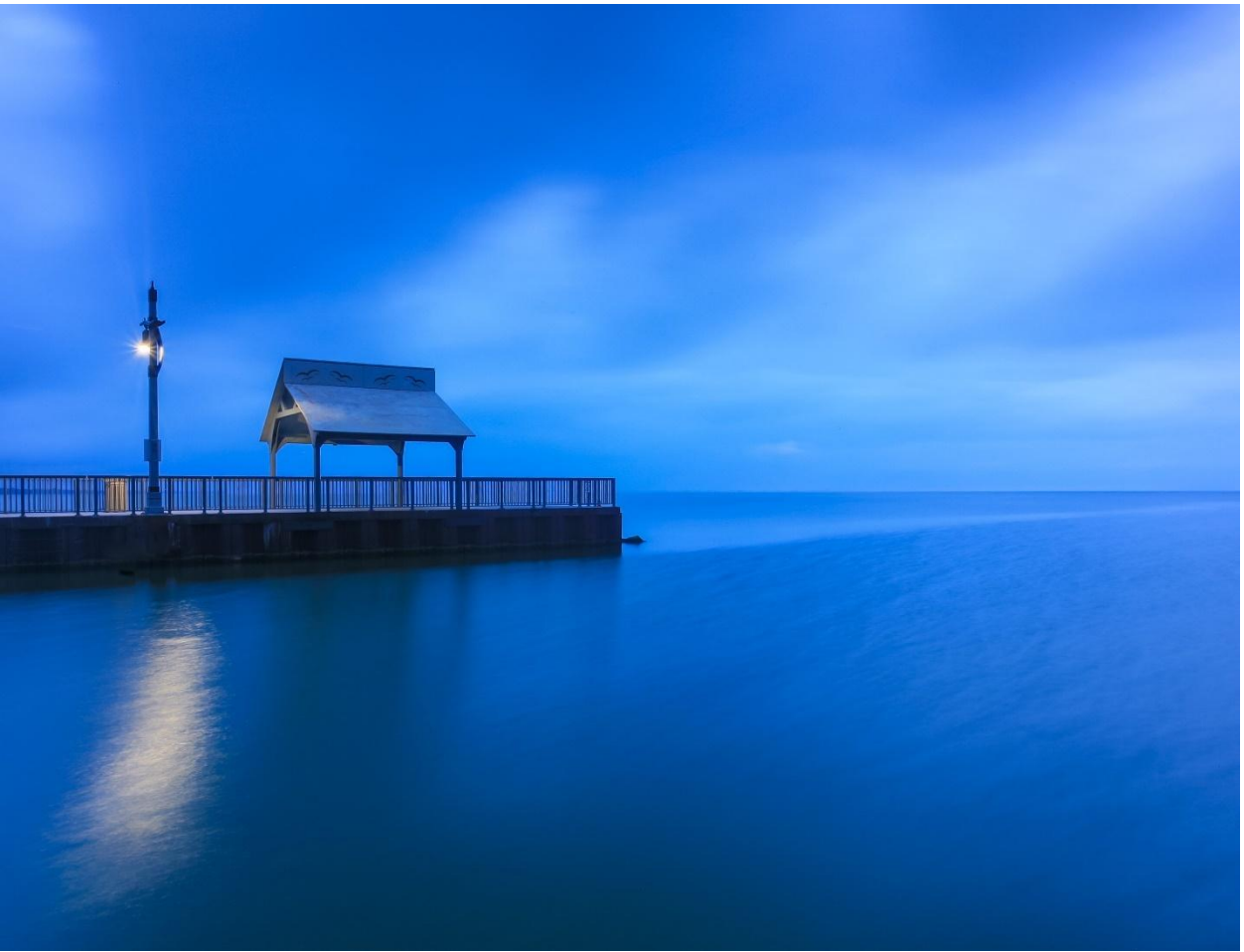
Municipality of Lakeshore | Asset Management Plan

2025



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Executive Summary

This Asset Management Plan (AMP) for the Municipality of Lakeshore updates the 2024 AMP, and has been prepared in compliance with the 2025 requirements of Ontario Regulation 588/17. It incorporates key elements of an industry-standard AMP, and provides a comprehensive overview of the Municipality's core and non-core infrastructure.

Together, the nine asset categories analyzed in this plan have a total current replacement cost of $1.7 billion. This estimate was calculated using a combination of user-defined costing and inflation-adjusted historical costs. At 33% of the total asset portfolio, with a replacement cost of over $558.2 million, Lakeshore's road network is the largest asset category. It includes local, collector, and arterial roadways, sidewalks, pathways, as well as roadside appurtenances such as signals, signs, and streetlights.

Based on both in-field condition data and age-based analysis, 86% of the Municipality's infrastructure portfolio is in fair or better condition, while the remaining 14% was assigned a poor to very poor condition rating. Overall, condition assessment data was available for 37% of the Municipality's assets, including critical infrastructure such as roads and bridges. For all remaining asset categories, age was used to estimate condition.

Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates of immediate intervention. Keeping assets in fair or better condition is typically more cost-effective than addressing assets needs when they enter the latter stages of their lifecycle or a drop to a lower condition rating, e.g., poor or worse.

Based on the replacement cost of $1.7 billion, annual average capital requirements (AAR) for all asset categories total $50 million, dominated by paved roads. These annual capital requirements represent the estimated reinvestment needed to keep up with replacement and major rehabilitation needs for assets through their lifecycle, without deferring projects or allowing infrastructure to deteriorate beyond acceptable thresholds. Meeting these targets is essential to delivering service level objectives.

If these reinvestment levels are not met, the Municipality may face a growing backlog of capital needs, which can lead to declining asset performance, increased risk of service disruptions, and higher long-term costs. Conversely, consistently funding at or near these levels helps ensure that infrastructure is renewed in a timely manner, preserving reliability, safety, and user satisfaction across all service areas.

Under Lakeshore's current fiscal framework, $29.7 million in average annual capital funding is available across tax- and rate-supported assets within the existing portfolio. This estimate is based on a three-year average of transfers to the Municipality's capital reserves, between 2023 and 2025. It is considered, for the purpose of this AMP, as the benchmark funding level.

The Municipality's total modeled average annual capital requirement is $50 million. Of this amount, $41.8 million is associated with tax-supported assets, $4.7 million to water, and $3.5 million to sanitary services. At present funding levels, Lakeshore is meeting approximately 59% of its combined, modeled capital needs.

Water and sanitary rate revenues are currently sufficient to meet their respective average annual capital requirements. As such, no adjustments to the utility rates are recommended. In contrast, the seven tax-supported asset categories collectively require $41.8 million annually, against $19.7 million in average annual funding that is available. This results in an annual shortfall of $22.1 million, meaning that 47% of modeled tax-supported needs are being funded. The scale of this gap is driven largely by the full theoretical implementation of lifecycle interventions across paved road segments, based on adopted deterioration curves and treatment triggers.

Addressing the $22.1 million annual shortfall in tax-supported assets will require a structured, long-term funding strategy. The modeled deficit reflects full implementation of lifecycle interventions across the asset base, particularly roads, and therefore represents a planning benchmark rather than an immediate cash requirement. Nonetheless, the gap signals sustained pressure on the Municipality's ability to maintain assets in a state of good repair if current funding levels persist.

To support informed decision-making, multiple phase-in scenarios have been developed ranging from five to 25 years. Shorter implementation periods would more rapidly align funding with modeled needs but would require significant annual tax increases. Longer phase-in periods moderate annual tax impacts and improve affordability in the near term, but extend the period during which assets may continue to accumulate risk or deferred renewal.

Fully funding 100% of the $41.8 million average annual requirement for tax-supported assets would require annual tax increases ranging from 8.7% per year over five years to 1.7 % per year over 25 years, based on 2025 property taxation revenues of $42.5 million. These scenarios assume the objective of meeting the full modeled average annual requirement.

Recognizing the financial implications of this target, alternative scenarios have also been developed that would fund 75% or 60% of modeled needs. These lower funding thresholds reduce tax impacts but imply acceptance of higher long-term asset risk and continued reliance on prioritization and deferral strategies. Collectively, the scenarios provide Council with a calibrated range of policy options to balance service levels, affordability, and infrastructure sustainability over time.

Reserves play a critical role in supporting the Municipality's infrastructure and service delivery by enabling strategic, stable, and responsive financial planning. They allow the Municipality to fund planned capital renewal without relying solely on debt or sudden tax increases, helping meet annual capital requirements and avoid project deferrals.

Reserves also provide a buffer during periods of unexpected failures or economic pressure, ensuring consistent levels of service despite revenue fluctuations or emergencies. With healthy

balances, the Municipality can phase large infrastructure projects over multiple years, aligning investments with lifecycle needs and service level goals.

Additionally, reserves help mitigate financial and operational risks by offering flexibility to respond to unforeseen events, such as severe weather, regulatory changes, or asset failures, without compromising core services.

As of December 31, 2024, the Municipality of Lakeshore's non-growth infrastructure reserves totaled $67.2 million. In addition to non-growth reserves, the Municipality holds approximately $12.2 million in Development Charge (DC) reserves. These funds are dedicated to supporting infrastructure and asset expansion needed to accommodate population and employment growth, such as new roads, parks, water, and wastewater systems.

As Lakeshore continues to grow, the Municipality's DC reserves will play a vital role in funding new infrastructure and supporting service levels for both current and future residents. This approach aligns with the Municipality's commitment to managing growth responsibly and sustainably.

With the development of this 2025 asset management plan, Lakeshore has now completed the first full compliance cycle under Ontario Regulation 588/17. This cycle began in 2019 with the approval of the asset management policy, followed by progressively more complex asset management plans in 2022, 2024, and 2025.

Completion of the first cycle marks a transition point rather than an endpoint. Under O. Reg. 588/17, the next phase will require the ongoing maintenance and annual review of the asset management plan, integration with long-term financial planning, and continued refinement of data, risk analysis, and levels of service. A full AMP update is not required until 2030.

The focus now shifts from achieving regulatory compliance to institutionalizing asset management as a core business practice and strengthening alignment between infrastructure needs, service expectations, and fiscal sustainability.

About this document

This asset management plan (AMP) for the Municipality of Lakeshore was developed in accordance with the 2025 requirements of Ontario Regulation 588/17 ('O. Reg 588/17'). It contains a comprehensive analysis of Lakeshore's core and non-core infrastructure portfolio. The AMP is a living document that should be updated regularly as additional asset and financial data becomes available.

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. Along with creating better performing organizations, more livable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

Table 1 Ontario Regulation 588/17 Requirements and Reporting Deadlines

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

Scope

The scope of this AMP includes all requirements for the 2025 reporting deadline, covering the Municipality's core and non-core asset categories.

Key Technical Concepts in Asset Management

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

Lifecycle Management Strategies

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

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

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation, and replacement. Table 2 table provides a description of each type of activity, the general difference in cost, and typical risks associated with each.

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.

The Municipality's approach to lifecycle management is described within each asset category outlined in this AMP. 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.

Table 2 Lifecycle Management: Typical Lifecycle Interventions

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

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, (low, medium, high) or quantitative measurement (1-5), that can be used to rank assets and projects, identify appropriate lifecycle strategies, optimize short- and long-term budgets, minimize service disruptions, and maintain public health and safety.

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

Probability of Failure

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

Consequence of Failure

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

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

Table 3 Risk Analysis: Types of Consequences of Failure

Type of Consequence	Description
Direct Financial	Direct financial consequences are typically measured as the replacement costs of the asset(s) affected by the failure event, including interdependent infrastructure.
Economic	Economic impacts of asset failure may include disruption to local economic activity and commerce, business closures, service disruptions, etc. Whereas direct financial impacts can be seen immediately or estimated within hours or days, economic impacts can take weeks, months, 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.

This AMP includes an 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 attribute data. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets.

Asset Condition Rating Scale

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.

Table 4 Standard Condition Rating Scale

Condition	Pavement Condition Index (PCI)	Bridge Condition Index (BCI)	Age-based (Service Life Remaining%)	Broad Criteria
Very Good	91-100		80-100	**Fit for the future** Well-maintained, good condition, new or recently rehabilitated; no defects or minor defects
Good	76-90	70-100	60-80	**Adequate for now** Acceptable, signs of minor to defects and deterioration
Fair	66-75	60-70	40-60	**Requires attention** Signs of moderate deterioration and defects, some elements exhibit significant deficiencies
Poor	40-65		20-40	**Increasing potential of affecting service** Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration; significant defects overall
Very Poor	0-39	<60	0-20	**Unfit for sustained service** Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable

Source of Asset Condition

The analysis in this AMP is based on assessed condition data when available. Based on replacement costs, in-field condition data was available for 37% of the Municipality's asset portfolio. For some assets, while routine inspections are conducted to determine asset needs, and ensure safe and effective operations, condition assessment may not be collected in a standardized format that can be applied to individual assets.

In the absence of standardized, assessed condition data, asset age is used as a proxy to determine asset condition. Table 5 provides the source of condition assessment data, if available, for each asset category. For assets not identified in the table, only age data was used to approximate their condition.

Table 5 Source of Condition Data

Asset Category	Segment/Asset Type	% of Assets with Assessed Condition
Road Network	Roads	100%
	Streetlights	0%
	Sidewalks	63%
	Trails	2%
	Signs	0%
	Traffic Signals	0%
Bridges & Culverts	Bridges	100%
	Structural Culverts (>3m)	78%
Stormwater Network	Storm Mains	0%
	Storm Pumps	0%
	Catch Basins	0%
	Pump Stations	0%
	Manholes	0%
Water	Water Mains	0%
	Water Treatment Plant	11%
	Water Towers	0%
	Water Processing	0%
	Water Equipment	0%
	Hydrants	0%
	Water Pumps	0%
	Water Vehicles	0%
	Pumping Stations	0%
	Reservoirs	0%
	Curb Stops	0%
Sanitary	Sanitary Mains	0%
	Sewage Treatment Plant	0%
	Sewage Processing	0%
	Pump Stations	0%

	Sanitary Pumps	0%
	Wastewater Equipment	0%
	Wastewater Vehicles	0%
	Manholes	0%
Facilities	Parks and Recreation	0%
	General	0%
	Roads	0%
	Fire	0%
Fleet	Fire	0%
	Roads	0%
	Parks and Recreation	0%
	General	0%
Machinery & Equipment	Roads	0%
	Parks and Recreation	0%
	Fire	0%
	General	0%
Land Improvements	Pathways, Surfaces, and Parking Lots	0%
	Fencing	0%
	Playgrounds	0%
	Sports Courts and Fields	0%
	Water Features and Fill Stations	0%
	Furnishings	0%
	Lighting	0%
	Landscaping and Natural Capital	0%
Total		37%

Limitations and Assumptions

This AMP is grounded in the best-available data as of 2025. Like many AMPs, it was developed under a set of broad limitations, constraints, and assumptions that inform its findings and highlight opportunities for future refinement.

- The analysis is highly influenced by several critical data fields, such as estimated useful life, replacement costs, quantities, and in-service dates, underscoring the importance of robust asset data for reliable analysis.

- Where precise replacement cost data was not available, staff used historical costs adjusted to current values. While a practical approach, this method highlights opportunities to improve data collection and validation in the future.

- In cases where detailed condition assessments were unavailable, asset age was used as a proxy for condition ratings. This approach can lead to differences in estimated needs, illustrating the importance of investing in regular condition assessments as the asset management program evolves.

- The 2025 roads needs study identifies a recommended investment of approximately $50.6 million over five years ($10.1 million annually) to maintain the roadway network at a condition rating of 66.

  This figure reflects a near-term, prioritized 5-year capital and maintenance program based on current condition data. In contrast, Citywide applies full lifecycle modeling across all road segments using theoretical deterioration curves, defined intervention triggers, and assumed implementation of all prescribed maintenance and rehabilitation activities over the long term. As a result, the system-generated average annual requirement is materially higher and represents a steady-state, long-range funding benchmark rather than a constrained 5-year capital execution plan.

- Risk models employed in this AMP support objective project prioritization and selection; however, the effectiveness of these models is closely linked to the availability of comprehensive asset attribute data. Enhancing these data inputs will improve the accuracy and reliability of risk assessments over time.

Overall, these considerations influence the AMP's outputs, including condition summaries, age profiles, replacement forecasts, and financial requirements. These challenges are common in municipal asset management and present opportunities for ongoing improvements as the Municipality invests in data, staff capacity, and program development.

As Lakeshore's asset management program matures, future AMPs will continue to build on this foundation, providing increasingly detailed and reliable guidance for sustainable infrastructure management.

Progress Update

Since the completion of the last asset management plan, the Municipality has made important improvements to its asset management program. A comprehensive roads needs study was brought to Council in 2025. The study produced updated, network-wide data on roadway inventory, quantities, costs, condition ratings, and a prioritized 5-year capital improvement program.

The new, more comprehensive dataset for Lakeshore's roadways was reconciled and integrated into Citywide Assets, the Municipality's primary asset register, to ensure consistency and alignment between the asset management system and engineering's underlying records and technical source data. As a result of this updated field-based assessment and data reconciliation, the roads cost projections and supporting metrics differ from those presented in prior-year analyses.

In addition, the RNS included theoretical deterioration curves for roads by surface type, identified appropriate timing for major maintenance and rehabilitation interventions, and provided estimated costs and expected impacts on asset condition and service life. These were also incorporated into the Municipality's asset management system.

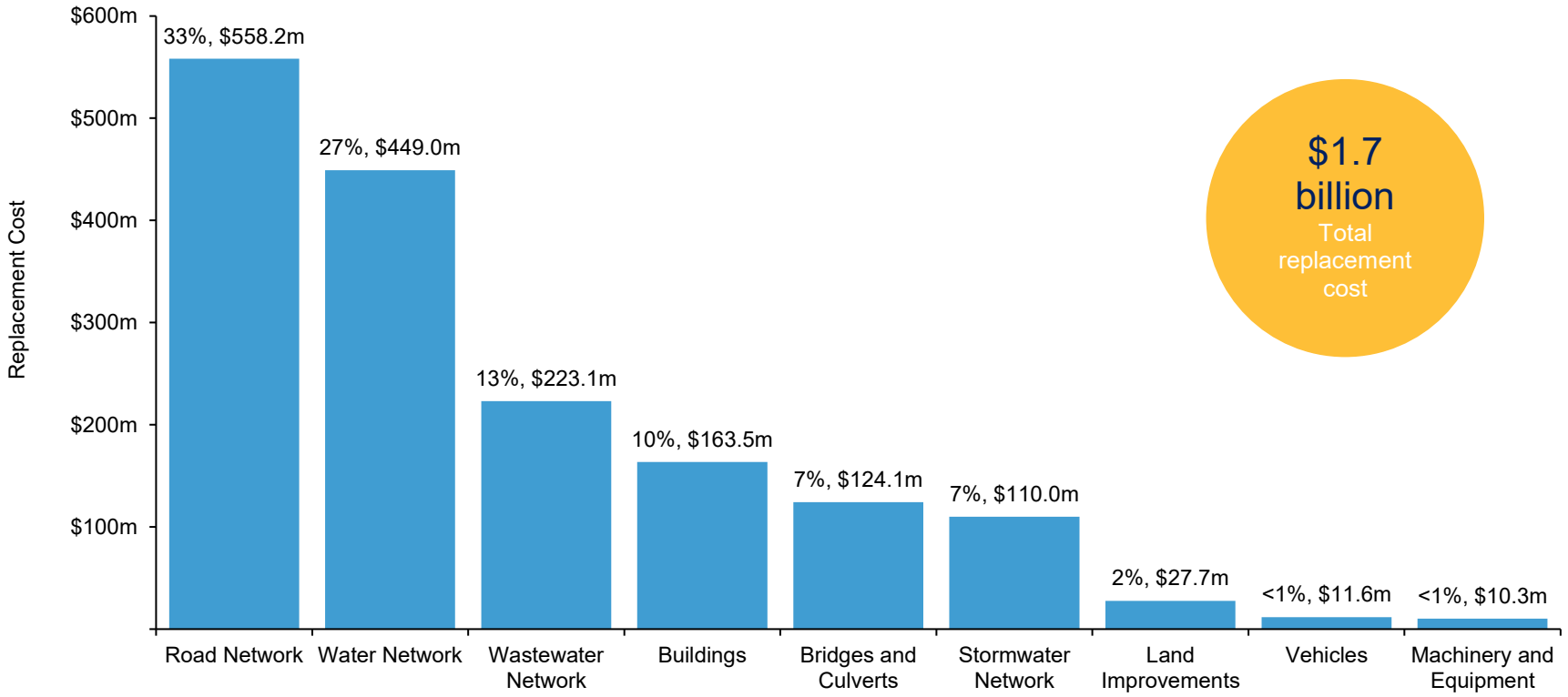
State of the Infrastructure

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 asset categories at the segment level.

Portfolio Overview

The nine core and non-core asset categories analyzed in this asset management plan have a total current replacement cost of $1.7 billion. This estimate was calculated using cost per unit and user-defined costing, as well as inflation of historical or original costs to current date. Figure 1 illustrates the replacement cost of each asset category. With a current replacement cost of $558.2 million, the Municipality's road network makes up the largest portion of its asset portfolio, accounting for 33% of the total. The next largest asset group is the water distribution network, which represents 27% of the portfolio.

Figure 1 Current Replacement Cost by Asset Category

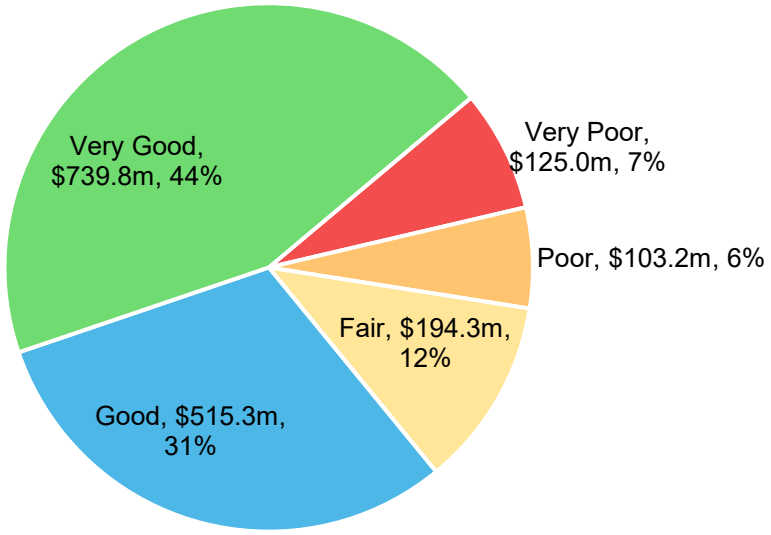


Condition Data

Based on a combination of assessed condition and age-based analysis, more than 86% of the Municipality's infrastructure portfolio is in fair or better condition. The remaining 14%, with a replacement value of $228.2 million, was identified as being in poor or worse condition. For certain major asset classes, such as sidewalks, buildings, and sanitary infrastructure, no recent condition data was available, and age was used as a proxy. It is important to note that age-only assessments tend to understate true condition, particularly for underground infrastructure.

Assets rated in poor or worse condition may require significant rehabilitation or replacement in the short term. Targeted field condition assessments can help validate which assets warrant immediate intervention. Maintaining infrastructure in fair or better condition is generally more cost-effective than deferring action until assets fall into lower condition states.

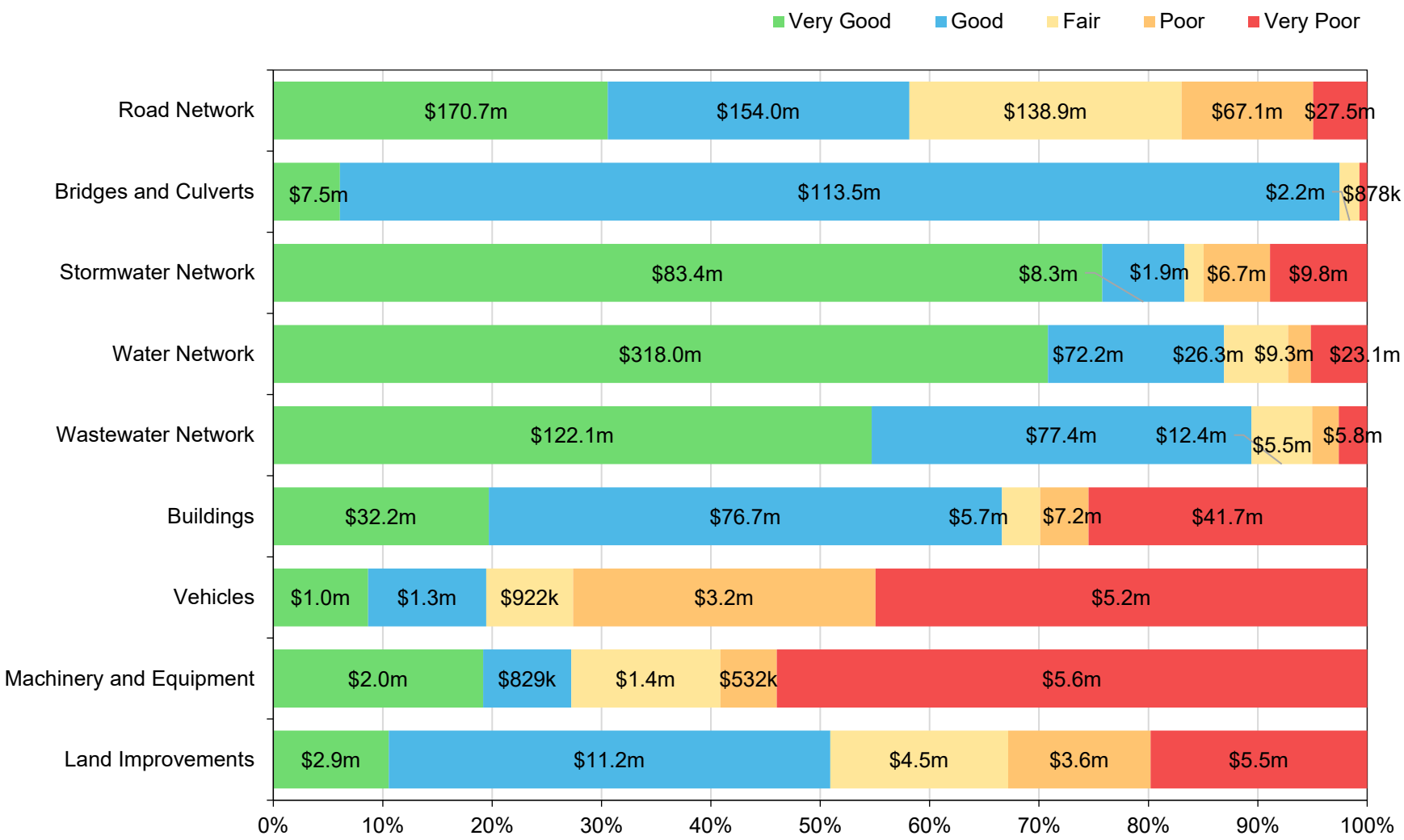
Figure 2 Asset Condition – Portfolio Overview



As further illustrated in Figure 3, the majority of Lakeshore's major core infrastructure assets are estimated to be in fair or better condition based on current replacement costs. Roads comprise the largest share, and value of assets in poor or worse condition. Based on age, while some asset classes, such as stormwater, water, and wastewater networks appear to be in strong condition overall, others like vehicles, machinery and equipment, and land improvements show a higher proportion of assets in poor or very poor condition.

It's important to note that, aside from the road network, and bridges and culverts, condition ratings are largely based on age data rather than formal assessments, and may not fully reflect actual asset performance.

Figure 3 Asset Condition – By Asset Category



Road Network

The Municipality of Lakeshore's Road Network comprises the largest share of its infrastructure portfolio, with a current replacement cost of $558.2 million. The Municipality also owns and manages other supporting and related infrastructure and capital assets, including sidewalks, trails, and streetlights.

Inventory and Valuation

Table 6 summarizes the quantity and current replacement cost of the Municipality's various road network assets as available in its primary asset management register, Citywide. The replacement cost of all arterial, collector, and local roads includes the road base, and is estimated at $475.1 million, making up 85% of the road network asset portfolio. This reflects the most recent roads needs study, completed in 2024 and finalized in 2025.

Table 6 Detailed Asset Inventory - Road Network

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Roads	543	Kilometres	$475,078,969	85%
Streetlights	3,735	Assets	$31,882,802	6%
Sidewalks	69	Kilometres	$30,414,809	5%
Trails	60	Kilometres	$17,297,664	3%
Signs	4,364	Assets	$2,173,371	<1%
Traffic Signals	15	Assets	$1,325,688	<1%
Total			**$558,173,303**	**100%**

Asset Condition

Figure 4 shows the replacement cost-weighted condition of the Municipality's road network. Based on condition assessments for all roads, and on age-based approximations for the remaining assets, 83% of all assets are in fair or better condition and roughly 17% of assets, with a replacement cost of $94.6 million, are in poor or worse condition.

Fair-rated assets should be closely monitored, as they are nearing the threshold where more significant interventions may be needed in the medium term to avoid accelerated deterioration and higher lifecycle costs.

Figure 4 Asset Condition - Road Network: Overall

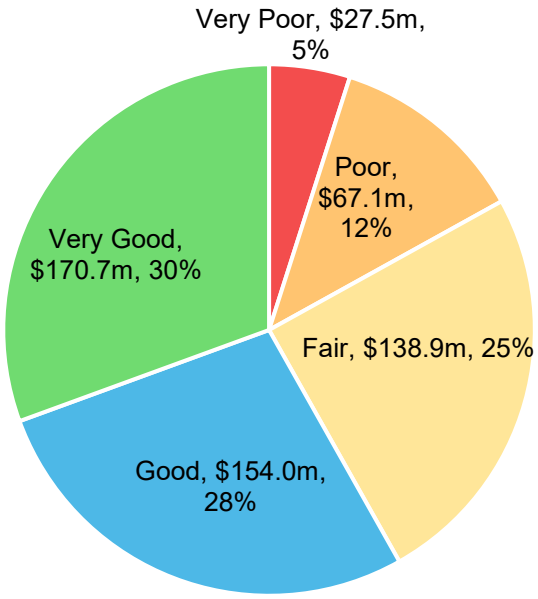
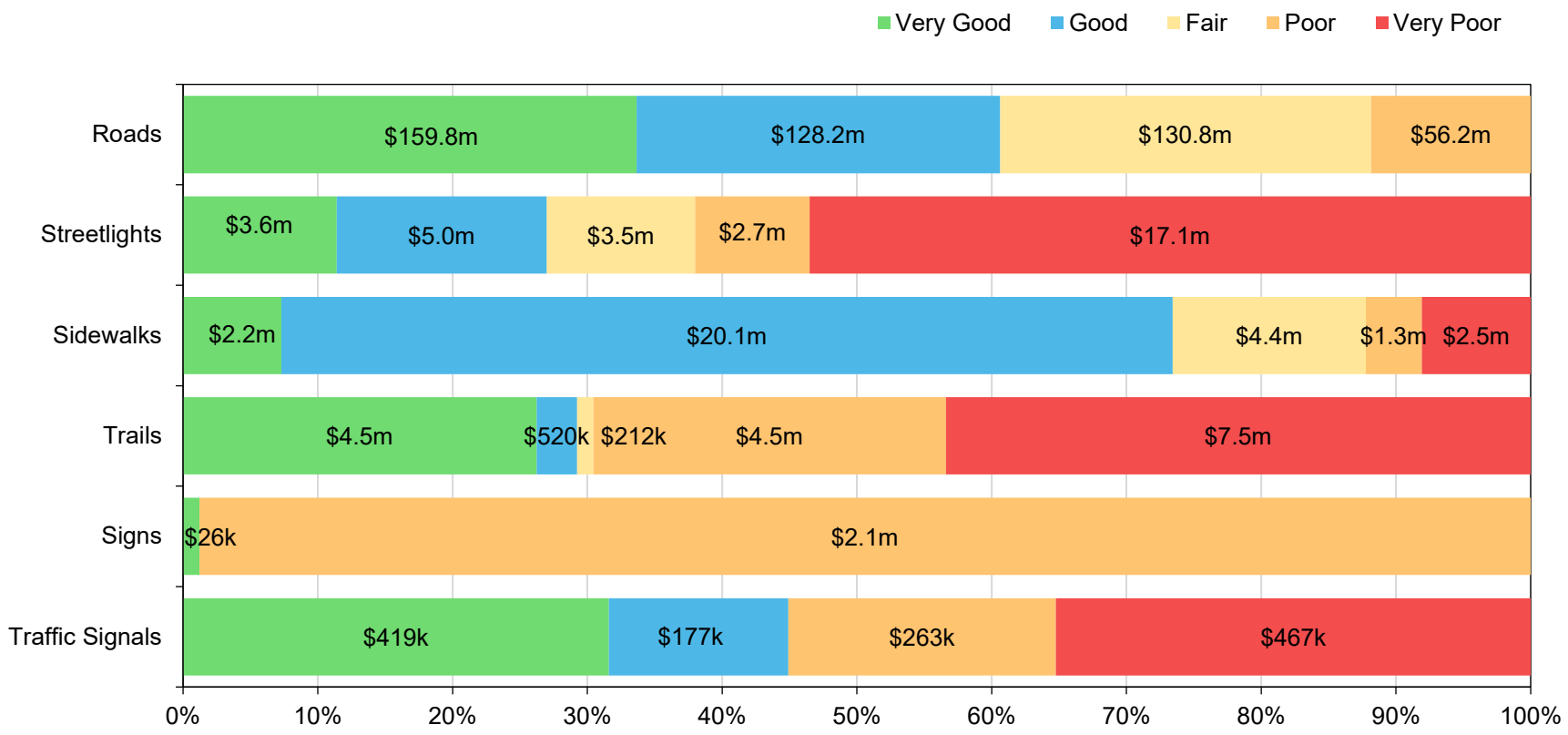


Figure 5 shows the distribution of asset condition across different road network components, highlighting the proportion of assets rated from very good to very poor. A large part of this analysis is based on asset age rather than direct inspection, which means the condition estimates rely on assumed deterioration rates rather than observed performance.

Figure 5 Asset Condition - Road Network: By Asset Type



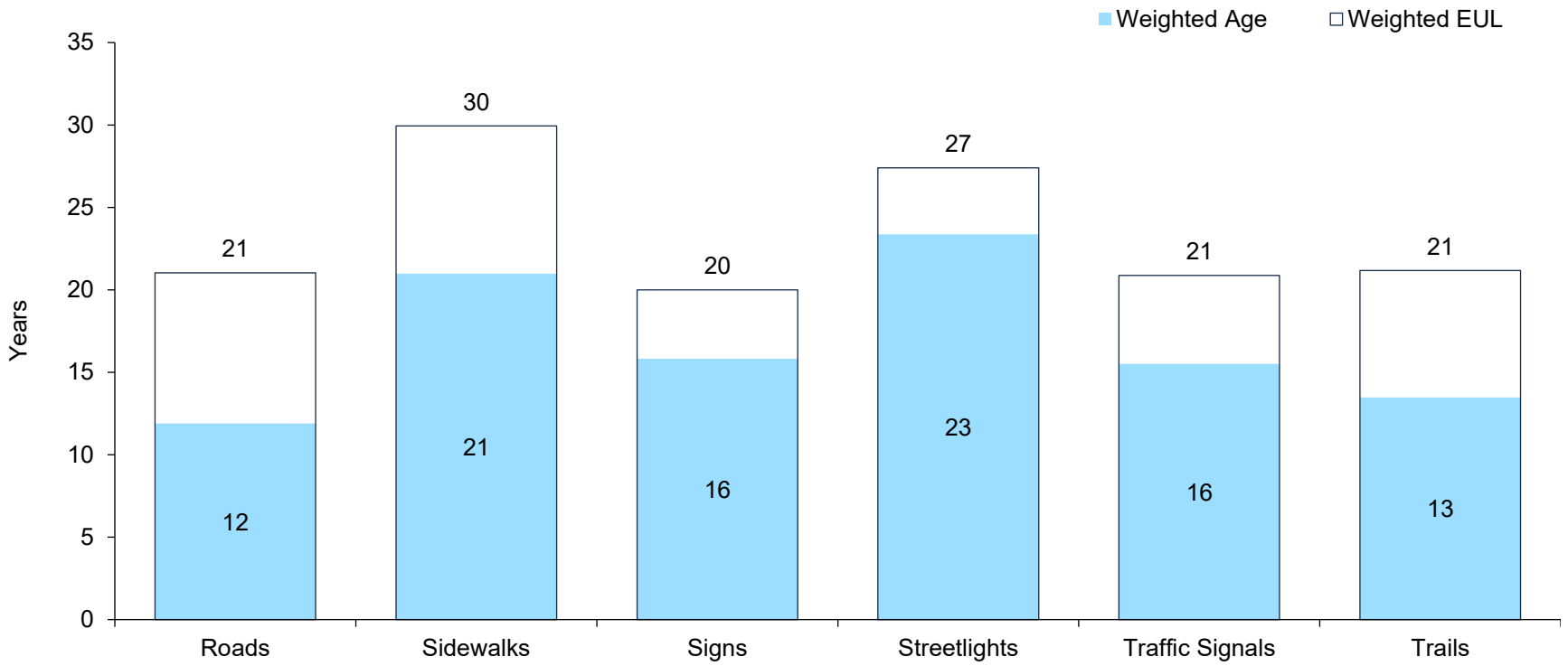
Age Profile

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

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

Figure 6 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 6 Estimated Useful Life vs. Asset Age – Road Network



Current Approach to Lifecycle Management

Roads

The most recent comprehensive roads needs study was completed in 2024 by StreetScan, and finalized in 2025. The study included full network video logging and a detailed condition assessment of Lakeshore's road system. A Pavement Condition Index (PCI) was calculated for each road segment based on observed distress type, quantity, and severity. The study also included a recommended five-year capital program, identifying priority road segments for rehabilitation and reconstruction, along with associated cost estimates.

Lifecycle intervention decisions are informed by PCI results, staff engineering judgment, traffic loading, and opportunities to coordinate works with planned underground utility projects. These factors collectively guide the selection of the most appropriate treatment strategy, from localized repairs such as pothole patching to more substantial rehabilitation or full replacement.

Sidewalks

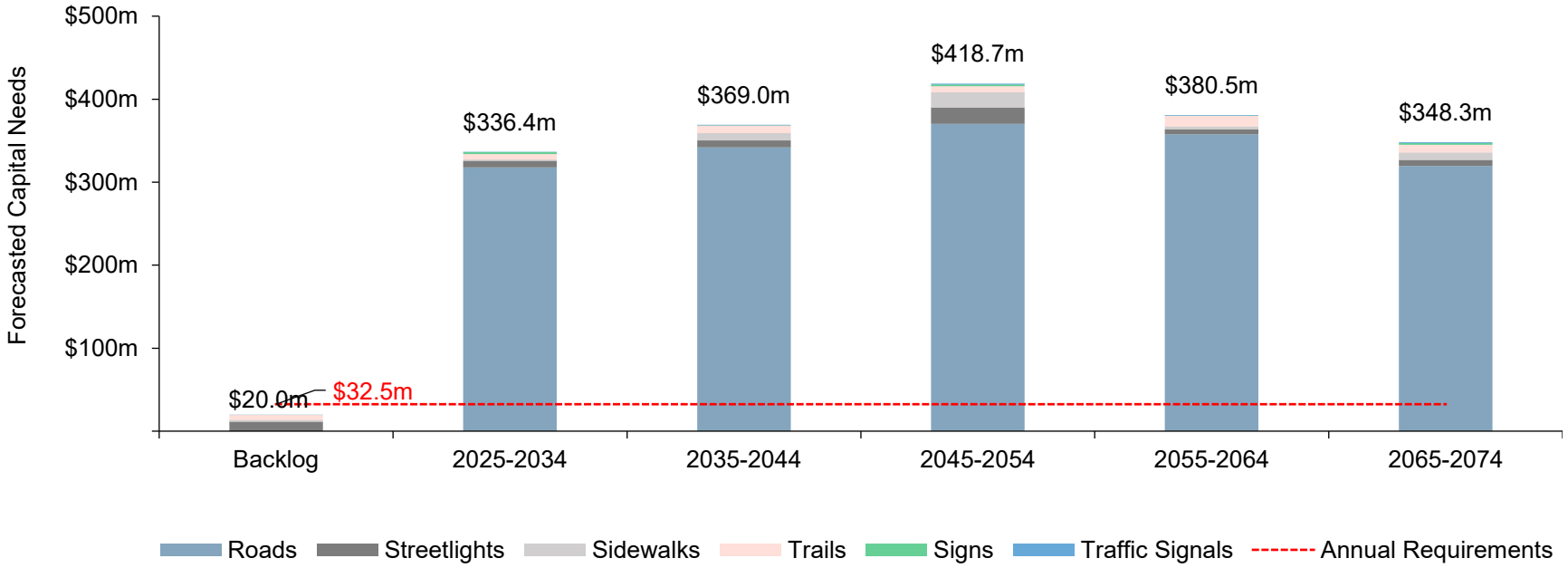
All sidewalk inventory is assessed annually by staff. The most recent external review was conducted in 2018 by StreetLogix, producing a sidewalk condition index (SCI), as well as the recommended lifecycle intervention ranging from grinding to partial replacement of panels. Internal inspections are done on an annual basis.

Forecasted Long-term Replacement Needs

Figure 7 highlights the cyclical nature of capital replacement requirements for the Municipality's road network from 2025 to 2074. The modeled average annual requirement is approximately $32.5 million and can be used as a long-term reference point for reserve contributions and capital planning. An estimated $20 million backlog was identified, primarily associated with streetlighting assets. Requirements increase significantly in the current decade, and reach a peak of $418.7 million by the late 2040s, before tapering in subsequent years.

These projections assume that assets are replaced at the end of their useful life, and that all lifecycle interventions for paved roads as identified in the 2025 roads needs study and the theoretical deterioration curves are implemented as modeled. This is unlikely to occur in practice. Further, improvement costs for semi-urban roads also include installation of curbs and gutters. As such, the projections represent a structured planning scenario rather than a definitive funding commitment, providing a basis for developing more refined short- and medium-term capital plan.

Figure 7 Forecasted Capital Replacement Requirements - Road Network: 2025-2074



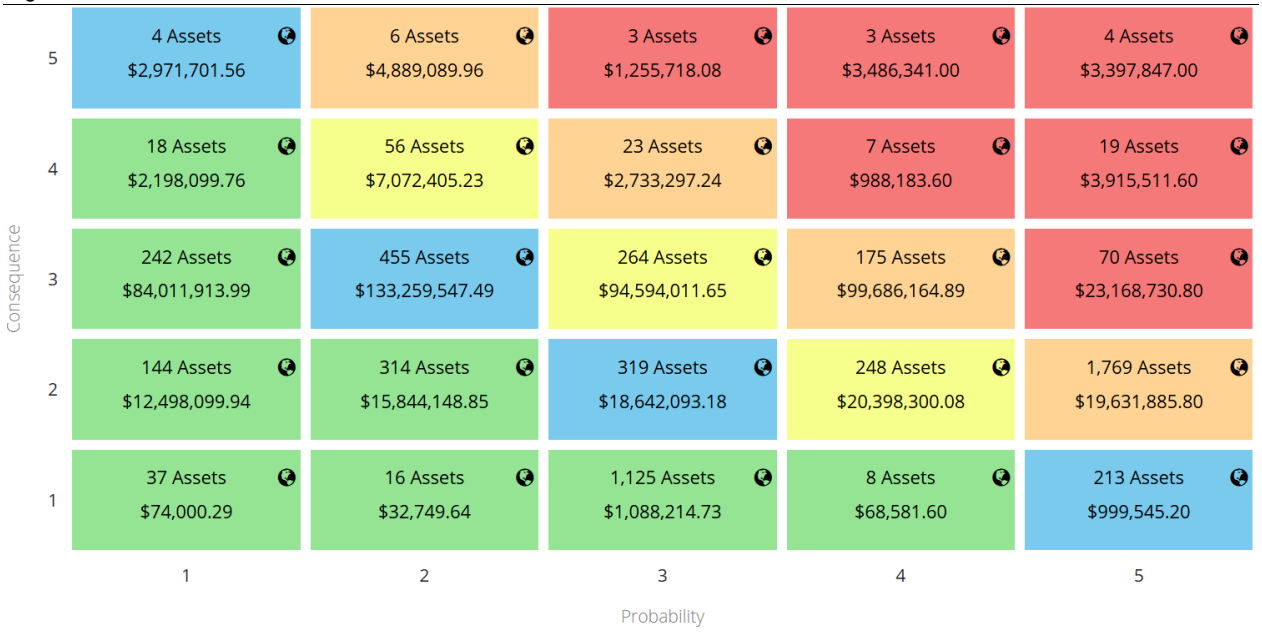
Risk Analysis

The risk matrix below is generated using available asset data, such as condition, service life remaining, replacement costs, and other asset attributes.

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 8 Risk Matrix - Road Network



In addition to asset-level risk, the Municipality's road network is vulnerable to risks arising from deferring or missing key lifecycle activities such as timely repairs, rehabilitation, and replacement. These risks can manifest in several ways:

- Missed opportunities to apply cost-effective interventions, such as crack sealing, surface treatments, or targeted rehabilitation, that could extend the life of road surfaces and underlying structures, resulting in higher long-term costs;

- Inefficient allocation of funds, where lower-risk segments (e.g., low-traffic local roads) might receive investments at the expense of higher-priority collector or arterial routes that support essential mobility and connectivity;

- Delays in critical projects, especially those involving road surfaces and sidewalks that directly impact public safety and accessibility, leading to potential increases in borrowing costs or financial strain;

- Accelerated deterioration of road bases, curb and gutter structures, sidewalks, streetlights, and other appurtenances, which could compromise not only driving conditions but also pedestrian safety, street lighting, and signage reliability, elements that collectively define the quality and usability of the road network;

- Diminished public confidence in the Municipality's road network, potentially eroding satisfaction with overall mobility, walkability, and the perceived quality of life in the community, while increasing vulnerability to reputational damage;

A risk-based, condition-driven approach helps ensure that critical assets within the road network, particularly high-volume or high-criticality segments, are prioritized for maintenance and renewal, thereby maintaining safety, reliability, and service continuity for residents and businesses alike.

Bridges and Culverts

The Municipality of Lakeshore's transportation network also includes bridges and structural culverts, with a current replacement cost of $124.1 million.

Inventory and Valuation

Table 7 summarizes the quantity and current replacement cost of bridges and culverts. The Municipality owns and manages 111 bridges and six structural culverts.

Table 7 Detailed Asset Inventory - Bridges and Culverts

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Bridges	111	Assets	$121,800,014	98%
Culverts	6	Assets	$2,331,726	2%
Total	**117**		**$124,131,740**	**100%**

Asset Condition

Figure 9 summarizes the replacement cost-weighted condition of the Municipality's bridges and culverts. Based on the Municipality's 2024 Ontario Structures Inspection Manual (OSIM) assessments, 99% of bridges and structural culverts are in fair or better condition. Elements or components in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

Figure 9 Asset Condition - Bridges and Culverts: Overall

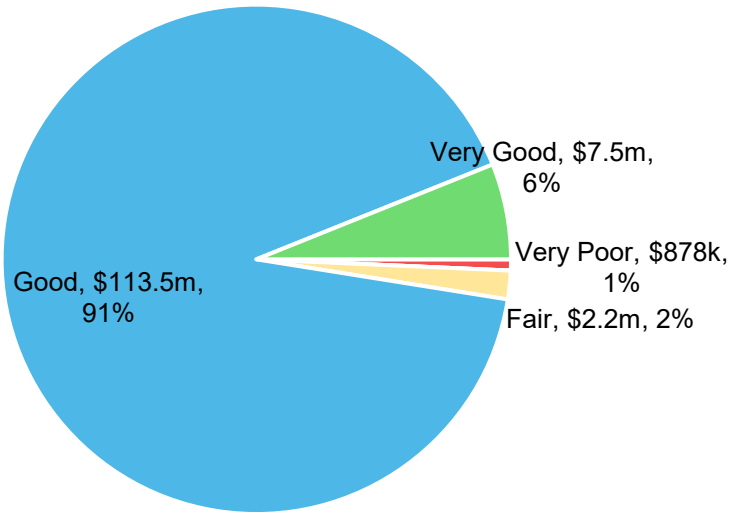
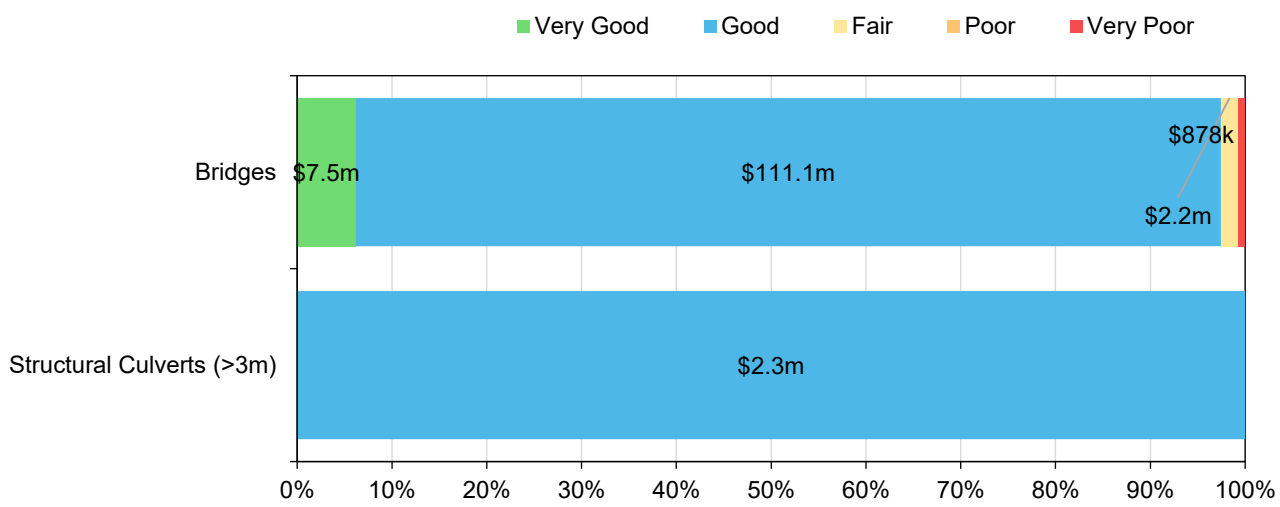


Figure 10 provides further condition details for both structure types.

Figure 10 Asset Condition - Bridges and Culverts: By Segment



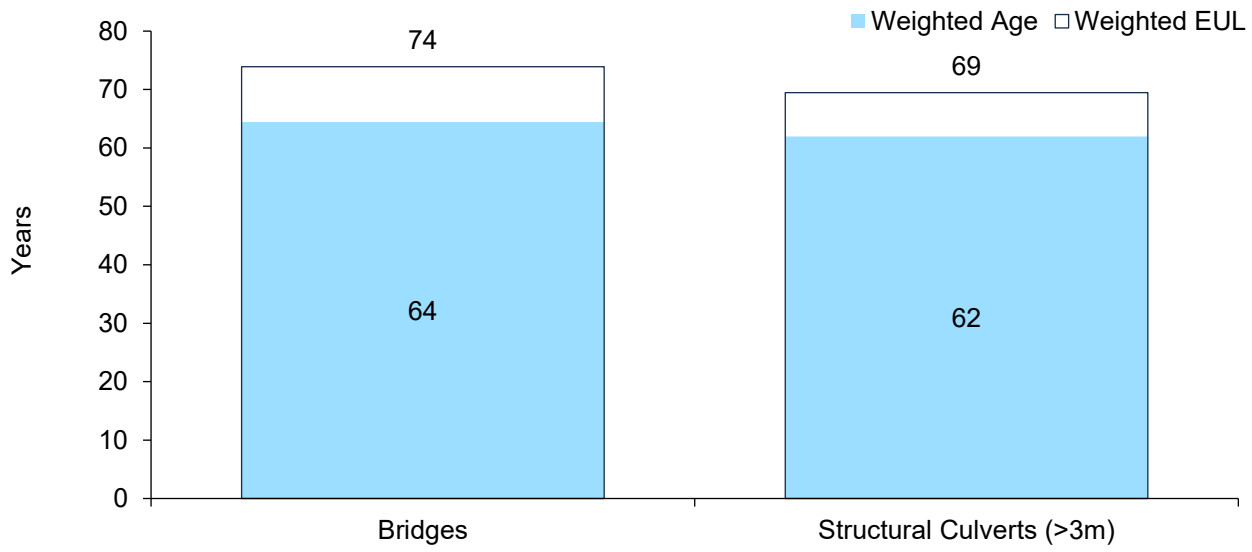
Age Profile

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

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

Figure 11 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 11 Estimated Useful Life vs. Asset Age – Brides and Culverts



Age analysis reveals that on average, bridges have consumed more than well over 50% of their estimated useful life, with an average age of 64 years against an average EUL of 74 years. On average, culverts are also in the latter stages of their lifecycle, with an average age of 62 years, against an average EUL of 79 years. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

Current Approach to Lifecycle Management

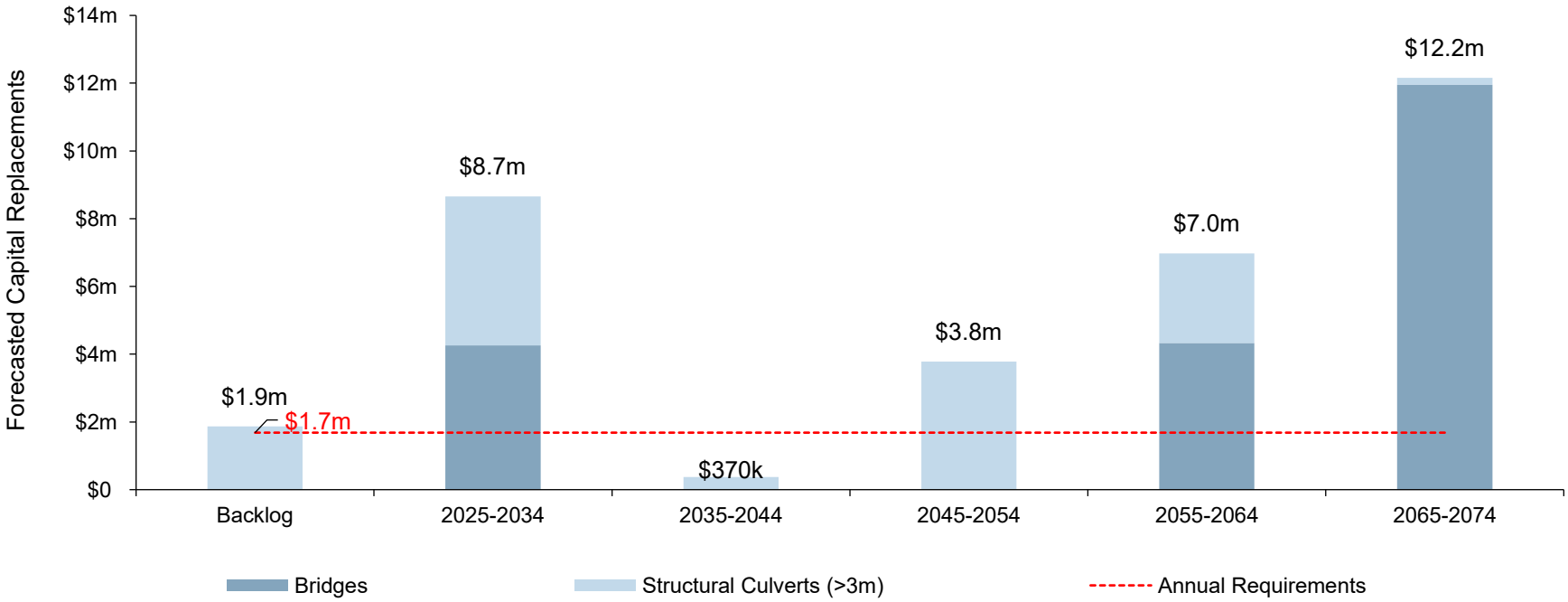
Annual lifecycle activities for the Municipality's 117 structures are informed by biennial structural inspections conducted in accordance with the Ontario Structure Inspection Manual (OSIM). The most recent inspection occurred in 2024, with updated data anticipated in 2026. These OSIM results will continue to guide maintenance and rehabilitation priorities across the Municipality's structures portfolio.

Forecasted Long-term Replacement Needs

Figure 12 illustrates the projected short-, medium-, and long-term rehabilitation and replacement needs for the Municipality's bridges and culverts, extending through 2074 to capture long-range trends and major renewal cycles. On average, Lakeshore requires $1.7 million annually to meet capital needs in this asset class. While actual expenditures may vary year to year, this value serves as a planning benchmark for annual capital allocations or reserve contributions to mitigate the risk of deferrals.

The analysis projects a backlog of $1.9 million initially, followed by an estimated $8.7 million in replacement needs for 2025–2034, a small need of $370,000 in 2035–2044, and a rise to $3.8 million in 2045–2054. This is followed by a further increase to $7.0 million in 2055–2064, before peaking at $12.2 million in 2065–2074. These projections are intended to support long-term, portfolio-level capital planning. Ongoing maintenance and rehabilitation guided by OSIM inspections, supported by a structured risk framework, will help ensure timely intervention for critical structural components.

Figure 12 Forecasted Capital Replacement Requirements - Bridges and Culverts: 2025-2074



Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 13 Risk Matrix - Bridges and Culverts

In addition to asset-level risk, the Municipality's bridge and structural culvert network is especially sensitive to risks associated with deferring or missing key lifecycle activities such as timely inspections, repairs, rehabilitation, and replacement. These risks can present in several ways:

- Missed opportunities to undertake preventive maintenance, such as deck sealing, joint repairs, or corrosion protection, that can significantly extend the service life of bridges and culverts, leading instead to higher lifecycle costs and the need for more expensive interventions later;

- Delays in executing major rehabilitations or replacements, particularly for bridges or culverts with high risk or low redundancy, could result in load restrictions, closures, or service disruptions with significant social and economic impacts.

- Accelerated structural deterioration that compromises load-carrying capacity, increases vulnerability to environmental factors (e.g., flooding or freeze-thaw cycles), and raises the risk of sudden failures that pose immediate safety hazards;

- A decline in public confidence in the safety and reliability of the Municipality's bridge and culvert infrastructure, potentially undermining trust in the Municipality's overall asset management practices and its commitment to ensuring safe travel and emergency response capabilities;

A condition-driven, risk-based approach ensures that high-priority structures, especially those with high traffic volumes or serving critical routes, are identified for timely interventions. This approach helps preserve essential connections, maintain safety, and optimize long-term investment in the Municipality's bridge and culvert network.

Stormwater Network

Lakeshore's Stormwater Network consists of an extensive system of storm sewer mains and a range of critical supporting infrastructure, with a total current replacement cost of $110 million. The network includes approximately 118 kilometres of storm mains. In addition to these linear assets, the Municipality is also responsible for key supporting components such as stormwater pump stations, manholes, and catch basins that contribute to overall system performance, environmental protection, and regulatory compliance.

Inventory and Valuation

Table 8 summarizes the quantity and current replacement cost of all stormwater management assets available in the Municipality's asset register.

Table 8 Detailed Asset Inventory - Stormwater Network

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Catch Basins	118,485	Meters	$101,735,659	92%
Manholes	39	Assets	$6,639,025	6%
Pump Stations	155	Assets	$750,298	<1%
Storm Mains	3	Assets	$524,452	<1%
Storm Pumps	54	Assets	$389,644	<1%
Total			**$110,039,078**	**100%**

Asset Condition

presents the replacement cost-weighted condition of the Municipality's stormwater management assets. Drawing on condition assessments and age data, 85% of assets are currently in fair or better condition, while the remaining 15% are classified as poor or worse. Assets in poor condition may require short-term replacement, while those rated as fair should be closely monitored to determine when medium-term rehabilitation or replacement might be necessary.

Figure 14 Asset Condition - Stormwater Network

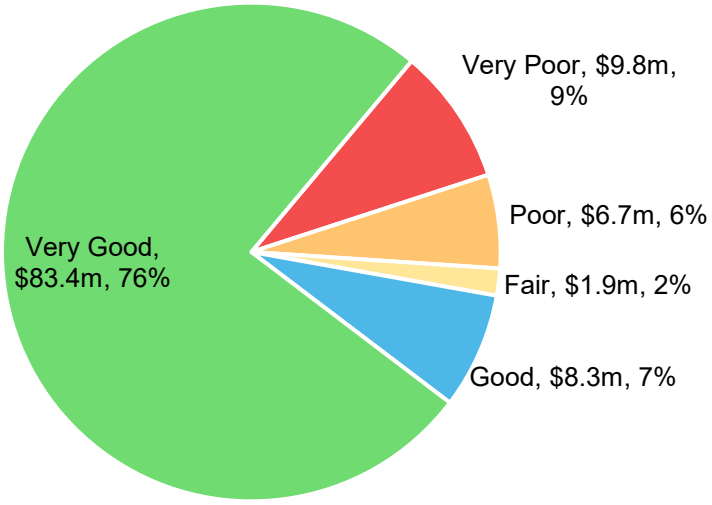
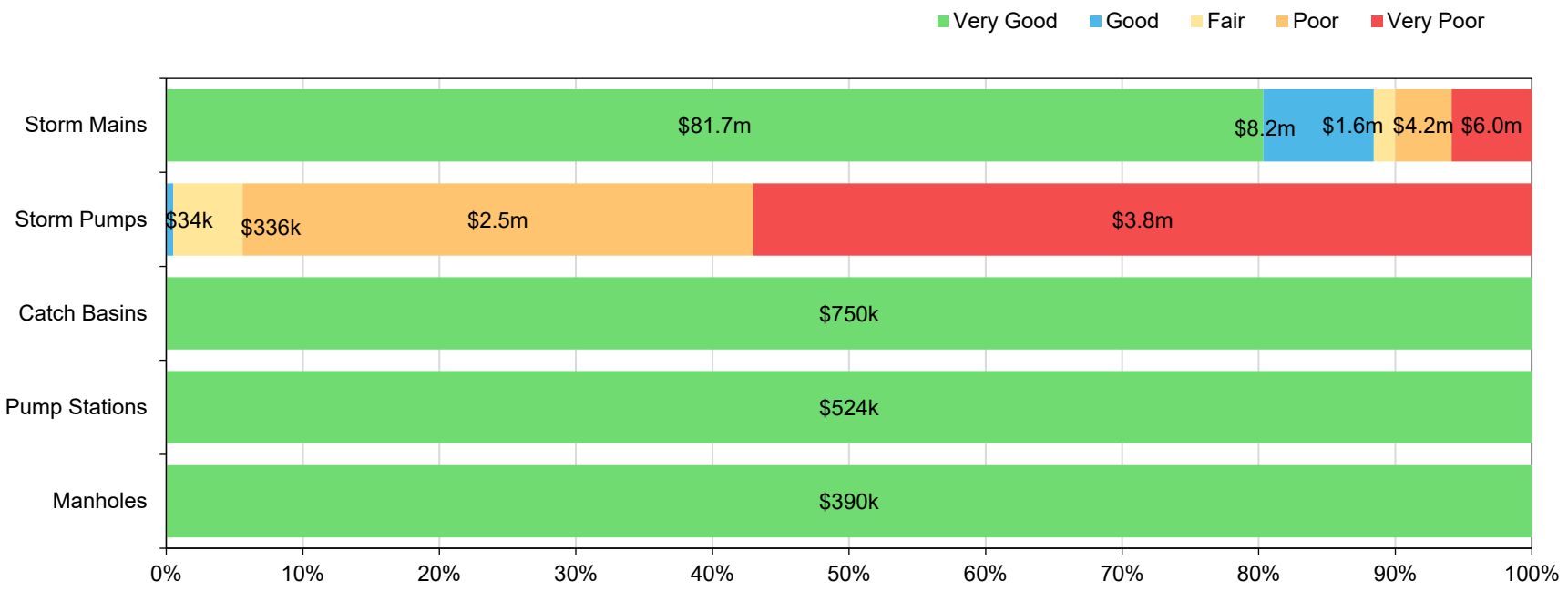


Figure 15 summarizes the condition of individual stormwater asset types. The analysis illustrates that based primarily on age data, the majority of stormwater mains, catch basins, and manholes are in fair or better condition.

Figure 15 Asset Condition - Stormwater Network – By Segment



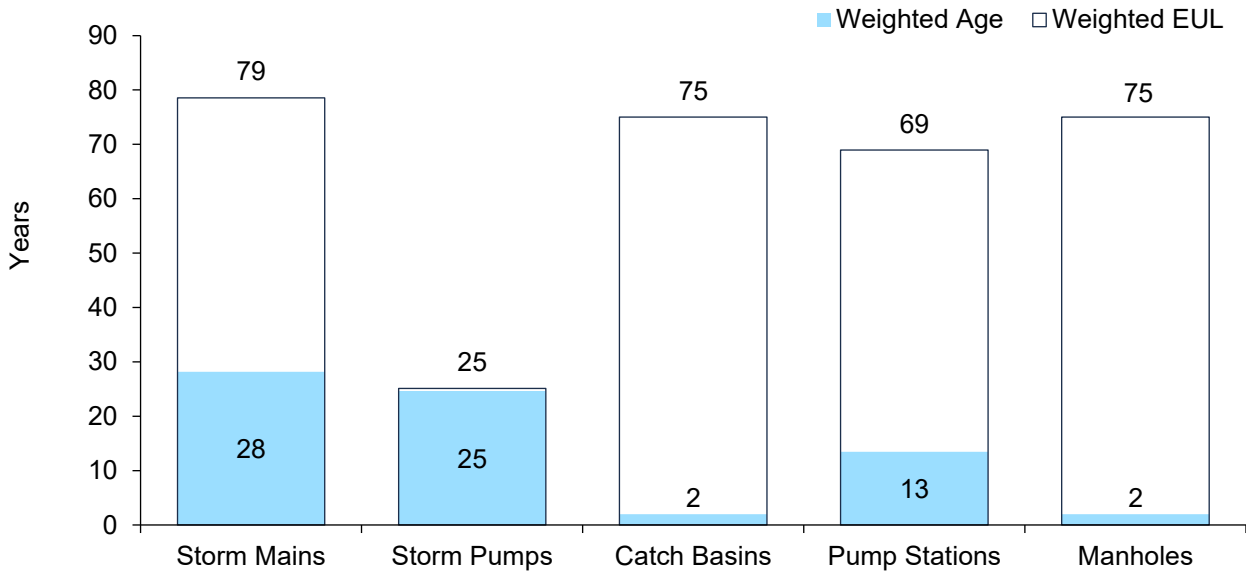
Age Profile

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

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

Figure 16 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 16 Estimated Useful Life vs. Asset Age – Stormwater Network



Storm mains have an average age of 28 years against a 79-year EUL. Pump stations, with an average age of 13 years and a 69-year EUL, remain well within their expected service life. Other assets, including catch basins, manholes, and storm pumps, show minimal average ages relative to their EULs, suggesting they are newer and likely require less immediate investment. Overall, this age profile suggests that the network is relatively young, though ongoing monitoring of storm mains is recommended to anticipate future reinvestment needs.

Current Approach to Lifecycle Management

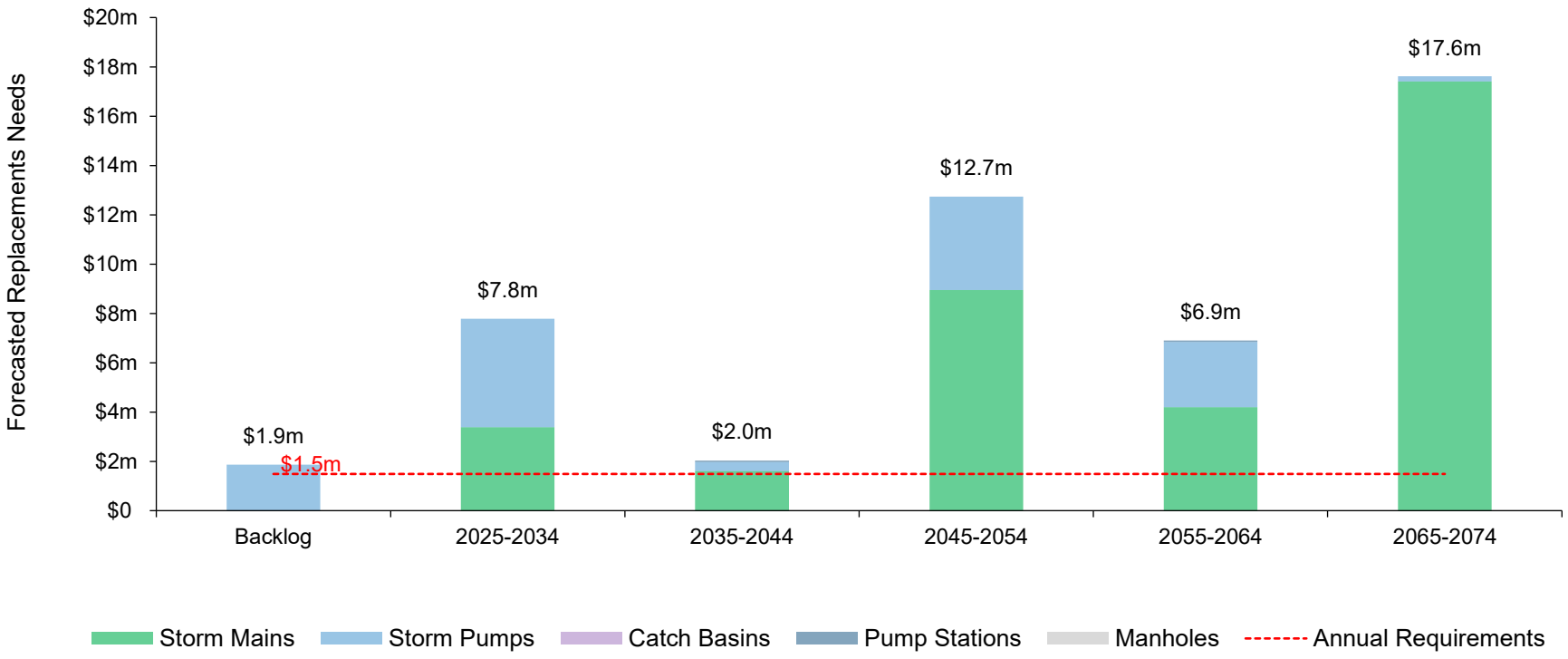
The Municipality's stormwater network management includes storm pond sedimental removal on a 10-year cycle, and remote monitoring for 10 storm pumping stations. No CCTV condition assessment program is in place; however, storm sewers may be replaced in coordination with roadwork and other utility works.

Forecasted Long-term Replacement Needs

Figure 17 illustrates the projected short-, medium-, and long-term replacement needs for Lakeshore's stormwater network through 2074, offering a multi-decade view of capital investment requirements. Average annual needs are estimated at $1.5 million, serving as a planning benchmark for reserve contributions and long-term financial stability.

Replacement needs gradually rise to $7.8 million in 2025–2034, remain modest at $2.0 million in 2035–2044, and then increase significantly in later decades, with peaks of $12.7 million in 2045–2054 and $17.6 million in 2065–2074. Storm mains and storm pumps account for the majority of expenditures. These projections are primarily age-based estimates, and condition assessments or inspections may refine priorities as the network continues to age.

Figure 17 Forecasted Capital Replacement Requirements - Stormwater Network: 2025-2074



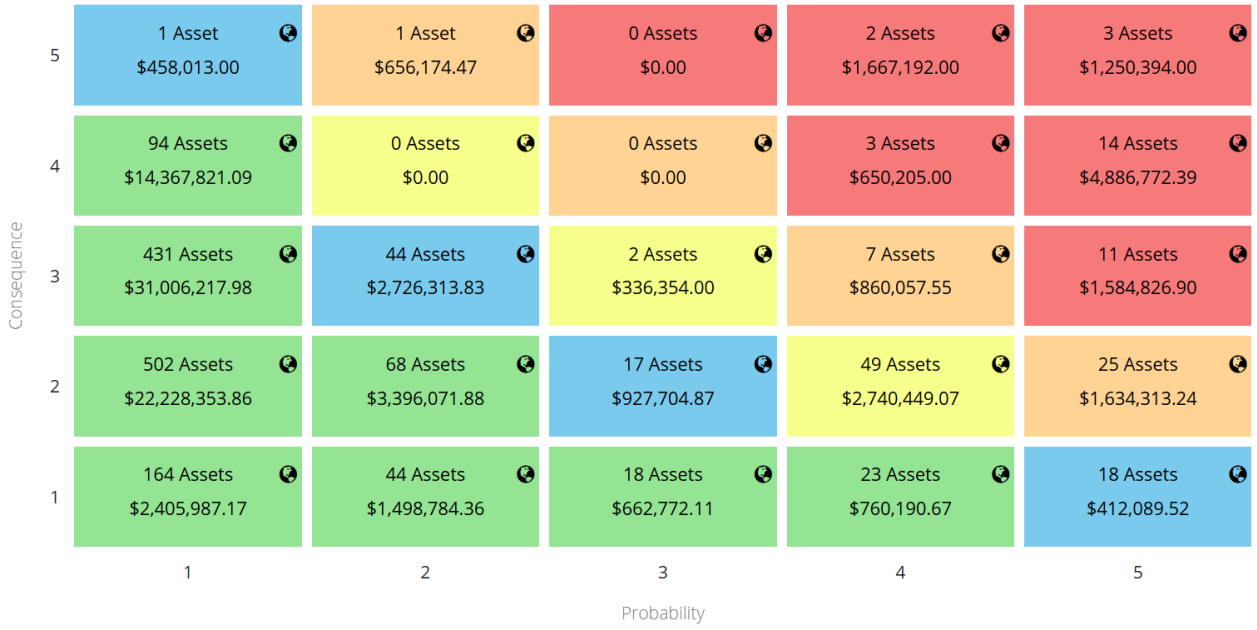
Risk Analysis

The risk matrix below is generated using available asset data, such as service life remaining, replacement costs, asset type, and pipe diameter. The risk ratings for assets without useful attribute data were calculated using only age, service life remaining, and their replacement costs.

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 18 Risk Matrix - Stormwater Network



In addition to asset level risk, the Municipality may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. These include:

- Missed opportunities to apply cost-effective preventive maintenance (e.g., clearing debris from storm mains or maintaining pond outlets), leading to higher lifecycle costs and potential system failures during heavy rain events;

- Deferral of critical stormwater projects, such as pump station upgrades or large-diameter main replacements, that can result in increased financial strain or the need for borrowing, especially if failures occur during extreme weather events;

- Accelerated deterioration of stormwater infrastructure, including mains, ponds, and outfalls, leading to premature failures that can compromise public health and safety, disrupt drainage services, and contribute to localized flooding;

- A decline in public satisfaction with the Municipality's flood management and drainage services, potentially eroding trust in the Municipality's ability to manage stormwater risks and protect residents and businesses.

- Failures in stormwater management assets can be particularly severe, leading to extensive flooding, erosion, sewer backups, road and bridge closures, environmental contamination, and substantial property damage. These failures also risk compromising water quality, exacerbating public health and safety concerns.

- Increased frequency and intensity of extreme weather events make communities even more vulnerable to flooding. Such events can also create legal liabilities for the Municipality if asset failures result in property damage or injury.

A condition-driven, risk-based approach ensures that high-priority stormwater assets, especially those vital for managing peak flows, environmental protection, and regulatory compliance, are identified and addressed promptly. This proactive strategy helps maintain system capacity and resilience, supporting reliable service delivery and protecting both residents and the natural environment from flood-related risks.

Water Network

Lakeshore's Water Network comprises water distribution mains, treatment plants, water towers, and critical appurtenances such as pumps, curb stops, and hydrants that support the safe and effective distribution of drinking water. The total current replacement cost of the Municipality's water infrastructure is estimated at $449 million. The Municipality is responsible for approximately 620 kilometres of mains.

Inventory and Valuation

Table 9 summarizes the quantity and current replacement cost of all water distribution assets available in the Municipality's asset register.

Table 9 Detailed Asset Inventory - Water Network

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Water Mains	620,499	Meters	$351,638,331	78%
Water Treatment Plant	2	Assets	$62,159,675	14%
Water Towers	2	Assets	$19,238,345	4%
Water Processing	13	Assets	$9,976,792	2%
Water Equipment	82	Assets	$1,337,377	<1%
Hydrants	92	Assets	$1,307,659	<1%
Water Pumps	20	Assets	$1,301,724	<1%
Water Vehicles	15	Assets	$899,991	<1%
Pumping Stations	4	Assets	$773,265	<1%
Reservoirs	1	Assets	$206,396	<1%
Curb Stops	72	Assets	$193,369	<1%
Total			**$449,032,924**	**100%**

In 2023, the Municipality carried out an evaluation of the John George Water Treatment Plant to determine asset conditions and lifecycle needs. This assessment produced a partial inventory of assets, along with their estimated replacement costs, as summarized below.

Table 10 Detailed Asset Inventory - Water Network

Asset	Replacement Cost
Process Mechanical	$4,217,500
Building Mechanical	$502,600
Electrical Systems	$2,410,000
Total	**$7,130,100**

Asset Condition

The figure below summarizes the replacement cost-weighted condition of the Municipality's water distribution assets. Based on age data, approximately 93% of assets are in fair or better condition; the remaining 7% are in poor to very poor condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

Figure 19 Asset Condition - Water Network

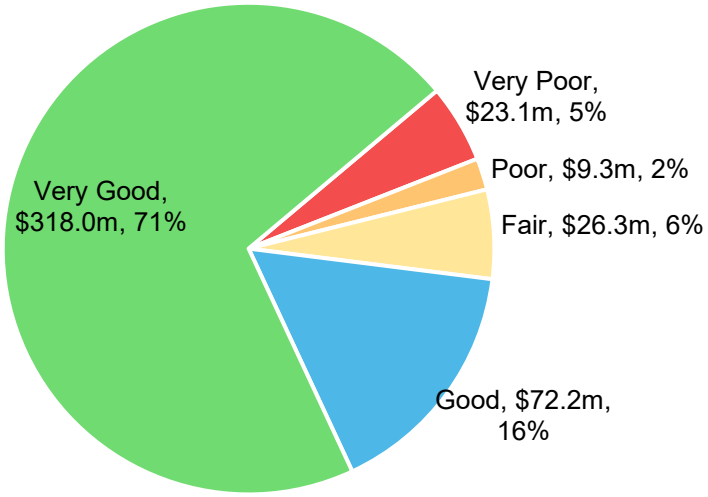
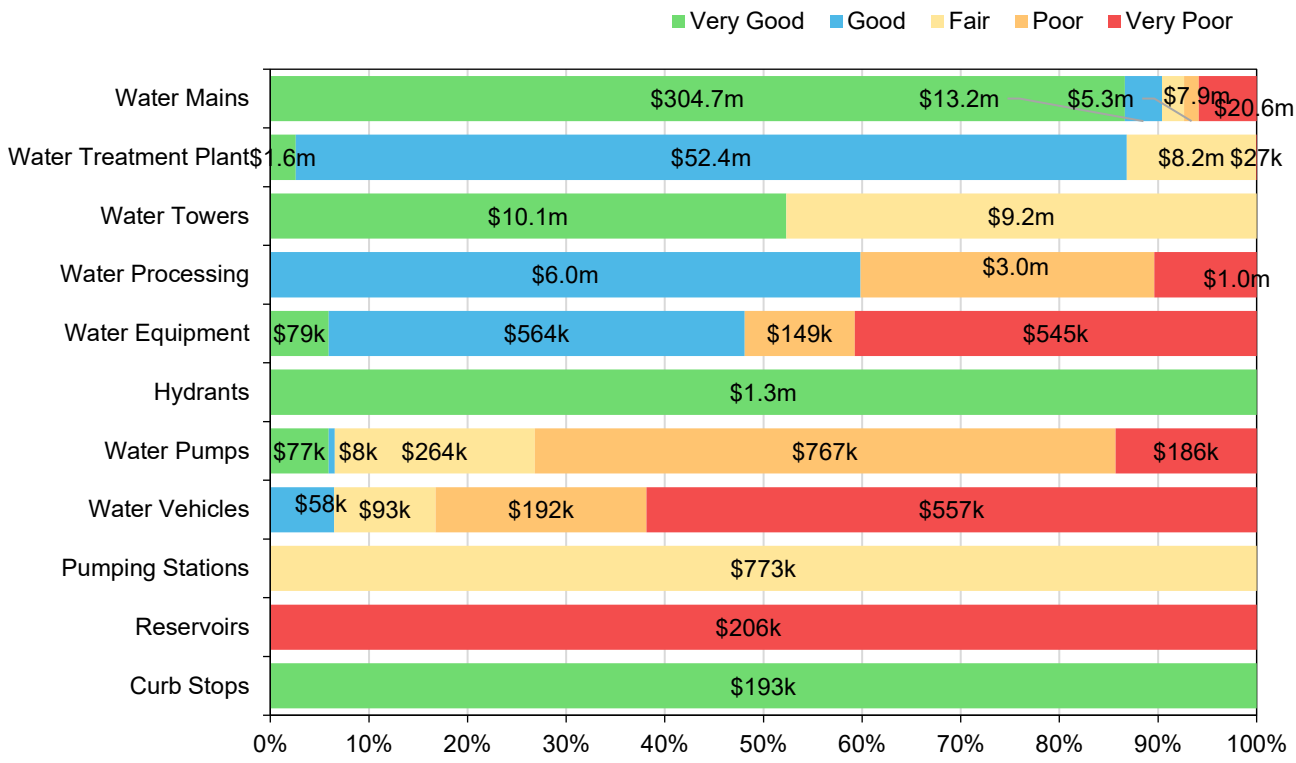


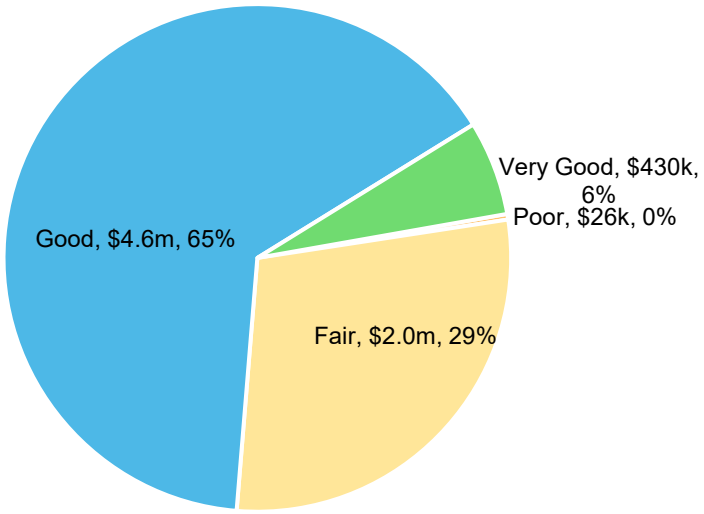
Figure 20 on the next page shows that water mains and water treatment plants, which account for the largest replacement values, are generally in good to very good condition, though some assets are approaching or in the poor and very poor categories. In contrast, water equipment, water pumps, and water vehicles show higher proportions of poor and very poor condition ratings, indicating a need for near-term reinvestment in these areas. Overall, the water system appears well-maintained in its major components, but targeted investments in supporting assets such as equipment, vehicles, and pumps may be necessary to maintain system performance and reliability over the long term.

Figure 20 Asset Condition - Water Network – By Segment



Due to data format limitations, the condition ratings from the 2023 John George Water Treatment Plant assessment could not be applied in a standardized format to the Municipality's asset inventory. The Plant's condition summary is presented below, and indicates that virtually all assets within the facility are in fair or better condition.

Figure 21 Jean George Water Treatment Plan Condition Analysis



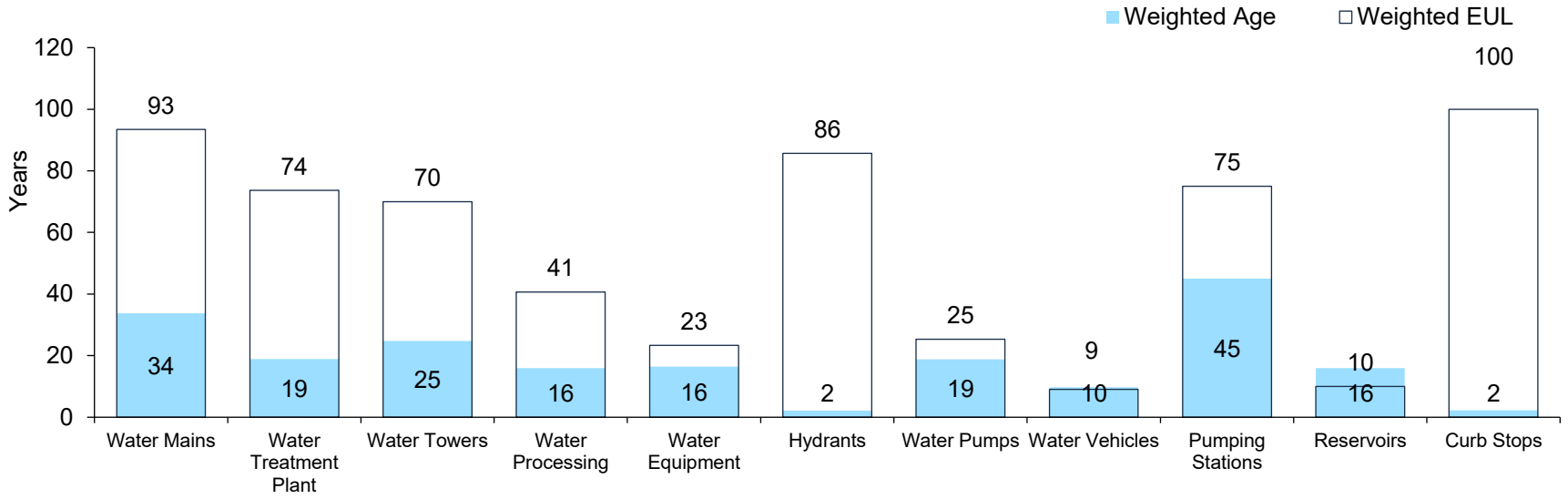
Age Profile

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

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

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

Figure 22 Estimated Useful Life vs. Asset Age – Water Network



On average, critical water infrastructure including mains, treatment plants, and towers are in the early to mid-stages of their lifecycle.

Current Approach to Lifecycle Management

The Municipality conducted a comprehensive assessment of the John George water treatment plant in 2023. The assessment included equipment from process mechanical, building mechanical, and electrical systems. The scope for electrical components was limited to items directly relating to treatment processes (i.e., lighting fixtures and electrical equipment relating to general building operation have not been assessed).

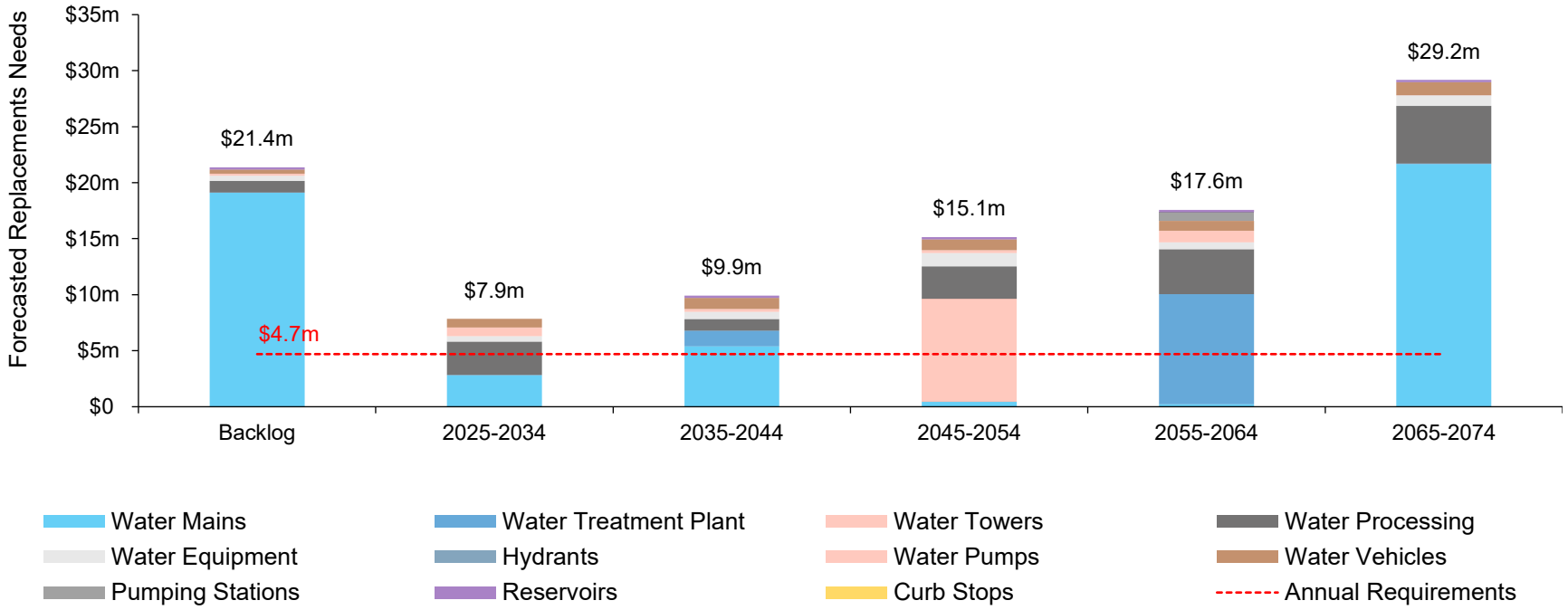
Although no formal condition assessment program is in place for the Municipality's water distribution network, break history, inadequate fire flow, and opportunity to bundle projects with road work or other major utility work informs renewal and/or replacement decisions. Capacity issues are also considered in project selection.

Forecasted Long-term Replacement Needs

Figure 23 offers a 50-year outlook on the Municipality's water distribution infrastructure needs, capturing cyclical reinvestment requirements across short-, medium-, and long-term horizons. It estimates average annual capital needs of $4.7 million, which can serve as a practical benchmark when setting annual capital budgets or reserve contributions. While actual project timing may shift, maintaining funding at or near this level can help ensure timely replacement and prevent the accumulation of infrastructure deficits.

The current estimated reinvestment backlog is $21.4 million, the majority of which is associated with watermains that have exceeded their estimated service life. However, these assets may still be functioning adequately, as age-based analysis does not account for localized performance or condition data. Approximately $7.9 million in renewal needs are projected within the current decade. These replacement needs are expected to increase consistently over the coming decades, peaking at $29.2 million between 2065-2074.

Figure 23 Forecasted Capital Replacement Requirements - Water Network: 2025-2074



Risk Analysis

The risk matrix below is generated using available asset data, such as service life remaining, replacement costs, asset type, and pipe diameter. The risk ratings for assets without useful attribute data were calculated using only age, service life remaining, and their replacement costs.

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 24 Risk Matrix - Water Network

In addition to asset level risk, the Municipality may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. These include:

- Failures in water distribution systems, including water mains and hydrants, can disrupt essential services, leading to water advisories, loss of water supply, and impacts on fire protection.

- Unplanned breaks and leaks can drive up maintenance and repair costs, eroding financial efficiency and increasing overall lifecycle costs.

- Delays in renewing aging water infrastructure can require emergency repairs, strain the budget, or force additional borrowing.

- Early deterioration of critical water assets can pose risks to public health, impact fire safety, and affect the Municipality's residents and businesses.

- Poor asset management in water services can lead to decreased public trust, dissatisfaction with water quality and reliability, and damage the Municipality's reputation.

An asset's criticality rating, determined by the nature and magnitude of the consequences of its potential failure should be used to prioritize projects, particularly lifecycle management strategies.

Sanitary Network

Lakeshore's Sanitary Network comprises wastewater collection mains, manholes, and pump stations, with a current replacement cost of $223.1 million. The Municipality is responsible for 180 kilometres of mains, critical facilities such a treatment plants, pump stations, as well as associated appurtenances including manholes.

Inventory and Valuation

Table 11 summarizes the quantity and current replacement cost of all sanitary infrastructure assets available in the Municipality's asset register.

Table 11 Detailed Asset Inventory - Sanitary Network

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Sanitary Mains	180,244	Mains	$115,626,706	52%
Sewage Treatment Plant	3	Assets	$71,310,308	32%
Sewage Processing	15	Assets	$16,545,632	7%
Pump Stations	57	Components	$10,051,182	5%
Sanitary Pumps	176	Components	$6,081,276	3%
Wastewater Equipment	35	Assets	$2,916,767	1%
Wastewater Vehicles	2	Assets	$310,408	<1%
Manholes	41	Assets	$287,114	<1%
Total			**$223,129,393**	**100%**

Asset Condition

Figure 25 the replacement cost-weighted condition of the Municipality's sanitary network assets. Based on age data, 93% of the assets are in fair or better condition, while the remaining 7% are in poor or very poor condition. Assets in poor condition may require short-term replacement, while those rated as fair should be monitored for further deterioration and potential medium-term rehabilitation or replacement.

Figure 25 Asset Condition - Sanitary Network

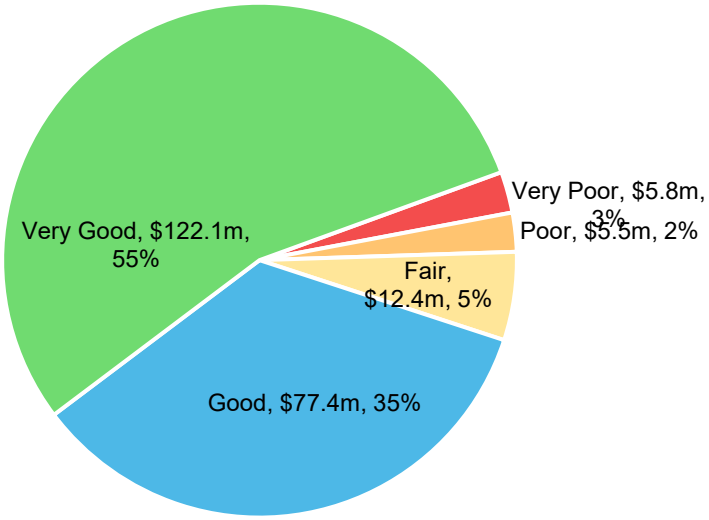
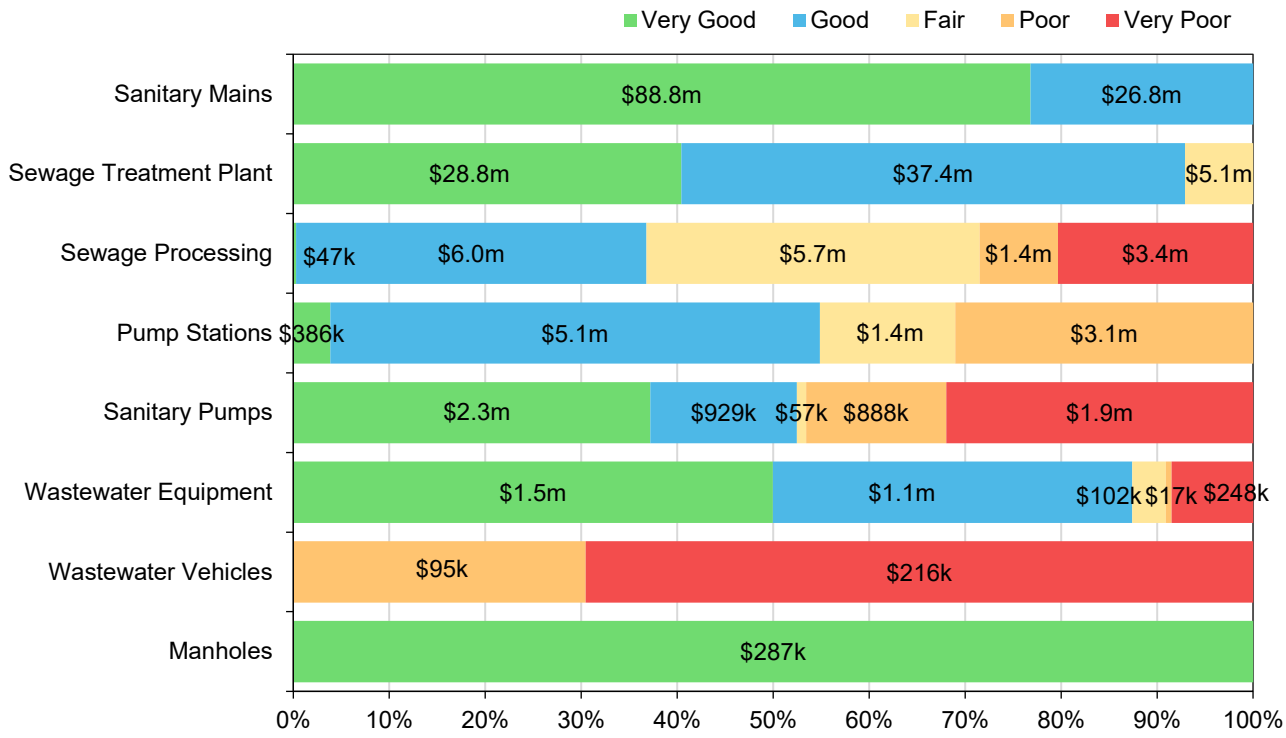


Figure 26 summarizes the age-based condition of sanitary assets. The analysis illustrates that sanitary mains and treatment plant assets are predominantly in good to very good condition, with no assets rated as poor or worse in either of these asset types. Other assets such as sewage processing, pump stations, and wastewater equipment generally show a mix of good, fair, and some poor or very poor conditions, indicating the need for ongoing maintenance and targeted reinvestment to maintain service reliability.

Figure 26 Asset Condition - Sanitary Network – By Segment



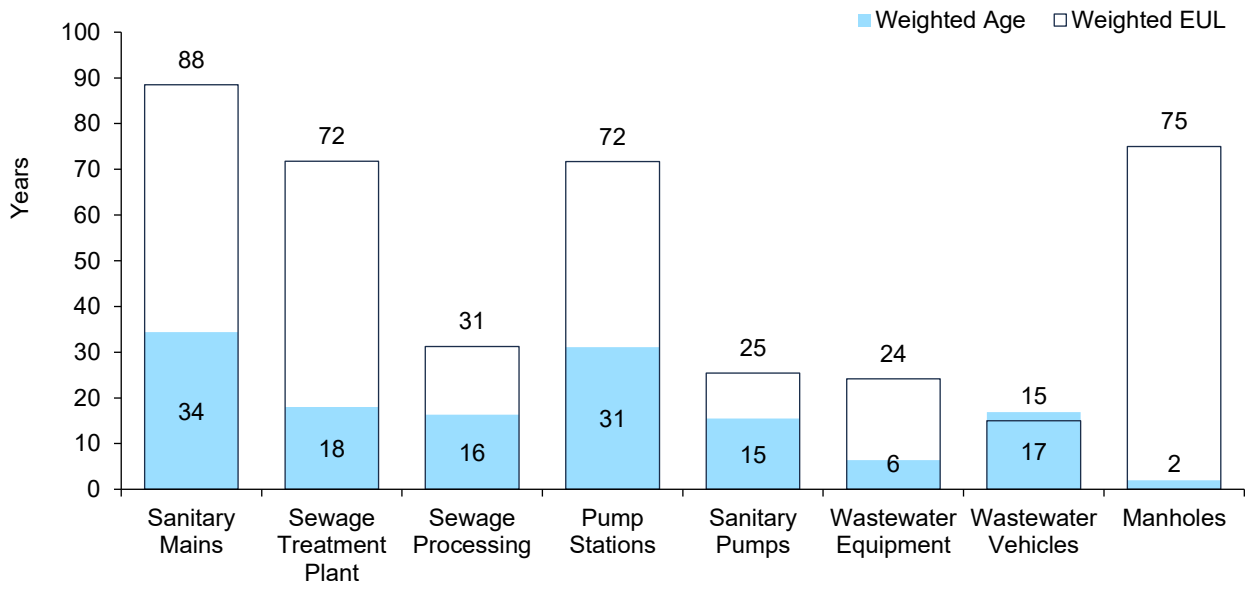
Age Profile

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

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

Figure 27 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 27 Estimated Useful Life vs. Asset Age – Sanitary Network



The Municipality's sanitary mains have a weighted average age of 34 years compared to an estimated useful life (EUL) of 88 years, indicating they are well within their expected service life and are not at immediate risk of needing significant replacement. The sewage treatment plant has an average age of 18 years against a 72-year EUL, again suggesting that this critical facility is relatively young and performing reliably. However, this analysis does not yet fully capture the condition of all plant components due to the absence of component-level data in the current asset inventory.

Other assets, such as sewage processing, pump stations, and wastewater equipment, generally show moderate consumption levels relative to their EULs, suggesting manageable reinvestment needs in the near term. Overall, the sanitary network appears to be in good condition, but continued monitoring will help ensure timely renewal planning.

Current Approach to Lifecycle Management

Ontario Clean Water Agency (OCWA) has managed the Municipality of Lakeshores wastewater treatment and collections systems since 1971. They are responsible for the Denis St. Pierre Treatment Plant, the Comber and Stoney Point Lagoons and all pumping stations that are part of the wastewater system. Every year the Municipality discusses capital budget needs for capital repairs to items such as pump replacements, facility repairs, pump station repairs, collection mains.

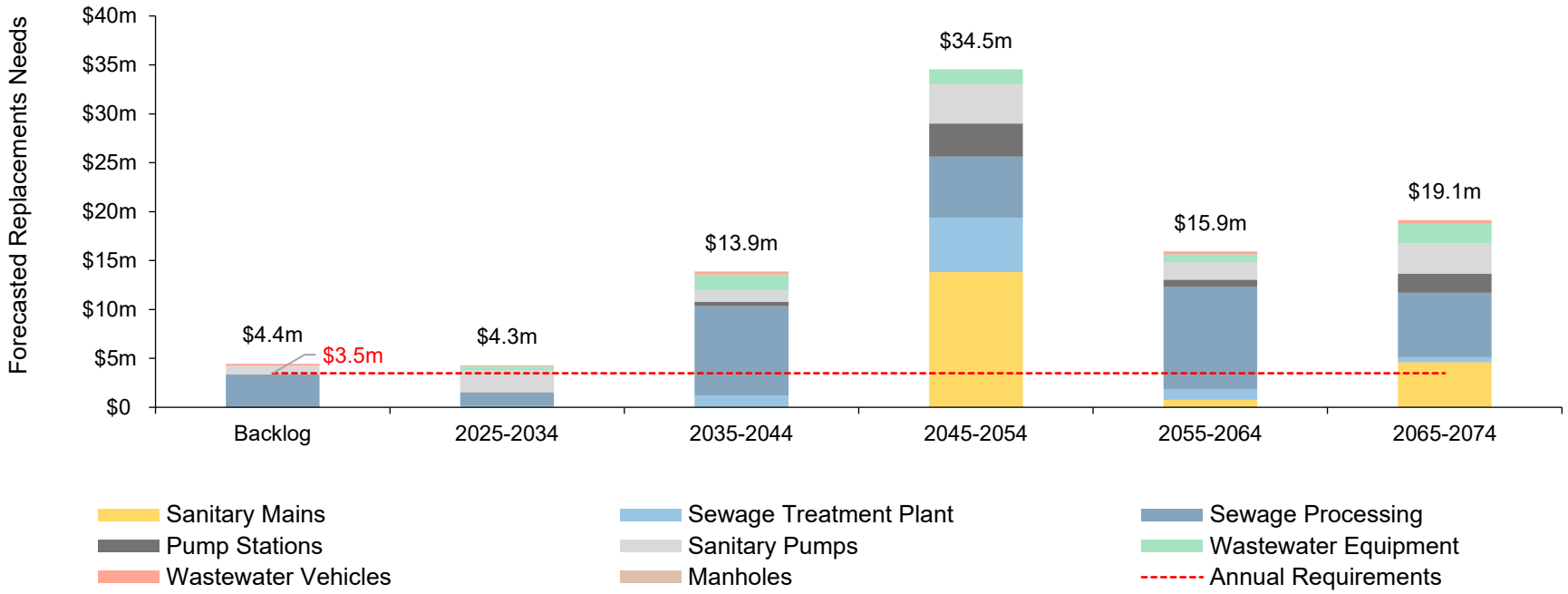
This AMP does not address or account for the need for increased capacity at existing treatment plants and lines, reflecting on like-for-like replacements of the infrastructure already installed. Master plans may identify capacity upgrade needs offering higher levels of service, which may be coordinated with condition analysis produced in the AMP.

Forecasted Long-term Replacement Needs

Figure 28 outlines the long-term replacement needs for the Municipality's sanitary infrastructure through 2074, highlighting expected reinvestment cycles across short-, medium-, and long-term periods. Average annual requirements are estimated at $3.5 million, which can serve as a guiding benchmark for capital budgeting and reserve planning to reduce the risk of deferral.

Replacement needs are projected to rise over the next two decades, beginning with $4.3 million in the current decade and reaching a peak of $34.5 million between the mid-2040s and 2050s. These estimates, based on asset age and replacement cost, provide a portfolio-level view of long-range capital pressures to support improved financial planning.

Figure 28 Forecasted Capital Replacement Requirements - Sanitary Network: 2025-2074



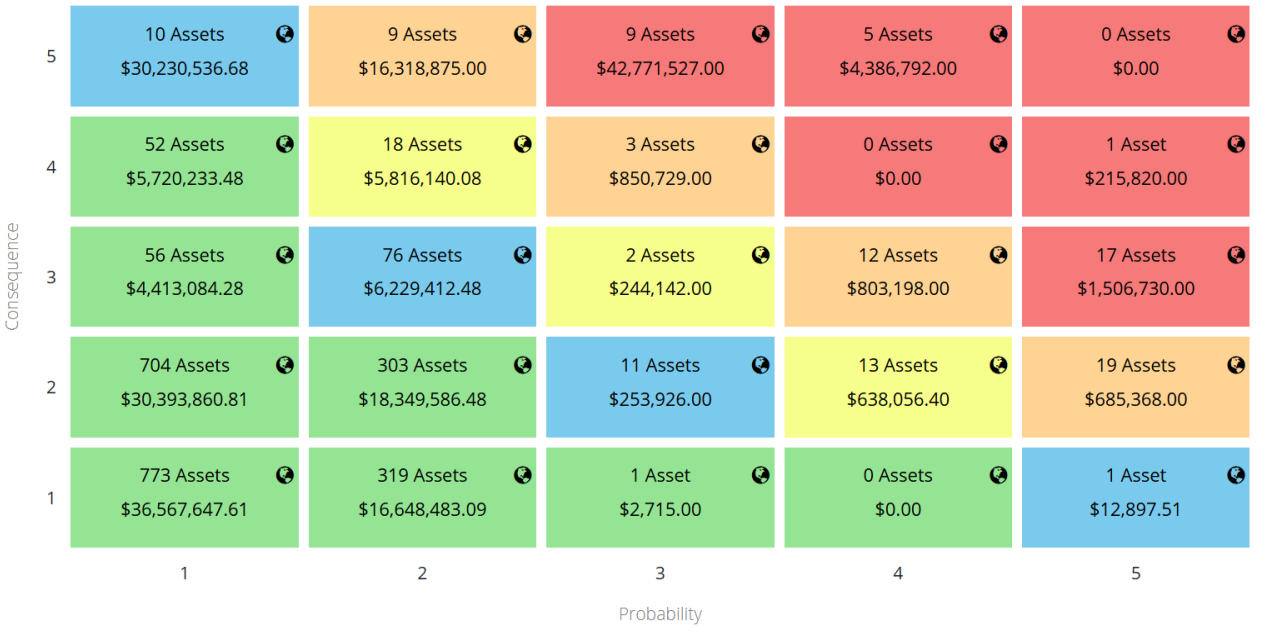
Risk Analysis

The risk matrix below is generated using available asset data, such as service life remaining, replacement costs, asset type, and pipe diameter. The risk ratings for assets without useful attribute data were calculated using only age, service life remaining, and their replacement costs.

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 29 Risk Matrix - Sanitary Network



In addition to asset level risk, the Municipality may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. These include:

- Missed opportunities to apply cost-effective maintenance strategies (e.g., sewer cleaning, pipe relining), resulting in higher lifecycle costs and increased risk of unexpected failures;

- Erosion of public confidence in the Municipality's ability to manage its sanitary system, potentially damaging the Municipality's reputation and perceived service quality;

- Failures in wastewater collection assets can result in sewage backups, service outages, environmental contamination, and damage to other municipal assets, such as roadways and storm infrastructure.

An asset's criticality rating, determined by the nature and magnitude of the consequences of its potential failure should be used to prioritize projects, particularly lifecycle management strategies.

Facilities

Lakeshore's facilities portfolio includes a diverse mix of buildings that support parks and recreation, public works, emergency services, general government, and environmental services. The current replacement value of the Municipality's facility assets is $163.5 million. The majority of facility replacement value is concentrated in parks and recreation buildings, which account for 82% of the total asset base.

Inventory and Valuation

Table 12 provides a detailed breakdown of the quantity and current replacement cost of facility assets in the Municipality's asset register. The quantity includes additions to existing facilities, e.g., fire stations and public works facilities. Within parks, given limited differentiation and componentization between and within facilities, the quantity listed reflects the total number of assets.

Table 12 Detailed Asset Inventory - Facilities

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Parks and Recreation	56	Assets	$133,269,421	82%
General	3	Facilities	$21,527,434	13%
Roads	5	Facilities	$4,547,098	3%
Fire	5	Facilities	$3,888,409	2%
Total			**$163,490,485**	**100%**

Asset Condition

Figure 30 presents the replacement cost-weighted condition of the Municipality's facility assets portfolio. Based on age data analysis, the majority, 70%, of facility-related assets are classified within the fair or better condition categories. This suggests that, overall, the Municipality's facility assets are generally in serviceable condition, though some pockets of lower condition remain.

It is important to recognize, however, that these condition assessments are derived primarily from asset age data and aggregate facility-level records, rather than detailed component-level analysis. Many of the Municipality's buildings are not componentized within the asset registry, meaning they are represented as single, aggregated records rather than being broken down into critical sub-systems (e.g., building envelope, HVAC, electrical, and interior finishes).

For example, the Atlas Tube Centre (ATC) multi-use recreational facility, with a replacement cost of nearly $70 million, is listed as a single asset. This lack of granularity can obscure variations in condition among different building components.

Figure 30 Asset Condition - Facilities

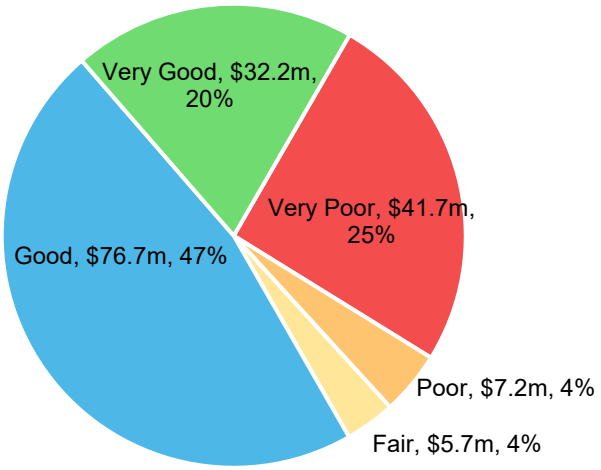
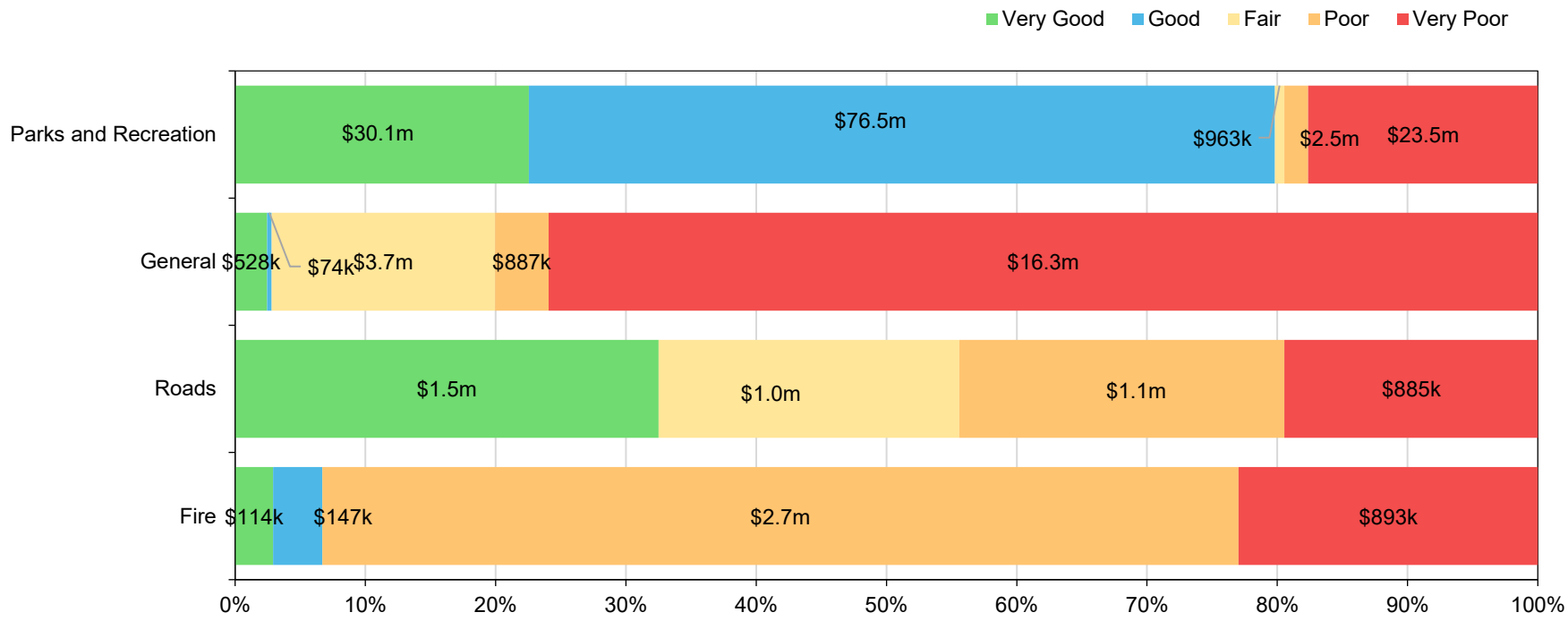


Figure 31 illustrates the age-based condition of the Municipality's facility portfolio by service area. The analysis shows that a substantial portion of the parks and recreation assets are in very good or good condition, while most other facility types, including general, roads, and fire, display a higher proportion of assets in the fair or worse condition categories. It is also important to note that the high proportion of assets categorized as poor or very poor may be overstated due to the lack of componentization, which can obscure the good condition of many critical systems within those facilities.

Figure 31 Asset Condition - Facilities – By Segment



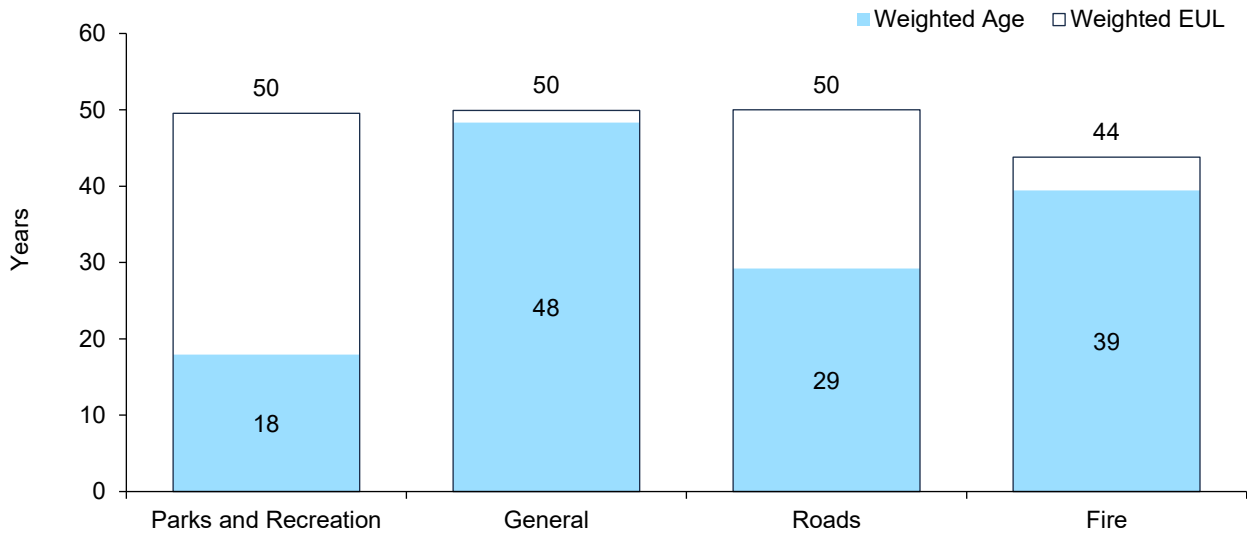
Age Profile

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

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

Figure 32 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 32 Estimated Useful Life vs. Asset Age – Facilities



The analysis indicates that facility assets across most categories are generally in the latter stages of their lifecycle, with weighted ages exceeding their expected service lives. However, it is important to acknowledge that these results may not accurately reflect the ages of individual building systems, as most facilities are recorded as aggregated assets rather than detailed components, each of which would have its own installation date and lifecycle.

Given the diversity of asset types and the mechanical complexity found particularly in specialized buildings, more detailed or component-level age assessments would provide a more precise understanding of asset renewal needs and better inform future capital planning.

Current Approach to Lifecycle Management

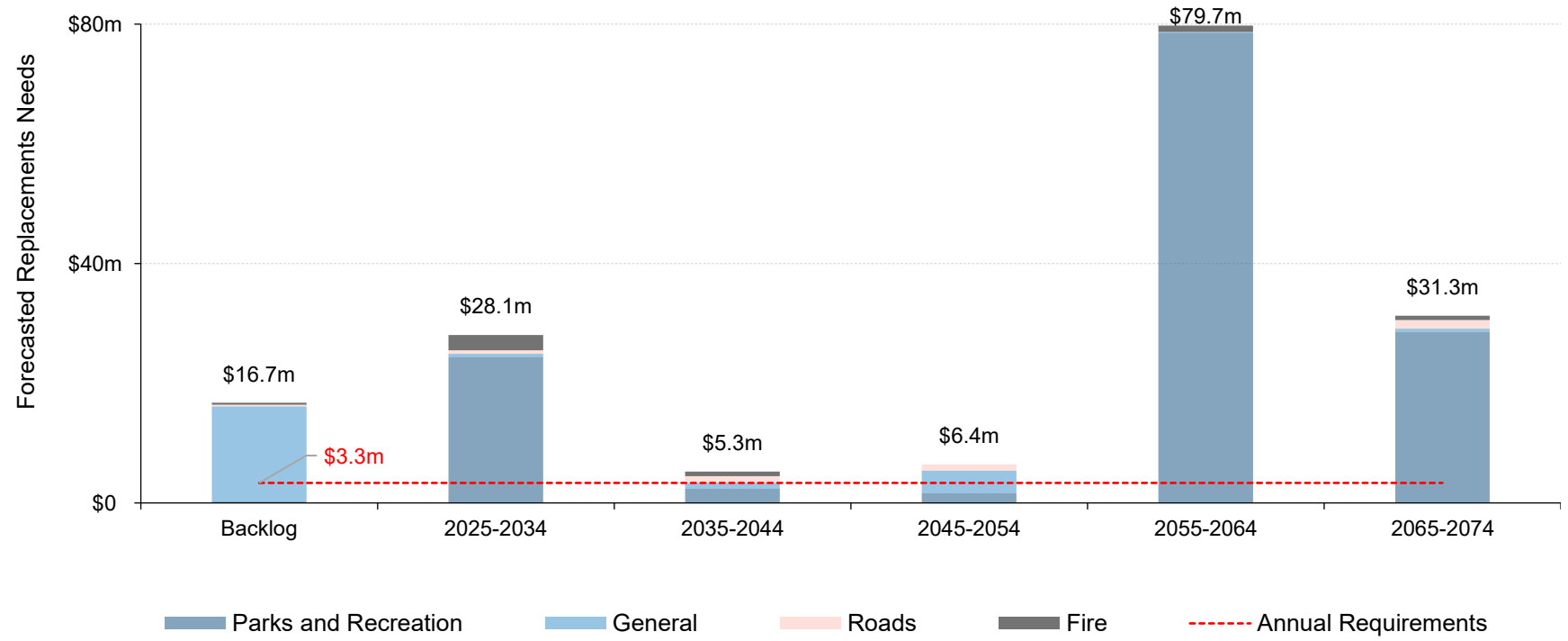
Lifecycle management for facility assets typically includes routine maintenance, periodic inspections, and timely interventions such as repairs or replacements, all guided by asset management principles. The Municipality relies on ongoing maintenance and repair strategies to effectively manage its facility assets over time.

Forecasted Long-term Replacement Needs

Figure 33 outlines the long-term replacement needs for the Municipality's facilities portfolio through 2074, highlighting expected reinvestment cycles across short-, medium-, and long-term periods. Average annual requirements are estimated at $3.3 million, which can serve as a guiding benchmark for capital budgeting and reserve planning to reduce the risk of deferral.

The analysis highlights replacement needs totaling $28.1 million in the current decade, followed by a notable peak of nearly $80 million in 2055–2064 driven by parks and recreation assets. While this forecast identifies potential funding challenges, particularly during peak years, it is based on aggregate age data and does not account for detailed component-level analysis. Incorporating componentization into future assessments would improve the accuracy of these forecasts by reflecting the lifecycle needs of individual building systems and elements.

Figure 33 Forecasted Capital Replacement Requirements - Facilities: 2025-2074



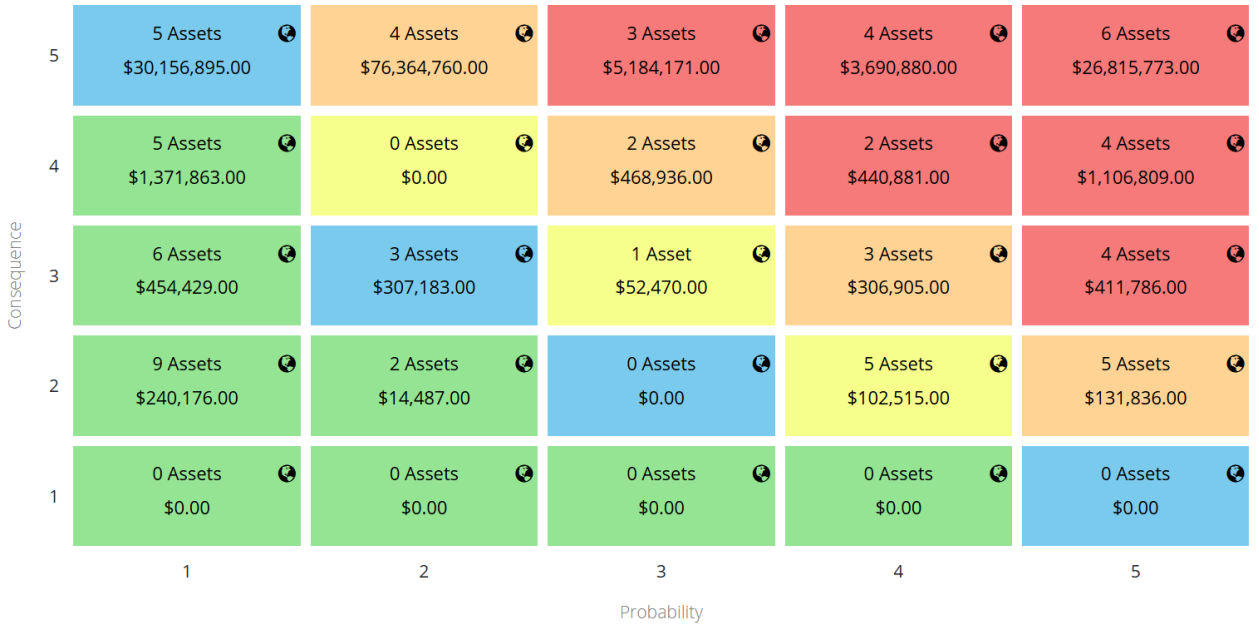
Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 34 Risk Matrix - Facilities



In addition to asset level risk, the Municipality may also face risk associated with not executing key lifecycle activities, including repairs, rehabilitation, and replacement of critical assets. These include:

- Missed opportunities to achieve cost savings and avoid higher lifecycle costs by addressing maintenance needs proactively;

- Deferral of critical facility projects, which may increase financial pressures or require additional borrowing to address urgent needs later;

- Accelerated deterioration of building systems (e.g., HVAC, electrical, roofing) and interior/exterior finishes, potentially leading to premature failures that impact occupant safety and service delivery;

- A decline in public confidence in the Municipality's facilities, including perceptions of safety, cleanliness, and functionality, potentially harming the Municipality's reputation and service standards;

- Failures of critical building systems (e.g., heating, cooling, electrical) can result in service interruptions, closures, and damage to other municipal infrastructure and assets;

Fleet

Lakeshore's fleet portfolio supports a wide range of municipal services, including protective services, transportation, parks and recreation, environmental services, and general government operations. The current replacement value of the Municipality's fleet assets is approximately $11.6 million. Fire services account for the largest share of this value at 52%, followed by roads services at 44%.

Inventory and Valuation

Table 13 provides a detailed breakdown of fleet assets by service area.

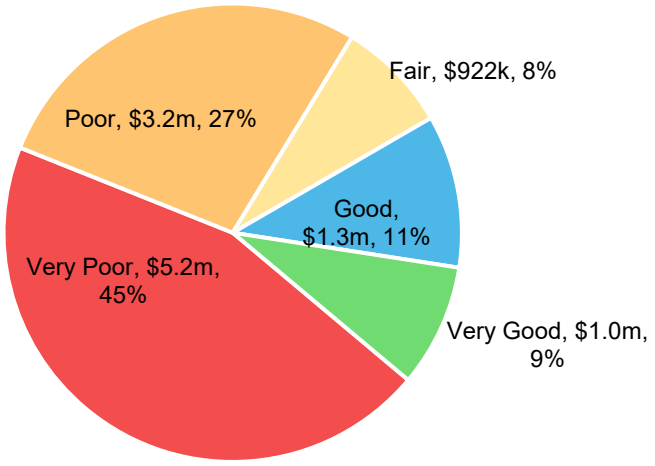
Table 13 Detailed Asset Inventory - Fleet

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Fire	26	Assets	$5,994,229	52%
Roads	28	Assets	$5,111,635	44%
Parks and Recreation	8	Assets	$414,617	4%
General	3	Assets	$110,896	<1%
Total			**$11,631,377**	**100%**

Asset Condition

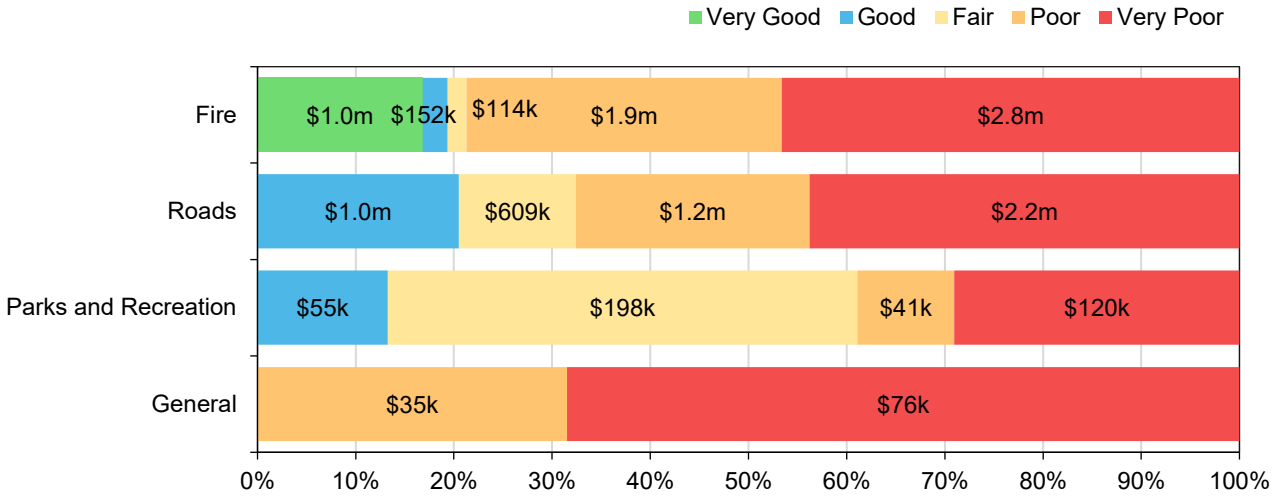
Figure 35 shows that the majority of the Municipality's vehicles, based only on age, are in poor or worse condition. As no actual vehicle inspection data or performance evaluation was available, these estimates may not reflect the true performance capability of the vehicles. Staff take appropriate measures to ensure that critical vehicles remain in fully serviceable condition to maintain essential operations.

Figure 35 Asset Condition - Fleet



The analysis suggests that most segments, particularly fire and roads, have a significant portion of vehicles categorized as poor or very poor. However, these assessments rely solely on asset age data, and no actual vehicle inspections were available. Detailed condition data would help refine these estimates and better support future fleet planning.

Figure 36 Asset Condition - Fleet – By Segment



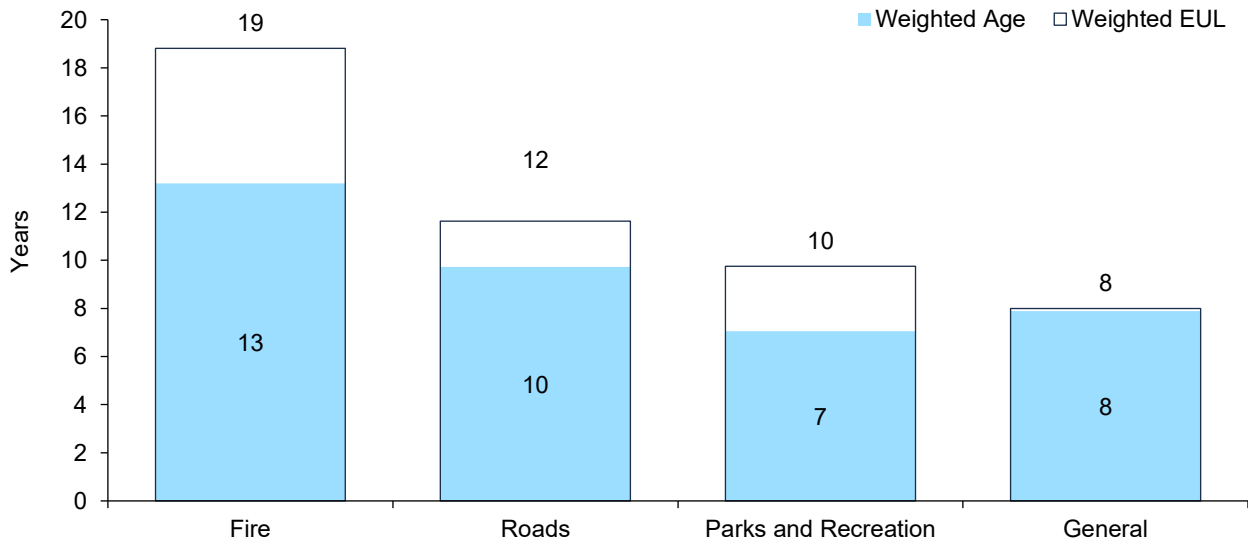
Age Profile

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

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

Figure 37 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 37 Estimated Useful Life vs. Asset Age – Fleet



Age analysis indicates that most fleet assets are in the latter half of their expected service life, particularly in protective and transportation services, where average ages are nearing their estimated limits. While immediate replacements may not be required across all service areas, continued monitoring and phased reinvestment will be important over the next few years.

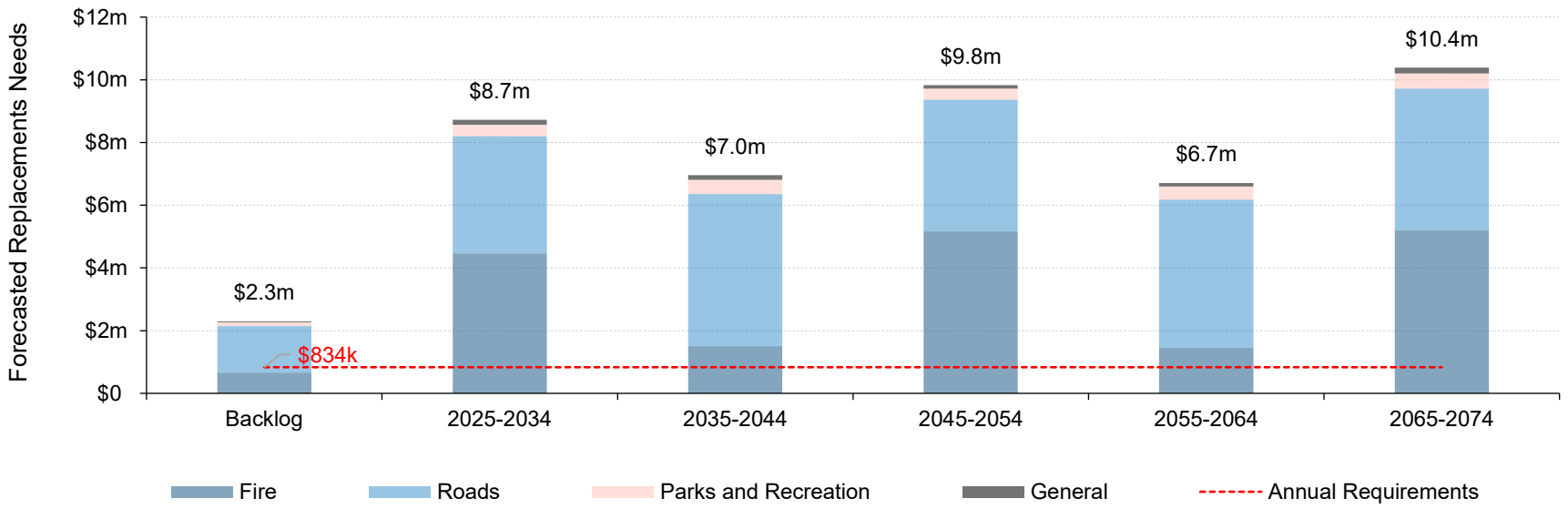
Current Approach to Lifecycle Management

Lakeshore staff manage fleet assets by tracking their age, condition, and usage to ensure vehicles remain safe, reliable, and cost-effective. Regular maintenance and planned replacements help reduce breakdowns and keep services running smoothly. For fire fleet in particular, staff prioritize maintaining vehicles in a state of full operational readiness to meet critical emergency response requirements.

Forecasted Long-term Replacement Needs

Figure 38 show forecasted capital replacement requirements for fleet assets from 2025 to 2074. Annual requirements total $834,000. In the current decade, replacement needs total $8.7 million, and peak at $10.4 million towards the end of the forecast period. Fire and roads-related fleet account for most of the requirements. Given the shorter lifespans of vehicles, multiple replacement cycles are expected within the 50-year horizon. While based on age data rather than detailed condition assessments, this highlights the need for proactive planning to ensure reliable service delivery..

Figure 38 Forecasted Capital Replacement Requirements - Fleet: 2025-2074



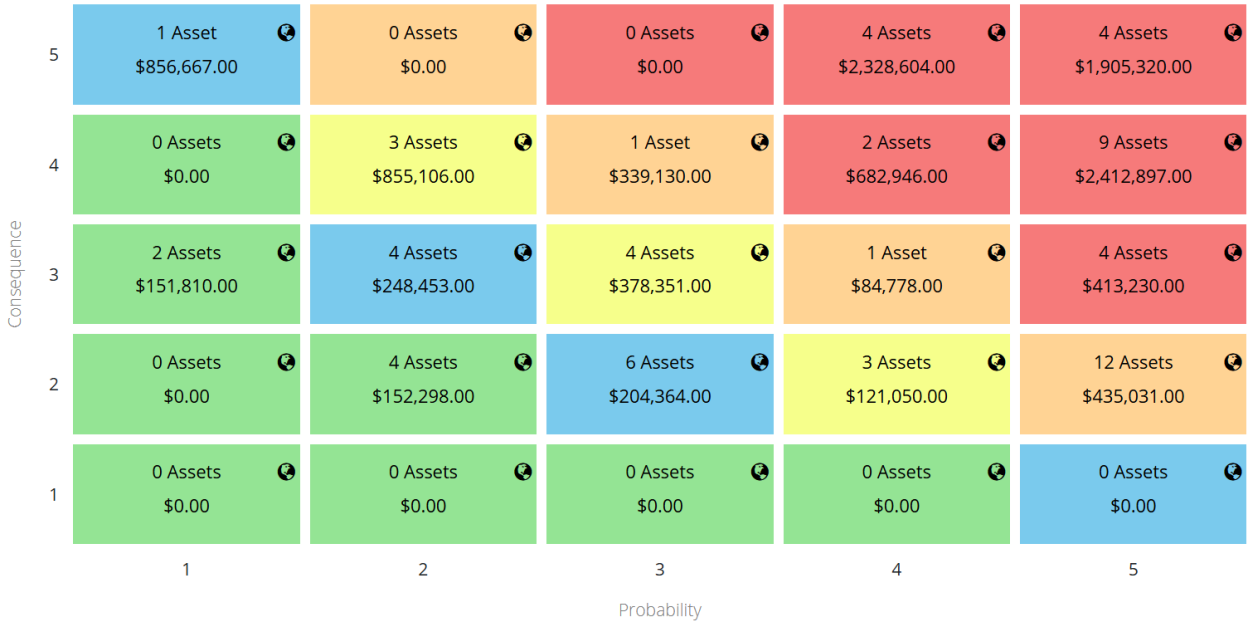
Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 39 Risk Matrix - Fleet



The Municipality’s fleet assets are essential to delivering core municipal services, from road maintenance to emergency response. Risks emerge when key lifecycle activities, such as routine maintenance and timely replacements, are deferred or overlooked.

- Delayed maintenance or replacements can result in increased breakdowns and costly repairs, impacting fleet reliability and service delivery.
- Older vehicles may become difficult to repair, with parts that are harder to source and more expensive, further driving up maintenance costs.
- A less reliable fleet can hinder essential services such as snow removal and emergency response, potentially compromising public safety.
- Frequent breakdowns and service disruptions can erode public confidence in the Municipality’s ability to maintain essential services.
- Staff productivity may decline as a result of unreliable vehicles, leading to higher operational costs and potential service delays.

Investing in proactive maintenance and timely replacements ensures that fleet assets remain reliable, cost-effective, and ready to meet the Municipality’s operational needs.

Machinery & Equipment

Lakeshore's Machinery & Equipment portfolio supports a wide range of municipal services, including protective services, transportation, parks and recreation, and general government operations. The current replacement value of these assets is $10.3 million. Roads-related equipment accounts for the largest share of this value at 32%, followed by parks and recreation services at 25%.

Inventory and Valuation

Table 14 provides a detailed breakdown of machinery and equipment assets by service area.

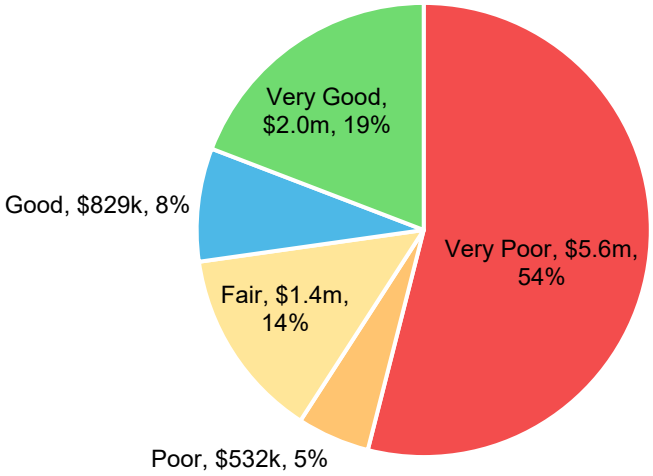
Table 14 Detailed Asset Inventory - Machinery & Equipment

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Roads	77	Assets	$3,220,507	32%
Parks and Recreation	201	Assets	$2,544,085	25%
Fire	48	Asset Records	$2,498,753	24%
General	554	Asset Records	$2,026,969	19%
			$10,290,314	**100%**

Asset Condition

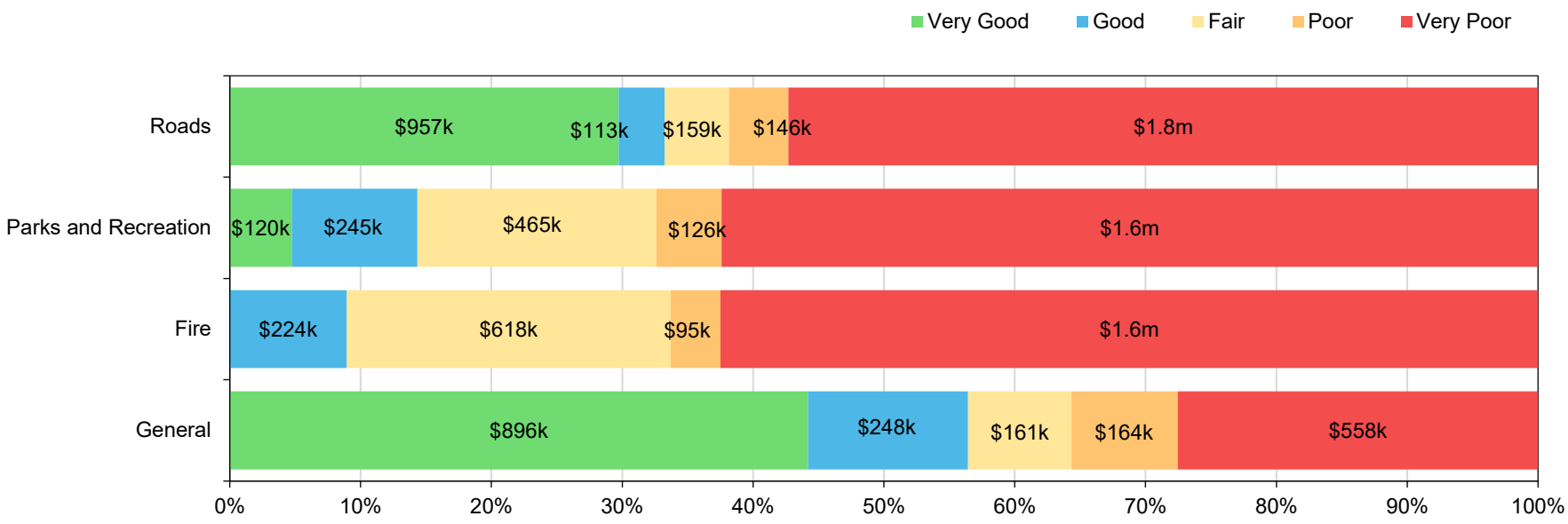
Figure 40 shows that 60% of the Municipality's machinery and equipment assets are in poor or very poor condition, indicating a significant portion of the portfolio may require near-term attention or replacement to avoid service disruptions and escalating maintenance costs. However, as with fleet and vehicles, this analysis relies only on age-based data.

Figure 40 Asset Condition - Machinery & Equipment



As illustrated in Figure 41, the majority of machinery and equipment assets across Lakeshore's service areas are in poor or worse condition. By value, the largest share of assets in this state are found in roads.

Figure 41 Asset Condition - Machinery & Equipment – By Segment



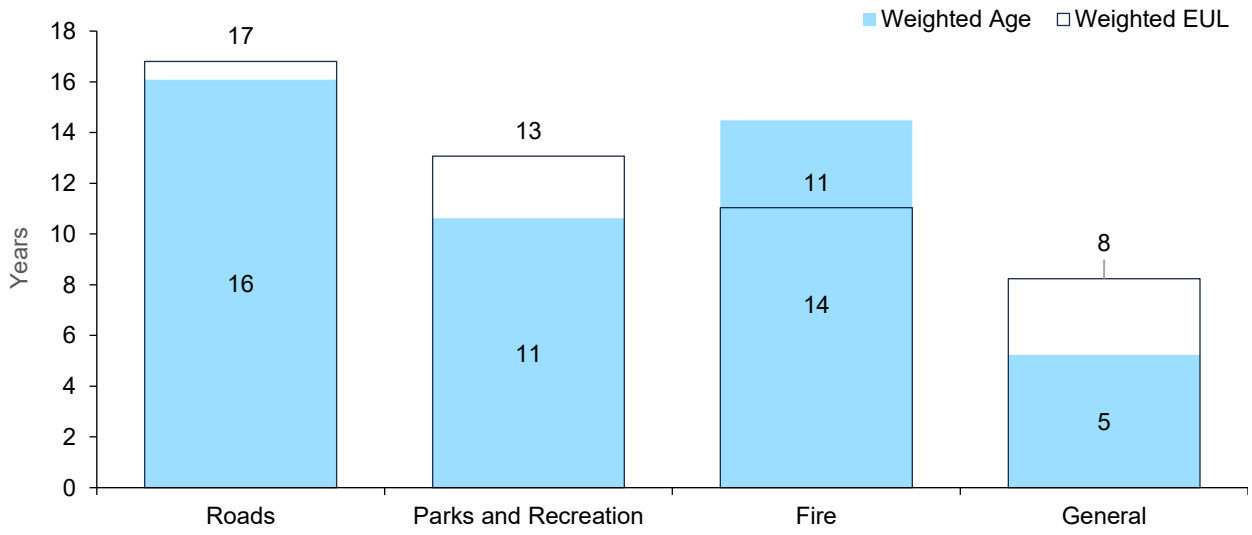
Age Profile

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

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

Figure 42 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 42 Estimated Useful Life vs. Asset Age – Machinery & Equipment



Reflecting condition data, most machinery and equipment have either fully exceeded their established lifespan or are approaching the end of their functional lifecycle.

Current Approach to Lifecycle Management

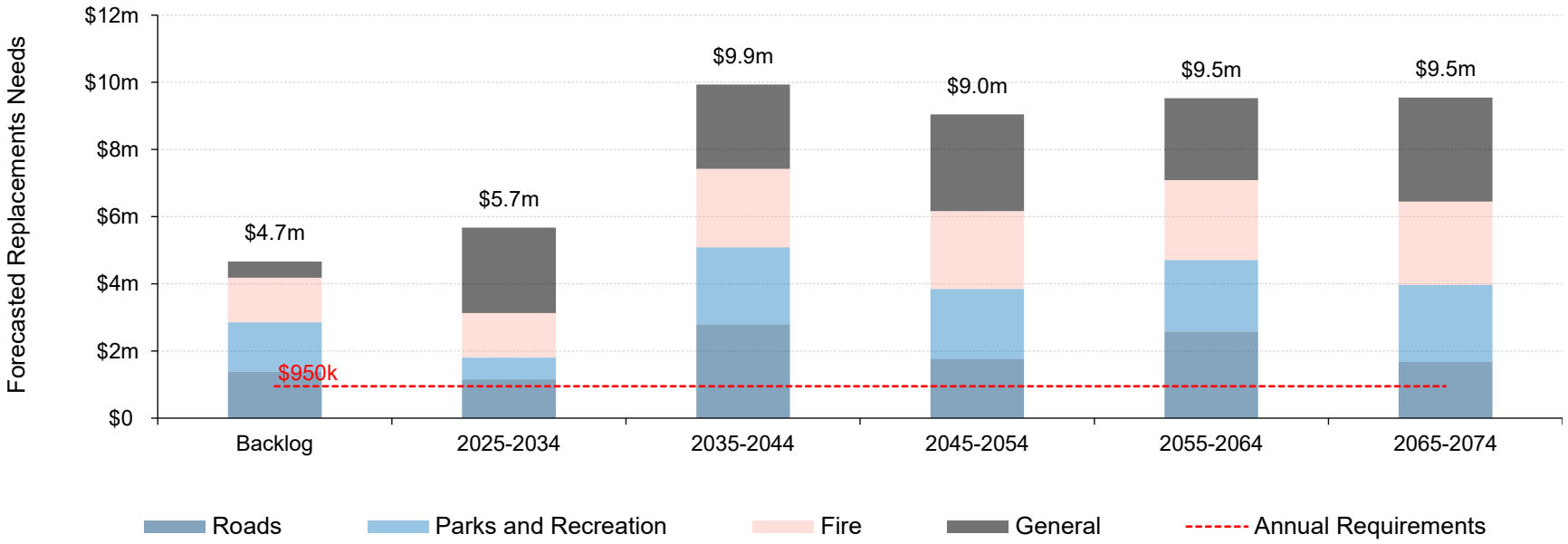
Lifecycle management of machinery and equipment involves systematic planning, maintenance, and renewal activities to ensure operational efficiency and cost-effectiveness over time. This includes routine servicing, inspections, and timely replacement of components to prevent unexpected failures and extend useful life.

While detailed condition assessments may be limited, staff rely on usage tracking, age data, and manufacturer guidelines to guide maintenance schedules and replacement planning. This approach helps ensure that machinery and equipment remain reliable and fit for purpose, particularly for operational and service-critical functions.

Forecasted Long-term Replacement Needs

Figure 43 show forecasted capital replacement needs for machinery and equipment from 2025 to 2074, with an average annual requirement of $950,000. Needs peak at $9.9 million in 2035–2044 and remain stable through the forecast period. Parks, recreation, and roads-related equipment account for the majority of needs. While not all forecasted costs reflect full replacement, condition assessments and proactive maintenance will help refine actual requirements and extend asset lifespans.

Figure 43 Forecasted Capital Replacement Requirements - Machinery & Equipment: 2025-2074



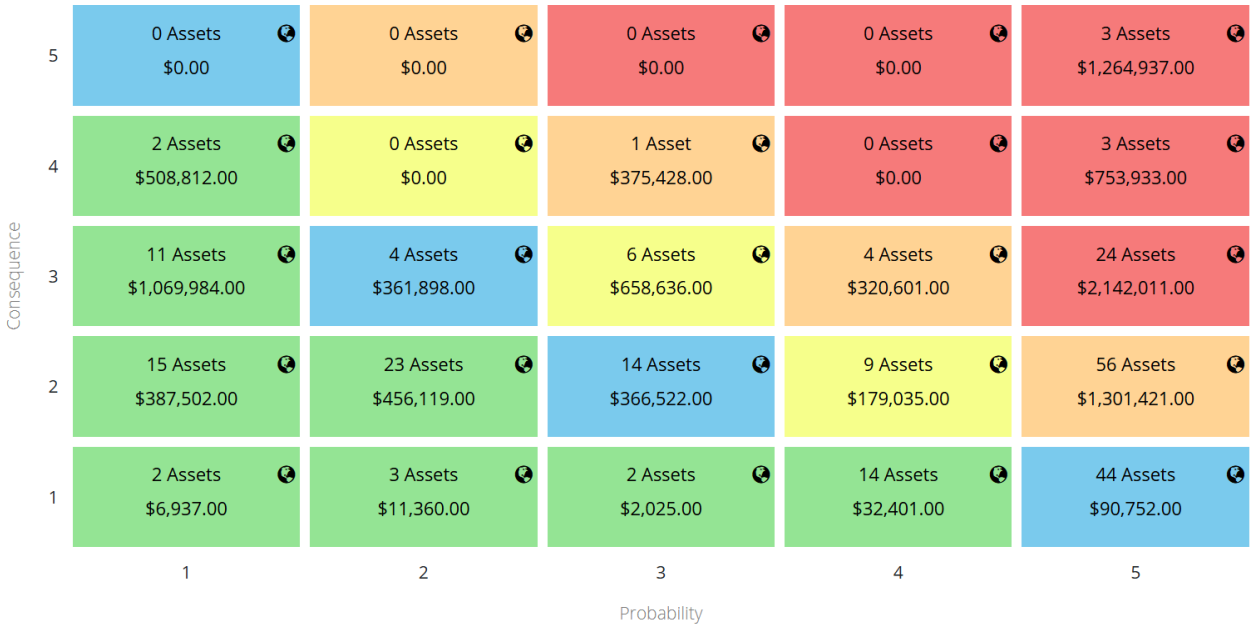
Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 44 Risk Matrix - Machinery & Equipment



For the Municipality’s machinery and equipment, deferring key maintenance, repairs, or replacements can have adverse consequences and pose substantial risk to the Municipality. Neglecting these lifecycle activities may lead to higher operating and repair costs as small issues compound into larger problems, especially for equipment that operates intensively year-round in parks, transportation, and protective services.

This can also result in accelerated wear and premature failures that disrupt critical services, such as snow clearing, parks maintenance, and fire response, potentially compromising safety and delaying response times. As equipment ages, parts may become harder to source or more expensive, making timely interventions even more important.

Without a consistent focus on lifecycle management, the Municipality risks undermining public confidence in its ability to deliver essential services and maintain reliable operations. Assessing the criticality of each asset, based on its role in delivering essential services and the consequences of its failure, can help prioritize where and when to invest in repairs and replacements.

Land Improvements

Lakeshore's Land Improvement assets encompass a variety of assets that enhance the Municipality's parks, recreation areas, and community spaces. These assets include fencing, landscaping, sports courts and fields, and playgrounds, elements that contribute to both aesthetics and community well-being. The total replacement cost for these assets is estimated at $27.7 million.

Inventory and Valuation

Table 15 provides a detailed breakdown of Land Improvements assets by asset types.

Table 15 Detailed Asset Inventory - Land Improvements

Segment	Quantity	Unit of Measure	Replacement Cost	% of Total
Pathways, Surfaces, and Parking Lots	65	Assets	$11,912,402	43%
Fencing	54	Assets	$3,515,688	13%
Playgrounds	61	Assets	$3,070,332	11%
Sports Courts and Fields	9	Assets	$2,968,670	11%
Water Features and Fill Stations	8	Assets	$2,712,119	10%
Furnishings	269	Assets	$1,379,190	5%
Lighting	160	Assets	$1,260,833	5%
Total			**$27,742,668**	**100%**

Asset Condition

Figure 45 shows that the majority of Land Improvement assets are in fair or better condition, based only on age data. Many of these assets may still be functional and safe, but their age-based ratings indicate they could benefit from further review and a planned approach to renewals, replacements, and improvements as needed.

Figure 45 Asset Condition - Land Improvements

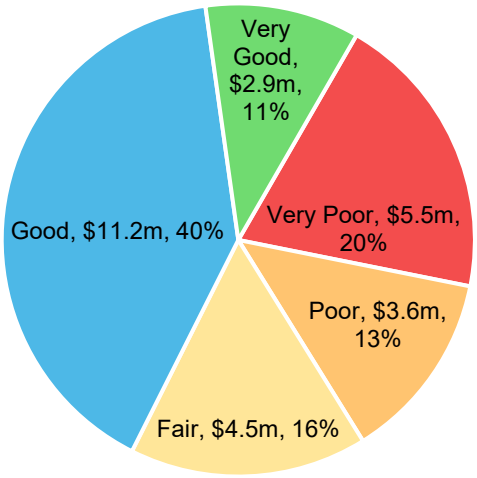
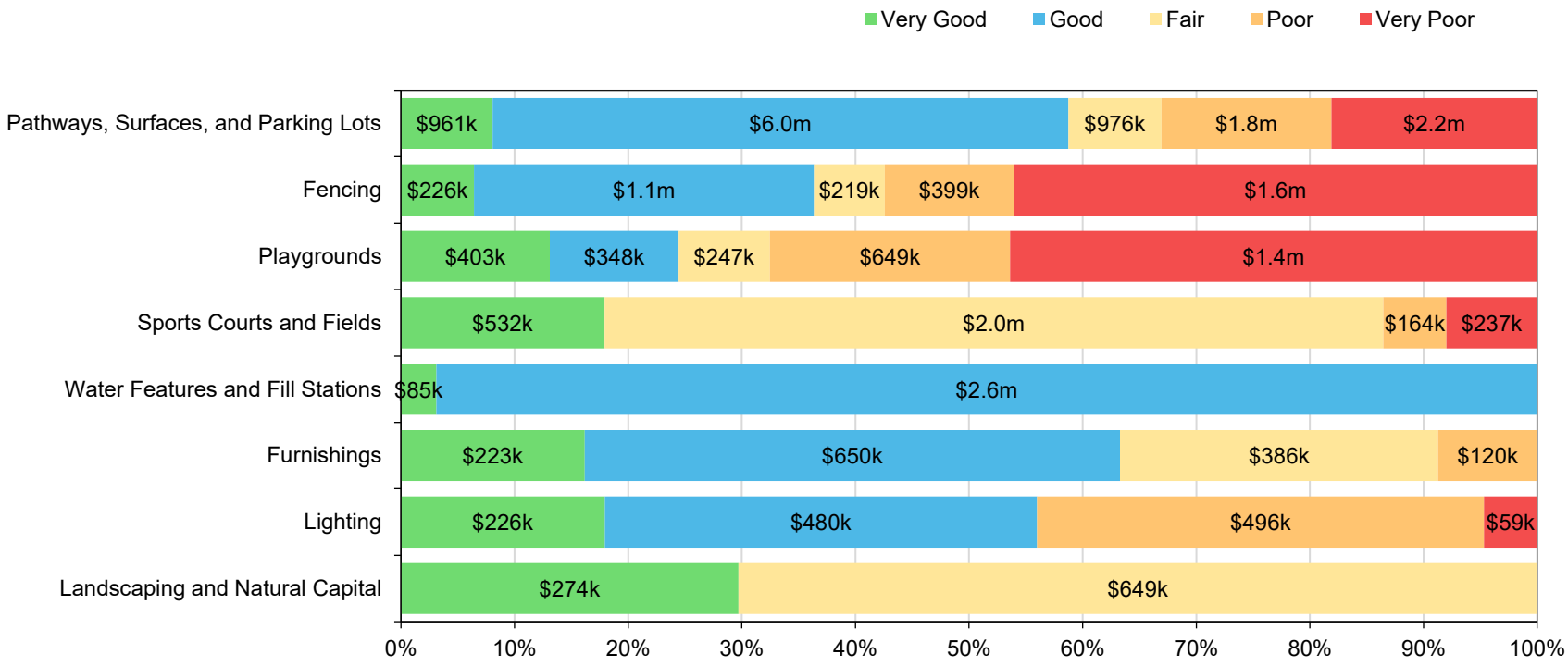


Figure 46 provides further details of land improvement assets by asset type.

Figure 46 Asset Condition - Land Improvements – By Segment



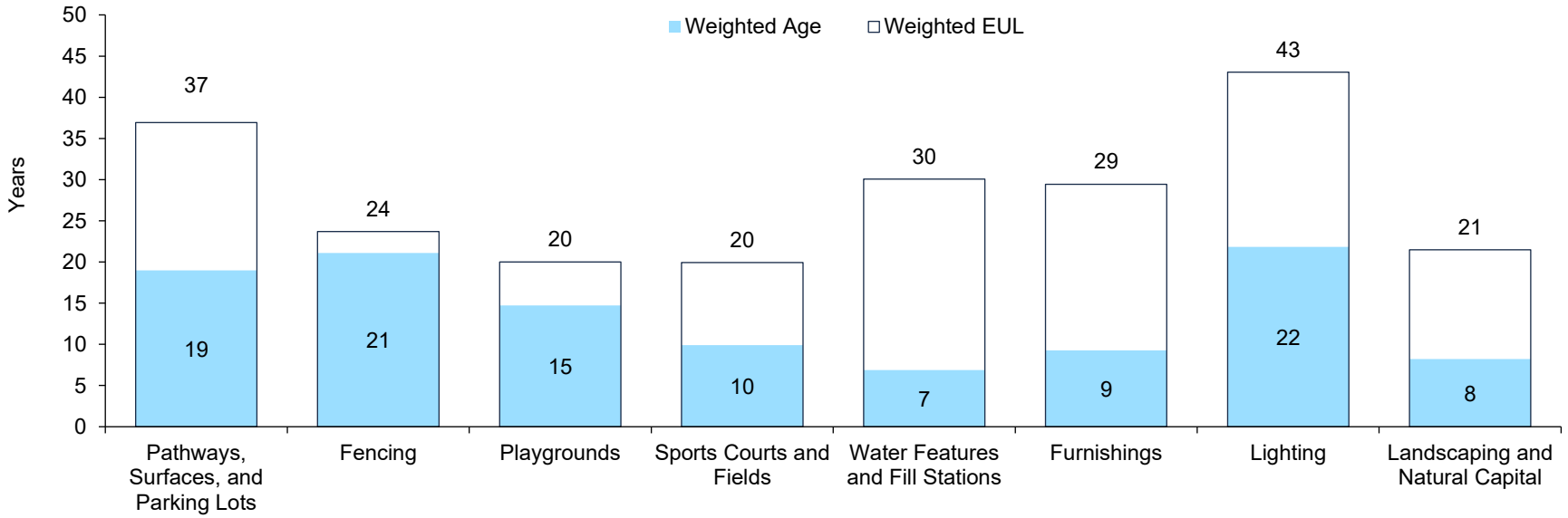
Age Profile

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

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

Figure 47 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

Figure 47 Estimated Useful Life vs. Asset Age – Land Improvements



While many asset types remain in the early to mid-stages of their lifecycle, others, such as fencing, pathways and parking lots, playgrounds, and lighting, are in the latter half of their expected service lives, indicating emerging reinvestment needs over the medium term.

Current Approach to Lifecycle Management

Lifecycle management of land improvement assets focuses on preserving functionality and safety through scheduled maintenance, periodic inspections, and timely renewal. These assets, such as pathways, fencing, playgrounds, lighting, and natural features, are typically exposed to environmental wear and public use, which can accelerate deterioration.

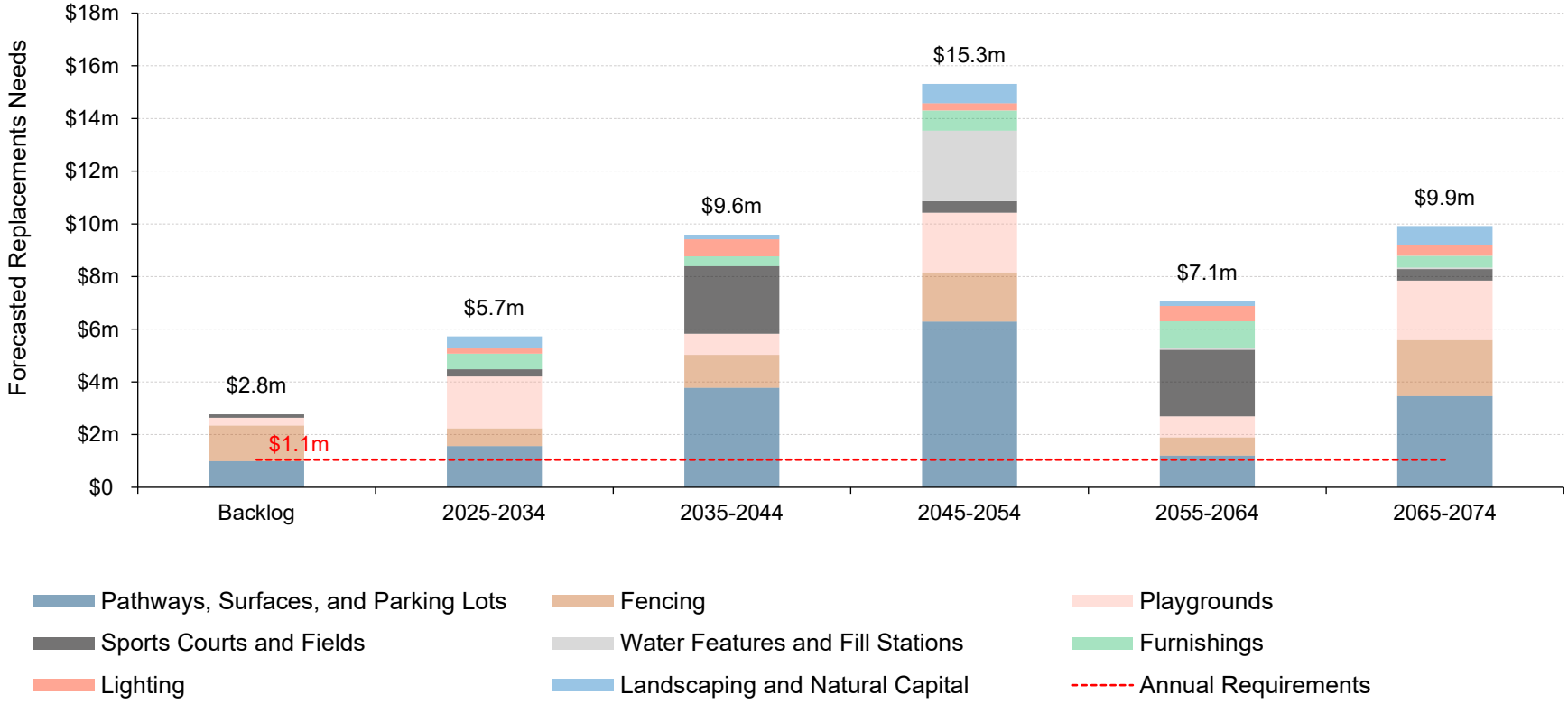
While detailed condition data may not always be available, lifecycle decisions are often guided by asset age, usage intensity, and visual assessments. Proactive maintenance programs and strategic reinvestment planning help extend asset life, ensure public safety, and maintain service quality across parks and open spaces.

Forecasted Long-term Replacement Needs

Figure 48 shows the Municipality's forecasted capital replacement requirements for land improvements from 2025 to 2074. The analysis highlights annual needs of $1.1 million, and a backlog of $2.8 million. Needs are expected to rise rapidly over the next two decades, from $5.7 million in the current decade and $15.3 million in the 2040s and 2050s.

Pathways, surfaces, and parking lots account for the majority of replacement costs across all time periods, reflecting the relatively high value outdoor infrastructure like fencing, playgrounds, sports fields and courts, and landscaping.

Figure 48 Forecasted Capital Replacement Requirements - Land Improvements: 2025-2074



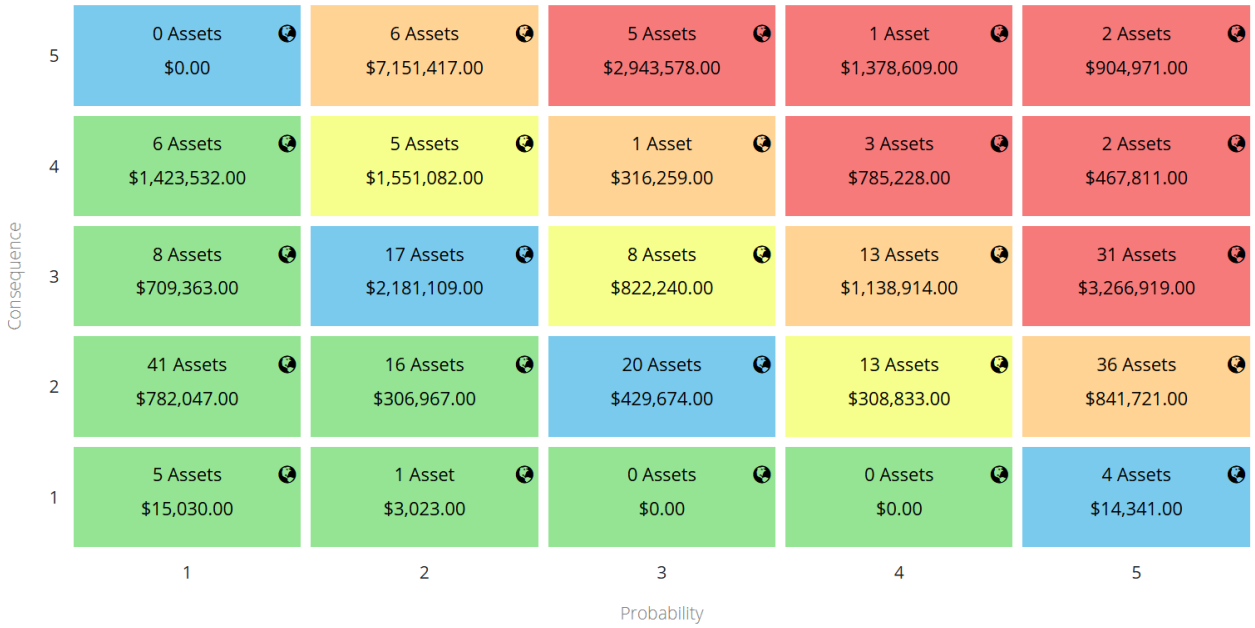
Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (CityWide Assets).

Figure 49 Risk Matrix - Land Improvements



While the Municipality's land improvement assets contribute to community well-being, they are generally not considered critical to core services. Risks associated with delaying maintenance or replacements include:

- Increased maintenance costs and lifecycle expenses due to progressive wear and tear, especially for assets like sports fields, courts, and play structures;

- Deferral of renewals that could lead to visible deterioration, impacting the aesthetics and usability of parks and public spaces;

- Safety risks if neglected assets (e.g., damaged fencing, worn playground surfaces) create hazards for users;

- Declining public satisfaction if parks and community areas appear neglected, which could erode trust in the Municipality's ability to maintain public spaces;

Given that these assets are typically straightforward to replace or renew, a phased, planned approach, aligned with the Municipality's parks and recreation strategy, can effectively manage these risks and support a safe, attractive, and enjoyable community environment.

Levels of Service

Levels of service (LOS) measure the quality and quantity of service provided, and offer direction for infrastructure investments. They are necessary for performance tracking and reporting. Many agencies attempt to deliver levels of service that cannot be sustainably funded by the existing tax base. This can lead to an eventual drop in quality of service, or increases to tax and utility rates to fund higher service levels.

LOS should be affordable and aligned with the community's long-term vision for itself, and the service attributes it most values for different infrastructure programs.

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 (Roads, Bridges & Culverts, Water, Wastewater, Stormwater) the Province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP.

Technical Levels of Service

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

For core asset categories (Roads, Bridges & Culverts, Water, Wastewater, and Stormwater) the province, through O. Reg. 588/17, has also provided technical metrics that are required to be included in this AMP.

Current and Proposed Levels of Service

This AMP presents both current and proposed levels of service metrics across all asset classes. Staff discussions indicate that most LOS targets are set to maintain existing service levels rather than expand them. This approach aligns with affordability constraints, available operational capacity, and community service expectations.

Table 16 Community Levels of Service – Road Network

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description, which may include maps, of the road network in the Municipality and its level of connectivity.	See Figure 50
Quality	Description or images that illustrate the different levels of road class pavement condition.	See Figure 51

Table 17 Technical Levels of Service – Road Network

Service Attribute	Metric	Current Level of Service	Proposed Levels of Service
	Lane-km of arterial roads per land area (km/km^2)	.038	Maintain
Scope	Lane-km of collector roads per land area (km/km^2)	.656	Maintain
Scope	Lane-km of local roads per land area (km/km^2)	.333	Maintain
Quality	Average pavement condition for paved roads in the Municipality	67	Maintain
Quality	Average surface condition for unpaved roads in the Municipality (e.g., excellent, good, fair, poor)	65	Maintain

We note that the Municipality intends to gradually convert all gravel and LCB road segments to hard top, representing an increased level of service and a potential increase in annual lifecycle costs that would need to be accounted for as conversions are completed, and assets are placed into service.

Figure 50 Road Network Map

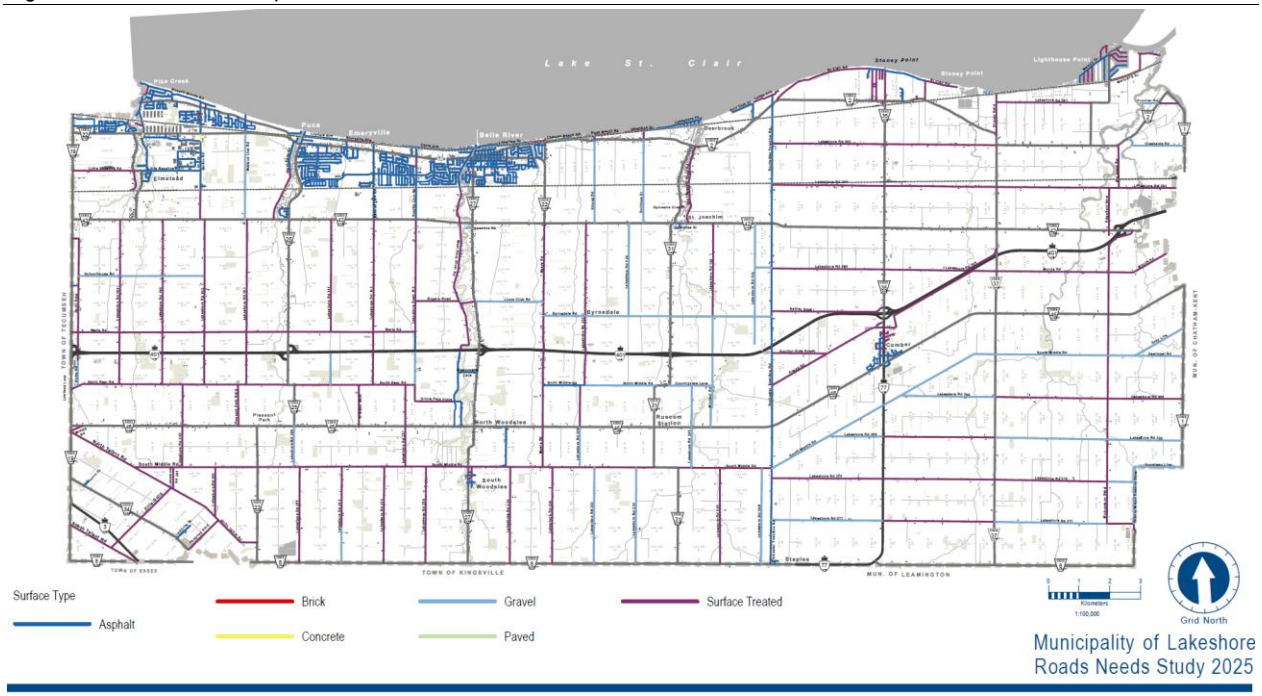


Figure 51 Road Network: PCI

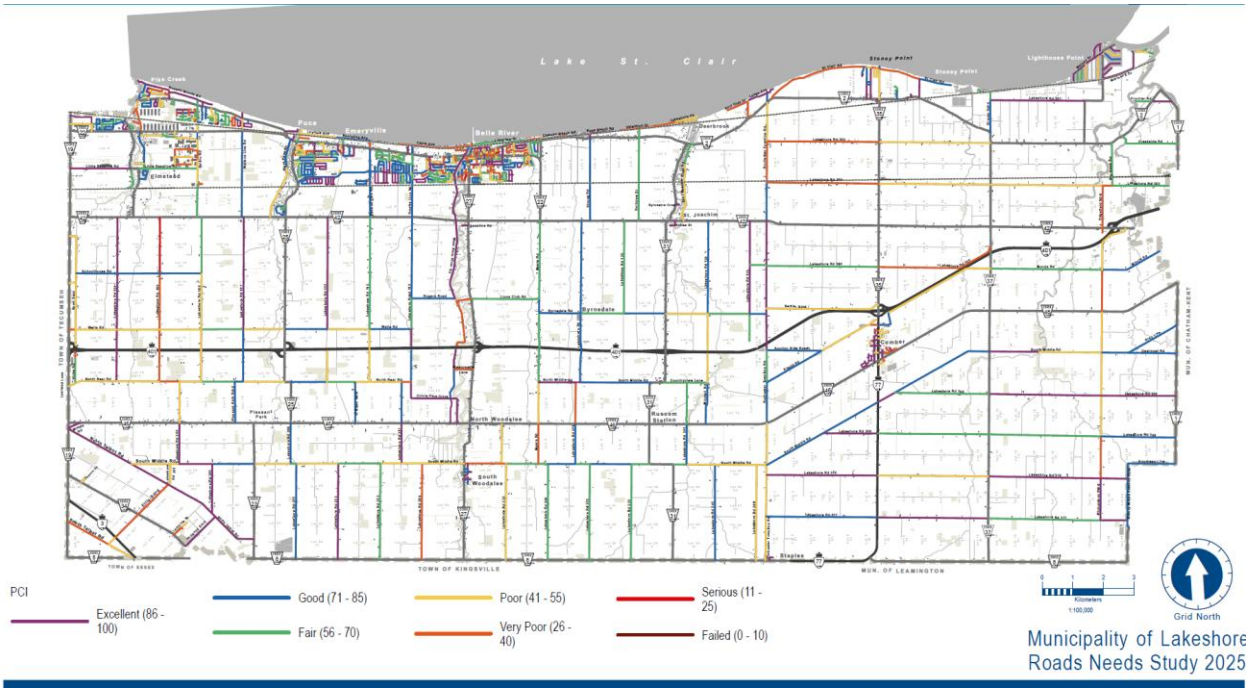


Table 18 Community Levels of Service – Bridges & Culverts

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	The Municipality's bridges and culverts support all traffic types.
Quality	Description or images of the condition of bridges and how this would affect use of the bridges.	The majority of the Municipality's bridges and culverts are in fair or better condition, and continue to support the safe and efficient flow of traffic.
	Description or images of the condition of culverts and how this would affect use of the culverts.	

Table 19 Technical Levels of Service – Bridges and Culverts

Service Attribute	Qualitative Description	Current Level of Service	Proposed Levels of Service
Scope	Percentage of bridges in the Municipality with loading or dimensional restrictions.	0	Maintain
Quality	For bridges in the Municipality, the average bridge condition index value.	71	Maintain
	For structural culverts in the Municipality, the average bridge condition index value.	69	Maintain

Table 20 Community Levels of Service - Stormwater Network

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description, which may include maps, of the user groups or areas of the Municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	Lakeshore's flood management system includes a network of storm mains, stormwater management facilities, pumps, and seawalls to protect its residents, including the shoreline.

Table 21 Technical Levels of Service - Stormwater Network

Service Attribute	Metric	Current Level of Service	Proposed Level of Service
Scope	Percentage of properties in municipality resilient to a 100-year storm.	See note below.	Maintain
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	See note below.	Maintain

Risk Management

The Municipality of Lakeshore recently adopted a Shoreline Management Plan for the Lake St. Clair shoreline, map flooding, erosion, and dynamic beach hazards, and develop management and policy recommendations to increase resilience. The entire northern extent of the Municipality of Lakeshore consists of the Lake St. Clair shoreline and includes both serviced and unserviced development areas. Each reach of the shoreline is exposed to shoreline hazards, such as flooding and erosion.

There are areas within the Municipality that are also subject to inland and riverine flood hazards. Shoreline hazards consist of the 100-year flood level, plus allowances for wave uprush, 100 years of shoreline erosion, and dynamic beach hazards.

Lakeshore's development manuals and agreements identify minimum elevations of new roads and buildings to protect against flooding whilst being able to provide access to properties in emergencies.

Figure 52 Natural Hazards and Flood-prone Areas

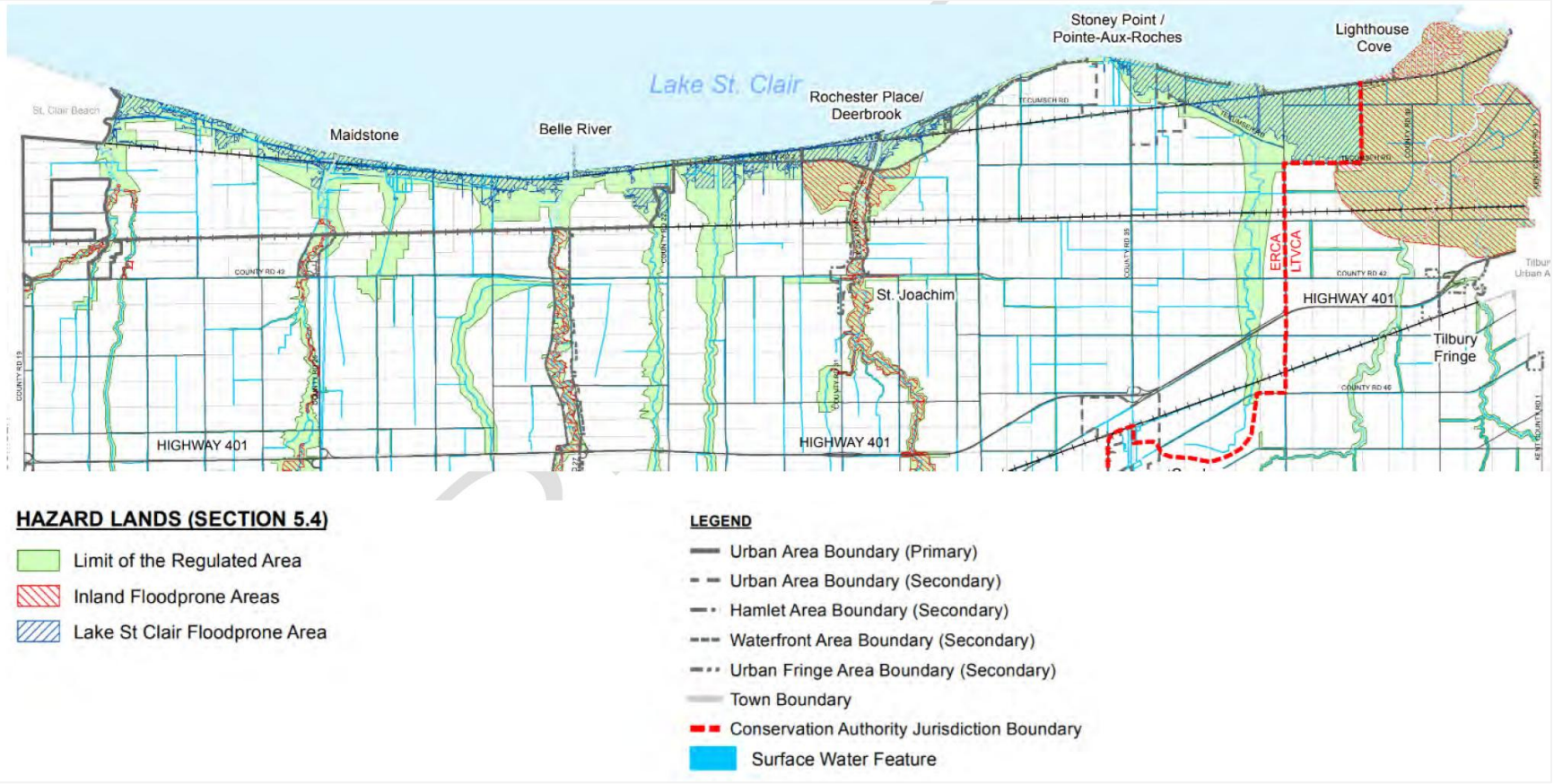


Table 22 Community Levels of Service - Water Network

Service Attribute	Qualitative Description	Current Level of Service
Scope	1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system. 2. Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	See Figure 53
Reliability	Description of boil water advisories and service interruptions.	NA

Table 23 Technical Levels of Service - Water Network

Service Attribute	Qualitative Description	Current Level of Service	Proposed Levels of Service
Scope	Percentage of properties connected to the municipal water system.	96.6%	Maintain
Scope	Percentage of properties where fire flow is available.	70%	Maintain
Reliability	The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.	0	Maintain
Reliability	The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	22 breaks in 2023	Maintain

Figure 53 Water Service Area

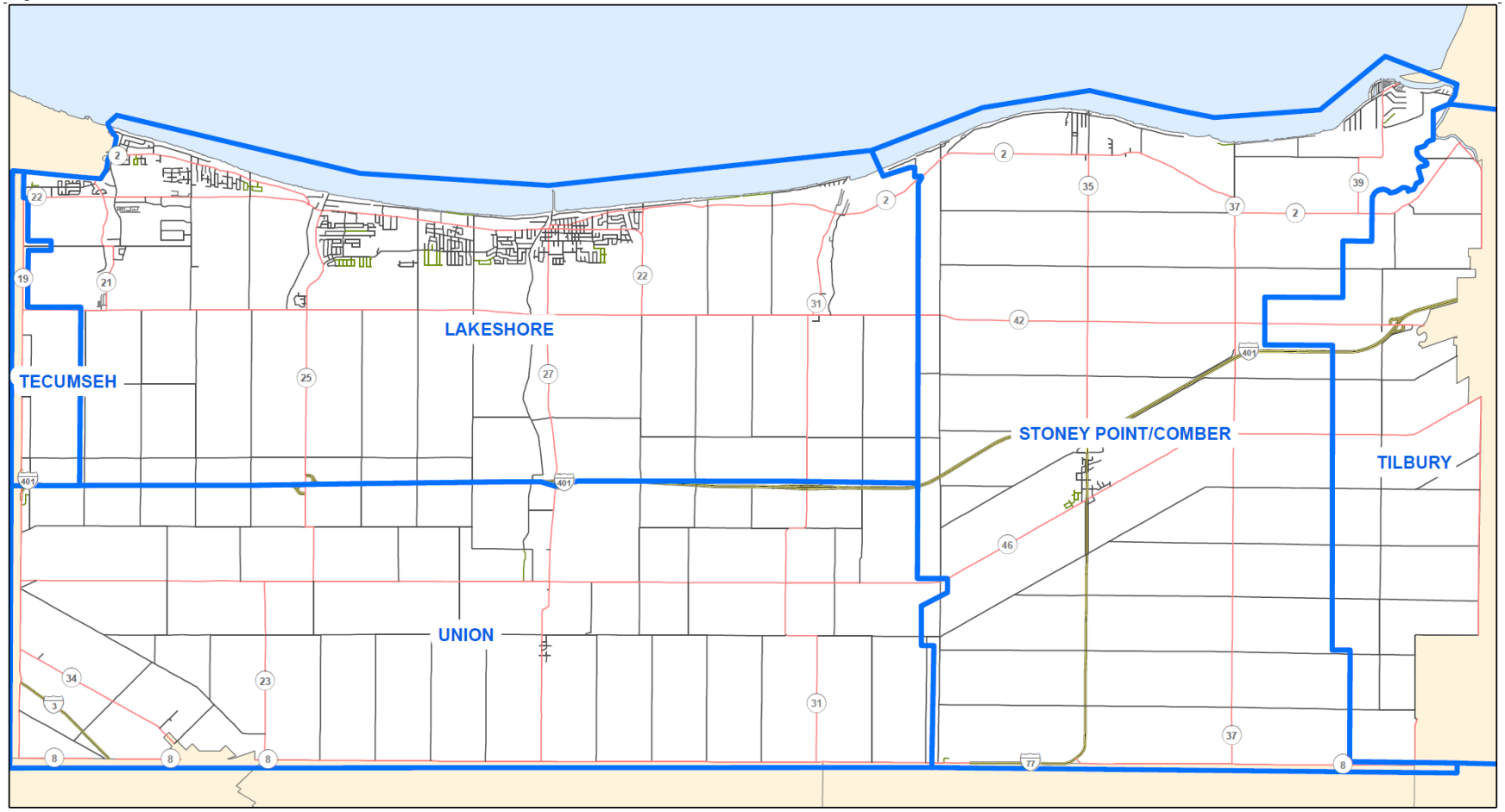


Table 24 Community Levels of Service - Sanitary Network

Service Attribute	Qualitative Description	Current Level of Service
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	The Municipality of Lakeshore is made up of five wastewater service areas: Belle River and Maidstone, Stoney Point, Comber, South Woodslee, and North Woodslee. On behalf of the Municipality of Lakeshore, the Ontario Clean Water Agency (OCWA) operates the wastewater treatment facilities.
Reliability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.	There are no combined sewers in Lakeshore.
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	NA
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.	Broken or damaged sewer pipes/connections on public or private side, cross connections, infiltration through cracks in pump station chambers.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph	Continued efforts by Lakeshore to correct I&I including smoke testing, mini-camera inspections, flood resilient communication to residents, creating a spare supply of pumps to avoid interruptions due to replacement needs, refurbishing existing pumps, etc.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	The effluent meets or exceeds the MECP standards for discharge. The Denis St. Pierre Pollution Control Plant outlets into Lake St. Clair. North and South Woodslee treatment plant outlet into the Belle River which flows to Lake St. Clair.

Table 25 Technical Levels of Service - Sanitary Network

Service Attribute	Metric	Current Level of Service	Proposed Levels of Service
Scope	Percentage of properties connected to the municipal wastewater system.	66.7%	Maintain
Reliability	The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.	There are no combined sewers.	NA
Reliability	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.	NA	NA
Reliability	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.	TBD	Maintain

Table 26 Levels of Service – Non-core Assets

Asset Category	Service Attribute	Metric	Current Level of Service	Proposed Levels of Service
Facilities	Quality	Percentage of facilities in fair or better condition	80%	Maintain
Fleet	Quality	Percentage of fleet assets in fair or better condition	28%	Maintain
Machinery & Equipment	Quality	Percentage of machinery and equipment assets in fair or better condition	40%	Maintain
Land Improvements	Quality	Percentage of land improvement assets in fair or better condition	67%	Maintain

Service Levels and Community Growth

Lakeshore's asset management approach reflects a commitment to sustaining reliable service delivery in the face of ongoing growth and evolving community expectations. Across core areas, such as roads, bridges, water, wastewater, stormwater, service levels are being maintained through targeted upgrades and a focus on integrating new infrastructure from developments.

While specific condition targets may not apply uniformly to every asset class, the Municipality's emphasis on regular assessments and maintenance ensures that service quality remains high. This integrated approach positions Lakeshore to respond effectively to community needs, balancing growth with fiscal responsibility and long-term infrastructure performance.

These indicators for water, sanitary, and stormwater services are primarily used to monitor system coverage, reliability, and risk rather than to establish fixed levels of service expansion or reduction targets. As growth and redevelopment occur, the Municipality will evaluate servicing needs and respond through infrastructure planning, development review, and capital investment decisions, balancing risk, cost, and operational capacity.

Performance measures such as the number of backups, service disruptions, or related incidents are outcome indicators used to track system performance and inform corrective action. They are not set as strict targets, but are monitored to identify trends, prioritize interventions, and guide operational and capital responses as conditions change.

Financial Strategy

Each year, the Municipality of Lakeshore makes important investments in its infrastructure's maintenance, renewal, rehabilitation, and replacement to ensure assets remain in a state of good repair and service level objectives are achieved. However, needs typically exceed capacity. In fact, most municipalities continue to struggle with annual infrastructure deficits. Achieving full-funding for infrastructure programs will take many years, and should be phased-in gradually to reduce burden on taxpayers.

Approach

This financial strategy is designed for Lakeshore's existing asset portfolio, and is premised on two key inputs: the average annual capital requirements and the average annual funding typically available for capital purposes. The annual requirements are based on the replacement cost of assets and their serviceable life. This figure is calculated for each individual asset, and aggregated to develop category-level values.

For the Municipality's paved roads, the annual requirements are based on the full set of rehabilitative lifecycle interventions, as identified in the 2025 roads needs study. The estimate assumes that every recommended lifecycle treatment is carried out for each road segment, through to its eventual replacement. While this level of execution is not achievable in practice, it provides a useful benchmark for evaluating current funding levels and investment gaps. For all remaining assets, the annual requirements represents a replacement-only scenario.

The annual funding typically available is determined by averaging historical reserve contributions on infrastructure. Only reliable and predictable sources of funding are used to benchmark funds that may be available on any given year. For the purpose of this AMP, these funding sources include:

- Capital reserve contributions;
- The Canada Community Benefits Fund (CCBF), formerly the federal Gas Tax Fund;
- Ontario Community Benefits Fund (OCIF); and,

Annual Capital Requirements

Table 27 and Table 28 outline the total average annual capital requirements for the Municipality's tax- and rate-funded assets, respectively.

Tax-funded Assets

Based on a replacement cost of $1.0 billion, annual average requirements (AAR) for tax-funded assets total $41.8 million. The table also illustrates the equivalent target reinvestment rate (TRR), calculated by dividing the system-generated annual capital requirements by the total replacement cost of each asset category. The cumulative target reinvestment for these categories is estimated at 4.2%.

Table 27 Average Annual Capital Requirements – Tax-funded Assets

Asset Category	Replacement Cost	Annual Capital Requirements	Equivalent Target Reinvestment Rate
Road Network	$558,173,303	$32,450,399	5.8%
Bridges & Culverts	$124,131,740	$1,693,850	1.4%
Stormwater Network	$110,039,078	$1,586,866	1.4%
Facilities	$163,490,485	$3,343,578	2.0%
Fleet	$11,631,377	$845,961	7.3%
Machinery & Equipment	$10,290,314	$1,003,424	9.8%
Land Improvements	$27,742,668	$1,050,487	3.8%
Total	**$1,005,498,965**	**$41,810,320**	**4.2%**

The high average annual requirement shown for roads reflects several methodological factors. The roads needs study includes theoretical lifecycle models. These models were recreated in Citywide Assets, Lakeshore's primary asset register. The modeling assumes that all condition-triggered interventions that could be undertaken on a given paved road segment are completed at the prescribed points in the asset's deterioration curve. In practice, actual programs are prioritized and sequenced, and not every potential intervention is delivered on every segment.

Further, while the RNS outlines a prioritized five-year work plan that reflects a constrained set of near-term interventions, the modeled average annual requirements project each road segment through its full lifecycle to ultimate replacement. This longer planning horizon incorporates all assumed lifecycle activities over time, rather than only those scheduled within the immediate capital window. Lastly, there are some technical differences between the pre-built curves in Citywide Assets, and those within the RNS.

These modeling differences can produce variance in projected long-term requirements. As a result, the roads AAR should be read as a planning benchmark derived from standardized lifecycle assumptions rather than a precise forecast of annual deliverable work.

Rate-funded Assets

The average annual requirements for rate-funded assets total $8.2 million, resulting in annual average reinvestment rate target of 1.2%.

Table 28 Average Annual Capital Requirements – Rate-funded Assets

Asset Category	Replacement Cost	Annual Capital Requirements	Equivalent Target Reinvestment Rate
Water Network	$449,032,924	$4,695,747	1.0%
Sanitary Network	$223,129,393	$3,482,302	1.6%
Total	**$672,162,317**	**$8,178,049**	**1.2%**

These annual capital requirements represent the estimated reinvestment needed to keep up with replacement and major rehabilitation needs for assets through their lifecycle, without deferring projects or allowing infrastructure to deteriorate beyond acceptable thresholds. Meeting these targets is essential to delivering service level objectives.

If these reinvestment levels are not met, the Municipality may face a growing backlog of capital needs, which can lead to declining asset performance, increased risk of service disruptions, and higher long-term costs. Conversely, consistently funding at or near these levels helps ensure that infrastructure is renewed in a timely manner, preserving reliability, safety, and user satisfaction across all service areas.

Current Capital Funding Framework

Table 29 summarizes the average annual capital funding available in Lakeshore for infrastructure purposes. In addition to own-source revenues, namely property taxation and water and sanitary rate revenues, the totals include contributions from the Canada Community Benefits Fund (CCBF) and the Ontario Community Infrastructure Fund (OCIF), which are treated as stable funding sources.

This combined funding is used as the baseline for comparison against capital requirements and for assessing funding gaps. On average, Lakeshore directs $29.7 million per year in capital contributions toward infrastructure across the asset categories analyzed. Water and sanitary networks are funded through their own dedicated rates, ensuring that each service area is financially supported through appropriate funding mechanisms.

Table 29 Allocation of Average Annual Infrastructure Funding by Asset Category – 3-year Average (2023-2025)

Asset Category	Primary Own-source Funding Stream	Allocated to Infrastructure
Road Network Bridges & Culverts Stormwater Network Facilities Fleet Machinery & Equipment Land Improvements	Property Taxation	$19,706,527
Water Network	Rate Revenues	$5,611,620
Sanitary Network	Rate Revenues	$4,391,942
		$29,710,089

Infrastructure Deficits

The table below shows that based on current funding levels, including all own-source revenues and senior government programs, the Municipality is funding 59% of its combined annual capital needs for both tax- and rate-funded asset categories. This is consistent with most of the municipalities in our portfolio.

While water and sanitary services are fully funded through their dedicated rate revenues, the seven asset categories supported by property taxation show an annual infrastructure funding gap of approximately $22.1 million. This gap is driven primarily by the modeled lifecycle requirements for the paved road network. The deficit is calculated against a full-funding benchmark, defined as covering 100% of the average annual capital requirements.

Table 30 Current Deficits

Asset Category	Average Annual Requirements	Average Annual Funding Available	Annual Infrastructure Deficit	Funding Level
Road Network Bridges & Culverts Stormwater Network Facilities Fleet Machinery & Equipment Land Improvements	$41,810,320	$19,706,527	$22,103,793	47%
Water Network	$4,695,747	$5,611,620	$0	100%
Sanitary Network	$3,482,302	$4,391,942	$0	100%
Total	**$49,988,369**	**$29,710,089**	**$22,103,793**	**59%**

While water and sanitary services appear to show funding available in excess of modeled requirements, this is typically considered an ‘artificial’ surplus. Further, these amounts are not available to offset the annual funding deficit within tax-supported asset categories.

Closing Infrastructure Deficits

Addressing annual infrastructure funding gaps is a gradual, long-term challenge for municipalities and typically requires multiple years to move toward full funding of existing assets. This section outlines how the Municipality of Lakeshore could reduce its annual funding shortfalls using own-source revenues, primarily property taxation and utility rates, without adding new debt for existing assets. The analysis is presented separately for tax-supported and rate-supported asset groups.

Tax-Funded Assets

For 2025, Lakeshore's projected property tax revenue is $42.5 million. Eliminating the $22.1 million annual shortfall through taxation would require a revenue increase of 52.0%. At that level, property tax revenues would be sufficient to fully cover the modeled average annual requirements for the tax-supported asset categories totaling $41.8 million, provided existing funding allocations from CCBF and OCIF are maintained. An increase of this magnitude, however, is not achievable.

Table 31 Increase Needed in Property Taxation Revenue to Meet Annual Infrastructure Needs

2025 Property Taxation Revenue	Additional Revenue Needed for Infrastructure	% Increase Needed
$42,479,908	$22,103,793	52.0%

Phasing in Full Funding

To achieve this increase, several scenarios have been developed using phase-in periods ranging from five to 25 years. Shorter phase-in periods may place too high a burden on taxpayers, whereas a phase-in period beyond 25 years may see a continued deterioration of infrastructure, leading to larger backlogs.

Table 32 Phasing in Tax Increases

Total % Increase Needed in Annual Property Taxation Revenues	Phase-in Period				
	5 Years	10 Years	15 Years	20 Years	25 Years
52.0%	8.7%	4.3%	2.8%	2.1%	1.7%

Funding 100% of annual capital requirements ensures that major capital events, including replacements, are completed as required. Under this scenario, projects are unlikely to be deferred to future years. This delivers the highest asset performance and customer levels of service.

Decreasing Funding Level Targets

While the above scenario assumes that Lakeshore will endeavour to meet 100% of its average annual requirements, totaling $41.8 million, lower funding targets are also considered, as outlined below. These targets illustrate the rate increases needed to fund 75% and 60% of the target annual funding.

Phasing in 75% of Funding Required

This represents a strong but still bounded target below full funding. It is typically justified where municipalities aim to keep overall asset condition broadly stable at the network level, accepting some localized deterioration and selective deferrals. A 75% level can be sufficient to maintain core service performance and risk control, but without the prohibitive financial burden implied by a 100% lifecycle model outcome.

Phasing in 60% of Funding Required

As Lakeshore is currently funding 47% of its average annual requirements for tax-funded assets, this scenario represents a moderate step change rather than a full correction. It signals deliberate progress toward sustainability while limiting tax and rate shocks. A 60% target is enough to materially slow backlog growth and support more consistent lifecycle delivery on higher-risk assets, while deferring lower-priority work. It can be considered a medium-term planning milestone (for example, over a 5-10 year ramp-up period).

As both scenarios reduce annual funding requirements, they also lead to lower annual deficits, and as a result, reduced tax increases.

Table 33 Impact of Reducing Funding Level Targets on Tax Increase Required

Funding Level Target	Average Annual Requirements	Average Annual Funding Available	Annual Infrastructure Deficit	Total Tax Increase Required
Achieve 100% of Average Annual Requirements	$41,810,320	$19,706,527	$22,103,794	52.0%
Achieve 75% of Average Annual Requirements	$31,357,740	$19,706,527	$11,651,213	27.4%
Achieve 60% of Average Annual Requirements	$25,086,192	$19,706,527	$5,379,665	12.7%

Relative to the full-funding scenario, reducing the target to 75% lowers the annual deficit for tax-funded assets to $11.7 million, and reduces the implied tax increase to 27.4%. A 60% funding target further reduces the deficit to $5.4 million and the required increase to 12.7%. The table shows how stepped funding targets materially moderate the tax impact while still improving lifecycle funding coverage.

Implications of Setting Lower Funding Level Targets

Reducing the target funding level lowers the tax increases required and can improve short- to medium-term affordability. It can still represent progress relative to current funding levels if increases are staged and sustained over time.

However, lower funding targets also carry trade-offs. They reduce the Municipality's long-term financial capacity to keep assets in a state of good repair and increase reliance on prioritization and deferral. Potential impacts include reduced asset performance and reliability, longer effective replacement cycles with assets remaining in service beyond intended life, continued reactive or 'worst-first' project selection, and higher likelihood of service disruptions.

Over time, this can contribute to growing backlogs, more frequent deferrals or project cancellations, elevated service and safety risk exposure, and reputational pressure associated with declining service outcomes. Broadly, they can produce lower service levels.

Rate-funded Assets

As illustrated in Table 30 Current Deficits, Lakeshore's water and sanitary infrastructure are currently fully funded through their existing rate structures. As a result, no changes to the rate frameworks are recommended at this time. Current rates are sufficient to support existing service levels, cover lifecycle needs, and fund planned reinvestment across both systems, supporting ongoing reliability and operational stability.

However, this position should be revisited as growth occurs or major investment are made. As assets are expanded or new infrastructure is brought into service through development, system capacity needs and lifecycle obligations may change, which could warrant future rate adjustments.

Debt

As existing debt is retired, the associated principal and interest payments can be redirected to asset classes experiencing annual funding shortfalls, rather than being used to reduce tax or utility rates.

As shown previously, Lakeshore's water and sanitary services are currently fully funded. They also carry debt payments for the next 20 years. As a result, there is no near-term capacity, nor need, within these services to redirect principal and interest towards long-term planning. In the case of sanitary services, this constraint is reinforced by the issuance of $45.3 million in new debt in 2025 for the Denis St. Pierre Treatment Plant, which extends debt servicing requirements over the coming decades.

Both water and sanitary services are also projected to issue additional debt between 2028 and 2031 for the Stoney Point water tower and treatment plant, totaling $119.3 million. This further limits any opportunity to redirect principal and interest payments in the near to medium term, as debt servicing obligations within these rate-supported services will increase rather than decline.

Figure 54 Annual Principal and Interest Payments – Water Network

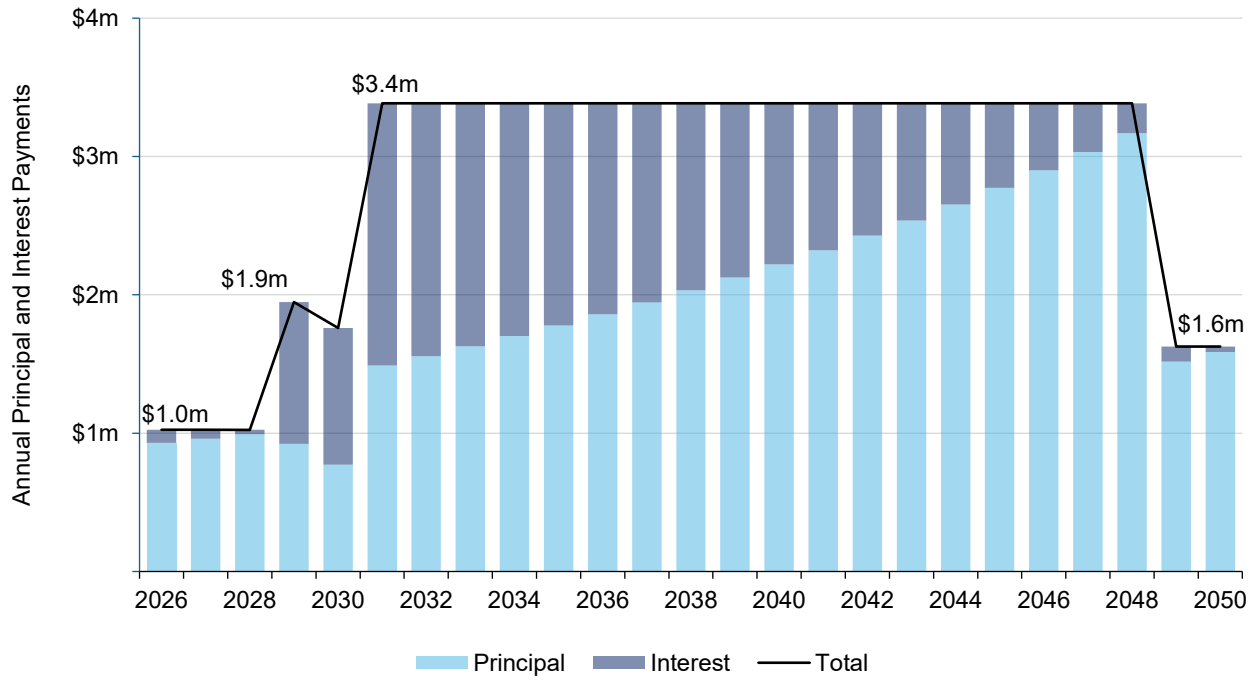
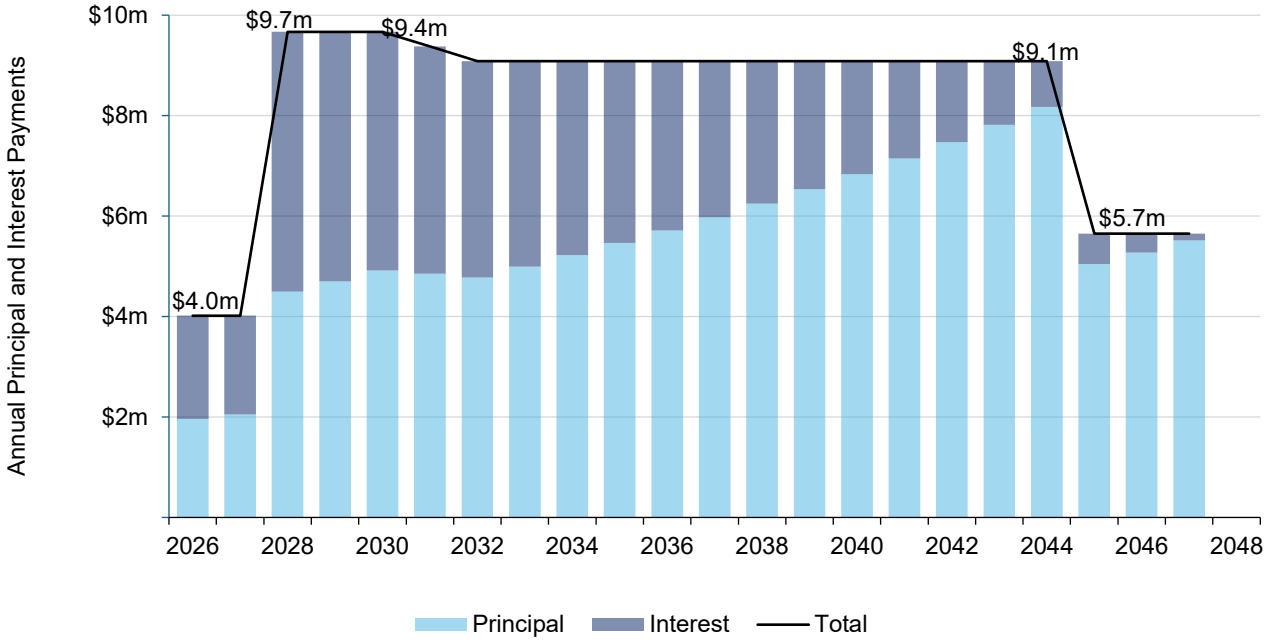
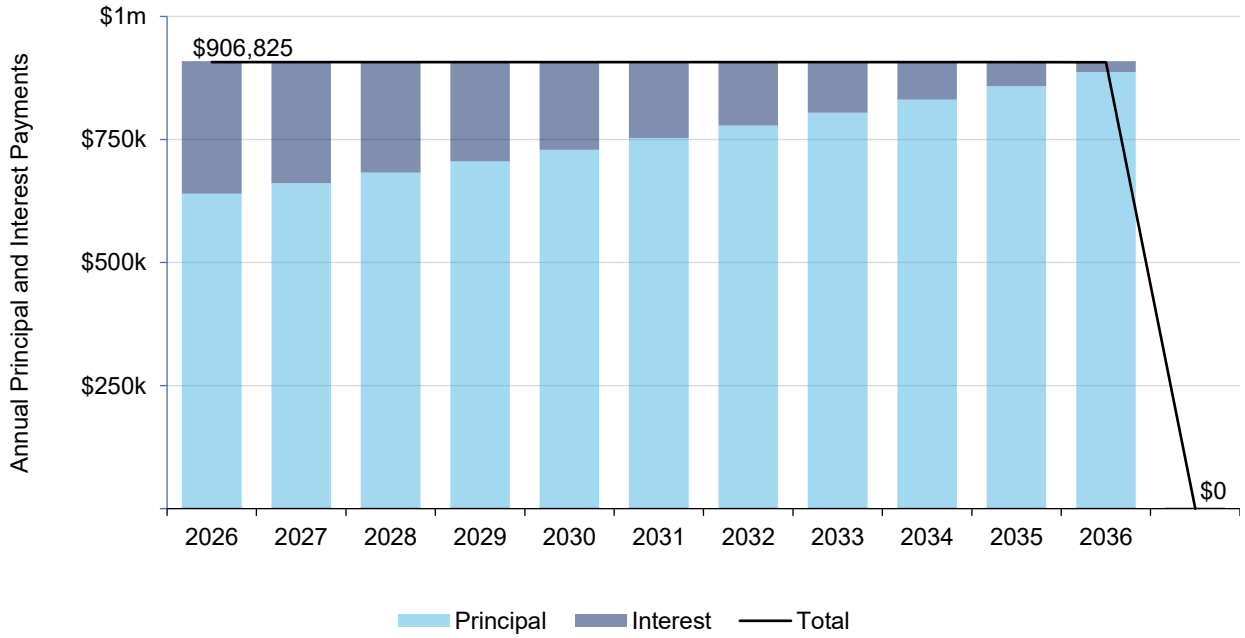


Figure 55 Annual Principal and Interest Payments – Sanitary Network



In contrast, the facilities category is forecast to experience a decline in principal and interest payments beginning in 2037, when its related debt is fully repaid. This will free approximately $906,825 annually, assuming no additional debt is issued. In principle, these funds could be reallocated to help offset infrastructure funding gaps within tax-supported asset classes.

Figure 56 Current Debt Outstanding: Annual Principal and Interest Payments – Facilities



Reserve Levels: Non-Growth and Growth

As of December 31, 2024, the Municipality of Lakeshore's non-growth infrastructure reserves totaled $67.2 million. This balance is distributed across various categories.

Table 34 Infrastructure Reserve Levels: Non-growth

Reserve	Closing Balance at December 31, 2024
Water	$19,067,206
Roads	$13,802,234
Facility/Property - New	$10,103,336
Bridges and Culverts	$3,195,011
Wastewater	$2,568,730
Federal Gas Tax	$2,007,966
Road Share Drainage Works	$1,828,905
Street Lights - New	$1,818,448
Fire Vehicles and Equipment	$1,688,834
Storm Water	$1,506,622
Water Plant Filter	$1,473,084
Parks Furniture and Fixtures	$1,310,409
Gravel Road Conversion	$991,008
Building Services - Operating	$970,979
Building Repairs & Maintenance	$924,801
Vehicles and Equipment	$924,415
Trails - New	$712,757
Provincial Funding - OCIF	$429,184
Facilities	$419,810
Trails - Existing	$350,400
Playground Equipment	$325,314
Wastewater - Capital	$271,814
Building Services - Capital	$175,390
Technology & Office Equipment	$101,776
Parks Signage - New	$72,185
Furniture & Fixtures	$62,139
Railway Crossings	$49,550
Parking Lot Development	$749
Total	**$67,153,055**

The reserves shown provides a critical financial buffer that supports the Municipality's ability to manage infrastructure proactively and sustain levels of service over time. These reserves serve several key purposes:

- Funding planned capital renewal: Reserves allow the Municipality to reinvest in aging infrastructure without relying solely on debt or sudden tax/rate increases, helping to meet annual capital requirements and avoid project deferrals.

- Stabilizing service delivery: By drawing on reserves during periods of unexpected failure or economic pressure, the Municipality can maintain consistent levels of service even when revenues fluctuate or emergency repairs are needed.

- Enabling multi-year planning: With healthy reserve balances, the Municipality can phase large infrastructure projects more effectively, ensuring that investments align with lifecycle needs and service level objectives.

- Mitigating risk: Reserves reduce exposure to financial and operational risks by providing flexibility to address unforeseen issues, such as weather events, regulatory changes, or sudden asset failures, without compromising core services.

In addition to non-growth reserves, the Municipality holds approximately $12.2 million in Development Charge (DC) reserves. These funds are dedicated to supporting infrastructure and asset expansion needed to accommodate population and employment growth, such as new roads, parks, water, and wastewater systems.

Table 35 Growth-related Future Capital Projects

Reserve	2024 Closing Balance
Development Charges - Roads	$6,898,670
Development Charges - Wastewater	$2,615,876
Development Charges - Fire	$1,975,899
Development Charges - Police	$633,575
Development Charges - Growth Studies	$78,046
Development Charges - Public Works	$34,597
	$12,236,662

As Lakeshore continues to grow, the Municipality's DC reserves will play a vital role in funding new infrastructure and supporting service levels for both current and future residents. This approach aligns with the Municipality's commitment to managing growth responsibly and sustainably.

Significant Operating Expenditures

The table below presents the Municipality of Lakeshore's significant annual operating costs across its service areas, reflecting the ongoing costs required to support infrastructure assets and maintain expected levels of service. With total operating costs exceeding $37.3 million, these expenditures span wages, office and administrative expenses, professional services, program delivery, and direct operating costs. These figures illustrate the ongoing financial commitments necessary to support service level goals and inform future planning efforts as the Municipality continues to grow and its infrastructure portfolio evolves.

Table 36 Significant Operating Expenditures

Division	Wages	Office Expenses	Admin Expenses	Professional Services	Operating Costs	Program Costs	Total
Fire	$2,129,989	$77,348	$47,296	$133,283	$274,507	$58,786	$2,721,209
ATC Facilities	$2,059,359	$40,919	$1,027,700	$55,800	$1,744,603	$103,669	$5,032,049
Building	$880,731	$42,799	$0	$411	$334,628	-$424	$1,258,145
Recreation	$820,066	$29,920	$159,722	$0	$0	$162,481	$1,172,189
Marina	$265,929	$10,559	$16	$0	$418,099	$4,107	$698,709
GIS	$136,865	$20	$0	$0	$0	$0	$136,886
Engineering & Infrastructure	$542,005	$2,228	$4,200	$57,006	$3,427	$868	$609,735
Roads & Fleet	$1,938,727	$43,541	$0	$297,135	$3,149,231	$560,971	$5,989,605
Drainage	$277,634	$3,360	$115,502	$4,498	$13,377	$640	$415,011
Facilities (non ATC) & Properties	$156,072	$969	$0	$62,936	$490,091	$25,790	$735,858
Parks & Trails	$828,269	$8,622	$0	$4,555	$584,254	$52,219	$1,477,920
Operational Services Admin	$240,071	$0	$0	$0	$0	$0	$240,071
Capital Projects	$351,343	$8,567	$0	$0	$0	$0	$359,910
Digital Transformation and Cloud Services	$648,267	$12,881	$0	$0	$1,360,995	$0	$2,022,143
Water	$3,086,953	$167,516	$1,807,114	$43,007	$2,149,885	$889,481	$8,143,956
Wastewater	$92,284	$145	$1,179,414	$2,495,446	$1,751,623	$0	$5,518,912
Community Health & Safety Admin	$212,192	$5,494	$0	$0	$0	$0	$217,686
By-Law	$481,564	$14,225	$0	-$719	$5,201	$0	$500,271
Total	**$15,148,319**	**$469,113**	**$4,340,965**	**$3,153,358**	**$12,279,923**	**$1,858,589**	**$37,250,266**

The following table presents operating expenditures from 2024 to 2033, offering a forward-looking view of the anticipated costs required to sustain infrastructure services over the next decade. Costs are increased by 2% annually.

Table 37 Forecasted Significant Operating Expenditures

Division	2024 Actuals	2025	2026	2027	2028	2029	2030	2031	2032	2033
Fire	$2,721,209	$2.8m	$2.8m	$2.9m	$2.9m	$3.0m	$3.1m	$3.1m	$3.2m	$3.3m
ATC Facilities	$5,032,049	$5.1m	$5.2m	$5.3m	$5.4m	$5.6m	$5.7m	$5.8m	$5.9m	$6.0m
Building	$1,258,145	$1.3m	$1.3m	$1.3m	$1.4m	$1.4m	$1.4m	$1.4m	$1.5m	$1.5m
Recreation	$1,172,189	$1.2m	$1.2m	$1.2m	$1.3m	$1.3m	$1.3m	$1.3m	$1.4m	$1.4m
Marina	$698,709	$713k	$727k	$741k	$756k	$771k	$787k	$803k	$819k	$835k
GIS	$136,886	$140k	$142k	$145k	$148k	$151k	$154k	$157k	$160k	$164k
Engineering & Infrastructure	$609,735	$622k	$634k	$647k	$660k	$673k	$687k	$700k	$714k	$729k
Roads & Fleet	$5,989,605	$6.1m	$6.2m	$6.4m	$6.5m	$6.6m	$6.7m	$6.9m	$7.0m	$7.2m
Drainage	$415,011	$423k	$432k	$440k	$449k	$458k	$467k	$477k	$486k	$496k
Facilities (non ATC) & Properties	$735,858	$751k	$766k	$781k	$797k	$812k	$829k	$845k	$862k	$879k
Parks & Trails	$1,477,920	$1.5m	$1.5m	$1.6m	$1.6m	$1.6m	$1.7m	$1.7m	$1.7m	$1.8m
Operational Services Admin	$240,071	$245k	$250k	$255k	$260k	$265k	$270k	$276k	$281k	$287k
Capital Projects	$359,910	$367k	$374k	$382k	$390k	$397k	$405k	$413k	$422k	$430k
Digital Transformation and Cloud Services	$2,022,143	$2.1m	$2.1m	$2.1m	$2.2m	$2.2m	$2.3m	$2.3m	$2.4m	$2.4m
Water	$8,143,956	$8.3m	$8.5m	$8.6m	$8.8m	$9.0m	$9.2m	$9.4m	$9.5m	$9.7m
Wastewater	$5,518,912	$5.6m	$5.7m	$5.9m	$6.0m	$6.1m	$6.2m	$6.3m	$6.5m	$6.6m
Community Health & Safety Admin	$217,686	$222k	$226k	$231k	$236k	$240k	$245k	$250k	$255k	$260k
By-Law	$500,271	$510k	$520k	$531k	$542k	$552k	$563k	$575k	$586k	$598k
Total	**$37,250,266**	**$38.0m**	**$38.8m**	**$39.5m**	**$40.3m**	**$41.1m**	**$41.9m**	**$42.8m**	**$43.6m**	**$44.5m**

In addition to the average annual requirement of approximately $50 million, representing a reinvestment rate of 3.0%, the Municipality also incurs approximately $37.3 million in significant annual operating expenditures directly tied to the maintenance and operation of infrastructure assets.

When considered alongside the average annual requirements, these operating costs represent an additional reinvestment rate of approximately 2.2% relative to the Municipality’s $1.7 billion asset portfolio. Together, the capital and operating investments reflect the full financial commitment required to sustain levels of service and ensure the long-term performance of the Municipality’s infrastructure.

Growth

The Municipality of Lakeshore has experienced steady population and development growth over the past two decades, driven by its proximity to the City of Windsor, its access to the Highway 401 corridor, and its appeal as a residential community offering both urban amenities and rural charm. As new subdivisions continue to emerge and commercial development expands, the demand on infrastructure systems, roads, water, wastewater, stormwater, and community facilities, has intensified.

According to the 2021 Census, the Municipality of Lakeshore had a population of 40,400. The County of Essex's 2022 *Growth Analysis Report* projects that, under a medium growth scenario, the population will rise to 51,700 by 2036 and surpass 60,000 by 2051. In a high growth scenario, the population is expected to approach 54,000 by 2036 and exceed 64,000 by 2051. Lakeshore is anticipated to capture 19% of the County's overall growth, the highest share among all local municipalities.

Employment in the Municipality is projected to increase to between 21,600 and 26,200 by 2051, depending on the rate of growth, with the lower end reflecting a modest growth scenario and the higher end representing a more aggressive projection.

As the Municipality of Lakeshore continues to grow, new infrastructure will be required to support expanding residential subdivisions, employment areas, and community amenities. While development charges help fund the initial construction of growth-related assets, these assets eventually become part of the Municipality's inventory and must be maintained, renewed, and ultimately replaced over time.

The equivalent target reinvestment rates shown in Table 27 provide a useful benchmark for estimating the long-term financial impact of new infrastructure. These rates represent the annual capital requirements as a percentage of replacement cost, based on expected useful life. For example, road infrastructure has a reinvestment rate of 5.8%, meaning that each additional $1 million in road assets, including appurtenances, could be expected to generate an average of $58,000 in annual capital needs over the long term.

As new assets are added through growth, the Municipality can use these reinvestment rates to forecast the lifecycle funding impacts and ensure that long-term financial planning remains aligned with infrastructure expansion. This approach reinforces the importance of integrating asset management principles into growth planning, to ensure that today's investments do not become tomorrow's liabilities.

The Municipality's 2022 *Development Charges Background Study* forecasts $230.2 million in growth-related capital expenditure. These investments will require $12.3 million in annual lifecycle expenditures and an additional $5.5 million in operating expenditures. We note that projects costs have escalated significantly over the last five years. As a result, these estimates would require ongoing revisions to better reflect prevailing market conditions.

Recommendations

- For Council's consideration, a structured transition toward full funding of tax-supported assets has been modeled to illustrate the financial adjustments required. Based on the modeled average annual requirement of $41.8 million and 2025 property taxation revenues of $42.5 million, achieving 100% funding would require annual property tax increases ranging from approximately 8.7% per year over five years to approximately 1.7% per year over 25 years.

  Alternative scenarios have also been developed that target lower funding thresholds (e.g., 75% or 60% of modeled needs). These reduce near-term tax impacts but imply acceptance of higher long-term asset risk, increased deferral, and greater reliance on prioritization.

- Within the proposed phase-in horizon, facilities debt is forecast to be fully retired beginning in 2037, resulting in approximately $906,825 in annual principal and interest savings. While this reduction could be used to offset tax pressures, a more fiscally disciplined strategy would capture and redirect these funds toward reducing the infrastructure deficit within tax-supported asset categories.

- In contrast, water and sanitary services have no near-term opportunity (or need) for similar reallocation, given increasing debt obligations, including $45.3 million in sanitary debt issued in 2025 and a further $119.3 million in combined water and sanitary debt anticipated between 2028 and 2031. Further, these utilities are already full-funded based on the Municipality's existing rate structure.

- As part of any phased approach, risk-based prioritization will remain essential. Where funding does not align with modeled lifecycle needs, investments should be directed first to assets with the highest consequence of failure and service impact. Periodic review of service level commitments will also be necessary to ensure that declared targets remain financially achievable and aligned with community expectations.

- Inflation, supply chain constraints, and commodity price volatility will continue to influence capital costs. The funding scenarios presented are modeled in current dollars, for the Municipality's existing portfolio, and do not incorporate future inflation escalation. Sustained cost increases would require higher tax or rate adjustments than those illustrated to maintain full funding alignment.

This AMP reaffirms the Municipality of Lakeshore's commitment to responsible infrastructure stewardship under Ontario Regulation 588/17. By integrating updated replacement values, condition data, lifecycle strategies, and long-term financial modeling, the plan establishes a clear framework for sustainable service delivery and infrastructure resilience.