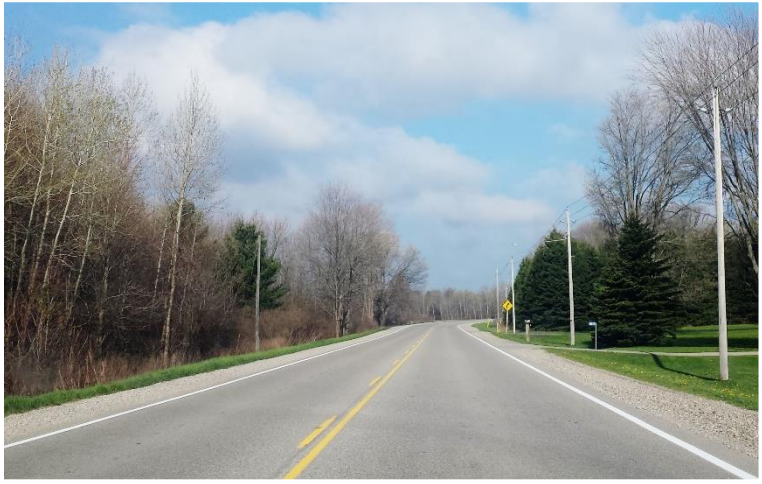


The Asset Management Plan for the Municipality of Thames Centre

2025

psdcitywide

Key Statistics

Replacement cost of asset portfolio

$469.8 million

Replacement cost of infrastructure per capita

$33,608

(2021 Census)

Target average annual infrastructure reinvestment rate

2.1%

Actual average annual infrastructure reinvestment rate

1.3%

Percentage of assets in fair or better condition

78%

Percentage of annual infrastructure funding needs currently being met

64.6%

Portion of total infrastructure funding that comes from grant funding

$1.6 million

Annual cost savings for roads through proactive lifecycle management

$1.4 million

Table of Contents

1. Executive Summary

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

1.1. Scope

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

This AMP includes the following asset categories:

Core Assets

- Road Network
- Bridges & Culverts
- Water Distribution
- Wastewater Collction
- Stormwater Collection

Non-Core Assets

- Buildings & Facilities
- Parks & Land Improvements
- Fleet
- Machinery & Equipment

Figure 1: Core and Non-core Asset Categories

1.2. Compliance

With the development of this AMP the Municipality of Thames Centre 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 $469.8 million. 78% of all assets analyzed in this AMP are in fair or better

condition and assessed condition data was available for 18% of assets. For the remaining 82% 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 $9.8 million. Based on a historical analysis of sustainable capital funding sources, Thames Centre is committing approximately $6.3 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $3.5 million.

For all assets, the municipality has selected a balanced and strategic approach to managing infrastructure by focusing on maintaining stable asset conditions over the long term. This phased approach will gradually increase reinvestment levels over 15 years, allowing the municipality to address priority infrastructure needs.

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. Limitations and Constraints

The asset management program development required substantial effort by staff, it was developed based on best-available data, and is subject to the following broad limitations, constrains, and assumptions:

- The analysis is highly sensitive to several critical data fields, including an asset's estimated useful life, replacement cost, quantity, and in-service date. Inaccuracies or imprecisions in any of these fields can have substantial and cascading impacts on all reporting and analytics.
- User-defined and unit cost estimates, based typically on staff judgment, recent projects, or established through completion of technical studies, offer the most precise approximations of current replacement costs. When this isn't possible, historical costs incurred at the time of asset acquisition or construction can be inflated to present day. This approach, while sometimes necessary, can produce inaccurate estimates.
- In the absence of condition assessment data, age was used to estimate asset condition ratings. This approach can result in an over- or

understatement of asset needs. As a result, financial requirements generated through this approach can differ from those produced by in-field assessments.

- The risk models are designed to support objective project prioritization and selection. However, in addition to the inherent limitations that all models face, they also require availability of important asset attribute data to ensure that asset risk ratings are valid, and assets are properly stratified within the risk matrix. Missing attribute data can misclassify assets.

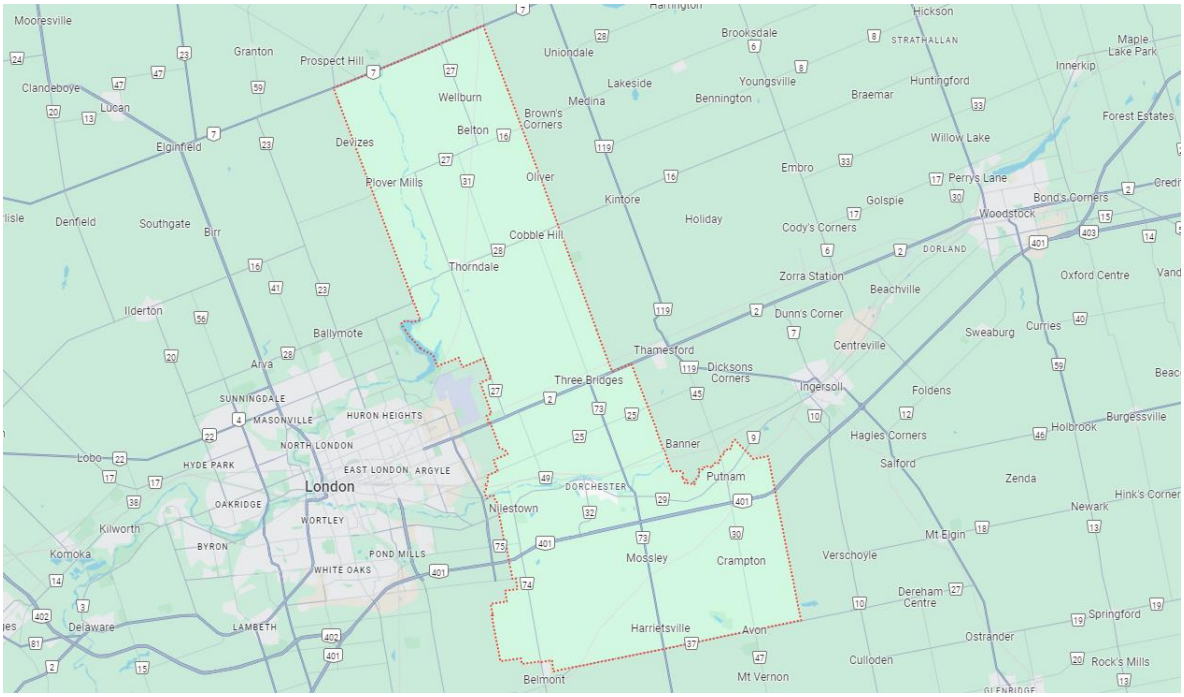
These limitations have a direct impact on most of the analysis presented, including condition summaries, age profiles, long-term replacement and rehabilitation forecasts, and shorter term, 10-year forecasts that are generated from Citywide, the municipality's primary asset management system.

These challenges are quite common and require long-term commitment and sustained effort by staff. As the municipality's asset management program evolves and advances, the quality of future AMPs and other core documents that support asset management will continue to increase.

2. Introduction and Context

2.1. Community Profile

The Municipality of Thames Centre is a lower-tier municipality and part of Middlesex County within southwestern Ontario. Thames Centre is located directly east of the City of London.



The Municipality of Thames Centre was formed in 2001 through the amalgamation of the former Township of West Nissouri and the former Township of North Dorchester. The area that is now Thames Centre has a rich history, with its settlement by European immigrants primarily in the 19th century. Its history is deeply rooted in agriculture and has the typical lifestyle of Ontario's small towns.

Thames Centre is appreciated for its rural atmosphere, offering a peaceful and scenic countryside environment. The area is recognized for its strong agricultural roots, with farming being a significant part of the local economy and culture. The Municipality encompasses small communities and are known for their close-knit, community-focused way of life.

Demand in Thames Centre is driven by its close proximity to London, Ontario, offering a mix of rural appeal and urban access. The region's cost-effective housing options draw in individuals looking for affordable living, and its strong agricultural heritage is attractive to those interested in farming. Additionally, the appeal of a quiet, rural lifestyle in small, community-focused towns attracts those looking for a cohesive environment. The area's natural beauty and recreational options, including activities along the Thames River and in local parks, further increases Thames Centre's attractiveness as a place to live and work.

The Municipality's infrastructure priorities focus on directing growth within designated Urban Settlement Areas to optimize public services and infrastructure use, while minimizing expansion into natural resource and heritage areas.

Census Characteristic	Municipality of Thames Centre	Ontario
Population 2021	13,980	14,223,942
Population Change 2016-2021	6.0%	5.8%
Total Private Dwellings	5,316	5,929,250
Population Density	32.2/km2	15.9/km2
Land Area	433.99km2	892,411.76 km2

2.2. Climate Change

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

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

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

2.2.1. Thames Centre Climate Profile

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

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 7.7 ºC
- Under a high emissions scenario, the annual average temperatures are projected to increase by 4.6 ºC by the year 2050 and over 6.4 ºC by the en of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Thames Centre is projected to experience an 11% increase in precipitation by the year 2051 and a 16% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

- It is expected that the frequency and severity of extreme weather events will change.

In some areas, extreme weather events will occur with greater frequency and severity than others especially those impacted by Great Lake winds.

2.2.2. Integration Climate change and Asset Management

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

In order to achieve the sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset management and climate change adaptation observes industry 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.

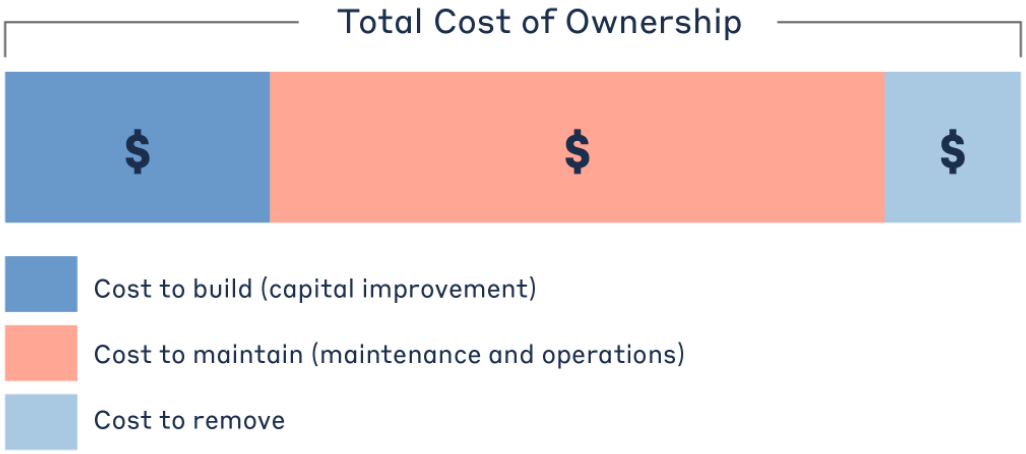


Figure 2: Total Cost of Asset Ownership

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 Documents

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.

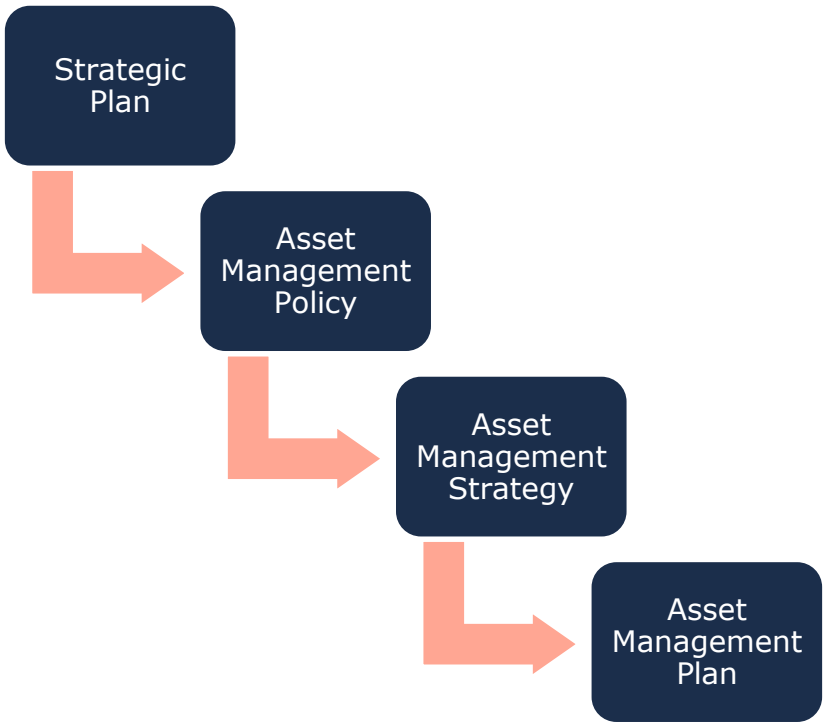


Figure 3: Foundational Asset Management Documents

Strategic Plan

The strategic plan has a direct, and cascading impact on asset management planning and reporting, making it a foundational element. At the beginning of each term, Council holds strategic planning exercises and discussions to identify major initiatives and administrative improvements it wishes to achieve during its tenure. Staff then identify the scope, resources, timing & other logistical matters associated with proposed initiatives.

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.

Thames Centre approved policy CP-1-1.3 "Strategic Asset Management Policy for Municipal Infrastructure" on June 24th, 2019, in accordance with Ontario Regulation 588/17. Municipal Council also opted to incorporate the policy into the Corporate Section of the Thames Centre Policy Manual.

The stated goals of the policy are:

- To provide a framework for implementing asset management to enable a consistent approach at all department levels with the Municipality.
- Provide guidance to staff responsible for asset management.
- Communicate asset management principles endorsed by the Municipality.
- Provide transparency, accountability and demonstrate the decision-making process which combines municipal plans and policies, budget, service levels and risk.

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 and data management practices to ensure all assets meet the expected levels and provide the desired 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;
- The key principles include the use of a cost/benefit analysis in the management of risk; and
- The policy statements are well defined.

This Policy aims to provide a clear direction for managing the Municipality's infrastructure, aligning asset management with strategic goals, and ensuring that assets are maintained at optimal levels to deliver reliable services to the community.

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

Asset Management Plan

The asset management plan presents the outcomes of the Municipality of Thames Centre'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 of Thames Centre to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

2.4. 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.

2.4.1. Lifecycle Management Strategies

The condition or performance of 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 figure below 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.

Maintenance

- General level of cost is **$**
- All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal. Maintenance does not increase the service potential of the asset
- It slows down deterioration and delays when rehabilitation or replacement is necessary.

Rehabilitation / Renewal

- General level of cost is **$$$**
- Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification.
- Generally involves repairing the asset to deliver its original level of service (i.e. milling and paving of roads) without resorting to significant upgrading or replacement, using available techniques and standards.

Replacement

- General level of cost is **$$$$$**
- The complete replacement of an asset that has reached the end of its life, so as to provide a similar, or agreed alternative, level of service.
- Existing asset disposal is generally included.

Figure 4: Lifecycle Management Typical Lifecycle Interventions

The municipality's approach to lifecycle management is described within each asset category. Developing and implementing a proactive lifecycle strategy will help staff 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.

2.4.2. Risk and 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.

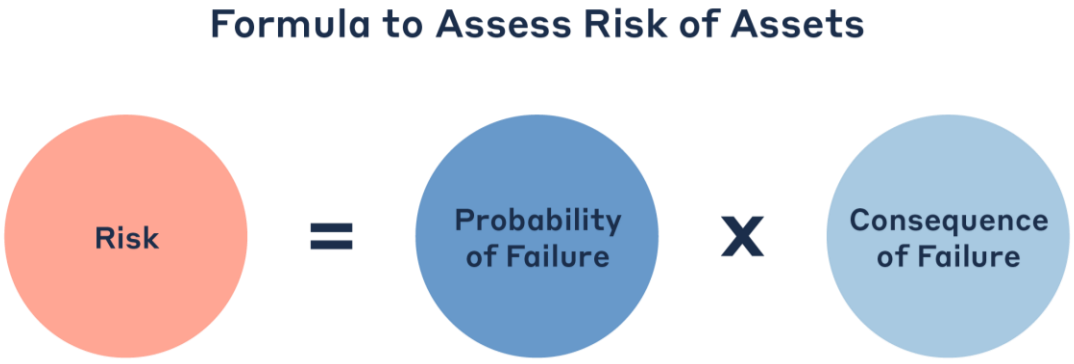


Figure 5: Risk Equations

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. See Appendix D: Risk Rating Criteria for definitions and the developed risk models.

The table below 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 1: 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.

2.4.3. 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 that service. Within each asset category, technical metrics and qualitative descriptions that measure

both technical and community levels of service have been established and measured as data is available.

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, the Province, through O. Reg. 588/17, has provided qualitative descriptions that are required. For non-core asset categories, the municipality has determined the qualitative descriptions that will be used. The metrics can be found in the levels of service subsection within each asset category.

Technical Levels of Service

Technical LOS 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, the Province, through O. Reg. 588/17, has provided technical metrics that are required. For non-core asset categories, the municipality determined the technical metrics that will be used. The metrics can be found in the levels of service subsection within each asset category.

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.

2.5. Scope and Methodology

2.5.1. Asset Categories for this AMP

This asset management plan for the Municipality of Thames Centre is produced in compliance with O. Reg. 588/17. The AMP summarizes the state of the infrastructure for Essa'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.

Tax-Funded Assets

- Road Network
- Bridges & Culverts
- Buildings & Facilities
- Parks & Land Improvements
- Fleet
- Machinery & Equipment

Rate-Funded Assets

- Water Distribution
- Wastewater Collection
- Stormwater Collection

Table 2: Tax- and Rate-Funded Assets

2.5.2. Data Effective Date

It is important to note that this plan is based on data as of December 31, 2023; 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.

2.5.3. 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. The two methodologies are:

- User-Defined Cost and Cost/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 cost of the asset is 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.

2.5.4. Estimated Useful Life and 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 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 date 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 6: Service Life Remaining Calculation

2.5.5. 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.

Figure 7: Target Reinvestment Rate Calculation

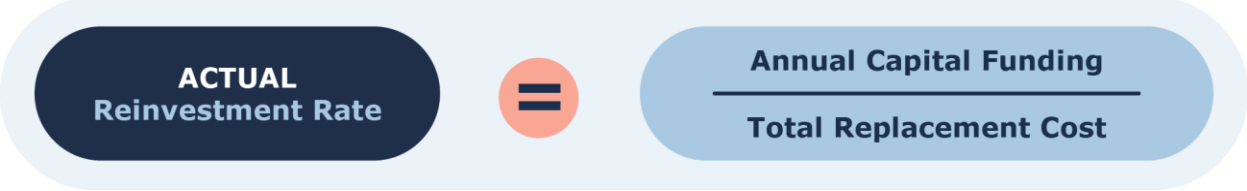


Figure 8: Actual Reinvestment Rate Calculation

2.5.6. 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.

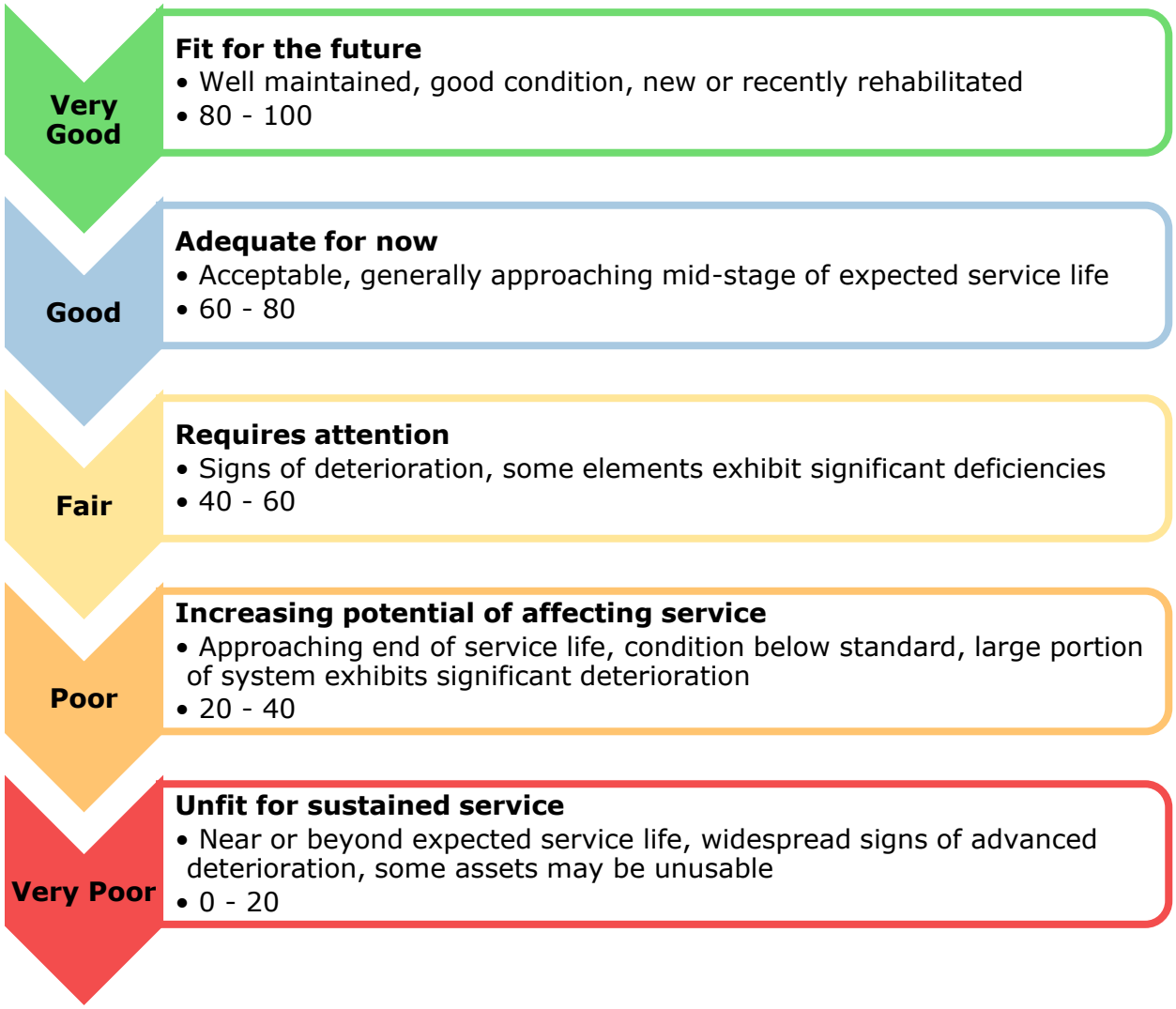


Figure 9: Standard Condition Rating Scale

The analysis 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. Appendix E: Condition Assessment Guidelines includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

2.6. 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.

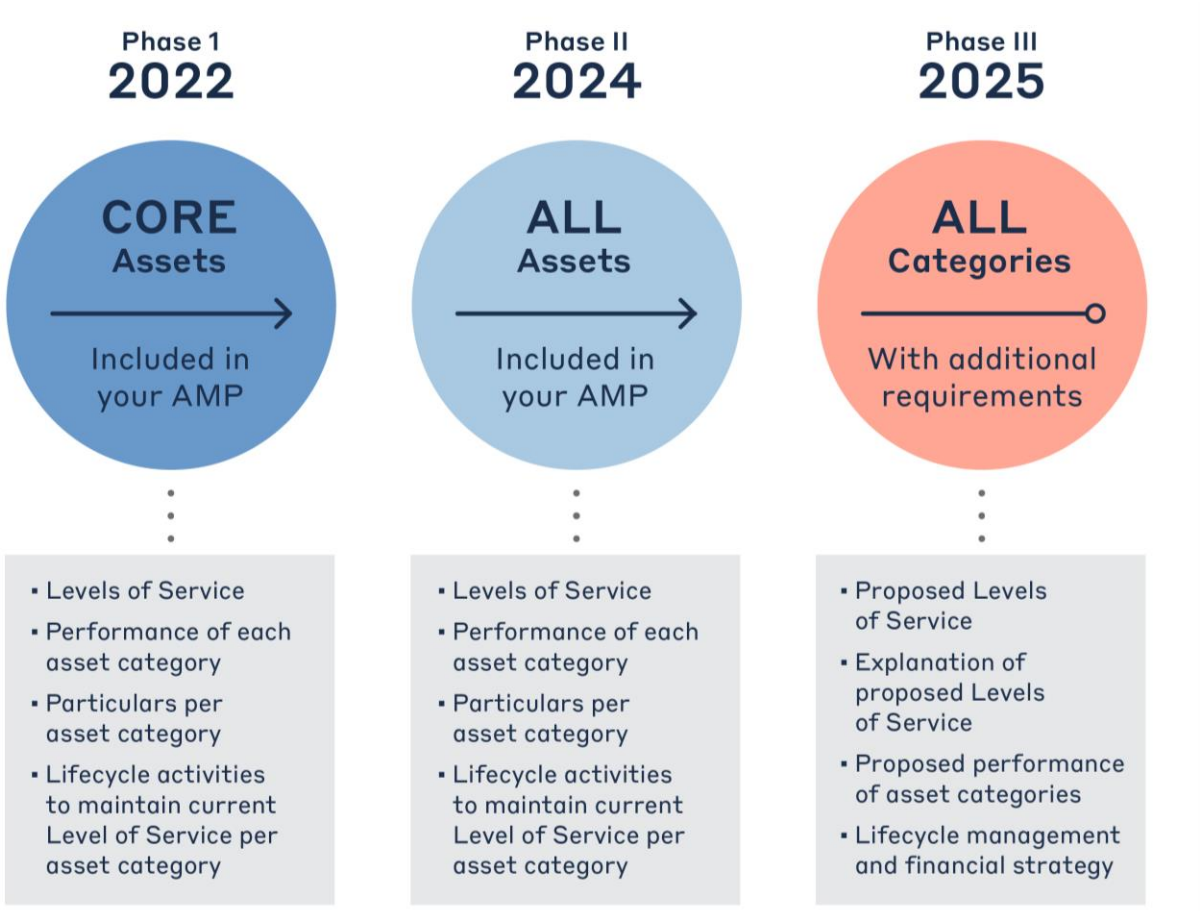


Figure 10: O. Reg. 588/17 Requirements and Reporting Deadlines

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

2.6.1. O. Reg. 588/17 Compliance Review

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	5.1 – 13.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	5.1 – 13.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	5.3 – 13.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	5.2 – 13.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	5.2.1 – 13.2.1	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	5.7 – 13.7	Complete
Current performance measures in each category	S.5(2), 2	5.7 – 13.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	5.4 – 13.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix A	Complete
Growth considerations	S.6(1), 5	15.2	Complete
Proposed levels of service for each category for next 10 years	S.6(1), 1(i-ii)	5.8 – 13.8	Complete
Explanation of appropriateness of proposed levels of service	S.6(1), 2(i-iv)	4.7	Complete
Lifecycle management activities for proposed levels of service	S.6(1), 4(i)	4.4.1 – 4.6.1	Complete
10-year capital costs for proposed levels of service	S.6(1), 4(ii)	Appendix B	Complete
Annual funding availability projections	S.6(1), 4(iii)	4.4.2 – 4.6.2	Complete

Table 3: 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 illustrates 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. Key category details are summarized at the asset segment level.

Figure 11: Asset Hierarchy and Data Classification - Core Assets

Figure 12: Asset Hierarchy and Data Classification - Non-core Assets

3.2. Portfolio Overview

3.2.1. Replacement Cost

Thames Centre's asset categories have a total replacement cost of $469.8 million based on available inventory data. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects the replacement of historical assets with similar, not necessarily identical, assets available for procurement today.

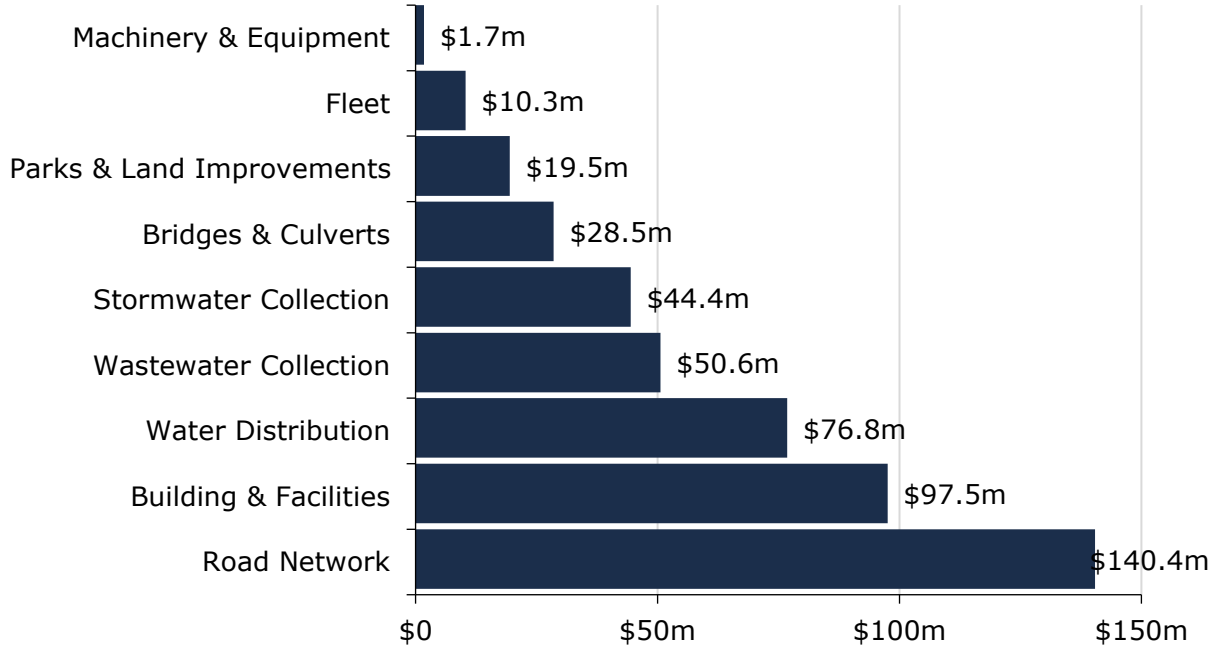


Figure 13: Current Replacement Cost by Asset Category

3.2.2. Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet system-generated long-term replacement needs, the municipality is recommended to be allocating approximately $9.8 million annually, for a target reinvestment rate of 2.1%. Actual annual spending on infrastructure totals approximately $6.4 million, for an actual reinvestment rate of 1.3%.

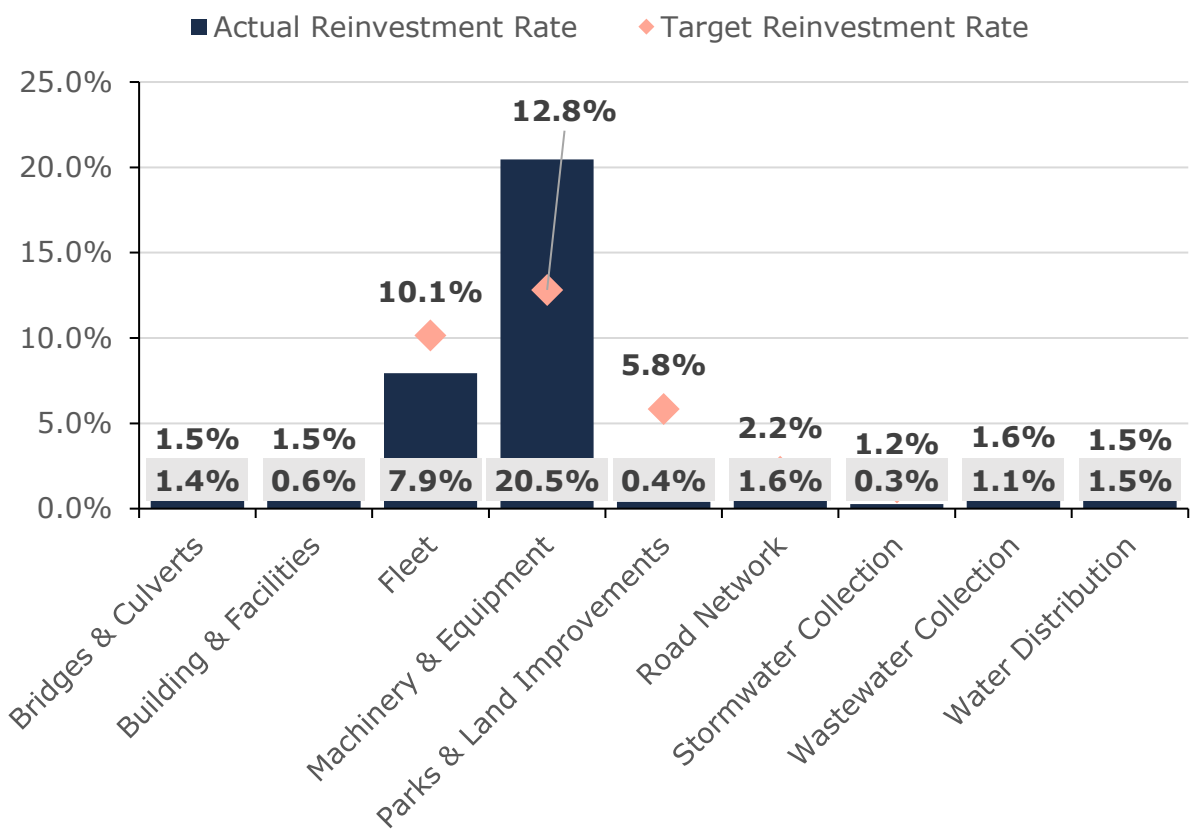


Figure 14: Target vs Actual Reinvestment Rates

3.3. Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 78% of assets in Thames Centre are in fair or better condition. This estimate relies on both age-based and field condition data.

Assessed condition data is available for paved roads, bridges and culverts, fleet and some underground linear assets; for the remaining portfolio, 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.

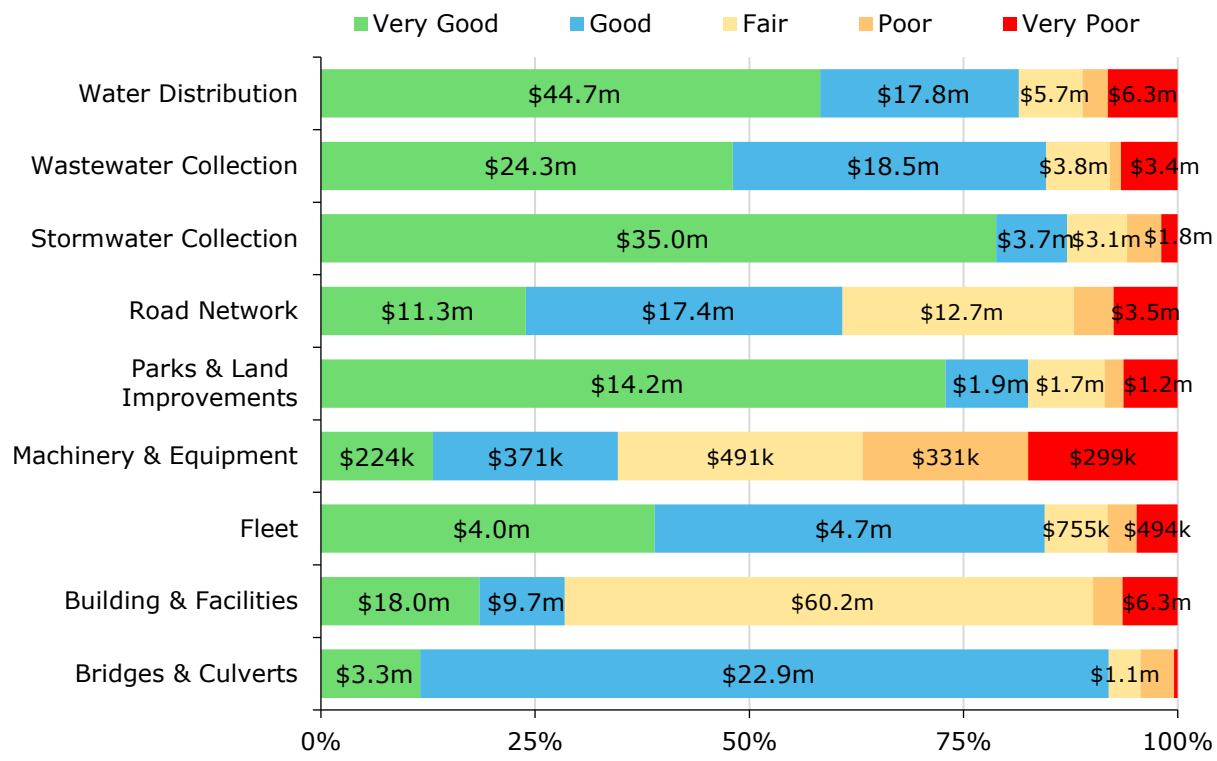


Figure 15: Asset Condition by Asset Category

3.2.3. Source of Condition Data

This AMP relies on assessed condition for 19% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	HCB Roads LCB Roads	87% 91%	StreetScan
Bridges & Culverts	Bridges Culverts Guide Rails	90% 98% 48%	Dillon Consulting
Land Improvements	Playground Equipment	9%	Staff Assessment
Fleet	Facility Vehicles	100%	Staff Assessment

	Fire Vehicles	100%	
	Landfill Vehicles	100%	
	Parks Vehicles	100%	
	Roads Vehicles	100%	
	Water Vehicles	100%	
Stormwater Collection	Mains	23%	CCTV Inspection
Water Distribution	Mains	6%	CCTV Inspection
Wastewater Collection	Mains	6%	CCTV Inspection

Figure 16: Source of Condition Data

3.4. Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 15% of the municipality's assets will require replacement within the next 10 years. Refer to Appendix A – 10-Year Capital Requirements.

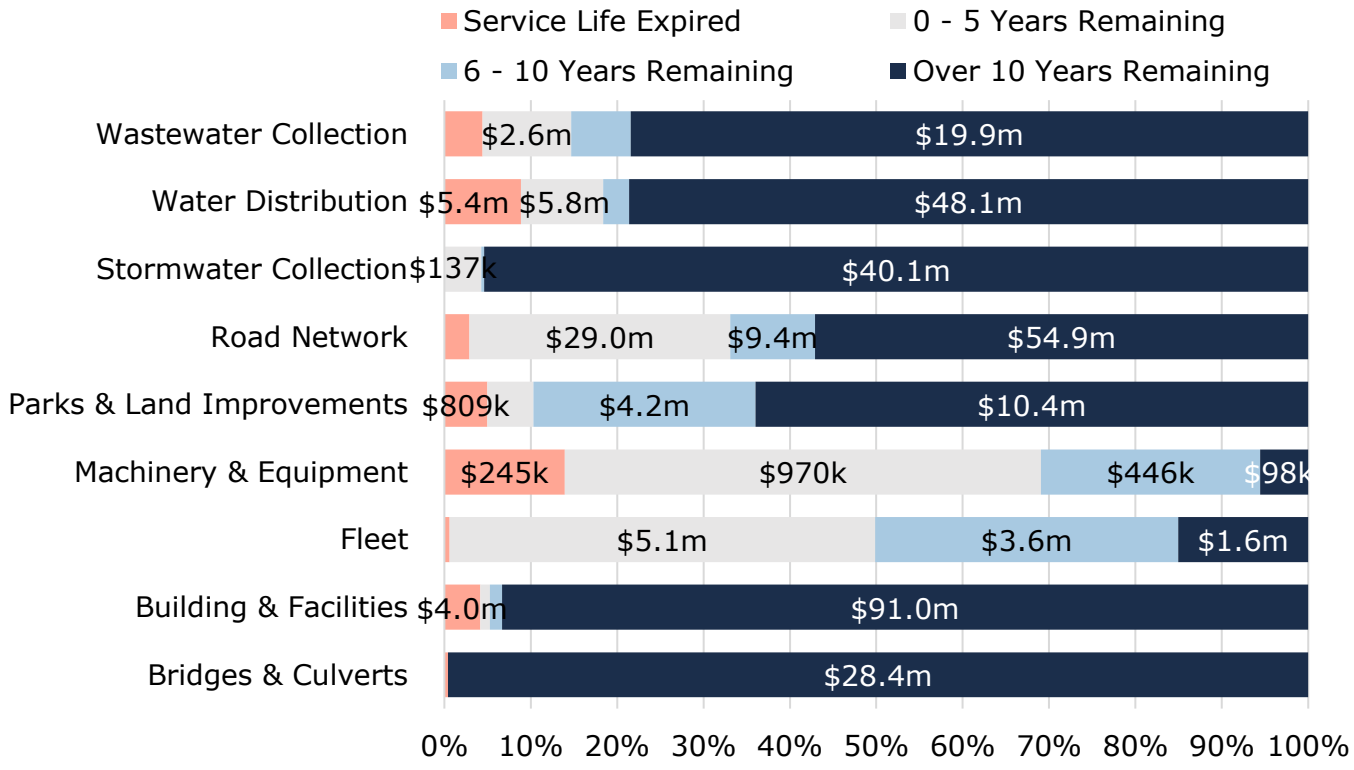


Figure 17: Service Life Remaining by Asset Category

3.5. Risk Matrix

Using the risk equation and preliminary risk models, the overall asset risk breakdown for Thames Centre's asset inventory is portrayed in the figure below.

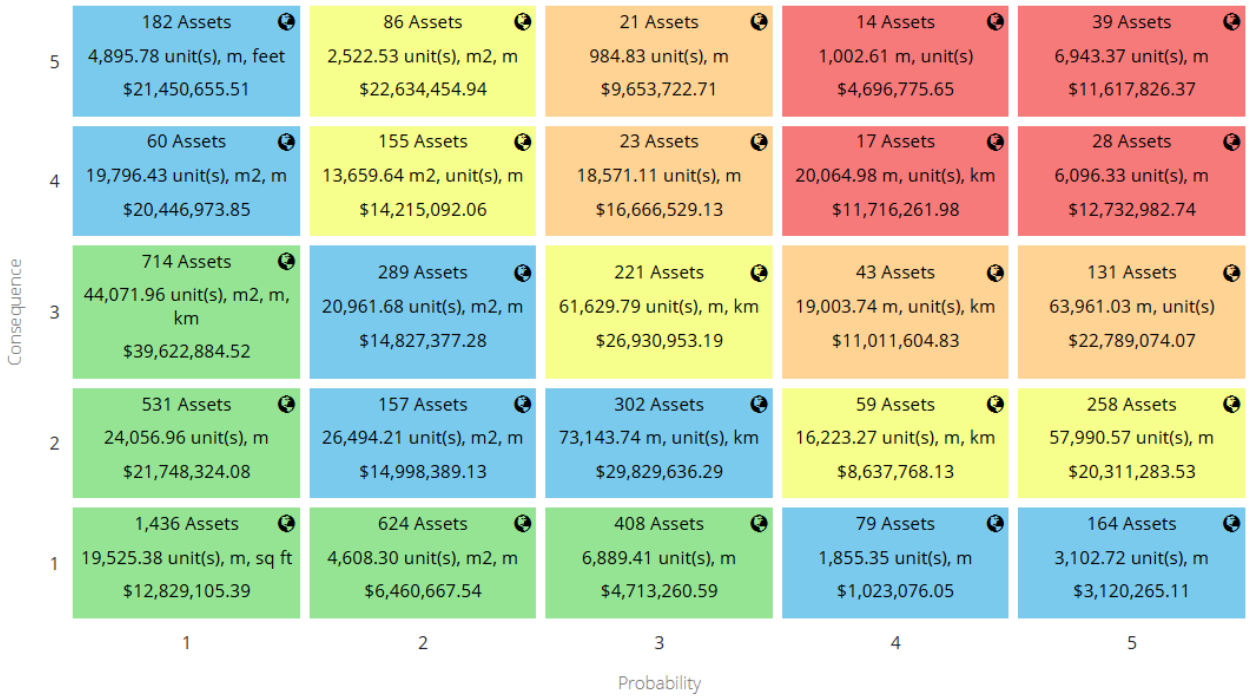


Figure 18: Risk Matrix - All Assets

Reviewing the list of very high-risk assets to evaluate how best to mitigate the level of risk the municipality is experiencing will help advance the municipality's asset management program.

3.6. Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. The Figure below illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for all asset categories analyzed in this AMP over a 50-year time horizon. On average, $9.8 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 $12.5 million, comprising assets that remain in service beyond their estimated useful life. It is unlikely that all such assets are in a state of disrepair, requiring immediate replacements. This makes continued and expanded targeted and consistent condition assessments integral. Risk frameworks, proactive lifecycle strategies, and levels of service targets can then

be used to prioritize projects, continuously refine estimates for both backlogs and ongoing capital needs and help select the right treatment for each asset. In addition, more effective componentization of buildings will improve these projections, including backlog estimates.

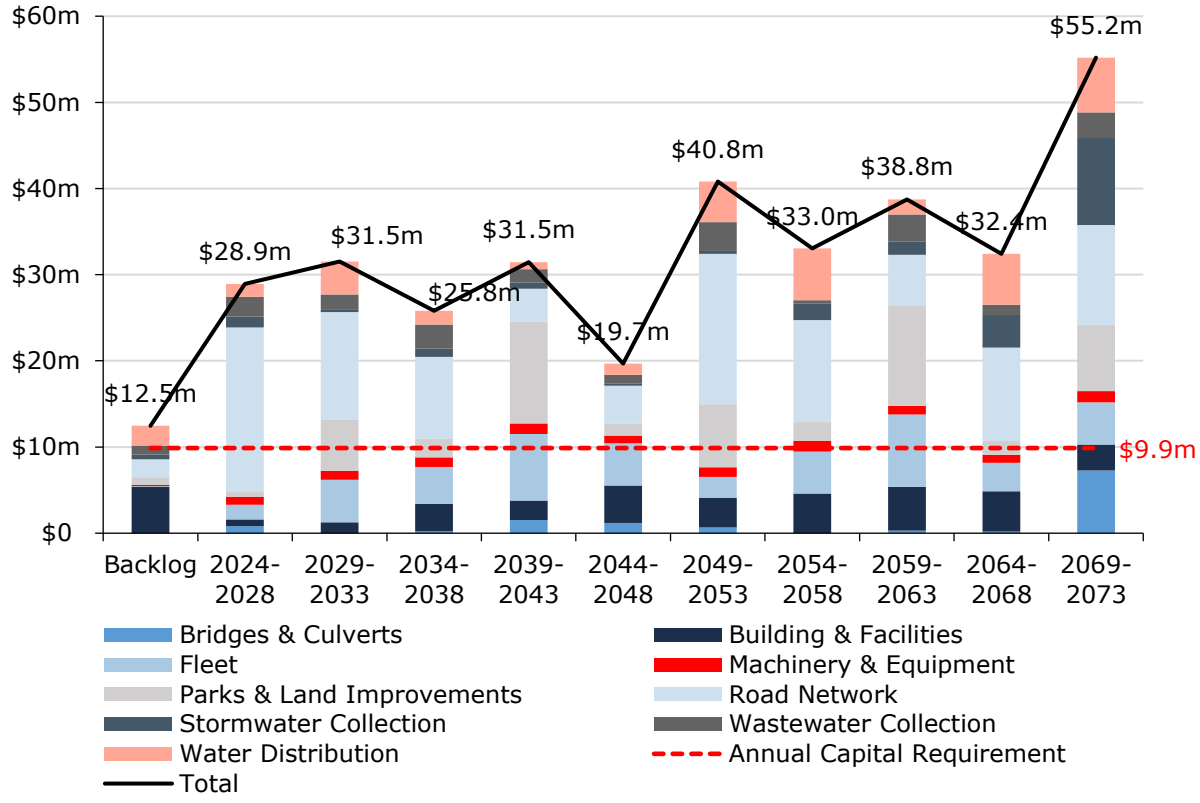


Figure 19: Forecasted Capital Requirements by Asset Category

Proposed Levels of Service

4. Proposed Levels of Service

4.1. Scope

4.1.1. Ontario Regulation 588/17 Proposed Levels of Service

The 2025 deadline requires that proposed Levels of Service (LOS) are demonstrated to be appropriate based on an assessment of:

1. Proposed LOS options and the risks associated with these options (i.e., asset reliability, safety, affordability) when considering the long-term sustainability of the municipality.
2. How proposed LOS may differ from current LOS.
3. Whether proposed LOS are achievable.
4. The municipality's ability to afford proposed LOS.

Additionally, a lifecycle management and financial strategy to support these LOS must be identified, covering a 10-year period and including:

1. Identification of lifecycle activities needed to provide the proposed LOS with consideration for:
    - Full lifecycle of assets.
    - Lifecycle activities options available to meet proposed LOS.
    - Risks associated with the options identified in sub-paragraph B, above.
    - Identification of which lifecycle activities identified in sub-paragraph B carry the lowest cost.
2. An estimate of the annual cost of meeting proposed LOS for a period of 10 years, separated by capital and operating expense.

4.1.2. Methodology

The LOS framework is a valuable tool for assessing and managing the performance of a system or service. Target levels of service for the Municipality have been developed through comprehensive engagement with Municipality staff and referencing resident satisfaction surveys. To achieve a target level of service goal, careful consideration of the following should be considered.

Financial Impact Assessment

- Assess historical expenditures/budget patterns to gauge feasibility of increasing budgets to achieve LOS targets

- Consider implications of LOS adjustments on other services, and other infrastructure programs (tradeoffs)

Infrastructure Condition Assessment

- Regularly assess the condition of critical infrastructure components.
- Use standardized condition indices or metrics to quantify the state of infrastructure.
- Identify non-critical components where maintenance can be deferred without causing severe degradation.
- Adjust condition indices or metrics to reflect the reduced maintenance budget.

Service Metrics

- Measure user satisfaction, response times, and other relevant indicators for the specific service.

Service Impact Assessment

- Evaluate potential impacts on user satisfaction and service delivery due to decreased infrastructure condition.

Risk Management

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

Service Improvement Metrics

- Analyze the performance of target levels of service regularly and incorporate more ambitious targets based on user satisfaction if required.

Timelines

- Although O. Reg requires identification of expenditures for a 10-year period in pursuit of LOS targets, it does not require municipalities to identify the timeframe to achieve them.
- Careful consideration should be given to setting realistic targets for when LOS targets are to be achieved.

4.1.3. General Considerations for All Scenarios

- **Stakeholder Engagement:**
  - Regularly engage with stakeholders to gather feedback and communicate changes transparently.
- **Data-Driven Decision Making:**

- Use data analytics to inform decision-making processes and identify areas for improvement.

- **Flexibility and Adaptability:**
  - Design the methodology to be flexible, allowing for adjustments based on evolving conditions and priorities.
- **Continuous Improvement:**
  - Establish a process for continuous review and improvement of the LOS methodology itself.

4.2. Community Engagement Survey

As part of the development of the Asset Management Plan, Thames Centre conducted a community engagement survey to gather feedback on current service levels. Community input has been crucial in ensuring that the proposed Levels of Service align with both community expectations and municipal goals. The results of the survey indicate that most respondents feel municipal services generally meet expectations across all asset categories, with some areas identified for potential improvement.

For core infrastructure, Bridges and Culverts received a strong satisfaction rating, with 90% of respondents stating that service levels meet or exceed expectations. Roads had a slightly lower satisfaction rate, with 78% believing service levels are adequate, while 22% rated them below expectations. Similarly, water and wastewater services were viewed positively by 86% of respondents, although 14% expressed concerns. Stormwater drainage services followed a similar trend, with 84% satisfied but some indicating issues with drainage performance.

Non-core assets also received high satisfaction ratings. Emergency response services (fire protection) had strong support, with 90% of respondents indicating service levels meet or exceed expectations. Parks, playgrounds, splash pads, and outdoor recreation facilities were rated positively by 85% of respondents, though some indicated room for improvement. Community centres and recreational facilities had a more mixed response, with 64% stating service levels are adequate, 32% rating them above expectations, and 12% believing they are below expectations.

When asked about potential changes to service levels and taxation, the majority (57%) preferred maintaining current tax levels while keeping service levels unchanged. Meanwhile, 28% supported reducing taxes, even if it meant fewer services, and only 12% were willing to pay higher taxes for service improvements.

Community priorities for spending focused on preserving Thames Centre's character and charm, minimizing financial impacts on residents, accommodating growth, supporting local economic activity, and protecting the environment. These priorities reflect a desire for balanced development that maintains affordability while ensuring the long-term sustainability of municipal services.

The community engagement survey has provided valuable insights into public satisfaction with municipal services, highlighting areas of strength and opportunities for improvement. The feedback also underscores a preference for maintaining current service levels without increasing taxes. While keeping taxes unchanged is understandable, it's important to recognize that strategic investments may be needed to maintain and improve services, especially as the community grows. These results will help guide the development of the Asset Management Plan, ensuring that future investments and decisions are aligned with community needs and priorities.

4.3. Proposed Levels of Service Scenario Overview

The following three scenarios have been considered for establishing target levels of service for all asset categories included in this Asset Management Plan.

While all three scenarios were reviewed, the Municipality of Thames Centre selected Scenario 3 as their preferred path forward regarding proposed levels of service, which is reflected in the Financial Strategy and Proposed Levels of Service 10-year capital replacement forecasts.

Scenario 1: Current Capital Investment

Approach: This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels.

Scenario 2: Strategic Capital Investment

Approach: This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.

Scenario 3: Sustainable Condition Approach

Approach: This scenario assesses the investment necessary to sustain a specified average condition for the infrastructure within the asset category, holding the condition constant while determining the required funding.

This methodology provides a structured approach for managing infrastructure conditions and levels of service under different budget scenarios, emphasizing adaptability and stakeholder communication.

Through a comprehensive assessment, the following levels of service for 9 asset categories have been developed, aligning with the long-term interests of the municipality. Achievability is the key consideration, with measures in place to ensure realistic targets. The municipality's financial capacity was thoroughly

reviewed, confirming its ability to sustain the proposed service levels. Complementing this, a detailed lifecycle management and financial strategy was developed, delineating necessary activities for each asset category. This strategy outlines the full lifecycle of assets, presents viable options for lifecycle activities, evaluates associated risks, and prioritizes cost-effective measures to maintain the proposed service standards.

These funding strategies reflect the municipality's consideration of long-term service levels, financial capacity, and the risks of underinvestment, as outlined in Section 6.2 of Ontario Regulation 588/17.

4.4. Scenario 1: Current Capital Investment

This scenario involves maintaining the current funding levels for infrastructure over the next 15 years. The approach focuses on sustaining the existing investment, which may not fully address the growing infrastructure needs but will help manage them at the current rate.
The following analysis considers the affordability, achievability, and associated risks of this scenario, evaluating how the proposed funding strategy aligns with both community expectations and long-term infrastructure sustainability.

4.4.1. Lifecycle Changes Required

Maintaining capital investment at current levels involves no lifecycle changes. The municipality would continue to implement current lifecycle management activities and rely on current maintenance strategies. Under current funding levels, the municipality plans to complete one building condition assessment per year. While this approach supports evaluation of facility needs, limited capital funding may delay the implementation of recommended repairs and upgrades identified through the assessments. Sustaining the current investment level may not be sufficient to meet long-term infrastructure needs or allow for improvements in service delivery.

4.4.2. Sustainability and Feasibility of Proposed Service Levels

Of the three scenarios analyzed, Scenario 1 requires no tax increase. This approach is realistic as it allows the municipality to continue with its current asset management practices without increasing taxes. Tax revenue would remain constant at $12.5 million, with water rates at $2.5 million, wastewater rates at $1.7 million, and stormwater rates at $178 thousand. While this option may be feasible in the short term, it may not be sustainable in the long run due to increasing infrastructure demands, especially with aging assets and rising maintenance costs.

Based on maintaining current funding levels and existing sustainable grant funding, the available capital funding over the next 10 years for Scenario 1 is indicated in the table below:

Source	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax Revenue	$4.5M	$4.5M	$4.5M	$4.5M	$4.5M	$4.5M	$4.5M	$4.5M	$4.5M	$4.5M
Water Rates	$1.2M	$1.2M	$1.2M	$1.2M	$1.2M	$1.2M	$1.2M	$1.2M	$1.2M	$1.2M
Wastewater Rates	$572k	$572k	$572k	$572k	$572k	$572k	$572k	$572k	$572k	$572k

Stormwater Rates	$120k	$120k	$120k	$120k	$120k	$120k	$120k	$120k	$120k	$120k

Table 4: Scenario 1 Available Capital Funding Over Next 10 Years

The above table accounts for both current and future expenditures in order to achieve and maintain the service level option. This requires a combination of capital spending and saving (i.e. reserves) to ensure future large expenditures can be financed.

4.4.3. Risk Analysis

Evaluating the risks associated with each service level option is essential for balancing infrastructure needs, financial sustainability, and community expectations. By identifying and assessing these risks, the municipality can make informed decisions that support long-term service reliability.

Scenario 1 Risks

- Delayed Asset Lifecycles: With no increase in funding, asset replacements and upgrades may be delayed, which can lead to more frequent breakdowns, unplanned repairs, and increased maintenance costs over time.
- Infrastructure Backlog: Without immediate funding, there is a risk that the existing infrastructure backlog could continue to grow, potentially leading to higher long-term costs and service disruptions.
- Service Disruptions: Aging infrastructure could become more prone to failures, potentially leading to service interruptions and more frequent emergency repairs that could impact the community's quality of life.
- Regulatory Requirements: The municipality could face challenges in meeting regulatory requirements due to insufficient funding for necessary future upgrades, posing risks for compliance.
- Grant Reliance: This investment level could create a long-term reliance on grants to cover the funding gap. This could lead to financial instability, delays in critical infrastructure projects, and increased uncertainty in meeting service level expectations.

4.5. Scenario 2: Strategic Capital Investment

This scenario outlines a phased funding approach, with an annual tax increase of approximately 1.4%, along with no increase in water rates, 0.9% increases in wastewater rates, and 8.6% increases in stormwater rates, aiming to achieve full funding within 15 years. The approach focuses on ensuring the municipality can fully fund its infrastructure needs over a set period.

The following analysis considers the affordability, achievability, and associated risks of this scenario, evaluating how the proposed funding strategy aligns with both community expectations and long-term infrastructure sustainability.

4.5.1. Lifecycle Changes Required

Increasing capital investment to achieve full funding over 15 years would significantly improve the municipality's ability to manage its infrastructure assets. This phased approach would allow for incremental funding increases, enabling proactive maintenance, timely upgrades, and early replacements, which would reduce the need for emergency repairs and extend asset lifecycles. The following lifecycle activities would be undertaken:

- Paved Roads: Increased capacity to improve the current paved road lifecycle strategy by addressing underlying base issues during resurfacing, for longer-lasting repairs. Expansion of the reconstruction program to cover road segments that are often deferred due to limited budgets.
- Bridges and Culverts: Timely implementation of all OSIM report recommendations to maintain functionality and extend lifespan, without deferring critical repairs or upgrades.
- Water and Wastewater Systems: Pipe replacements and system upgrades would be scheduled before service life ends or upon failure to maintain reliable service.
- Stormwater Systems: Upgrades to prevent overflows and improve flood resilience.
- Buildings & Facilities: Completion of additional BCAs as needed to accelerate building assessments, beyond the current one per year. All recommendations from these assessments would be promptly implemented, focusing on critical components such as roofs and HVAC systems.
- Playgrounds would continue to undergo early replacements. The municipality would also have the capacity to consistently upgrade these assets to meet evolving accessibility standards.
- Addressing the backlog: The phased funding strategy would allow the municipality to start addressing the infrastructure backlog immediately, gradually reducing it over the 15-year period.

4.5.2. Sustainability and Feasibility of Proposed Service Levels

Of the three scenarios analyzed, Scenario 2 requires the highest tax increase. Reaching full funding immediately would require an increase of 23.3% in tax revenue, no increase in water rates, 14.8% increase in wastewater rates, and 243.3% in stormwater rates. 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 $12.5 million to $15.4 million, water revenue would remain constant at $2.1 million, wastewater revenue from $1.1 million to $1.4 million, and stormwater revenue from $162 thousand to $600 thousand.

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:

Source	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax Revenue	$4.7M	$4.9M	$5.1M	$5.2M	$5.4M	$5.6M	$5.8M	$6.0M	$6.2M	$6.5M
Water Rates	$770k	$770k	$770k	$770k	$770k	$770k	$770k	$770k	$770k	$770k
Wastewater Rates	$333k	$349k	$365k	$381k	$397k	$414k	$431k	$448k	$466k	$484k
Stormwater Rates	$135k	$151k	$168k	$188k	$208k	$231k	$256k	$283k	$313k	$345k

Table 5: Scenario 2 Available Capital Funding Over Next 10 Years

The above table accounts for both current and future expenditures in order to achieve and maintain the service level option. This requires a combination of capital spending and saving (i.e. reserves) to ensure future large expenditures can be financed.

4.5.3. Risk Analysis

Evaluating the risks associated with each service level option is essential for balancing infrastructure needs, financial sustainability, and community expectations. By identifying and assessing these risks, the municipality can make informed decisions that support long-term service reliability.

Scenario 2 Risks

- Delayed Improvement: The municipality will not see significant improvements in asset conditions or service levels until full funding is reached after 15 years. However, gradual improvements will be made over time as funding increases.
- Infrastructure Backlog: Without immediate funding, there is a risk that the existing infrastructure backlog could continue to grow during the phase-in period, potentially leading to higher long-term costs and service disruptions.
- Resource Constraints: Implementing and maintaining this service level option may stretch the municipality's operational capacity, particularly if there are limited resources or capacity to handle the expanded scope of work over the long term.
- Taxation Increase: While these increases are technically achievable, there's a possibility that residents may not fully support sustained increases over the long term, especially given the preference for moderate tax rates and the general satisfaction with current services.

4.6. Scenario 3: Sustainable Condition Approach

This scenario assesses the investment required to sustain a specified average condition across the municipality's infrastructure assets. The goal is to maintain the infrastructure at a consistent level of condition over time, ensuring that necessary funding is allocated to prevent deterioration. This approach focuses on determining the required funding to sustain targeted infrastructure conditions over the next 15 years.

Target Conditions

- Road Network
  - Paved Roads: 65%
  - All other Assets: 60%
- Bridges & Culverts: 70%
- Buildings & Facilities: 65%
- Parks & Land Improvements: 65%
- Fleet
  - Fire Vehicles: 70%
  - All other Vehicles: 60%
- Machinery & Equipment: 60%
- Stormwater Network: 65%
- Water Distribution
  - Watermains: 70%
  - All other Assets: 60%
- Wastewater Collection
  - Wastewater Mains: 70%
  - All other Assets: 60%

To meet these condition targets, this scenario includes a phased funding approach, requiring annual tax increases of approximately 1.0%, along with 0.4% increases in water rates, 0.5% increases in wastewater rates, and 6.7% increases in stormwater rates. While the objective is not full funding, the investment required to maintain stable asset conditions still represents a significant financial commitment.

The following analysis considers the affordability, achievability, and associated risks of this scenario, evaluating how the proposed funding strategy aligns with both community expectations and long-term infrastructure sustainability.

4.6.1. Lifecycle Changes Required

Increasing capital investment to achieve the Sustainable Condition Approach would allow the municipality to maintain infrastructure assets at their specified target performance levels. This funding level would support periodic rehabilitation and selective replacements, aimed at preventing deterioration and maintaining stability in asset conditions. While the funding is slightly below full funding, it would allow for timely maintenance activities to address issues before they lead to major failures.

For paved roads, this would include resurfacing activities aligned with the selected performance targets, helping prevent deterioration and avoid costly reconstruction. Bridges & Culverts would continue to receive essential repairs and upgrades, with a focus on implementing OSIM report recommendations to maintain structural performance and prevent future restrictions.

Water, wastewater, and stormwater systems would be maintained through planned pipe replacements and infrastructure upgrades timed to occur before the end of service life, minimizing the risk of failure.

There would be increased capacity to implement the maintenance and rehabilitation recommendations from building condition assessments. However, some higher-cost upgrades may still need to be prioritized based on urgency and available resources.

For other assets such as vehicles, equipment, and land improvement assets, lifecycle activities would include timely component upgrades and continued early replacement of recreational amenities prior to the end of their useful life, ensuring they remain safe, accessible, and aligned with community expectations. Upgrades to playgrounds to meet evolving accessibility standards would be prioritized based on need, funding availability, and usage levels.

4.6.2. Sustainability and Feasibility of Proposed Service Levels

Scenario 3 requires a tax increase similar to Scenario 2, aimed at maintaining asset conditions at targeted levels over the long term. Reaching this investment level immediately would require increases of 15.6% in tax revenue, 5.2% increases in water rates, 7.5% increases in wastewater rates, and 161.1% in stormwater rates. 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 $12.5 million to $14.5 million, water revenue from $2.1 to $2.3 million, wastewater revenue from $1.1 million to $1.3 million, and stormwater revenue from $162 thousand to $454 thousand.

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:

Source	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax Revenue	$4.7M	$4.8M	$4.9M	$5.0M	$5.2M	$5.3M	$5.4M	$5.6M	$5.7M	$5.9M
Water Rates	$781k	$791k	$802k	$812k	$823k	$834k	$845k	$855k	$866k	$877k
Wastewater Rates	$326k	$335k	$344k	$353k	$363k	$372k	$381k	$391k	$400k	$410k
Stormwater Rates	$174k	$186k	$199k	$214k	$229k	$245k	$262k	$281k	$301k	$322k

Table 6: Scenario 3 Available Capital Funding Over Next 10 Years

The above table accounts for both current and future expenditures in order to achieve and maintain the proposed levels of service. This requires a combination of capital spending and saving (i.e. reserves) to ensure future large expenditures can be financed.

Risk Analysis

Evaluating the risks associated with each service level option is essential for balancing infrastructure needs, financial sustainability, and community expectations. By identifying and assessing these risks, the municipality can make informed decisions that support long-term service reliability.

Scenario 3 Risks

- Delayed Improvement: The municipality will not see significant improvements in asset conditions or service levels until this investment level is reached after 15 years. However, gradual improvements will be made over time as funding increases.
- Infrastructure Backlog: Without immediate funding, there is a risk that the existing infrastructure backlog could continue to grow during the phase-in period, potentially leading to higher long-term costs and service disruptions.
- Resource Constraints: Implementing and maintaining this service level option may stretch the municipality's operational capacity, particularly if there are limited resources or capacity to handle the expanded scope of work over the long term.
- Taxation Increase: While these increases are technically achievable, there’s a possibility that residents may not fully support sustained increases over the long term, especially given the preference for moderate tax rates and the general satisfaction with current services.

4.7. Proposed Levels of Service Analysis

4.7.1. Appropriateness of Proposed Levels of Service Scenario

Scenario 3, referred to as the *Sustainable Condition Approach*, has been identified as the most appropriate option for the Municipality to support the proposed levels of service in accordance with O. Reg. 588/17. This scenario provides a balanced and strategic approach to managing infrastructure by focusing on maintaining stable asset conditions over the long term, rather than pursuing full funding or deferring significant investment.

This scenario is well-suited to the municipality for the following reasons:

- Alignment with Community Expectations
  - The proposed condition targets reflect reasonable and achievable service levels that maintain core infrastructure in good working order, meeting public expectations for safety, reliability, and usability.
- Affordability and Gradual Implementation
  - The recommended phased approach over 15 years ensures that tax and rate increases remain manageable and do not place an undue burden on residents. This supports long-term affordability while avoiding the risks associated with underinvestment.
- Preservation of Asset Value
  - The scenario focuses on timely rehabilitation and renewal interventions, which prevent asset deterioration and avoid the higher costs of emergency repairs or full replacements.
- Feasibility of Implementation
  - While full immediate funding is not feasible, the phased investment strategy offers a realistic path forward. Planned increases in tax and rate-supported revenues, combined with existing sustainable grant funding, make this scenario achievable within the municipality's financial capacity.
- Risk Management
  - This scenario supports risk reduction by addressing critical asset needs before failure occurs. It allows for the prioritization of urgent repairs and targeted upgrades while still accommodating some flexibility for less critical components.

Overall, this scenario reflects a realistic and responsible balance between service level objectives, financial constraints, and regulatory requirements. It supports strategic decision-making and long-term infrastructure resilience while respecting the municipality's financial limitations and capacity for gradual change.

Categorical Analysis

5. Road Network

The Road Network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the Municipality's asset portfolio. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure such as sidewalks and streetlights.

Thames Centre's road network is maintained by the Transportation Services Department. The division is also responsible for patching and filling holes, cutting grass along roadside ditches, performing roadside tree maintenance, rebuilding roadways and winter maintenance.

5.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the road network inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Gravel Roads	176 km	Not Planned for Replacement[2]	$48,347,298[3]
HCB Roads	81 km	Cost per Unit	$61,850,383
LCB Roads	124 km	Cost per Unit	$24,456,326
Sidewalks	26 km	Cost per Unit	$3,203,756
Streetlights	574	CPI Inflation (Historical Cost)	$2,528,719
		Total:	**$140,386,481**

Table 7: Road Network Inventory

[2] Gravel roads do not undergo asset replacement and are either in a state of perpetual maintenance or upgraded to an asset with a different composition as they approach end of life. As such, gravel roads have been excluded from the calculation of the annual requirements of the Road Network.

[3] An estimated replacement cost, based on historical cost inflation, was determined and assigned to each gravel road segment. This estimate represents the operational investment required to maintain the gravel roads.

The figure below displays the replacement cost of each asset segment in the Municipality's Road inventory:

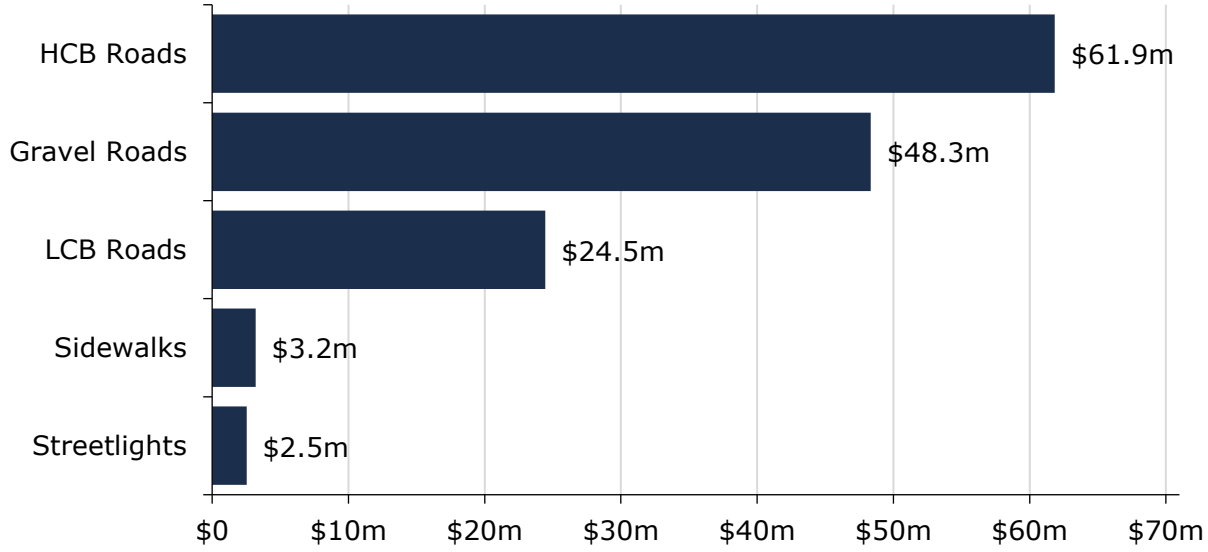


Figure 20: Road Network Replacement Value

5.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

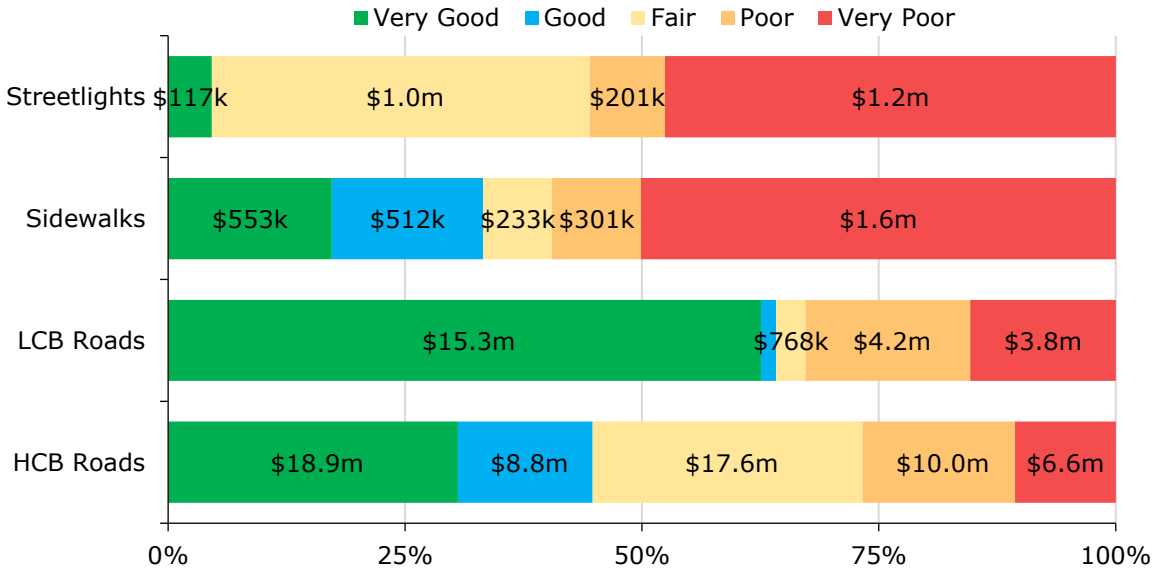


Figure 21: Road Network Condition Breakdown

5.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Municipality's current approach:

- The assessments of road assets are conducted yearly by staff. External assessments occur approximately every 5-10 years.
- The last assessment was conducted in 2020 by Streetscan that included a detailed assessment of the condition of each road segment.
- The Road Needs Study is reviewed every year and additional roads are assessed as needed.
- Road network assets are inspected as per O. Reg. 239/02: Minimum Maintenance Standards for Municipal Highways.

5.3. Asset Age & Service Life Remaining

The graph below identifies the average age, and the estimated useful life for each asset segment. It is all weighted by replacement cost.

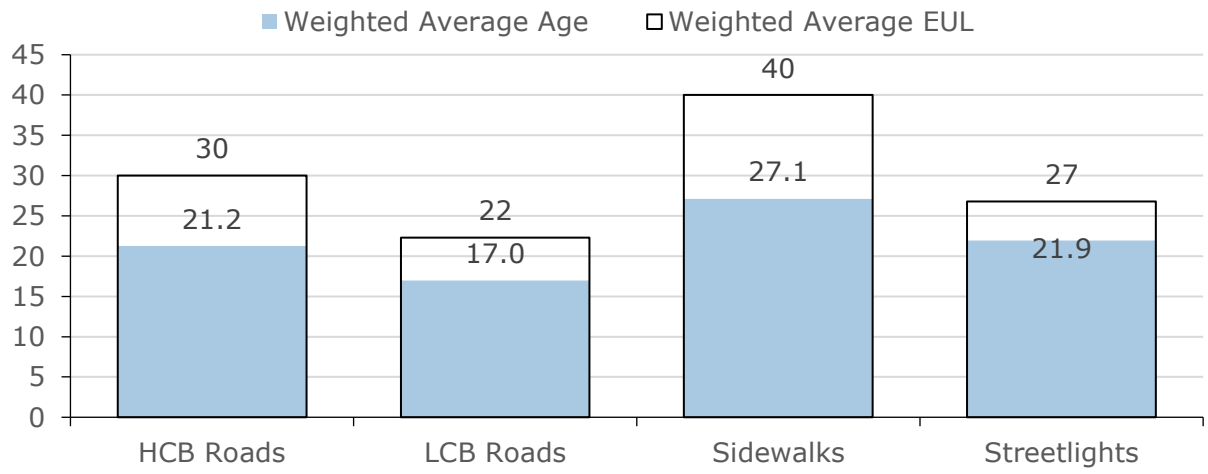


Figure 22: Road Network Average Age vs Average EUL

The analysis shows that, based on in-service dates, roads continue to remain in operation beyond their expected useful life. This is due to the life cycle management strategies currently being utilized.

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

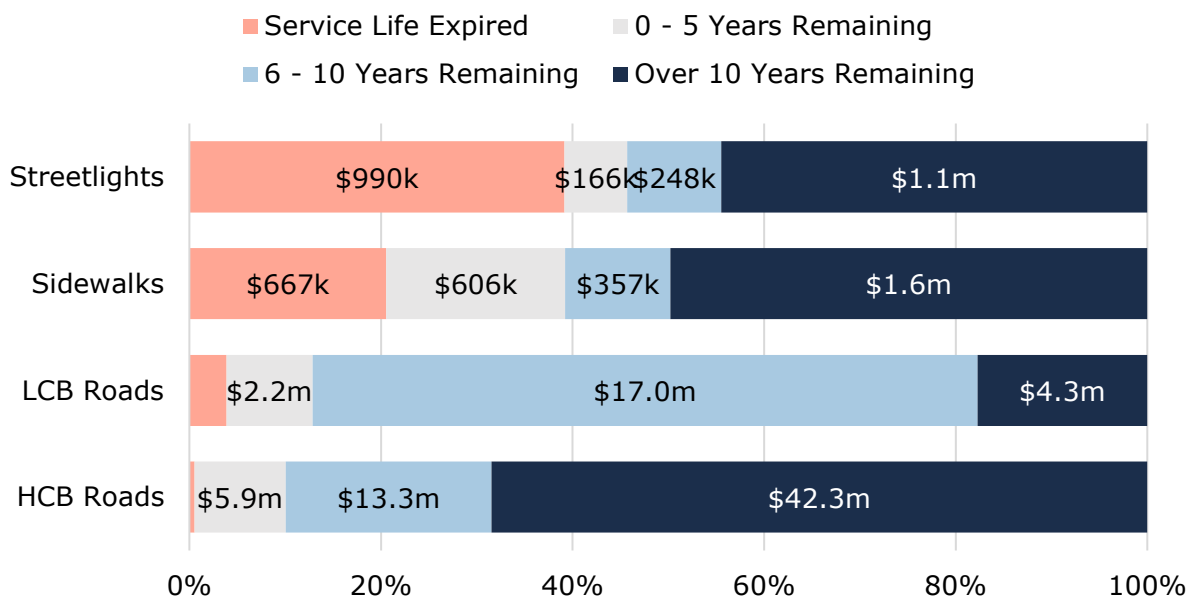


Figure 23: Road Network Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.4. Lifecycle Management Strategy

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 table below outlines the Municipality's current lifecycle management strategy for Gravel roads.

Activity Type	Description of Current Strategy
Preventative Maintenance	Gravel roads are considered to be in a state of perpetual maintenance
	Lifecycle activities are funded through Thames Centre's operating budget
	Maintenance events are applied on an identified, and in some cases, on a reactive need
Replacement	Gravel roads do not require conventional asset replacement events
	Roads are reviewed periodically as potential candidates for a surface composition upgrade

Table 8: Gravel Roads Lifecycle Management Strategy

The table below outlines the Municipality's current lifecycle management strategy for HCB and LCB roads.

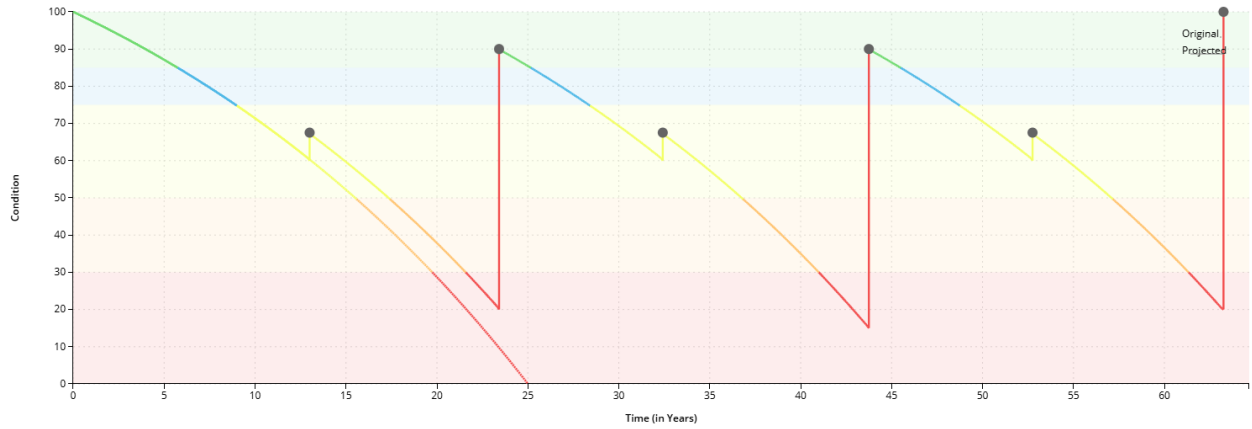
Activity Type	Description of Current Strategy
Maintenance	Crack Sealing, patching, shoulder maintenance, line paint reapplication Deficiency repairs as required from patrols for minimum maintenance standards such as patching, shoulder grading, etc.
Rehabilitation	Pavement Resurfacing – Single Lift Treatments
Replacement	Replacement is based on asset condition; risk-based decision making is exercised to the best of staff's ability
	Roads are fully reconstructed and are not part of a formal lifecycle process

Table 9: Paved Roads Lifecycle Management Strategy

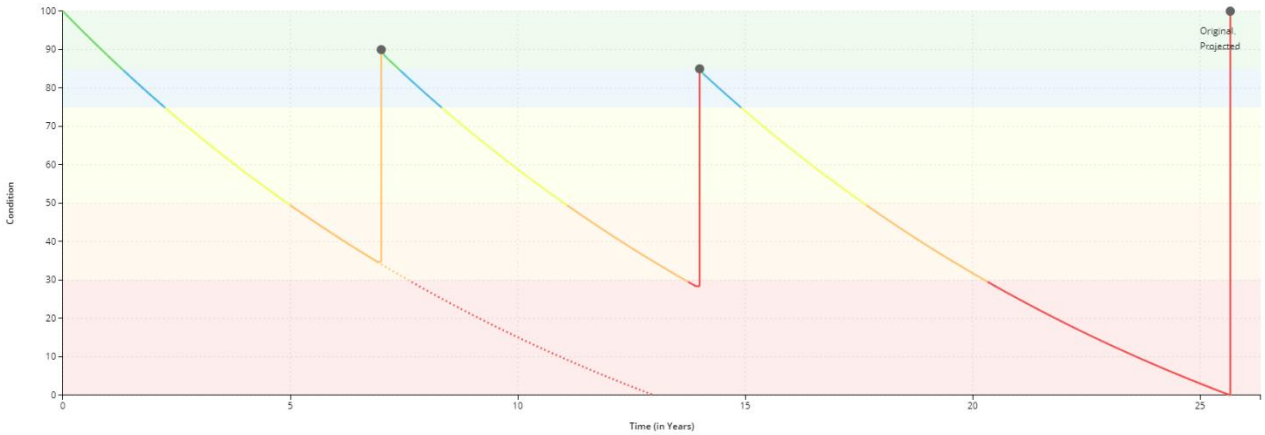
The following lifecycle strategies have been developed as a proactive approach to managing the lifecycle of HCB and LCB roads. These strategies have been developed with input from municipal staff and following industry best practices.

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.

HCB Roads		
Event Name	Event Class	Event Trigger
Crack Sealing	Maintenance	Every 5 Years
Basic Resurfacing – Single Lift 40 mm	Rehabilitation	15 Years
Basic Resurfacing – Double Lift 90 mm	Rehabilitation	30 Years
Full Reconstruction	Replacement	Condition at 20 - 30%



LCB Roads		
Event Name	Event Class	Event Trigger
Surface Treatment – Single Lift	Rehabilitation	7 Years
Surface Treatment – Single Lift	Rehabilitation	14 Years
Full Reconstruction	Replacement	Condition at 0 - 30%



5.5. Forecasted Capital Requirements

illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's road network. Based on the lifecycle strategies identified previously for HCB and LCB roads, and assuming the end-of-life replacement of all other assets in this category, the following graph forecasts capital requirements for the road network. This analysis was run until 2063 to capture at least one iteration of replacement for the longest-lived asset in the asset register.

Thames Centre's average annual requirements (red dotted line) total $3.0 million for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise. The chart illustrates capital needs through the forecast period in 5-year intervals.

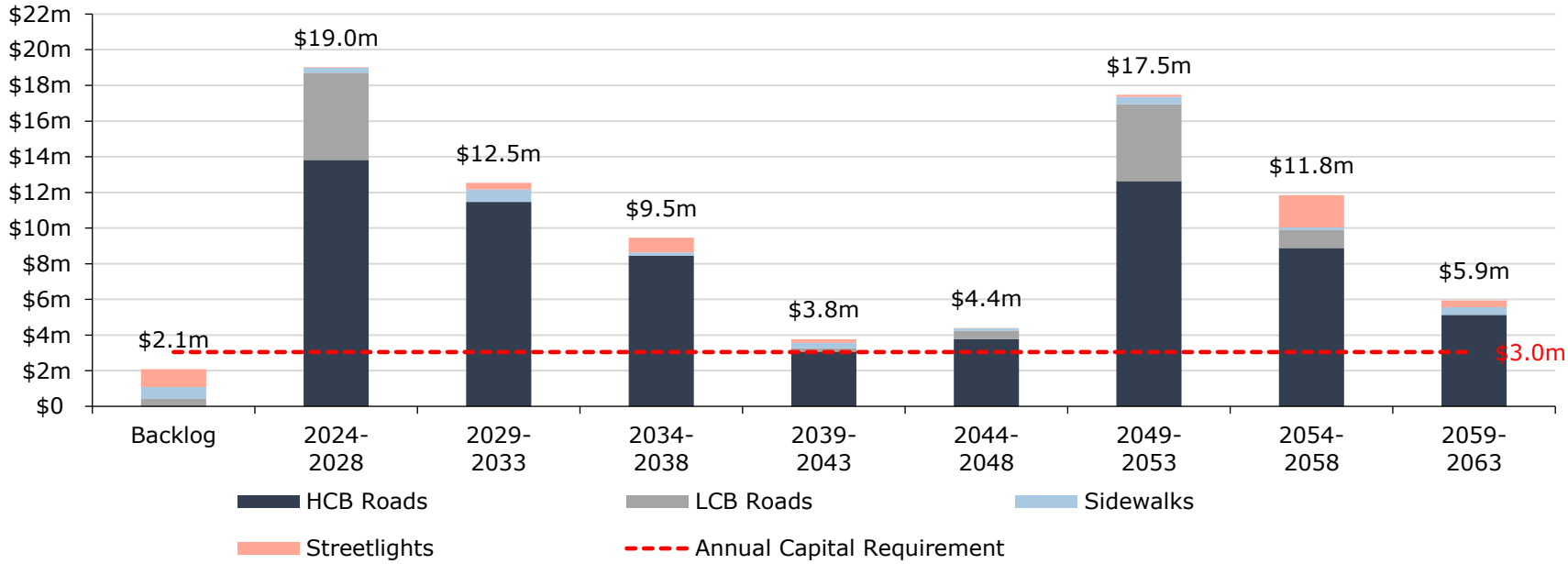


Table 10: Road Network Forecasted Capital Replacement Requirements

The projections 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. They are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling (roads only identified above).

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A. These projections are generated in Citywide and rely on the data available in the asset register.

5.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

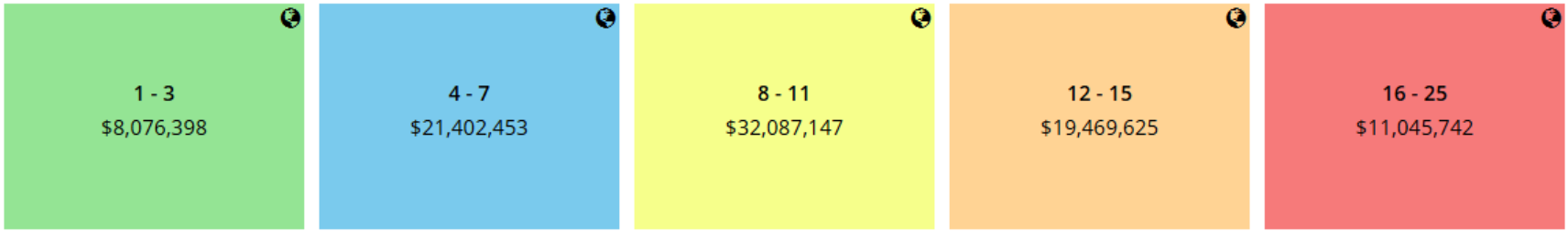


Figure 24: Road Network Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

5.7. Levels of Service

The following tables identify Thames Centre's current level of service for the Road Network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Municipality has selected for this AMP.

5.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Road Network.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description, which may include maps, of the road network in the Municipality and its level of connectivity	The Municipality's transportation network comprises of 381 km of road, of which 176 km are gravel roads and 205 km are paved roads. The transport network also includes 26 km of sidewalks and 574 streetlight assets. See Appendix C for maps.
Quality	Description or images that illustrate the different levels of road class pavement condition	The Municipality completed a Road Assessment in 2020 in coordination with StreetScan. The rating numbers were assigned on a scale of 1 to 100 with the lower numbers describing those roads with the most structural distress or poorest shaped road cross section. (1-50) Road surface exhibits moderate to significant deterioration and requires improvement. (50-100) Road surface is in generally good condition, with localized deficiencies.

5.7.2. Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the Road Network.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km^2)	0 km/km^2
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km^2)	0.68 km/km^2
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	0.11 km/km^2
Quality	Average pavement condition index for paved roads in the municipality	77.9
	Average surface condition for unpaved roads in the municipality (e.g., excellent, good, fair, poor)	54.7% (Fair)
Performance	Capital reinvestment rate	1.6%

5.8. Proposed Levels of Service

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

The tables and graphs below 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 Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 65% average condition for the Road Network, holding the condition constant while determining the required funding.

Table 11: Road Network PLOS Scenarios

5.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	61.58%	57.64%	55.26%	48.11%
	Average Asset Risk	9.4	9.93	10.85	11.39
	Average Annual Investment		$2,212,555		
	Capital re-investment rate		1.6%		
Scenario 2	Average Condition	60.58%	57.77%	54.20%	57.16%
	Average Asset Risk	9.59	9.75	11.01	10.16
	Average Annual Investment		$3,045,065		
	Capital re-investment rate		2.2%		
Scenario 3	Average Condition	63.29%	57.54%	55.57%	59.44%
	Average Asset Risk	9.14	9.93	10.8	9.82
	Average Annual Investment		$2,856,852		
	Capital re-investment rate		2.0%		

Table 12: Road Network pLOS Scenario Analysis

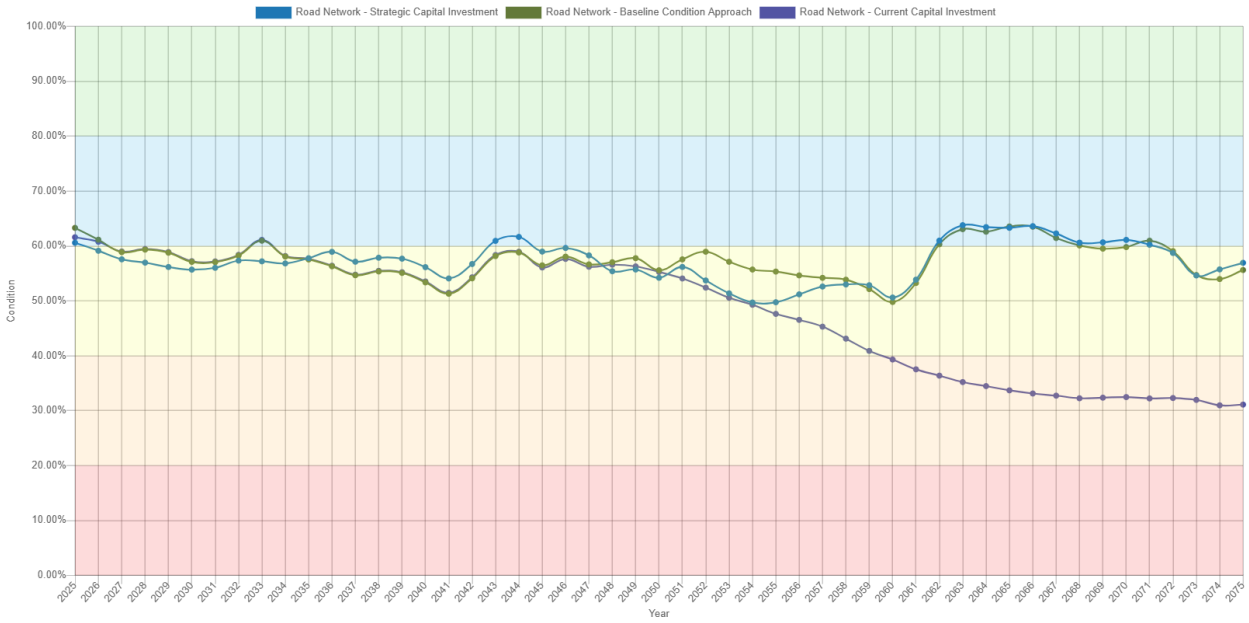


Figure 25: Road Network Scenario Comparison

6. Bridges & Culverts

Bridges & Culverts represent a critical portion of the transportation network, facilitating a roadway and/or walkway over a physical obstacle. Thames Centre has 65 structures that have a span of 3 meters or more and are therefore categorized as a bridge or a culvert asset.

The Transportation Services team in the Public Works Department is responsible for the maintenance of all bridges and culverts located across municipal roads, with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

Based on the requirements outlined by the Ministry of Transportation, the most recent Bridge and Culvert inspection report was prepared by Spriet Associates and completed in 2022. The next inspection is scheduled to be completed in 2024.

6.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Municipality's Bridges & Culverts inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Bridges	30	User-defined	$19,302,489
Culverts	36	User-defined	$8,022,685
Guiderails	12	User-defined	$1,215,839
			$28,541,004

Table 13: Bridges & Culverts Inventory

The figure below displays the replacement cost of each asset segment in the Municipality's Bridges & Culverts inventory:

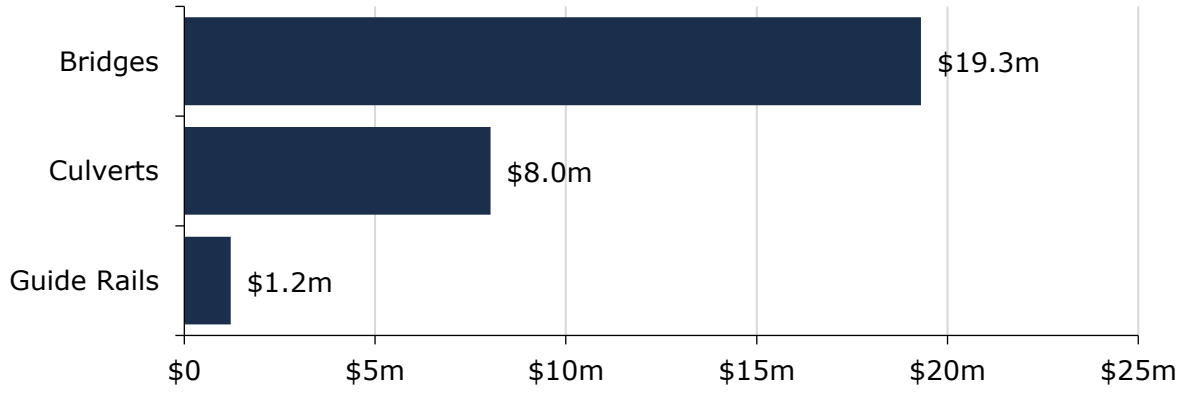


Figure 26: Bridges & Culverts Replacement Value

6.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

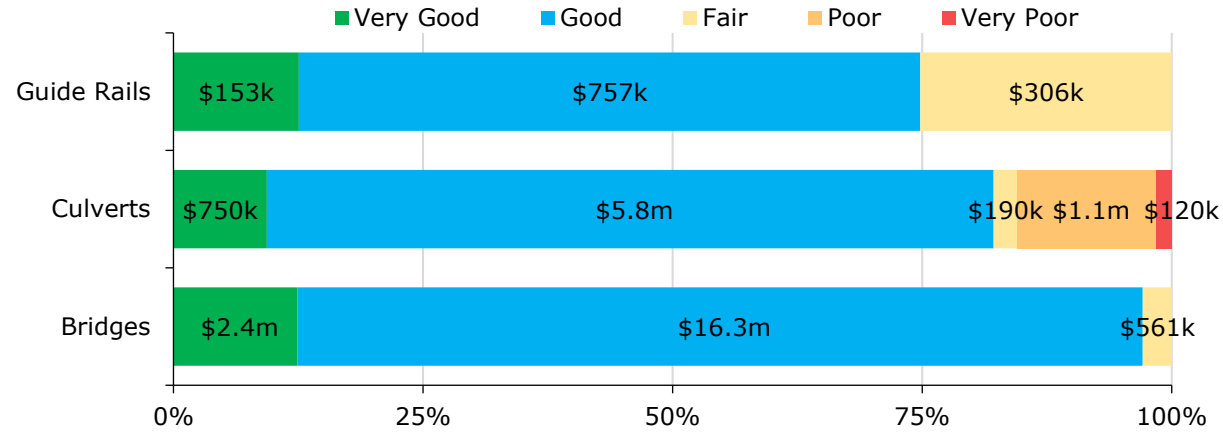


Figure 27: Bridges & Culverts Condition Breakdown

To ensure that Bridges & Culverts continue to provide an acceptable level of service, Thames Centre should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the Bridges & Culverts.

6.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets.

The following describes the municipality's current approach:

- Condition assessments of all bridges and culverts with a span greater than or equal to 3 meters are completed every 2 years in accordance with the Ontario Structure Inspection Manual (OSIM). The most recent assessment was completed in 2022 by Spriet Associates.
- The condition scale for bridges and culverts utilized is from 0 to 100 from Very Poor to Very Good. See the following images as examples of a bridge and structural culvert in Good condition, as well as a bridge in Good condition and a structural culvert in Fair condition.
- Drive-by inspections are conducted as part of the weekly MSS route patrol inspection detail.

Figure 28: B&C Condition Images

Doan Road Bridge (BCI = 95 Very Good)

Avon Drive Bridge (BCI = 75 Good)

Cherry Hill Road Culvert – No. 134 (BCI = 71 Good)

Dingman Drive Culvert – No. 105 (BCI = 44 Fair)

6.3. Asset Age & Service Life Remaining

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.

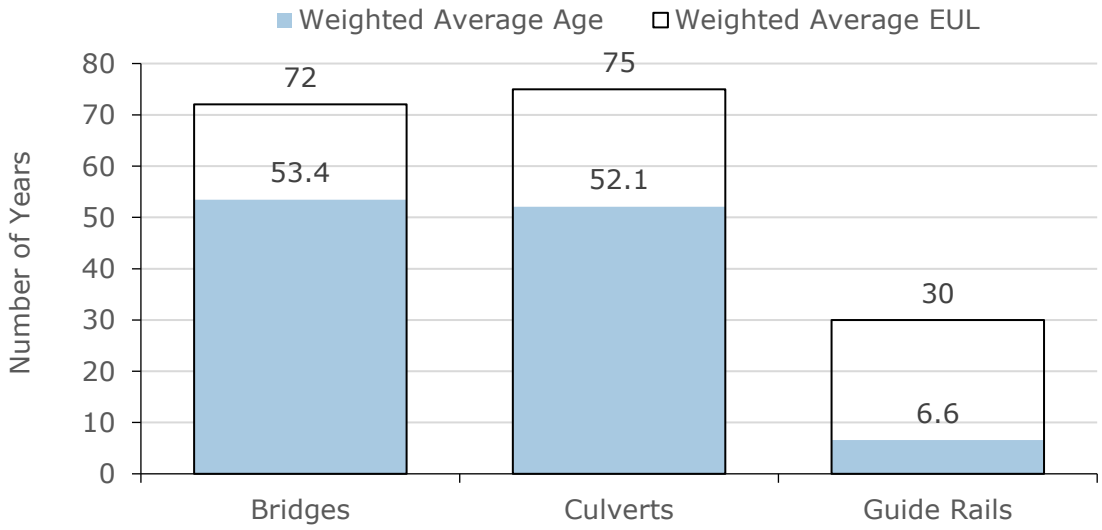


Figure 29: Bridges & Culverts Average Age vs Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

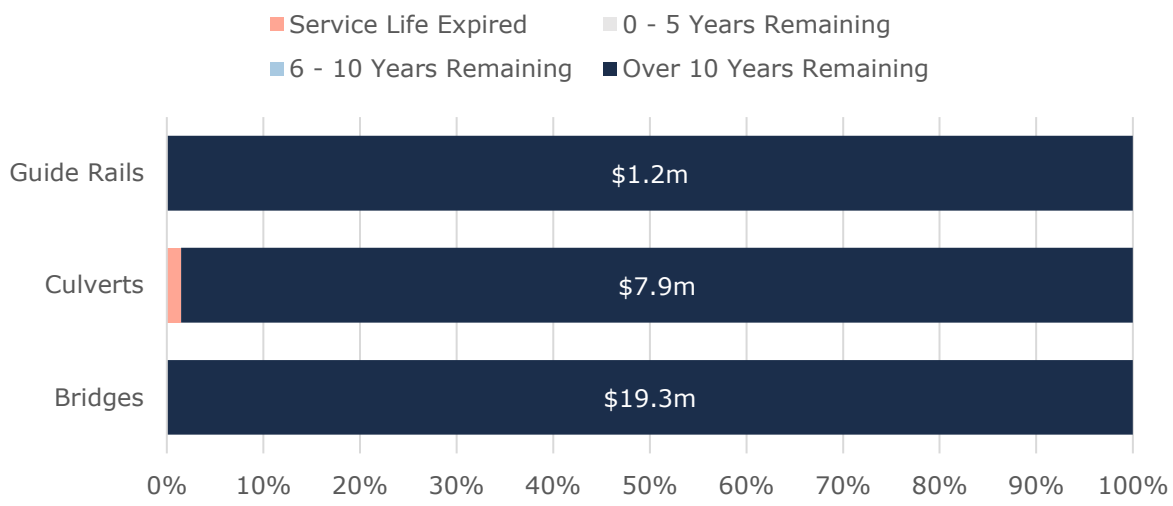


Figure 30: Bridges & Culverts Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

6.4. Lifecycle Management Strategy

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	All lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM).
	Routine Maintenance Activities include inspections, cleaning, minor repairs, and vegetation management completed as required.
Rehabilitation / Renewal / Replacement	Rehabilitation activities are contingent upon the condition rating determined through the bi-annual condition survey. Replacement occurs upon OSIM inspection recommendation and is subject to the availability of funding.

Table 14: Bridges & Culverts Lifecycle Management Strategy

6.5. Forecasted Capital Requirements

The following graph illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's bridges and culverts. These projections are based on asset replacement costs, age analysis, and condition data. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

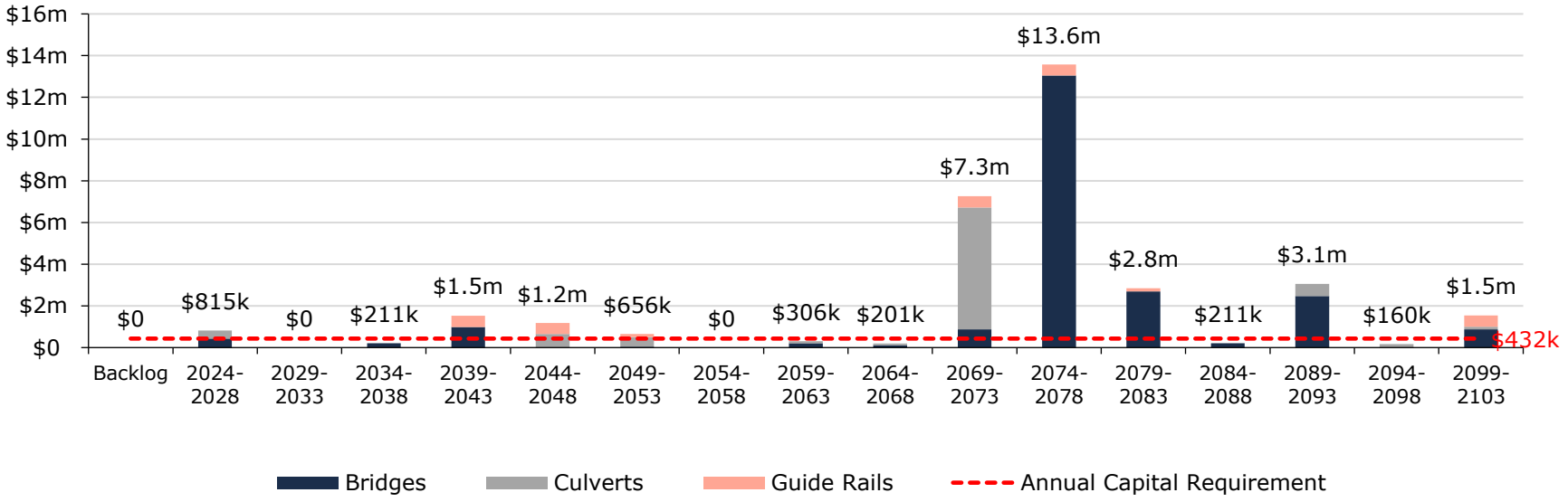


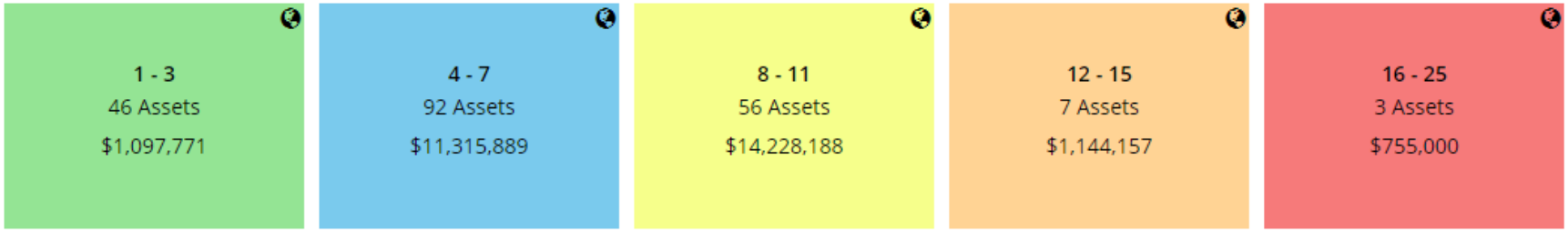
Figure 31: Bridges & Culverts Forecasted Capital Requirements

The following analysis was run until 2103 and the resulting graph identifies capital requirements over the next 80 years. Thames Centre's average annual requirements (red dotted line) for bridges and culverts total $432 thousand. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

OSIM condition assessments and a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including rehabilitation and replacement activities.

6.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.



The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

6.7. Levels of Service

The following tables identify the Municipality's current level of service for Bridges & Culverts. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17.

6.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Bridges & Culverts.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	All Bridges and Culverts are designed to carry all levels of vehicles. However, not all bridges contain sidewalks so pedestrian walking is not encouraged. There is one pedestrian bridge within the Municipality that does not support motor or heavy transport vehicles.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	See Figure 27: B&C Condition Images

Figure 32: Bridges & Culverts Community Levels of Service

6.7.2. Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Bridges & Culverts.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of bridges in the Municipality with loading or dimensional restrictions	0%
Quality	Average bridge condition index value for bridges in the Municipality	74
	Average bridge condition index value for structural culverts in the Municipality	61
Performance	Capital re-investment rate	1.4%

Figure 33: Bridges & Culverts Technical Levels of Service

6.8. Proposed levels of Service

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

The tables and graphs below explain the proposed levels of service scenarios that were analyzed for Bridges & Culverts. Further PLOS analysis at the portfolio level can be found in Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 70% average condition for Bridges & Culverts, holding the condition constant while determining the required funding.

Figure 34: Bridges & Culverts Scenarios

6.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment

levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	73.14%	71.38%	70.26%	65.04%
	Average Asset Risk	7.29	7.85	8.17	8.89
	Average Annual Investment		$390,568		
	Capital re-investment rate		1.4%		
Scenario 2	Average Condition	73.14%	71.33%	71.58%	65.63%
	Average Asset Risk	7.29	7.85	8.07	8.79
	Average Annual Investment		$432,000		
	Capital re-investment rate		1.5%		
Scenario 3	Average Condition	73.14%	71.48%	73.25%	67.43%
	Average Asset Risk	7.29	7.85	7.85	8.53
	Average Annual Investment		$542,600		
	Capital re-investment rate		1.9%		

Table 15: Bridges & Culverts pLOS Scenario Analysis

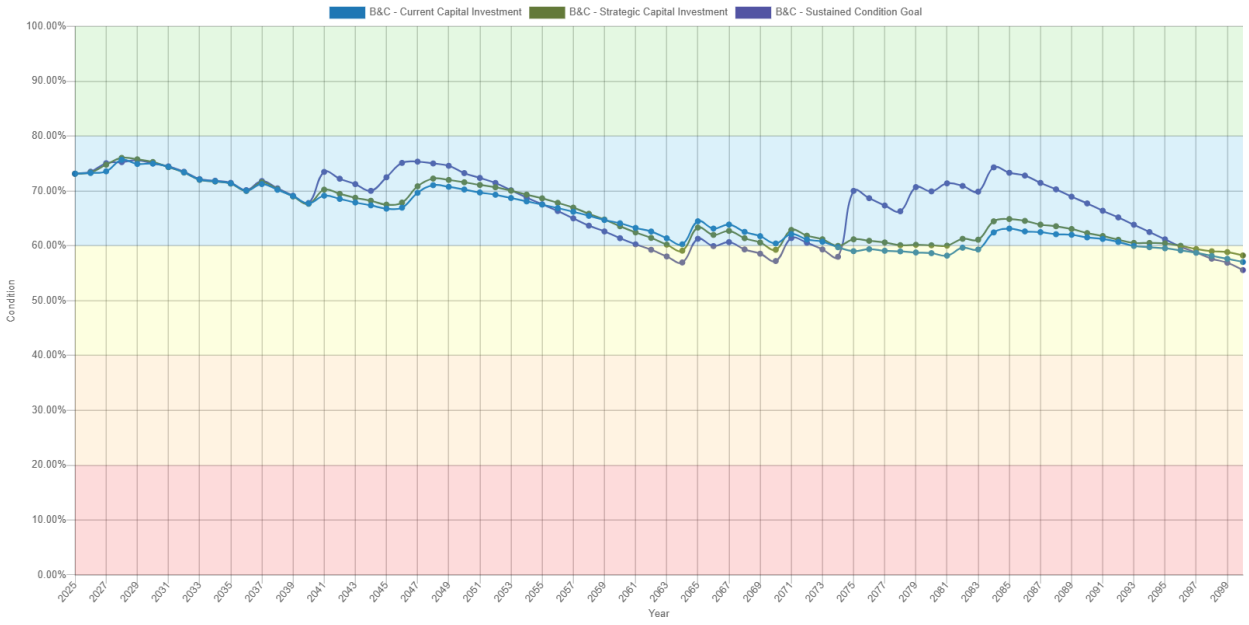


Figure 35: Bridges & Culverts Scenario Comparison

7. Buildings & Facilities

The Municipality of Thames Centre owns and maintains several facilities and recreation centres that provide key services to the community. These facilities include:

- municipal office
- operations centre
- public libraries
- cemeteries
- fire halls and associated offices and facilities
- public works garages, equipment depot and storage sheds
- fieldhouses, arenas and community centres

7.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Buildings & Facilities inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Community Services & Recreation	36	CPI Inflation	$79,471,439
Environmental Services	25	CPI Inflation	$2,317,475
General Administration	14	CPI Inflation	$3,518,659
Protective Services	18	CPI Inflation	$6,564,249
Transportation Services	22	CPI Inflation	$5,666,474
			$97,538,295

Table 16: Buildings & Facilities Inventory

The graph below displays the total replacement cost of each asset segment in the Municipality's Buildings & Facilities inventory:

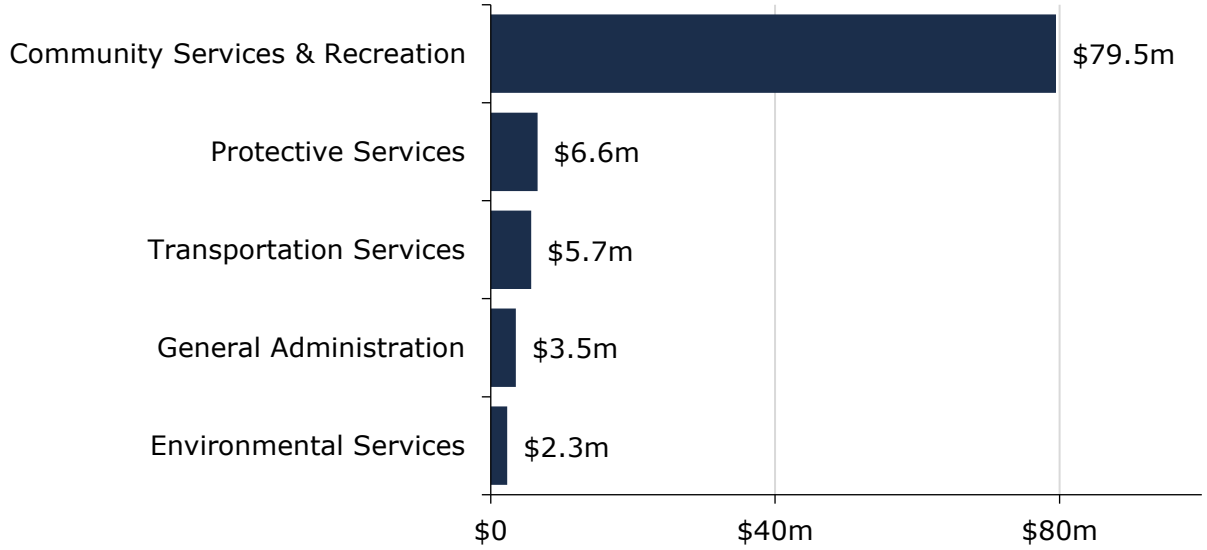


Figure 36: Buildings & Facilities Replacement Value

7.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

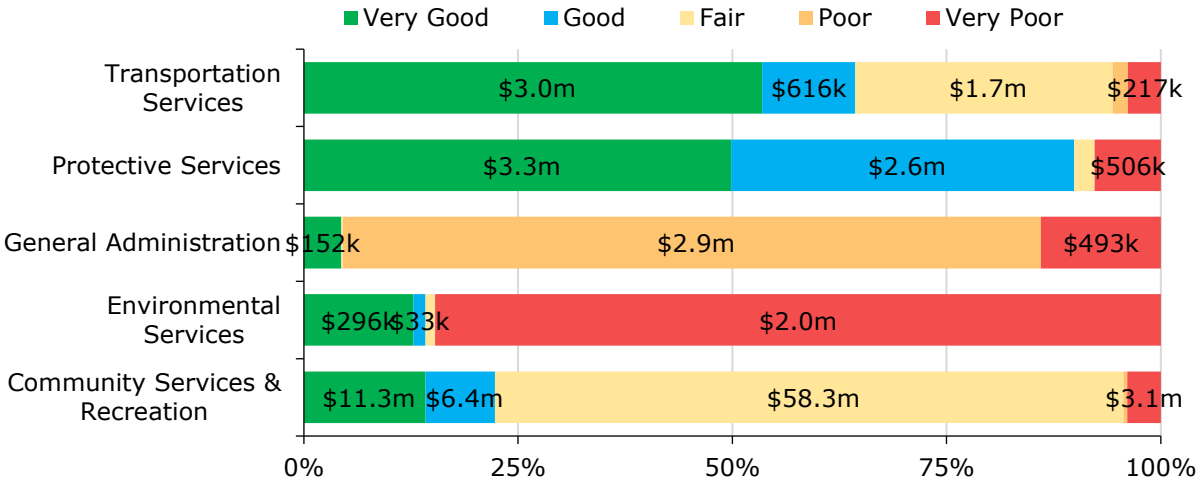


Figure 37: Buildings & Facilities Condition Breakdown

To ensure that the Municipality's Buildings & Facilities continue to provide an acceptable level of service, Thames Centre should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Buildings & Facilities.

7.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the municipality's current approach:

- Formal workplace inspections conducted every year through the Municipality's health and safety program.
- Monthly health and safety inspections conducted by staff
- High-level assessments by internal staff are performed annually to determine the condition of facilities.
- The municipality completed a Building Condition Assessment for the municipal office in 2023 and will begin formal assessments for the remaining buildings in 2026, following a prioritized approach.

7.3. Asset Age & Service Life Remaining

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.

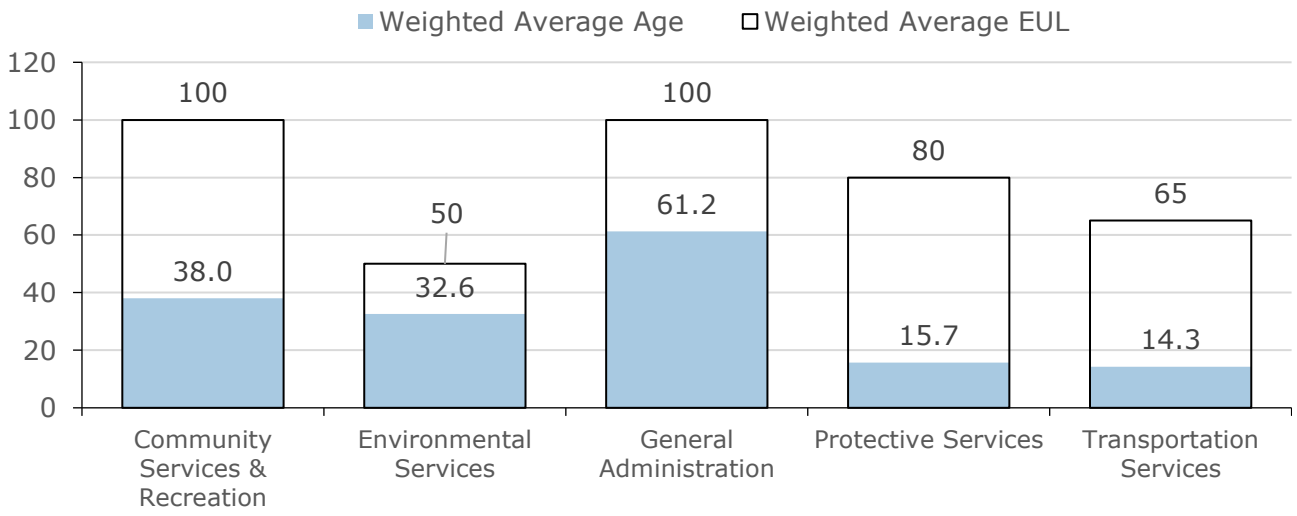


Figure 38: Buildings & Facilities Average Age vs Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

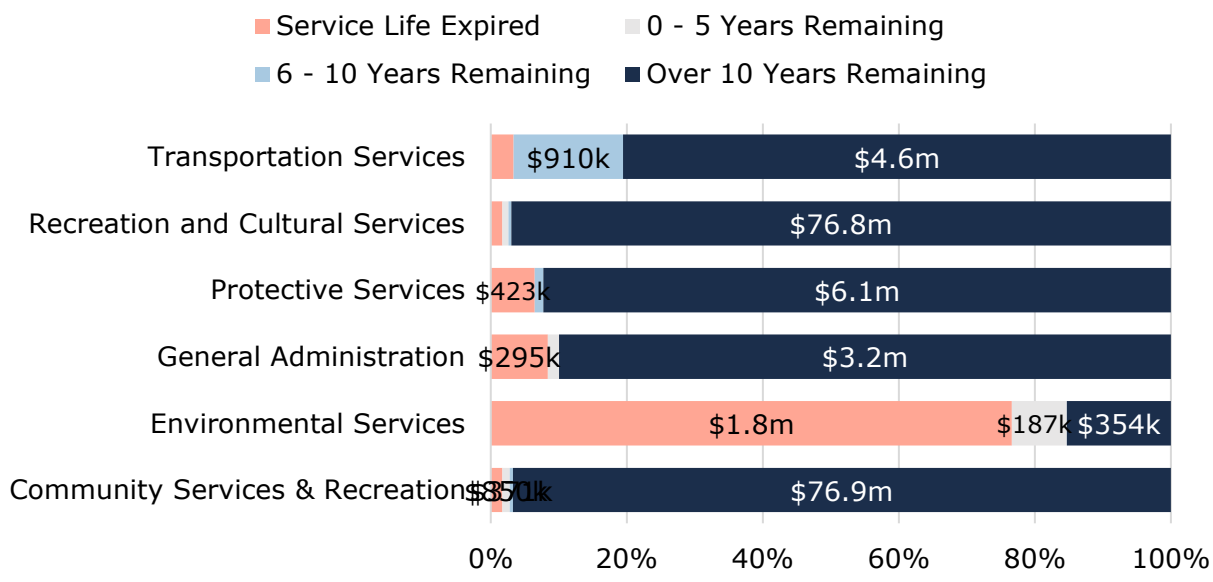


Figure 39: Buildings & Facilities Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

7.4. Lifecycle Management Strategy

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
Inspection	Heating systems and other component systems undergo annual inspections to maintain efficiency and safety standards, promoting occupant comfort and energy efficiency. Beginning in 2026, the municipality plans to conduct annual building condition assessments, which will generate detailed recommendations for ongoing maintenance and rehabilitation needs.
Maintenance / Rehabilitation	Buildings are repaired as needed, addressing deficiencies identified by experts, staff, or residents. Immediate attention is given to urgent issues, ensuring quick resolution based on the level of urgency.

	Heating systems and other component systems undergo annual inspections to maintain efficiency and safety standards, promoting occupant comfort and energy efficiency.
Replacement	Assessments are completed strategically as buildings approach their end-of-life to determine whether replacement or rehabilitation is appropriate
	Renewal and replacement activities are guided by lifecycle analysis and align with the asset management plan's recommendations.

Table 17: Buildings & Facilities Lifecycle Management Strategy

7.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at $1.5 million.

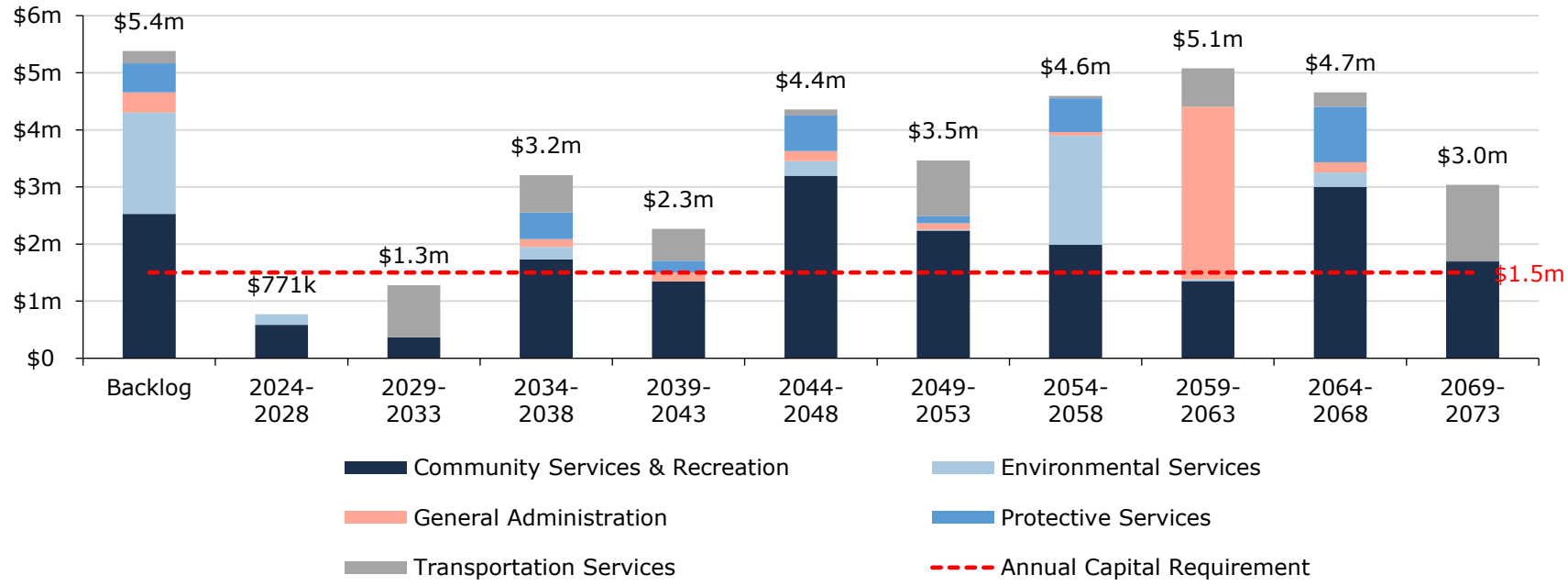


Figure 40: Buildings & Facilities Forecasted Capital Requirements

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

7.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

7.7. Levels of Service

By comparing the cost, performance (average condition) and risk year-over-year, Thames Centre will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.

7.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Thames Centre's Buildings & Facilities.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	List of facilities, locational map, an explanation of uses and the service areas supported by these assets.	Thames Centre owns and operates a variety of buildings and facilities primarily located in the communities of Dorchester and Thorndale. These include municipal office, an operations centre, and public libraries, which serve as essential administrative and educational hubs. The municipality also manages cemeteries for community use and fire halls equipped with associated offices and facilities for emergency services. Additionally, public works garages, equipment depots, and storage sheds support maintenance and infrastructure needs throughout the municipality. Arenas and community centres provide spaces for recreational activities and community gatherings, fostering engagement and social interaction among residents. See Appendix C.

Table 18: Buildings & Facilities Community Levels of Service

7.7.2. Technical Levels of Service

The following table include quantitative metrics that determine the technical level of service provided by Buildings & Facilities.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of facilities where annual internal inspections have been completed	60%
Quality	% of facilities that meet AODA standards	86%
	Average condition of municipal Buildings & Facilities	57%
Performance	Capital reinvestment rate	TBD

Table 19: Buildings & Facilities Technical Levels of Service

7.8. Proposed Levels of Service

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

The tables and graphs below explain the proposed levels of service scenarios that were analyzed for Buildings & Facilities. Further PLOS analysis at the portfolio level can be found in Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 65% average condition for Buildings & Facilities, holding the condition constant while determining the required funding.

Table 20: Buildings & Facilities PLOS Scenarios

7.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	69.42%	59.95%	51.78%	49.27%
	Average Asset Risk	7.95	9.31	10.87	11.91
	Average Annual Investment		$613,637		
	Capital re-investment rate		0.6%		
Scenario 2	Average Condition	70.45%	60.80%	51.68%	60.21%
	Average Asset Risk	7.84	9.31	10.87	9.5
	Average Annual Investment		$1,501,000		
	Capital re-investment rate		1.5%		
Scenario 3	Average Condition	68.77%	60.04%	51.78%	59.70%
	Average Asset Risk	8.00	9.31	10.87	9.58
	Average Annual Investment		$954,338		
	Capital re-investment rate		1.0%		

Table 21: Buildings & Facilities PLOS Analysis

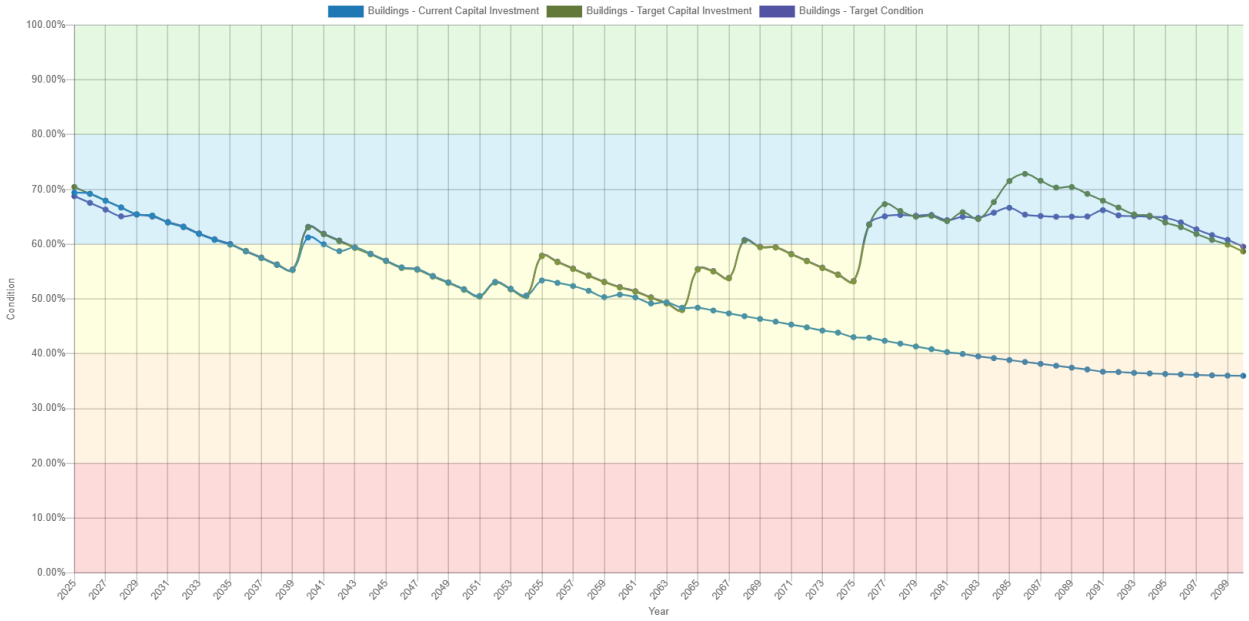


Figure 41: Buildings & Facilities Scenario Comparison

8. Machinery & Equipment

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

- custodial equipment to maintain facilities,
- emergency services equipment to support first responders,
- furniture & fixtures for facilities, offices, and buildings,
- kitchens and concession stand equipment for community centres,
- IT equipment for communication, entertainment, and data management,
- recreation equipment for parks and sports facilities, and
- tools, shop & garage machinery equipment to ensure proper maintenance of vehicles and machinery.

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

8.1. Asset Inventory & Replacement Cost

The following table includes the quantity, replacement cost method and total replacement cost of each asset segment in the machinery and equipment inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Fire Equipment	38	CPI Inflation (Historical Cost)	$505,138
IT Hardware & Software	8	CPI Inflation (Historical Cost)	$341,231
Miscellaneous	12	CPI Inflation (Historical Cost)	$295,871
Office Equipment	4	CPI Inflation (Historical Cost)	$190,104
Recreation Equipment	16	CPI Inflation (Historical Cost)	$384,177
			$1,716,521

Table 22: Machinery & Equipment Inventory

The graph below displays the replacement cost of each asset segment in the Municipality's machinery & equipment inventory:

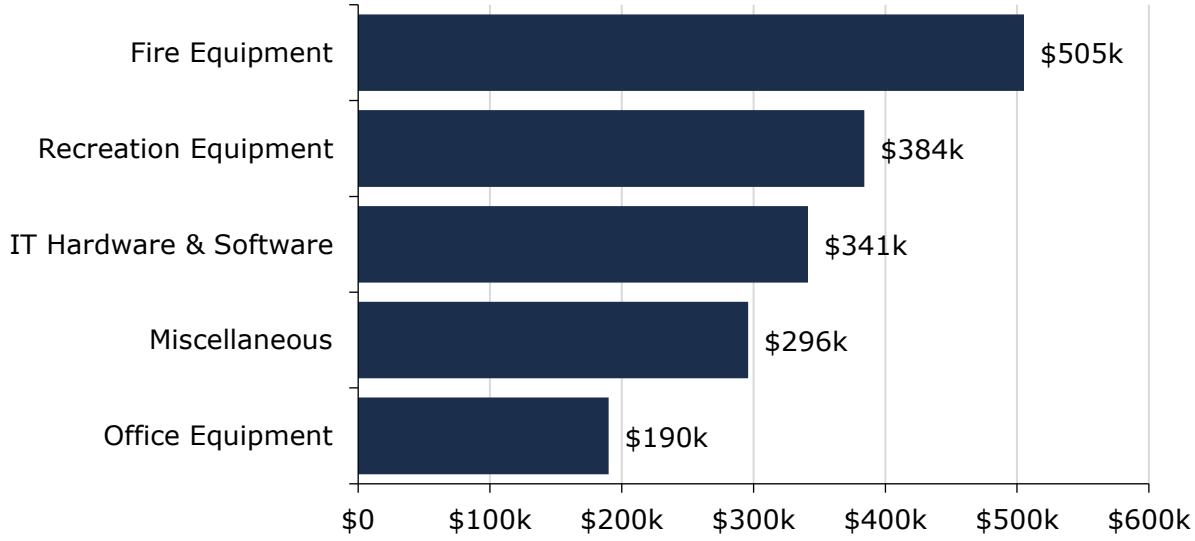


Figure 42: Machinery & Equipment Replacement Value

8.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

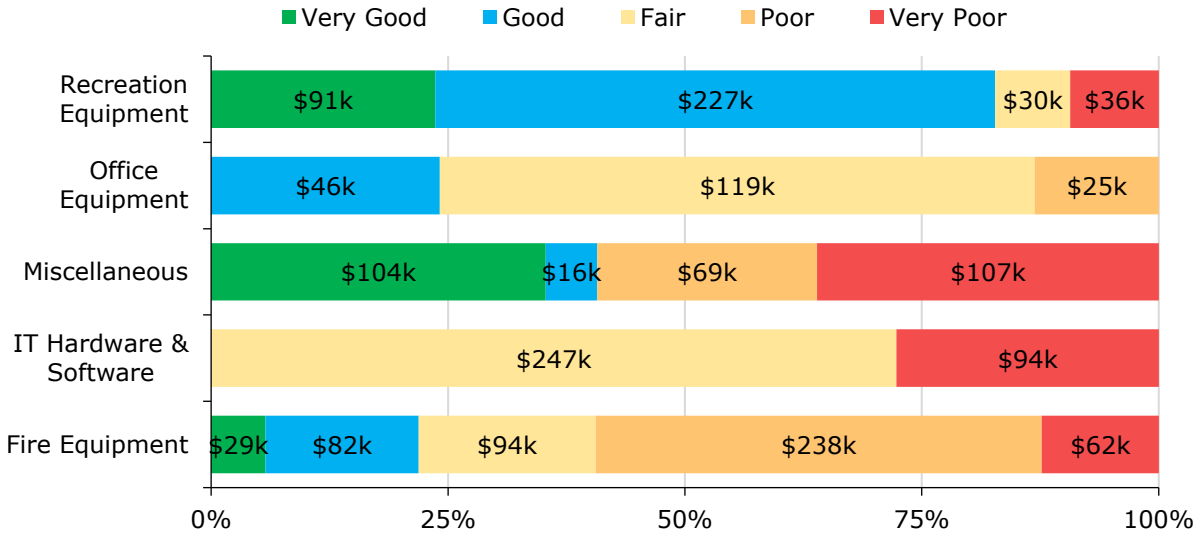


Figure 43: Machinery & Equipment Condition Breakdown

To ensure that Machinery & Equipment assets continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance,

rehabilitation and replacement activities is required to increase the overall condition of the Machinery & Equipment assets.

8.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Municipality's current approach:

- Staff complete regular visual inspections of machinery & equipment to ensure they are in state of adequate repair.
- Aside from a structured reporting and tracking program in place for Fire Equipment assets, there are no formal condition assessment programs in place for the remaining Machinery & Equipment assets

8.3. Asset Age & Service Life Remaining

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.

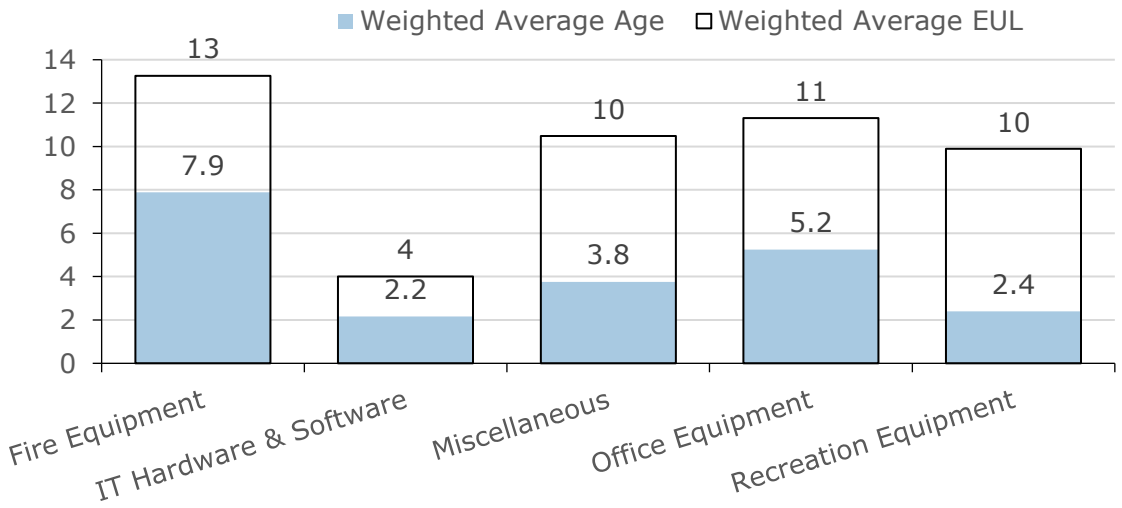


Figure 44: Machinery & Equipment Average Age vs Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

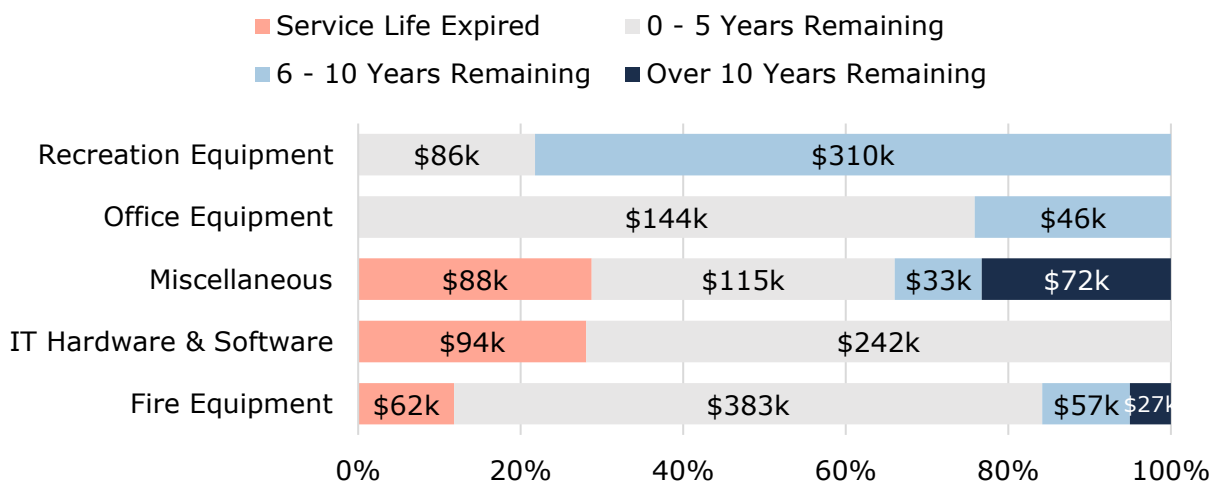


Figure 45: Machinery & Equipment Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

8.4. Lifecycle Management Strategy

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
Replacement	Fire Protection Services equipment is subject to a much more rigorous inspection and maintenance program compared to most other departments
	Machinery & equipment is maintained according to manufacturer recommended actions and supplemented by the expertise of municipal staff
	The replacement of machinery & equipment depends on deficiencies identified by operators that may impact their ability to complete required tasks

Table 23: Machinery & Equipment Lifecycle Management Strategy

8.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements until 2043. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at $220 thousand.

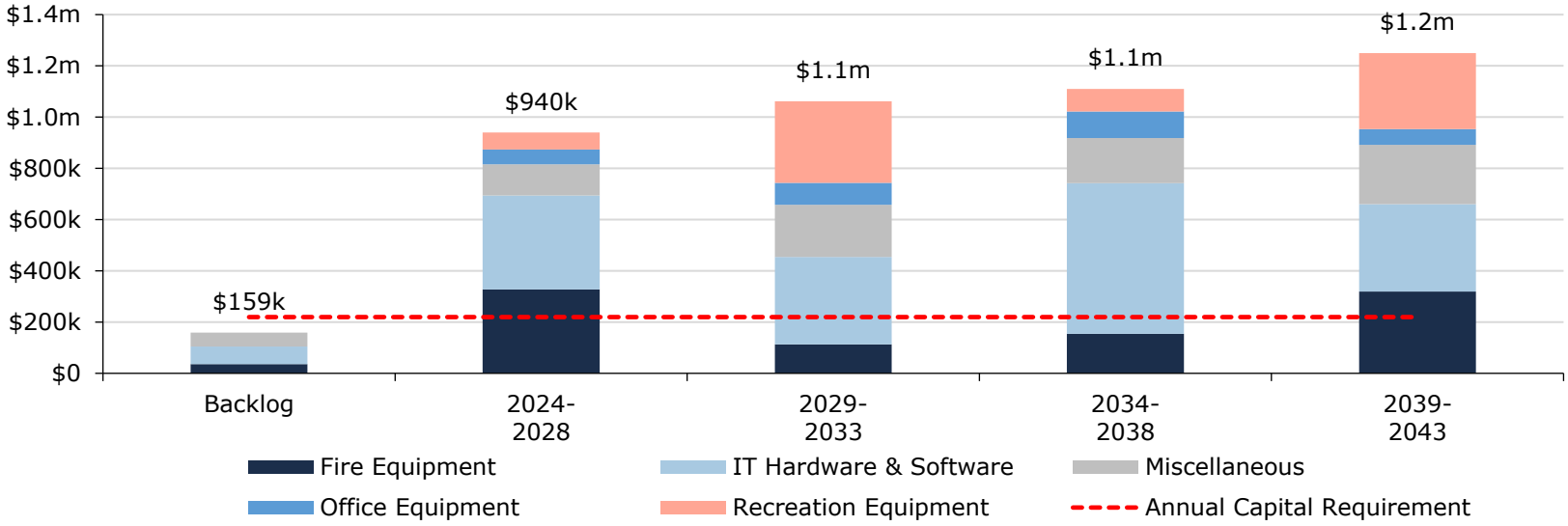


Figure 46: Machinery & Equipment Forecasted Capital Requirements

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

8.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

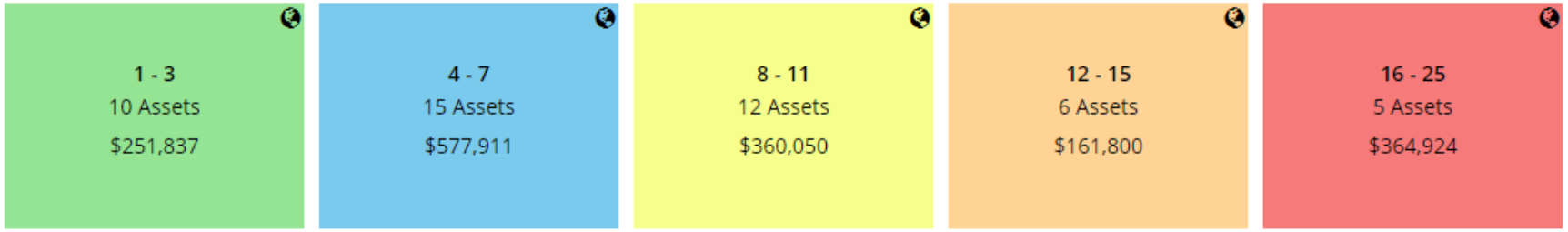


Figure 47: Machinery & Equipment Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

8.7. Levels of Service

By comparing the cost, performance (average condition) and risk year-over-year, the Municipality will be able to evaluate how their services/assets are trending.

8.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Thames Centre's Machinery & Equipment.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	List of machinery & equipment owned by the municipality, an explanation of uses and the service areas supported by these assets.	Thames Centre maintains a comprehensive inventory of machinery and equipment essential for municipal operations. This includes custodial equipment for facility maintenance, emergency services gear supporting first responders, and furniture and fixtures across offices and buildings for functional environments. IT equipment aids in communication, entertainment, and data management, while recreation equipment enhances community engagement in parks and sports facilities. Tools, shop, and garage machinery ensure vehicles and equipment are well-maintained, supporting efficient service delivery and asset longevity. These resources collectively enable Thames Centre to effectively manage facilities, provide essential services, and enhance community amenities.

Table 24: Machinery & Equipment Community Levels of Service

8.7.2. Technical Levels of Service

The following table include quantitative metrics that determine the technical level of service provided by Machinery & Equipment.

Service Attribute	Technical Metric	Current LOS (2023)
Reliability	Average condition of municipal Machinery & Equipment	45%
Performance	Capital reinvestment rate	20.1%

Table 25: Machinery & Equipment Technical Levels of Service

8.8. Proposed Levels of Service

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

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

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 60% average condition for Machinery & Equipment, holding the condition constant while determining the required funding.

Table 26: Machinery & Equipment PLOS Scenarios

8.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	58.03%	56.51%	59.30%	56.27%
	Average Asset Risk	8.92	8.39	7.03	8.51
	Average Annual Investment		$351,235		
	Capital re-investment rate		20.5%		
	Average Condition	50.77%	48.06%	54.19%	55.00%

Scenario 2	Average Asset Risk	9.85	10.96	8.73	8.7
	Average Annual Investment		$220,000		
	Capital re-investment rate		12.8%		
Scenario 3	Average Condition	60.03%	60.16%	64.48%	58.37%
	Average Asset Risk	8.72	7.98	6.6	8.35
	Average Annual Investment		$215,782		
	Capital re-investment rate		12.6%		

Table 27: Machinery & Equipment PLOS Analysis

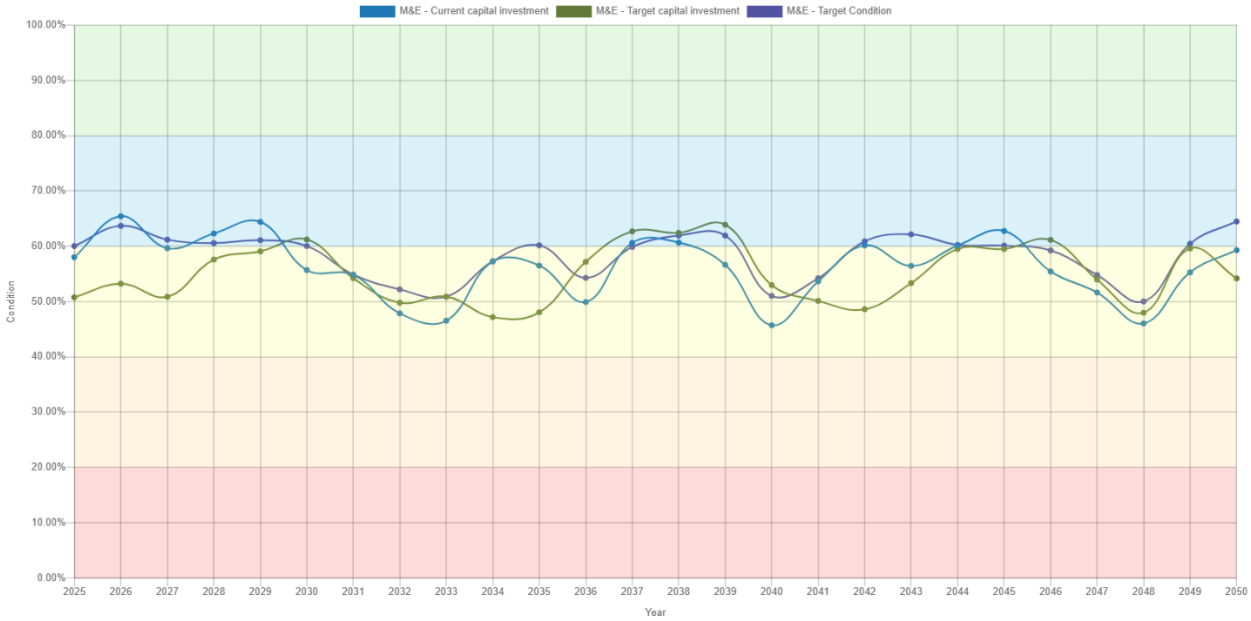


Figure 48: Machinery & Equipment Scenario Comparison

9. Fleet

The fleet service is responsible for maintaining and replacing municipally owned vehicles and equipment under the municipal replacement strategy. Municipal vehicles are used to support several service areas, including:

- fire rescue vehicles that support emergency services,
- light-duty, medium-duty, & heavy-duty vehicles to support the maintenance of municipal infrastructure and address service requests,
- heavy-duty machinery to support the construction and rehabilitation of vital infrastructure, the removal of critical infrastructure, and
- attachments to support the operational needs of critical use vehicles and heavy-duty machinery.

9.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Municipality's Fleet Portfolio.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Cemetery Vehicles	1	CPI Inflation (Historical Cost)	$74,428
Facility Vehicles	4	CPI Inflation (Historical Cost)	$278,974
Fire Vehicles	10	CPI Inflation (Historical Cost)	$4,940,803
Landfill Vehicles	3	CPI Inflation (Historical Cost)	$508,882
Parks Vehicles	28	CPI Inflation (Historical Cost)	$674,380
Roads Vehicles	24	CPI Inflation (Historical Cost)	$5,639,999
Water Vehicles	4	CPI Inflation (Historical Cost)	$167,178
			$12,387,742

Table 28: Fleet Inventory

The graph below displays the replacement cost of each asset segment in the Municipality's fleet inventory:

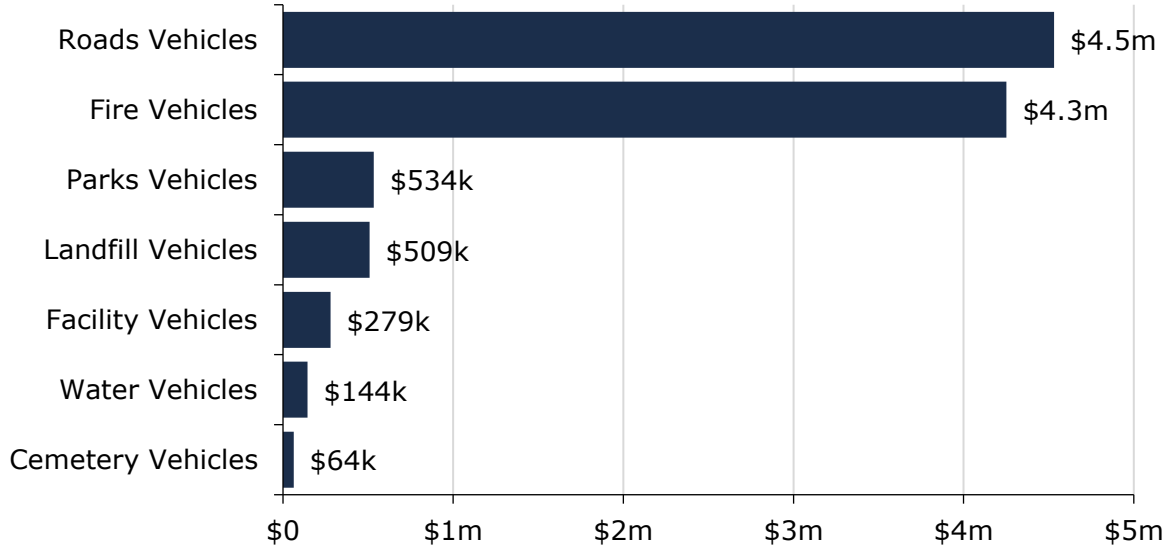


Figure 49: Fleet Replacement Value

9.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

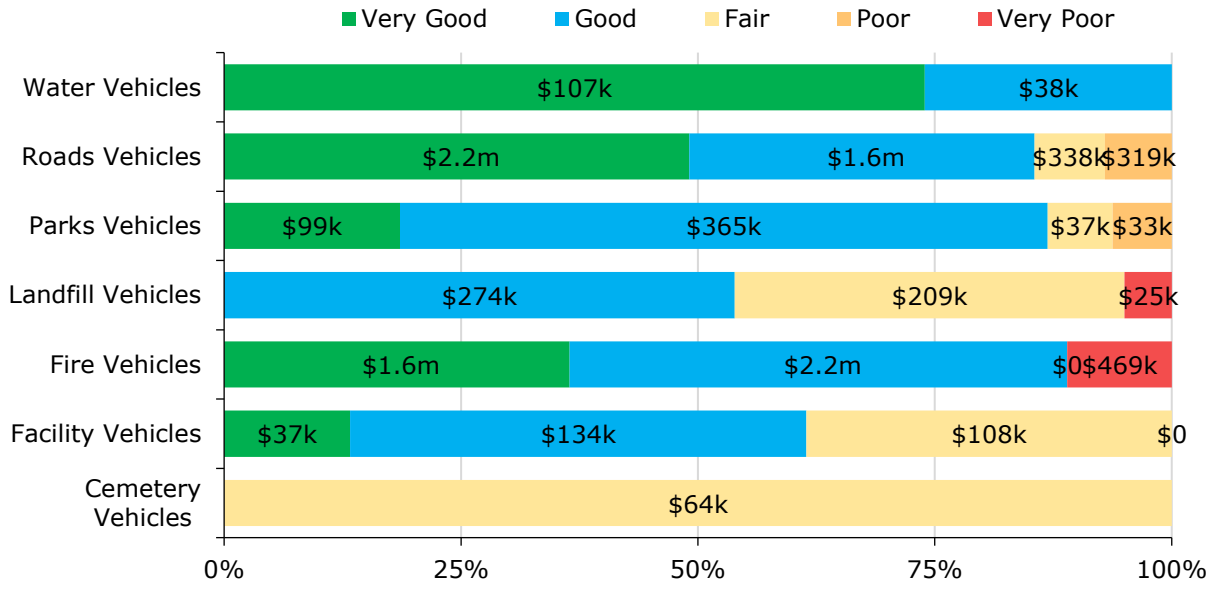


Figure 50: Fleet Condition Breakdown

To ensure that Thames Centre fleet assets continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the

average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the fleet assets.

9.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the municipality's current approach:

- Staff complete regular visual inspections of vehicles to ensure they are in a state of adequate repair prior to operation.
- The mileage of vehicles is used as a proxy to determine remaining useful life and relative vehicle condition except for the Fire Department.

9.3. Asset Age & Service Life Remaining

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.

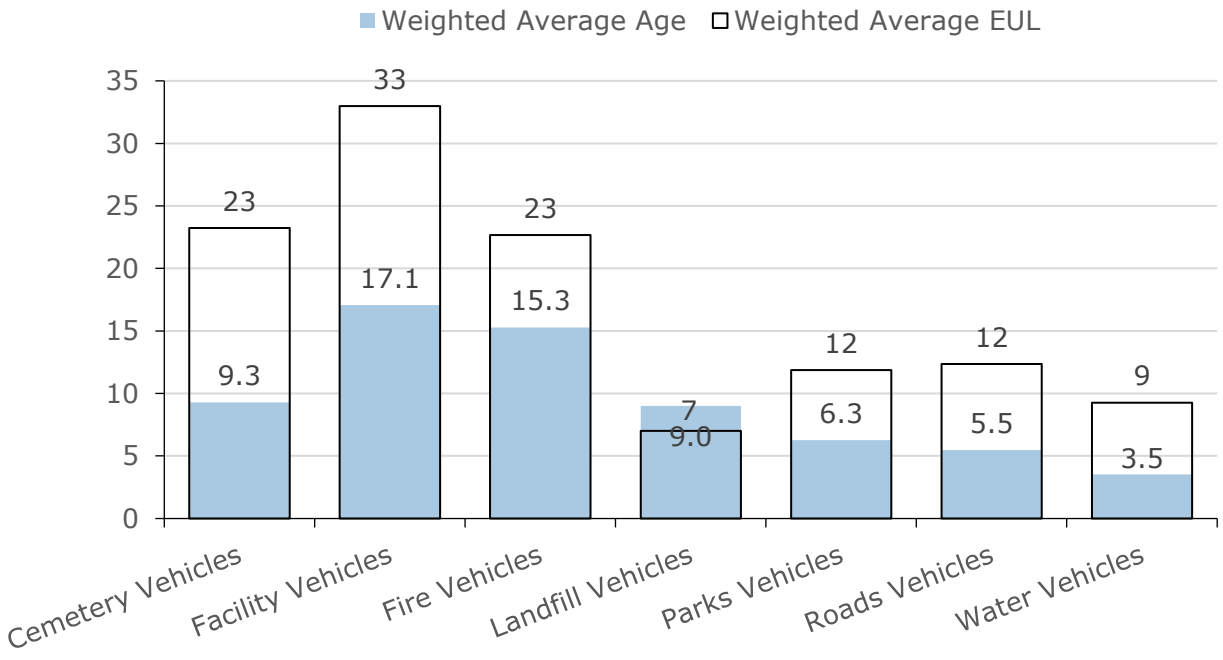


Figure 51: Fleet Average Age vs Average EUL

Each asset's estimated useful life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

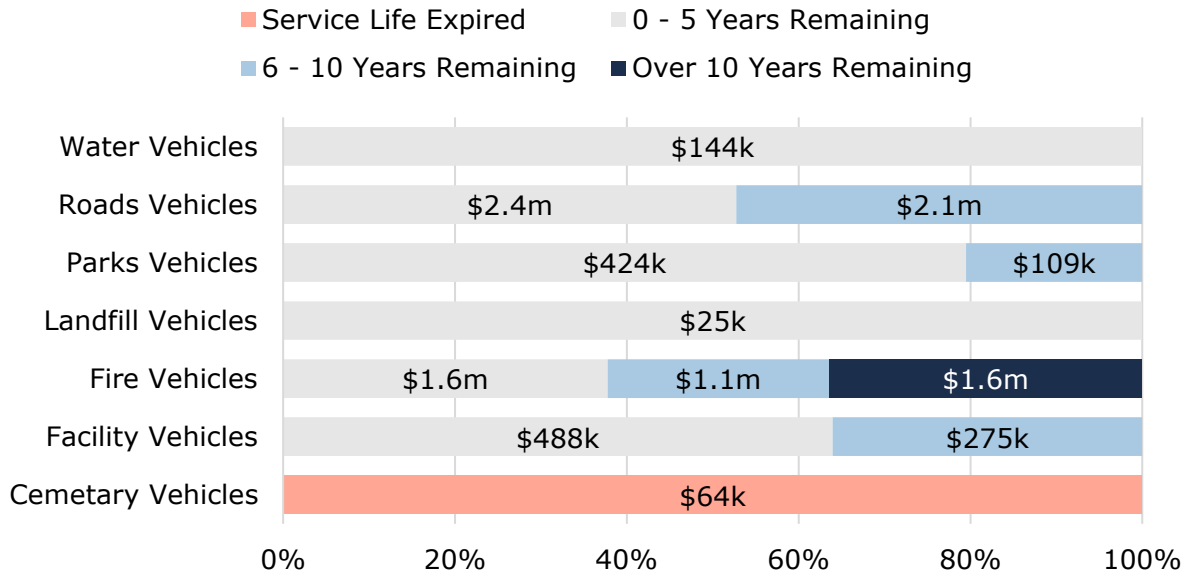


Figure 52: Fleet Service Life Remaining

9.4. Lifecycle Management Strategy

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 Thames Centre'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
	Every 4-7000km includes a detailed inspection; tires are rotated and oil changed
	Annual preventative maintenance activities include system components check and additional detailed inspections
Replacement	Fleet replacements are based on the Municipality's Tangible Capital Asset Policy. Policy Number: CP-1-1.2
	Vehicle age, kilometres and annual repair costs are taken into consideration when determining appropriate treatment options

Table 29: Fleet Lifecycle Management Strategy

9.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 20 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at $1.0 million.

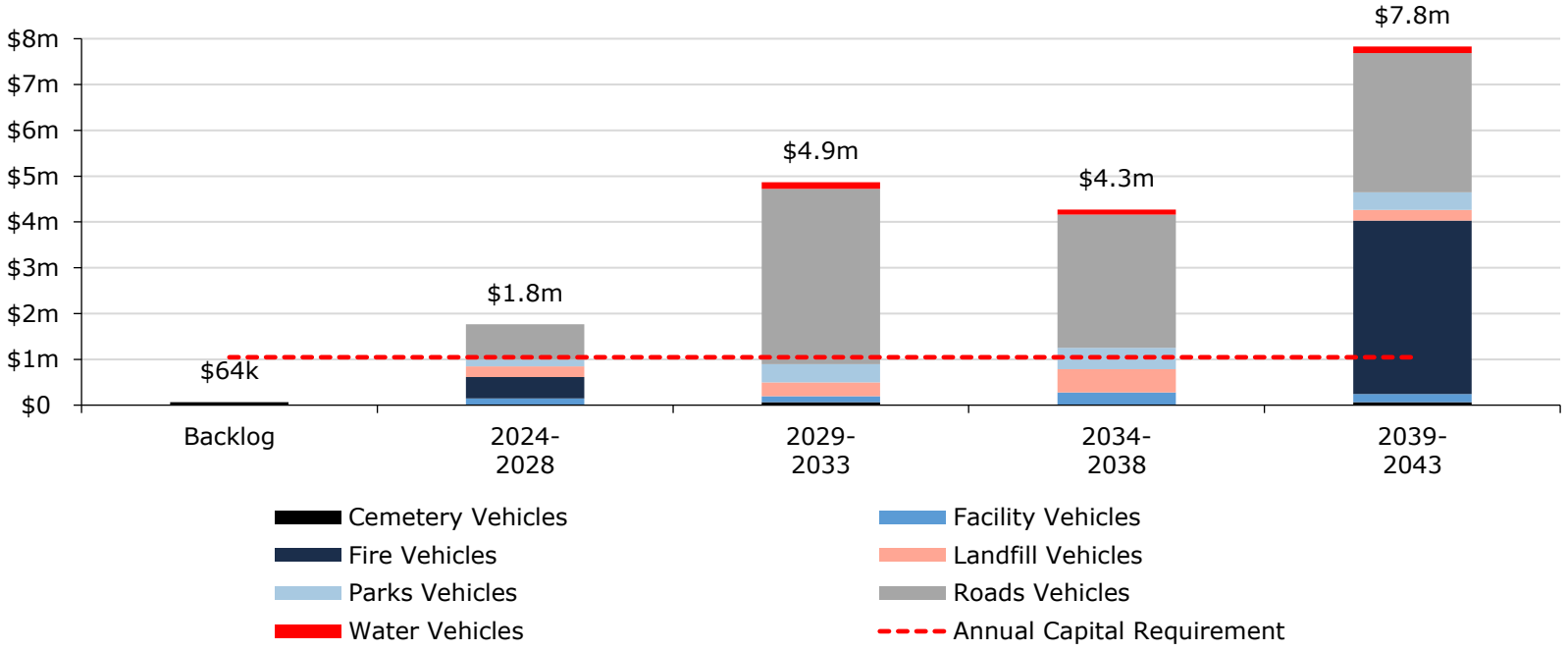


Figure 53: Fleet Forecasted Capital Requirements

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

9.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

Figure 54: Fleet Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

9.7. Levels of Service

By comparing the cost, performance (average condition) and risk year-over-year, the Municipality will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.

9.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Thames Centre's Fleet.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	List of vehicles, an explanation of uses and the service areas supported by these assets.	Thames Centre maintains a fleet of vehicles crucial for diverse municipal operations. This includes fire rescue vehicles supporting emergency services, ensuring rapid response capabilities. Light-duty, medium-duty, and heavy-duty vehicles are utilized for maintaining municipal infrastructure and addressing service requests efficiently. Heavy-duty machinery supports construction and rehabilitation projects, crucial for infrastructure development and removal tasks. Attachments are used to enhance operational capabilities for both vehicles and heavy-duty machinery, ensuring they meet the municipality's operational needs effectively. This comprehensive fleet enables Thames Centre to manage infrastructure, respond to emergencies, and support community needs efficiently.

Table 30: Fleet Community Levels of Service

9.7.2. Technical Levels of Service

The following table include quantitative metrics that determine the technical level of service provided by municipal Fleet.

Service Attribute	Technical Metric	Current LOS (2023)
Reliability	Average condition of municipal fleet	60%

Performance	Capital reinvestment rate	7.9%

Table 31: Fleet Technical Levels of Service

9.8. Proposed Levels of Service

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

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

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 60% average condition for Fleet, holding the condition constant while determining the required funding.

Table 32: Fleet PLOS Scenarios

9.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	57.56%	50.73%	49.50%	50.07%
	Average Asset Risk	11.12	12.94	13.68	13.24
	Average Annual Investment		$818,505		
	Capital re-investment rate		7.9%		
Scenario 2	Average Condition	58.05%	56.77%	65.03%	56.99%
	Average Asset Risk	11.12	12.26	12.85	12.75
	Average Annual Investment		$1,045,633		
	Capital re-investment rate		10.1%		
Scenario 3	Average Condition	61.28%	55.98%	60.48%	57.61%
	Average Asset Risk	10.35	12.2	11.27	11.75
	Average Annual Investment		$933,781		
	Capital re-investment rate		9.1%		

Table 33: Fleet Scenario Analysis

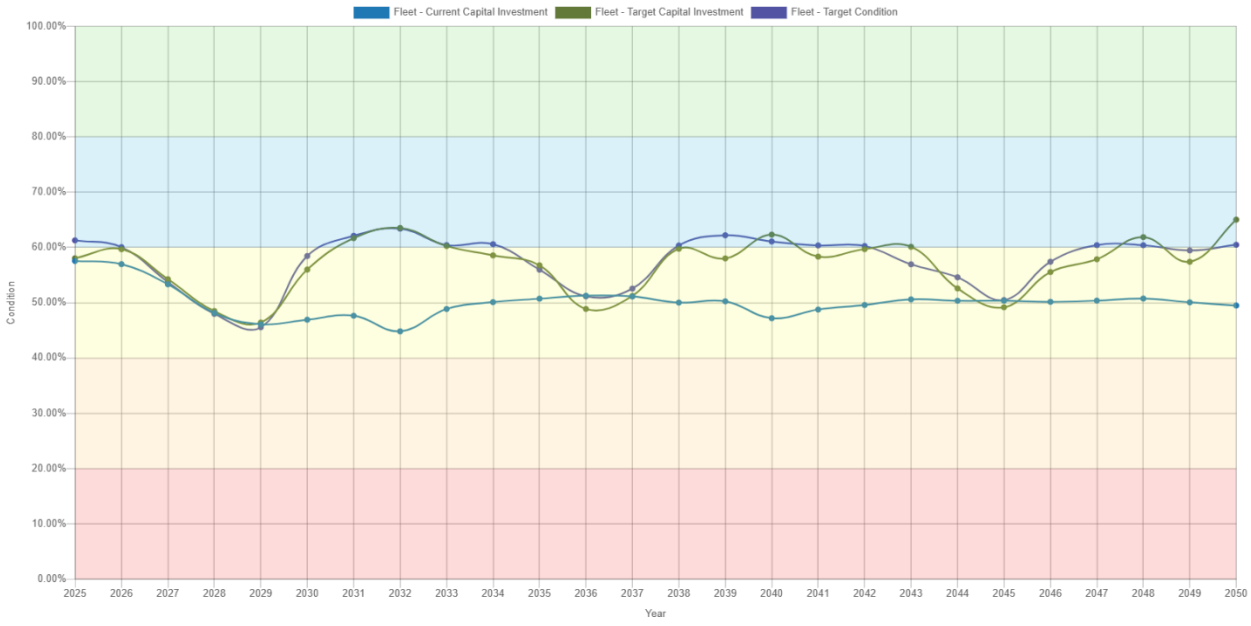


Figure 55: Fleet Scenario Comparison

10. Parks & Land Improvements

Thames Centre owns and operates a number of assets that are categorized under the Parks & Land Improvements category and assist in providing the Municipality with community recreation and natural outdoor space. This category includes:

- Fields, courts, and rinks
- Skateboard parks
- Parking lots for municipal facilities and parks
- Parklands and trails
- Fencing and signage
- Playgrounds
- Miscellaneous landscaping, irrigation and other purposed assets

10.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Parks and Land Improvements inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Cemeteries	8	CPI Inflation	$86,059
Landfill	1	CPI Inflation	$89,534
Light Standards & Fixtures	5	CPI Inflation	$327,912
Park Amenities	2	CPI Inflation	$277,987
Fencing	2	CPI Inflation	$48,222
Park Furnshings	2	CPI Inflation	$20,762
Parklands, Trails & Parking Lots	36	CPI Inflation	$2,240,748
Playground Equipment	14	CPI Inflation	$1,080,139
Skateboard Parks	4	CPI Inflation	$246,989
Sport Fields & Courts	42	CPI Inflation	$13,282,595
Pools & Splash Pads	12	CPI Inflation	$1,788,224
			$19,489,171

Table 34: Parks & Land Improvements Inventory

10.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

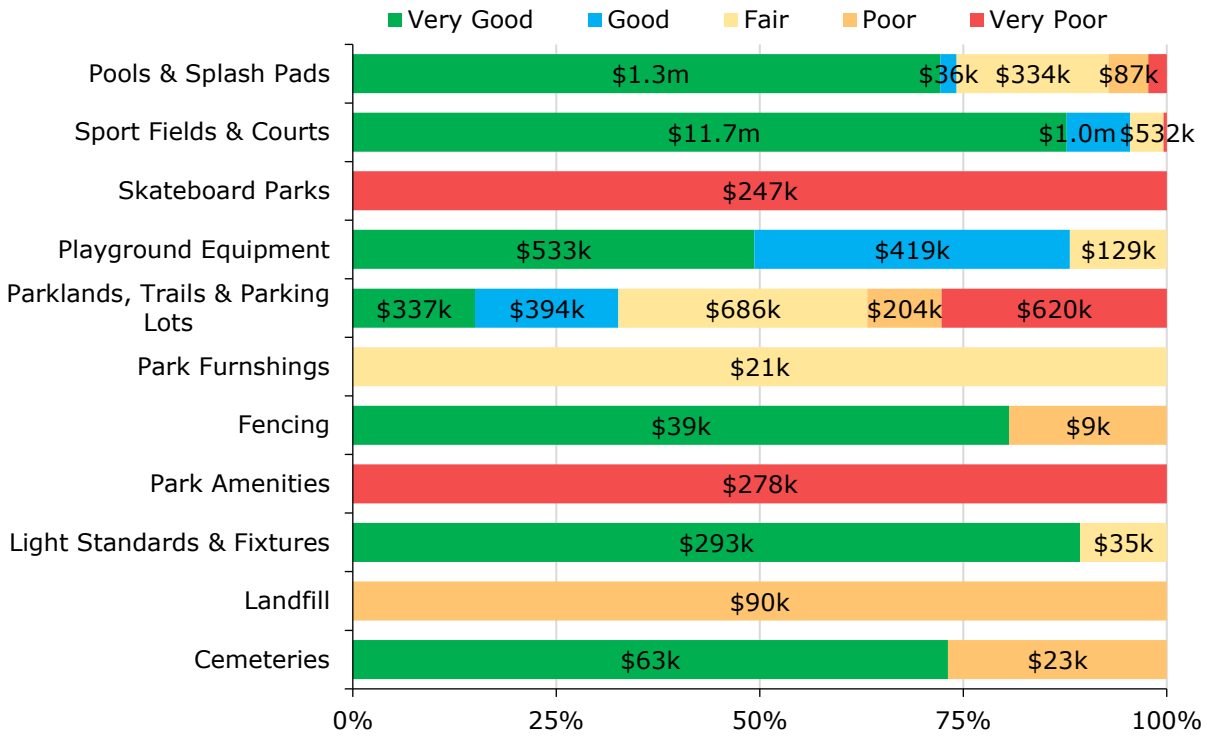


Figure 56: Parks & Land Improvements Condition Breakdown

To ensure that the Parks & Land Improvements asset category continues to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the assets.

10.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the municipality's current approach:

- Staff complete regular visual inspections of parks and land improvements assets to ensure they are in a state of adequate repair.
- Outdoor play spaces, fixed play structures and surfacing is inspected by an external third party in accordance with CAN/CSA-Z614-14 and required as per O. Reg. 137/15.

- There are no formal condition assessment programs in place for the other parks & land improvement assets.

10.3. Asset Age & Service Life Remaining

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.

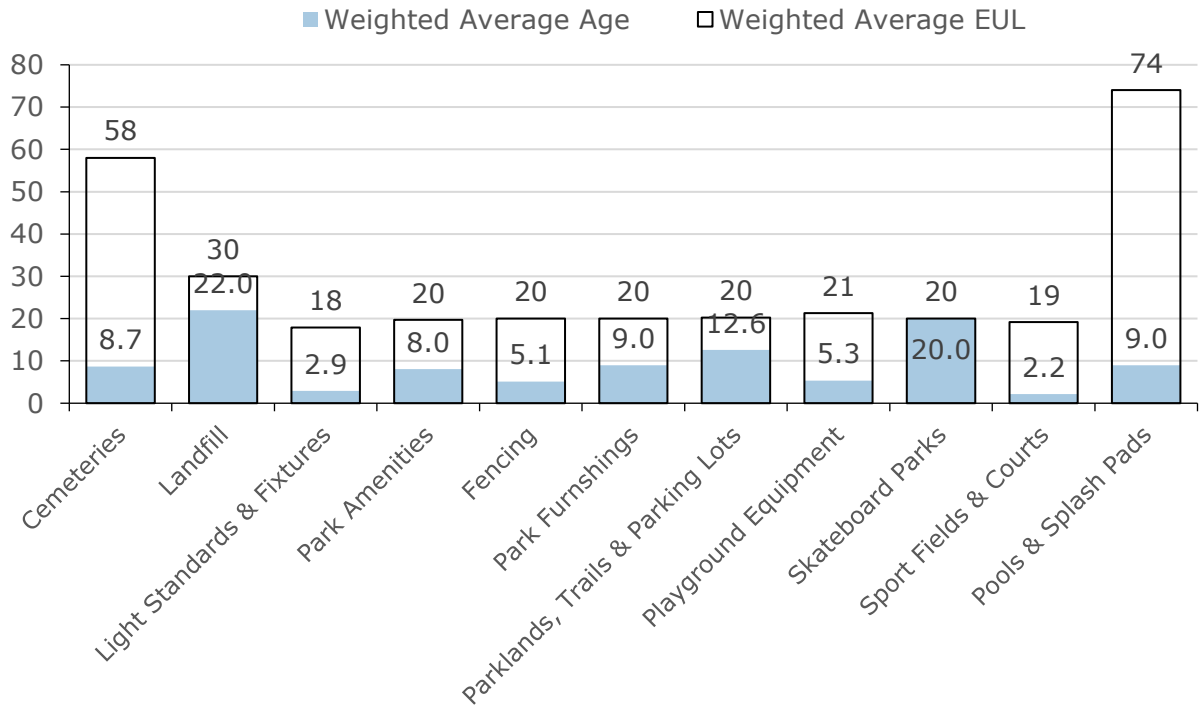


Figure 57: Parks & Land Improvements Average Age vs Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

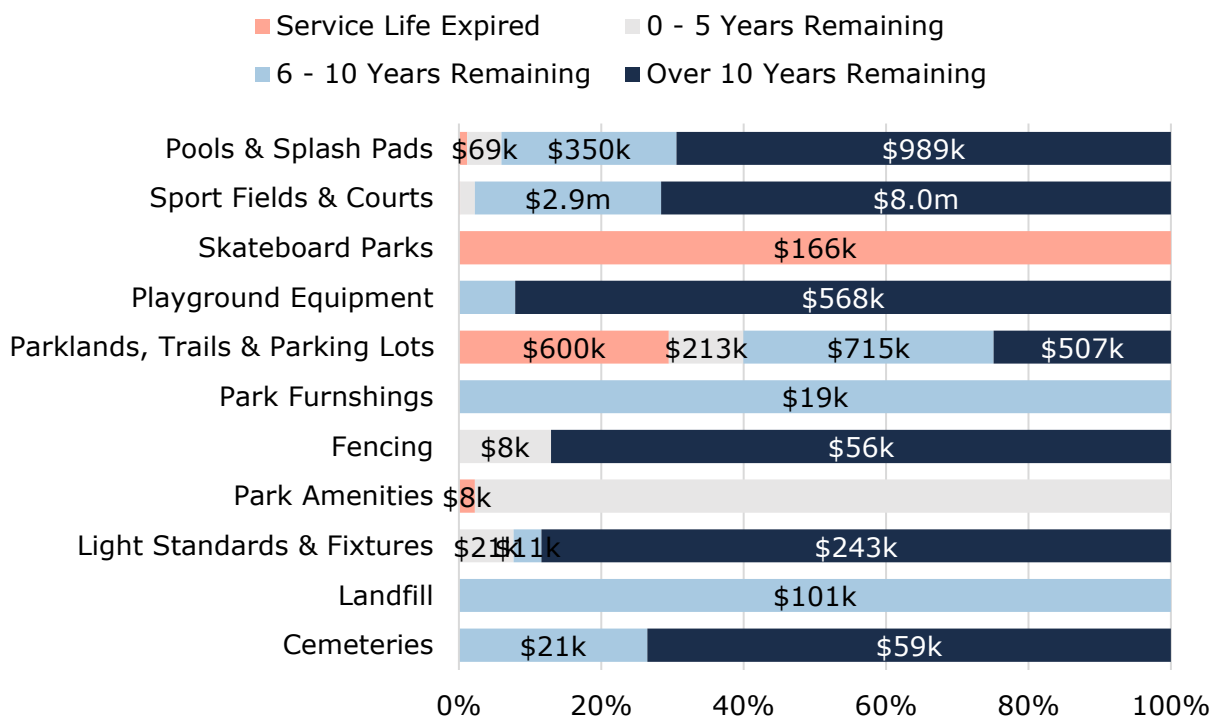


Figure 58: Parks & Land Improvements Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

10.4. Lifecycle Management Strategy

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
Maintenanace & Rehabilitation	The Parks & Land Improvements asset category includes several unique asset types and lifecycle requirements are dealt with on a case-by-case basis
	Seasonal maintenance for parks & land improvement assets includes aerating, rolling, seeding, irrigation and replenishing of engineered wood fibre for playgrounds, as well as clay for baseball infields.

	Maintenance and repairs for playground assets are conducted in accordance with the annual external mandated inspection requirements, as well as the results obtained from monthly deficiency inspections performed by internal staff.
Replacement	Playgrounds, pools, splash pads, and sports fields are generally replaced before the end of their useful life, ensuring they stay safe, functional, and accessible for the community.

Figure 59: Parks & Land Improvements Lifecycle Management Strategy

10.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at $1.1 million.

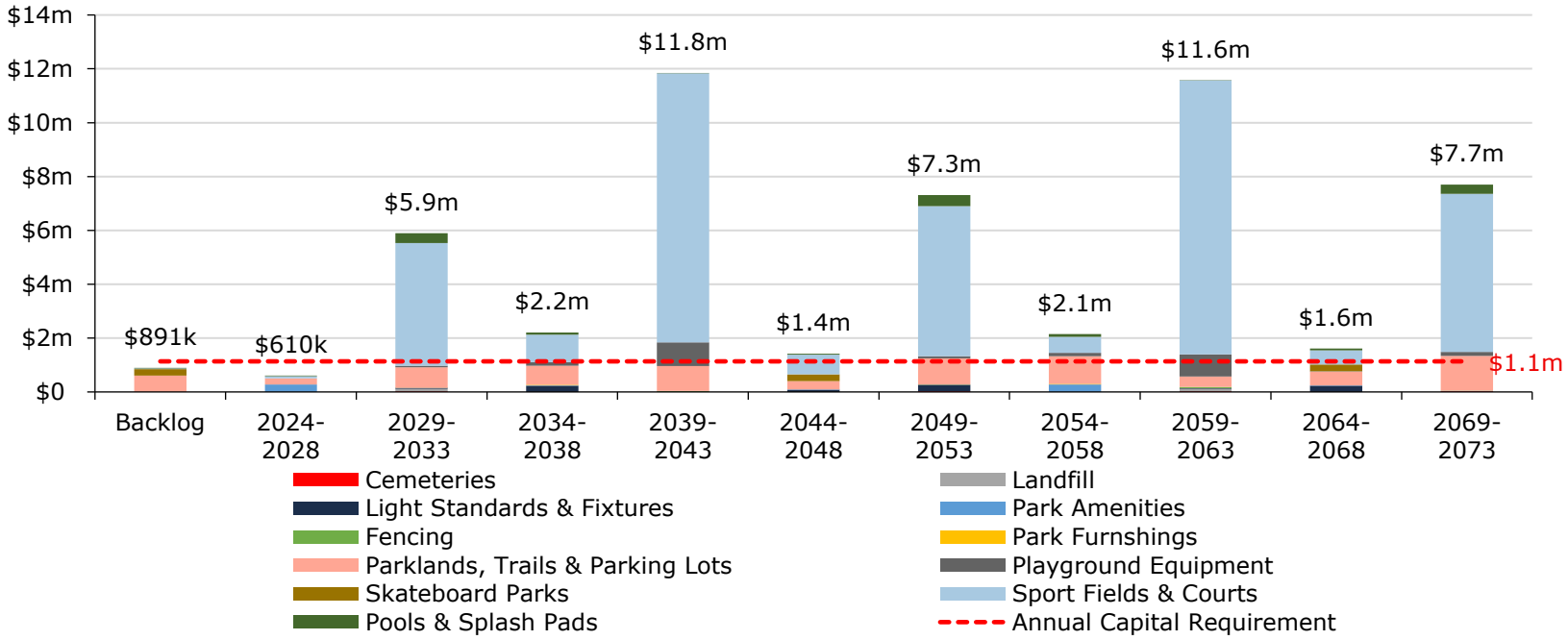


Figure 60: Parks & Land Improvements Capital Replacement Forecast

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

10.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

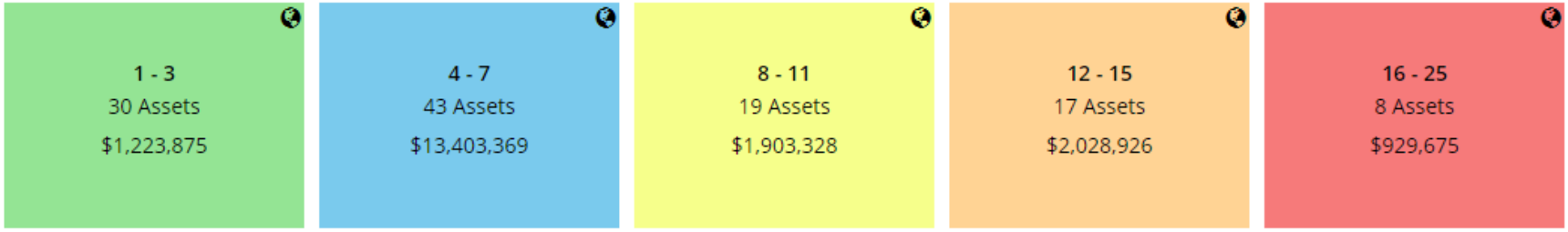


Figure 61: Parks & Land Improvements Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

10.7. Levels of Service

The following tables identify Thames Centre's metrics to identify the current level of service for the land improvement assets. By comparing the cost, performance (average condition) and risk year-over-year the Municipality will be able to evaluate how their services/assets are trending.

10.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Parks & Land Improvements category.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description, which may include maps, of parks and recreational areas and their proximity to the surrounding community	See Appendix C.

Table 35: Parks & Land Improvements Community Levels of Service

10.7.2. Technical Levels of Service

The following table include quantitative metrics that determine the technical level of service provided by the Parks & Land Improvements category.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	Hectares of parkland per 1,000 residents	3.9
Quality	# of maintenance inspections / # of playgrounds (as per CSS)	12/12
	Average condition of parks & land improvement assets	75%
Performance	Capital reinvestment rate	0.4%

Table 36: Parks & Land Improvements Technical Levels of Service

10.8. Proposed Levels of Service

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

The tables and graphs below explain the proposed levels of service scenarios that were analyzed for Parks & Land Improvements assets. Further PLOS analysis at the portfolio level can be found in Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 65% average condition for Parks & Land Improvements, holding the condition constant while determining the required funding.

Table 37: Parks & Land Improvements PLOS Scenarios

10.7.3. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	65.26%	26.34%	9.82%	26.55%
	Average Asset Risk	8.85	18.66	21.59	18.35
	Average Annual Investment		$79,264		
	Capital re-investment rate		0.4%		
Scenario 2	Average Condition	71.21%	47.49%	51.34%	58.66%
	Average Asset Risk	7.89	13.95	13.74	11.54
	Average Annual Investment		$1,136,000		
	Capital re-investment rate		5.8%		
Scenario 3	Average Condition	65.24%	48.06%	51.45%	58.71%
	Average Asset Risk	8.86	13.95	13.65	11.6
	Average Annual Investment		$911,924		
	Capital re-investment rate		4.7%		

Table 38: Parks & Land Improvements Scenario Analysis

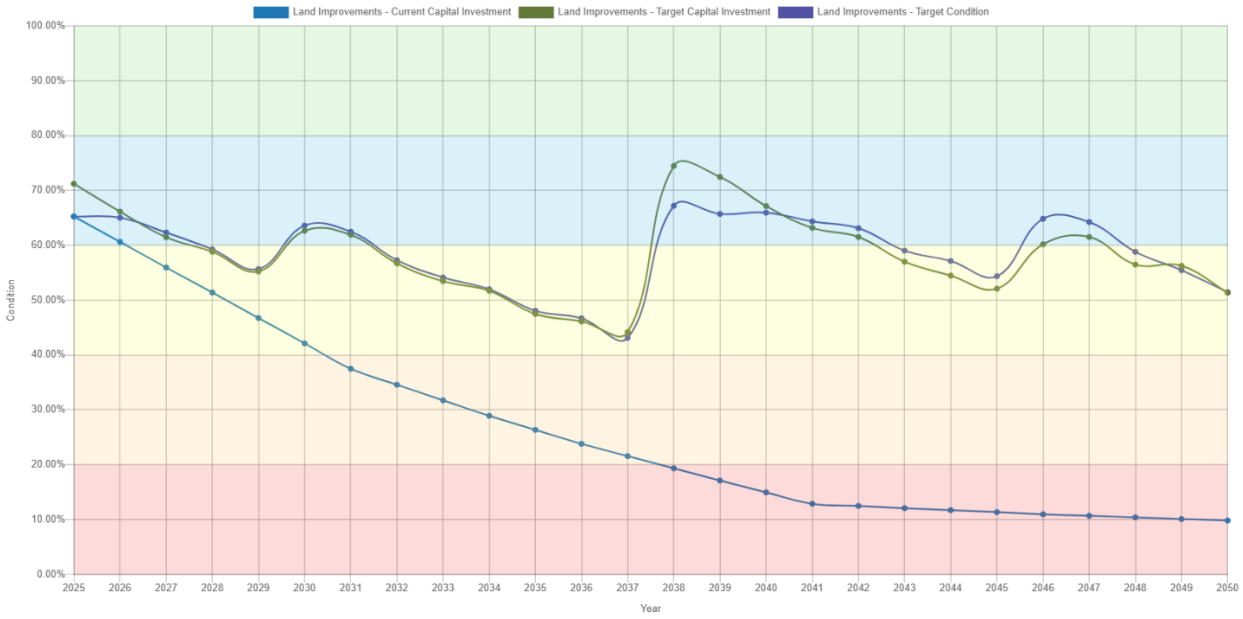


Figure 62: Parks & Land Improvements Scenario Comparison

11. Water Distribution System

The Municipality operates two municipal drinking water systems located in Dorchester and Thorndale, both supplied by groundwater wells. Water treatment and water distribution is overseen by the Environmental Services Department. Thames Centre is responsible for:

- Water Supply
- Storage Facilities
- Distribution System

A Water and Wastewater Master Plan was approved in 2008, further expanded upon in 2019. The Master Plan provided a review and development of water servicing strategies for servicing the Municipality. Anticipated growth of the urban areas based on population and employment growth forecasts was factored in. Thames Centre also conducted a water and wastewater rate study in 2020 to determine the appropriate rate structure and rate increases, and forecasts over a 10-year period.

11.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Water inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Hydrant Leads	1 km	Cost per Unit	$831,569
Hydrants	273	Cost per Unit	$2,184,000
Mains	56 km	Cost per Unit	$37,747,193
Pump House & Pumping Station	1 (20)[4]	User-Defined	$4,472,518
Reservoirs	2	CPI Inflation	$1,829,789
Treatment Plant	2	User-Defined	$18,258,967
Water Tower	2	User-Defined	$11,470,685
			$76,794,721

Table 39: Water Distribution System Inventory

[4] The Pump House and Pumping Station comprises 20 individual component assets.

The graph below displays the replacement cost of each asset segment in the Municipality's Water Distribution inventory:

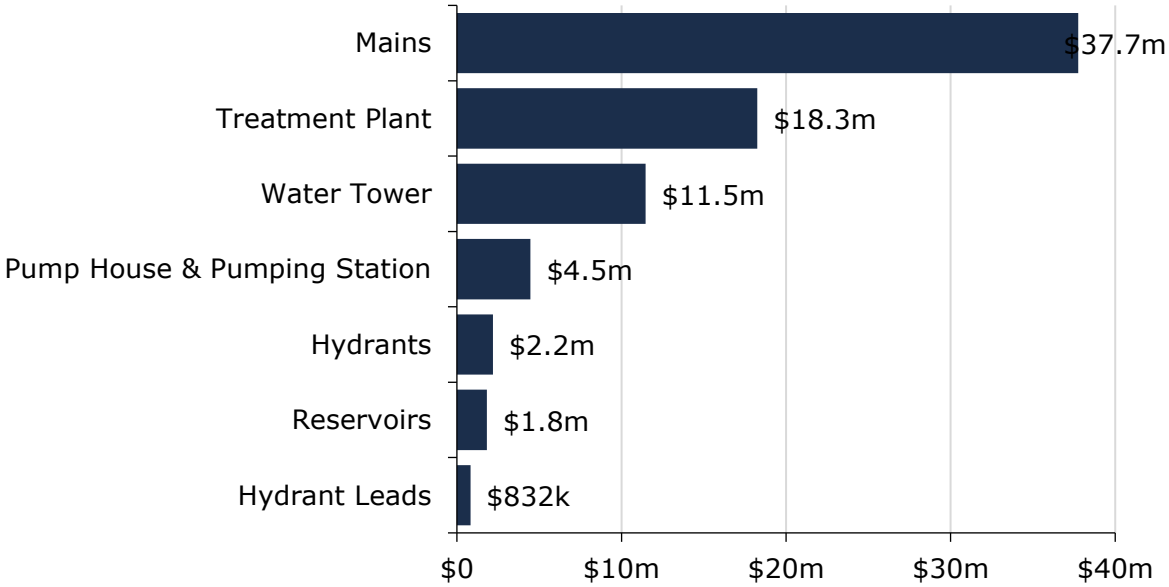


Figure 63: Water Distribution System Replacement Value

11.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.

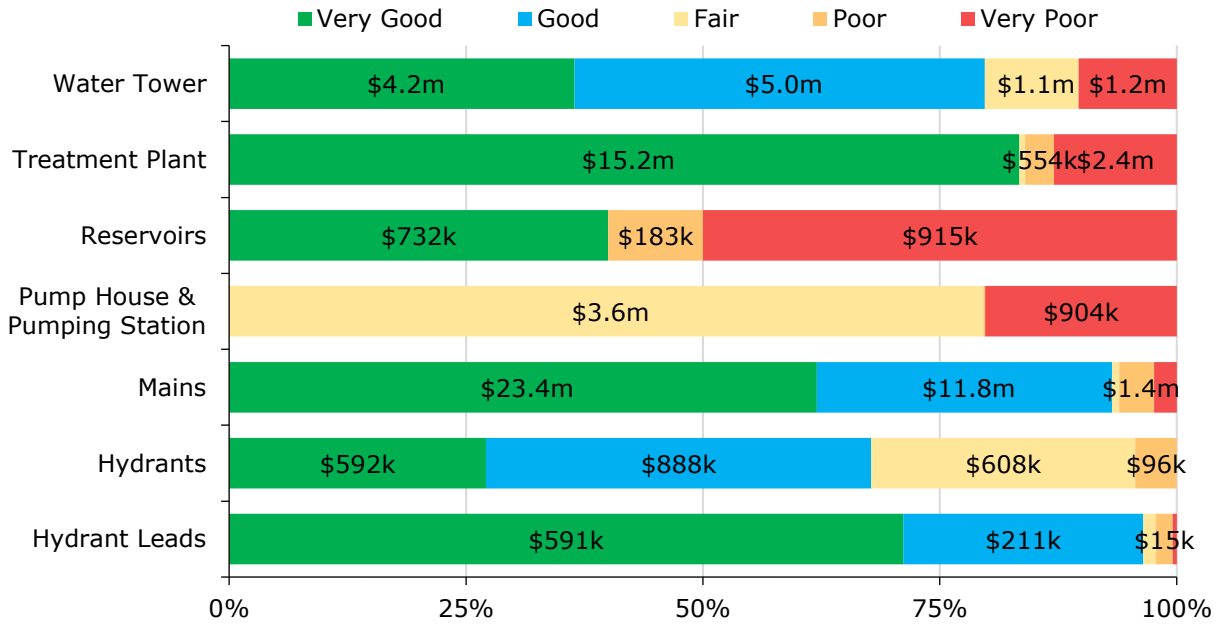


Figure 64: Water Network Condition Breakdown

11.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the municipality's current approach:

- Staff primarily rely on the age and material of water assets to determine the projected condition of water mains.
- In 2018, Dillon Consulting was conducted a Condition Assessment, evaluating various factors including wall thickness, C-factors, pipe material, pipe age, and historical failure data.
- Aside from the inspections required under O. Reg. 170/3, there are no formal condition assessment programs in place for the Water Distribution System.
- Reservoirs are inspected by their manufacturer on a 5-year cycle.

11.3. Asset Age & Service Life Remaining

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.

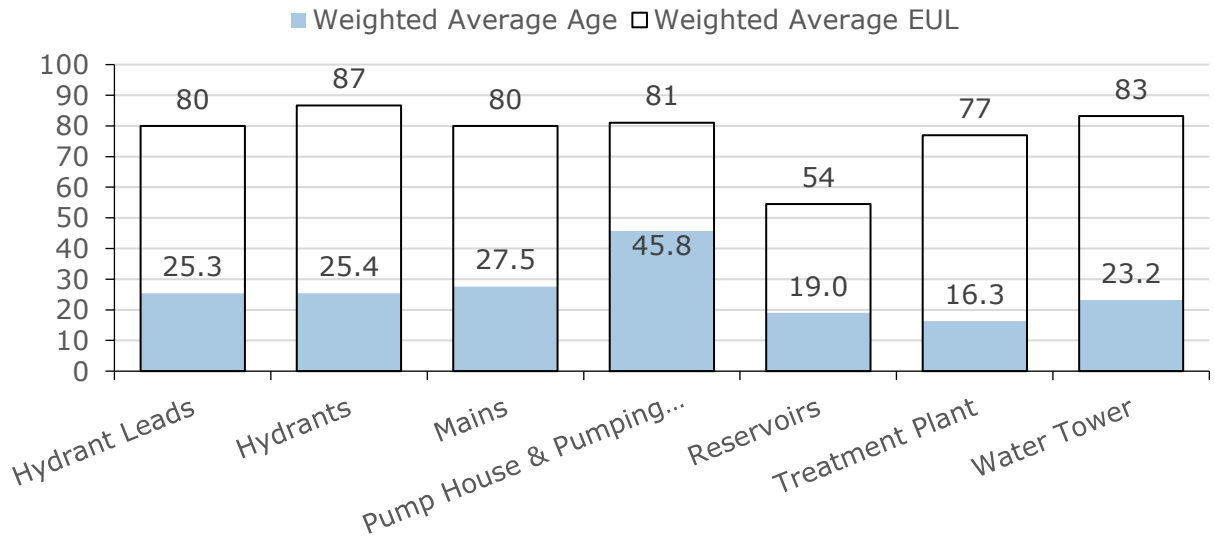


Figure 65: Water Distribution System Average Age vs Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

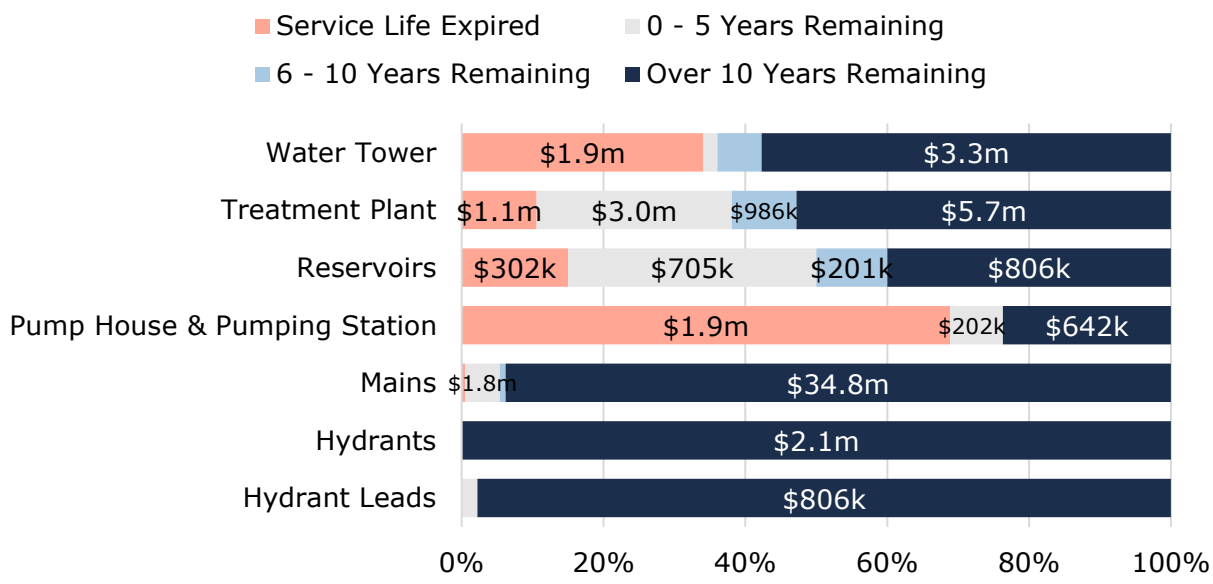


Figure 66: Water Distribution System Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

11.4. Lifecycle Management Strategy

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	Periodic pressure testing to identify deficiencies and potential leaks
	Main valves are exercised annually and Hydrants are flushed, pressure checked and lubricated annually by internal staff
Rehabilitation	In the absence of mid-lifecycle rehabilitative events, most mains are simply maintained with the goal of full replacement once it reaches its end-of-life
Replacement	Watermain replacement activities are identified based on an analysis of material, service life remaining, main break-rate as well as any issues identified during regular maintenance activities

Table 40: Water Distribution System Lifecycle Management Strategy

11.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirement of $1.1 million.

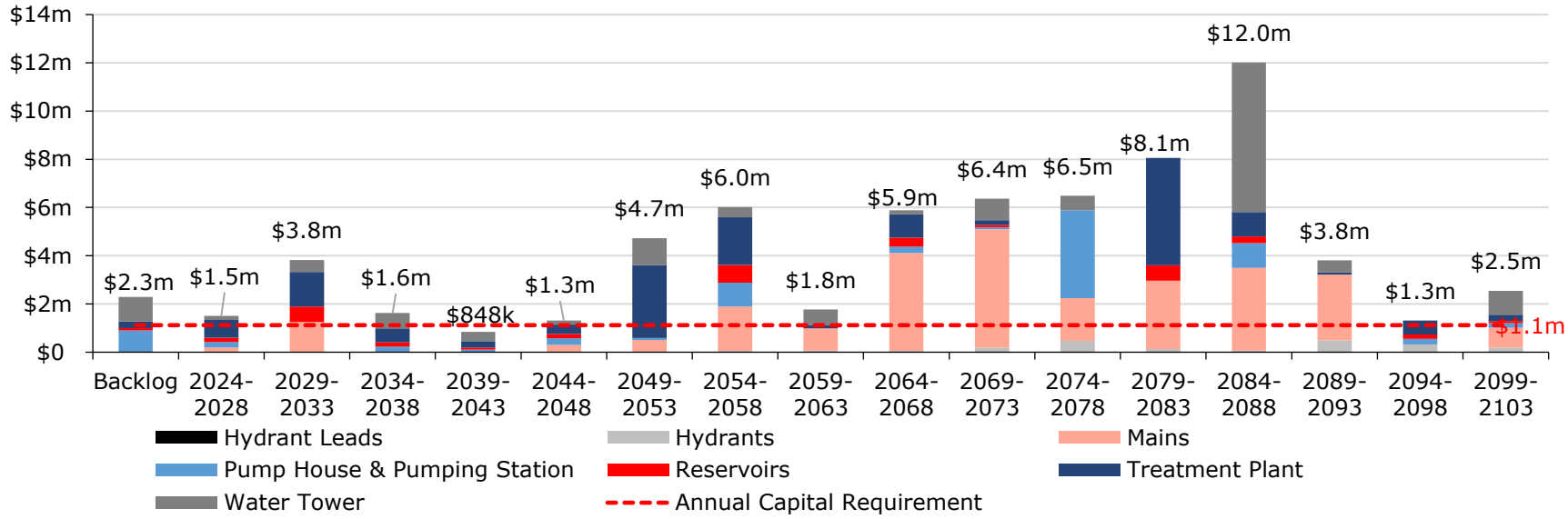


Figure 67: Water Distribution System Forecasted Capital Replacements

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A. 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 Water Distribution assets.

11.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

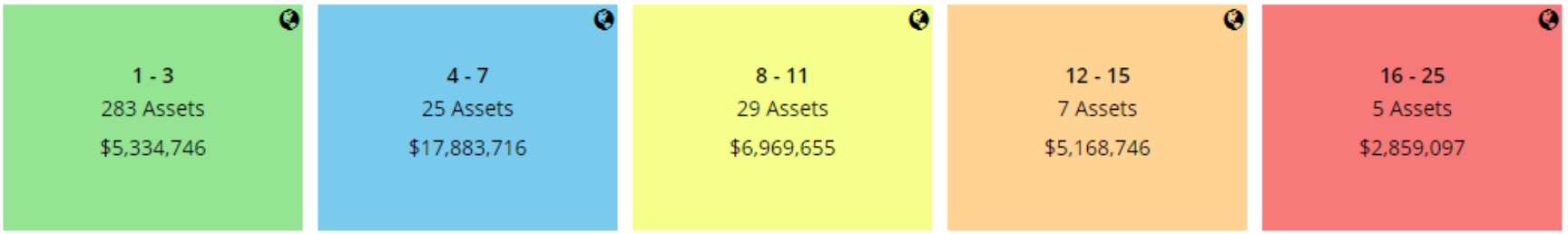


Figure 68: Water Distribution System Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

11.7. Levels of Service

The following tables identify Thames Centre's current level of service for the Water System. These metrics comprise of the community and technical levels of service metrics that are required as part of O. Reg. 588/17.

11.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Water Distribution System.

Service Attribute	Qualitative Description	Current LOS (2023)
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 has a high connection rate for water services in the urban centre, with 95% of properties connected to the municipal water system. However, in the rural areas, extending the water system to every property is not feasible due to lower population density, significant infrastructure costs, and the widespread use of private wells. As a result, the overall connection rate across the entire municipality is approximately 46%. This level of service reflects the unique characteristics of the region and the differing needs of its urban and rural communities. See Appendix C.
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	All properties within the urban centre of the municipality have access to fire flow through the municipal water system. In rural areas, fire suppression is supported through alternative methods such as accredited tanker shuttle services and dry hydrants. These approaches ensure fire protection coverage across the municipality, despite varying infrastructure availability. See Appendix C.
Reliability	Description of boil water advisories and service interruptions	In 2023, the municipality experienced zero boil water advisories and service interruptions.

Table 41: Water Distribution System Community Levels of Service

11.7.2. Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the Water Distribution System.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of properties connected to the municipal water system	Total: 46% Urban boundary: 95%
	% of properties where fire flow is available	Total: 47% Urban boundary: 95%
Reliability	# of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system	1
	# 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
Performance	Average condition of water distribution system assets	77%
	Capital re-investment rate	TBD

Table 42: Water Distribution System Technical Levels of Service

11.8. Proposed Levels of Service

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

The tables and graphs below explain the proposed levels of service scenarios that were analyzed for Water Distribution assets. Further PLOS analysis at the portfolio level can be found in Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and

	risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 70% average condition for Water Distribution assets, holding the condition constant while determining the required funding.

Table 43: Water Distribution Scenarios

11.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	74.06%	75.01%	64.73%	66.30%
	Average Asset Risk	6.71	6.13	7.34	7.23
	Average Annual Investment		$1,148,463		
	Capital re-investment rate		1.5%		
Scenario 2	Average Condition	74.02%	75.15%	65.00%	65.59%
	Average Asset Risk	6.71	6.13	7.34	7.31
	Average Annual Investment		$1,119,000		
	Capital re-investment rate		1.46%		
Scenario 3	Average Condition	75.17%	76.87%	65.67%	70.49%
	Average Asset Risk	6.56	5.65	7.3	6.59
	Average Annual Investment		$1,288,374		
	Capital re-investment rate		1.7%		

Table 44: Water Distribution Scenario Analysis

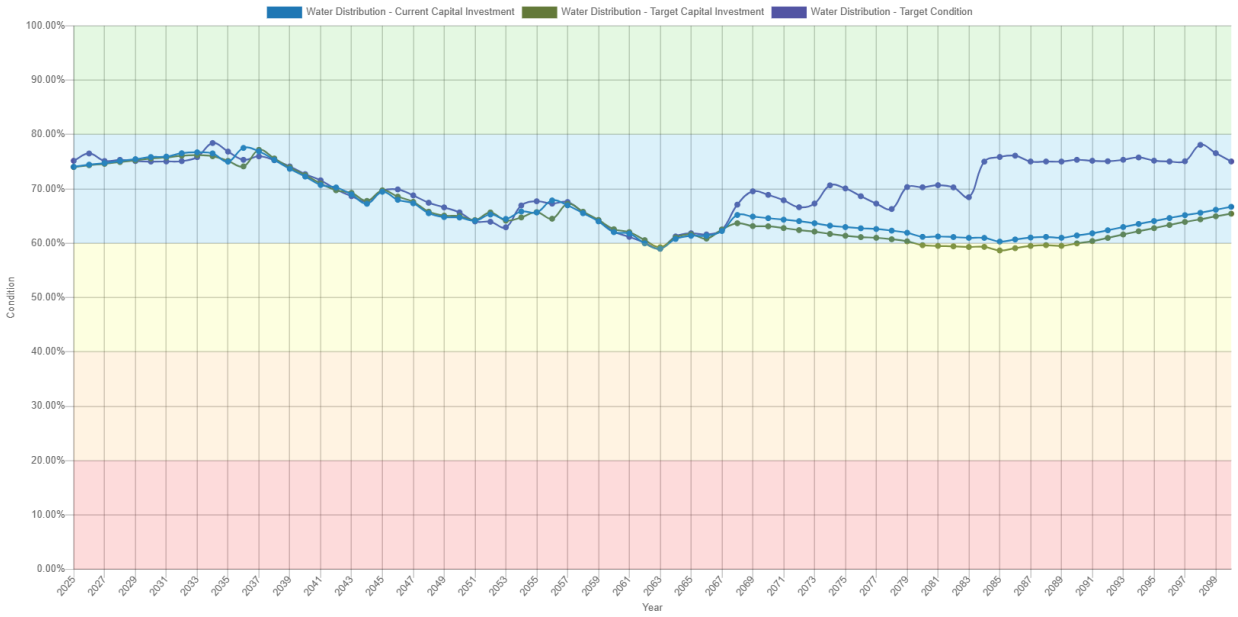


Figure 69: Water Distribution Scenario Comparison

12. Wastewater Collection

The Municipality owns two wastewater systems, in Dorchester and Thorndale. The Wastewater Services team in the Public Works department is responsible for providing collection and treatment services such as:

- Wastewater Treatment
- Pumping Stations
- Sewer Collection System

The Dorchester Wastewater Treatment Plant is currently being upgraded, which includes the installation of Pump Station #3. Thames Centre also conducted a water and wastewater rate study in 2020 to determine the appropriate rate structure and rate increases, and capital spending forecasts over a 10-year period.

12.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Wastewater inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Mains	21 km	Cost per Unit	$9,918,244
Manholes	298	Cost per Unit	$2,132,000
Pollution Control Plants	2	User-Defined	$31,186,000
Pump Station	2	User-Defined	$7,390,272
			$50,626,968

Table 45: Wastewater Collection Inventory

The graph below displays the replacement cost of each asset segment in the Municipality's Wastewater Collection inventory:

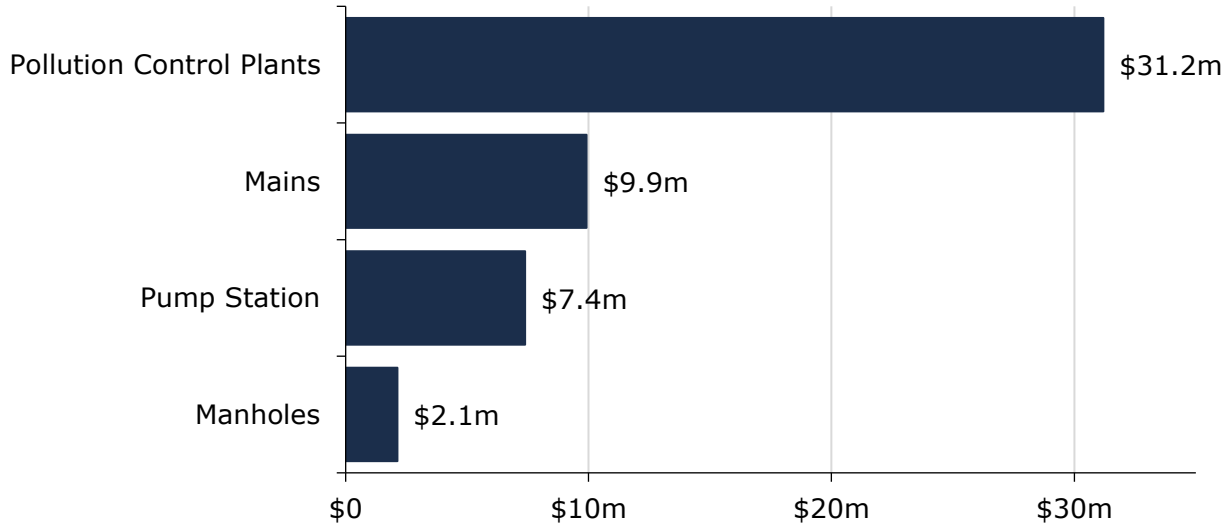


Figure 70: Wastewater Collection Replacement Value

12.2. Asset Condition

The graph below visually illustrates the average condition for each asset segment on a very good to very poor.

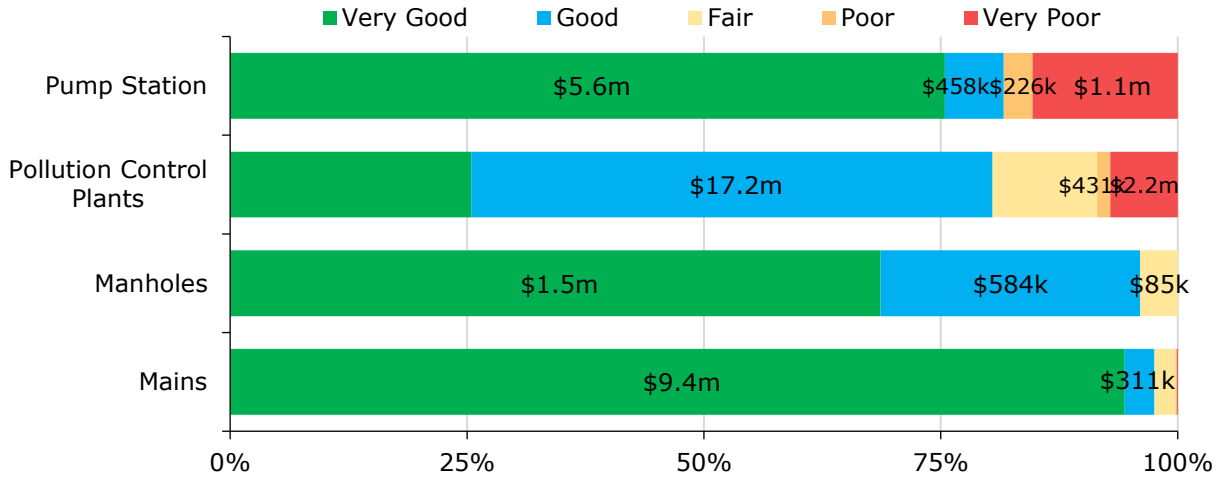


Figure 71: Wastewater Collection Condition Breakdown

This data set was sourced from Citywide and primarily reflects the age of the wastewater assets. While it provides a valuable overview, it does not yet incorporate the latest inspection data, which will more accurately reflect the true physical condition. The 2025 Asset Management Plan will include these ongoing inspections, offering a more comprehensive and favorable representation of the asset category.

12.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the municipality's current approach:

- Each year, 20% of the wastewater mains undergo assessment, with the last assessment conducted in 2023. The municipality employs the NAASCO Grading System to evaluate wastewater assets.
- Pump stations undergo biannual inspection and cleaning.
- The municipality is currently exploring an inspection and cleaning program for manholes.

12.3. Asset Age & Service Life Remaining

The table below identifies the current average condition, the average age, and the estimated useful life for each asset segment. The average condition (%) is a weighted value based on replacement cost.

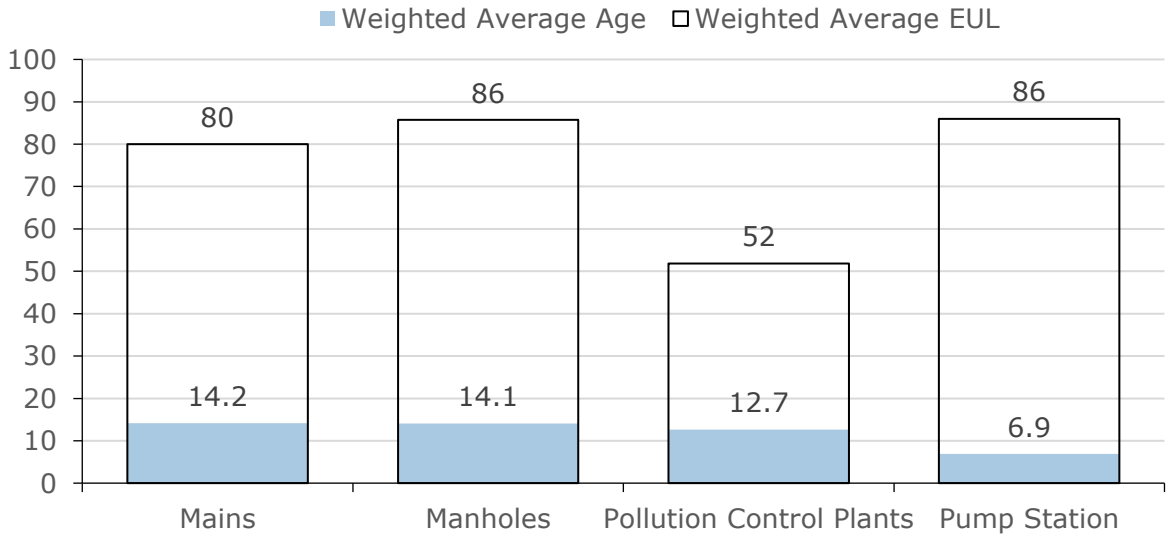


Figure 72: Wastewater Collection Average Age vs. Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

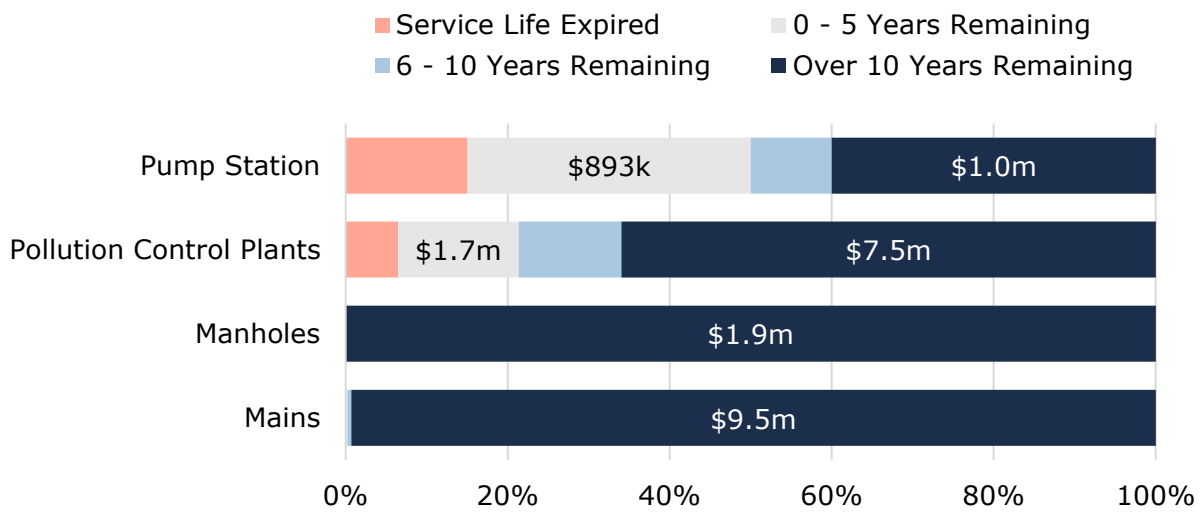


Figure 73: Wastewater Collection Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

12.4. Lifecycle Management Strategy

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

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

Activity Type	Description of Current Strategy
Maintenance	Routine maintenance tasks include inspections, cleaning, and minor repairs, which are conducted by both internal staff and external contractors. Wastewater mains undergo flushing and CCTV inspections on a 5-year cycle, while pump stations are cleaned and inspected 2-3 times per year.
Rehabilitation	Rehabilitation activities, which vary based on the area and burial depth, encompass either open cut replacement or relining techniques.
Replacement	Replacement is prioritized for assets whose condition has significantly deteriorated, and rehabilitation is no longer cost-effective. Assets nearing the end of their expected service life or requiring frequent and costly repairs, such as grinder pumps, are given priority for replacement.

Table 46: Wastewater Collection Lifecycle Management Strategy

12.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at $831 thousand.

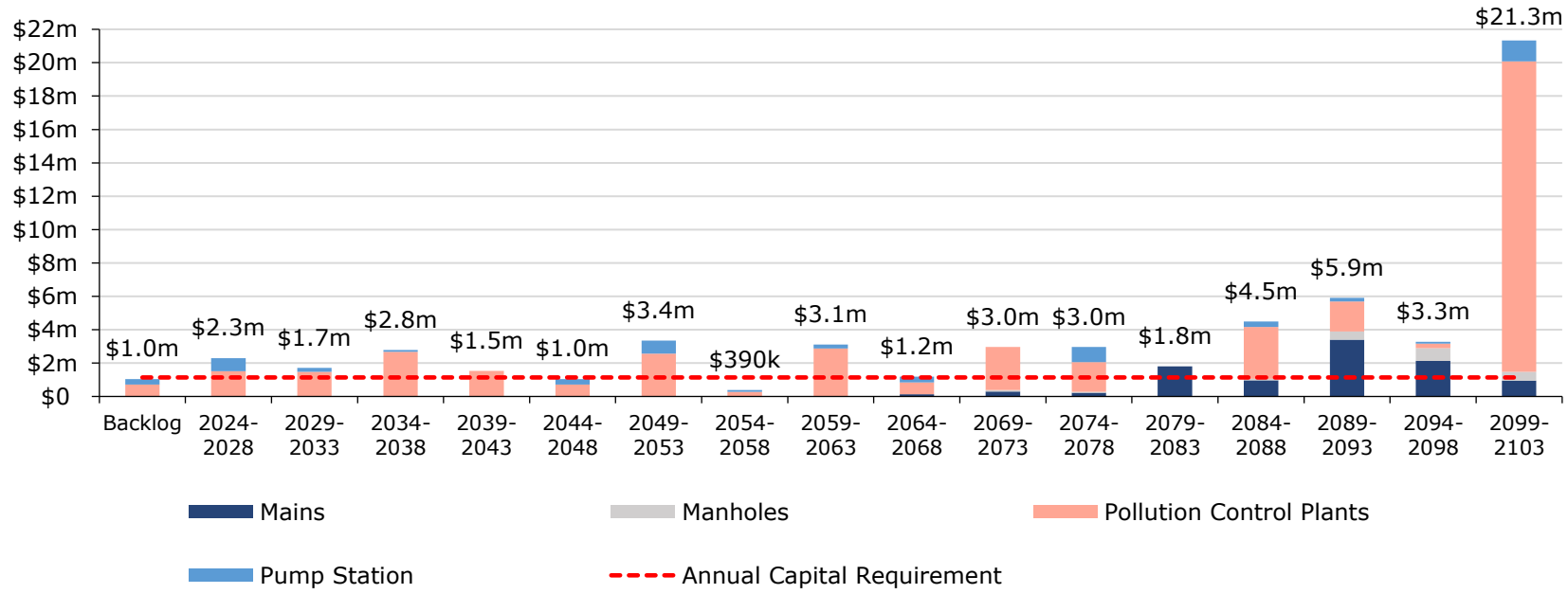


Figure 74: Wastewater Collection Forecasted Capital Requirements

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A. 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 Wastewater assets.

12.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

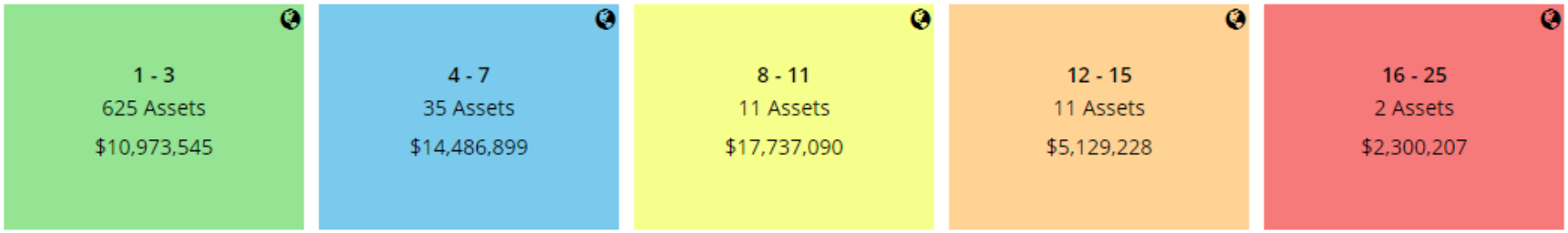


Figure 75: Wastewater Collection Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

12.7. Levels of Service

The following tables identify Thames Centre's current levels of service for the Wastewater System. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17.

12.7.1. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Wastewater System.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	See Appendix C.
Reliability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	The Municipality does not own any combined sewers.
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	No overflow from wastewater to storm occurs.
	Description of how sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The municipality follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration

Service Attribute	Qualitative Description	Current LOS (2023)
		of the minimization of sewage overflows and backups.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Effluent refers to water pollution that is discharged into a receiving stream, 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: Wastewater Collection Community Levels of Service

12.7.2. Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the Wastewater System.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of properties connected to the municipal wastewater system	21%
Reliability	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	Not Applicable
	# of connection-days per year due to sanitary main backups compared to the total number of properties connected to the municipal wastewater system	0
	# of connection-days per year due to sanitary service backups compared to the total number of properties connected to the municipal wastewater system	0

	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0
Performance	Average condition of wastewater system assets	77%
	Capital re-investment rate	1.1%

Table 48: Wastewater Collection Technical Levels of Service

12.8. Proposed Levels of Service

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

The tables and graphs below explain the proposed levels of service scenarios that were analyzed for Wastewater Collection assets. Further PLOS analysis at the portfolio level can be found in Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 65% average condition for wastewater assets, holding the condition constant while determining the required funding.

Table 49: Wastewater Collection Scenarios

12.7.3. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment

levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	68.32%	68.36%	66.23%	59.14%
	Average Asset Risk	9.06	8.79	8.31	10.2
	Average Annual Investment		$566,541		
	Capital re-investment rate		1.1%		
Scenario 2	Average Condition	69.21%	73.96%	68.26%	65.60%
	Average Asset Risk	8.94	7.46	7.64	8.73
	Average Annual Investment		$831,000		
	Capital re-investment rate		1.6%		
Scenario 3	Average Condition	80.59%	72.39%	66.69%	65.35%
	Average Asset Risk	6.67	7.97	8.15	8.78
	Average Annual Investment		$703,699		
	Capital re-investment rate		1.4%		

Table 50: Wastewater Collection Scenario Analysis

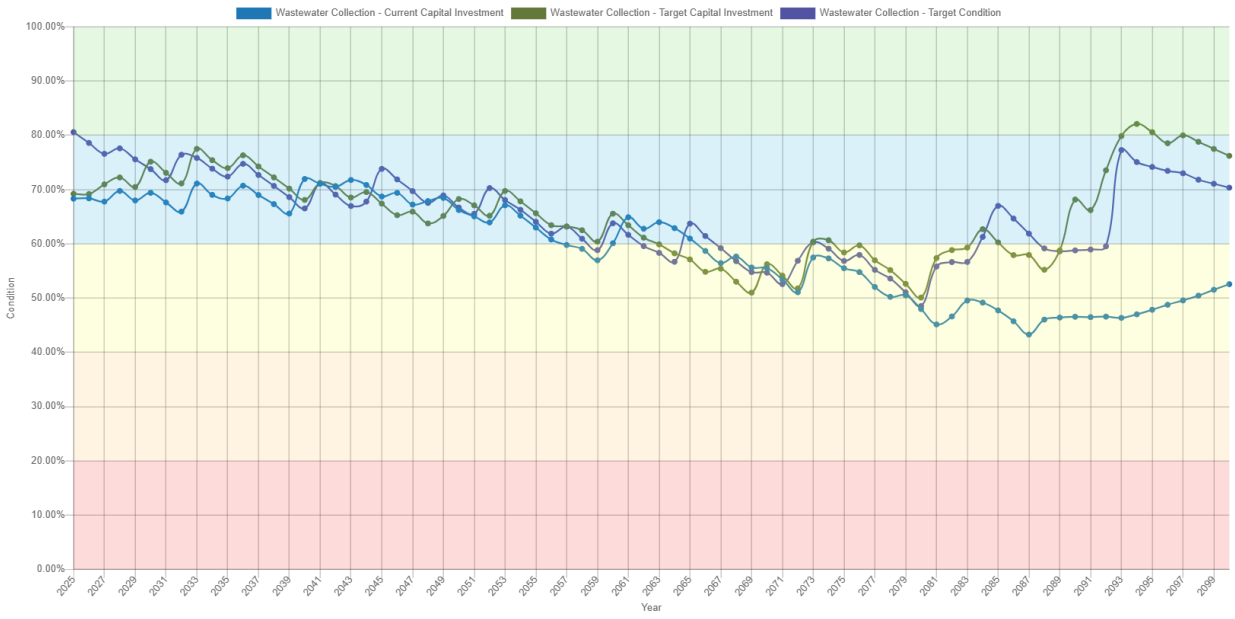


Figure 76: Wastewater Collection Scenario Comparison

13. Stormwater Collection

The Stormwater system is designed to manage the flow of stormwater. In recent years, this asset category has become increasingly relevant due to the increasing intensity and frequency of extreme weather events. The Stormwater and Drainage team in the Public Works department oversee the stormwater system which includes infrastructure such as stormwater ponds, storm sewer mains, catch basins, and maintenance holes.

13.1. Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Municipality's Stormwater inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Catch Basins	799	Cost per Unit	$3,196,000
Mains	46 km	Cost per Unit	$36,577,383
Manholes	551	Cost per Unit	$4,019,150
SWM Ponds	4	User-Defined	$641,022
			$44,433,555

Table 51: Stormwater Collection Inventory

The following graph displays the replacement cost of each asset segment:

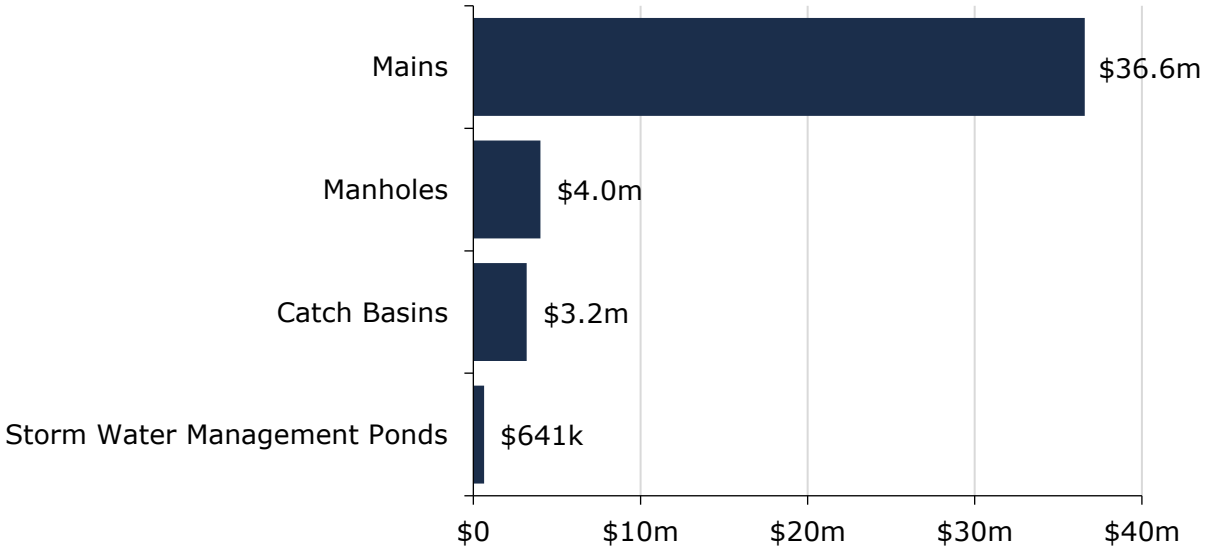


Figure 77: Stormwater Collection Replacement Value

13.2. Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

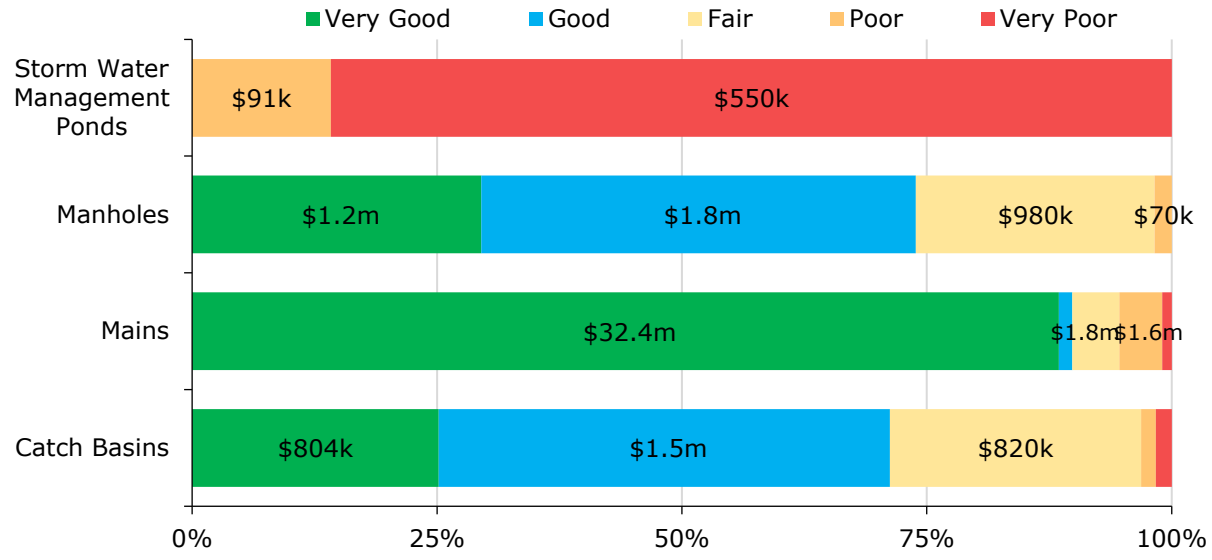


Figure 78: Stormwater Collection Condition Breakdown

To ensure that the Stormwater system continues to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the Stormwater system.

13.2.1. Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the municipality's current approach:

- Each year, 10% of Stormwater mains undergo assessment to promptly identify maintenance requirements.
- The municipality employs the NAASCO Grading System for evaluating Stormwater assets, focusing primarily on the structural index.
- There are ongoing considerations within the municipality to potentially enhance the frequency of these assessments.
- Stormwater Management Ponds undergo assessment every 10 years, including surveys to evaluate sediment buildup and determine the need for a full-scale clean-out.

13.3. Asset Age & Service Life Remaining

The table below identifies the current average condition, the average age, and the estimated useful life for each asset segment. The average condition (%) is a weighted value based on replacement cost.

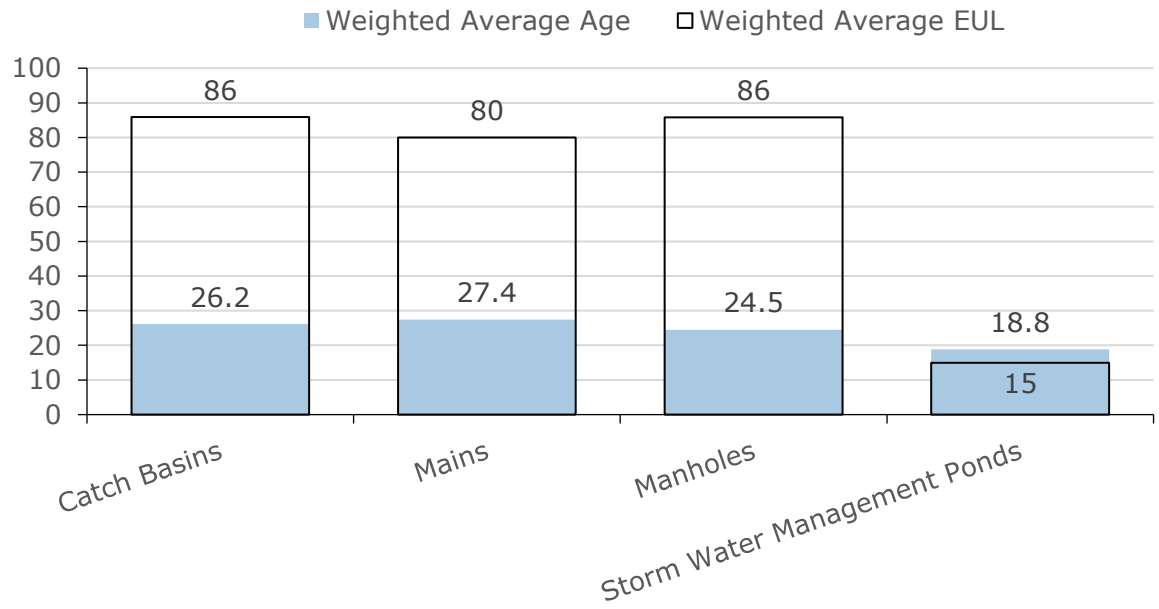


Figure 79: Stormwater Collection Average Age vs. Average EUL

The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

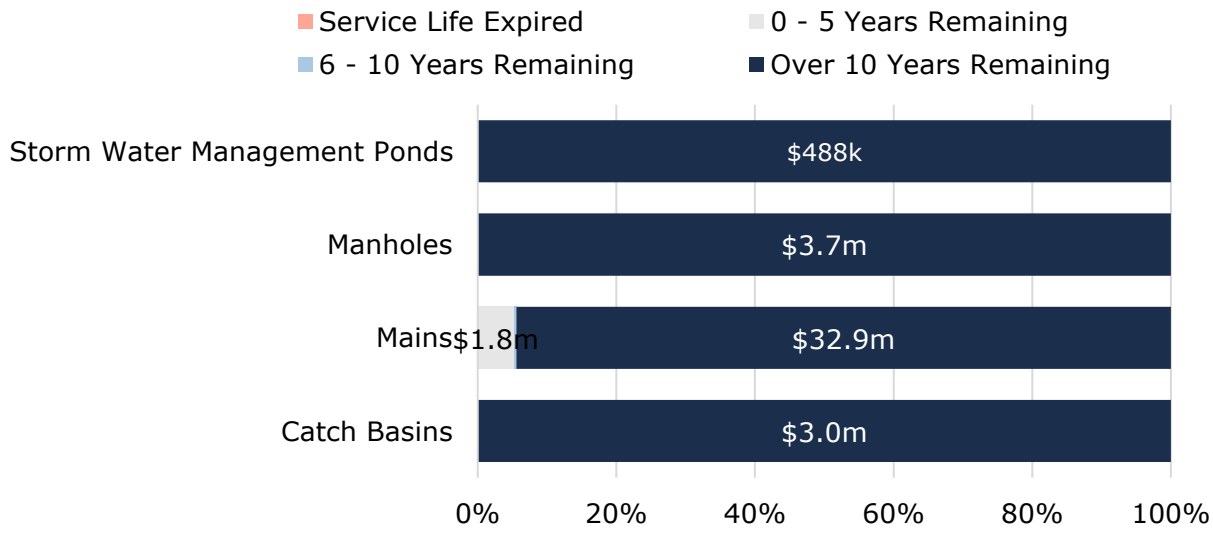


Figure 80: Stormwater Collection Service Life Remaining

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

13.4. Lifecycle Management Strategy

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 activities encompass main flushing, with 10% of the pipes being flushed each year.
Rehabilitation	Rehabilitation activities include, segment replacement, parging, and slip-lining repairs.
Replacement	Replacement is considered when an asset's condition has deteriorated significantly, and rehabilitation is no longer cost-effective.
	Full replacement is conducted in coordination with other infrastructure replacement projects.

Table 52: Stormwater Collection Lifecycle Management Strategy

13.5. Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that Thames Centre should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at $554 thousand.

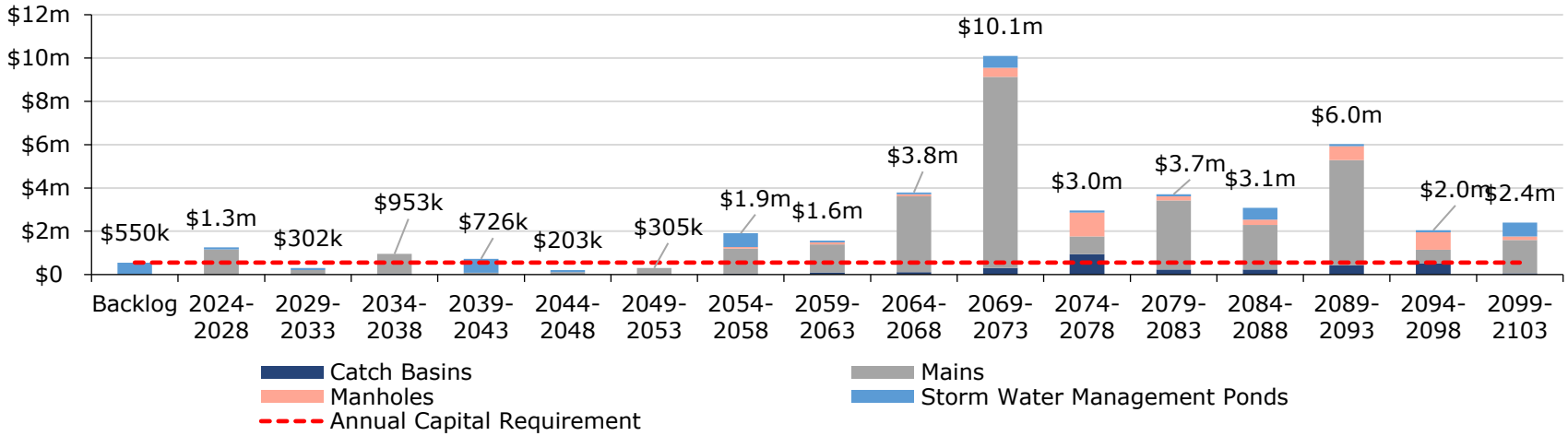


Figure 81: Stormwater Collection Forecasted Capital Requirements

The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A. 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 Storm Water assets.

13.6. Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2023 inventory data.

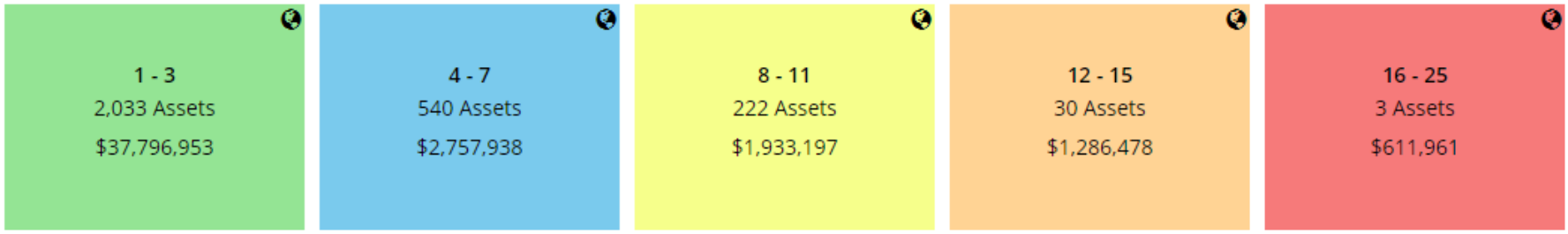


Figure 82: Stormwater Collection Risk Matrix

The identification of these critical assets by using the risk framework allows Thames Centre to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data. Critical assets do not necessarily require immediate renewal or replacement.

See Appendix D for the criteria used to determine the risk rating of each asset.

13.7. Levels of Service

The following tables identify Thames Centre's current levels of service for the Stormwater system. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Municipality has selected for this AMP.

13.2.2. Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the Stormwater System.

Service Attribute	Qualitative Description	Current LOS (2023)
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 stormwater system	See Appendix C.

Table 53: Stormwater Collection Community Levels of Service

13.2.3. Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the Stormwater system.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of properties in municipality resilient to a 100-year storm	TBD[5]
	% of the municipal stormwater management system resilient to a 5-year storm	TBD[6]
Performance	Average condition of stormwater assets	83%
	Capital reinvestment rate	0.3%

Table 54: Stormwater Collection Technical Levels of Service

[5] The Municipality does not currently have data available to determine this technical metric. The rate of properties that are expected to be resilient to a 100-year storm is expected to be low.
[6] The Municipality does not currently have data available to determine this technical metric. The percentage of the stormwater system resilient to a 5-year storm is expected to be high.

13.8. Proposed Levels of Service

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

The tables and graphs below explain the proposed levels of service scenarios that were analyzed for Stormwater Collection assets. Further PLOS analysis at the portfolio level can be found in Proposed Levels of Service Scenario Analysis.

Scenario	Description
Scenario 1: Current Capital Investment	This scenario maintains the current level of capital investment, projecting asset conditions and risk based on existing funding levels
Scenario 2: Strategic Capital Investment	This scenario follows the system-generated capital investment, projecting future asset conditions and risk based on optimal funding levels aligned with inventory needs.
Scenario 3: Sustainable Condition Approach	This scenario assesses the investment necessary to sustain a 65% average condition for wastewater assets, holding the condition constant while determining the required funding.

Table 55: Stormwater Collection Scenarios

13.8.1. PLOS Analysis

The following table presents the outcomes for each of the three scenarios discussed previously. While the first two are based on different levels of capital investment, the third scenario is driven by the objective of sustaining specified condition targets across asset categories. Each scenario illustrates how different strategies can influence asset conditions, risk, and required funding over a 25-year period. The data reflects the projected trends in asset performance based on different approaches, helping to compare the impact of maintaining current investment levels, optimizing investments to meet inventory needs, or aiming to sustain a specific condition goal.

Scenario	Technical LOS Outcomes	Initial Value (2025)	10 Year Projection (2035)	25 Year Projection (2050)	Scenario Average
Scenario 1	Average Condition	82.01%	76.29%	65.49%	48.63%
	Average Asset Risk	3.54	4.01	5.37	7.34
	Average Annual Investment		$119,868		
	Capital re-investment rate		0.3%		
	Average Condition	83.04%	80.35%	67.24%	74.38%

Scenario 2	Average Asset Risk	3.45	3.62	5.13	4.58
	Average Annual Investment		$554,000		
	Capital re-investment rate		1.2%		
Scenario 3	Average Condition	81.73%	73.17%	64.77%	65.49%
	Average Asset Risk	3.56	4.33	5.4	5.53
	Average Annual Investment		$406,964		
	Capital re-investment rate		0.9%		

Table 56: Stormwater Collection Scenario Analysis

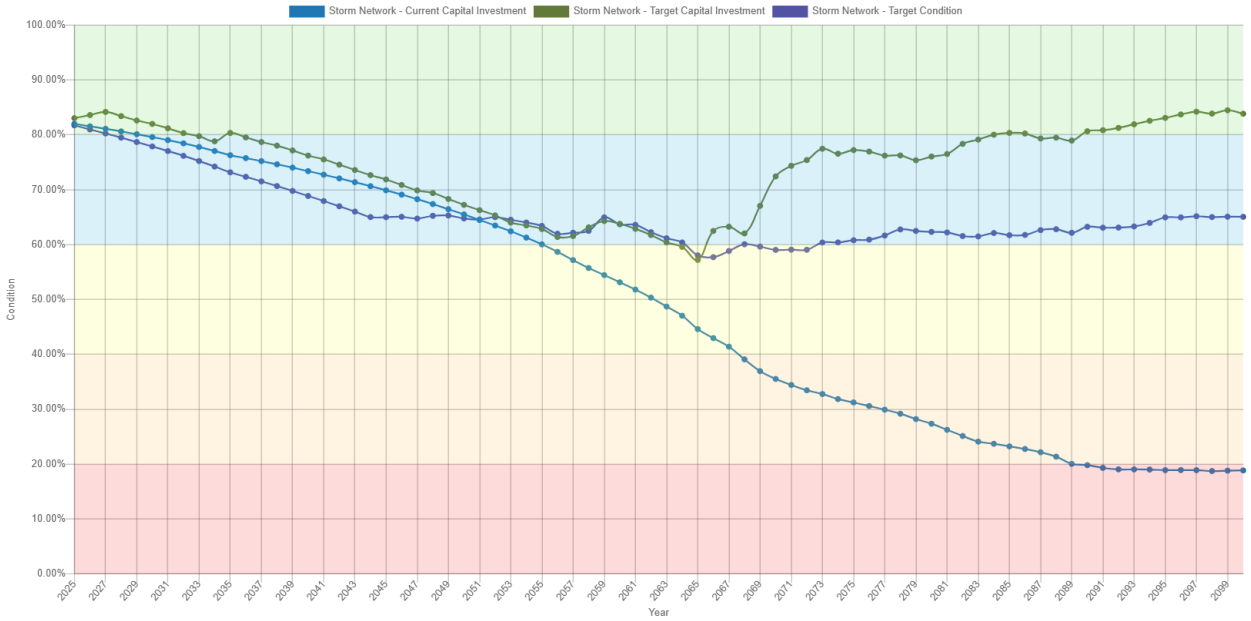


Figure 83: Stormwater Collection Scenario Comparison

Strategies

14. Financial Strategy

14.1. Financial Strategy Overview

Each year, the Municipality of Thames Centre makes important investments in its infrastructure's maintenance, renewal, rehabilitation, and replacement to ensure assets remain in a state of good repair. However, spending needs typically exceed fiscal capacity. In fact, most municipalities continue to struggle with annual infrastructure deficits. Achieving the proposed levels of service for infrastructure programs will take many years and should be phased-in gradually to reduce burden on the community.

This plan identifies the financial requirements necessary to meet the identified proposed levels of service. These requirements are based on the financial requirements for existing assets as of December 31, 2023. However, the required funding is based on meeting the proposed levels of service, with consideration for any additional financial impacts from economic and population growth. The financial plan considers and accounts for traditional and non-traditional sources of municipal funding.

The annual funding typically available is determined by averaging historical capital expenditures on infrastructure, inclusive of any allocations to reserves for capital purposes. For Thames Centre, an average of reserve allocations for 2022-2024 was used to project available funding.

Only reliable and predictable sources of capital funding are used to benchmark funds that may be available on any given year. The funding sources include:

- Revenue from taxation allocated to reserves for capital purposes
- Revenue from water, wastewater and stormwater rates allocated to capital reserves
- The Canada Community Benefits Fund (CCBF), formerly the Federal Gas Tax Fund
- The Ontario Community Infrastructure Fund (OCIF)

Although provincial and federal infrastructure programs can change with evolving policy, CCBF and OCIF are considered as permanent and predictable.

14.1.1. Annual Capital 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. 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. 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:

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.

Lifecycle Strategy Scenario: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	$4,468,474	$3,045,065	$1,423,410

Table 57: Road Network Annual Requirement Comparison

The implementation of a proactive lifecycle strategy for paved roads leads to a potential annual cost avoidance of approximately $1.4 million for the road network. This represents an overall reduction of the annual requirements by 32%.

As the lifecycle strategy scenario represents the lowest cost option available to the Municipality, we have used this annual requirement in the development of the financial strategy.

The table below presents the system-generated average annual capital requirements for existing assets across each asset category. These figures are based on a total replacement value of $469.8 million, resulting in an estimated annual capital need of approximately $9.8 million for all analyzed assets.

Additionally, the table includes the calculated target reinvestment rate (TRR), a system-generated benchmark derived by dividing the annual capital requirement by the total replacement cost for each category. This benchmark indicates the level of reinvestment needed to maintain current asset value and condition over time. The cumulative system-generated TRR across all categories is approximately 2.1% and should not be interpreted as the proposed or financially feasible reinvestment target.

Asset Category	Replacement Cost	Annual Capital Requirements	Target Reinvestment Rate
Road Network	$140,386,481	$3,045,065	2.2%
Bridges & Culverts	$28,541,005	$431,623	1.5%
Buildings & Facilities	$97,538,297	$1,501,130	1.5%
Parks & Land Improvements	$19,489,173	$1,135,938	5.8%

Machinery & Equipment	$1,716,522	$219,533	12.8%
Fleet	$10,313,523	$1,045,633	10.1%
Stormwater Collection	$44,433,555	$553,560	1.2%
Water Distribution	$50,626,968	$1,119,174	1.6%
Wastewater Collection	$76,794,723	$831,334	1.5%
Total	**$469,840,247**	**$9,882,991**	**2.1%**

Table 58: System-generated Average Annual Capital Requirements

Although there is no industry standard guide on optimal annual investment in infrastructure, the TRRs above provide a useful benchmark for organizations. In 2016, the Canadian Infrastructure Report Card (CIRC) produced an assessment of the health of municipal infrastructure as reported by cities and communities across Canada. The CIRC remains a joint project produced by several organizations, including the Federation of Canadian Municipalities (FCM), the Canadian Society of Civil Engineers (CSCE), the Canadian Network of Asset Managers (CNAM), and the Canadian Public Works Association (CPWA).

The 2016 version of the report card also contained recommended reinvestment rates that can also serve as benchmarks for municipalities. The CIRC suggest that, if increased, these reinvestment rates can "stop the deterioration of municipal infrastructure." The report card contains both a range for reinvestment rates that outlines the lower and upper recommended levels, as well as current municipal averages.

While the system-generated targets provide a benchmark for ideal reinvestment rates to maintain asset condition over the long term, they do not reflect the municipality's financial realities or strategic direction. The following section outlines the capital investment required to achieve the proposed levels of service established through the selected scenario, which balances asset performance goals with affordability and implementation feasibility.

14.2. Financial Profile: Tax-Funded Assets

14.2.1. Current Funding Levels

The table below outlines how current funding levels compare to the investment required to achieve the proposed levels of service for each asset category. Under existing funding, the municipality is meeting approximately 69.6% of the annual capital investment needed to maintain the proposed service levels, resulting in an estimated annual funding shortfall of $1.95 million.

Asset Category	Annual Capital Requirements	Annual Funding Available	Annual Infrastructure Deficit	Funding Level
Road Network	$2,856,852	$2,212,555	$644,297	77.4%
Bridges & Culverts	$542,600	$390,568	$152,032	72.0%
Buildings & Facilities	$954,338	$613,637	$340,701	64.3%
Parks & Land Improvements	$911,924	$79,264	$832,660	8.7%
Machinery & Equipment	$215,782	$351,235	($135,453)	162.8%
Fleet	$933,781	$818,505	$115,276	87.7%
Total	**$6,415,277**	**$4,465,763**	**$1,949,515**	**69.6%**

Table 59: Tax-Funded Assets - Current Funding Levels

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Reserve Allocation	CCBF	OCIF	Total Available	
Road Network	$2,856,852	$1,292,145	$439,533	$480,877	$2,212,555	$644,297
Bridges & Culverts	$542,600	$390,568			$390,568	$152,032
Buildings & Facilities	$954,338	$613,637			$613,637	$340,701
Parks & Land Improvements	$911,924	$79,264			$79,264	$832,660
Machinery & Equipment	$215,782	$351,235			$351,235	$(135,453)
Fleet	$933,781	$818,505			$818,505	$115,276
	$6,415,277	**$3,545,353**	**$439,533**	**$480,877**	**$4,465,763**	**$1,949,515**

Table 60: Taxes: Required Funding vs Current Funding Position

The average annual investment requirement for the proposed levels of service is $6,415,277. Annual revenue currently allocated to these assets for capital purposes is $4,465,763 leaving an annual deficit of $1,949,515. Put differently, these infrastructure categories are currently funded at 69.6% of their long-term requirements.

14.2.2. Closing the Gap

Eliminating annual infrastructure funding shortfalls is a difficult and long-term endeavor for municipalities. Achieving recommended funding levels to support the proposed levels of service, while maintaining affordability for residents, will require time and deliberate financial planning.

This section outlines how Thames Centre can gradually work towards closing the annual capital funding shortfall using its own-source revenues, such as property taxes and utility rates. This approach avoids the use of additional debt for existing assets and supports the municipality's goal of sustainably increasing investment to maintain service delivery at the chosen targets. By phasing in additional funding as financial capacity allows, Thames Centre can begin to align infrastructure spending with service level expectations and the priorities identified through community and stakeholder engagement.

14.2.3. Funding Requirements Tax Revenues

In 2024, Thames Centre had annual tax revenue of $12,475,864. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, achieving the target levels of service would require a 14.1% cumulative tax increase over time.

To achieve this increase, several scenarios have been developed using phase-in periods ranging from five to twenty years. Shorter phase-in periods may place too high a burden on taxpayers, whereas a phase-in period beyond 20 years may see a continued deterioration of infrastructure, leading to larger backlogs.

Asset Category	Tax Change Required
Road Network	5.2%
Bridges & Culverts	1.2%
Buildings & Facilities	2.7%
Machinery & Equipment	No increase required
Park & Land Improvements	6.7%
Fleet	0.9%

Table 61: Phasing in Annual Tax Increases

The selected funding strategy is designed to maintain targeted asset conditions over time, rather than fully closing the annual capital gap. While the investment level does not cover all capital requirements, it supports the timely completion of major capital activities that are essential to sustaining service levels. The municipality will continue to supplement available funding through the use of reserves and external grants, with project prioritization used to ensure that the most critical infrastructure needs are addressed first. This approach enables the municipality to manage risk, minimize service disruptions, and maintain stable asset performance within a financially achievable framework.

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

- Thames Centre’s debt payments for these asset categories will be decreasing by $61,256 over the next 5 to 10 years.

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above.

	Phase-in Period			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	1,949,515	1,949,515	1,949,515	1,949,515
Change in Debt Costs	0	-61,256	-71,055	-71,055
Resulting Infrastructure Deficit:	**1,949,515**	**1,888,259**	**1,878,460**	**1,878,460**
Tax Increase Required	15.6%	15.1%	15.1%	15.1%
Annually:	**3.0%**	**1.5%**	**1.0%**	**0.8%**

Table 62: Phase-in Period for proposed LOS

Proposed levels of service play a role in the development of the Annual Average Requirement discussed above. For comparison, the taxation impact for achieving each service level option is provided below:

Annual Impact on Taxation				
Change in Levels of Service	**5 Year**	**10 Year**	**15 Year**	**20 Year**
Current Capital Investment	0.0%	0.0%	0.0%	0.0%
Strategic Capital Investment	4.3%	2.1%	1.4%	1.1%
Sustainable Condition Approach	3.0%	1.5%	1.0%	0.8%
Recommended	3.0%	1.5%	1.0%	0.8%

Table 63: Scenarios Annual Impact on Taxation

Financial Strategy Recommendations

Considering all the above information, we recommend the 15-year option to achieve the proposed levels of service:

a) When realized, reallocating the debt cost reductions of $61 thousand to the applicable infrastructure deficit.
b) Increasing tax revenues by 1.0% each year for the next 15 years to gradually implement the funding strategy outlined in the selected scenario for the asset categories covered in this section of the AMP.
c) Allocating the current Canada Community-Building Fund (Formerly known as Gas Tax Fund) and OCIF revenue as outlined previously.
d) Reallocating appropriate revenue from categories in a surplus position to those in a deficit position.

e) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
f) Leveraging additional, non-sustainable revenue sources such as one-time grants, surpluses, and reserves, as supplementary funding to advance asset management goals.

Notes:

1. To support long-term asset sustainability, Thames Centre implemented a 1.0% dedicated capital levy in 2024. This strategic funding measure reflects the Municipality's commitment to achieving its asset management goals and addressing the infrastructure funding gap. The levy directly contributes to the financial strategy outlined in this plan and positions the Municipality to meet the proposed levels of service over time. As with all financial strategies, the effectiveness of the capital levy should be monitored and reviewed periodically to ensure it remains aligned with evolving asset needs, cost projections, and growth pressures.
2. 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[7].

Although this option achieves the proposed levels of service and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of $2.1m for the Road Network, $5.4m for Buildings & Facilities, $891 thousand for Parks & Land Improvements, $159 thousand for Machinery & Equipment, and $64 thousand for Fleet.

[7] 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.

14.3. Financial Profile: Rate Funded Assets

14.3.1. Current Funding Levels

The table below summarizes how current funding levels compare with funding required for the proposed levels of service. At existing levels, the Municipality is meeting approximately 77.1% of the annual capital needs associated with these service levels, resulting in an annual funding shortfall of $550 thousand.

Asset Category	Avg. Annual Requirement	Annual Funding Available			Annual Deficit
		Reserve Allocation	OCIF	Total Available	
Water Distribution	$1,288,374	$770,258	$387,008	$1,157,266	$131,108
Wastewater Collection	$703,699	$317,210	$255,135	$572,345	$131,354
Stormwater Network	$406,964	$119,868		$119,868	$287,096
	$2,399,037	**$1,087,467**	**$642,143**	**$1,849,479**	**$549,558**

Table 64: Rates - Required Funding vs Current Funding Position

The average annual investment requirement for the above categories is $2,399,037. Annual revenue currently allocated to these assets for capital purposes is $1,849,479 leaving an annual deficit of $549,558. Put differently, these infrastructure categories are currently funded at 77.1% of their long-term requirements.

In 2024, Thames Centre had annual tax revenue of $12,475,864. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, achieving the target levels of service would require a 14.1% tax change over time.

To achieve this increase, several scenarios have been developed using phase-in periods ranging from five to twenty years. Shorter phase-in periods may place too high a burden on taxpayers, whereas a phase-in period beyond 20 years may see a continued deterioration of infrastructure, leading to larger backlogs.

14.3.2. Closing the Gap

Eliminating annual infrastructure funding shortfalls is a difficult and long-term endeavor for municipalities. Considering the Municipality's current funding position, it will require many years to achieve the proposed levels of service.
This section outlines how the Municipality of Thames Centre can close the annual funding deficits using own-source revenue streams, i.e., property taxation and utility rates, and without the use of additional debt for existing assets.

14.3.3. Funding Requirements Rate Revenues

In 2024, Thames Centre had annual water revenues of $2,507,553, annual wastewater revenues of $1,755,857, and annual stormwater revenues of $178,259. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, achieving the target levels of service would require the following cumulative rate increases over time across the 3 categories.

Asset Category	Rate Change Required
Water Distribution	5.2%
Wastewater Collection	7.5%
Stormwater Collection	161.1%

Table 65: Phasing in Annual Rate Increases

For rate-supported services, the selected funding strategy aims to maintain targeted asset conditions over time without fully closing the annual capital funding gap. The service level targets enable the timely execution of critical renewal and replacement projects necessary to sustain reliable service delivery. The municipality will continue to rely on reserves and available grant funding to address priority needs and manage unexpected infrastructure demands. By prioritizing investments and aligning rate adjustments with long-term planning, this approach helps mitigate service disruptions, reduce asset failure risks, and maintain stable performance across the water, wastewater, and stormwater networks in a financially responsible manner.

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

- Thames Centre's debt payments for wastewater assets will be decreasing by $11,631 over the next 5 to 10 years.

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above.

	Water Distribution				Stormwater Collection			
	5 Years	**10 Years**	**15 Years**	**20 Years**	**5 Years**	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit:	$131k	$131k	$131k	$131k	$287k	$287k	$287k	$287k
Rate Increase Required	5.2%	5.2%	5.2%	5.2%	161.1%	161.1%	161.1%	161.1%
Annually:	**1.1%**	**0.6%**	**0.4%**	**0.3%**	**21.2%**	**10.1%**	**6.7%**	**5.0%**

Table 66: Phase-in Period for proposed LOS - Water & Stormwater

	Wastewater Assets: Phase-in Period			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	$131,354	131,354	131,354	131,354
Change in Debt Costs	$0	($11,631)	($11,631)	($11,631)
Resulting Infrastructure Deficit:	$131,354	$119,723	$119,723	$119,723
Tax Increase Required	7.5%	6.8%	6.8%	6.8%
Annually:	**1.5%**	**0.7%**	**0.5%**	**0.4%**

Table 67: Phase-in Period for proposed LOS - Wastewater

Similarly to the Tax Funded asset, the proposed levels of service play a role in the development of the Annual Average Requirement discussed above. For comparison, the taxation impact for achieving each service level option is provided below:

Annual Impact on Rates					
Water	**Changes in Levels of Service**	**5 year**	**10 Year**	**15 Year**	**20 Year**
	Current Capital Investment	0.0%	0.0%	0.0%	0.0%
	Strategic Capital Investment	0.0%	0.0%	0.0%	0.0%
	Sustainable Condition Approach	1.1%	0.6%	0.4%	0.3%
	Recommended	1.1%	0.6%	0.4%	0.3%
Waste-water	**Changes in Levels of Service**	**5 year**	**10 Year**	**15 Year**	**20 Year**
	Current Capital Investment	0.0%	0.0%	0.0%	0.0%
	Strategic Capital Investment	2.8%	1.4%	0.9%	0.7%
	Sustainable Condition Approach	1.5%	0.7%	0.5%	0.4%
	Recommended	1.5%	0.7%	0.5%	0.4%
Storm-water	**Changes in Levels of Service**	**5 year**	**10 Year**	**15 Year**	**20 Year**
	Current Capital Investment	0.0%	0.0%	0.0%	0.0%
	Strategic Capital Investment	28.0%	13.2%	8.6%	6.4%
	Sustainable Condition Approach	21.2%	10.1%	6.7%	5.0%
	Recommended	21.2%	10.1%	6.7%	5.0%

Table 68: PLOS Annual Impact on Rates

Financial Strategy Recommendations

Considering all the above information, we recommend the 15-year option to achieve the proposed levels of service:

a) when realized, reallocating the debt cost reductions of $11.6 thousand for wastewater services to the applicable infrastructure deficit.
b) increasing rate revenues by 0.4% for water services and 0.5% for wastewater services and 6.7% for stormwater services each year for the next 15 years to gradually implement the funding strategy outlined in the selected scenario for the asset categories covered in this section of the AMP.
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

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

Although this option achieves the proposed levels of service and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of $1.0 million for Wastewater Collection assets, $2.3 million for Water Distribution assets and $550 thousand for Stormwater Collection assets.
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.

14.4. Use of Debt

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

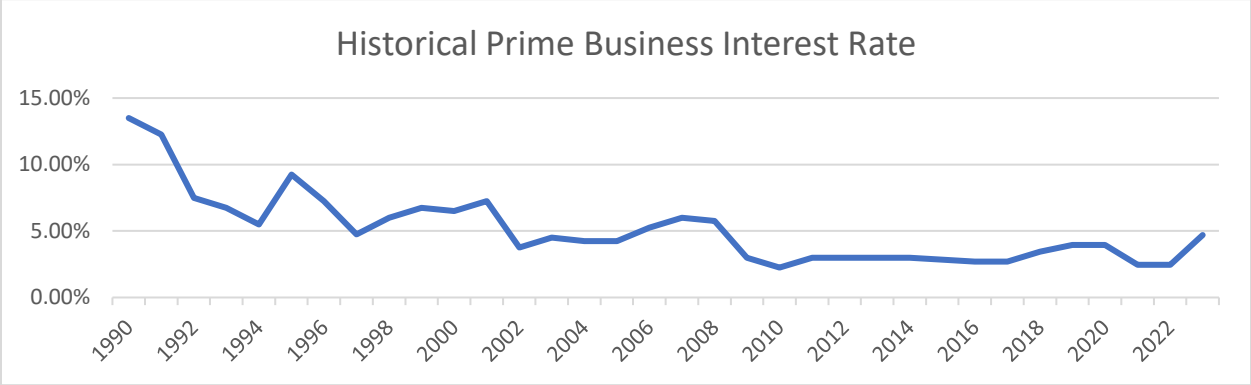
a) the ability to stabilize tax & user rates when dealing with variable and sometimes uncontrollable factors

b) equitable distribution of the cost/benefits of infrastructure over its useful life

c) a secure source of funding

d) flexibility in cash flow management

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



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

The following tables outline how Thames Centre has historically used debt for investing in the asset categories as listed. There is currently $8,278,154 of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $99,284, well within its provincially prescribed maximum of $4,212,868.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2019	2020	2021	2022	2023
Bridges & Culverts						
Buildings & Facilities	$2,786,022					
Parks & Land Improvements	$69,213					
Machinery & Equipment						
Road Network						
Storm Network						

Fleet						
Total Tax Funded:	**$2,855,235**	**$0**	**$0**	**$0**	**$0**	**$0**
Water Distribution						
Wastewater Collection	$5,422,919					
Total Rate Funded:	**$5,422,919**	**$0**	**$0**	**$0**	**$0**	**$0**

Table 69: Thames Centre Use of Debt in Last Five Years

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Road Network							
Bridges & Culverts							
Buildings & Facilities	$88k	$88k	$88k	$88k	$88k	$88k	$26k
Machinery & Equipment							
Parks & Land Improvements							
Fleet							
Total Tax Funded:	**$88k**	**$88k**	**$88k**	**$88k**	**$88k**	**$88k**	**$26k**
Stormwater Collection							
Water Distribution	$12k	$12k	$12k	$12k	$12k	$12k	
Wastewater Collection							
Total Rate Funded:	**$12k**	**$12k**	**$12k**	**$12k**	**$12k**	**$12k**	**$0**

Table 70: Thames Centre Principal & Interest Payments

14.5. Use of Reserves

14.5.1. Available Reserves

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

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

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

Asset Category	Balance at December 31, 2023
Road Network	$5,512,169
Bridges & Culverts	$600,575

Buildings & Facilities	$694,645
Machinery & Equipment	$2,810,855
Parks & Land Improvements	$1,361,419
Fleet	$177,082
Total Tax Funded:	**$11,156,745**
Water Distribution	$3,646,880
Wastewater Collection	$1,149,467
Stormwater Collection	$121,110
Total Rate Funded:	**$4,917,458**

Table 71: Thames Centre Reserve Balances

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 proposed levels of service. This allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

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

15.1. Official Plan for the Municipality of Thames Centre (October 2020)

The Strategic Plan for the Municipality of Thames Centre charts a focused course for community development over the next three years, anchored in extensive community input and addressing key priorities such as housing solutions, transparent decision-making, accessible recreation, economic prosperity, and sustainability. Organized around five strategic pillars—Smart Planning, Community Communications & Engagement, Active Living, Economic Development, and Sustainability—the plan reflects the municipality's commitment to responsive governance.

Community consultation efforts, including surveys, online platforms, and local events like Open Houses, shaped the plan's direction by gathering feedback from residents, businesses, and farms. This input guided the formulation of ambitious goals across all pillars. For example, under Smart Planning, initiatives aim to streamline planning processes, diversify residential options, and collaborate on a Transportation Master Plan with Middlesex County to optimize infrastructure use and protect natural resources.

Initiatives under Community Communications & Engagement focus on enhancing transparency through town hall meetings and improved council session live streams, while Active Living strategies prioritize expanding recreational services, particularly for youth and seniors, through comprehensive Parks and Trails Master Plan development. Economic Development goals include incentivizing local businesses, collaborating on county-wide economic strategies, and supporting agricultural initiatives.

Sustainability efforts underscore fiscal responsibility, green initiatives, and community-wide tree planting programs, reinforcing the plan's commitment to long-term environmental stewardship. Recommendations advocate for embedding strategic priorities into budget allocations, policies, and staff reports, supported by the establishment of specialized committees like the Planning and Development Committee and the Economic Development Committee. These initiatives aim to fortify Thames Centre's current quality of life and pave the way for a resilient future community.

15.1.1. Middlesex County Official Plan (July 2023)

The Middlesex County Official Plan is a comprehensive planning document that directs long-term land use policies and physical planning across the county. It provides a framework for coordinating planning efforts among local municipalities, guiding local official plans and zoning by-laws while respecting local planning autonomy. The Plan includes specific land use policies for Settlement Areas, Agricultural Areas, and Natural Environment Areas, as well as a policy framework for issues such as Resource Management, Growth Management, and the provision of Physical Services such as transportation infrastructure.

Recently updated to align with Provincial legislation and policies, the Official Plan incorporates initiatives like the Cycling Strategy, Corporate Strategic Plan, and Economic Development Strategy Update. The Official Plan aims to guide growth until 2046, ensuring consistency with the Provincial Planning Statement and integrating feedback from the Middlesex 2046 Engagement process. Amendment No. 3, adopted by County Council in July 2022 and approved with modifications by the Ministry of Municipal Affairs and Housing in July 2023, reflects these updates and sets a course for coordinated and sustainable development across Middlesex County.

15.1.2. Development Charges Background Study (December 2021)

A Development Charges Background Study for the Municipality was prepared in December 2021 by Watson & Associates Economists Ltd., based on the methodology required under the Development Charges Act.

According to the Study, the adjusted population for 2021 stands at 14,630 residents, factoring in a Census undercount of 2.3%. Looking ahead to 2031, the municipality is projected to experience a 27% population increase, reaching approximately 18,550 residents, including adjustments for Census undercount.

Population Forecast from 2021 to 2046
(excluding Census undercount)

Year	2021	2031	2046
Population Forecast	14,141	17,931	21,231

By 2031, over half of this growth is expected to occur in Dorchester, accommodating 57% of the municipality's new residents, while Thorndale will accommodate the remainder. Rural areas and hamlets within Thames Centre, however, are projected to see a marginal decrease in population. Detailed forecasts and methodologies for both residential and non-residential growth are outlined in the study, providing a comprehensive basis for these projections. The forecast indicates that by mid-2031, the population is estimated to reach around 17,930, with further growth to 21,230 by mid-2046, and ultimately 22,370 by buildout, reflecting increases of approximately 3,790, 7,090, and 8,230 persons respectively.

15.2. Growth and Demand Forecast

The demand for municipal infrastructure in Thames Centre is expected to change significantly over time due to population growth, evolving community needs, and regulatory pressures. Understanding these drivers allows the Municipality to plan effectively for new infrastructure, upgrades, and potential decommissioning of assets.

15.3.1. Growth Forecasts and Planning Context

Thames Centre's Strategic Plan (2024-2027) and the Middlesex County Official Plan (2023) provide the policy framework for managing growth. These plans prioritize smart planning, coordinated infrastructure investment, and sustainability. Local initiatives include enhancing transportation planning, expanding recreation services, and integrating infrastructure with new development.

According to the 2021 Development Charges Background Study, the Municipality's population is expected to grow by approximately 27% by 2031, from 14,141 in 2021 to 17,931, reaching 21,231 by 2046. Growth will be concentrated in Dorchester and Thorndale, while rural areas are projected to see a slight decline.

15.3.2. Impacts on Infrastructure

The projected growth will place increasing pressure on core assets such as roads, water and wastewater systems, stormwater infrastructure, parks, and community facilities. Specifically:

- Urban areas like Dorchester and Thorndale will require targeted expansion of water, wastewater, and transportation systems to accommodate residential intensification.
- Facility needs, particularly related to recreation and seniors' services, will grow in response to demographic shifts highlighted in the Strategic Plan.
- Asset lifecycle strategies must account for both growth-driven additions and the replacement of aging assets to maintain desired levels of service.

15.3.3. Managing Growth through Asset Management

Thames Centre will address growth-related demand through the following strategies:

- Prioritize infrastructure investments in areas experiencing high population and economic growth.
- Use growth projections to inform capital budgeting and long-term financial strategies, including the timing of new infrastructure.
- Integrate development charge revenues into funding models to support growth-related capital needs.
- Leverage condition and capacity data to determine whether to expand, rehabilitate, or decommission assets based on evolving demand.

By aligning infrastructure investments with growth trends and planning policies, Thames Centre aims to meet future service needs while maintaining long-term financial and environmental sustainability.

Appendix A: Current LOS 10-Year Capital Requirements

The following tables identify the capital cost requirements for each of the next 10 years in order to meet projected capital requirements and maintain the current level of service.

Road Network											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
HCB Roads	$0	$669k	$3.1m	$473k	$442k	$998k	$1.2m	$2.4m	$314k	$195k	$189k
LCB Roads	$421k	$1.1m	$714k	$275k	$798k	$1.1m	$1.1m	$924k	$946k	$1.0m	$275k
Sidewalks	$667k	$41k	$40k	$0	$0	$338k	$58k	$102k	$172k	$25k	$0
Streetlights	$990k	$0	$0	$0	$0	$131k	$47k	$29k	$0	$172k	$28k
Total	**$2.1m**	**$1.8m**	**$3.8m**	**$749k**	**$1.2m**	**$2.6m**	**$2.4m**	**$3.4m**	**$1.4m**	**$1.4m**	**$492k**

Bridges & Culverts											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	$0	$0	$900k	$0	$0	$0	$240k	$0	$60k	$0	$2.7m
Structural Culverts	$0	$0	$30k	$600k	$0	$360k	$110k	$128k	$130k	$0	$155k
Total	**$0**	**$0**	**$930k**	**$600k**	**$0**	**$360k**	**$350k**	**$128k**	**$190k**	**$0**	**$2.9m**

Stormwater Collection											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basins	$0	$52k	$0	$0	$0	$0	$0	$8k	$0	$0	$0
Mains	$0	$8k	$953k	$2k	$0	$1k	$100k	$6k	$0	$101k	$0
Manholes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SWM Ponds	$550k	$0	$0	$91k	$0	$0	$0	$0	$0	$0	$91k
Total	**$550k**	**$60k**	**$953k**	**$2k**	**$0**	**$1k**	**$100k**	**$14k**	**$0**	**$101k**	**$0**

Buildings & Facilities											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Community Services	$0	$35k	$0	$0	$841k	$0	$0	$0	$0	$0	$0
Environmental Services	$1.8m	$249k	$0	$0	$0	$0	$0	$0	$0	$243k	$0
General Administration	$354k	$434k	$0	$0	$0	$0	$0	$0	$0	$0	$0
Protective Services	$506k	$0	$0	$0	$0	$0	$0	$0	$0	$0	$417k
Recreation and Cultural Services	$2.5m	$932k	$181k	$0	$89k	$53k	$1.1m	$27k	$1.2m	$221k	$59k
Transportation Services	$217k	$0	$213k	$0	$0	$892k	$0	$0	$0	$637k	$0
Total	**$5.4m**	**$1.6m**	**$394k**	**$0**	**$931k**	**$945k**	**$1.1m**	**$27k**	**$1.2m**	**$1.1m**	**$476k**

Machinery & Equipment											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fire Equipment	$36k	$238k	$63k	$0	$82k	$31k	$0	$26k	$0	$62k	$90k
IT Hardware & Software	$69k	$53k	$189k	$0	$147k	$0	$189k	$147k	$0	$0	$284k
Miscellaneous	$54k	$99k	$0	$0	$72k	$54k	$0	$79k	$23k	$118k	$56k
Office Equipment	$0	$0	$83k	$61k	$0	$0	$0	$0	$46k	$0	$58k
Recreation Equipment	$0	$36k	$30k	$0	$20k	$205k	$61k	$44k	$0	$36k	$50k
Total	**$159k**	**$425k**	**$366k**	**$343k**	**$326k**	**$290k**	**$250k**	**$296k**	**$69k**	**$217k**	**$820k**

Fleet											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemetery Vehicles	$64k	$0	$0	$0	$0	$0	$0	$0	$0	$64k	$0
Facility Vehicles	$0	$0	$0	$0	$108k	$36k	$134k	$0	$0	$0	$0
Fire Vehicles	$0	$0	$0	$469k	$0	$0	$0	$0	$0	$0	$0
Landfill Vehicles	$0	$25k	$0	$209k	$0	$0	$275k	$25k	$0	$0	$0
Parks Vehicles	$0	$0	$33k	$37k	$70k	$262k	$35k	$31k	$33k	$37k	$63k
Roads Vehicles	$0	$0	$319k	$358k	$99k	$420k	$1.2m	$1.2m	$1.0m	$0	$365k
Water Vehicles	$0	$0	$0	$0	$0	$38k	$72k	$0	$35k	$0	$0
Total	**$64k**	**$25k**	**$352k**	**$1.1m**	**$277k**	**$757k**	**$1.7m**	**$1.3m**	**$1.1m**	**$101k**	**$428k**

Parks & Land Improvements											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemeteries	$0	$0	$0	$21k	$0	$0	$0	$0	$0	$0	$0
Landfill	$0	$101k	$0	$0	$0	$0	$0	$0	$0	$0	$0
Light Standards & Fixtures	$0	$0	$0	$21k	$0	$11k	$0	$0	$0	$96k	$94k
Park Amenities	$0	$329k	$0	$0	$0	$0	$0	$0	$0	$8k	$0
Park Fencing	$0	$8k	$0	$0	$0	$0	$0	$0	$0	$0	$0
Park Furnishings	$0	$0	$0	$0	$0	$0	$19k	$0	$0	$0	$0
Parklands, Trails & Parking Lots	$603k	$156k	$52k	$123k	$560k	$16k	$0	$128k	$46k	$262k	$78k
Playground Equipment	$0	$0	$0	$0	$25k	$0	$24k	$0	$14k	$77k	$11k
Skateboard Parks	$247k	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sport Fields & Courts	$21k	$203k	$31k	$0	$0	$0	$2.5m	$415k	$0	$0	$525k
Water Play & Features	$19k	$69k	$0	$0	$0	$350k	$0	$0	$0	$0	$32k
Total	**$891k**	**$867k**	**$84k**	**$165k**	**$585k**	**$377k**	**$2.6m**	**$543k**	**$60k**	**$442k**	**$741k**

Water Distribution											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hydrant Leads	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Hydrants	$0	$16k	$0	$0	$8k	$8k	$0	$0	$8k	$0	$0
Mains	$0	$716k	$144k	$948k	$299k	$0	$0	$0	$0	$0	$2k
Pump House & Pumping Station	$904k	$0	$202k	$0	$6k	$0	$0	$0	$0	$0	$202k
Reservoirs	$91k	$0	$0	$0	$0	$705k	$0	$0	$0	$0	$201k
Treatment Plant	$278k	$3.1m	$0	$0	$849k	$0	$203k	$0	$0	$0	$0
Water Tower	$1.0m	$115k	$0	$0	$353k	$0	$0	$0	$442k	$0	$0
Total	**$2.3m**	**$4.0m**	**$345k**	**$948k**	**$1.5m**	**$713k**	**$203k**	**$0**	**$450k**	**$0**	**$405k**

Wastewater Collection											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Mains	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Manholes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollution Control Plant	$431k	$2.2m	$0	$0	$0	$0	$0	$0	$31k	$0	$0
Pump Station	$339k	$1.1m	$0	$0	$0	$0	$0	$0	$0	$128k	$0
Treatment Plant	$276k	$0	$0	$0	$959k	$0	$0	$0	$2.1m	$252k	$0
Total	**$1.0m**	**$3.3m**	**$0**	**$0**	**$959k**	**$0**	**$0**	**$0**	**$2.2m**	**$379k**	**$0**

Asset Portfolio											
Asset Segment	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges & Culverts	$0	$0	$930k	$600k	$0	$360k	$350k	$128k	$190k	$0	$2.9m
Building & Facilities	$5.4m	$1.6m	$394k	$0	$931k	$945k	$1.1m	$27k	$1.2m	$1.1m	$476k
Fleet	$64k	$25k	$352k	$1.1m	$277k	$757k	$1.7m	$1.3m	$1.1m	$101k	$428k
Machinery & Equipment	$159k	$425k	$366k	$343k	$326k	$290k	$250k	$296k	$69k	$217k	$820k
Parks & Land Improvements	$891k	$867k	$84k	$165k	$585k	$377k	$2.6m	$543k	$60k	$442k	$741k
Road Network	$2.1m	$1.8m	$3.8m	$749k	$1.2m	$2.6m	$2.4m	$3.4m	$1.4m	$1.4m	$492k
Stormwater Collection	$550k	$60k	$953k	$2k	$0	$1k	$100k	$14k	$0	$101k	$0
Wastewater Collection	$1.0m	$3.3m	$0	$0	$959k	$0	$0	$0	$2.2m	$379k	$0
Water Distribution	$2.3m	$4.0m	$345k	$948k	$1.5m	$713k	$203k	$0	$450k	$0	$405k
	$12.5m	**$12.1m**	**$7.3m**	**$3.9m**	**$5.8m**	**$6.1m**	**$8.6m**	**$5.7m**	**$6.7m**	**$3.8m**	**$6.2m**

Appendix B: Proposed LOS 10-Year Capital Requirements

The following tables outline the capital cost requirements for recommended lifecycle activities, as generated by the Municipality's asset management software. These projections assume annual budgets starting at current funding levels and gradually increasing over 15 years to reach the recommended funding level (Scenario 3), which supports the proposed levels of service.

Road Network										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
HCB Roads	$375k	$423k	$670k	$1.3m	$475k	$195k	$899k	$1.2m	$2.1m	$550k
LCB Roads	$1.1m	$714k	$275k	$798k	$1.1m	$1.1m	$924k	$946k	$1.0m	$275k
Sidewalks	$847k	$40k	-	-	$345k	$58k	$102k	$172k	$25k	-
Streetlights	$1.0m	-	-	-	$131k	$47k	$29k	-	$172k	-
Total	**$3.3m**	**$1.2m**	**$946k**	**$2.1m**	**$2.1m**	**$1.4m**	**$2.0m**	**$2.3m**	**$3.3m**	**$825k**

Bridges & Culverts										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	-	$705k	$195k	-	-	$240k	-	$60k	-	$450k
Structural Culverts	$120k	$30k	$240k	$360k	$360k	$110k	$128k	-	-	-
Total	**$120k**	**$735k**	**$435k**	**$360k**	**$360k**	**$350k**	**$128k**	**$60k**	**-**	**$450k**

Stormwater Collection										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basins	$32k	$8k	$12k	-	-	-	$8k	-	-	-
Mains	$522k	$546k	$535k	-	$1k	$77k	$10k	-	$176k	$32k
Manholes	-	-	-	-	-	-	-	-	-	-

SWM Ponds	-	-	-	-	-	-	-	-	-	-
Total	**$554k**	**$554k**	**$547k**	**-**	**$1k**	**$77k**	**$18k**	**-**	**$176k**	**$32k**

Buildings & Facilities										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Community Services	-	-	-	-	-	-	-	-	-	-
Environmental Services	-	-	-	-	-	-	-	-	-	-
General Administration	$1.1m	-	-	-	-	-	-	-	-	-
Protective Services	-	-	-	-	-	-	-	-	-	-
Recreation and Cultural Services	$97k	-	-	-	-	-	-	$354k	-	$158k
Transportation Services	-	-	-	-	-	$885k	-	-	-	-
Total	**$1.2m**	**-**	**-**	**-**	**-**	**$885k**	**-**	**$354k**	**-**	**$158k**

Machinery & Equipment										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fire Equipment	$54k	-	$54k	$70k	$27k	-	$26k	-	$54k	$27k
IT Hardware & Software	$81k	$53k	-	$7k	$75k	$53k	$7k	$75k	$53k	$7k
Miscellaneous	$76k	$85k	-	$14k	$46k	$49k	$10k	$11k	$125k	$26k
Office Equipment	-	$50k	$74k	-	-	-	-	$40k	-	$50k
Recreation Equipment	-	$31k	$26k	-	$73k	$114k	$30k	-	-	$31k
Total	**$211k**	**$219k**	**$155k**	**$91k**	**$220k**	**$216k**	**$72k**	**$125k**	**$232k**	**$140k**

Fleet										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemetery Vehicles	-	-	-	-	-	-	$64k	-	-	-
Facility Vehicles	$0	$0	$0	$108k	$0	$0	$171k	$0	$0	$0
Fire Vehicles	$0	$0	$469k	$0	$0	$0	$0	$0	$0	$0
Landfill Vehicles	$25k	$209k	-	-	$275k	-	-	$25k	-	-
Parks Vehicles	$163k	$33k	$48k	$58k	$262k	$35k	$31k	$33k	$113k	$51k
Roads Vehicles	$696k	$381k	$591k	$71k	$449k	$962k	$1.2m	$1.0m	$266k	$399k
Water Vehicles	-	$38k	-	-	-	$72k	$38k	-	-	-
Total	**$885k**	**$661k**	**$1.1m**	**$237k**	**$986k**	**$1.1m**	**$1.4m**	**$1.1m**	**$380k**	**$450k**

Parks & Land Improvements										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cemeteries	-	-	$21k	-	-	-	-	-	-	-
Landfill	-	-	-	-	-	-	-	-	-	-
Light Standards & Fixtures	-	-	$21k	-	$11k	-	-	-	$96k	$94k
Park Amenities	$8k	-	-	-	-	-	$329k	-	$8k	-
Park Fencing	-	-	-	-	-	-	-	-	-	-
Parklands, Trails & Parking Lots	$693k	$52k	$123k	$560k	$16k	-	$128k	$46k	$262k	$78k
Playground Equipment	-	-	-	-	-	$24k	$25k	$14k	$77k	$11k
Skateboard Parks	$166k	-	-	-	-	-	-	-	-	-
Sport Fields & Courts	$208k	$31k	-	-	-	$2.5m	$456k	-	-	$525k
Water Play & Features	$23k	-	-	-	$350k	-	-	-	-	$32k
Park Furnishings	-	-	-	-	-	$19k	-	-	-	-
Total	**$1.1m**	**$84k**	**$165k**	**$560k**	**$377k**	**$2.6m**	**$938k**	**$60k**	**$442k**	**$741k**

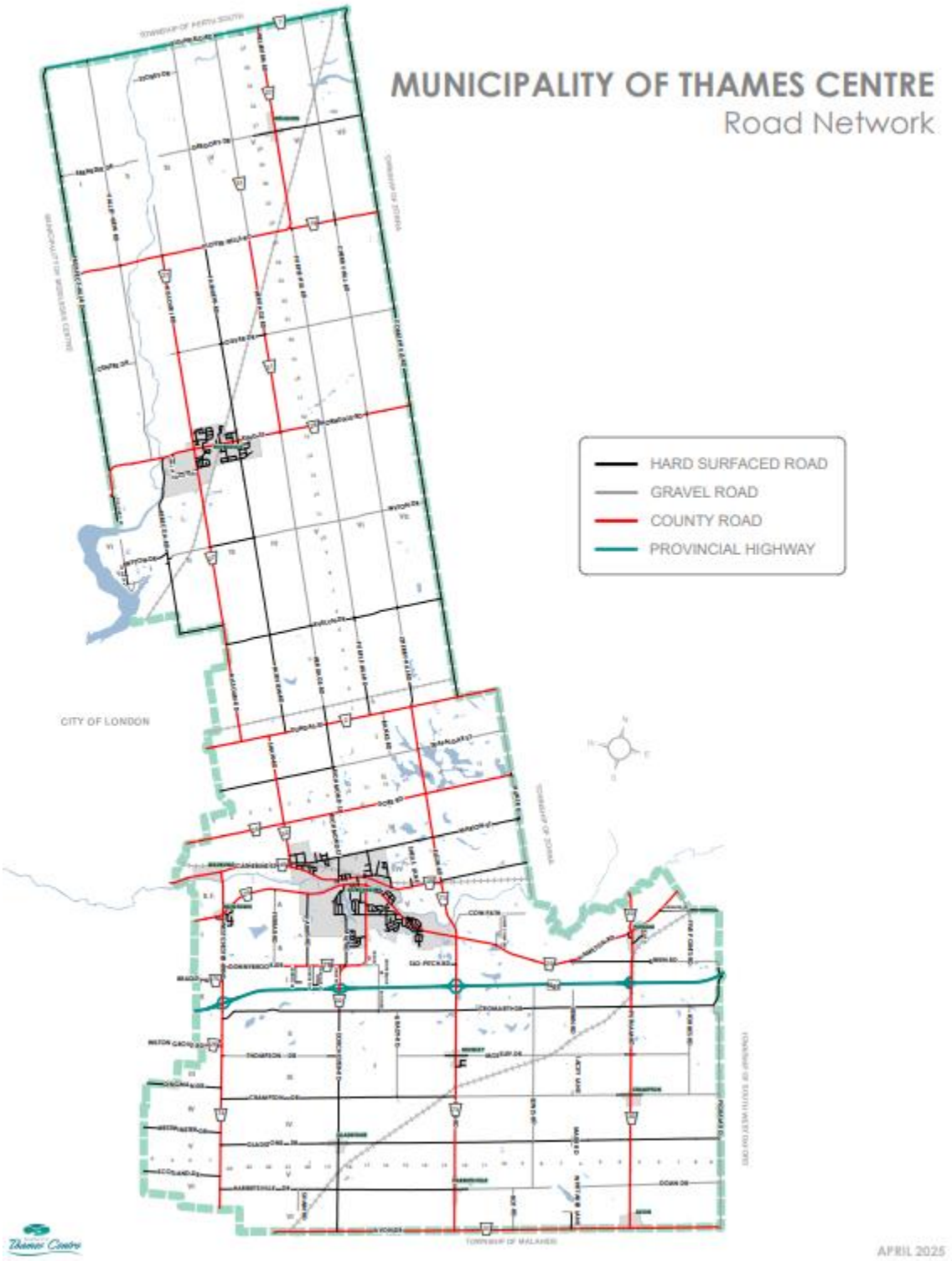
Water Distribution										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hydrant Leads	$4k	-	$6k	$8k	-	-	-	-	-	$7k
Hydrants	$8k	-	-	$8k	-	$16k	-	$8k	-	-
Mains	-	$56k	$246k	$778k	$84k	$836k	$288k	-	-	$2k
Pump House & Pumping Station	$342k	$372k	$553k	$208k	-	-	$600k	-	-	-
Reservoirs	$251k	$52k	-	-	$705k	-	-	-	-	$201k
Treatment Plant	$347k	-	$315k	-	$332k	-	-	-	$1.1m	$694k
Water Tower	$161k	$645k	-	$115k	-	$244k	$109k	$1.1m	-	-
Total	**$1.1m**	**$1.1m**	**$1.1m**	**$1.1m**	**$1.1m**	**$1.1m**	**$997k**	**$1.1m**	**$1.1m**	**$905k**

Wastewater Collection										
Asset Segment	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Mains	$9k	$13k	-	-	-	-	-	-	$44k	-
Manholes	-	-	-	-	-	-	-	-	-	-
Pollution Control Plant	-	$486k	-	-	-	$1.7m	-	$31k	-	-
Pump Station	$383k	-	$893k	-	-	-	-	-	$128k	-
Treatment Plant	$252k	-	-	$959k	-	-	-	-	$2.4m	-
Total	**$644k**	**$499k**	**$893k**	**$959k**	**-**	**$1.7m**	**-**	**$31k**	**$2.6m**	**-**

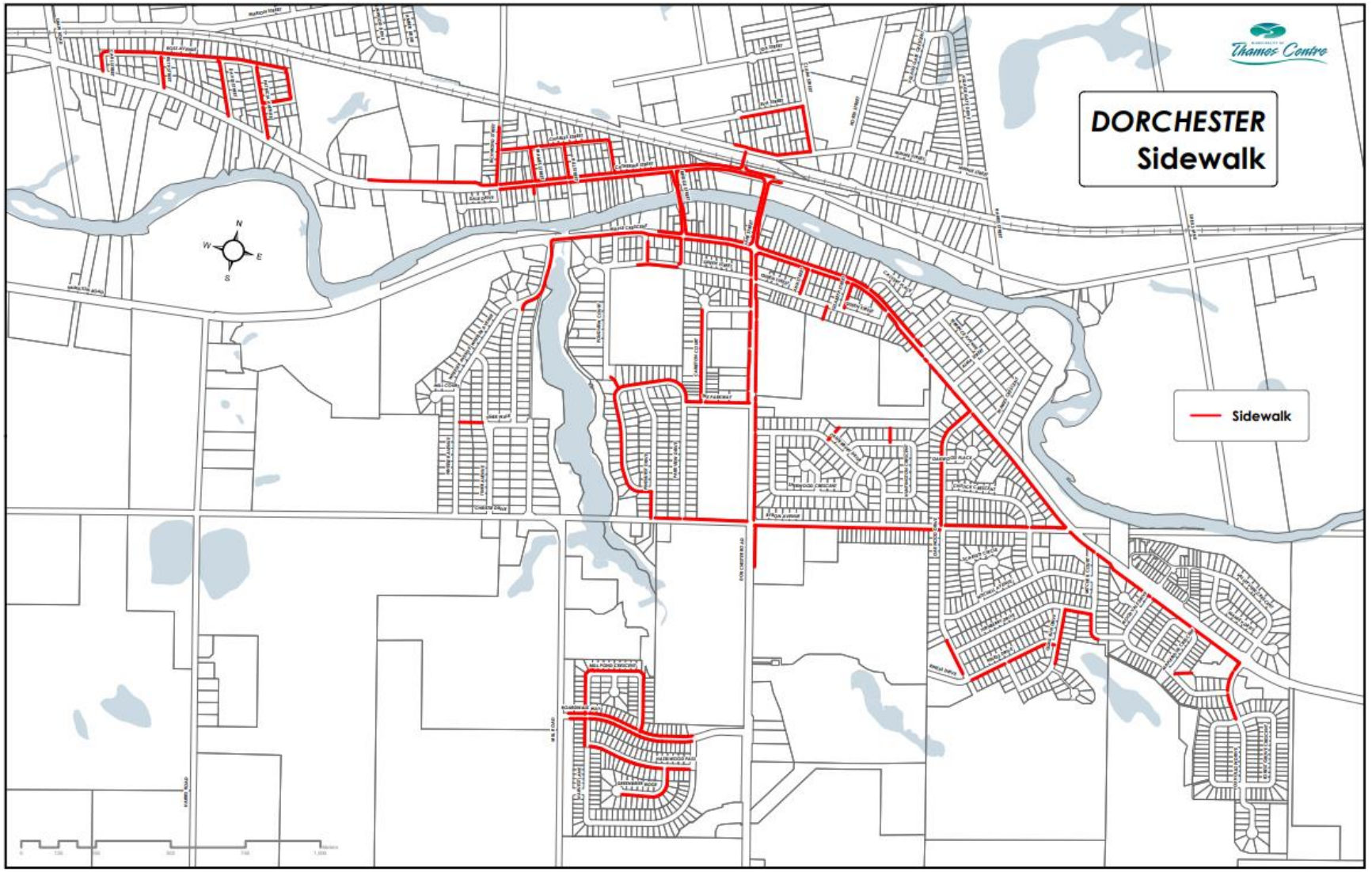
Asset Portfolio										
Asset Category	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges & Culverts	$120k	$735k	$435k	$360k	$360k	$350k	$128k	$60k	-	$450k
Building & Facilities	$1.2m	-	-	-	-	$885k	-	$354k	-	$158k
Fleet	$993k	$722k	$639k	$446k	$711k	$1.7m	$1.4m	$1.1m	$588k	$450k
Machinery & Equipment	$211k	$219k	$155k	$91k	$220k	$216k	$72k	$125k	$232k	$140k
Parks & Land Improvements	$1.1m	$84k	$165k	$560k	$377k	$2.6m	$938k	$60k	$442k	$741k
Road Network	$3.3m	$1.2m	$946k	$2.1m	$2.1m	$1.4m	$2.0m	$2.3m	$3.3m	$825k
Stormwater Collection	$554k	$554k	$547k	-	$1k	$77k	$18k	-	$176k	$32k
Wastewater Collection	$644k	$499k	$893k	$959k	-	$1.7m	-	$31k	$2.6m	-
Water Distribution	$1.1m	$1.1m	$1.1m	$1.1m	$1.1m	$1.1m	$997k	$1.1m	$1.1m	$905k
Total	**$9.2m**	**$5.1m**	**$4.9m**	**$5.6m**	**$4.9m**	**$10.0m**	**$5.5m**	**$5.2m**	**$8.4m**	**$3.7m**

Appendix C: Level of Service Maps

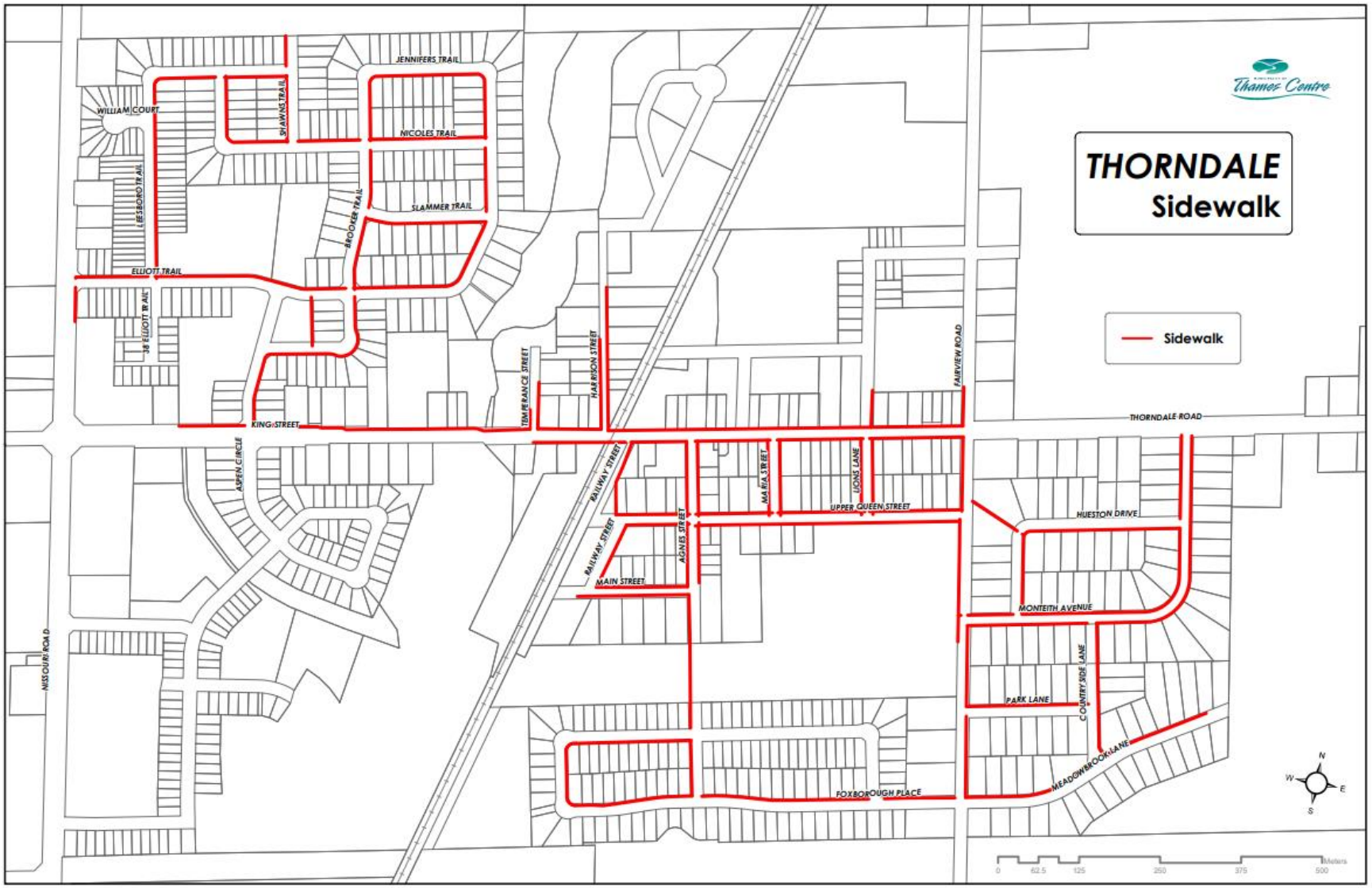
Road Network



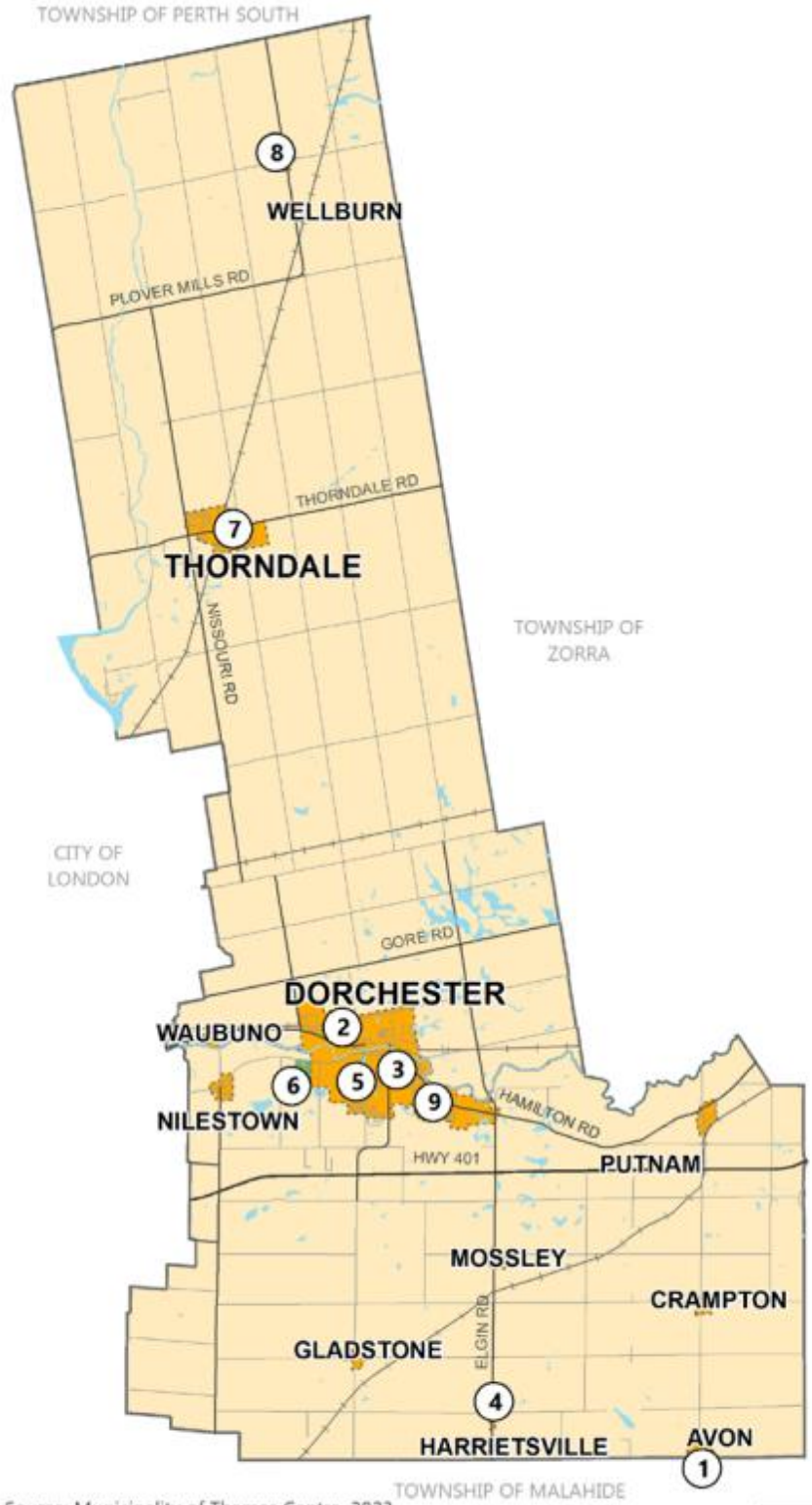
Sidewalk Network – Dorchester



Sidewalk Network – Thorndale



Park & Land Improvements



1. Avon Park
- 1 Soccer Field
- 1 Basketball Court
- 1 Playground

2. Catharine Street Day Park*
- 1 Playground

3. Dorchester Community Park
- 4 Ball Diamonds (2 Lit, 2 Unlit)
- 1 Outdoor Pool and Wading Pool
- 1 Splash Pad
- 1 Skate Park
- 3 Playgrounds
- 2 Tennis Courts (Lit)
- 2 Pickleball Courts (Lit)

4. Harrietsville Park
- 1 Ball Diamond
- 1 Basketball Hoop
- 1 Playground

5. Mill Pond*
- 1 Playground

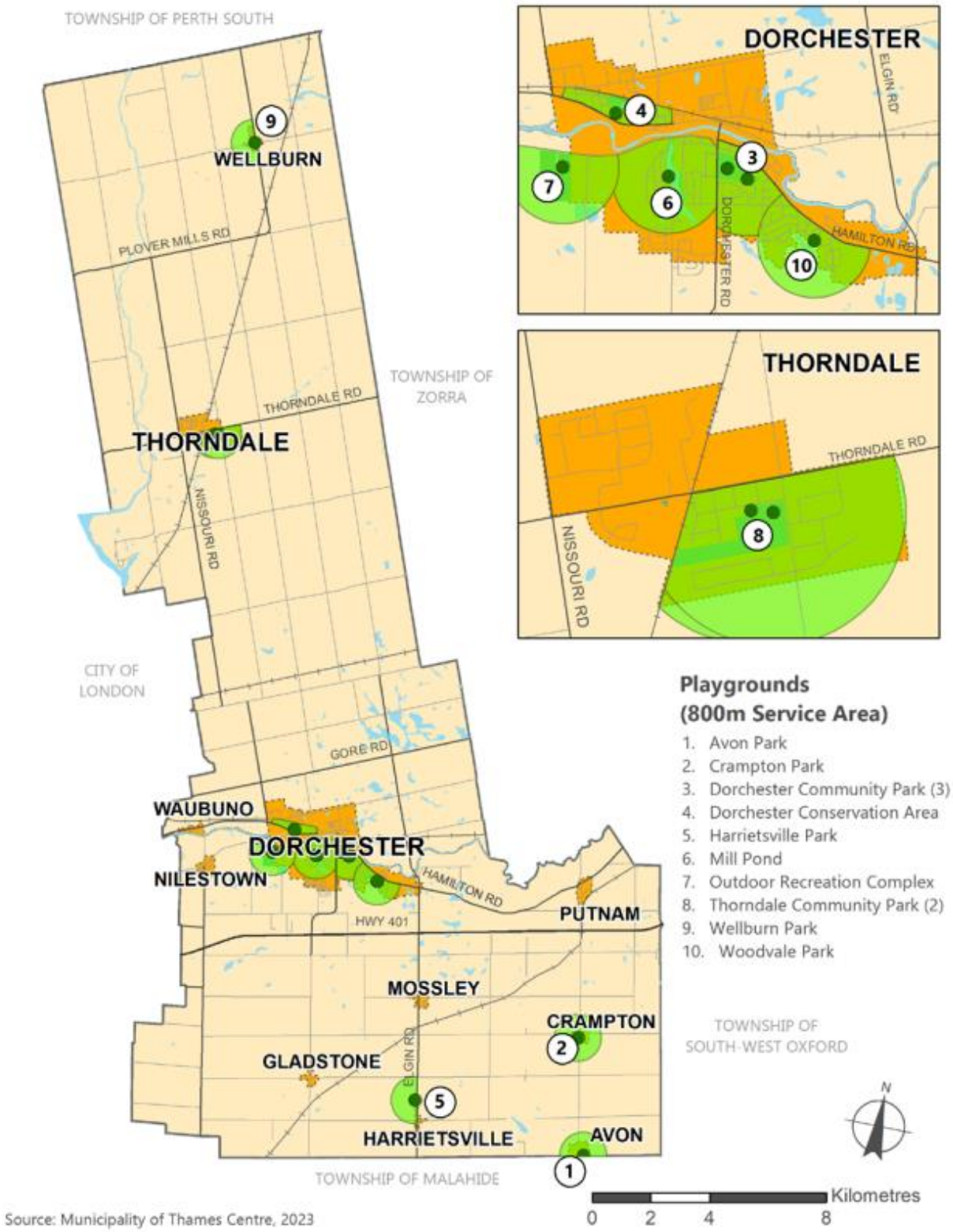
6. Outdoor Recreation Complex
- 2 Ball Diamonds (Lit)
- 5 Soccer Fields (2 Lit, 3 Unlit)
- 1 Playground

7. Thorndale Community Park
- 4 Ball Diamonds (1 Lit, 3 Unlit)
- 6 Soccer Fields
- 1 Skate Park
- 2 Playgrounds
- 1 Tennis Court
- 2 Pickleball Courts
- 1 BasketballCourt

8. Wellburn Park
- 1 Tennis Court
- 1 Basketball Court
- 1 Playground

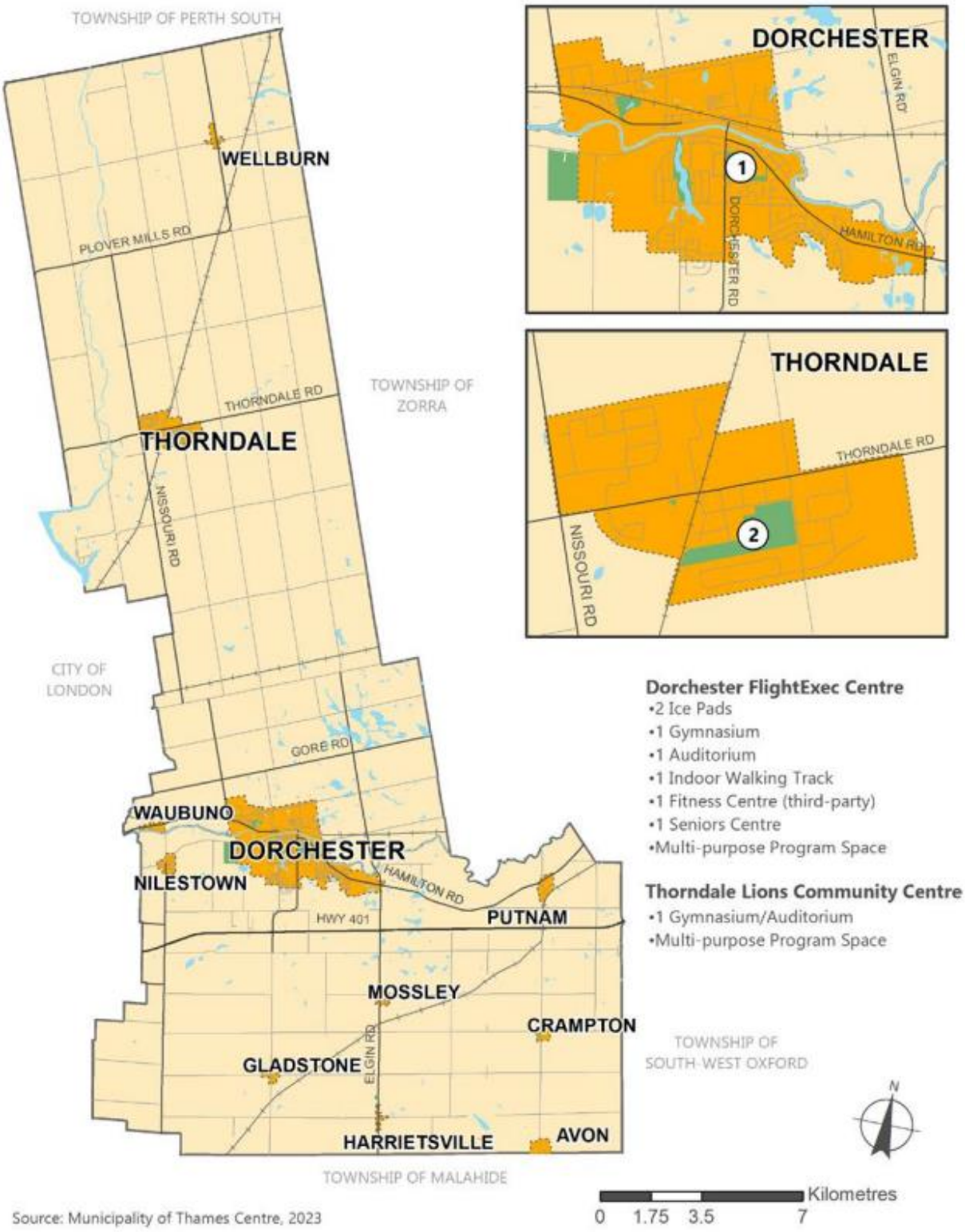
9. Woodvale Park
- 1 Playground

Source: Municipality of Thames Centre, 2023
*Catharine Street Day Park and Mill Pond are owned by the Upper Thames River Conservation Authority and managed by the Municipality of Thames Centre



Source: Municipality of Thames Centre, 2023

Buildings & Facilities

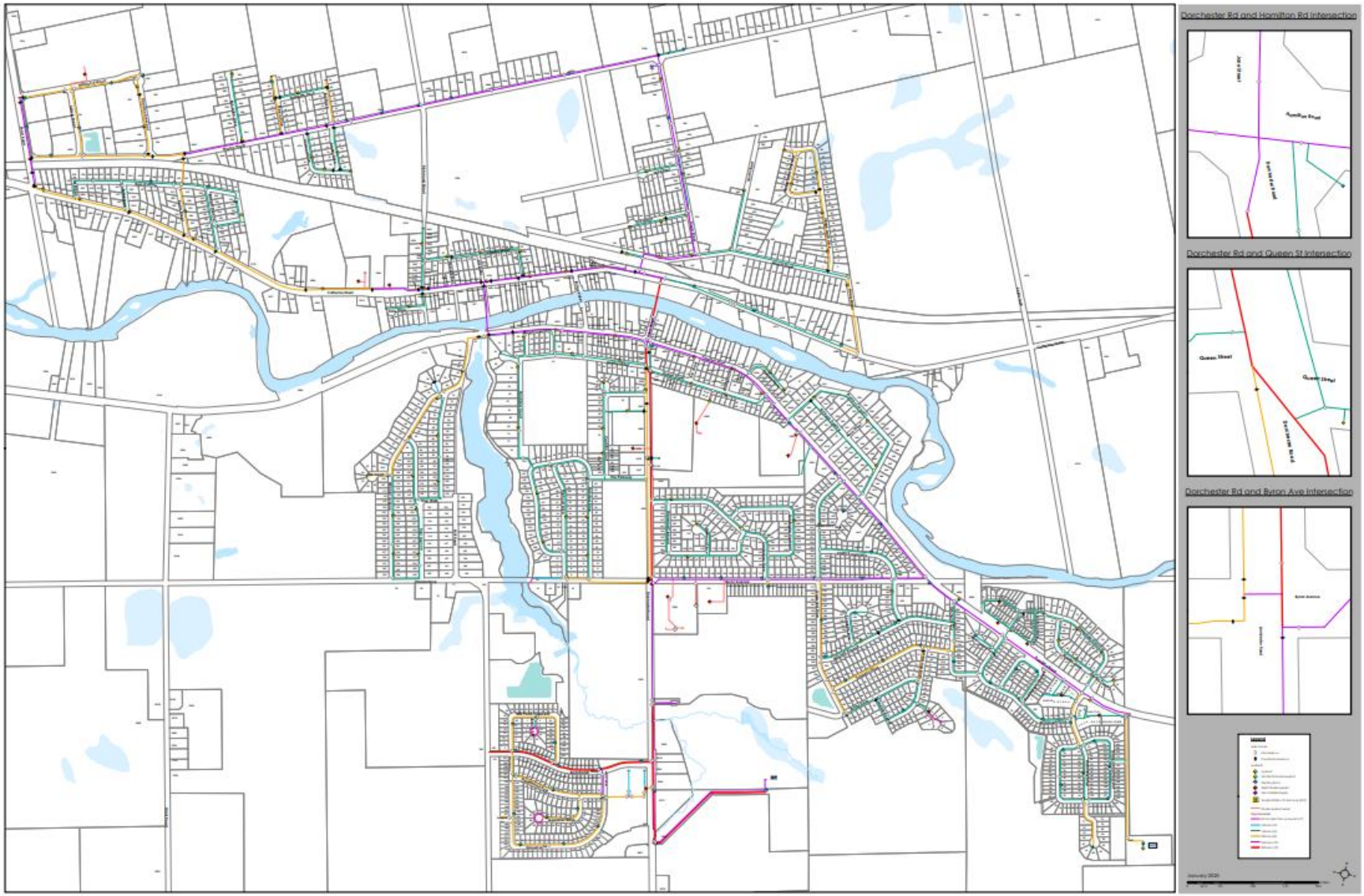


Dorchester FlightExec Centre
- 2 Ice Pads
- 1 Gymnasium
- 1 Auditorium
- 1 Indoor Walking Track
- 1 Fitness Centre (third-party)
- 1 Seniors Centre
- Multi-purpose Program Space

Thorndale Lions Community Centre
- 1 Gymnasium/Auditorium
- Multi-purpose Program Space

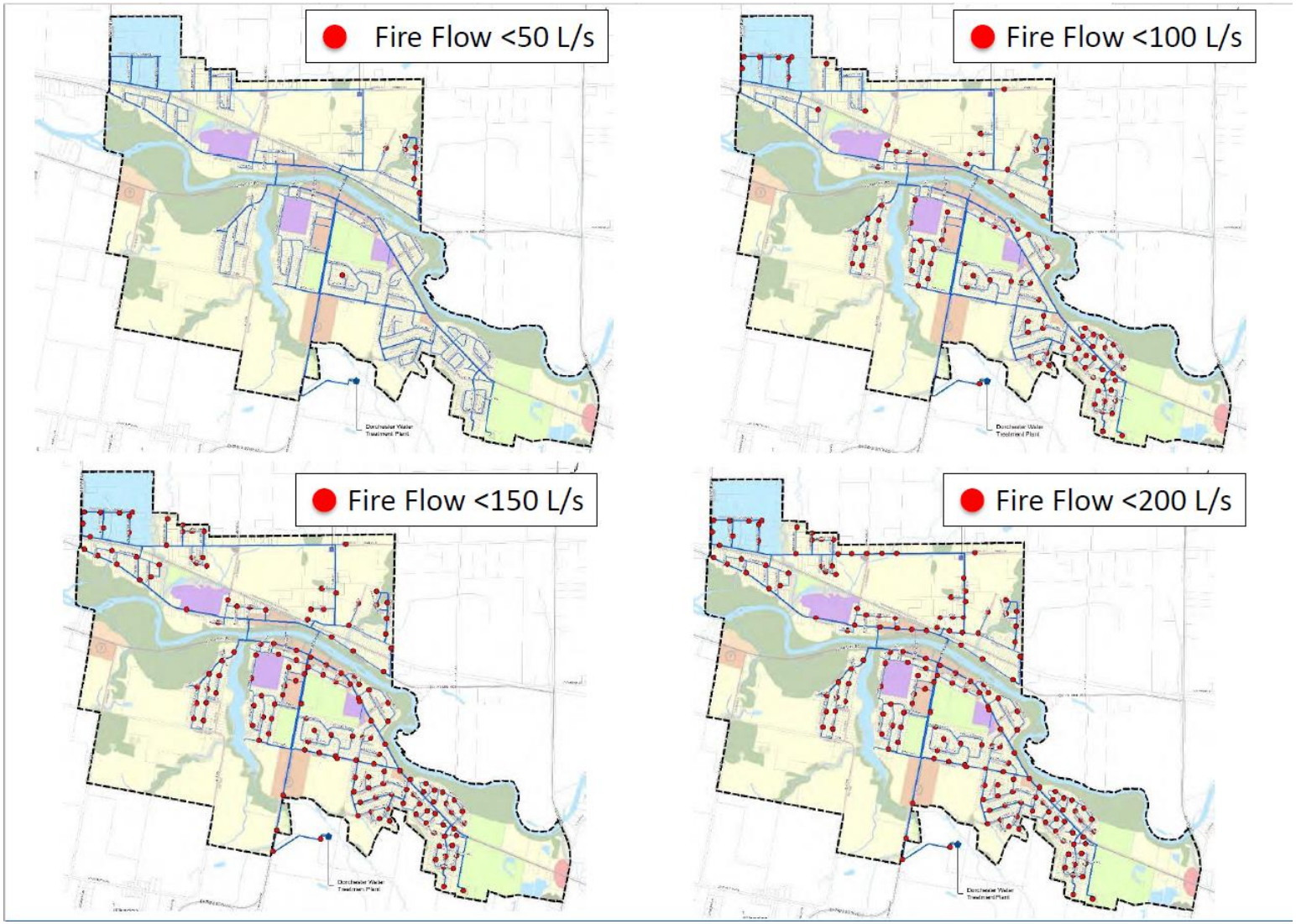
Source: Municipality of Thames Centre, 2023

Drinking Water System – Dorchester



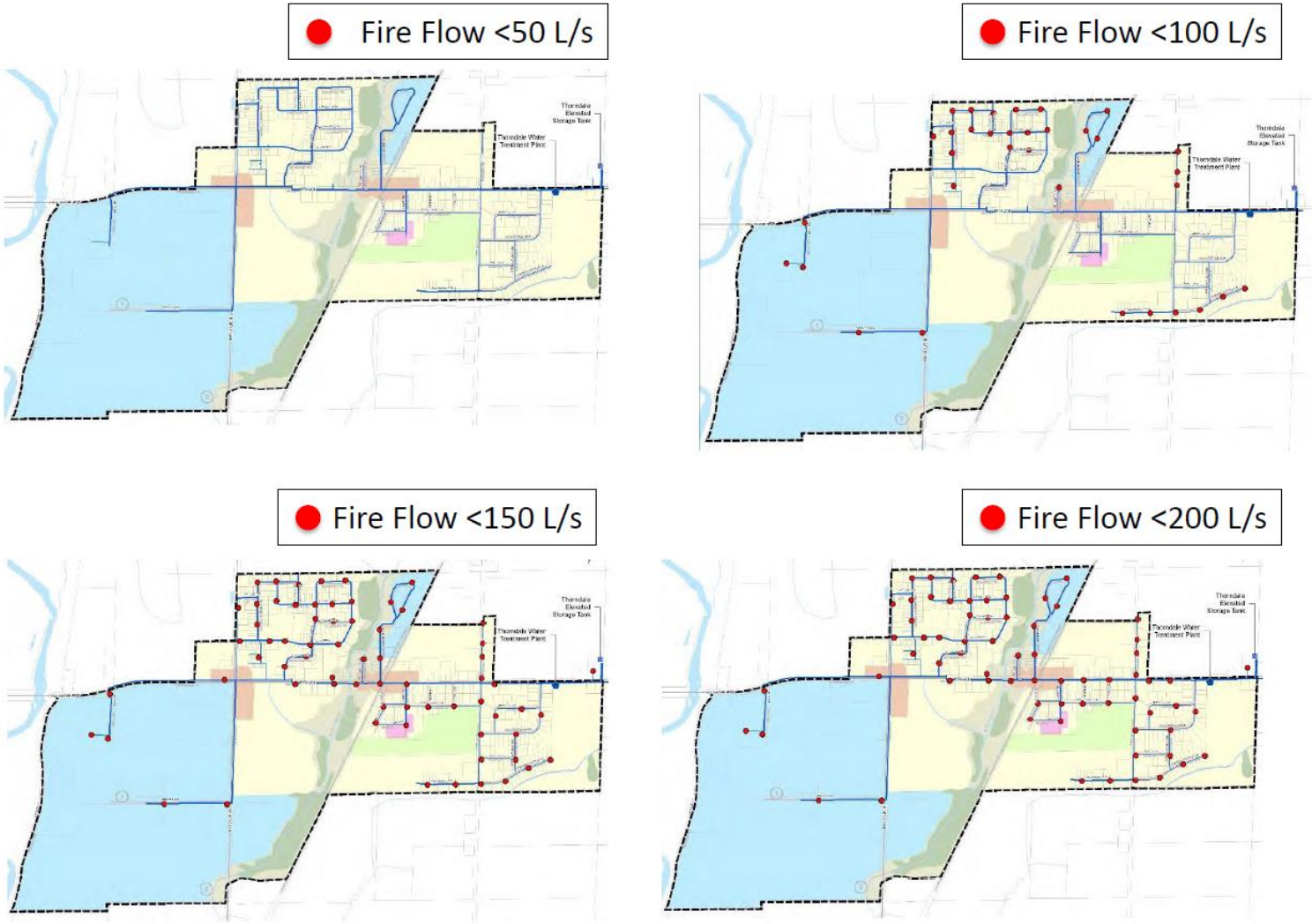
Drinking Water System – Thorndale

Water Distribution – Fire Flow Areas[8]



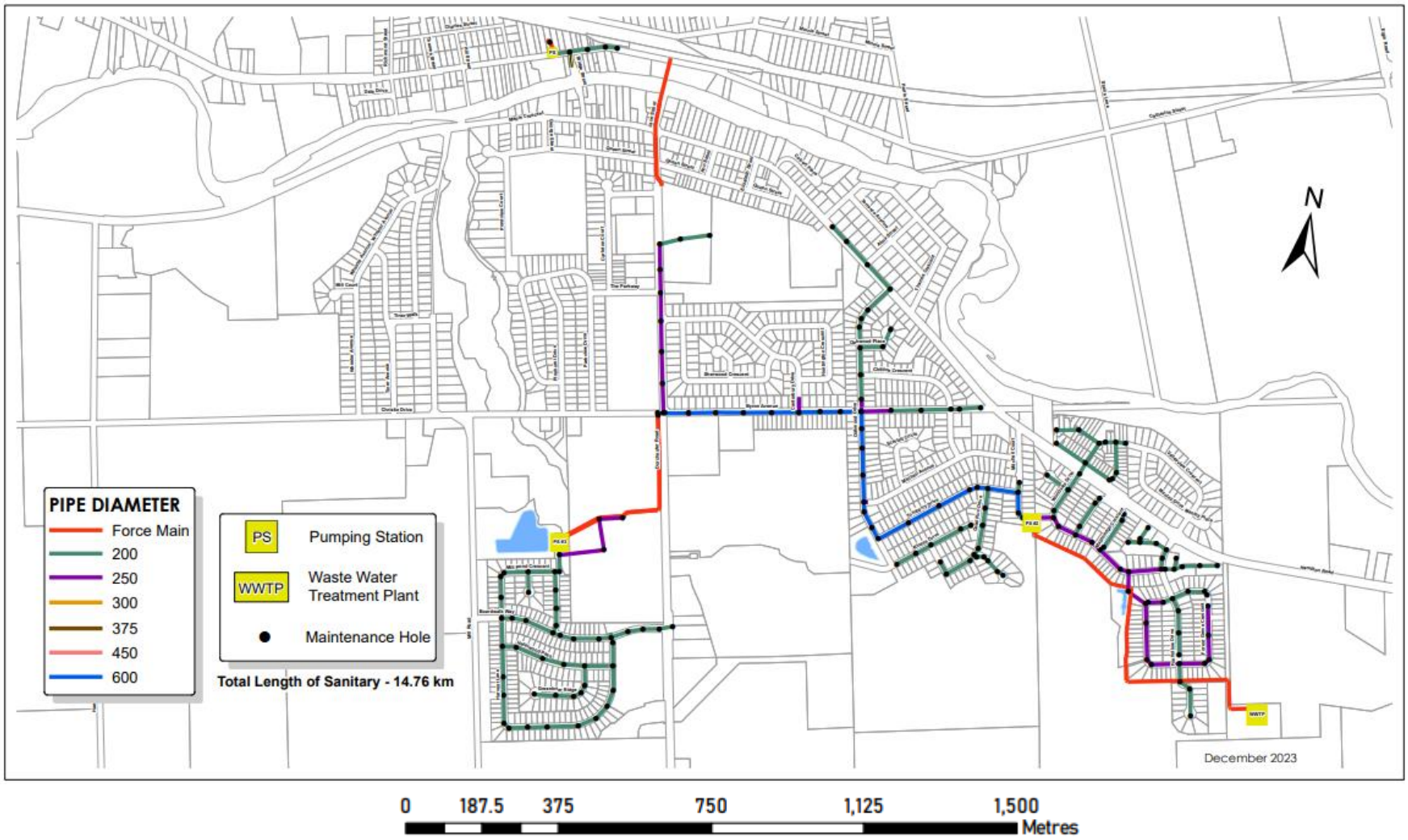
[8] Water and Wastewater Master Plan Update, 2019

Water Distribution – Fire Flow Areas[9]

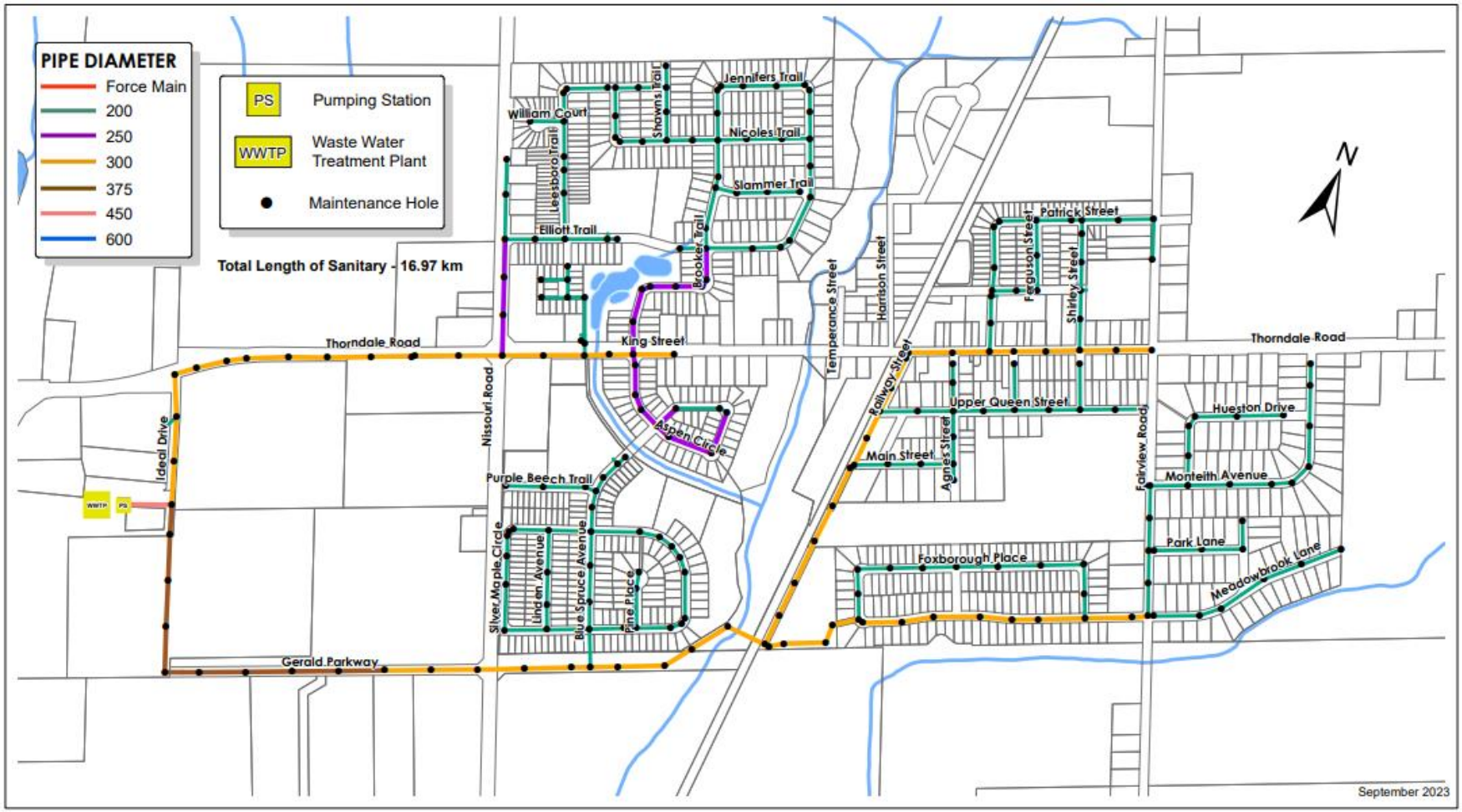


[9] Water and Wastewater Master Plan Update, 2019

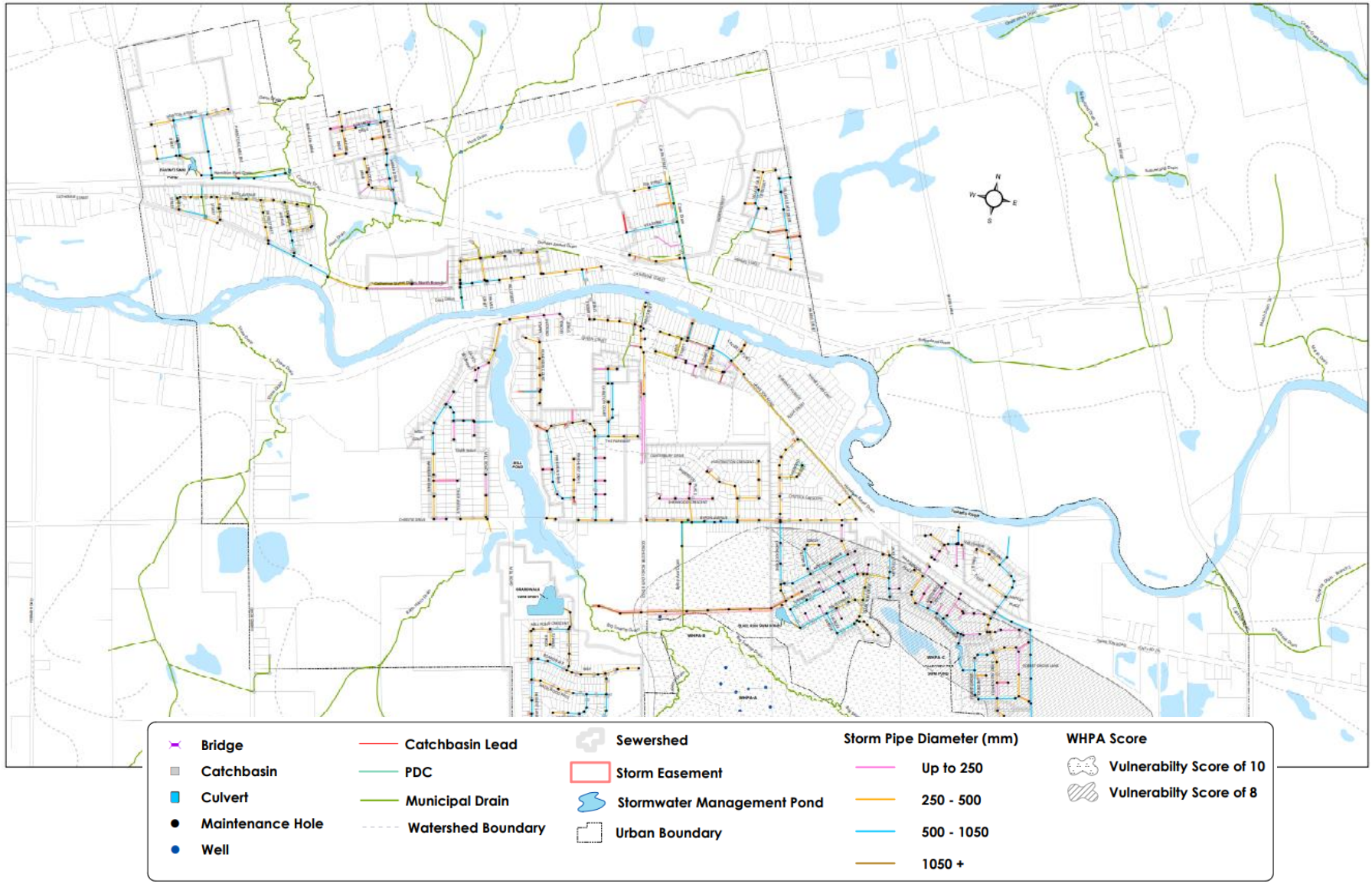
Wastewater System – Dorchester



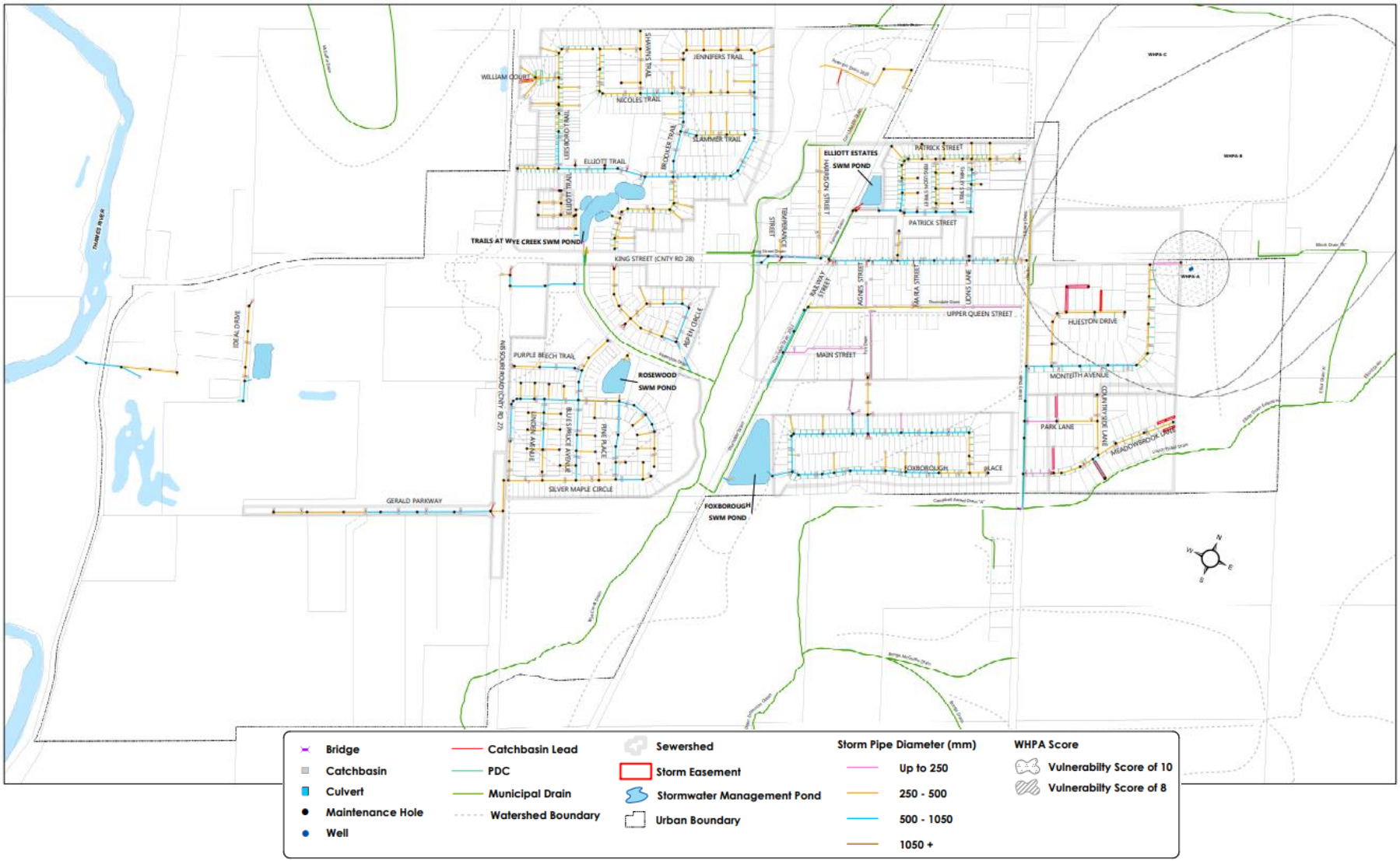
Wastewater System – Thorndale



Stormwater System Map – Dorchester



Stormwater System Map – Thorndale



Appendix D: Risk Rating Criteria

Risk Definitions

Risk	Integrating a risk management framework into your asset management program requires the translation of risk potential into a quantifiable format. This will allow you to compare and analyze individual assets across your entire asset portfolio. Asset risk is typically defined using the following formula: **Risk = Probability of Failure (POF) x Consequence of Failure (COF)**
Probability of Failure (POF)	The probability of failure relates to the likelihood that an asset will fail at a given time. The current physical condition and service life remaining are two commonly used risk parameters in determining this likelihood.
POF - Structural	The likelihood of asset failure due to aspects of an asset such as load carrying capacity, condition or breaks
POF - Functional	The likelihood of asset failure due to its performance
POF - Range	**1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain**
Consequences of Failure (COF)	The consequence of failure describes the overall effect that an asset's failure will have on an organization's asset management goals. Consequences of failure can range from non-eventful to impactful: a small diameter water main break in a subdivision may cause several rate payers to be without water service for a short time. However, a larger trunk water main may break outside a hospital, leading to significantly higher consequences.
COF - Financial	The monetary consequences of asset failure for the organization and its customers
COF - Social	The consequences of asset failure on the social dimensions of the community
COF - Environmental	The consequence of asset failure on an asset's surrounding environment
COF - Operational	The consequence of asset failure on the Municipality's day-to-day operations
COF - Health & safety	The consequence of asset failure on the health and well-being of the community
COF - Economic	The consequence of asset failure on strategic planning
COF - Range	**1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe**

Risk Frameworks

Road Network – HCB/LCB Roads

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/ Range**	**Score**
Performance	Asset Condition	0-29	5 - Almost Certain
		30-49	4 - Likely
		50-74	3 - Possible
		75-84	2 - Unlikely
		85-100	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial (60%)	Replacement Cost ($)	>$5,000,000	5 – Severe
		$1,000,000	4 – Major
		$500,000	3 - Moderate
		$250,000	2 – Minor
		<$50,000	1 – Insignificant
Operational (10%)	Service Class	3	5 – Severe
		4	4 – Major
		5	3 – Moderate
		6	2 – Minor
Social (15%)	AADT – 50%	>2000	5 – Severe
		600	4 – Major
		400	3 – Moderate
		200	2 – Minor
		<50	1 – Insignificant
	Design Class - 50%	LCI	5 – Severe
		C/R	4 – Major
		500	4 – Major
		L/R	3 – Moderate
		400	2 – Minor
		300	2 – Minor
		200	1 – Insignificant
Health & Safety (15%)	Speed Limit	>80	5 – Severe
		70	4 – Major
		60	3 – Moderate
		50	2 – Minor
		<40	1 – Insignificant

Water Distribution – Water Mains

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		30	4 - Likely
		50	3 - Possible
		70	2 - Unlikely
		90	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 60%	Pipe Diameter	400mm	5 - Severe
		350mm	4 - Major
		250mm	3 - Moderate
		150mm	2 - Minor
		100mm	1 - Insignificant
Environmental 10%	Water Pipe Material	PVC	5 - Severe
		Municipex	4 - Major
		AC	3 - Moderate
		HDPE	3 - Moderate
		CI	2 - Minor
		Steel	2 - Minor
		DI	2 - Minor
		CU	1 - Insignificant
Social 30%	Pipe Diameter	400	5 - Severe
		300	4 - Major
		200	3 - Moderate
		100	2 - Minor
		50	1 - Insignificant

Wastewater System – Sanitary Sewer Mains

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		30	4 - Likely
		50	3 - Possible
		70	2 - Unlikely
		90	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 60%	Pipe $/Unit	$1,000	5 - Severe
		$900	4 - Major
		$700	3 - Moderate
		$500	2 - Minor
		$300	1 - Insignificant
Environmental 20%	Segment	Forcemains	5 - Severe
		Sewer Mains	3 - Moderate
		Mains	3 - Moderate
Health & Safety 20%	Sanitary Pipe Diameter	1000mm	5 - Severe
		500mm	4 - Major
		400mm	3 - Moderate
		250mm	2 - Minor
		150mm	1 - Insignificant

Stormwater System – Storm Sewer Mains

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		30	4 - Likely
		50	3 - Possible
		70	2 - Unlikely
		90	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 80%	Pipe $/Unit	$5,000	5 - Severe
		$1,000	4 - Major
		$700	3 - Moderate
		$500	2 - Minor
		$250	1 - Insignificant
Operational 20%	Storm Pipe Material	Concrete Precast	4 - Major
		RCONC	3 - Moderate
		RPC	3 - Moderate
		Concrete	3 - Moderate
		PRPC	3 - Moderate
		Sclair	2 - Minor
		PE	2 - Minor
		PPL	2 - Minor
		HDPE	2 - Minor
		PVC	1 - Insignificant
		CSP	1 - Insignificant
		CMP	1 - Insignificant

Parks & Land Improvements

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		20	4 - Likely
		40	3 - Possible
		60	2 - Unlikely
		80	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 80%	Replacement Cost	>$5,000,000	5 - Severe
		$1,000,000	4 - Major
		$500,000	3 - Moderate
		$250,000	2 - Minor
		<$50,000	1 - Insignificant
Social 20%	Segment	Playground Equipment	5 - Severe
		Sport Fields & Courts	4 - Major
		Splash Pads	4 - Major
		Skateboard Park	4 - Major
		Park Amenities	3 - Moderate
		Trails	2 - Minor
		Miscellaneous	2 - Minor
		Parking Lot	1 - Insignificant
		Lighting	1 - Insignificant

Facilities

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		20	4 - Likely
		40	3 - Possible
		60	2 - Unlikely
		80	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 80%	Replacement Cost	$10,000,000	5 - Severe
		$750,000	4 - Major
		$500,000	3 - Moderate
		$250,000	2 - Minor
		$100,000	1 - Insignificant
Operational 20%	Segment	Protective Services	5 - Severe
		Rec & Cultural Services	4 - Major
		Environmental Services	4 - Major
		Transportation Services	3 - Moderate
		Community Services	3 - Moderate
		General Administration	3 - Moderate

Fleet

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		20	4 - Likely
		40	3 - Possible
		60	2 - Unlikely
		80	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 80%	Replacement Cost	$200,000	5 - Severe
		$125,000	4 - Major
		$75,000	3 - Moderate
		$25,000	2 - Minor
		$0	1 - Insignificant
Social 20%	Segment	Fire Vehicles	5 - Severe
		Water Vehicles	4 - Major
		Roads Vehicles	4 - Major
		Parks Vehicles	3 - Moderate
		Landfill	3 - Moderate
		Arena	3 - Moderate
		Building & Inspection Vehicles	2 - Minor
		Administration	2 - Minor

Machinery & Equipment

Probability of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Performance	Asset Condition	0	5 - Almost Certain
		20	4 - Likely
		40	3 - Possible
		60	2 - Unlikely
		80	1 - Rare

Consequence of Failure			
Criteria	**Sub-Criteria**	**Value/Range**	**Score**
Financial 80%	Replacement Cost	$200,000	5 - Severe
		$125,000	4 - Major
		$75,000	3 - Moderate
		$25,000	2 - Minor
		$0	1 - Insignificant
Social 20%	Department	Protective Services	5 - Severe
		Water	4 - Major
		Wastewater	4 - Major
		Transportation	4 - Major
		Storm Water	4 - Major
		Health Services	4 - Major
		Environmental	4 - Major
		Community Services	3 - Moderate
		Fleet	3 - Moderate
		Development Services	2 - Minor
		Information Technology	2 - Minor
		General Government	2 - Minor

Appendix E: Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.
Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, the Municipality's condition assessment strategy should outline several key considerations, including:

- The role of asset condition data in decision-making
- Guidelines for the collection of asset condition data
- A schedule for how regularly asset condition data should be collected

Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows municipal staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.
In addition to the optimization of lifecycle management strategies, asset condition data also impacts the Municipality's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, the Municipality can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of future capital expenditures, the Municipality can develop long-term financial strategies with higher accuracy and reliability.

Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of condition assessments there can be little confidence in the validity of condition data and asset management strategies based on this data.
Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that

should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project. There are many options available to the Municipality to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource intensive. It is not necessarily an effective strategy to collect assessed condition data across the entire asset inventory. Instead, the Municipality should prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making. The International Infrastructure Management Manual (IIMM) identifies four key criteria to consider when making this determination:

- Relevance: every data item must have a direct influence on the output that is required
- Appropriateness: the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
- Reliability: the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
- Affordability: the data should be affordable to collect and maintain.