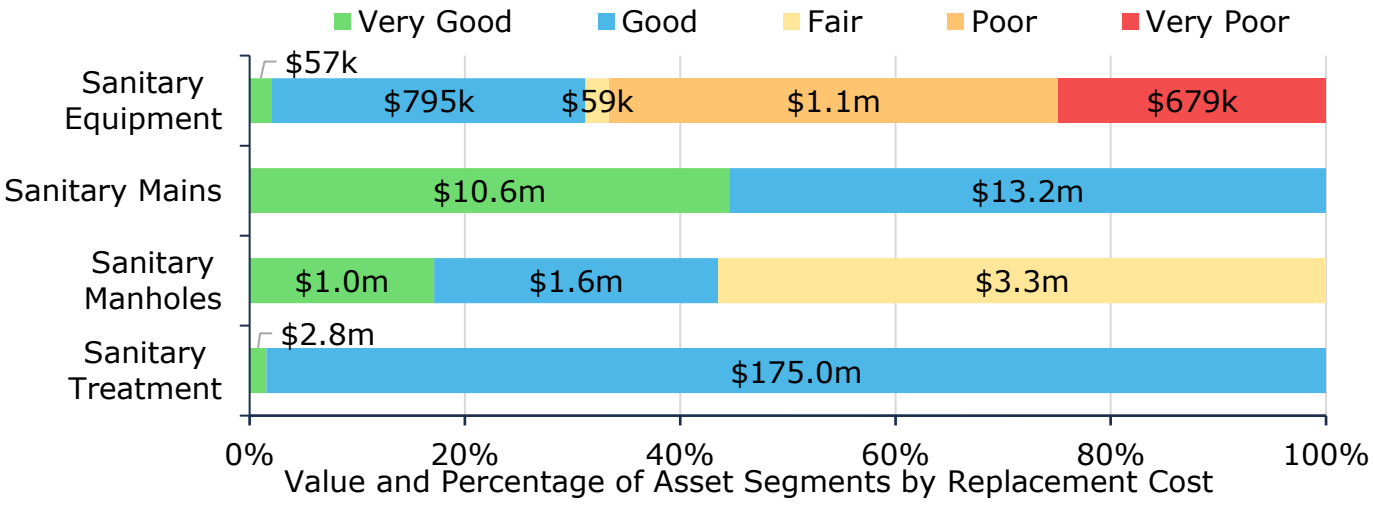


*Figure 47 Asset Condition: Sanitary Services by Segment*

## 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 48 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.

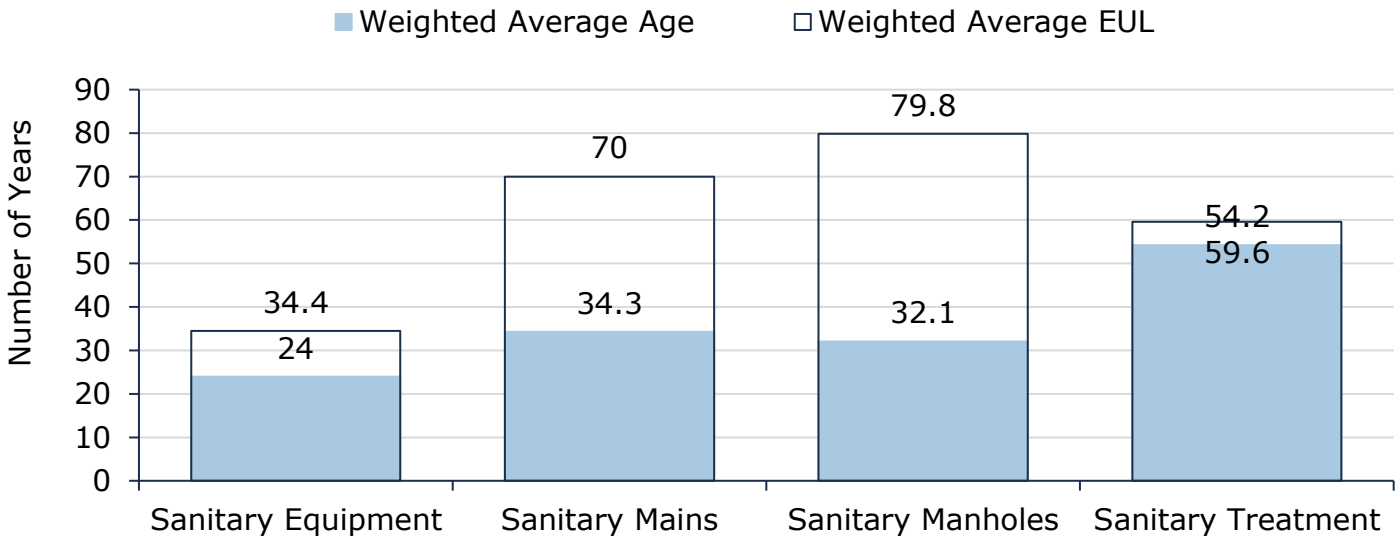


*Figure 48 Estimated Useful Life vs. Asset Age: Sanitary Services*

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Sewer flushing occurs annually with high priority areas to receive multiple flushing. |
| | Rodding boring is performed as needed as a response to reports/studies and inspections. Recommendations from the 2022 inflow and infiltration study will influence O&M strategies. |
| Rehabilitation/ | Rehabilitation projects are prioritized primarily by growth and capacity considerations, in addition to age |
| | Sanitary services are replaced through road reconstruction projects. High priority areas are identified, assessed, and strategized. Full reconstruction is based on the condition, surcharge/blockage events and growth etc. |

*Table 46 Lifecycle Management Strategy: Sanitary Services*

## 5. Forecasted Long-Term Replacement Needs

Figure 49 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's sanitary services. This analysis was run until 2094 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$3.5 million per year** for all assets in the sanitary sewer network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog of $679,000 comprised solely of sanitary equipment. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

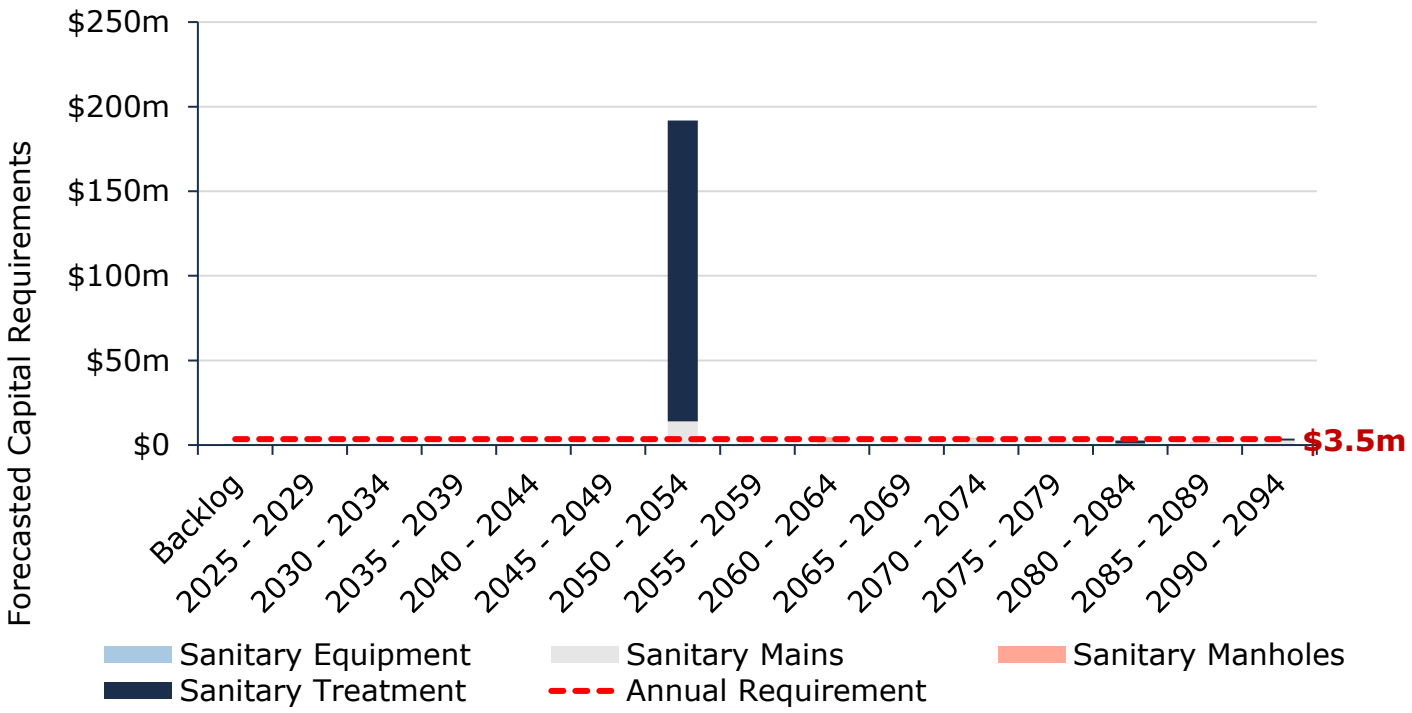


*Figure 49 Forecasted Capital Replacement Needs: Sanitary Services 2025-2094*

As the above figure is dominated by the replacement of the pollution control plant, it diminishes the importance of replacement of other assets within the sanitary services category. For additional clarity, the Figure 50 showcases upcoming capital replacement forecasts without the pollution control plant.

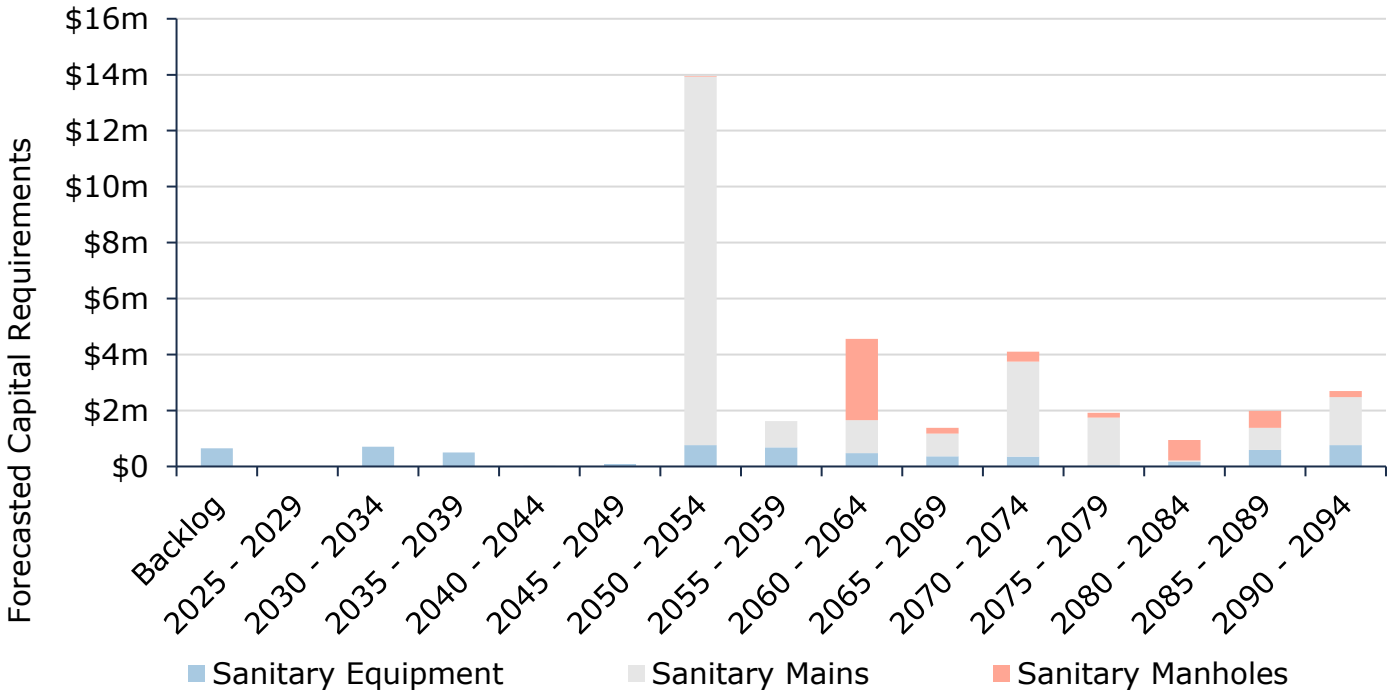


*Figure 50 Forecasted Capital Replacement Needs: Sanitary Services 2025-2094 (excluding Sanitary Treatment)*

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

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

## 6. Risk Analysis

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

The matrix stratifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

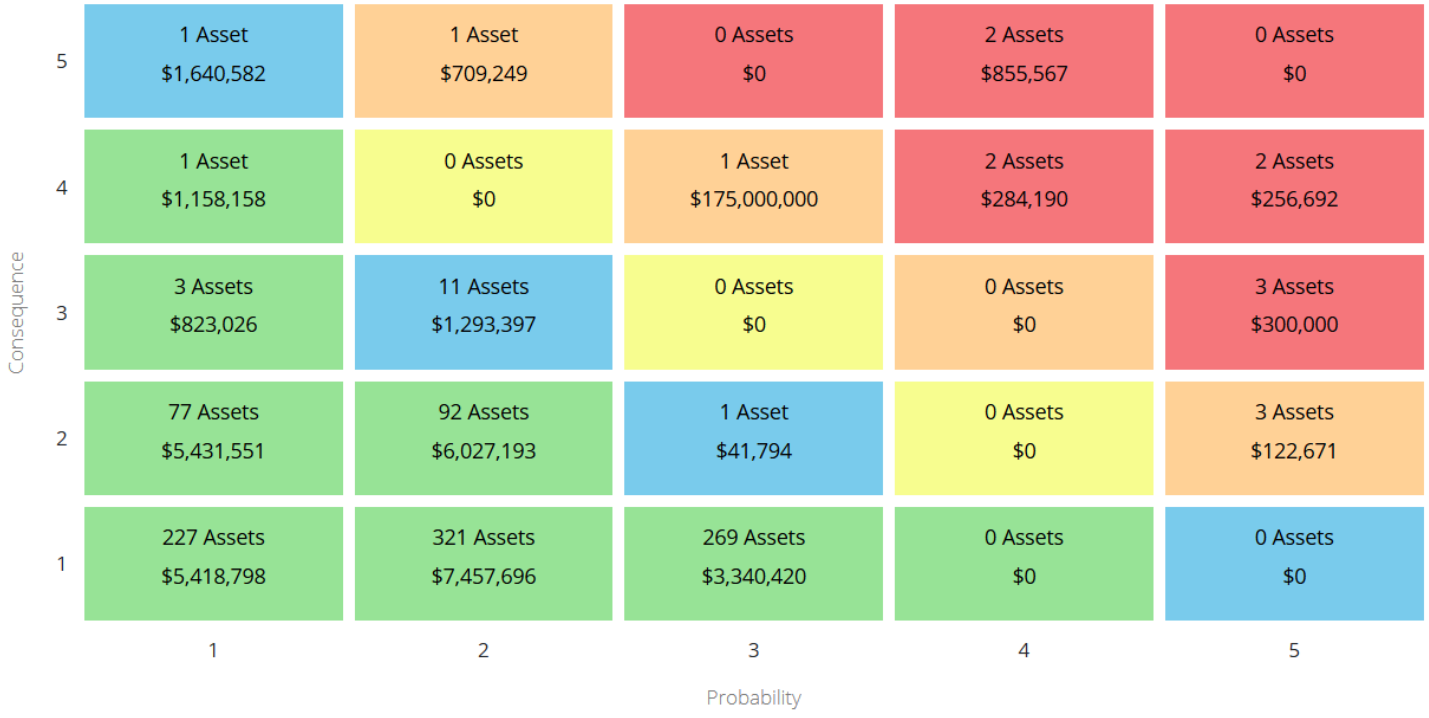


*Figure 51 Risk Matrix: Sanitary Services*

# 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Scope | Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system | The Municipality of Brockton has sanitary services for the Town of Walkerton. Brockton has approximately 38.3 km of sanitary main piping. Also refer to Appendix N – Level of Service Maps & Photos. |
| Reliability | Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes | There are no known combined sewers in Brockton. |
| | Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches | There have been no recent sewer overflows (none since 2006). |
| | Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes | There are like illegal connections such as roof drains, or sump pump connection that are connected to the sanitary sewers. |
| | Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration | Periodic replacement of again sanitary sewers has taken place. In addition, budget is being reserved for a sewage infiltration study. |
| | Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system | Effluent refers to water pollution that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants. |

*Table 47 O. Reg. 588/17 Community Levels of Service: Sanitary Services*

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Scope | % of properties connected to the municipal wastewater system | 49% |
| Reliability | # of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system | 0 |
| | # of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system | 0 |
| | # of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system | 0 |
| Quality | Average condition of sanitary services assets | 63% (Good) |
| Performance | Target vs. Actual capital reinvestment rate | 1.7% vs. 0.2% |

*Table 48 O. Reg. 588/17 Technical Levels of Service: Sanitary Services*

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Sanitary Services capital funding is maintained at $371,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual sanitary rate increases of ~4.6%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Sanitary Services capital funding gradually increases from $371,000/year to $2.1m/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual sanitary rate increases of ~7.0%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Sanitary Services capital funding gradually increases from $371,000/year to $3.8m/year over a span of 15 years |

*Table 49 Sanitary Services PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 61% | 39% | 18% | |
| | Average Asset Risk | 12.5 | 16.7 | 21.0 | |
| | Average Annual Investment | | $371,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.2% | | |
| Scenario 2 (60%) | Average Condition | 61% | 39% | 20% | |
| | Average Asset Risk | 12.5 | 16.7 | 20.5 | |
| | Average Annual Investment | | $2,098,000 | | Increase sanitary rates by ~4.6% per year for 15 years |
| | Average Capital re-investment rate | | 1.0% | | |
| Scenario 3 (100%) | Average Condition | 61% | 39% | 20% | |
| | Average Asset Risk | 12.5 | 16.7 | 20.5 | |
| | Average Annual Investment | | $3,496,000 | | Increase sanitary rates by ~7.0% per year for 15 years |
| | Average Capital re-investment rate | | 1.7% | | |

*Table 50 Sanitary Services PLOS Scenario Analysis*

***Note:*** Largest difference between scenarios is the ability to afford upgrades/replacement of the sanitary pollution control plant, when it comes time.

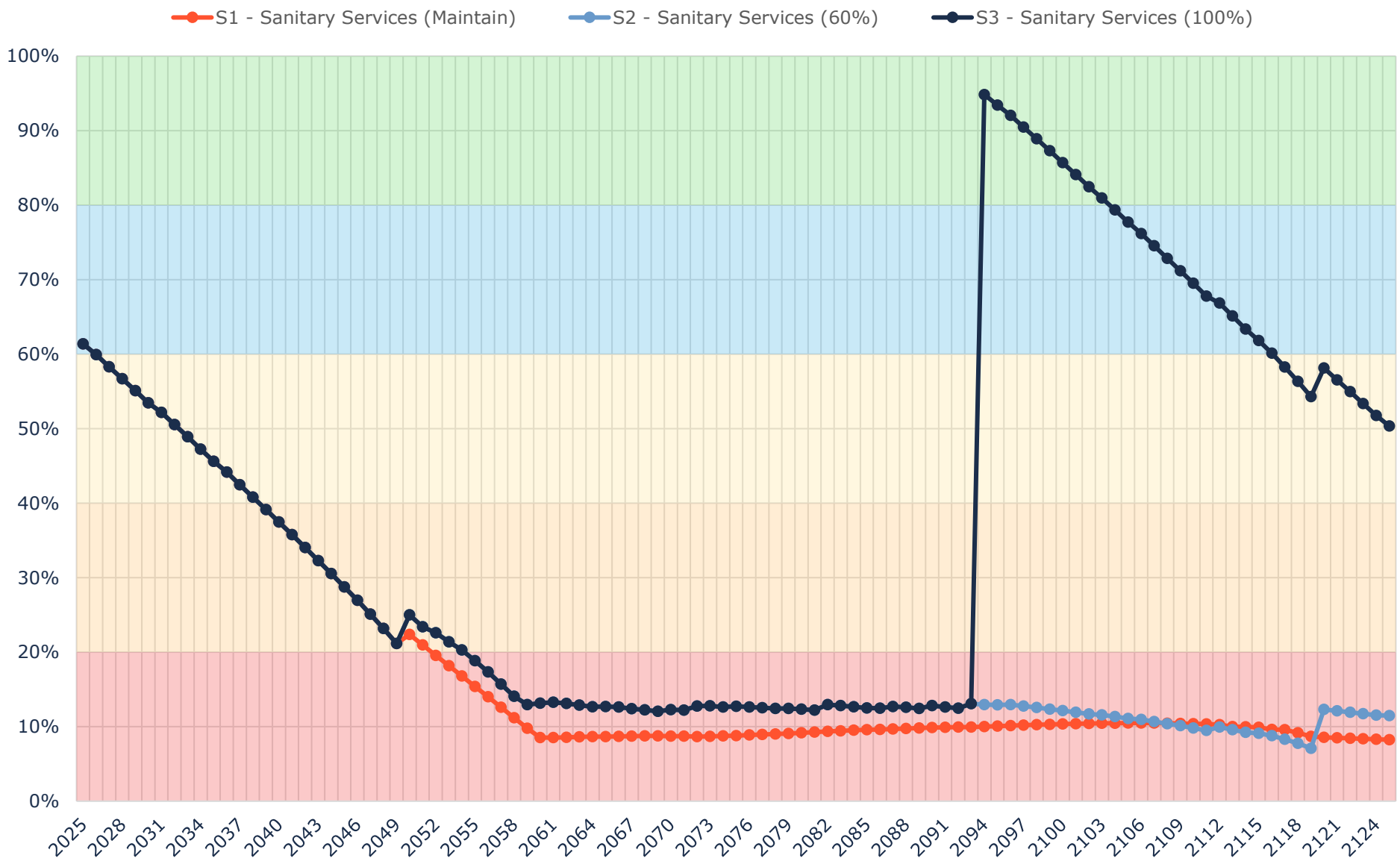


*Figure 52 Sanitary Services PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the sanitary services if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** | **$2.1m** |
| **Projected Capital Spending** | $453k | $538k | $627k | $720k | $818k | $920k | $1.0m | $1.2m | $1.3m | $1.4m |
| **Funding Deficit** | $1.6m | $1.6m | $1.5m | $1.4m | $1.3m | $1.2m | $1.1m | $931k | $786k | $664k |
| **Target Reinvestment Rate** | **1.0%** | **1.0%** | **1.0%** | **1.0%** | **1.0%** | **1.0%** | **1.0%** | **1.0%** | **1.0%** | **1.0%** |
| **Projected Reinvestment Rate** | 0.2% | 0.3% | 0.3% | 0.3% | 0.4% | 0.4% | 0.5% | 0.6% | 0.6% | 0.7% |

*Table 51 Sanitary Services 10-Year PLOS Financial Projections*

# Appendix F – Storm Sewer System

The Municipality's storm sewer system comprises 953 catch basins, 142 manholes, 17 outfalls, 486 culverts, and approximately 32 kilometers of storm mains.

The Public Works department, along with supporting assets such as facilities, fleet, and machinery & equipment, is responsible for planning and managing the storm sewer system.

The storm sewer system's infrastructure generally poses the greatest uncertainty for municipalities, including Brockton. Staff have expressed a lack of confidence in the current inventory but are working towards improving the accuracy and reliability of the storm sewer inventory to assist with long-term asset management planning.

## 1. Inventory & Valuation

Table 52 summarizes the quantity and current replacement cost of all storm sewer system assets available in the Municipality's asset register.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Catch Basins | 953 | Assets | $8,518,010 | Cost per Unit |
| Culverts | 486 | Assets | $12,952,227 | Cost per Unit |
| Outfalls | 17 | Assets | $340,000 | Cost per Unit |
| Storm Mains | 32,103 | Meters | $21,367,523 | Cost per Unit |
| Storm Manholes | 142 | Assets | $1,749,536 | Cost per Unit |
| **TOTAL** | | | **$44,927,296** | |

*Table 52 Detailed Asset Inventory: Storm Sewer System*

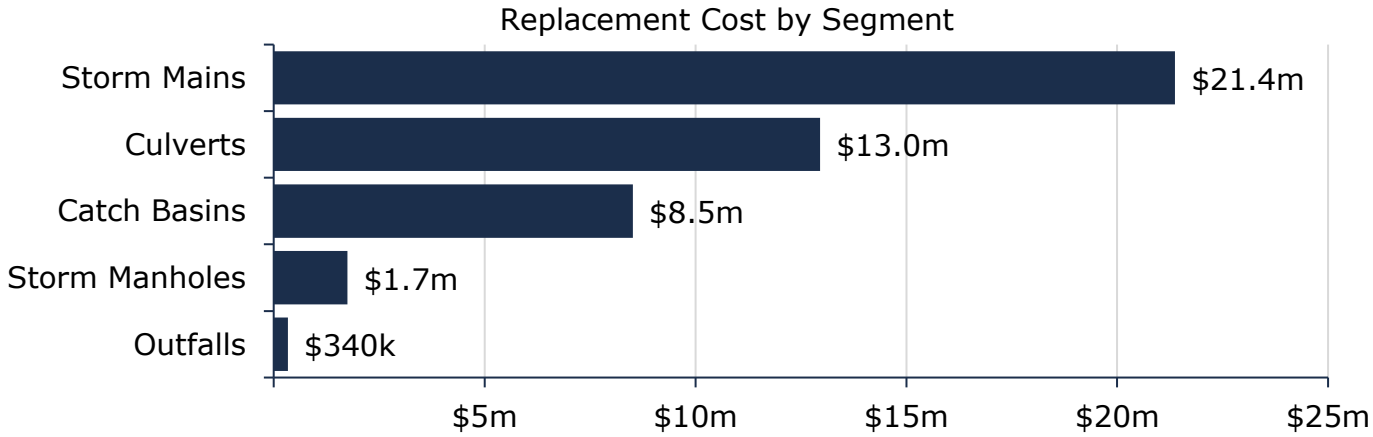


*Figure 53 Portfolio Valuation: Storm Sewer System*

## 2. Asset Condition

Figure 54 summarizes the replacement cost-weighted condition of the Municipality's storm sewer system assets. Based on age data only, approximately 38% 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.

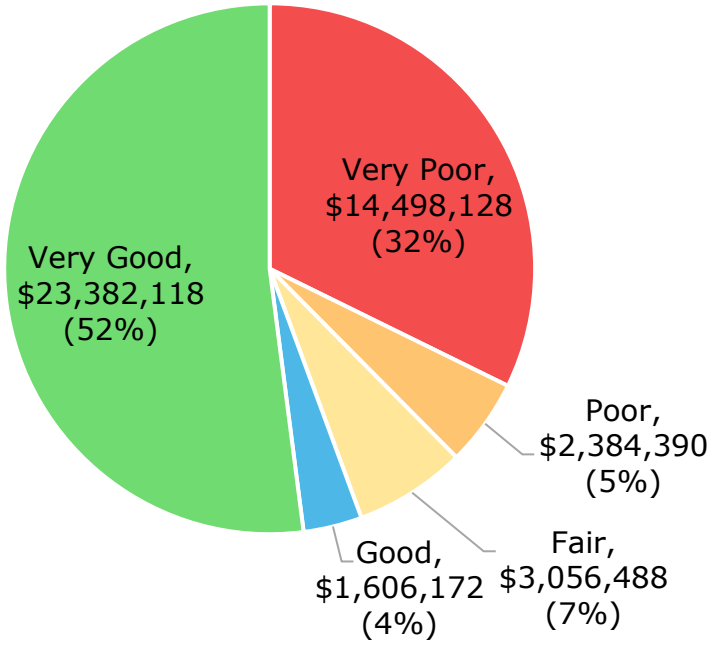


*Figure 54 Asset Condition: Storm Sewer System Overall*

Figure 55 summarizes the age-based condition of storm sewer system assets. The analysis illustrates that the majority of stormwater mains are in very good condition. However, the majority of catch basins, culverts and outfalls are in very poor condition.

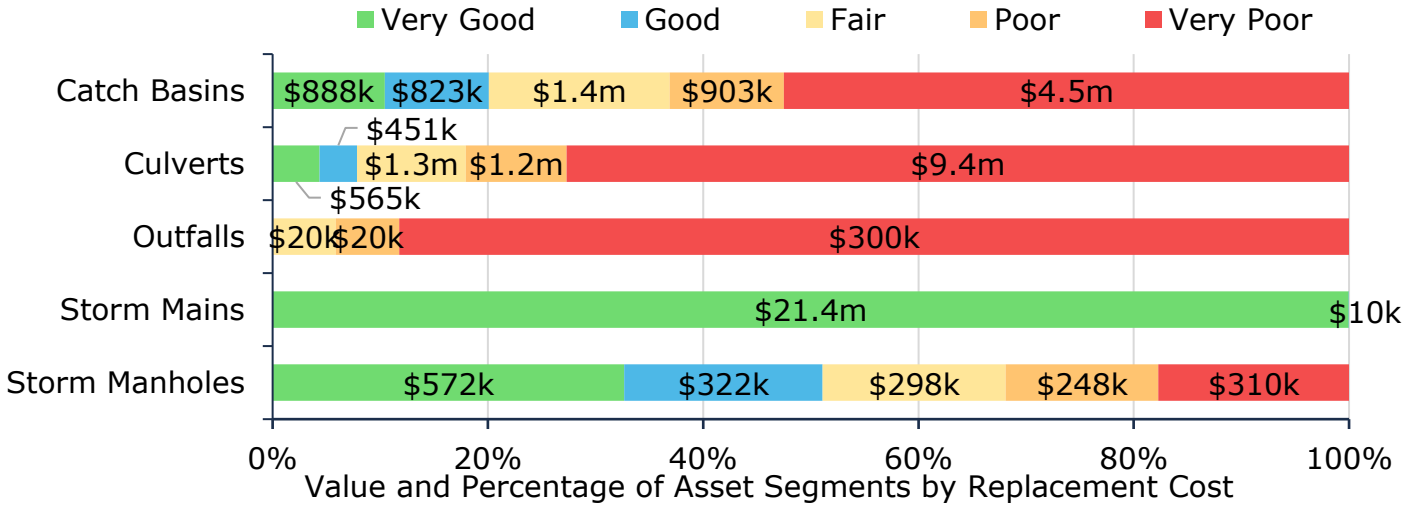


*Figure 55 Asset Condition: Storm Sewer System by Segment*

## 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 56 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.

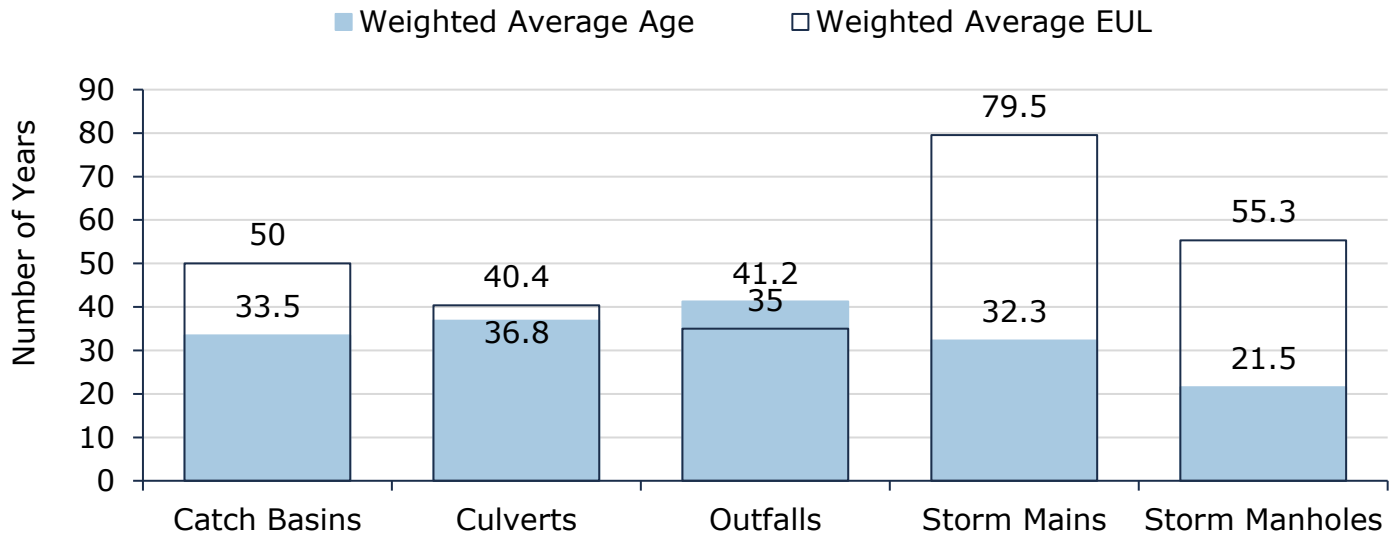


*Figure 56 Estimated Useful Life vs. Asset Age: Storm Sewer System*

Age analysis reveals that on average, culverts are nearing the end of their life expectancy, and outfalls have already surpassed theirs. Age profiles and CCTV inspections will help to identify mains in need of replacements and/or upgrades. Extensions to EULs for mains may also be considered based on performance history to date.

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Maintenance is performed on a as needs basis. These activities typically include flushing. Street sweepers are used to minimize the need for flushing. |
| Rehabilitation | As needed or identified within a capital project. |
| Replacement | As needed or identified within a capital project. |

*Table 53 Lifecycle Management Strategy: Storm Sewer System*

## 5. Forecasted Long-Term Replacement Needs

Figure 57 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's storm sewer system assets. This analysis was run until 2104 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$805,000 per year** for all assets in the storm sewer system. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates an age-based backlog of $8.1 million, dominated by culverts. The largest replacement spike is forecasted in 2060-2064 followed culverts and mains 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.

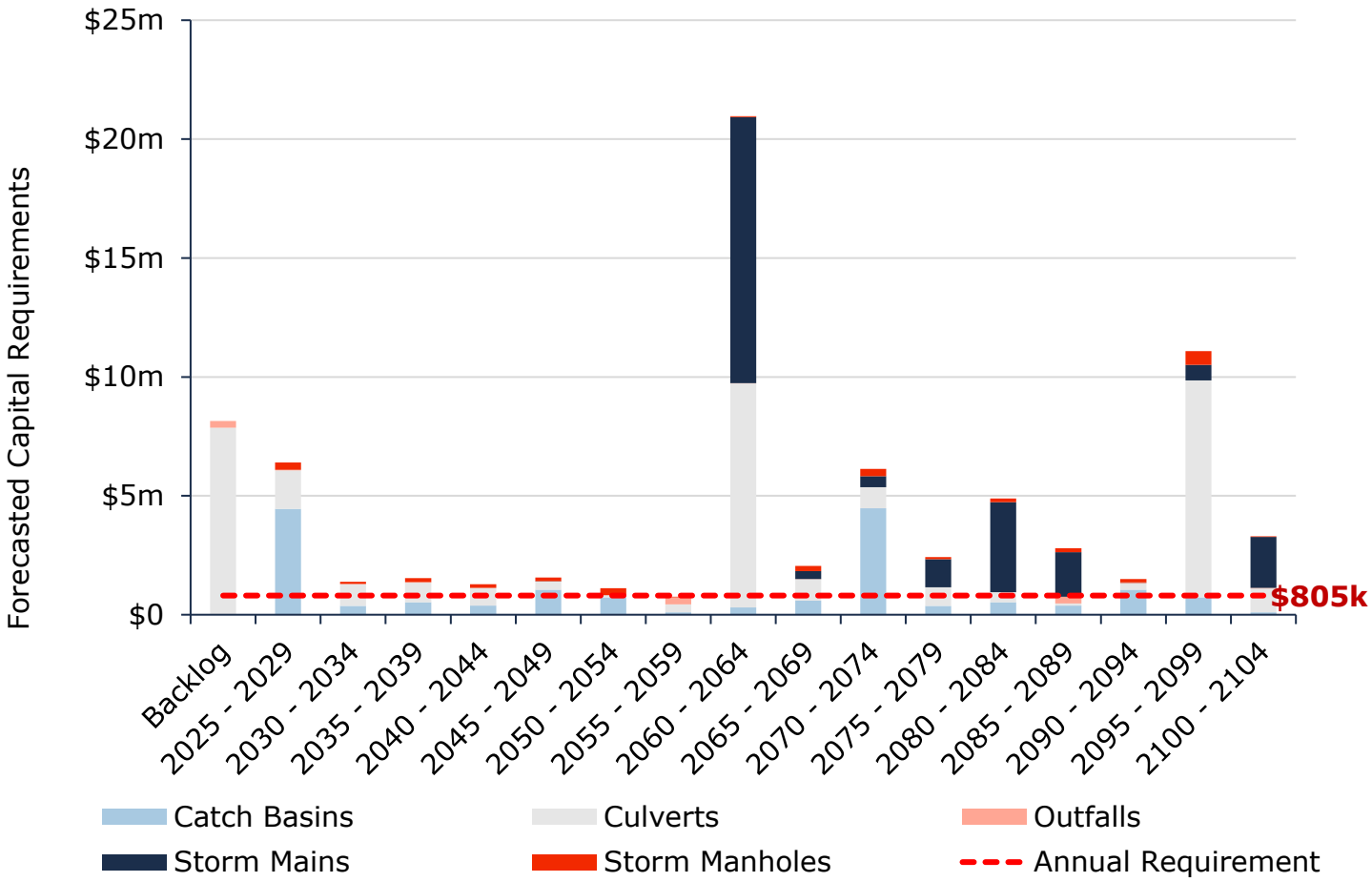


*Figure 57 Forecasted Capital Replacement Needs Storm Sewer System 2025-2104*

Often, the magnitude of replacement needs is substantially higher than most municipalities can afford to fund. In addition, most assets may not need to be replaced. However, quantifying and monitoring these spikes is essential for long-term financial planning, including establishing dedicated reserves. CCTV inspections may reveal a higher or lower backlog. The inspections may also help reduce long-term projections by providing more accurate condition data for mains than age. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

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

## 6. Risk Analysis

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

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

probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 58 Risk Matrix: Storm Sewer System*

## 7. Levels of Service

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

### Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Scope | Description, which may include map, of the user groups or areas of the Municipality that are protected from flooding, including the extent of protection provided by the municipal storm water network | The Municipality of Brockton has Stormwater services for the Town of Walkerton. Brockton has approximately 32 km of stormwater main piping. Also refer to Appendix N – Level of Service Maps & Photos. |

*Table 54 O. Reg. 588/17 Community Levels of Service: Storm Sewer System*

### Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Scope | % of properties in municipality designed to be resilient to a 100-year storm | 85% |
| | % of the municipal stormwater management system designed to be resilient to a 5-year storm | 95% |
| Quality | Average condition of the storm sewer system | 56% (Fair) |
| Performance | Target vs. Actual capital reinvestment rate | 1.8% vs. 0.1% |

*Table 55 O. Reg. 588/17 Technical Levels of Service: Storm Sewer System*

## 8. Proposed Levels of Service

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

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

### PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Storm capital funding is maintained at $44,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Storm capital funding gradually increases from $44,000/year to $483,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Storm capital funding gradually increases from $44,000/year to $805,000/year over a span of 15 years |

*Table 56 Storm Sewer System PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 55% | 44% | 31% | |
| | Average Asset Risk | 4.7 | 5.7 | 7.5 | |
| | Average Annual Investment | | $44,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.1% | | |
| Scenario 2 (60%) | Average Condition | 55% | 50% | 46% | |
| | Average Asset Risk | 4.7 | 5.4 | 6.3 | |
| | Average Annual Investment | | $483,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 1.1% | | |
| Scenario 3 (100%) | Average Condition | 55% | 53% | 56% | |
| | Average Asset Risk | 4.7 | 5.1 | 5.6 | |
| | Average Annual Investment | | $805,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 1.8% | | |

*Table 57 Storm Sewer System PLOS Scenario Analysis*

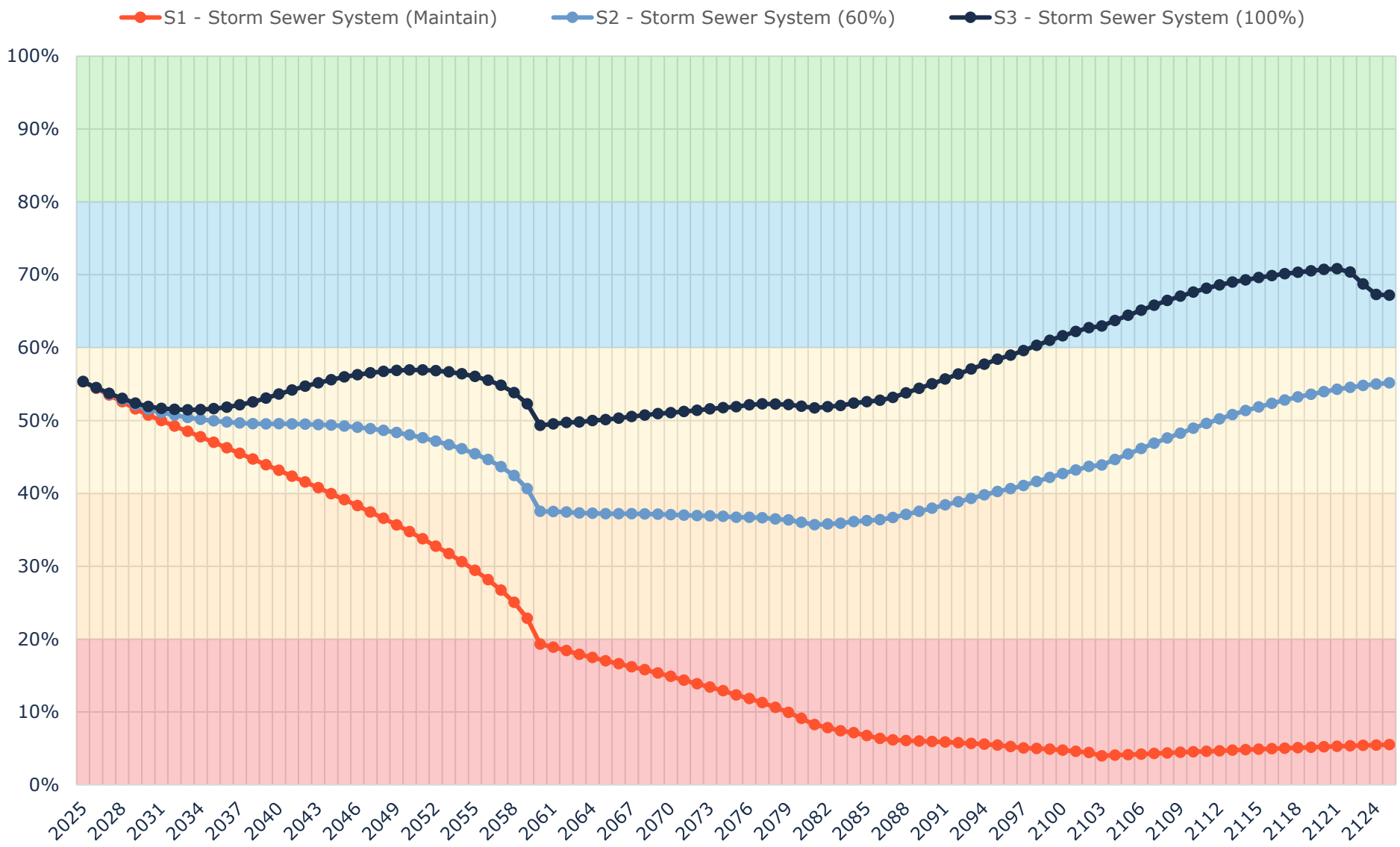


*Figure 59 Storm Sewer System PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the storm sewer system if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$483k** | **$483k** | **$483k** | **$483k** | **$483k** | **$483k** | **$483k** | **$483k** | **$483k** | **$483k** |
| **Projected Capital Spending** | $71k | $93k | $119k | $143k | $172k | $196k | $232k | $261k | $291k | $322k |
| **Funding Deficit** | $412k | $390k | $364k | $340k | $311k | $287k | $251k | $222k | $192k | $161k |
| **Target Reinvestment Rate** | **1.1%** | **1.1%** | **1.1%** | **1.1%** | **1.1%** | **1.1%** | **1.1%** | **1.1%** | **1.1%** | **1.1%** |
| **Projected Reinvestment Rate** | 0.2% | 0.2% | 0.3% | 0.3% | 0.4% | 0.4% | 0.5% | 0.6% | 0.6% | 0.7% |

*Table 58 Storm Sewer System 10-Year PLOS Financial Projections*

# Appendix G – Buildings & Facilities

The Municipality's buildings and facilities portfolio includes fire halls, various administrative and public works facilities, as well as a public library and recreational assets. The total current replacement of buildings and facilities is estimated at more than $46 million.

## 1. Inventory & Valuation

Table 59 summarizes the quantity and current replacement cost of all buildings assets available in the Municipality's asset register. The majority of buildings and facilities are not componentized. The quantity listed represents the number of asset records currently available for each department.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| General Government | 1 | Assets | $500,000 | User-Defined |
| Health Services | 2 | Assets | $590,603 | User-Defined |
| Protective Services | 2 | Assets | $6,024,000 | User-Defined |
| Recreation & Cultural Services | 30 | Assets | $29,393,101 | User-Defined |
| Social & Family Services | 1 | Assets | $5,298 | CPI |
| Transportation Services | 9 | Assets | $9,607,378 | User-Defined |
| **TOTAL** | | | **$46,120,380** | |

*Table 59 Detailed Asset Inventory: Buildings & Facilities*

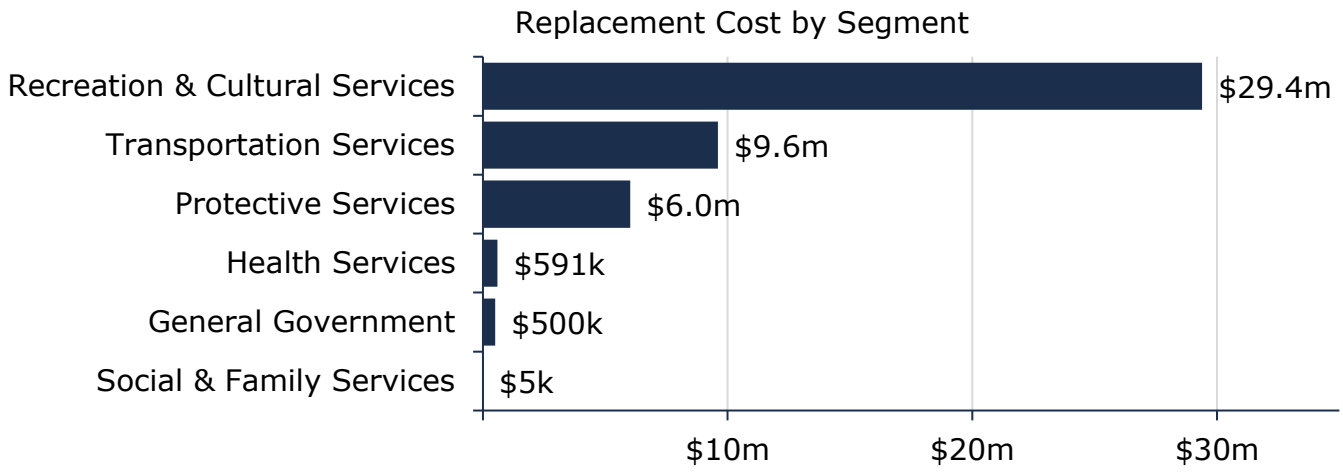


*Figure 60 Portfolio Valuation: Buildings & Facilities*

## 2. Asset Condition

Figure 67 summarizes the replacement cost-weighted condition of the Municipality's buildings and facilities portfolio. Based primarily on assessment data from 2023 building condition assessments, 92% of buildings and facilities assets are in fair or better condition; however, 8%, with a current replacement cost of $3.7 million are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As buildings and facilities are not componentized within the Citywide inventory register, condition data is presented only at the site level, rather than at the individual element or component level within each building. This drawback is further compounded by the lack of assessed condition data, requiring the use of age-based estimates only.

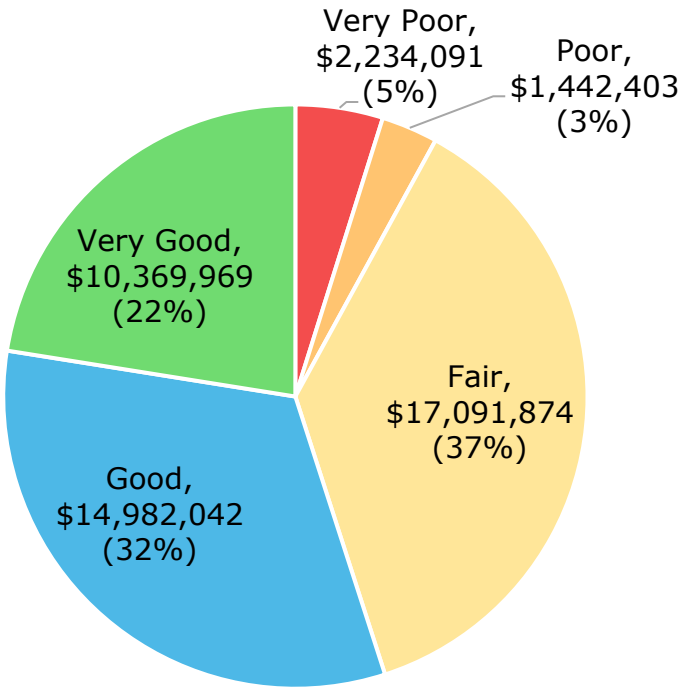


*Figure 61 Asset Condition: Buildings & Facilities Overall*

Figure 62 summarizes the condition of buildings and facilities by each department. The vast majority of assets across all categories are in fair or better condition, but recreation and transportation assets in poor condition should be monitored. However, in the absence of componentization, this data has limited value. Componentization of assets and integration of condition assessments will provide a more accurate and reliable estimation of the condition of various facilities.

A componentized building condition assessment was completed in 2023, however, has not been integrated into the Citywide asset inventory. This is a recommendation which would improve accuracy of the next iteration of the asset management plan.

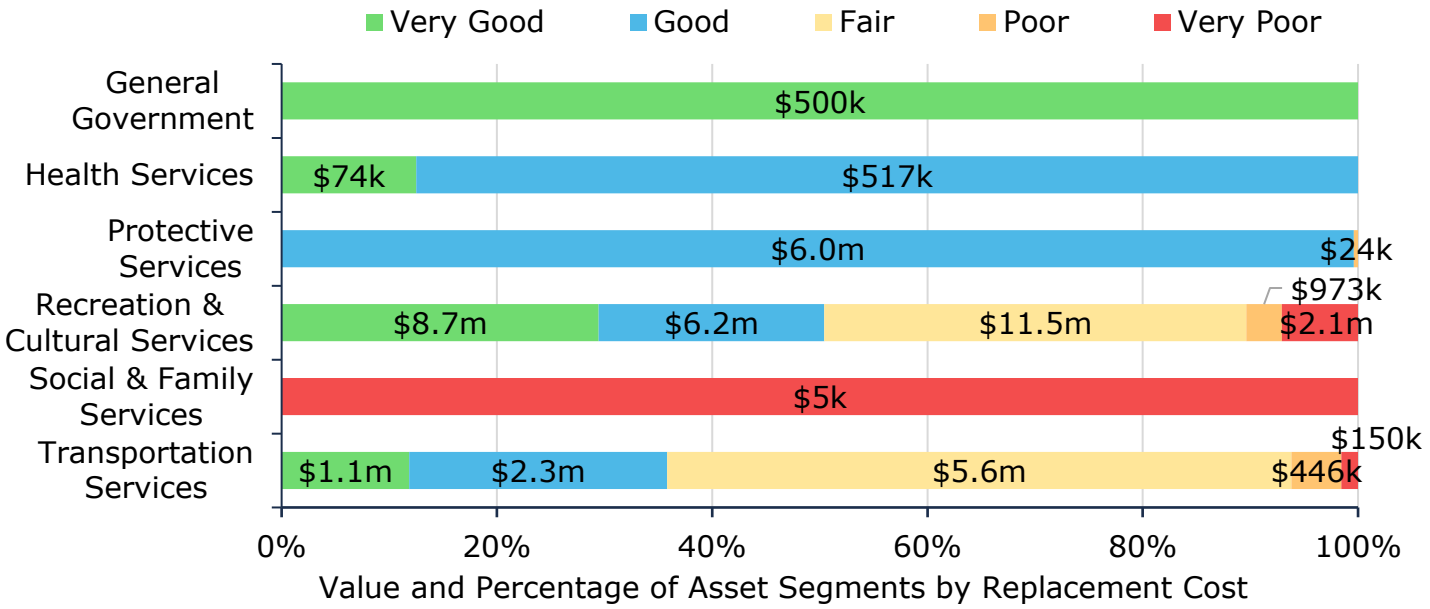


*Figure 62 Asset Condition: Buildings & Facilities by Segment*

## 3. Age Profile

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

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

Figure 63 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

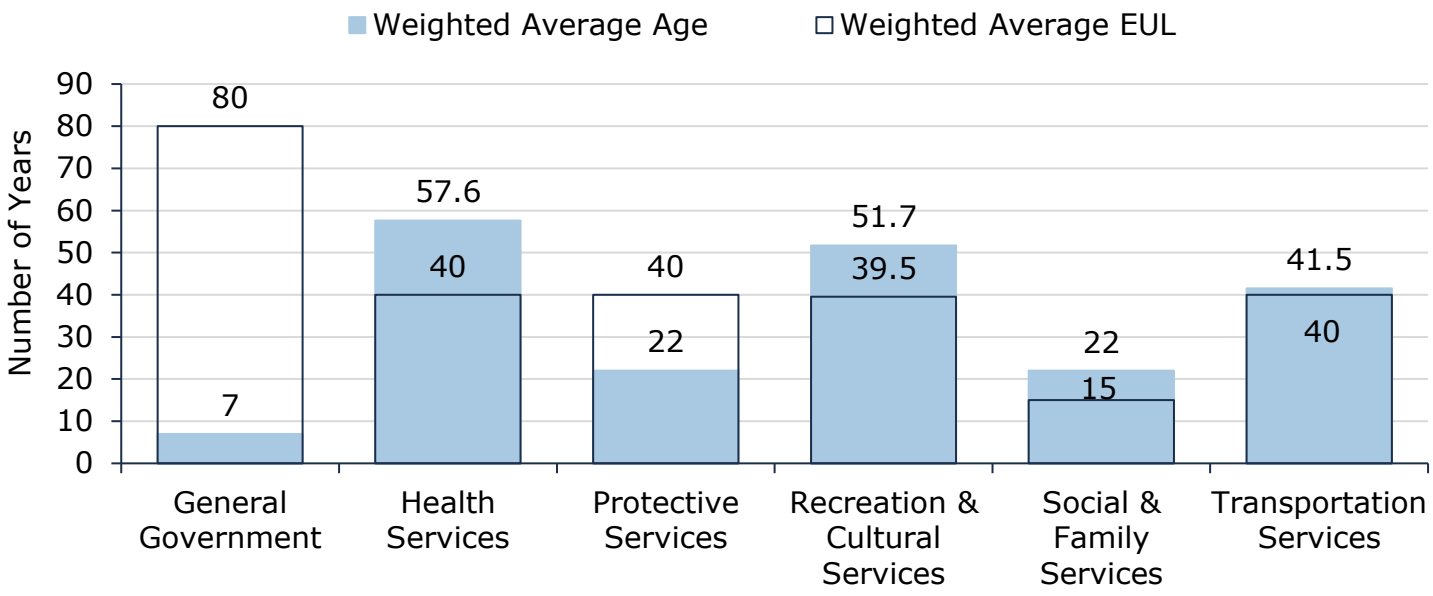


*Figure 63 Estimated Useful Life vs. Asset Age: Buildings & Facilities*

Age analysis reveals that, on average, buildings and facilities assets in health services, recreation, and transportation have exceeded their intended useful lives. Once again, this analysis presented only at the site level, rather than at the individual element or component level. Useful and meaningful age analysis for buildings is entirely predicated on effective componentization.

## 4. Current Approach to Lifecycle Management

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

Table 60 outlines the Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance / Rehabilitation | Municipal buildings are subject to regular inspections to identify health & safety requirements as well as structural deficiencies that require additional attention. |
| | The Municipality worked with third-party inspectors to assess building condition, and identify and triage repair projects. Projects range from small repairs to major rehabilitations. Refer to building-specific BCA reports for further details. |
| Replacement | Assessments are completed strategically as buildings approach their end-of-life to determine whether replacement or rehabilitation is appropriate. |

*Table 60 Lifecycle Management Strategy: Buildings & Facilities*

## 5. Forecasted Long-Term Replacement Needs

Figure 64 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's buildings and facilities portfolio. This analysis was run until 2094 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$1.2 million per year** for all buildings and facilities. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are not forecasted to rise significantly in the next decade, however, beginning in 2035 there are significant spikes in replacement needs. The chart also illustrates a backlog of $350,000, focused in recreation and transportation services, and comprising assets that have reached the end of their useful life but remain in operation. These projections and estimates are based on current asset records, their replacement costs, and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

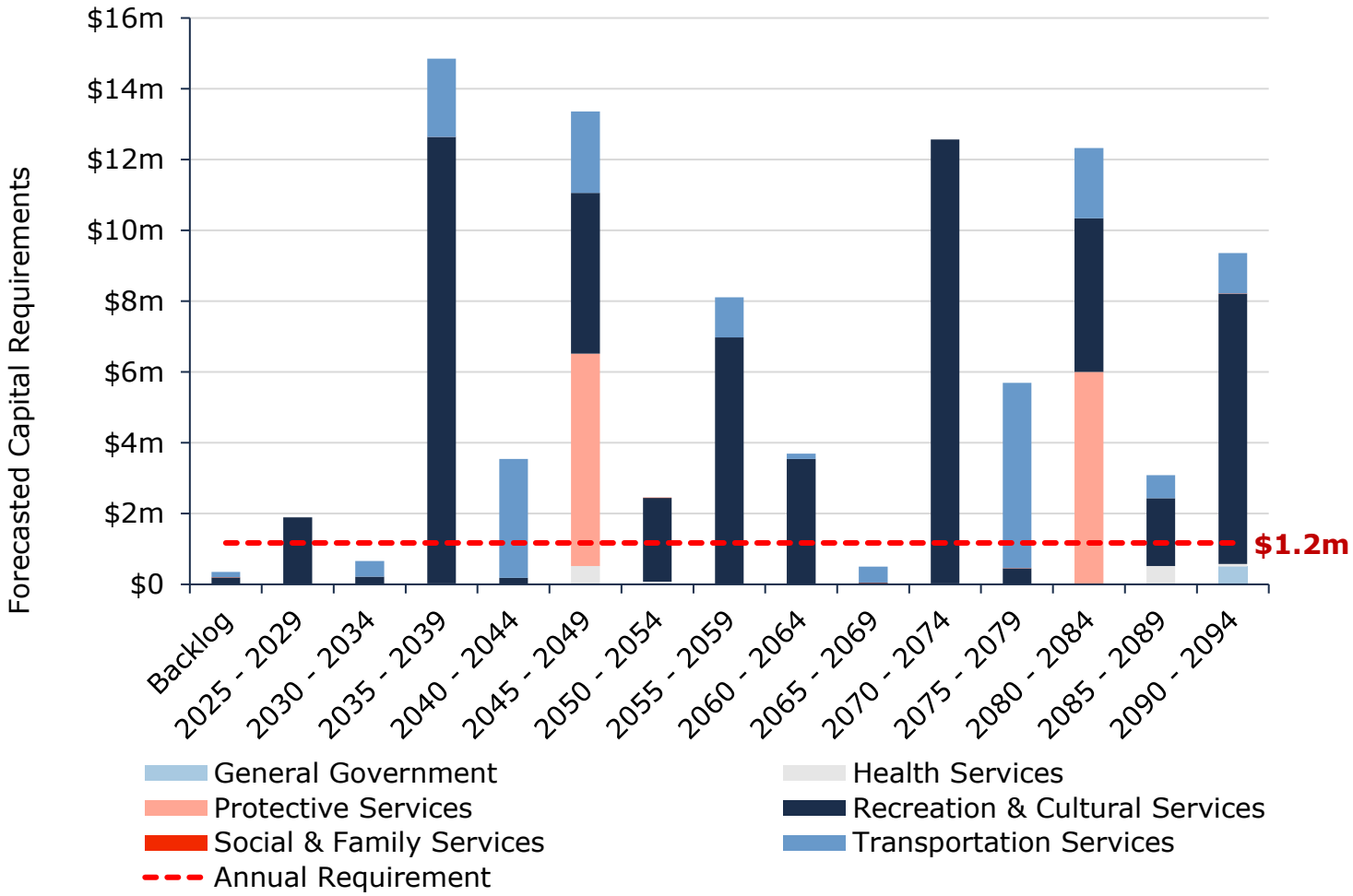


*Figure 64 Forecasted Capital Replacement Needs Buildings & Facilities 2025-2094*

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

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

## 6. Risk Analysis

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

The matrix classifies assets based on their individual probability and consequence of failure, each scored from 1 to 5. Their product generates a risk index ranging from 1-25. Assets with the highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 65 Risk Matrix: Buildings & Facilities*

# 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Reliability | Number of days where a Buildings and Facility asset was closed due to equipment or structural failure | The arena was closed for approximately 1 day and one evening due to various mechanical issues and repairs in previous two years. |
| | % of Buildings and Facilities currently marked as high or very high risk<br>(Risk score greater than 10) | Approximately 57% of buildings and facilities are considered high-risk. |
| Availability | Number of bookings at each building in previous year | Cargill Community Center (CC) – 148<br>Elmwood CC – 73<br>Walkerton CC Ice – 639<br>Walkerton CC Arena Floor – 43<br>Walkerton Library – 282<br>Bradly School House – 18 |
| | Number of recreation facilities per 1,000 residents | Brockton has approximately 1.84 recreation facilities per 1,000 residents |
| Accessibility | Number of buildings which are AODA compliant | One (1) of Brockton's buildings is AODA compliant. |

*Table 61 Community Levels of Service: Buildings & Facilities*

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Quality | Average facility condition index value for facilities in the municipality | 59%<br>(Fair) |
| Performance | Target vs. Actual capital reinvestment rate | 2.5% vs. 1.0% |

*Table 62 Technical Levels of Service: Buildings & Facilities*

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Facilities capital funding is maintained at $426,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Facilities capital funding gradually increases from $426,000/year to $702,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Facilities capital funding gradually increases from $426,000/year to $1.2m/year over a span of 15 years |

*Table 63 Buildings & Facilities PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 58% | 32% | 21% | |
| | Average Asset Risk | 12.0 | 17.0 | 19.0 | |
| | Average Annual Investment | | $426,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 1.0% | | |
| Scenario 2 (60%) | Average Condition | 58% | 37% | 26% | |
| | Average Asset Risk | 12.0 | 16.0 | 18.0 | |
| | Average Annual Investment | | $702,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 1.5% | | |
| Scenario 3 (100%) | Average Condition | 58% | 37% | 45% | |
| | Average Asset Risk | 12.0 | 16.0 | 14.3 | |
| | Average Annual Investment | | $1,170,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 2.5% | | |

*Table 64 Buildings & Facilities PLOS Scenario Analysis*

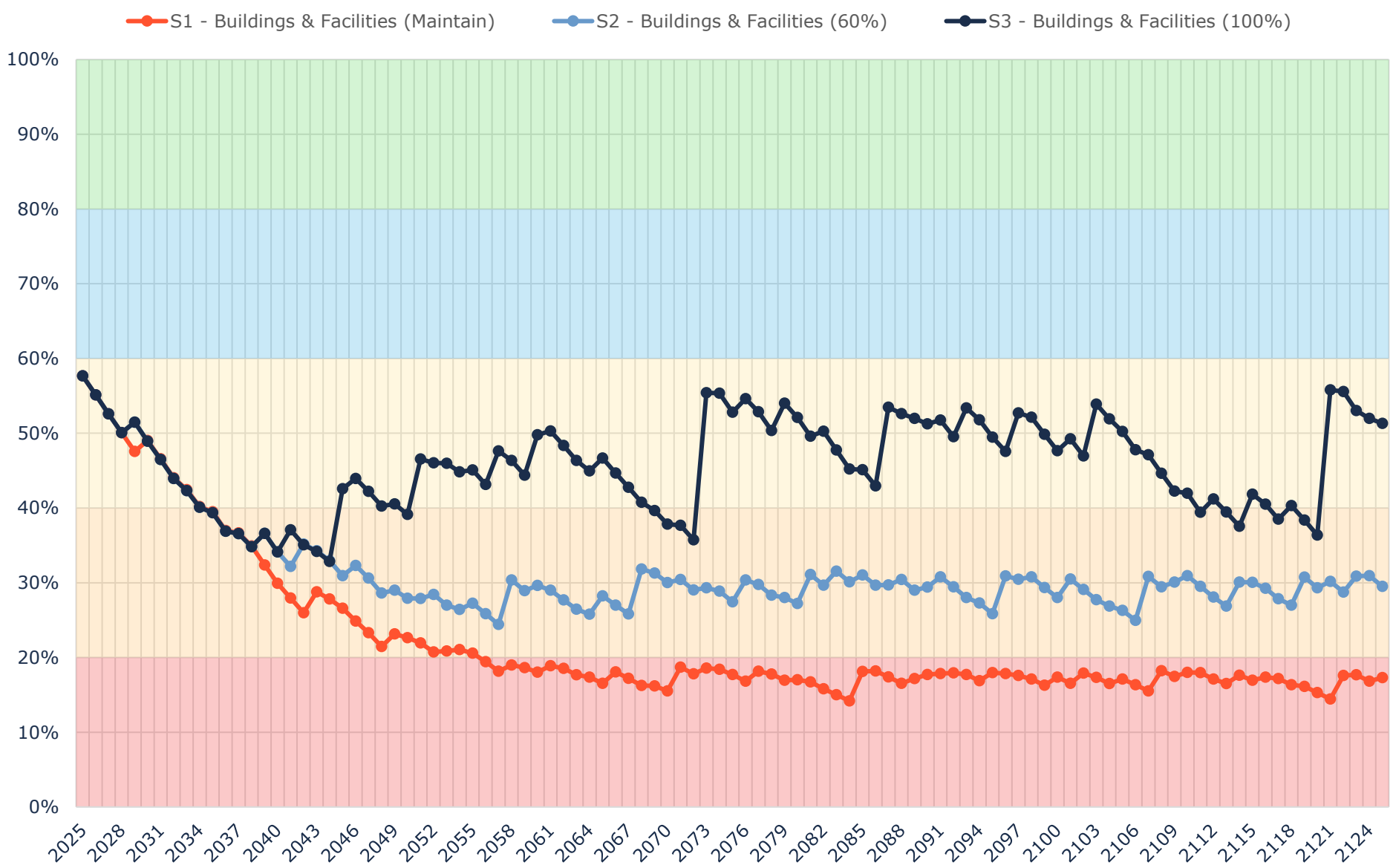


*Figure 66 Buildings & Facilities PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for buildings and facilities if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$702k** | **$702k** | **$702k** | **$702k** | **$702k** | **$702k** | **$702k** | **$702k** | **$702k** | **$702k** |
| **Projected Capital Spending** | $443k | $457k | $473k | $488k | $507k | $522k | $545k | $563k | $582k | $601k |
| **Funding Deficit** | $259k | $245k | $229k | $214k | $195k | $180k | $158k | $140k | $120k | $101k |
| **Target Reinvestment Rate** | **1.5%** | **1.5%** | **1.5%** | **1.5%** | **1.5%** | **1.5%** | **1.5%** | **1.5%** | **1.5%** | **1.5%** |
| **Projected Reinvestment Rate** | 1.0% | 1.0% | 1.0% | 1.1% | 1.1% | 1.1% | 1.2% | 1.2% | 1.3% | 1.3% |

*Table 65 Buildings & Facilities 10-Year PLOS Financial Projections*

# Appendix H – Furniture & Fixtures

The Municipality's furniture and fixtures portfolio includes miscellaneous items such as tables, chairs, and shelving. The total current replacement of furniture and fixtures is estimated at approximately $653,000.

## 1. Inventory & Valuation

Table 66 summarizes the quantity and current replacement cost of all furniture and fixtures assets available in the Municipality's asset register. Recreation accounts for the largest share of the furniture and fixtures asset group.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| General Government | 3 | Assets | $29,546 | CPI |
| Recreation & Cultural Services | 178 | Assets | $591,667 | CPI |
| Social & Family Services | 129 | Assets | $31,878 | CPI |
| **TOTAL** | | | **$653,091** | |

*Table 66 Detailed Asset Inventory: Land Improvements*

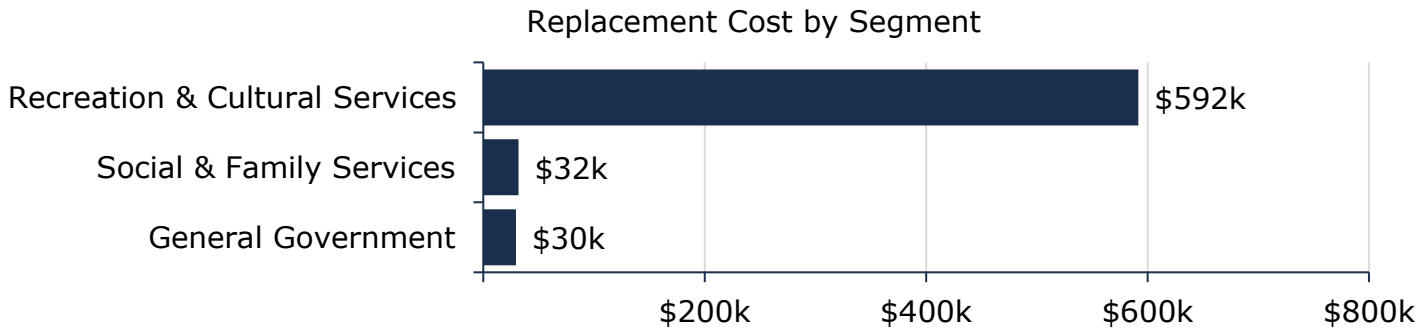


*Figure 67 Portfolio Valuation: Furniture & Fixtures*

## 2. Asset Condition

Figure 68 summarizes the replacement cost-weighted condition of the Municipality's furniture and fixtures portfolio. Based on age data only, 89% of assets are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

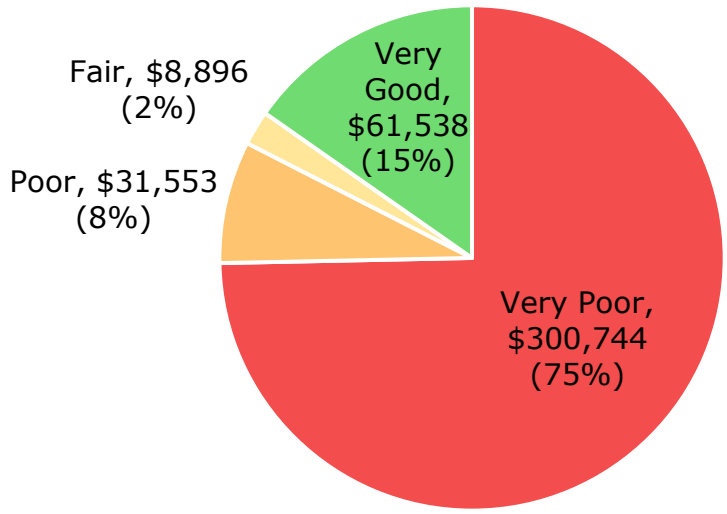


*Figure 68 Asset Condition: Furniture & Fixtures Overall*

Figure 69 summarizes the age-based condition of furniture and fixtures by each department. The vast majority of assets across all departments are in very poor condition. It is recommended that this be verified through hands-on inspections.

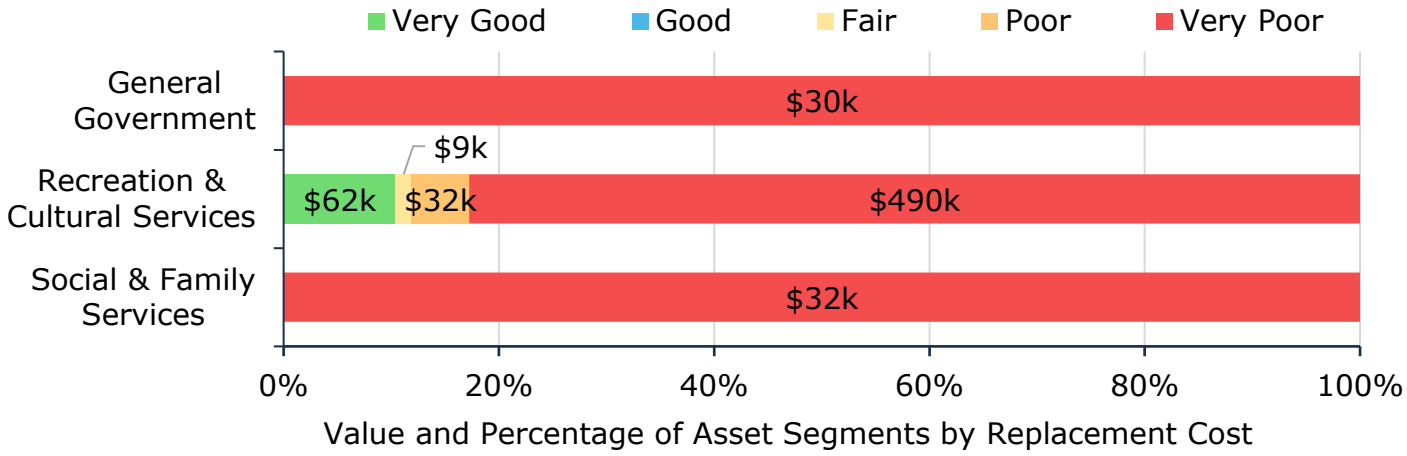


*Figure 69 Asset Condition: Furniture & Fixtures by Segment*

## 3. Age Profile

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

In conjunction with condition data, an asset's age profile provides a more complete summary of the state of infrastructure. It can help identify assets that may be candidates for further review

through condition assessment programs; inform the selection of optimal lifecycle strategies; and improve planning for potential replacement spikes.

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

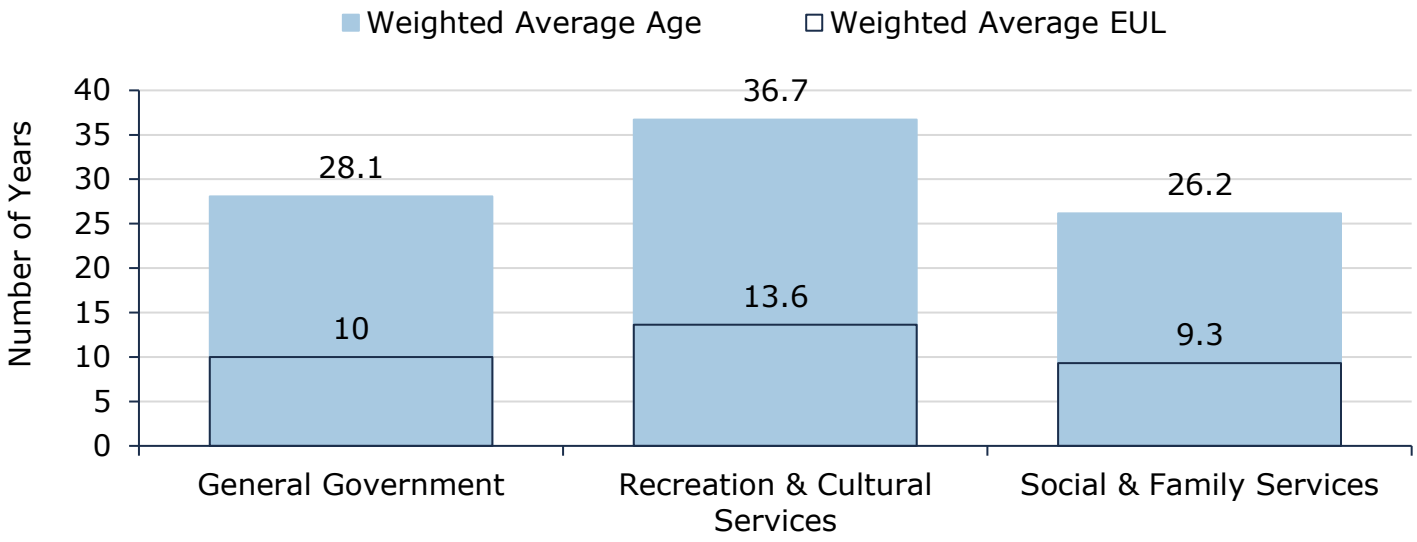


*Figure 70 Estimated Useful Life vs. Asset Age: Furniture & Fixtures*

Age analysis reveals that, on average, all furniture and fixtures have exceeded their intended useful life. This data coincides with the extremely poor conditions assumed based on asset age.

## 4. Current Approach to Lifecycle Management

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

Table 67 outlines the Municipality's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Visual inspections conducted by maintenance staff each time the asset is cleaned or moved into or out of storage. Minor component repairs such as replacement of hinges or table legs are conducted when the component breaks. |
| Rehabilitation / Replacement | Furniture and fixture assets are replaced when a significant component of the asset breaks, or funding is available to replace an asset at the end of its estimated useful life. |

*Table 67 Lifecycle Management Strategy: Furniture & Fixtures*

## 5. Forecasted Long-Term Replacement Needs

Figure 71 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's furniture and fixtures portfolio. This analysis was run until 2049 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$56,000 per year** for all furniture and fixtures. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to fluctuate over the 25-year time horizon, beginning with a backlog of $534,000 and spiking approximately every 10 years 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.

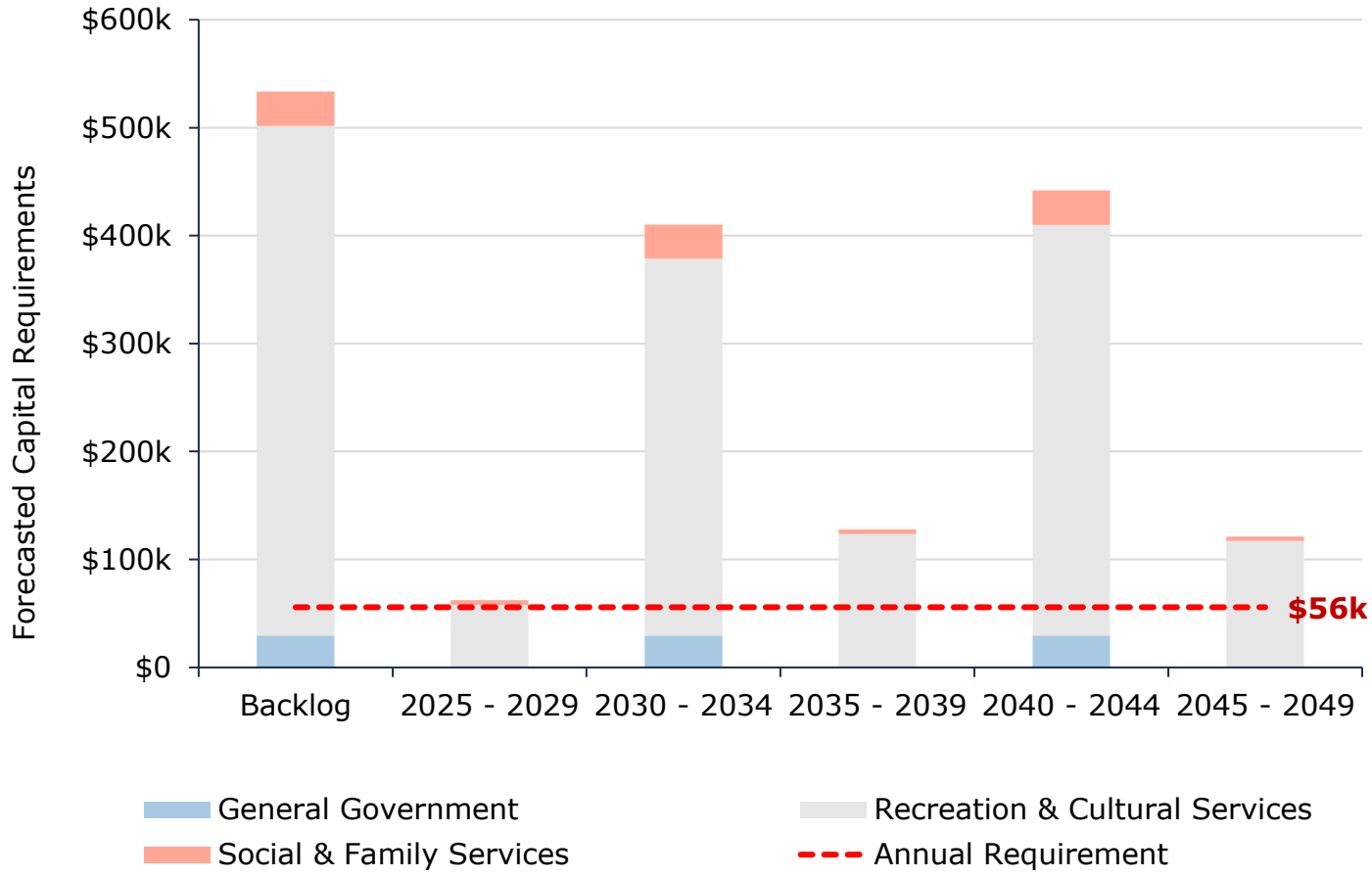


*Figure 71 Forecasted Capital Replacement Needs: Furniture & Fixtures 2025-2049*

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

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

## 6. Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, replacement costs, and function. 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 72 Risk Matrix: Furniture & Fixtures*

## 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Safety | Actions performed by Municipality to ensure safety of public when using Furniture & Fixtures assets | The Municipality regularly performs informal inspections of furniture and fixtures. Assets with identified hazards are replaced in a timely manner. Many assets are currently in service beyond their expected useful life, as their observed condition is Fair or better. |
| Availability | Brief description of the Municipality's policy on Furniture & Fixture maintenance and replacement | The Municipality maintains an adequate inventory of furniture. When furniture is removed due to damage, and thereby the capacity of a venue is reduced, the reduction in capacity is made known at the time of booking. Furniture is replaced and capacity is restored as financially feasible. |

*Table 68 Community Levels of Service: Furniture & Fixtures*

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Quality | Average condition of furniture and fixtures | 11% (Very Poor) |
| Safety | Response time to remove (or close access to) furniture when identified as not fit for purpose | 1 business day |
| Performance | Target vs. Actual capital reinvestment rate | 8.5% vs. 0% |

*Table 69 Technical Levels of Service: Furniture & Fixtures*

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Furniture capital funding is maintained at $0/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Furniture capital funding gradually increases from $0/year to $33,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Furniture capital funding gradually increases from $0/year to $56,000/year over a span of 15 years |

*Table 70 Furniture & Fixtures PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 20% | 3% | 0% | |
| | Average Asset Risk | 11.0 | 12.8 | 13.0 | |
| | Average Annual Investment | | $0 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.0% | | |
| Scenario 2 (60%) | Average Condition | 20% | 19% | 24% | |
| | Average Asset Risk | 11.0 | 11.2 | 10.8 | |
| | Average Annual Investment | | $33,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 5.1% | | |
| Scenario 3 (100%) | Average Condition | 20% | 31% | 45% | |
| | Average Asset Risk | 11.0 | 9.8 | 8.1 | |
| | Average Annual Investment | | $56,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 8.5% | | |

*Table 71 Furniture & Fixtures PLOS Scenario Analysis*

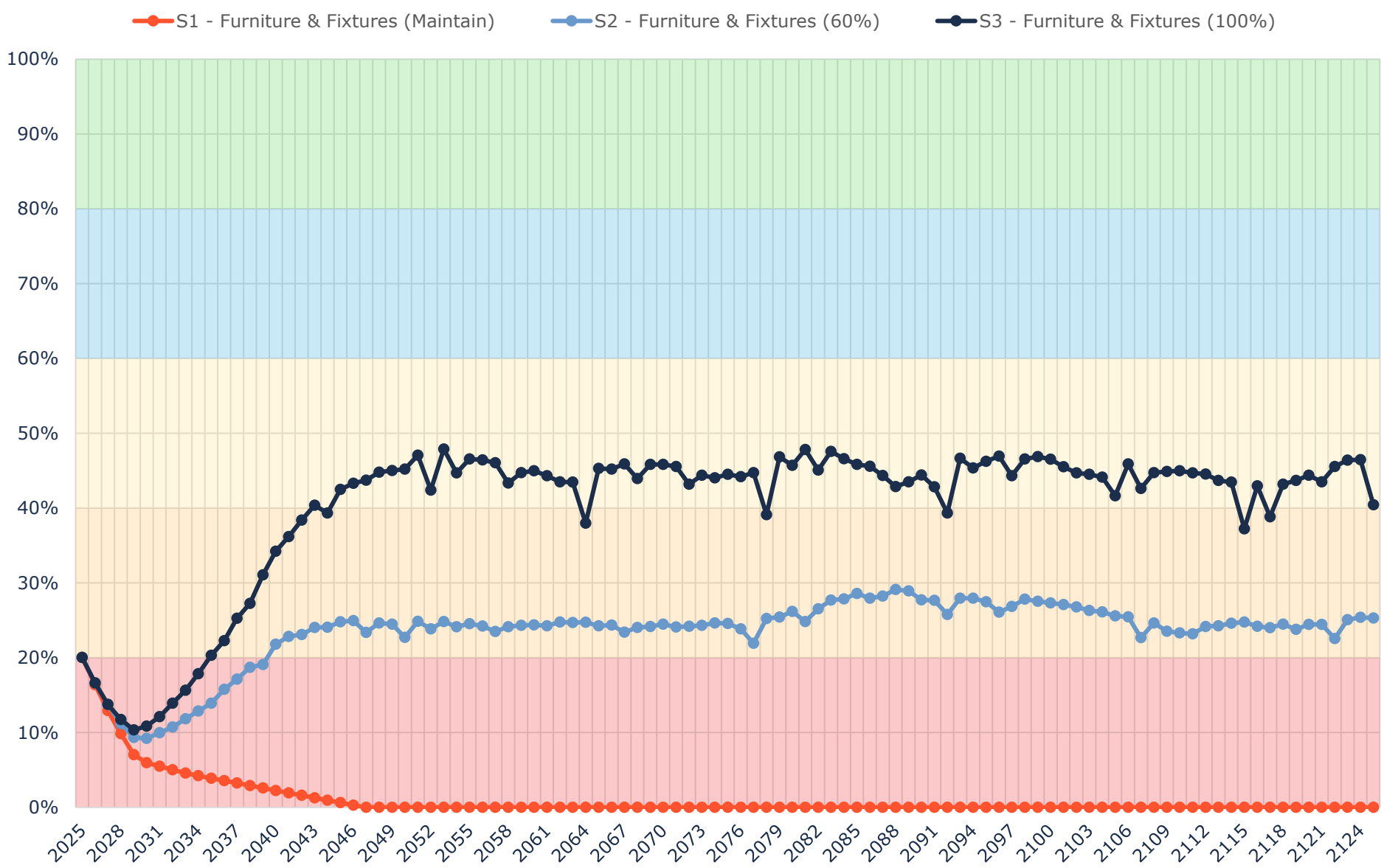


*Figure 73 Furniture & Fixtures PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the furniture and fixtures if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$33k** | **$33k** | **$33k** | **$33k** | **$33k** | **$33k** | **$33k** | **$33k** | **$33k** | **$33k** |
| **Projected Capital Spending** | $2k | $4k | $6k | $8k | $10k | $12k | $14k | $17k | $19k | $21k |
| **Funding Deficit** | $31k | $30k | $28k | $26k | $24k | $22k | $19k | $17k | $15k | $12k |
| **Target Reinvestment Rate** | **5.1%** | **5.1%** | **5.1%** | **5.1%** | **5.1%** | **5.1%** | **5.1%** | **5.1%** | **5.1%** | **5.1%** |
| **Projected Reinvestment Rate** | 0.3% | 0.6% | 0.9% | 1.2% | 1.5% | 1.8% | 2.2% | 2.5% | 2.9% | 3.2% |

*Table 72 Furniture & Fixtures 10-Year PLOS Financial Projections*

# Appendix I – Land Improvements

The Municipality's land improvements portfolio is widely varied an includes assets such as playground equipment, sport fields, fencing, drainage systems, and parking lots. The total current replacement of land improvements is estimated at approximately $5.2 million.

## 1. Inventory & Valuation

Table 73 summarizes the quantity and current replacement cost of all land improvements assets available in the Municipality's asset register. Recreation accounts for the largest share of the land improvements portfolio.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Environmental Services | 5 | Assets | $367,750 | CPI |
| Recreation & Cultural Services | 8,602 | Assets | $4,745,821 | CPI |
| Social & Family Services | 4 | Assets | $83,612 | CPI |
| **TOTAL** | | | **$5,197,183** | |

*Table 73 Detailed Asset Inventory: Land Improvements*

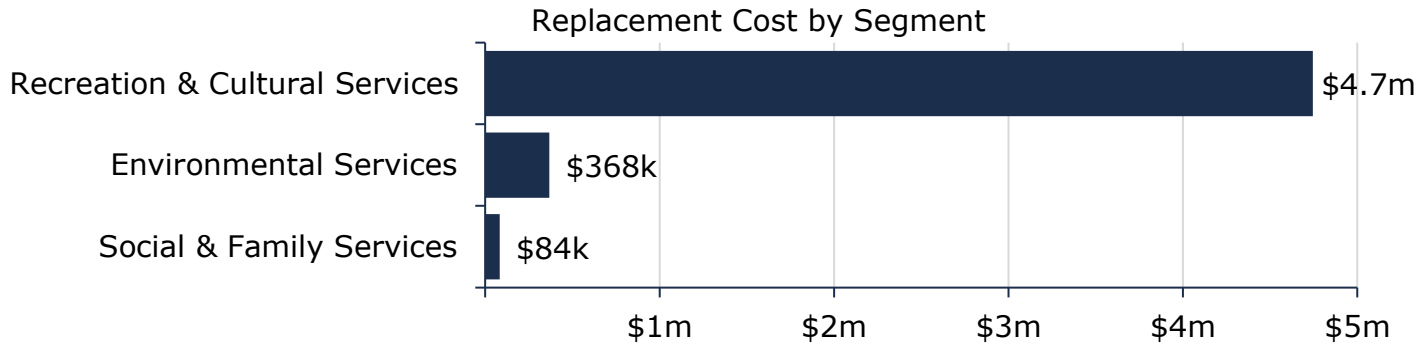


*Figure 74 Portfolio Valuation: Land Improvements*

## 2. Asset Condition

Figure 75 summarizes the replacement cost-weighted condition of the Municipality's land improvements portfolio. Based solely on age data, 66% of land improvements are in fair or better condition, with the remaining 34% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require

rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. No condition data was available land improvements assets.

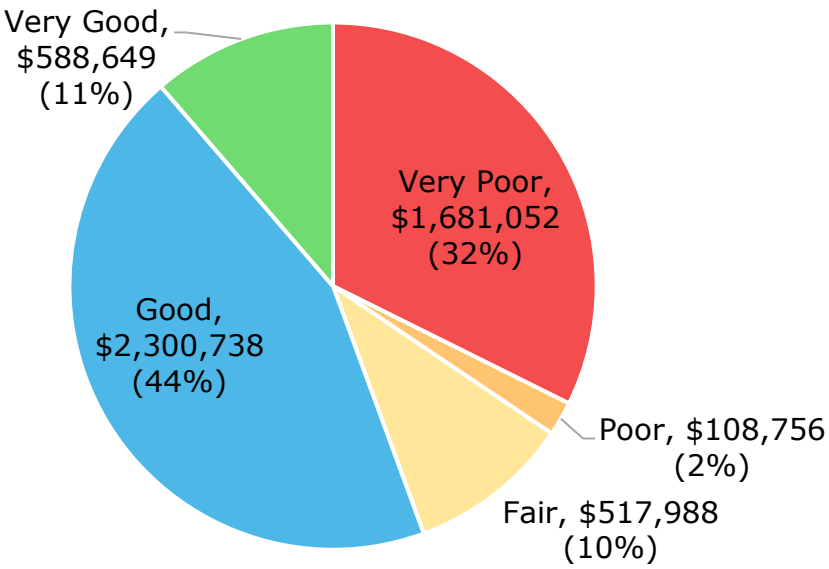


*Figure 75 Asset Condition: Land Improvements Overall*

Figure 76 summarizes the condition of land improvements by each department. The majority of land improvements that support social and family services are in very poor condition, while the majority serving environmental services are in good or very good condition.

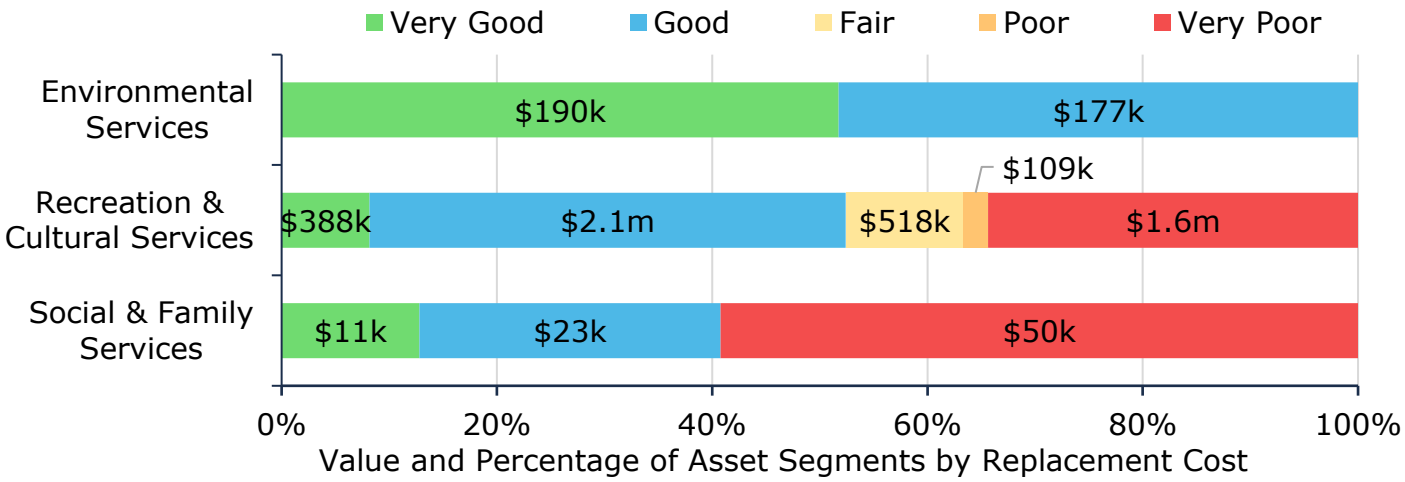


*Figure 76 Asset Condition: Land Improvements by Segment*

## 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 77 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.

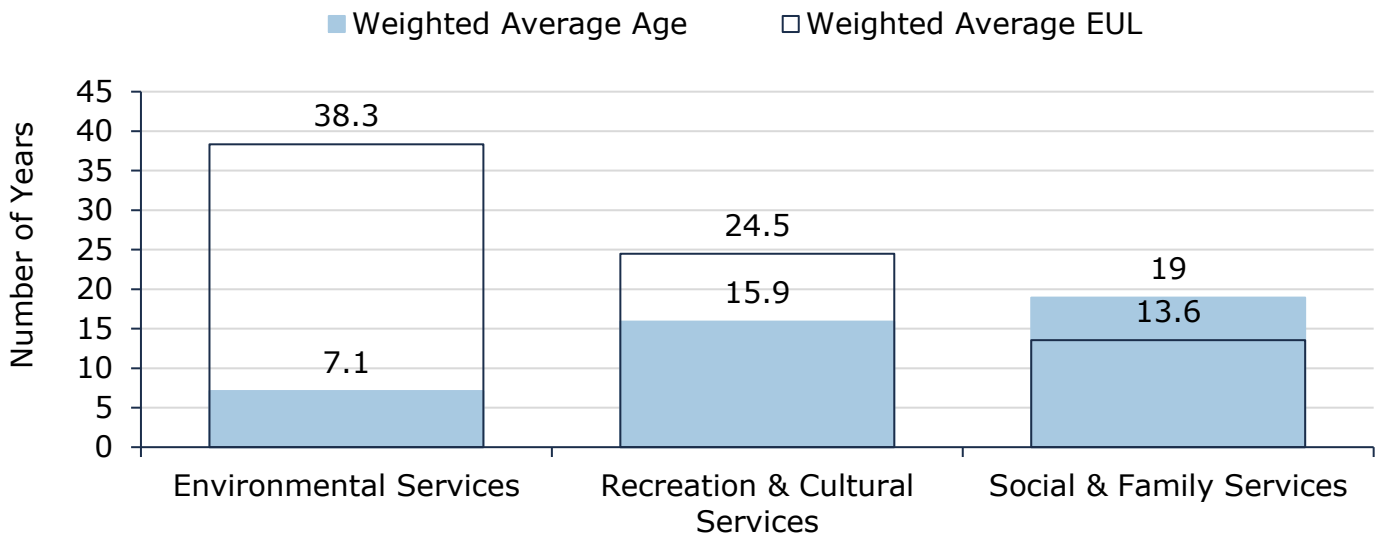


*Figure 77 Estimated Useful Life vs. Asset Age: Land Improvements*

Age analysis reveals that, on average, most assets supporting social and family services have exceeded their expected life, which coincides with the age-based condition ratings. On average, assets in recreation are entering the latter half of their lifespan.

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Maintenance details vary by asset and department. A pavilion may require simple cleaning and occasional repainting, while soccer fields will require consistent mowing, aeration, and line painting to ensure they provide adequate service. |
| | Informal inspections are carried out by municipal staff on a regular basis. |
| | More stringent maintenance and inspection of Playgrounds and similar assets according to CAN/CSA-Z614 and required as per O. Reg. 137/15. |
| Rehabilitation | Rehabilitation of assets is dealt with on a case-by-case basis. Land assets which deteriorate are typically rehabilitated rather than replaced. Potential examples include implementing erosion control measures or enacting a contaminated site cleanup process. |
| Replacement | Assessments are completed strategically as Land Improvement assets approach their end-of-life to determine whether replacement or rehabilitation is more appropriate. |

*Table 74 Lifecycle Management Strategy: Land Improvements*

## 5. Forecasted Long-Term Replacement Needs

Figure 78 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's land improvements portfolio. This analysis was run until 2099 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$277,000 per year** for all land improvements. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to oscillate through the coming decades, peaking at between $3.2 million - $3.4 million in 2045 and 2075. 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.

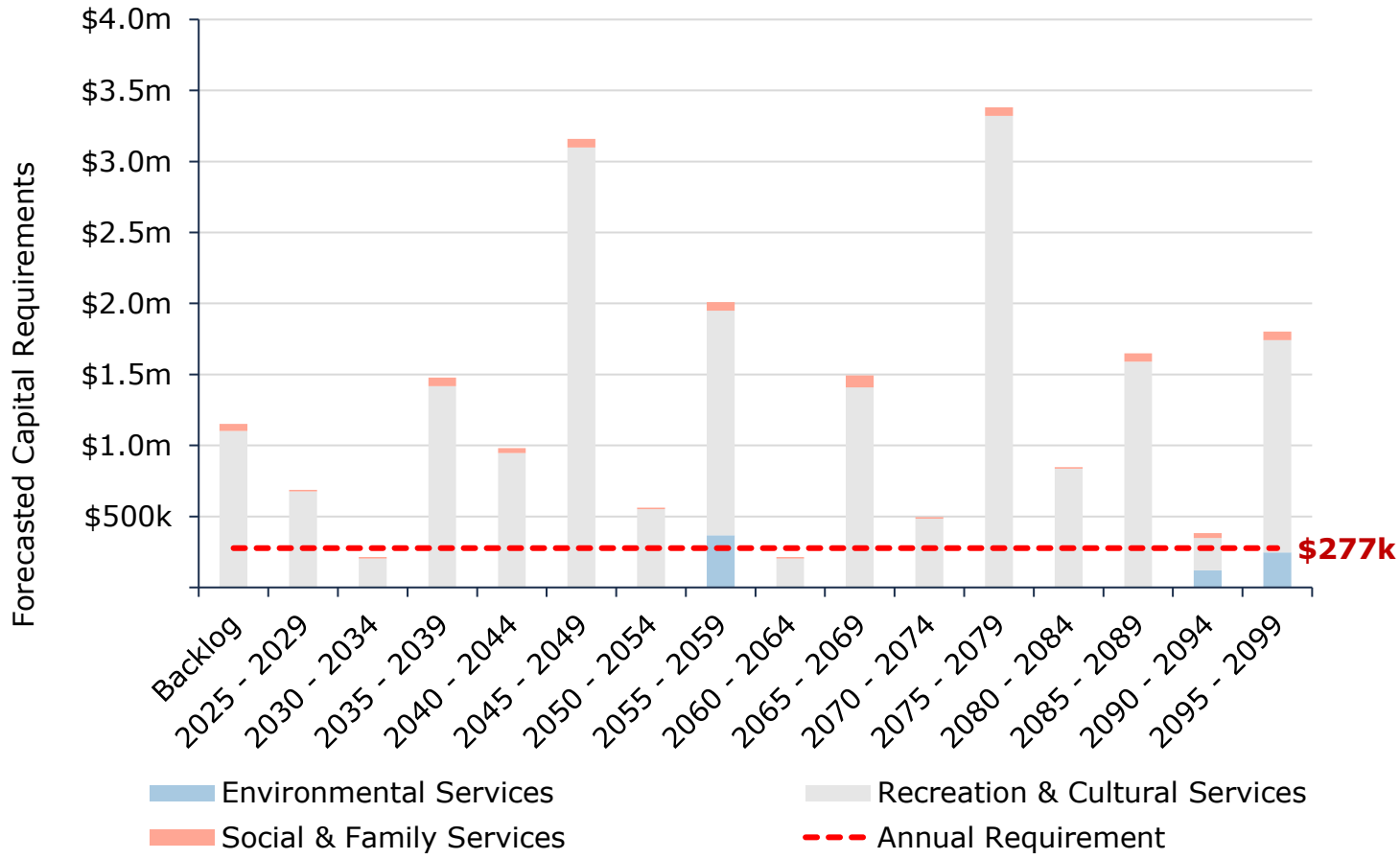


*Figure 78 Forecasted Capital Replacement Needs: Land Improvements 2025-2099*

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

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

## 6. Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and park type. 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 79 Risk Matrix: Land Improvements*

# 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Availability | Description of how the Municipality prevents park closures, and how closure time is minimized when necessary | The Municipality conducts preventative inspections and maintenance on parks and recreation assets to minimize closures. When factors such as weather necessitate closures, Brockton responds appropriately to minimize closure time. |

*Table 75 Community Levels of Service: Land Improvements*

### Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Quantity | # of parks per 1000 population | 1.84 |
| Quality | Average condition of land improvements | 49% (Fair) |
| Performance | Target vs. Actual capital reinvestment rate | 5.3% vs. 4.5% |

*Table 76 Technical Levels of Service: Land Improvements*

## 8. Proposed Levels of Service

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

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

### PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Land Improvements capital funding is maintained at $236,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Land Improvements capital funding decreases from $236,000/year to $166,000/year, with the surplus being redistributed amongst the other tax-funded asset categories |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Land Improvements capital funding gradually increases from $236,000/year to $277,000/year over a span of 15 years |

*Table 77 Land Improvements PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 50% | 33% | 31% | |
| | Average Asset Risk | 13.8 | 17.5 | 17.2 | |
| | Average Annual Investment | | $236,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 4.6% | | |
| Scenario 2 (60%) | Average Condition | 50% | 30% | 17% | |
| | Average Asset Risk | 13.8 | 17.5 | 20.5 | |
| | Average Annual Investment | | $166,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 3.2% | | |
| Scenario 3 (100%) | Average Condition | 50% | 33% | 56% | |
| | Average Asset Risk | 13.8 | 17.3 | 11.6 | |
| | Average Annual Investment | | $277,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 5.3% | | |

*Table 78 Land Improvements PLOS Scenario Analysis*

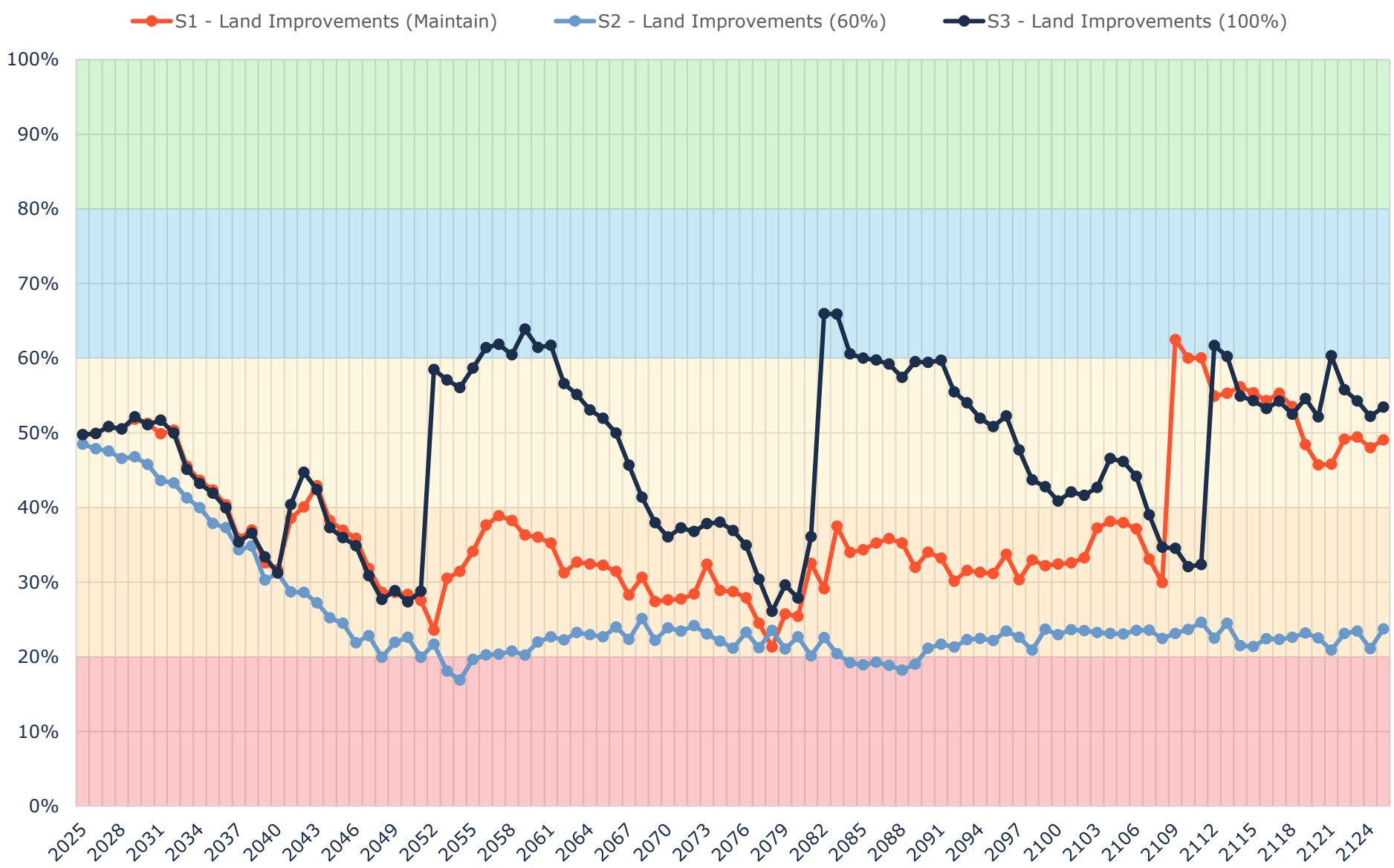


*Figure 80 Land Improvements PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for land improvements if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$162k** | **$162k** | **$162k** | **$162k** | **$162k** | **$162k** | **$162k** | **$162k** | **$162k** | **$162k** |
| **Projected Capital Spending** | $162k | $162k | $162k | $162k | $162k | $162k | $162k | $162k | $162k | $162k |
| **Funding Deficit** | - | - | - | - | - | - | - | - | - | - |
| **Target Reinvestment Rate** | **3.2%** | **3.2%** | **3.2%** | **3.2%** | **3.2%** | **3.2%** | **3.2%** | **3.2%** | **3.2%** | **3.2%** |
| **Projected Reinvestment Rate** | 3.2% | 3.2% | 3.2% | 3.2% | 3.2% | 3.2% | 3.2% | 3.2% | 3.2% | 3.2% |

*Table 79 Land Improvements 10-Year PLOS Financial Projections*

# Appendix J – Vehicles & Heavy Equipment

The Municipality's vehicles and heavy equipment portfolio includes 65 assets that support a variety of general and essential services, including recreation, transportation, and protective services. The total current replacement of vehicles and heavy equipment is estimated at approximately $14.6 million.

## 1. Inventory & Valuation

Figure 81 summarizes the quantity and current replacement cost of all vehicles and heavy equipment assets available in the Municipality's asset register.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| General Government | 2 | Assets | $29,514 | CPI |
| Protective Services | 7 | Assets | $3,563,332 | CPI |
| Recreation & Cultural Services | 13 | Assets | $718,398 | CPI |
| Transportation Services | 43 | Assets | $10,297,893 | CPI |
| **TOTAL** | | | **$14,609,137** | |

*Table 80 Detailed Asset Inventory: Vehicles & Heavy Equipment*

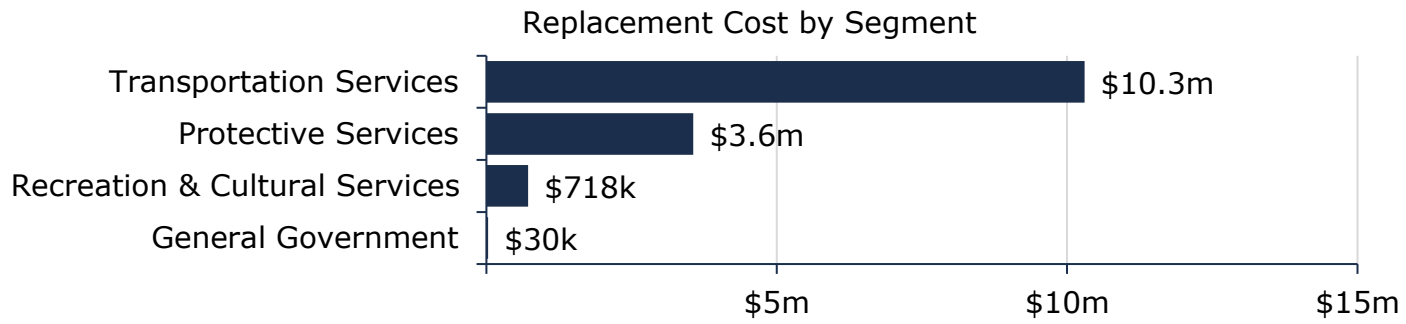


*Figure 81 Portfolio Valuation: Vehicles & Heavy Equipment*

## 2. Asset Condition

Figure 82 summarizes the replacement cost-weighted condition of the Municipality's vehicles and heavy equipment portfolio. Based primarily on staff assessments, 47% of assets are in fair or better condition; the remaining 53% are in poor or worse condition. These assets may be

candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

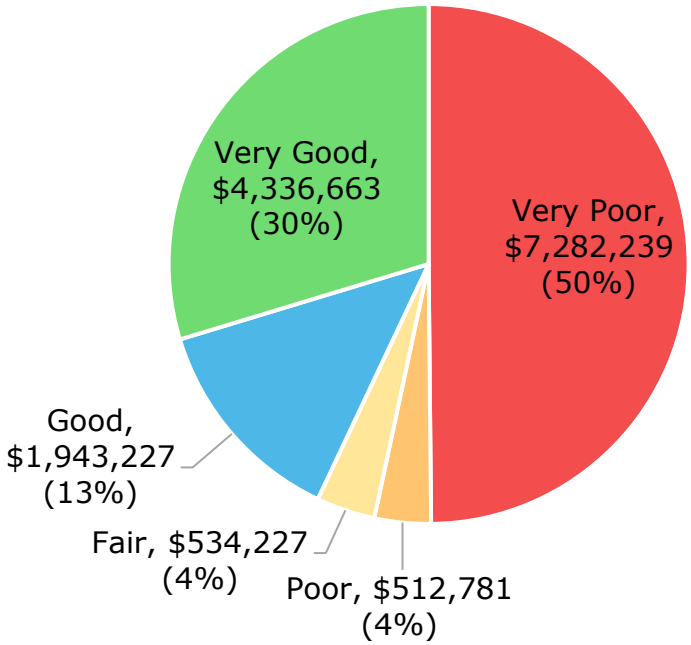


*Figure 82 Asset Condition: Vehicles & Heavy Equipment Overall*

Figure 83 summarizes the age-based condition of vehicles and heavy equipment by each department. The majority of assets that support protective services are in fair or better condition. Assets in poor or worse condition are concentrated primarily in transportation services.

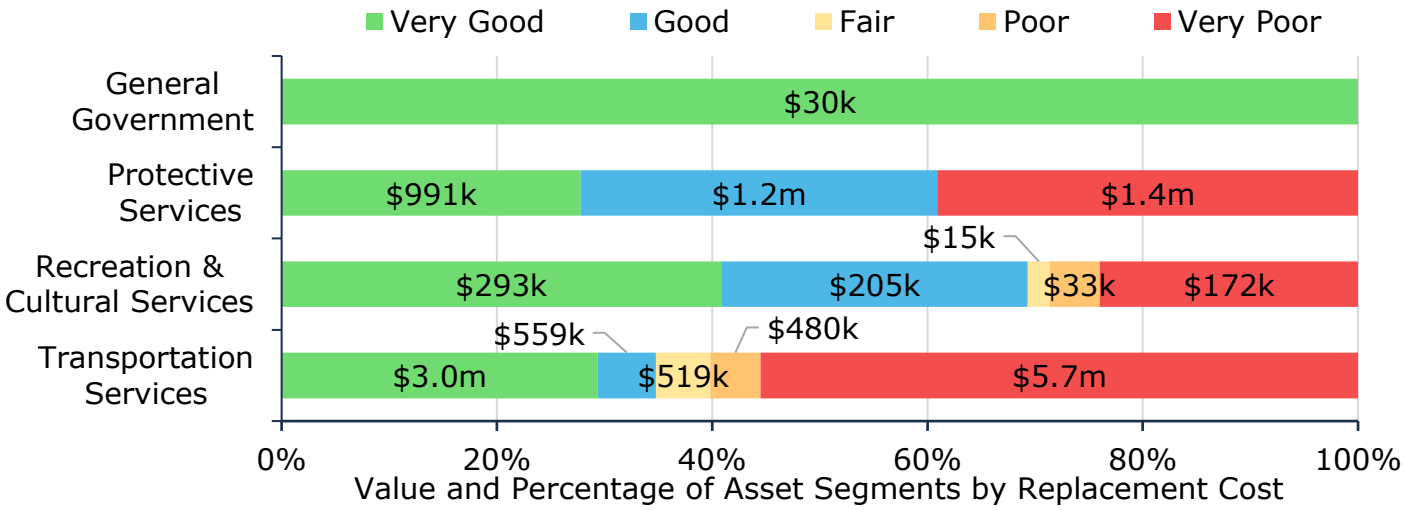


*Figure 83 Asset Condition: Vehicles & Heavy Equipment by Segment*

## 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 84 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.

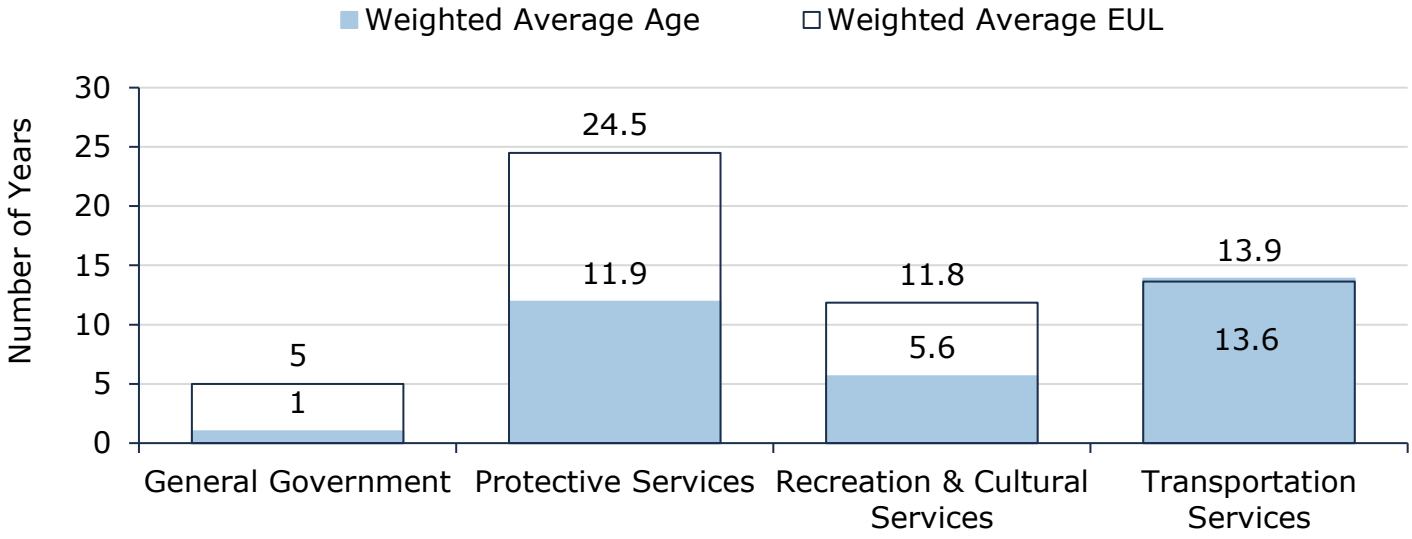


*Figure 84 Estimated Useful Life vs. Asset Age: Vehicles & Heavy Equipment*

Age analysis reveals that, on average, vehicles and equipment supporting transportation services have exceeded their expected useful lives.

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance/ Rehabilitation | Visual inspections completed and documented daily; fluids inspected at every fuel stop; tires inspected monthly. |
| | Detailed inspections, including tire rotation and oil change are carried out on a regular basis. The km ranges that are used to identify when an inspection is needed vary according the vehicle's size and function. |
| | Annual preventative maintenance activities include system components check and additional detailed inspections |
| Replacement | Vehicle age, kilometers and annual repair costs are taken into consideration when determining appropriate treatment options |

*Table 81 Lifecycle Management Strategy: Vehicles & Heavy Equipment*

## 5. Forecasted Long-Term Replacement Needs

Figure 85 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's vehicles and heavy equipment portfolio. This analysis was run until 2049 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$1.0 million per year** for all vehicles and heavy equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to increase in the next decade, peaking at $7.3 million between 2030 and 2034. 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.

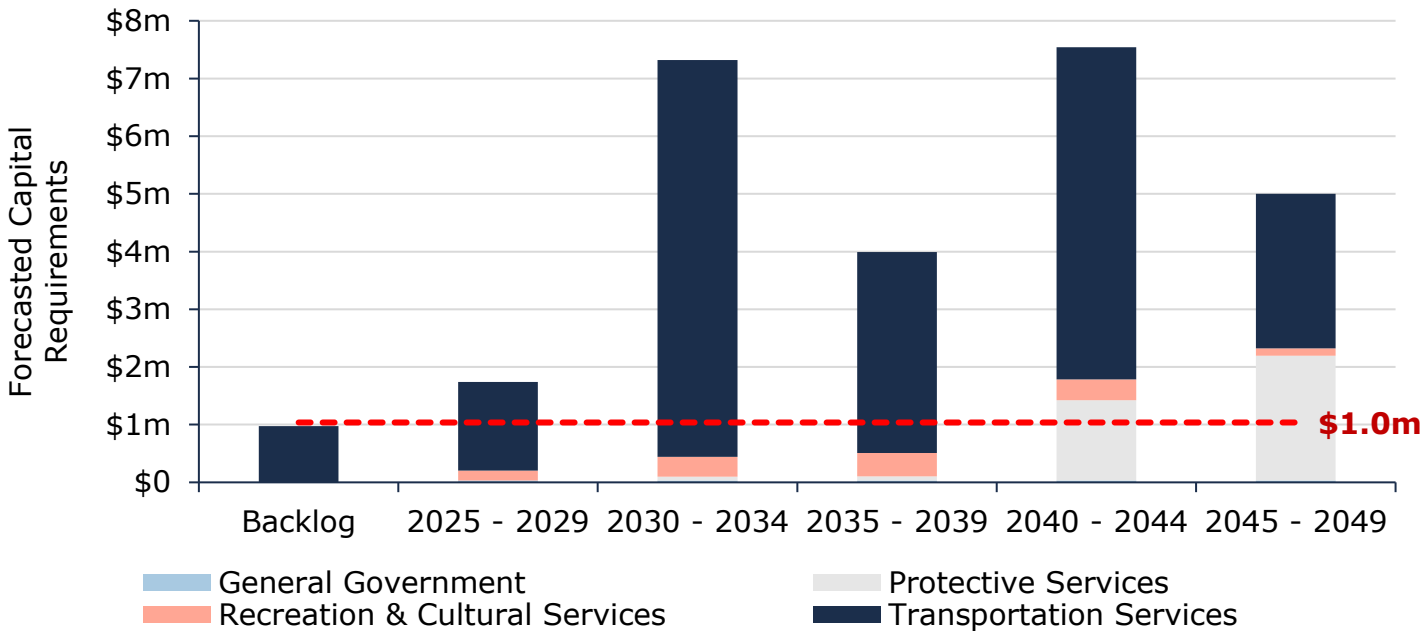


*Figure 85 Forecasted Capital Replacement Needs: Vehicles & Heavy Equipment 2025-2049*

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

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

## 6. Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and function. 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 86 Risk Matrix: Vehicles & Heavy Equipment*

# 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Reliability | Description of how reliable the vehicles and heavy equipment assets are, and the actions performed to ensure reliability | Vehicles and heavy equipment assets are inspected on a regular basis, with frequency according to their service delivery. All assets are inspected, operated and maintained to the requirements of applicable standards (i.e. NFPA, MTO, OPSS, etc.). |
| Availability | Description of how often vehicles fail to start or are not available when required, and how instances of nonresponse are prevented | The Municipality has recorded zero instances of a vehicle failing to start when required in the previous 12 months. One vehicle was determined to be unsafe and removed from service. Nonresponses to calls are prevented by performing preventative vehicle maintenance in accordance with manufacturer and regulatory guidelines. |
| Safety | Description of policies and practices used to ensure safety of vehicle operators and bystanders | The Municipality requires that staff operating vehicles have all applicable licenses (i.e. Class B, F, G etc.), comply with all road regulations, and complete a pre-trip visual inspection before each journey. Additional inspections are conducted according to asset service delivery. |

*Table 82 Community Levels of Service: Vehicles & Heavy Equipment*

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Quality | Average condition of vehicles and heavy equipment | 41% (Fair) |
| Reliability | % of vehicles and heavy equipment assets with regular (weekly, monthly, or annually) inspections | 100% |
| Safety | % of operators with required certifications | 100% |
| | # of failed pre-trip inspections in the previous 12 months | 0 |
| | # of Health and Safety incidents involving Municipality vehicles in the previous 12 months | 1 |
| Performance | Target vs. Actual capital reinvestment rate | 7.1% vs. 2.6% |

*Table 83 Technical Levels of Service: Vehicles & Heavy Equipment*

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Vehicles capital funding is maintained at $382,000/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Vehicles capital funding gradually increases from $382,000/year to $623,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Vehicles capital funding gradually increases from $382,000/year to $1.0m/year over a span of 15 years |

*Table 84 Vehicles & Heavy Equipment PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 60% | 17% | 14% | |
| | Average Asset Risk | 9.8 | 19.5 | 20.0 | |
| | Average Annual Investment | | $382,000 | | This parameter is maintained |
| | Average Capital re-investment rate | | 2.6% | | |
| Scenario 2 (60%) | Average Condition | 60% | 24% | 26% | |
| | Average Asset Risk | 9.8 | 18.3 | 17.6 | |
| | Average Annual Investment | | $623,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 4.3% | | |
| Scenario 3 (100%) | Average Condition | 60% | 35% | 47% | |
| | Average Asset Risk | 9.8 | 16.6 | 13.5 | |
| | Average Annual Investment | | $1,038,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 7.1% | | |

*Table 85 Vehicles & Heavy Equipment PLOS Scenario Analysis*

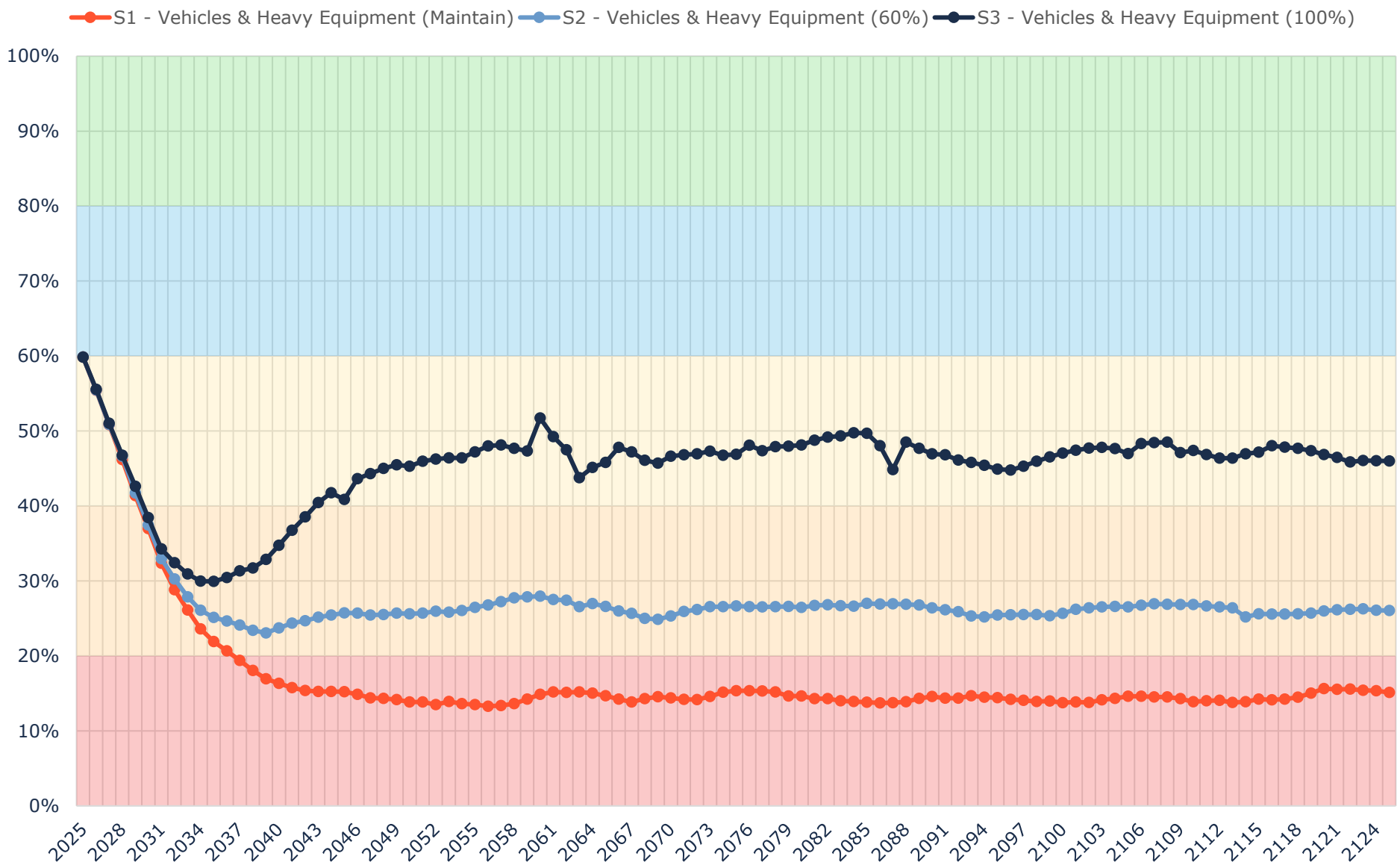


*Figure 87 Vehicles & Heavy Equipment PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for vehicles and heavy equipment if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** | **$623k** |
| **Projected Capital Spending** | $397k | $409k | $423k | $436k | $452k | $466k | $485k | $501k | $518k | $534k |
| **Funding Deficit** | $226k | $214k | $200k | $186k | $170k | $157k | $137k | $122k | $105k | $88k |
| **Target Reinvestment Rate** | **4.3%** | **4.3%** | **4.3%** | **4.3%** | **4.3%** | **4.3%** | **4.3%** | **4.3%** | **4.3%** | **4.3%** |
| **Projected Reinvestment Rate** | 2.7% | 2.8% | 2.9% | 3.0% | 3.1% | 3.2% | 3.3% | 3.4% | 3.5% | 3.7% |

*Table 86 Vehicles & Heavy Equipment 10-Year PLOS Financial Projections*

# Appendix K – Misc. Machinery & Small Equipment

The Municipality's misc. machinery and small equipment portfolio includes a variety of equipment such as snowblowers, sound systems, cleaning appliances, and protective bunker gear, supporting all departments. The total current replacement of vehicles and heavy equipment is estimated at approximately $5.8 million.

## 1. Inventory & Valuation

Figure 81 summarizes the quantity and current replacement cost of all misc. machinery and small equipment assets available in the Municipality's asset register.

| Segment | Quantity | Unit of Measure | Replacement Cost | Primary RC Method |
|---|---|---|---|---|
| Environmental Services | 4 | Assets | $931,771 | CPI |
| General Government | 89 | Assets | $797,112 | CPI |
| Protective Services | 3,297 | Assets | $1,291,072 | CPI |
| Recreation & Cultural Services | 197 | Assets | $2,271,657 | CPI |
| Social & Family Services | 17 | Assets | $223,723 | CPI |
| Transportation Services | 31 | Assets | $297,628 | CPI |
| **TOTAL** | | | **$5,812,963** | |

*Table 87 Detailed Asset Inventory: Misc. Machinery & Small Equipment*

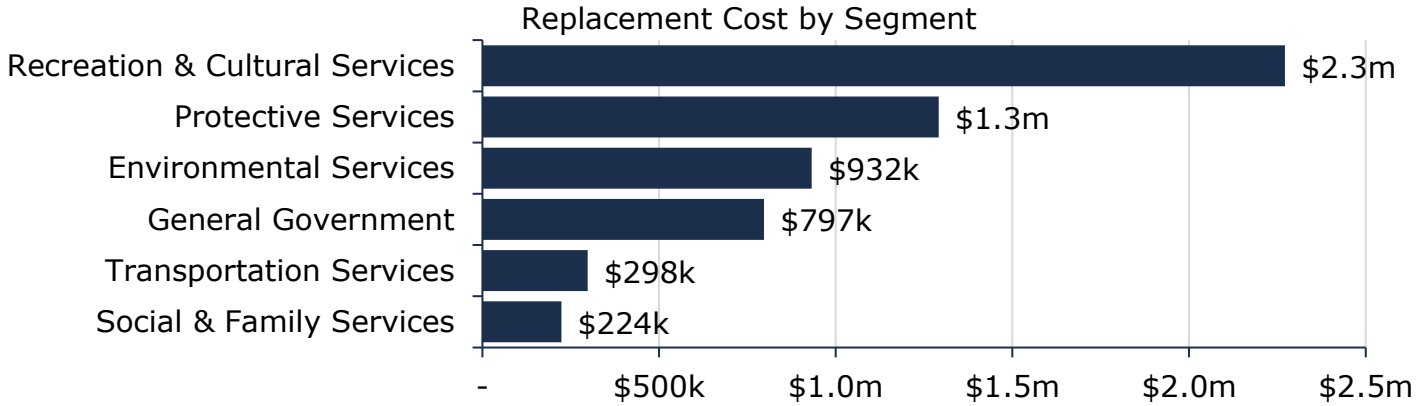


*Figure 88 Portfolio Valuation: Misc. Machinery & Small Equipment*

## 2. Asset Condition

Figure 82 summarizes the replacement cost-weighted condition of the Municipality's misc. machinery and small equipment portfolio. Based primarily on age data, 38% of assets are in fair or better condition; the remaining 62% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

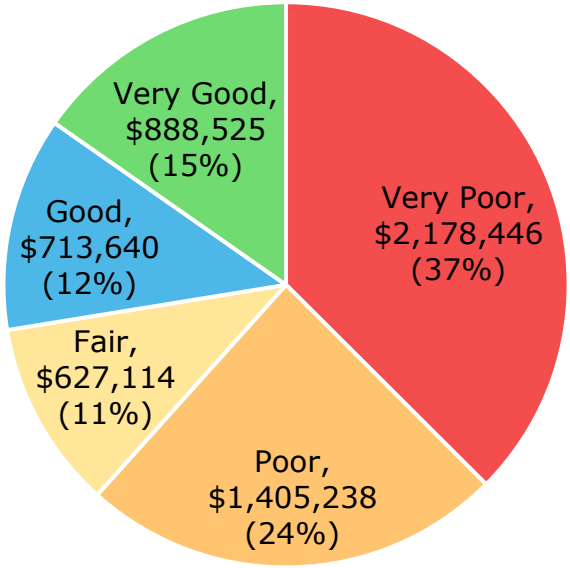


*Figure 89 Asset Condition: Misc. Machinery & Small Equipment Overall*

Figure 83 summarizes the age-based condition of misc. machinery and small equipment by each department. The majority of assets that support general government, social and family services, and environmental services are in poor or worse condition.

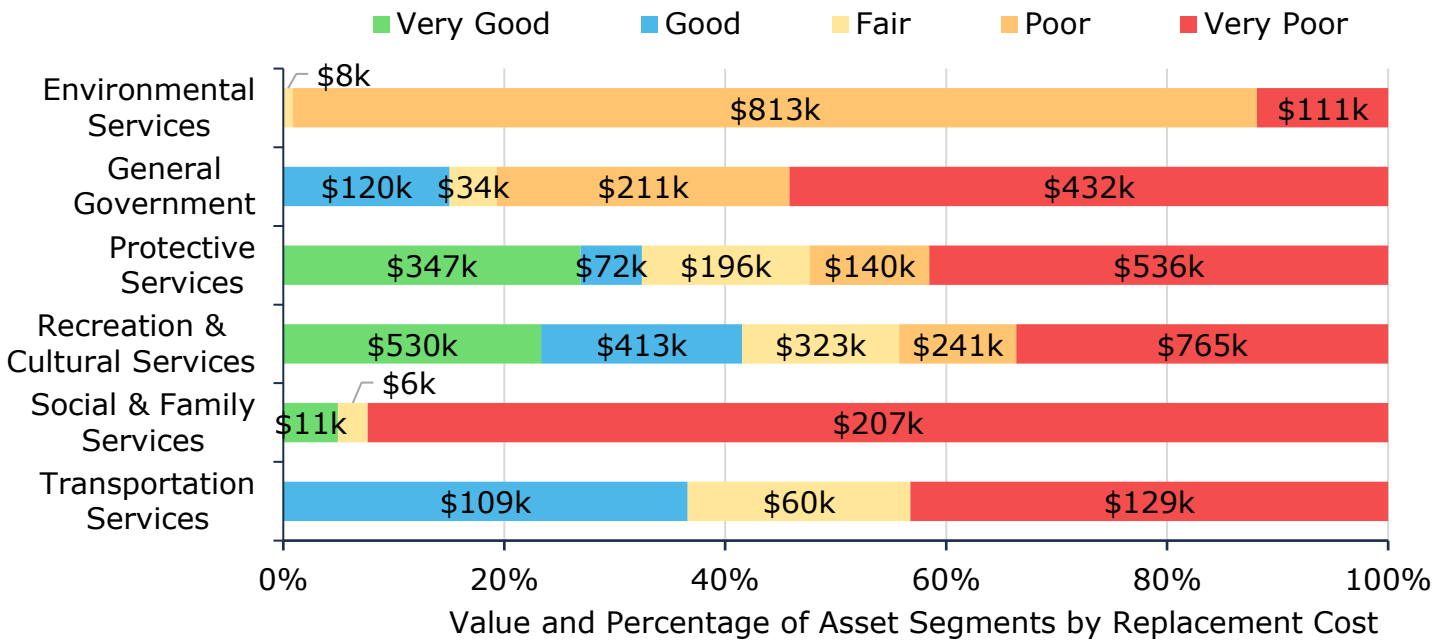


*Figure 90 Asset Condition: Misc. Machinery & Small Equipment by Segment*

## 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 84 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.

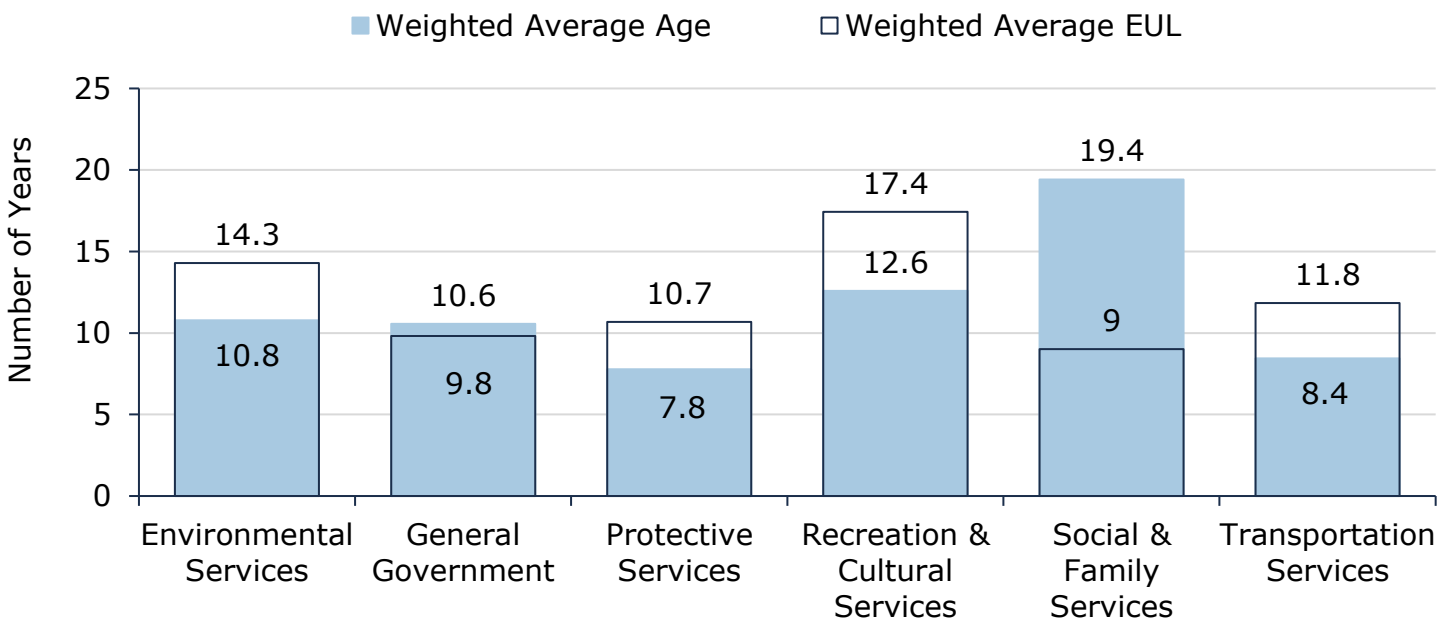


*Figure 91 Estimated Useful Life vs. Asset Age: Misc. Machinery & Small Equipment*

Age analysis reveals that, on average, the majority of assets have entered the latter half of the useful lives, with assets in social and family services having well exceeded theirs.

## 4. Current Approach to Lifecycle Management

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

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

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance/ Rehabilitation | Maintenance program varies by department. |
| | Fire Protection and Emergency Services equipment is subject to a much more rigorous inspection and maintenance program compared to most other departments |
| | Machinery & equipment are maintained according to manufacturer recommended actions and supplemented by the expertise of municipal staff |
| Replacement | The replacement of machinery & equipment depends on deficiencies identified by operators that may impact their ability to complete required tasks. Furthermore, staff monitor any increase in maintenance costs to identify if an asset replacement is required. |

*Table 88 Lifecycle Management Strategy: Misc. Machinery & Small Equipment*

## 5. Forecasted Long-Term Replacement Needs

Figure 85 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's misc. machinery and small equipment portfolio. This analysis was run until 2059 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total **$515,000 per year** for all misc. machinery and small equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to remain relatively consistent over the 35-year projection period, peaking at $3.6 million in 2040-2044. 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.

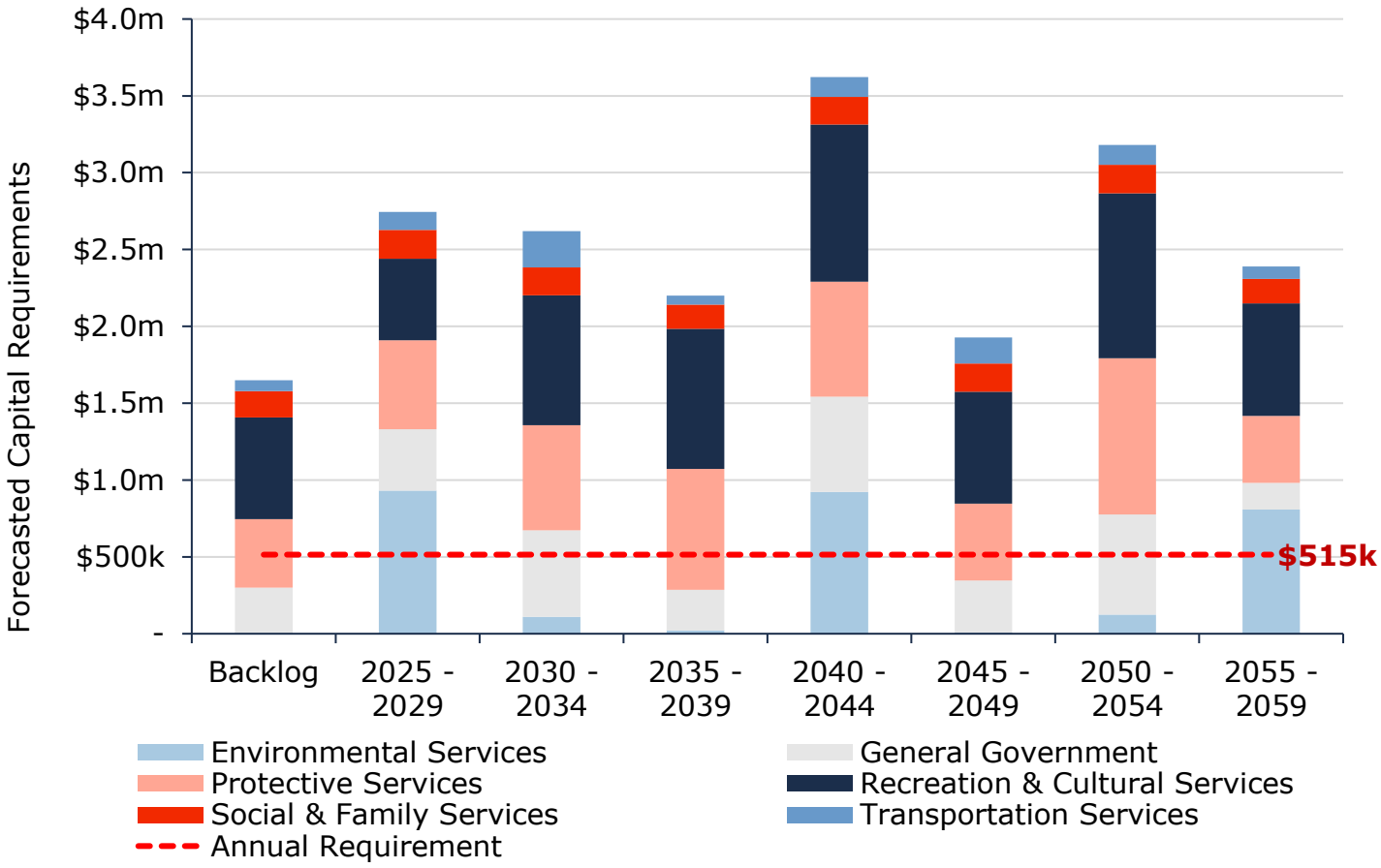


*Figure 92 Forecasted Capital Replacement Needs: Misc. Machinery & Small Equipment 2025-2059*

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

dedicated reserves. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

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

## 6. Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and function. 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 Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.


*Figure 93 Risk Matrix: Misc. Machinery & Small Equipment*

# 7. Levels of Service

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

## Community Levels of Service

| Service Attribute | Qualitative Description | Current LOS (2024) |
|---|---|---|
| Scope | Description of how reliable the misc. equipment assets are, and the actions performed to ensure reliability | Misc. equipment assets are inspected on a regular basis, with frequency according to their service delivery. All assets are inspected, operated and maintained to the requirements of applicable standards (i.e. NFPA, MTO, OPSS, etc.). |

*Table 89 Community Levels of Service: Misc. Machinery & Small Equipment*

## Technical Levels of Service

| Service Attribute | Technical Metric | Current LOS (2024) |
|---|---|---|
| Quality | Average condition of equipment | 38% (Poor) |
| Performance | Target vs. Actual capital reinvestment rate | 8.9% vs. 0% |

*Table 90 Technical Levels of Service: Misc. Machinery & Small Equipment*

# 8. Proposed Levels of Service

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

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

## PLOS Scenarios Analyzed

| Scenario | Description |
|---|---|
| **Scenario 1: Maintain Existing Funding Levels** | This scenario maintains existing capital funding levels for those categories that are underfunded.<br>♦ Small equipment capital funding is maintained at $0/year |
| **Scenario 2: Achieving 60% Funding in 15 Years** | This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 60% funding across all asset categories in 15 years.<br>♦ Small equipment capital funding gradually increases from $0/year to $309,000/year over a span of 15 years |
| **Scenario 3: Achieving 100% Funding in 15 Years** | This scenario assumes gradual tax increases of ~3.8%/year, stabilizing at 100% funding across all asset categories in 15 years.<br>♦ Small equipment capital funding gradually increases from $0/year to $515,000/year over a span of 15 years |

*Table 91 Misc. Machinery & Small Equipment PLOS Scenario Descriptions*

## PLOS Analysis Results

| Scenario | Technical LOS Outcomes | Initial Value (2025) | 15 Year Projection (2039) | 30 Year Projection (2054) | Comments |
|---|---|---|---|---|---|
| Scenario 1 (Maintain) | Average Condition | 32% | 2% | 0% | |
| | Average Asset Risk | 12.1 | 16.3 | 16.5 | |
| | Average Annual Investment | | $0 | | This parameter is maintained |
| | Average Capital re-investment rate | | 0.0% | | |
| Scenario 2 (60%) | Average Condition | 32% | 19% | 26% | |
| | Average Asset Risk | 12.1 | 14.2 | 13.2 | |
| | Average Annual Investment | | $309,000 | | Increase taxes by ~2.1% per year for 15 years |
| | Average Capital re-investment rate | | 5.3% | | |
| Scenario 3 (100%) | Average Condition | 32% | 30% | 43% | |
| | Average Asset Risk | 12.1 | 12.8 | 11.3 | |
| | Average Annual Investment | | $515,000 | | Increase taxes by ~3.8% per year for 15 years |
| | Average Capital re-investment rate | | 8.9% | | |

*Table 92 Misc. Machinery & Small Equipment PLOS Scenario Analysis*

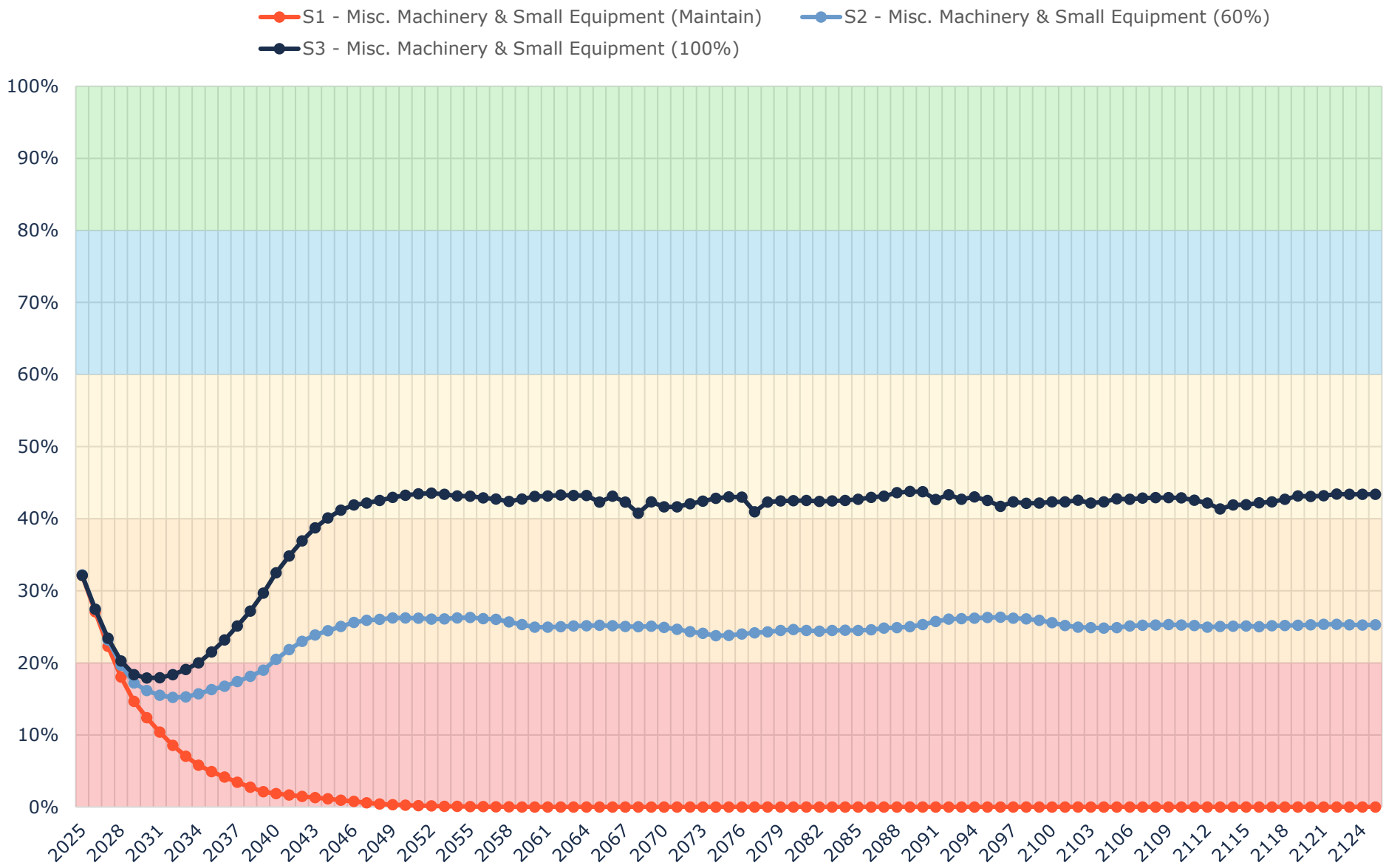


*Figure 94 Misc. Machinery & Small Equipment PLOS Scenario Condition Results*

## 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, the Municipality of Brockton selected Scenario 2 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the Municipality's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for vehicles and heavy equipment if the financial strategy for Scenario 2 is implemented.

| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Targeted Capital Spending** | **$309k** | **$309k** | **$309k** | **$309k** | **$309k** | **$309k** | **$309k** | **$309k** | **$309k** | **$309k** |
| **Projected Capital Spending** | $19k | $34k | $53k | $70k | $90k | $107k | $133k | $153k | $174k | $195k |
| **Funding Deficit** | $290k | $274k | $256k | $239k | $218k | $201k | $176k | $156k | $135k | $113k |
| **Target Reinvestment Rate** | **5.3%** | **5.3%** | **5.3%** | **5.3%** | **5.3%** | **5.3%** | **5.3%** | **5.3%** | **5.3%** | **5.3%** |
| **Projected Reinvestment Rate** | 0.3% | 0.6% | 0.9% | 1.2% | 1.6% | 1.8% | 2.3% | 2.6% | 3.0% | 3.4% |

*Table 93 Misc. Machinery & Small Equipment 10-Year PLOS Financial Projections*

# Appendix L – Natural Assets

While Natural Assets were not included in the analysis of this asset management plan, they are an important and typically underrated part of a municipality's inventory. The following information was provided by Dillon Consulting in Brockton's *Non-Core Asset Management Plan Update 2024*, and can be used to improve data for future iterations of the asset management plan.

## 1. State of Local Infrastructure

The Municipality's Natural Asset inventory is still under development. A desktop study in early 2024 developed a preliminary inventory using Geographic Information System (GIS) files, property parcel information and aerial imagery. Asset condition, estimated useful life, and level of service are yet to be evaluated by the Municipality.

### Asset Hierarchy

During the desktop study, Natural Assets were delineated and classified using the Ecological Land Classification (ELC) System for southern Ontario (Lee et al., 1998; Lee, 2008). Natural asset boundaries were first established from the existing agency feature boundaries and classified using the hierarchy listed below. Natural asset boundaries and classifications were then further refined through analysis of aerial imagery (ESRI 2023, Google 2024) to achieve a higher degree of accuracy and currency for the boundaries and classifications.

| ELC Code | ELC Class | ELC Criteria and Notes | Source Layers and Classification Notes |
|---|---|---|---|
| Watercourse | Watercourse | Created as 0.5 m linear polygons buffered from the LIO Watercourse polyline source layers | LIO: Watercourse |
| OA | Open Aquatic | Permanent or intermittent water bodies. Little to no emergent vegetation. Water depth generally > 2m. | LIO: Waterbody |
| SW | Swamp | Tree or shrub cover >25%. Dominated by hydrophytic shrub and tree species. Variable flooding regimes. Water depth <2 m. Standing water or pooling >20% of ground cover. | LIO: Wetland (Swamp) ACI: Wetland overlapping LIO: Wooded Area |
| MA | Marsh | Tree and shrub cover ≤25%. Dominated by emergent hydrophytic | LIO: Wetland (Marsh) |

| ELC Code | ELC Class | ELC Criteria and Notes | Source Layers and Classification Notes |
|---|---|---|---|
| | | macrophytes. Variable flooding regimes. Water depth <2 m. | |
| ME | Meadow | Tree and shrub cover <25% with open herbaceous vegetation | Visually identified |
| FO | Forest | Tree cover >60%. | LIO: Wooded Area ACI: Coniferous ACI: Mixed Wood |
| WO | Woodland | Tree cover 35% - 60% | LIO: Wooded Area or other areas visually identified |
| TH | Thicket | Shrub cover >25%; tree cover <25% | ACI: Shrubland or other areas visually identified |
| TAGM1 | Coniferous Plantation | Typically comprised of linear rows of planted conifers | Visually identified |
| TAGM2 | Mixed Plantation | Typically comprised of linear rows of planted conifers and broad-leaf trees | Visually identified |
| TAGM5 | Fencerow | Linear rows of trees, typically single rows; often along field or property edges | Visually identified |
| AG | Agriculture | Open cropped lands, pasture lands, shrub / treed orchards. | ACI: Corn ACI: Soybeans ACI: Winter Wheat ACI: Other grains |
| CV | Constructed | Lands subject to development, containing little to no remnant natural features | ACI: Urban / Developed ACI: Exposed Land / Barren Visually identified |
| CGL | Constructed Green Lands | Developed lands with naturalized managed features (e.g., nature parks) | Visually identified |

*Table 94 Natural Assets - Asset Hierarchy*

## Asset Inventory

A total of 323 individual natural asset ELC polygons were identified and mapped. A summary count of the number of natural assets (ELC polygons) in each ELC class is provided in Table 95, below.

| ELC Community Class | Count of Polygons |
|---|---|
| Agriculture | 16 |
| Coniferous Plantation | 2 |
| Constructed | 120 |
| Constructed Green Lands | 3 |
| Fencerow | 7 |
| Forest | 37 |
| Marsh | 8 |
| Meadow | 13 |
| Mixed Plantation | 1 |
| Open Aquatic | 6 |
| Swamp | 45 |
| Thicket | 10 |
| Watercourse | 46 |
| Woodland | 9 |
| **Total** | **323** |

*Table 95 Natural Assets – Asset Quantity*

## 2. Levels of Service

The current level of service provided by Natural Assets are outlined in Table 96 and in Table 97.

| Service Parameter | Description | LOS Metrics | Current LOS (2023) |
|---|---|---|---|
| Availability | Natural assets are available to delivery services in the community | Area of natural assets per hectare of municipality | The Municipality will develop tracking at a later date. |

*Table 96 Community LOS – Natural Assets*

| Service Parameter | Description | LOS Metrics | Current LOS (2023) |
|---|---|---|---|
| Availability | Natural assets are available to deliver services to the community | Activities to protect the health of natural assets | The Municipality will develop tracking at a later date. |

*Table 97 Technical LOS – Natural Assets*

# Appendix M – 10-Year Capital Requirements

## Capital Requirements for Current Levels of Service

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

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

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

### *Road Network*

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gravel & Dirt Roads | $2.3m | $171k | $3.1m | $14k | - | $945k | $6.1m | $1.6m | $25.7m | $4.1m | $12.3m |
| Hot Mix Roads | - | $1.0m | $2.6m | - | $50k | $376k | $313k | $1.2m | $799k | $839k | $1.6m |
| Sidewalks | $378k | $191k | $134k | - | $139k | - | $96k | - | $190k | - | $405k |
| Streetlights | $1.1m | - | - | $172k | - | - | $172k | - | $172k | - | - |
| Surface Treated Roads | - | $139k | $401k | $84k | $105k | $1.9m | - | $275k | $139k | $401k | $84k |
| **Total** | **$3.8m** | **$1.5m** | **$6.2m** | **$269k** | **$295k** | **$3.2m** | **$6.7m** | **$3.1m** | **$27.0m** | **$5.3m** | **$14.3m** |

*Table 98 System Generated 10-Year Capital Replacement Forecast: Road Network*

### Bridges & Culverts

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridges | $1.2m | - | - | - | - | - | - | - | - | - | - |
| Culverts | - | - | $231k | - | - | - | - | - | - | - | - |
| Pedestrian Bridges | - | - | - | - | - | - | - | - | - | - | - |
| **Total** | **$1.2m** | **-** | **$231k** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |

*Table 99 System Generated 10-Year Capital Replacement Forecast: Bridges & Culverts*

### Water Services

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hydrants | - | - | - | - | - | - | - | - | - | - | - |
| Pumphouse | - | - | - | - | $423k | - | $591k | $2.7m | - | - | - |
| Valves | | | | | | | | | | | |
| Water Equipment | $170k | - | - | $44k | $109k | $216k | $572k | $7k | $222k | - | - |
| Water Mains | - | $343k | $387k | - | - | - | - | - | - | - | - |
| Water Tower | - | - | - | - | - | - | - | - | - | - | - |
| **Total** | **$170k** | **$343k** | **$387k** | **$44k** | **$532k** | **$216k** | **$1.2m** | **$2.7m** | **$222k** | **-** | **-** |

*Table 100 System Generated 10-Year Capital Replacement Forecast: Water Services*

## Sanitary Services

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sanitary Equipment | $679k | - | - | - | - | - | $17k | $686k | - | - | - |
| Sanitary Mains | - | - | - | - | - | - | - | - | - | - | - |
| Sanitary Manholes | - | - | - | - | - | - | - | - | - | - | - |
| Sanitary Treatment | - | - | - | - | - | - | - | - | - | - | - |
| **Total** | **$679k** | **-** | **-** | **-** | **-** | **-** | **$17k** | **$686k** | **-** | **-** | **-** |

*Table 101 System Generated 10-Year Capital Replacement Forecast: Sanitary Services*

## Storm Sewer System

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Catch Basins | $18k | $4.5m | - | - | - | - | $152k | - | $9k | - | $215k |
| Culverts | $7.8m | $518k | $334k | $232k | $483k | $48k | $296k | $121k | $62k | $262k | $159k |
| Outfalls | $280k | - | - | $20k | - | - | $20k | - | - | - | - |
| Storm Mains | - | - | - | - | - | - | - | - | - | - | - |
| Storm Manholes | - | $310k | - | - | - | - | $74k | - | $12k | - | - |
| **Total** | **$8.1m** | **$5.3m** | **$334k** | **$252k** | **$483k** | **$48k** | **$542k** | **$121k** | **$83k** | **$262k** | **$374k** |

*Table 102 System Generated 10-Year Capital Replacement Forecast: Storm Sewer System*

## *Buildings & Facilities*

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| General Government | - | - | - | - | - | - | - | - | - | - | - |
| Health Services | - | - | - | - | - | - | - | - | - | - | - |
| Protective Services | - | - | - | - | - | - | - | - | - | - | - |
| Recreation & Cultural Services | $195k | - | $1.9m | - | - | $12k | - | $34k | - | $35k | $147k |
| Social & Family Services | $5k | - | - | - | - | - | - | - | - | - | - |
| Transportation Services | $150k | - | - | - | - | - | - | - | - | $446k | - |
| **Total** | **$350k** | **-** | **$1.9m** | **-** | **-** | **$12k** | **-** | **$34k** | **-** | **$481k** | **$147k** |

*Table 103 System Generated 10-Year Capital Replacement Forecast: Buildings & Facilities*

## *Furniture & Fixtures*

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| General Government | $30k | - | - | - | - | - | - | - | - | - | $30k |
| Recreation & Cultural Services | $472k | $18k | $21k | - | - | $20k | - | - | - | $8k | $341k |
| Social & Family Services | $32k | - | - | - | - | $4k | - | - | - | - | $32k |
| **Total** | **$534k** | **$18k** | **$21k** | **-** | **-** | **$24k** | **-** | **-** | **-** | **$8k** | **$402k** |

*Table 104 System Generated 10-Year Capital Replacement Forecast: Furniture & Fixtures*

### *Land Improvements*

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Environmental Services | - | - | - | - | - | - | - | - | - | - | - |
| Recreation & Cultural Services | $1.1m | - | $301k | $302k | - | $74k | - | - | $11k | $24k | $168k |
| Social & Family Services | $50k | - | - | - | - | $11k | - | - | - | - | $11k |
| **Total** | **$1.2m** | **-** | **$301k** | **$302k** | **-** | **$85k** | **-** | **-** | **$11k** | **$24k** | **$179k** |

*Table 105 System Generated 10-Year Capital Replacement Forecast: Land Improvements*

### *Vehicles & Heavy Equipment*

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| General Government | - | - | - | - | - | $30k | - | - | - | $30k | - |
| Protective Services | - | - | - | - | - | - | - | $70k | - | - | - |
| Recreation & Cultural Services | - | $50k | - | - | $60k | $65k | $41k | $5k | - | $273k | $21k |
| Transportation Services | $973k | $849k | $49k | $49k | $470k | $119k | $49k | $3.4m | $49k | $1.8m | $1.6m |
| **Total** | **$973k** | **$899k** | **$49k** | **$49k** | **$530k** | **$213k** | **$90k** | **$3.5m** | **$49k** | **$2.1m** | **$1.6m** |

*Table 106 System Generated 10-Year Capital Replacement Forecast: Vehicles & Heavy Equipment*

### Misc. Machinery & Small Equipment

| Segment | Back-log | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Environmental Services | - | $111k | $13k | - | $800k | $8k | - | - | - | - | $111k |
| General Government | $299k | $132k | $57k | $164k | - | $44k | - | $130k | - | - | $432k |
| Protective Services | $446k | $90k | $88k | $62k | $112k | $228k | $14k | $39k | $42k | $62k | $527k |
| Recreation & Cultural Services | $662k | $58k | $65k | $53k | $256k | $100k | - | $183k | $10k | $294k | $359k |
| Social & Family Services | $171k | $36k | - | - | - | $152k | - | - | $8k | $3k | $169k |
| Transportation Services | $72k | $57k | - | - | - | $60k | - | - | $20k | - | $218k |
| **Total** | **$1.6m** | **$483k** | **$223k** | **$280k** | **$1.2m** | **$591k** | **$14k** | **$352k** | **$79k** | **$360k** | **$1.8m** |

*Table 107 System Generated 10-Year Capital Replacement Forecast: Misc. Machinery & Small Equipment*

## Capital Requirements for Proposed Levels of Service

The following capital forecasts are based on gradually increasing funding over the next 15 years to reach a target of 60% of ideal funding levels. ***Note: These projections do consider the availability of funding.***

| Category | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| Road Network | $1.5m | $1.7m | $1.9m | $2.1m | $2.3m | $2.6m | $2.8m | $3.1m | $3.4m | $3.6m |
| Bridges & Culverts | - | $231k | - | - | - | - | - | - | - | - |
| Water Services | $557k | $342k | $44k | $532k | $216k | $1.2m | $356k | $222k | - | - |
| Sanitary Services | $344k | $336k | - | $2k | $1k | $18k | $687k | $11k | - | - |
| Storm Sewer System | $48k | $71k | $92k | $119k | $144k | $168k | $198k | $233k | $260k | $291k |
| Buildings & Facilities | $350k | - | - | - | $1.9m | - | $34k | - | $481k | $147k |
| Furniture & Fixtures | - | $2k | $4k | $5k | $8k | $9k | $12k | $13k | $17k | $17k |
| Land Improvements | $162k | $165k | $165k | $126k | $208k | $149k | $100k | $204k | $126k | $176k |
| Vehicles & Heavy Equipment | $378k | $394k | $374k | $460k | $432k | $424k | $505k | $484k | $497k | $522k |
| Misc. Machinery & Small Equipment | $4k | $19k | $34k | $52k | $70k | $91k | $107k | $133k | $152k | $174k |
| **Total** | **$3.3m** | **$3.2m** | **$2.6m** | **$3.4m** | **$5.3m** | **$4.6m** | **$4.8m** | **$4.4m** | **$4.9m** | **$4.9m** |

*Table 108 System Generated Proposed LOS 10-Year Capital Replacement Forecast: All Categories*

# Appendix N – Level of Service Maps & Photos

## *Road Network Maps*

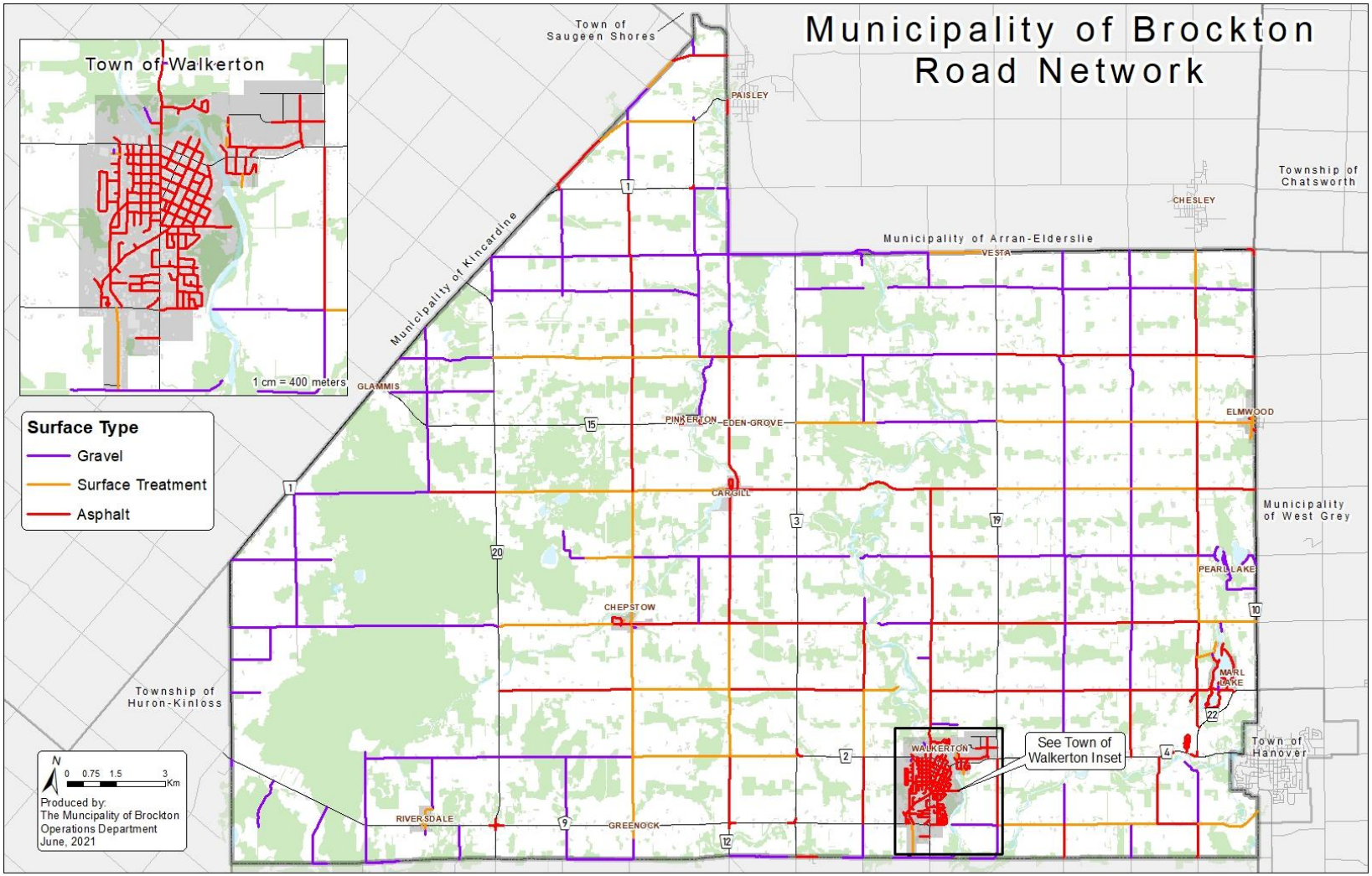


*Figure 95 Road Network Map*

## Bridges & Culverts Images

Weis Memorial Bridge – BCI: 65

*Figure 96 Example of Bridge in Fair Condition*

Riversdale Bridge – BCI: 33

*Figure 97 Example of Bridge in Very Poor Condition*

## *Storm Sewer System Maps*

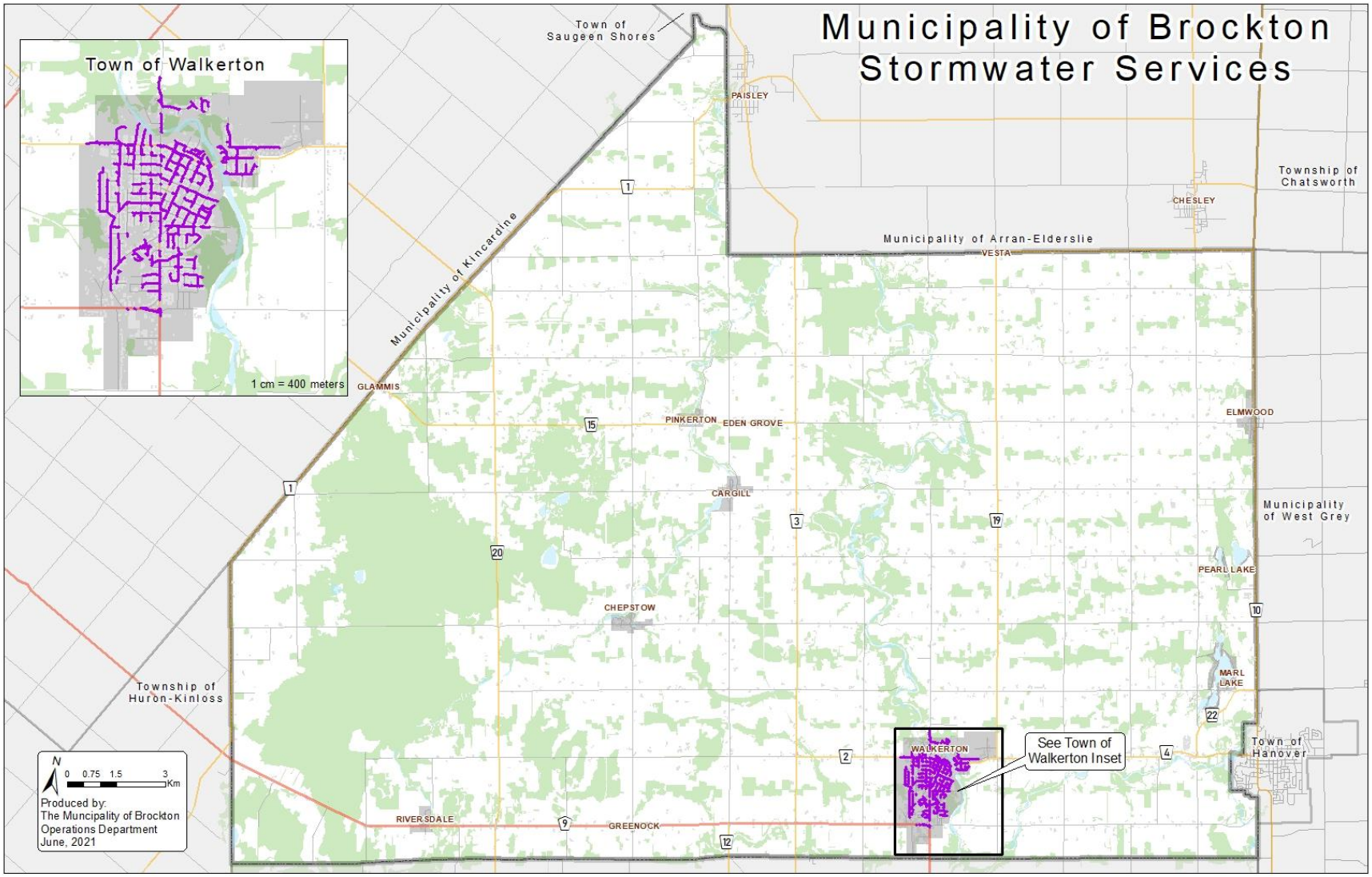


*Figure 98 Storm Sewer System Map*

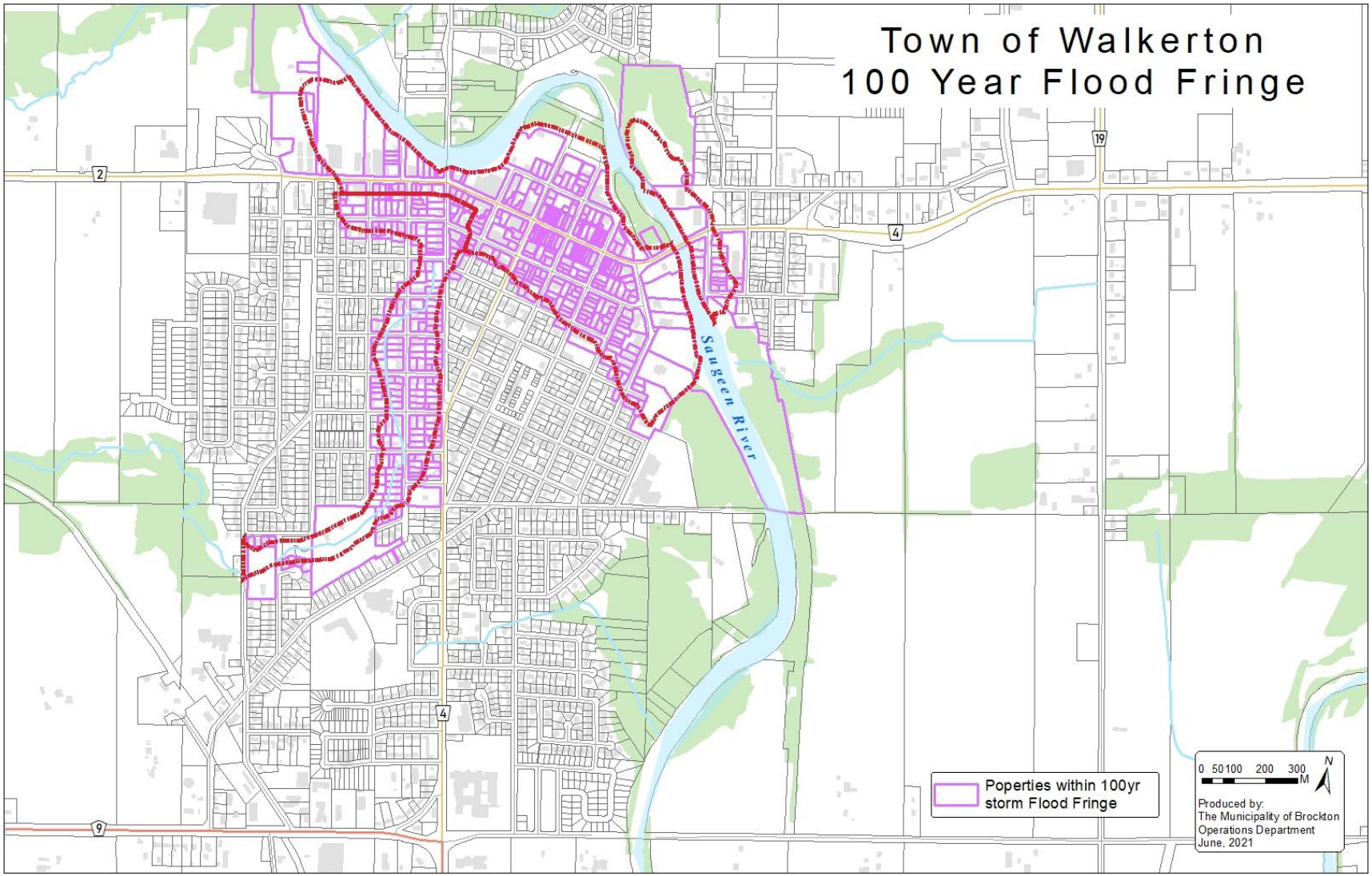


*Figure 99 Walkerton 1:100 Year Flood Fringe Map*

## *Water Services Maps*

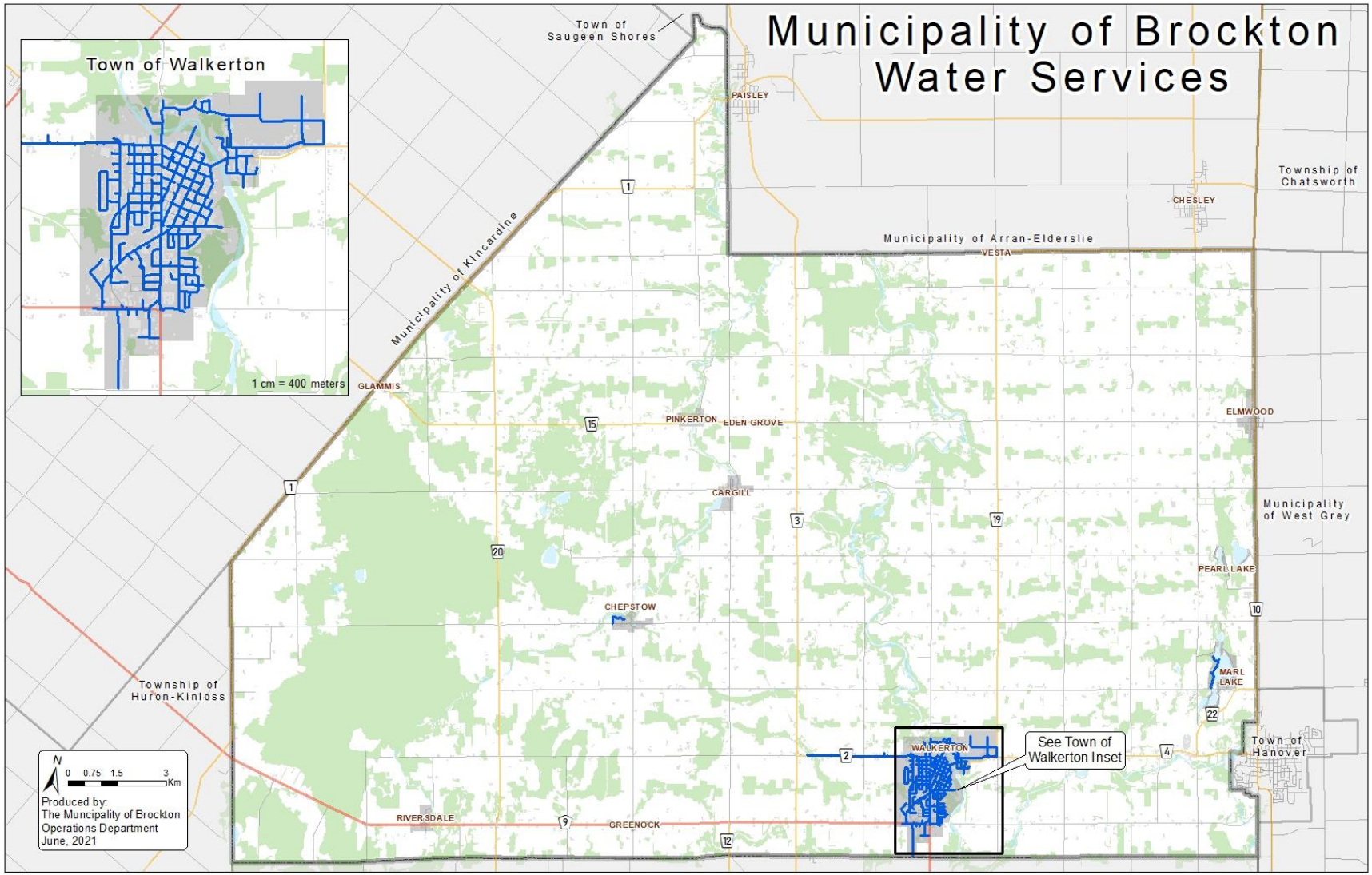


*Figure 100 Water Services Map*

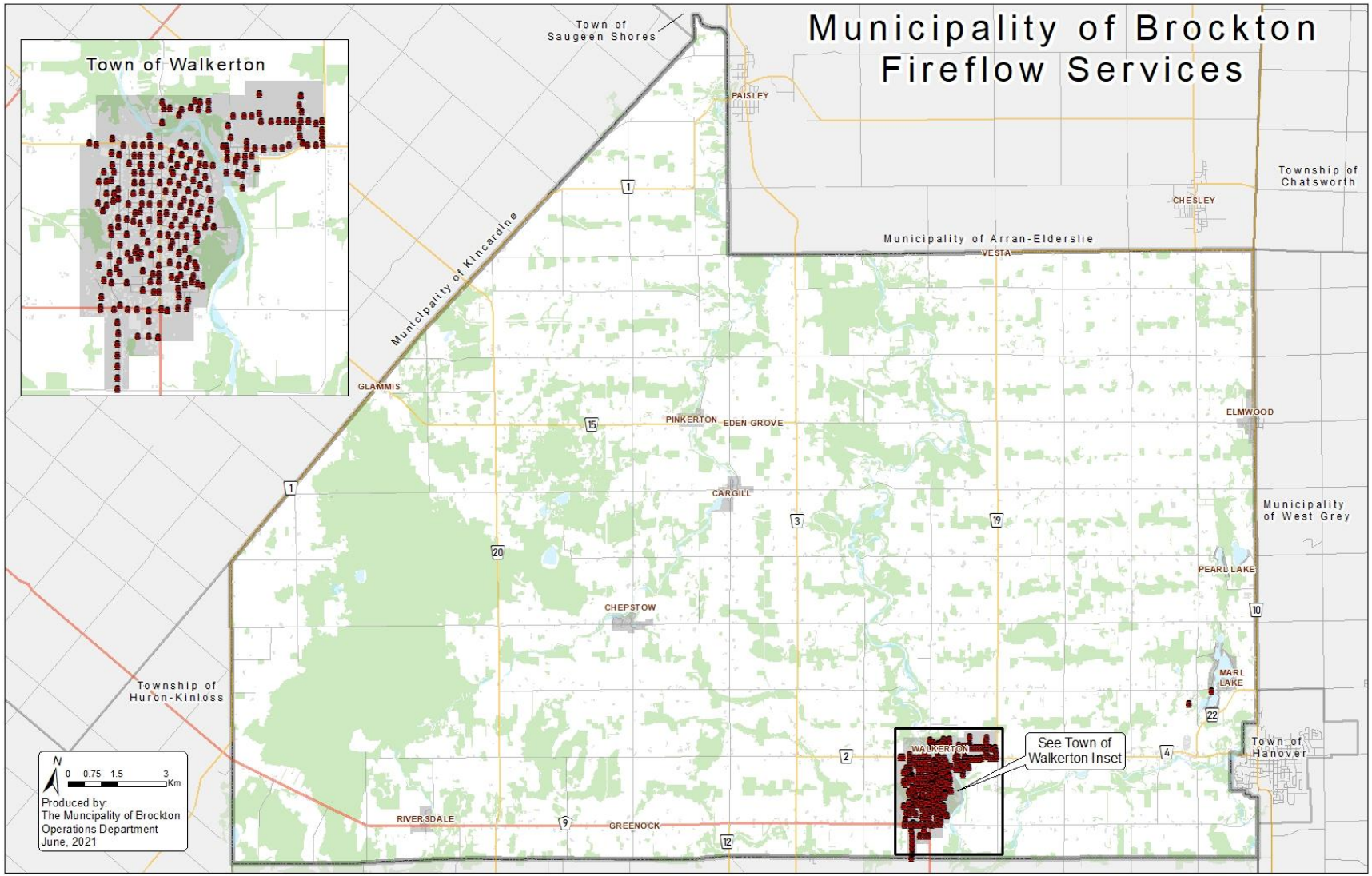


*Figure 101 Fire Flow Map*

## *Sanitary Services Maps*

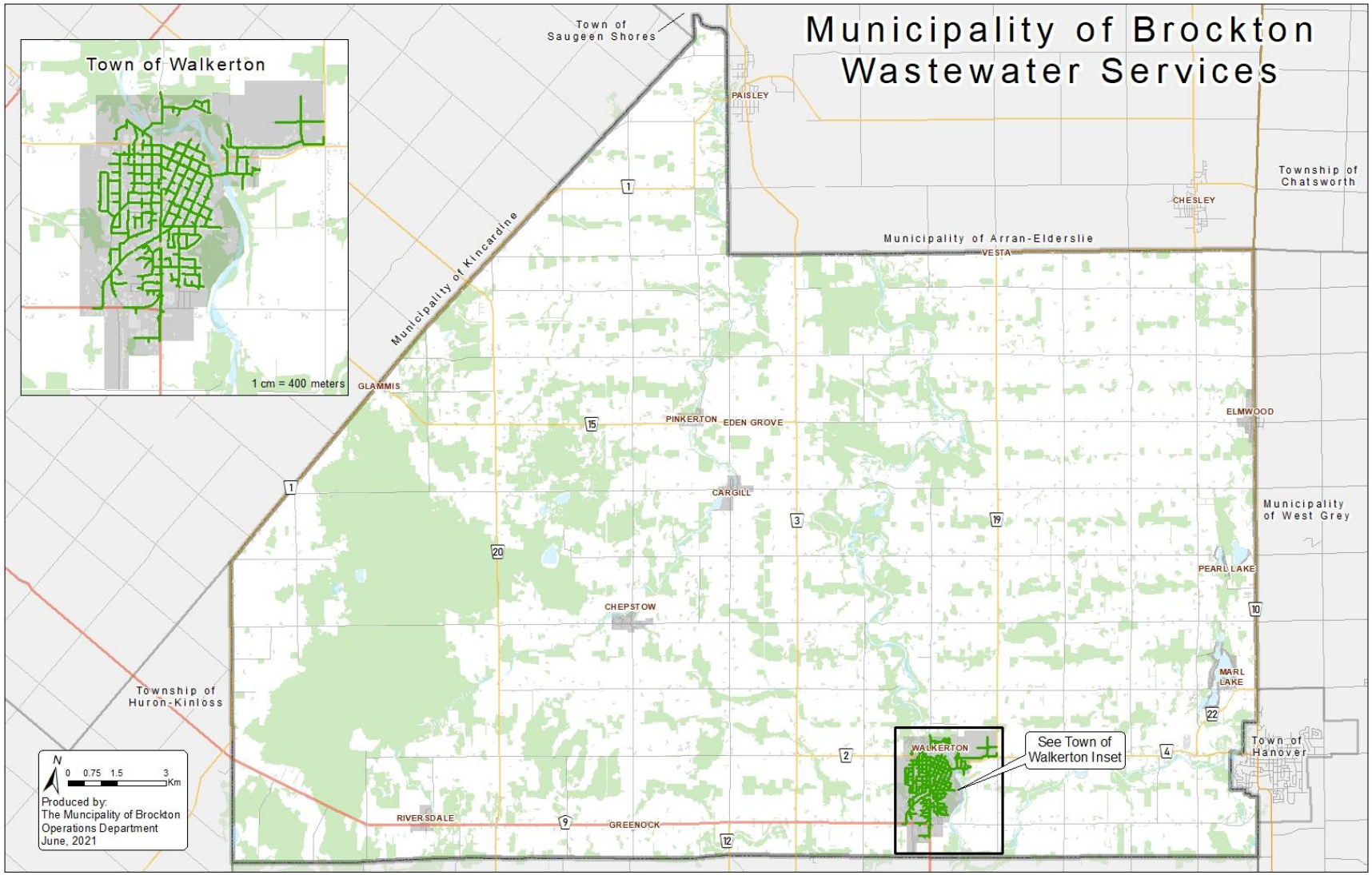


*Figure 102 Sanitary Services Map*

# Appendix O – Risk Rating Criteria

## *Probability of Failure*

| Asset Category | Risk Criteria | Criteria Weighting | Value/Range | Probability of Failure Score |
|---|---|---|---|---|
| Road Network (Roads) | Condition | 80% | 85-100 | 1 |
| | | | 70-84 | 2 |
| | | | 50-69 | 3 |
| | | | 30-49 | 4 |
| | | | 0-29 | 5 |
| | Service Life Remaining (%) | 20% | 80-100 | 1 |
| | | | 60-79 | 2 |
| | | | 40-59 | 3 |
| | | | 20-39 | 4 |
| | | | 0-19 | 5 |
| Bridges & Structural Culverts | Condition | 80% | 80-100 | 1 |
| | | | 70-79 | 2 |
| | | | 60-69 | 3 |
| | | | 40-59 | 4 |
| | | | 0-39 | 5 |
| | Service Life Remaining (%) | 20% | 80-100 | 1 |
| | | | 60-79 | 2 |
| | | | 40-59 | 3 |
| | | | 20-39 | 4 |
| | | | 0-19 | 5 |
| Sanitary Services (Mains) | Condition | 80% | 0-1 | 1 |
| | | | 1.1-2 | 2 |
| | | | 2.1-3 | 3 |
| | | | 3.1-4 | 4 |
| | | | 4.1-5 | 5 |
| | Service Life Remaining (%) | 20% | 80-100 | 1 |
| | | | 60-79 | 2 |

| Asset Category | Risk Criteria | Criteria Weighting | Value/Range | Probability of Failure Score |
|---|---|---|---|---|
| | | | 40-59 | 3 |
| | | | 20-39 | 4 |
| | | | 0-19 | 5 |
| Water Services (Mains) | Condition | 80% | 80-100 | 1 |
| | | | 60-79 | 2 |
| | | | 40-59 | 3 |
| | | | 20-39 | 4 |
| | | | 0-19 | 5 |
| | Watermain Pipe Material | 20% | PVC, PVC Bionax, Unknown | 2 |
| | | | Ductile Iron | 4 |
| | | | Copper | 5 |
| Road Network (Other)<br>Water Services (Other)<br>Sanitary Services (Other)<br>Storm Sewer System (Mains)<br>Storm Sewer System (Other)<br>Buildings & Facilities<br>Land Improvements<br>Vehicles & Heavy Equipment<br>Misc. Machinery & Small Equipment | Condition | 80% | 80-100 | 1 |
| | | | 70-79 | 2 |
| | | | 60-69 | 3 |
| | | | 40-59 | 4 |
| | | | 0-39 | 5 |
| | Service Life Remaining (%) | 20% | 80-100 | 1 |
| | | | 60-79 | 2 |
| | | | 40-59 | 3 |
| | | | 20-39 | 4 |
| | | | 0-19 | 5 |
| Furniture & Fixtures | Condition | 100% | 80-100 | 1 |
| | | | 60-79 | 2 |
| | | | 40-59 | 3 |
| | | | 20-39 | 4 |
| | | | 0-19 | 5 |

*Table 109 Probability of Failure Risk Scores*

## *Consequence of Failure*

| Asset Category | Risk Classification | Risk Criteria | Value/Range | Consequence of Failure Score |
|---|---|---|---|---|
| Road Network (Roads) | Economic (50%) | Replacement Cost (100%) | $0-$50,000 | 1 |
| | | | $50,001-$150,000 | 2 |
| | | | $150,001-$500,000 | 3 |
| | | | $500,001-$1,000,000 | 4 |
| | | | $1,000,001+ | 5 |
| | Operational (20%) | Road Maintenance Class (100%) | 5,6 | 1 |
| | | | 4 | 2 |
| | | | 3 | 3 |
| | | | 2 | 4 |
| | | | 1 | 5 |
| | Social (20%) | Road Design Class (100%) | Rural | 2 |
| | | | Local, Local Residential | 3 |
| | | | Collector | 4 |
| | | | Arterial | 5 |
| | Health and Safety (10%) | Speed Limit (100%) | 40 | 1 |
| | | | 50, 60 | 2 |
| | | | 70 | 3 |
| | | | 80 | 4 |
| | | | 90 | 5 |
| Bridges & Culverts | Economic (60%) | Replacement Cost (100%) | $0-$100,000 | 1 |
| | | | $100,001-$250,000 | 2 |
| | | | $250,001-$750,000 | 3 |
| | | | $750,001-$1,500,000 | 4 |
| | | | $1,500,001+ | 5 |
| | Operational (20%) | Number of Spans (100%) | 1 | 1 |
| | | | 2 | 2 |
| | | | 3 | 3 |
| | | | 4 | 4 |
| | | | 5 | 5 |
| | Social (20%) | Detour Distance (100%) | 0-2 | 1 |
| | | | 2.1-4 | 2 |
| | | | 4.1-6 | 3 |

| Asset Category | Risk Classification | Risk Criteria | Value/Range | Consequence of Failure Score |
|---|---|---|---|---|
| | | | 6.1-8 | 4 |
| | | | 8.1+ | 5 |
| Sanitary Services (Mains) | Economic (40%) | Replacement Cost (100%) | $0-$50,000 | 1 |
| | | | $50,001-$150,000 | 2 |
| | | | $150,001-$500,000 | 3 |
| | | | $500,001-$1,000,000 | 4 |
| | | | $1,000,001+ | 5 |
| | Operational (30%) | Pipe Diameter (100%) | 0-150 | 1 |
| | | | 151-300 | 2 |
| | | | 301-450 | 3 |
| | | | 451-600 | 4 |
| | | | 601+ | 5 |
| | Environmental (20%) | Sewer Main Type (100%) | Gravity Main | 3 |
| | | | Force Main | 5 |
| | Social (10%) | Sanitary Pipe Material (100%) | Unknown, VC | 1 |
| | | | PE, PVC | 2 |
| | | | STEEL | 3 |
| | | | CONC | 4 |
| | | | AC | 5 |
| Water Services (Mains) | Economic (75%) | Replacement Cost (100%) | $0-10,000 | 1 |
| | | | $10,001-$25,000 | 2 |
| | | | $25,001-$50,000 | 3 |
| | | | $50,001-$250,000 | 4 |
| | | | $250,001-$1,000,000 | 5 |
| | | | $1,000,001+ | 5 |
| | Environmental (25%) | Pipe Diameter (100%) | 0-50 | 1 |
| | | | 51-100 | 2 |
| | | | 101-150 | 3 |
| | | | 151-250 | 4 |
| | | | 250+ | 5 |
| Storm Sewer System (Mains) | Economic (60%) | Replacement Cost (100%) | $0-25,000 | 1 |
| | | | $25,001-$50,000 | 2 |
| | | | $50,001-$100,000 | 3 |

| Asset Category | Risk Classification | Risk Criteria | Value/Range | Consequence of Failure Score |
|---|---|---|---|---|
| | | | $100,001-$250,000 | 4 |
| | | | $250,001+ | 5 |
| | Social (30%) | Pipe Diameter (100%) | 0-150 | 1 |
| | | | 151-300 | 2 |
| | | | 301-450 | 3 |
| | | | 451-600 | 4 |
| | | | 601+ | 5 |
| | Operational (10%) | Storm Sewer Material (100%) | Unknown, PVC | 2 |
| | | | STEEL | 3 |
| | | | CONC | 4 |
| | | | AC | 5 |
| Road Network (Other)<br>Storm Sewer System (Other)<br>Water Services (Other)<br>Sanitary Services (Other) | Economic (100%) | Replacement Cost (100%) | $0-$50,000 | 1 |
| | | | $50,001-$150,000 | 2 |
| | | | $150,001-$250,000 | 3 |
| | | | $250,001-$500,000 | 4 |
| | | | $500,001+ | 5 |
| Buildings & Facilities | Economic (75%) | Replacement Cost (100%) | $0-$50,000 | 1 |
| | | | $50,001-$100,000 | 2 |
| | | | $100,001-$300,000 | 3 |
| | | | $300,001-$1,000,000 | 4 |
| | | | $1,000,001+ | 5 |
| | Operational (25%) | Function (100%) | General Government, Planning & Development | 2 |
| | | | Health Services, No Function, Recreation & Cultural Services, Social & Family Services | 3 |
| | | | Transportation Services, Environmental Services | 4 |
| | | | Protection Services | 5 |
| Vehicles & Heavy Equipment | Economic (75%) | Replacement Cost (100%) | $0-$25,000 | 1 |
| | | | $25,001-$60,000 | 2 |
| | | | $60,001-$100,000 | 3 |
| | | | $100,001-$300,000 | 4 |
| | | | $300,001+ | 5 |
| | Operational | Function | Planning & Development, No Function | 1 |

| Asset Category | Risk Classification | Risk Criteria | Value/Range | Consequence of Failure Score |
|---|---|---|---|---|
| | (25%) | (100%) | General Government | 2 |
| | | | Health Services, Recreation & Cultural Services, Social & Family Services | 3 |
| | | | Transportation Services, Environmental Services | 4 |
| | | | Protection Services | 5 |
| Machinery & Equipment | Economic (75%) | Replacement Cost (100%) | $0-$5,000 | 1 |
| | | | $5,001-$25,000 | 2 |
| | | | $25,001-$100,000 | 3 |
| | | | $100,001-$500,000 | 4 |
| | | | $500,001+ | 5 |
| | Operational (25%) | Function (100%) | Planning & Development, No Function | 1 |
| | | | General Government | 2 |
| | | | Health Services, Recreation & Cultural Services, Social & Family Services | 3 |
| | | | Transportation Services, Environmental Services | 4 |
| | | | Protection Services | 5 |
| Land Improvements | Economic (75%) | Replacement Cost (100%) | $0-$10,000 | 1 |
| | | | $10,001-$20,000 | 2 |
| | | | $20,001-$35,000 | 3 |
| | | | $35,001-$80,000 | 4 |
| | | | $80,001+ | 5 |
| | Social (25%) | Park Type (100%) | Open Space | 1 |
| | | | Parkette, Campground | 2 |
| | | | Community Park, Neighbourhood Park, Trails | 3 |
| | | | Special Use Park, Sport Fields | 4 |
| Furniture & Fixtures | Economic (80%) | Replacement Cost (100%) | $0-$10,000 | 1 |
| | | | $10,001-$50,000 | 2 |
| | | | $50,001-$100,000 | 3 |
| | | | $100,001-$250,000 | 4 |
| | | | $250,001+ | 5 |
| | Operational (20%) | Function (100%) | Planning & Development, No Function | 1 |
| | | | General Government | 2 |

| Asset Category | Risk Classification | Risk Criteria | Value/Range | Consequence of Failure Score |
|---|---|---|---|---|
| | | | Health Services, Recreation & Cultural Services, Social & Family Services | 3 |
| | | | Transportation Services, Environmental Services | 4 |
| | | | Protection Services | 5 |

*Table 110 Consequence of Failure Risk Scores*