Asset Management Plan 2025

City of Kenora

psdcitywide

This Asset Management Plan was prepared by:

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

May 2026

Key Statistics

$1.41B	2024 Total Replacement Cost of All City Assets
$184K	Replacement Cost of Infrastructure Per Household
77%	Percentage of Assets in Fair or Better Condition
38%	Percentage of Assets with Assessed Condition Data
$15.1M	Annual Capital Infrastructure Deficit
1.0%	Actual Investment Rate/Target Investment Rate to meet Proposed Levels of Service

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1. Executive Summary

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

1.1 Scope

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

This AMP includes the following asset categories:

Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

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

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals $1.41 billion. 77% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 38% of assets. For the remaining 62% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

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

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the City's average annual capital requirement totals $29.15 million. Based on a historical analysis of sustainable capital funding sources, the City is committing approximately $14.07 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $15.08 million.

It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at the City. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

1.4 Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax/rate change required to eliminate the City's infrastructure deficit based on a 10-year plan:

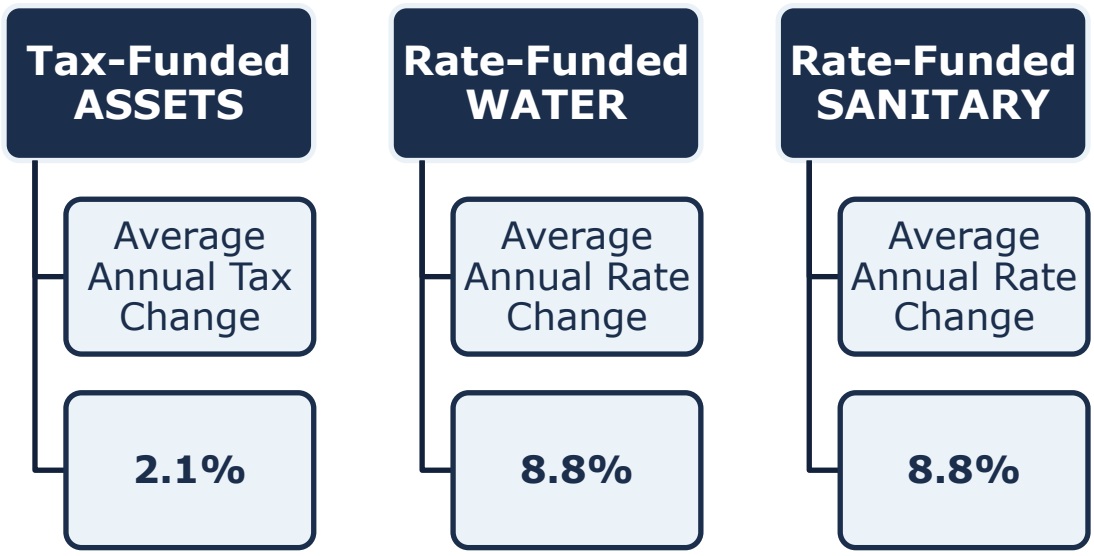


Figure 2 Proposed Tax/Rate Changes

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

- Review data to update and maintain a complete and accurate dataset
- Develop a condition assessment strategy with a regular schedule
- Review and update lifecycle management strategies
- Development and regularly review short- and long-term plans to meet capital requirements
- Measure current levels of service and identify sustainability of proposed levels of service

2. Introduction & Context

2.1 Community Profile

Census Characteristic	City of Kenora	Ontario
Population 2021	14,967	14,223,942
Population Change 2016-2021	-0.9%	5.8%
Total Private Dwellings	7,637	5,929,250
Population Density	70.7/km^2	15.9/km^2
Land Area	211.65 km^2	892,411.76 km^2

Table 1 City of Kenora Community Profile

The City of Kenora is a lakeside City on the northern shore of Lake of the Woods in Northwest Ontario, close to the Manitoba boundary. The City covers a land area of 211 km^2 and serves as a regional hub for services, tourism, and outdoor lifestyle. The population roughly doubles in the summer with seasonal residents and visitors drawn to boating, fishing, and waterfront recreation.

Kenora's roots trace back to the late 1800s, when it was developed as a trading post and resource community. It was later incorporated and amalgamated from smaller towns, including the Town of Keewatin, the Town of Kenora, and the Township of Jaffray Melick, into the modern city in 2000, blending frontier heritage with lakeside culture.

The City balances its unique natural setting, on the world-renowned Lake of the Woods with thousands of islands and extensive shoreline, with urban amenities and services. Kenora's economy has transitioned from historic forestry and resource extraction towards a diversified service-based economy anchored in healthcare, tourism, retail, construction, and manufacturing, supporting over 700 local businesses and strengthened by its role as a commercial and service center for the surrounding region.

Kenora's quality of life is shaped by its outdoor lifestyle and cultural amenities. Residents and visitors enjoy multiple public beaches, parks, trails and recreational facilities that support boating, fishing, hiking, hockey, and year-round activities. There is a vibrant arts and cultural scene, including museums, festivals, and community events, alongside educational institutions like Confederations College and Seven Generations Education Institute. Essential services and infrastructure include one of Northwest Ontario's most comprehensive healthcare networks, public works, parks, libraries and community programs that support daily life and wellness.

Challenges in the City include housing availability, with demand often outpacing supply, infrastructure pressures, and social issues common in many small communities. Despite these, Kenora continues to pursue economic development, affordable housing initiatives, and enhancements to services that support a high quality of life where lakeside living meets community opportunity.

2.2 Climate Change

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

The report revealed that between 1948 and 2016, the average temperature increase across Canada was 1.7°C; moreover, during this time period, Northern Canada experienced a 2.3°C increase. The temperature increase in Canada has doubled that of the global average. If emissions are not significantly reduced, the temperature could increase by 6.3°C in Canada by the year 2100 compared to 2005 levels.

Observed precipitation changes in Canada include an increase of approximately 20 percent between 1948 and 2012. By the late 21st century, the projected increase could reach an additional 24 percent. During the summer months, some regions in Southern Canada are expected to experience periods of drought at a higher rate. Extreme weather events and climate conditions are more common across Canada. Recorded events include droughts, flooding, cold extremes, warm extremes, wildfires, and record minimum arctic sea ice extent.

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

2.2.1 City of Kenora Climate Profile

The City of Kenora is located in Northern Ontario just over 50 kilometres from the border of Manitoba. The City is surrounded by bodies of fresh water, including the Lake of the Woods. The City is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme events.[1] Furthermore, the City's proximity to numerous bodies of water poses a significant risk to assets as flooding is becoming a more common occurrence.

According to Climatedata.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – the City of Kenora may experience the following trends.

Higher Average Annual Temperature:

- Between the years 1981 and 2010 the annual average temperature was 3.2 ºC.
- Under a high emissions scenario, the annual average temperatures are projected to increase by 2 ºC by the year 2050 and by 5.5 ºC by the end of the century.

[1] The City of Kenora, ClimateData [website], https://climatedata.ca/explore/location/?loc=FDGDQ&location-select-temperature=tx_max&location-select-precipitation=r1mm&location-select-other=frost_days

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Kenora is projected to experience an 6% increase in precipitation by the year 2050 and a 10% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

- It is expected that the frequency and severity of extreme weather events will change.
- Flooding is likely to become a more common occurrence due to the proximity to numerous bodies of water.

2.2.2 Integrating Climate Change and Asset Management

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

In order to achieve the sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset management and climate change adaptation observes industry best practices and enables the development of a comprehensive approach to risk management. The City of Kenora has made notable efforts to advance climate adaptation and mitigation practices by forming a Sustainable Advisory Committee, adopting a Sustainability Action Plan, and by integrating climate considerations into their risk asset management program. These documents and ongoing efforts will further advance The City's capacity to develop asset management strategies that incorporate climate change mitigation and adaptation considerations.

2.3 Asset Management Overview

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

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

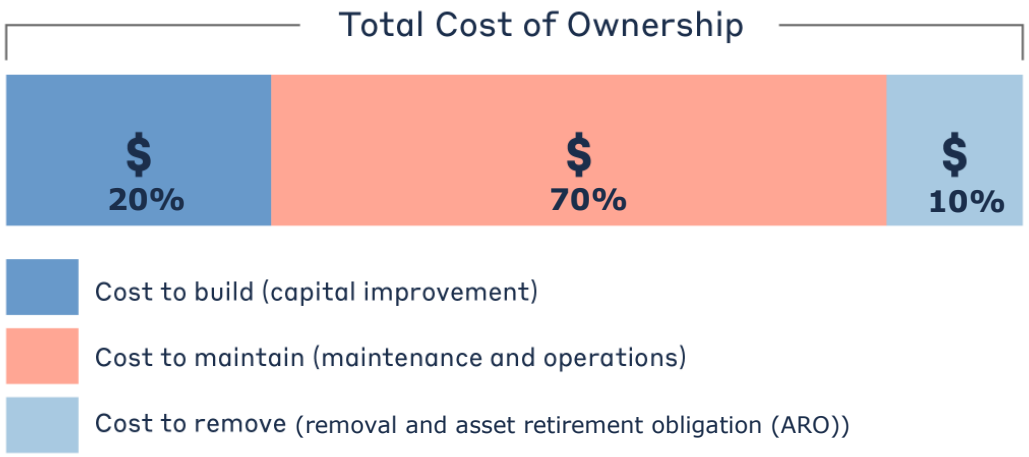


Figure 3 Total Cost of Asset Ownership

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

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

2.3.1 Foundational Asset Management Documentation

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

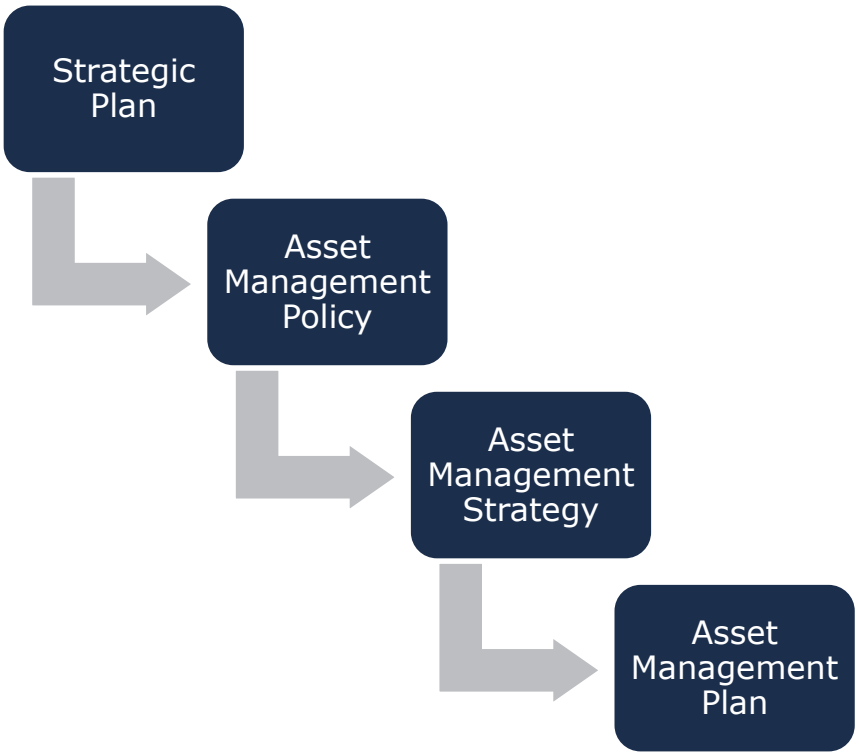


Figure 4 Foundational Asset Management Documents

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

Asset Management Policy

An asset management policy represents a statement of the principles guiding the City's approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

The City adopted Policy Number AF-6-2 Strategic Asset Management Policy on May 22, 2018, in accordance with Ontario Regulation 588/17. The Policy is aligned with the City's Official Plan and Strategic Plan to support a comprehensive approach to asset management.

The guiding principles of this document include:

- Long-term planning
- Financial efficiency
- Health and safety

Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how the City plans to achieve asset management objectives through planned activities and decision-making criteria.

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

Asset Management Plan

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

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

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

2.3.2 Key Concepts in Asset Management

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

Lifecycle Management Strategies

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

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

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

Depending on initial lifecycle management strategies, asset performance can be sustained through a combination of maintenance and rehabilitation, but at some point, replacement is

required. Understanding what effect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

Lifecycle Activity	Cost	Typical Associated Risks
Maintenance 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;

Table 2 Lifecycle Management: Typical Lifecycle Interventions

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

Risk & Criticality

Asset risk and criticality are essential building blocks of asset management, integral in prioritizing projects and distributing funds where they are needed most based on a variety of factors. Assets in disrepair may fail to perform their intended function, pose substantial risk to the community, lead to unplanned expenditures, and create liability for the municipality. In addition, some assets are simply more important to the community than others, based on their

financial significance, their role in delivering essential services, the impact of their failure on public health and safety, and the extent to which they support a high quality of life for community stakeholders.

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

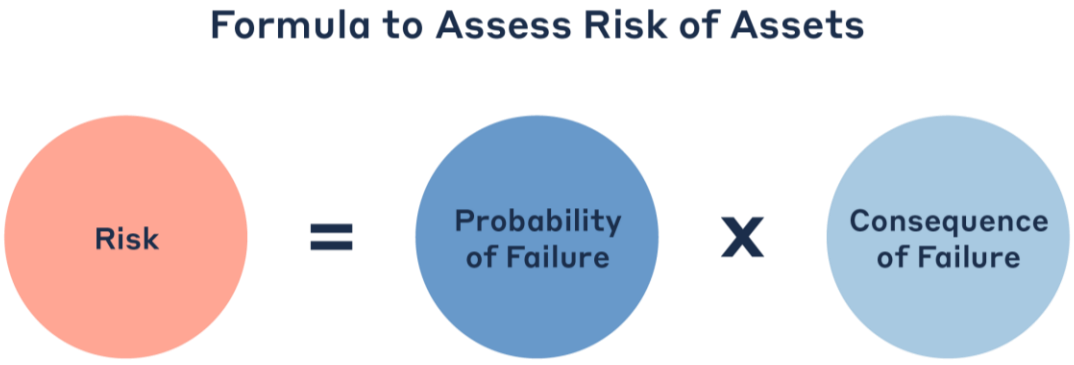


Figure 5 Risk Equations

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

Probability of Failure

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

Consequence of Failure

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

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

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

Table 3 Risk Analysis: Types of Consequences of Failure

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

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

Levels of Service

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

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

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories as applicable (Roads, Bridges & Culverts, Water, Wastewater, Storm Sewer) 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 City's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

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

Current and Proposed Levels of Service

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

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

2.4 Scope & Methodology

2.4.1 Asset Categories for this AMP

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

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

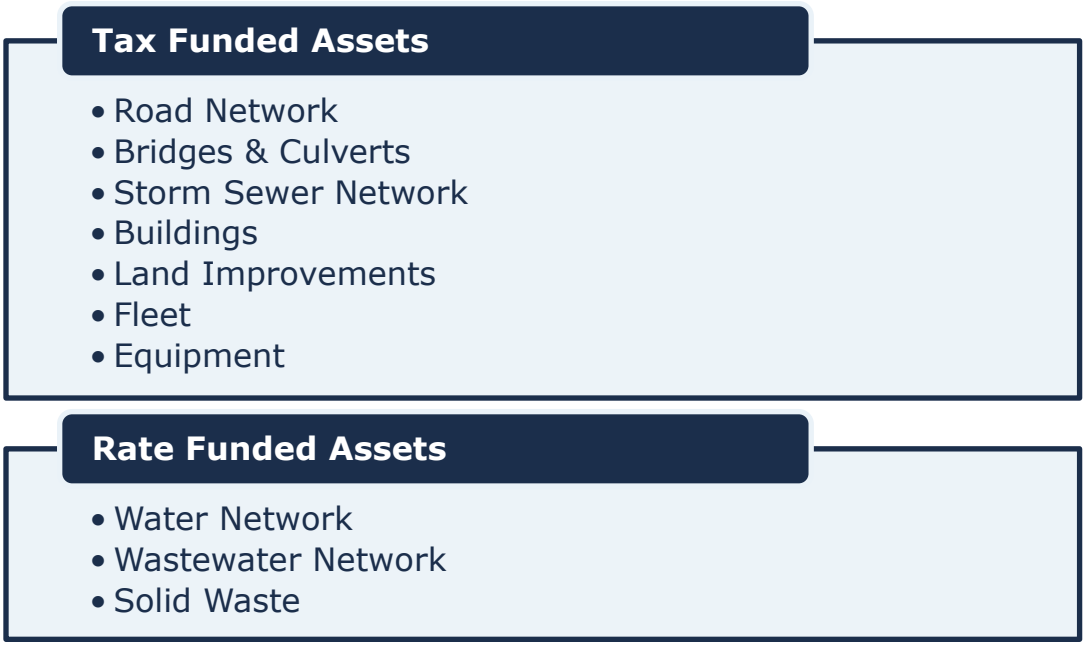


Figure 6 Tax Funded and Rate Funded Asset Categories

2.4.2 Data Effective Date

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

2.4.3 Deriving Replacement Costs

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

User-Defined Cost and Cost Per Unit

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

Cost Inflation / CPI Tables

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

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the City incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.4.4 Estimated Service Life & Service Life Remaining

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

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

Figure 7 Service Life Remaining Calculation

2.4.5 Reinvestment Rate

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

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

Figure 8 Target Reinvestment Rate Calculation

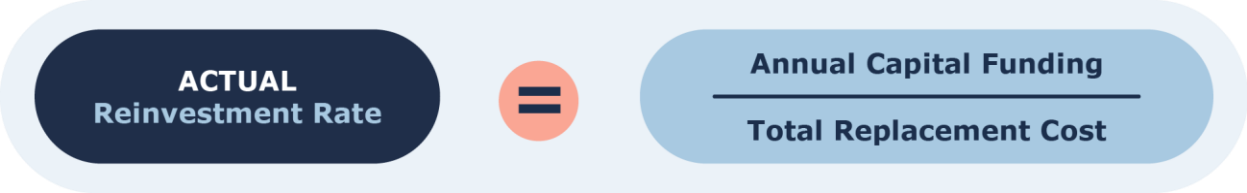


Figure 9 Actual Reinvestment Rate Calculation

2.4.6 Deriving Asset Condition

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

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

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

Table 4 Standard Condition Rating Scale

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

2.5 Ontario Regulation 588/17

As part of the Infrastructure for Jobs and Prosperity Act, 2015, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17)[2]. Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

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

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

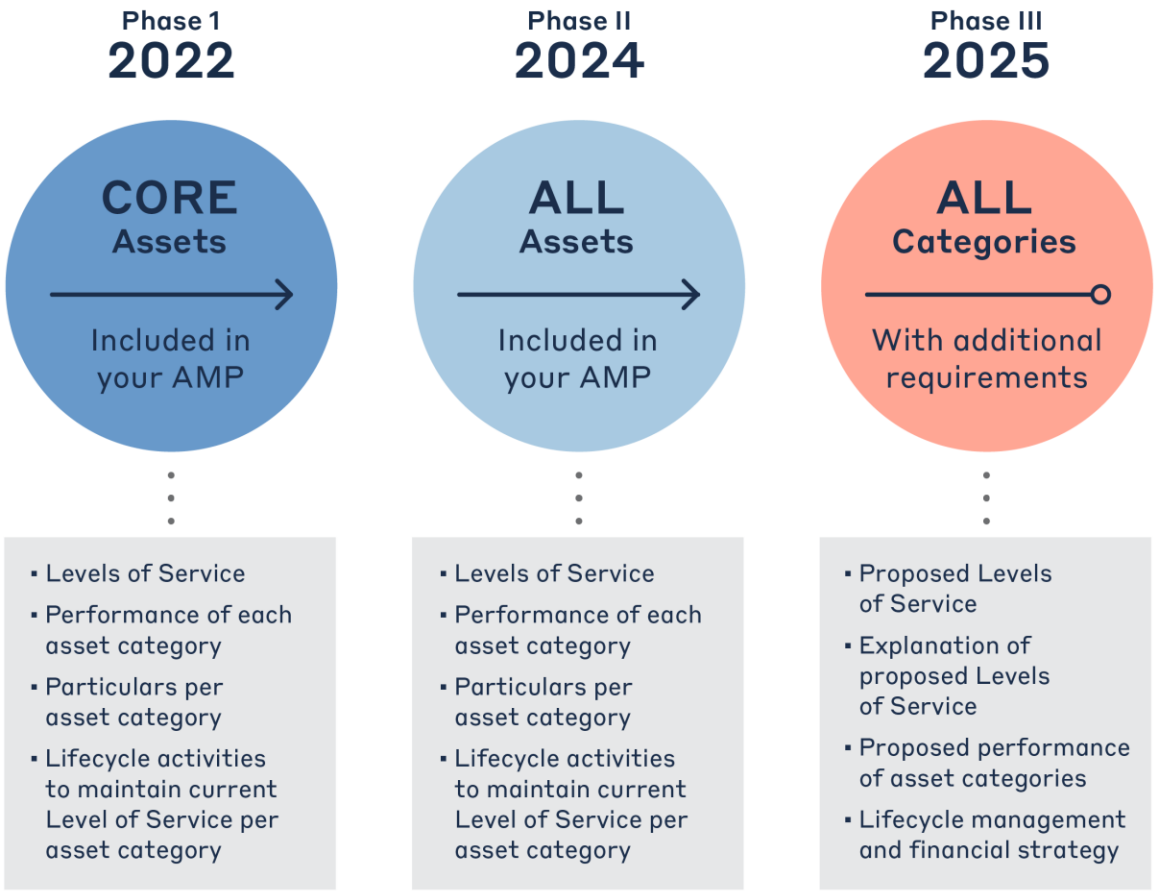


Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	5.1 – 14.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	5.1 – 14.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	5.3 – 14.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	5.2 – 14.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	5.4 – 14.4	Complete

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Current levels of service in each category	S.5(2), 1(i-ii)	5.7 – 14.7	Complete
Current performance measures in each category	S.5(2), 2	5.7 – 14.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	5.4 – 14.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	5.5 – 14.5	Complete
Growth considerations	S.6(1), 5	15.1 – 15.2	Complete
Proposed levels of service for each category for next 10 years	S.6(1), 1(i-ii)	5.8 – 14.8	Complete
Explanation of appropriateness of proposed levels of service	S.6(1), 2(i-iv)	4.2	Complete
Lifecycle management activities for proposed levels of service	S.6(1), 4(i)	4.2	Complete
10-year capital costs for proposed levels of service	S.6(1), 4(ii)	Appendix B	Complete
Annual funding availability projections	S.6(1), 4(iii)	4.2	Complete

Table 5 O. Reg. 588/17 Compliance Review

Portfolio Overview

3. State of the Infrastructure

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

3.1 Asset Hierarchy & Data Classification

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

Figure 11 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The ten asset categories analyzed in this Asset Management Plan have a total current replacement cost of $1.41 billion. This estimate was calculated using user-defined costing, as well as inflation of historical or original costs to current date. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 12 illustrates the replacement cost of each asset category; at 26% of the total portfolio, the water network forms the largest share of the City's asset portfolio, followed by the wastewater network at 23%.

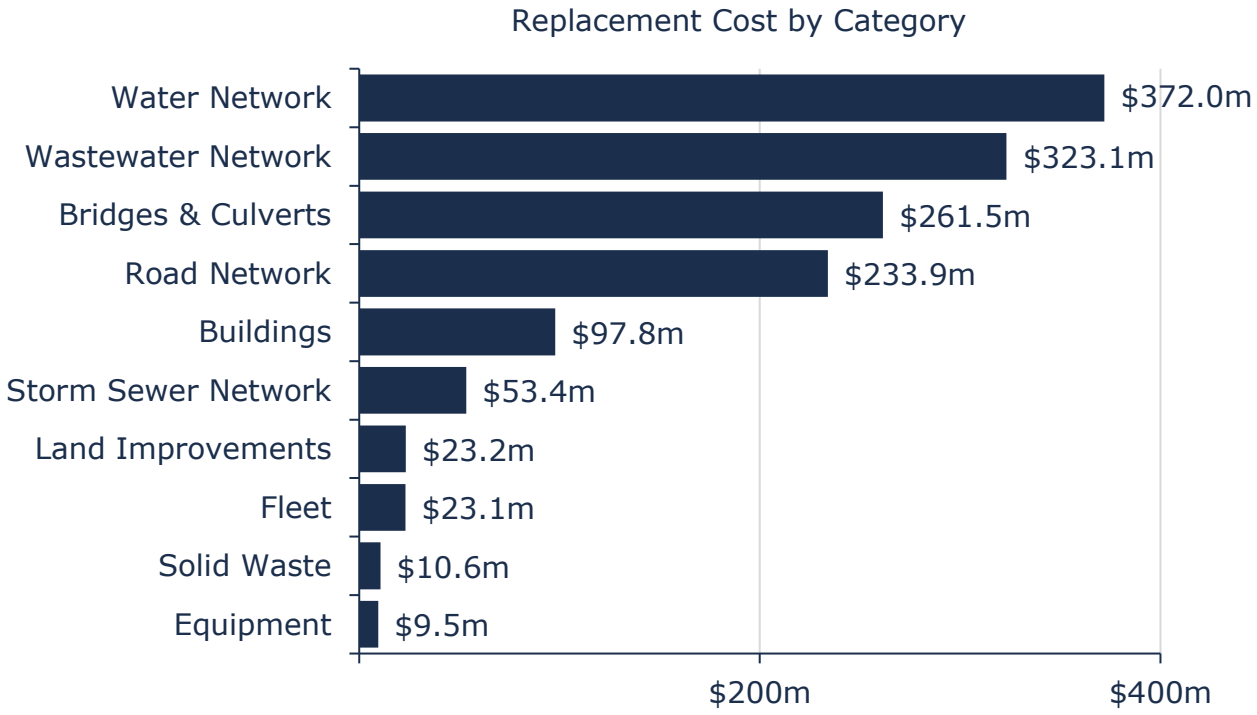


Figure 12 Current Replacement Cost by Asset Category

3.2.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps by comparing the target to the current reinvestment rate. To meet the existing long-term capital requirements, the City requires an annual capital investment of $29.15 million, for a target portfolio reinvestment rate of 2.07%. Currently, annual investment from sustainable revenue source is $14.07 million, for a current portfolio reinvestment rate of 1.0%. Target and current re-investment rates by asset category are detailed below.

Figure 13 Current Vs. Target Reinvestment Rate

The City is making measurable progress toward closing the gap between current and target reinvestment rates. Under the previous asset management plan, the reinvestment rate stood at 0.8% against a 2.0% target. In this plan, the rate has increased to 1.0%, while the target has only modestly risen to 2.1%.

This represents a positive shift, with the funding gap narrowing as reinvestment levels trend upward. While there is still work to be done to fully meet long-term targets, this improvement demonstrates a continued commitment to strengthening asset management practices and prioritizing sustainable infrastructure funding. Maintaining this momentum will be key to further reducing the gap in future planning cycles.

It is important to note that while Solid Waste is currently shown as overfunded, this funding level reflects only the maintenance and replacement of existing assets.Future rate adjustments may be required to support new infrastructure, such as the development of a new landfill. In addition, the average annual funding identified in this analysis addresses capital needs only. Any increases required to address rising operating costs would need to be considered separately.

3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 77% of the City's infrastructure portfolio is in fair or better condition, with the remaining 23% in poor or worse

condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

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

Condition data was available for majority of the road network, all bridges & culverts, some buildings, equipment, fleet, land improvements, solid waste, wastewater, water and storm sewer assets. For all remaining assets, including major infrastructure such as storm mains and buildings, age was used as an approximation of condition for these assets. Age-based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

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

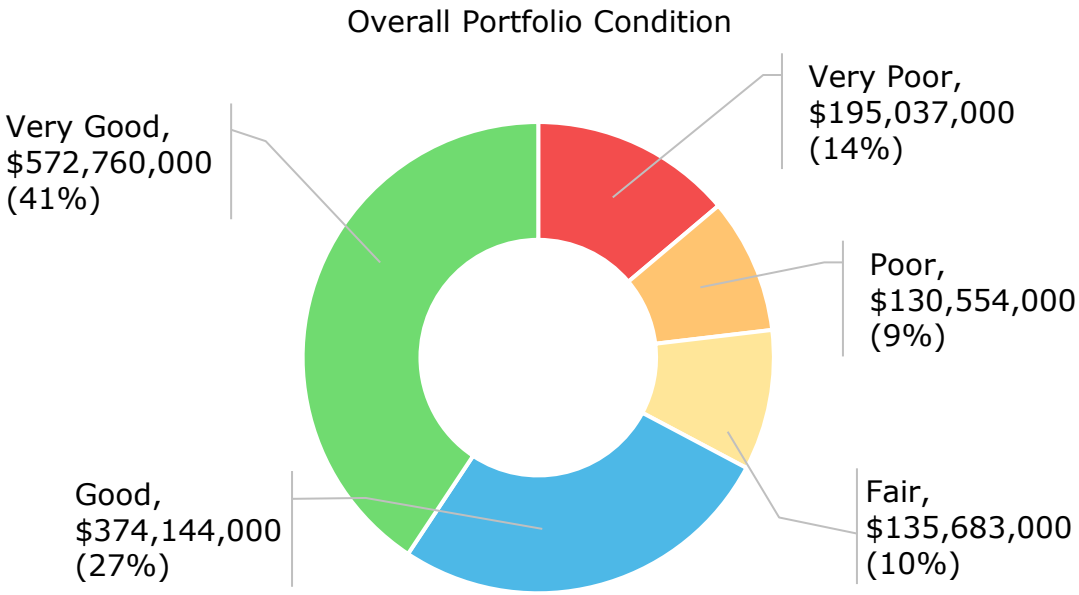
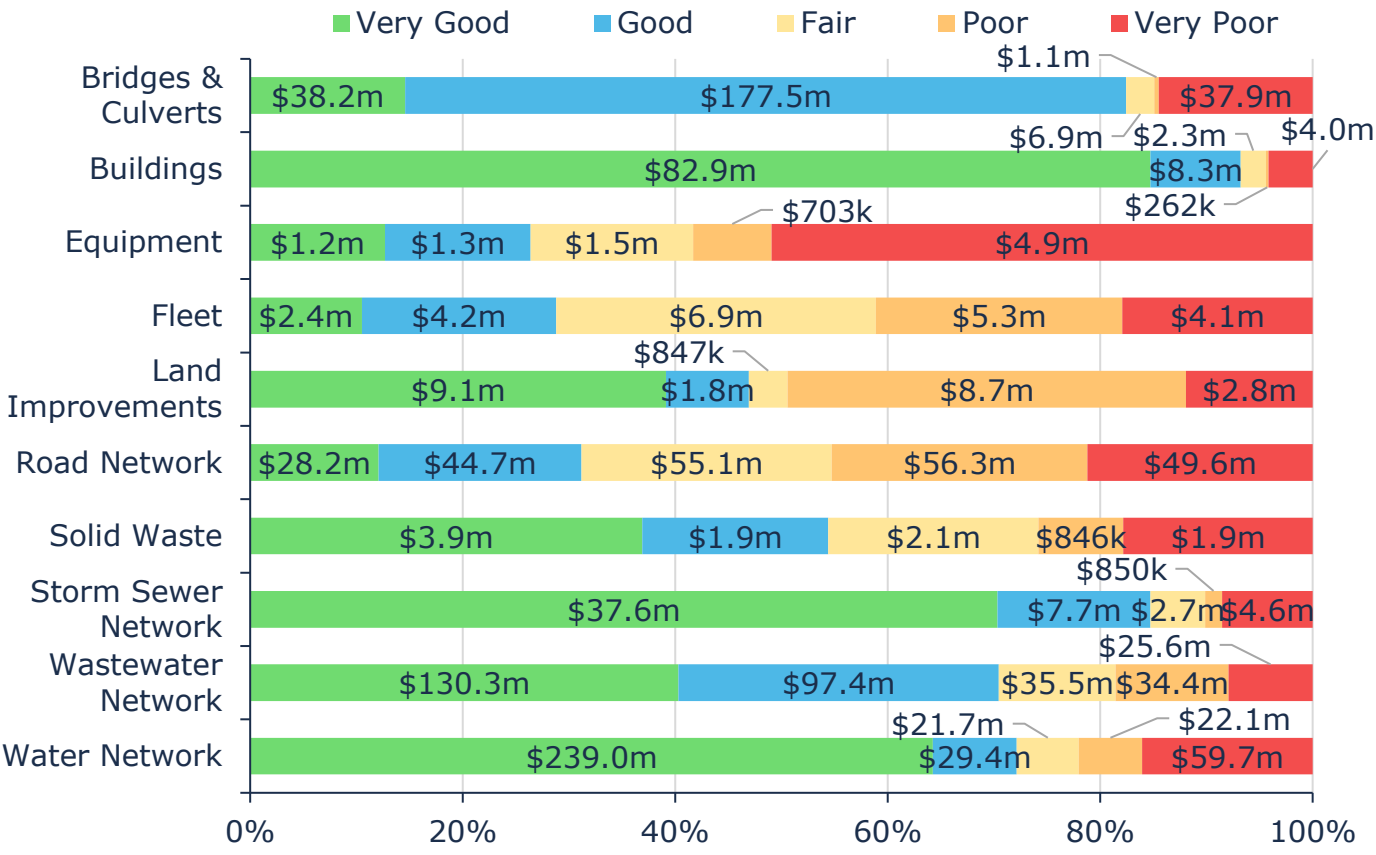


Figure 14 Asset Condition: Portfolio Overview

As further illustrated in Figure 15 at the category level, the majority of major, core infrastructure including roads, bridges, wastewater, storm sewer, water and structural culverts are in fair or better condition, based on in-field condition assessment and age-based data. Most buildings, fleet and land improvements are also in fair or better condition, based on recent condition assessments and age-based data. See Table 6 for details on how condition data was derived for each asset segment.



Value and Percentage of Asset Segments by Replacement Cost

Figure 15 Asset Condition by Asset Category

Source of Condition Data

This AMP relies on assessed condition for 37% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. Table 6 below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	All	72%	2023 Streetscan Study
Bridges & Culverts	All	100%	2024 OSIM Report
Water Network	All	1%	Staff Assessments

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Wastewater Network	All	24%	2023 & 2024 CCTV Inspections
Storm Sewer Network	All	15%	2021 & 2023 CCTV Inspections
Buildings	All	2%	Staff Assessments
Land Improvements	All	57%	Staff Assessments
Fleet	All	34%	Staff Assessments
Equipment	All	4%	Staff Assessments
Solid Waste	All	9%	Staff Assessments

Table 6 Source of Condition Data

3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 24% of the City's assets will require replacement within the next 10 years. Refer to Appendix B – 10-Year Capital Requirements.

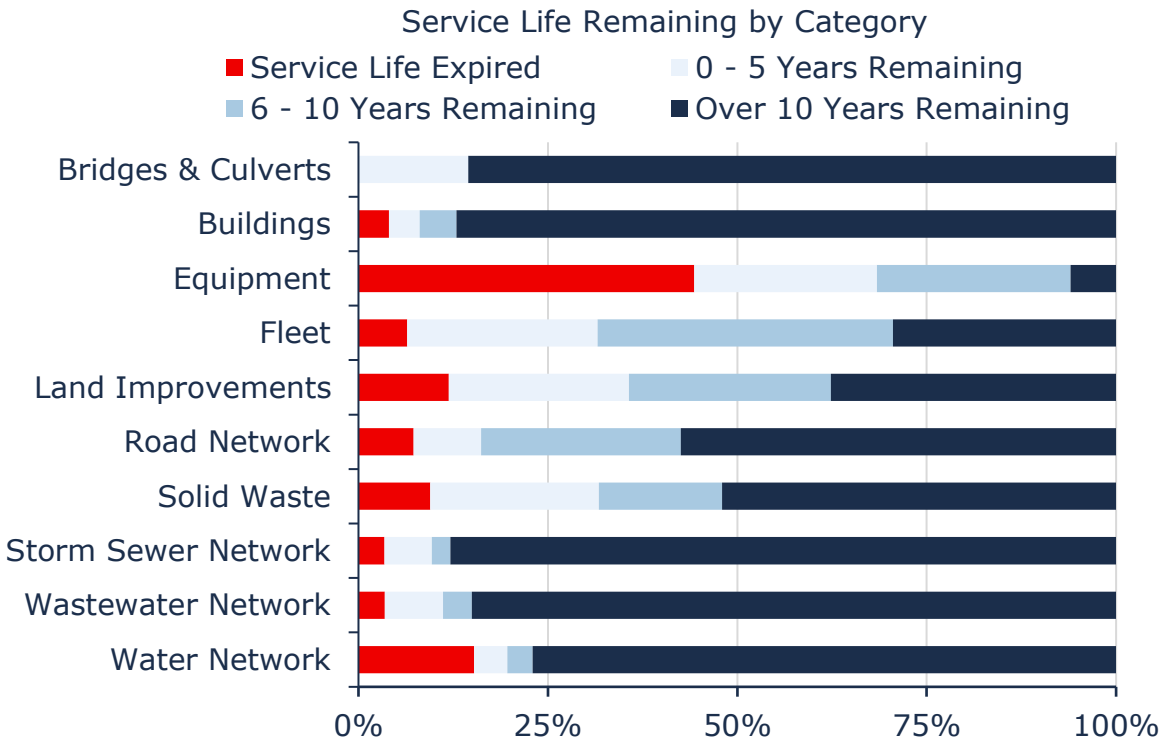


Figure 16 Service Life Remaining by Asset Category

While the data indicates a high percentage of equipment beyond its service life, this is primarily driven by the use of financial-based estimated useful lives, rather than observed condition for 96% of equipment assets. These accounting-based thresholds are conservative by design and do not reflect the continued functionality of well-maintained equipment.

In reality, equipment assets are routinely monitored and maintained, allowing them to remain in service well beyond their financial life. As condition data is incorporated in future updates, this value is expected to normalize and provide a more balanced view of actual needs.

3.2.5 Risk Matrix

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

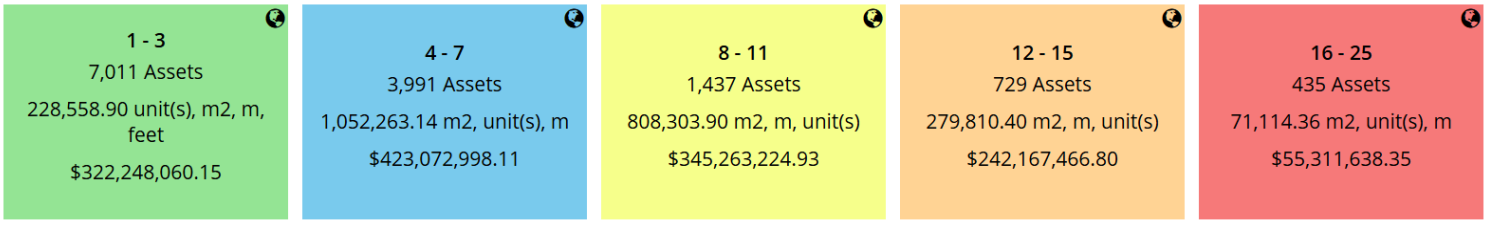


Figure 17 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 4% of the City's assets, with a current replacement cost of approximately $55.3 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a high probability of failure based on available condition data and age-based estimates and were considered to be most essential to the City.

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

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

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

3.2.6 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 18 below illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for all asset

categories analyzed in this AMP over a 100-year time horizon. On average, $29.15 million is required each year to remain current with capital replacement needs for the City's asset portfolio (red dotted line). Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise. This figure relies on age and available condition data.

The chart also illustrates a backlog of more than $73.1 million, comprising assets that remain in service beyond their estimated useful life. It is unlikely that all such assets are in a state of disrepair, requiring immediate replacements. This makes continued and expanded targeted and consistent condition assessments integral. Risk frameworks, proactive lifecycle strategies, and levels of service targets can then be used to prioritize projects, continuously refine estimates for both backlogs and ongoing capital needs, and help select the right treatment for each asset. In addition, more effective componentization of buildings will improve these projections, including backlog estimates.

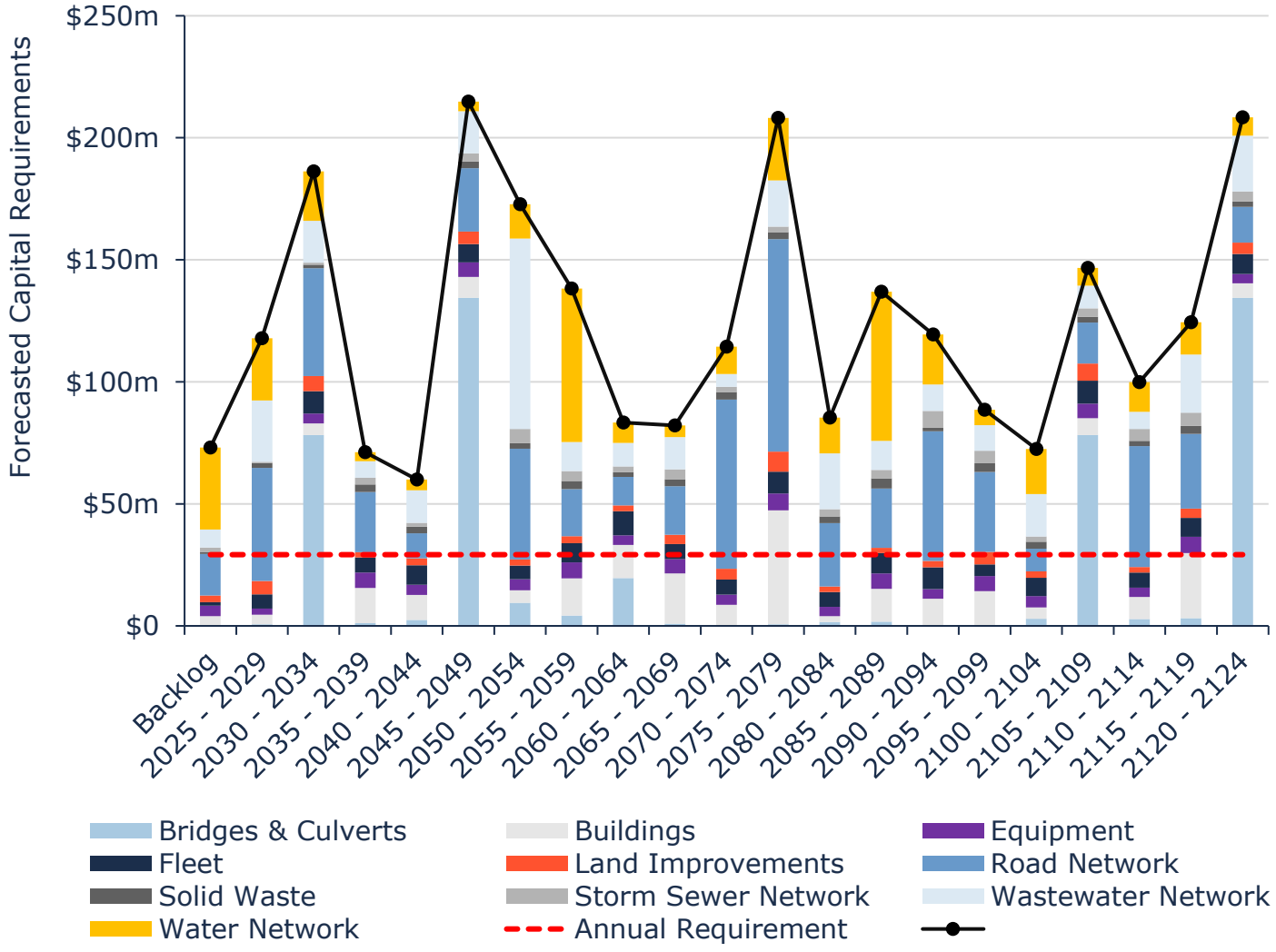


Figure 18 Capital Replacement Needs: Portfolio Overview 2025-2124

Proposed Levels of Service

4. Proposed Levels of Service Analysis

4.1 Overview

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

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

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

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

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

4.1.2 Considerations

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

Financial Impact Assessments

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

Infrastructure Condition Assessments

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

Service Metrics

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

Service Impact Assessments

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

Key Lifecycle Activities

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

Risk Management

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

Infrastructure Condition Enhancements

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

Timelines

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

Stakeholder Engagement

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

Flexibility

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

Stakeholder Engagement

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

Administration

Surveys were issued for each asset category, summarizing the results of the 2021 Asset Management Plans and requesting feedback on levels of confidence in the statistics, whether respondents felt that existing service levels met the current needs of the City, and whether they felt they had the resources (financial, man power, or otherwise) to appropriately manage existing assets.

The survey results were analyzed and used the general themes of those workshops are summarized below.

Road Network

- Survey respondents indicated that road rehabilitation has historically been underfunded
- It was noted that there is a need to increase funding to the road network as too many roads are currently in poor condition, and the overall risk profile of the network should be lowered

Bridges & Culverts

- Survey respondents indicated that current funding levels should be maintained in order to avoid sudden, costly repairs

Stormwater Network

- Survey respondents indicated that funding to the stormwater network should be increased in order to help reduce emergency failures
- It was noted that there is not strong confidence in the condition data for the stormwater network due to a lack of condition assessments

Buildings

- Survey respondents indicated that condition data was unreliable due to incomplete assets inventories and a lack of maintenance-based evaluations and condition assessments
- Staff noted that funding to buildings should be increased, focusing on life-extending maintenance on existing buildings, but emphasized that a reliable assets inventory is needed first to guide funding decisions

Land Improvements

- Survey respondents indicated that physical condition assessments are needed for better accuracy in condition ratings
- It was noted that there was a need to increase funding, particularly for areas such as docking infrastructure and trail systems

Equipment

- Survey respondents indicated that there was low confidence in the condition data for equipment, noting a need for conditional inspections to better reflect the actual state of equipment
- Staff noted the need to increase funding to the equipment category, and suggested an equipment audit and improved maintenance tracking to better predict reinvestment needs

Fleet

- Survey respondents indicated that they were satisfied with the current level of service provided by the fleet, noting that condition ratings are reliable, and confidence in data was high
- Staff stated that there is a need to increase funding, citing that past budgets did not keep pace with inflation. They did note that future forecasts aim to better account for rising costs, and they are following a fleet renewal program

Wastewater Network

- Survey respondents indicated that they aim to lower the number of effluent violations through strategic capital projects that also lower operating costs
- It was noted that the system currently lacks sufficient funding and could face greater risks in the future

Water Network

- Survey respondents indicated that funding to the water network should be increased in order to improve the condition of the water network
- It was noted that the system is currently reliant on age-based condition ratings, and it was indicated that physical inspections would greatly improve the accuracy of condition data

Solid Waste

- Survey respondents indicated that they are satisfied with the current level of service provided by solid waste assets. It was noted that most assets are still in relatively high condition
- Declining revenue was cited as a concern, which may make it harder to maintain or improve the current condition of solid waste assets

Residents

The City of Kenora understands that services are provided for the benefit of the people including residents, businesses, and visitors. The City made available a public survey for multiple weeks in the fall of 2024 to allow stakeholders to voice their opinions of the services that were most important to them, affordability, and their experiences with those services. Highlights of the survey results are summarized below:

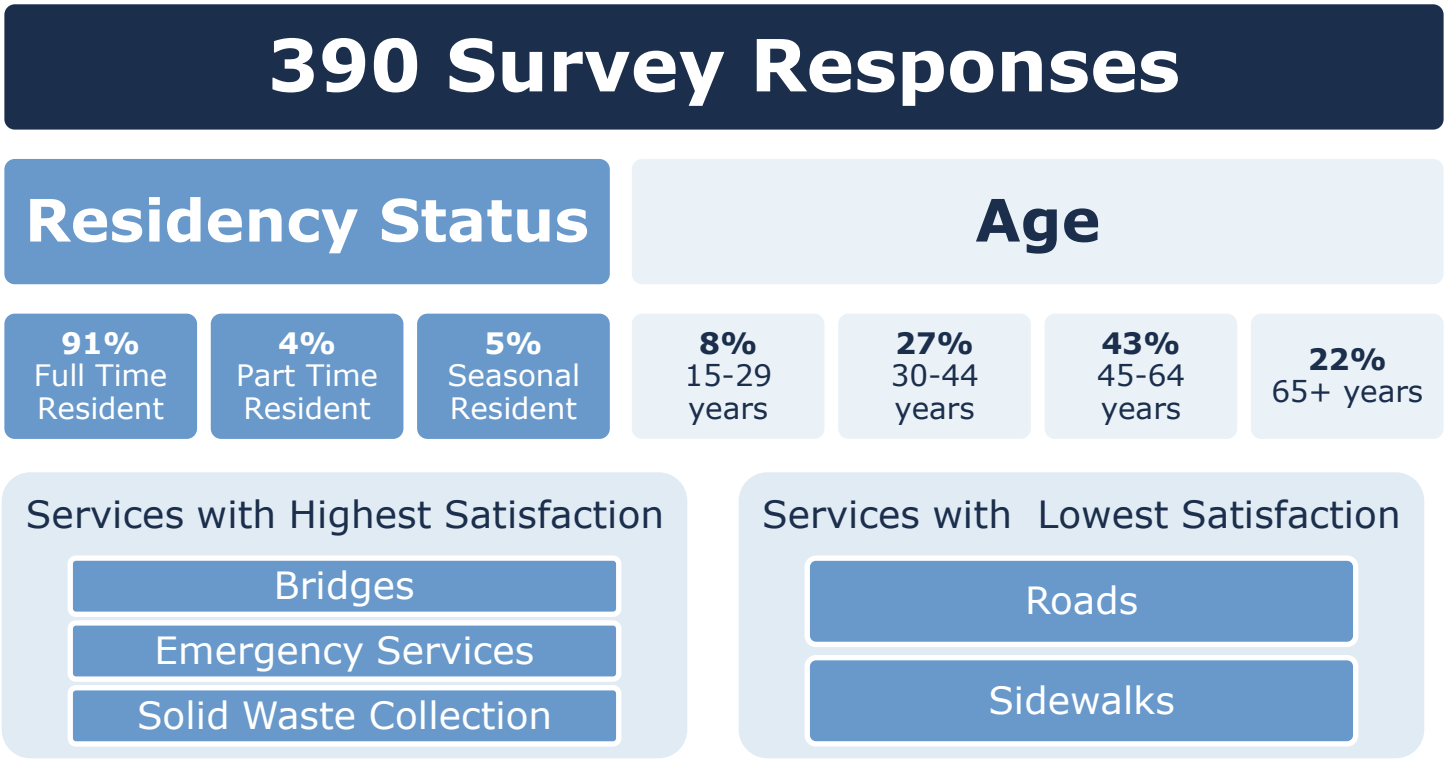


Figure 19 Highlights of Resident Engagement Survey

General Themes of Comments

- The majority of respondents favored maintaining or increasing spending on roads, utilities, parks, and emergency services. There is clear public support for additional investment in infrastructure that directly impacts daily life.
- Comments pointed toward a desire for balanced growth that prioritizes core services while also ensuring fiscal responsibility. Residents advocated for transparency in spending decisions, emphasizing that investments should equitably benefit both current and future community members.

4.2 Proposed Levels of Service Scenarios

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

Scenario 1	Scenario 2	Scenario 3
• Maintain Existing Funding Levels	• Achieve 75% Recommended Funding in 10 years	• Achieve 100% Recommended Funding in 10 years

Figure 20 PLOS Scenario Overview

While all three scenarios were reviewed, ***the City of Kenora selected Scenario 1 as their preferred path forward regarding proposed levels of service***, which is reflected in the financial strategy and 10-year capital replacement forecasts.

4.2.1 Scenario 1: Maintain Existing Funding Levels (Preferred Scenario)

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

- Annual capital allocation for tax-funded assets: $9.0 million
- Annual capital allocation for water rate-funded assets: $2.3million
- Annual capital allocation for wastewater rate-funded assets: $2.2 million
- Annual capital allocation for solid waste rate-funded assets: $629,000

Lifecycle Changes Required for Scenario 1

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

In future iterations of the AMP, it is recommended to more closely analyze changes to lifecycle management strategies to find long-term cost savings and efficiencies.

Affordability/Achievability of Scenario 1

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

Categories	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax-Funded	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m
Rate-Funded (Water)	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m
Rate-Funded (Wastewater)	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m
Rate-Funded (Solid Waste)	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k

Table 7 Scenario 1 Available Capital Funding Over Next 10 Years

The above table accounts for both current and future expenditures in order to achieve and maintain the proposed levels of service. This requires a combination of capital spending and saving (i.e. reserves) to ensure future large expenditures can be financed. As an example, Kenora owns and maintains twenty one bridges each with an estimated useful life of 50 years. Because of the long duration between replacements, and low quantity of assets, it is likely that there will be years with no capital expenditures relating to bridges, however, this does not mean that the City should ignore the funding requirements in these years. Instead, annual funding should be set aside in the form of reserves to ensure funding for upcoming lifecycle events is available when required.

As the City of Kenora selected Scenario 1 as their preferred proposed level of service, a further breakdown of projected capital expenditures by asset category can be found in Appendix B – 10-Year Capital Requirements.

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

Changes to Community and Technical Levels of Service for Scenario 1

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

Risks Associated with Scenario 1

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

- Increased infrastructure backlog
  - While modelling no financial increases is beneficial for the personal finances of residents and businesses, knowingly continuing with insufficient infrastructure funding forces the City to commit to sub-optimal lifecycle management of its assets. Being unable to complete strategic lifecycle interventions and replacements

may result in increased asset failures, reduced reliability, increase resident complaints, and the potential for costly unbudgeted repairs to maintain services.
    - The risks of maintaining a funding level of 48% of the recommendation, Scenario 1 increases the risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
    - As Scenario 1 maintains a position of 48% of recommended funding levels, the City will be more reliant on conditional grants, as they become available. While these are beneficial to all municipalities to reduce their tax/rate burden on residents, they are considered an unsustainable revenue source. The City will be more vulnerable to changes in provincial and federal policy and funding programs.
- Missed opportunities for efficiencies
    - While analyzing Scenario 1, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the City risks paying more than necessary to maintain their asset inventory.

Appropriateness of Scenario 1 to Meet the City's Needs

City staff emphasized the need to balance financial impacts on residents with the reality of the current state of infrastructure within the municipality. Upon review of all three scenarios, Scenario 1 was selected as the most appropriate option as maintaining the current funding was deemed the most realistic option for the City. This will ensure affordability for residents, while maintaining a sustainable future for the City's infrastructure.

4.2.2 Scenario 2: Achieving 75% Funding in 10 Years

This scenario assumes gradual tax and rate increases, stabilizing at 75% of recommended funding in 10 years.

- Annual Tax Increase ~1.1%
- Annual Wastewater Rate Increase Achieving 75% of Recommendations from Water and Wastewater Rate Study
- Annual Water Rate Increase Achieving 75% of Recommendations from Water and Wastewater Rate Study

No solid waste rate increase was modeled for this scenario, as the solid waste is currently funded at 100% of the targeted funding. It is important to note that the solid waste funding accounts only for maintenance and replacement of current assets. Rates may need to be adjusted in the future to account for the development of new assets, such as construction of a new landfill.

The Water and Wastewater Rate increases recommended to achieve 75% of the recommendations of the Water and Wastewater Rate Study are as follows:

Customer Type	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential – Single-detached	6.6%	3.9%	6.6%	6.6%	6.6%	6.6%	6.7%	6.7%	6.7%
Large Commercial	6.9%	44.9%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
Multi-residential Building	6.6%	-24.5%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
Multi-residential Unit	6.6%	-24.5%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%

Table 8 Annual Water and Wastewater Rate Forecasts

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

Lifecycle Changes Required for Scenario 2

For all asset categories, no changes to lifecycle strategies are required in order to achieve Scenario 2. In future iterations of the AMP, it is recommended to more closely analyze changes to lifecycle management strategies to find long-term cost savings and efficiencies.

Affordability/Achievability of Scenario 2

Of the three scenarios analyzed, Scenario 2 is a middle option in terms of tax/rate increases. Reaching 75% of full funding immediately would require an increase of 11.6% in tax revenue. With the recommended implementation timeframe of 10 years, tax revenue would be increased gradually from $33.8 million to $37.8 million, water revenue from $6.2 million to $10.8 million and wastewater revenue from $6.2 million to $9.9 million. Solid waste revenue would remain consistent at $629,000. Based on these gradual proposed increases, while maintaining existing sustainable grant funding and average reserve availability, the available capital funding over the next 10 years for Scenario 2 is indicated in the table below:

Categories	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax-Funded	$9.3m	$9.7m	$10.0m	$10.4m	$10.7m	$11.1m	$11.4m	$11.8m	$12.2m	$12.5m
Rate-Funded (Water)	$2.2m	$2.6m	$3.0m	$3.5m	$3.9m	$4.7m	$5.3m	$6.1m	$6.9m	$6.9m
Rate-Funded (Wastewater)	$1.7m	$2.1m	$2.5m	$2.9m	$3.4m	$3.9m	$4.5m	$5.1m	$5.8m	$5.8m
Rate-Funded (Solid Waste)	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k

Table 9 Scenario 2 Available Capital Funding Over Next 10 Years

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

Changes to Community and Technical Levels of Service for Scenario 2

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

Risks Associated with Scenario 2

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

- Increased infrastructure backlog
  - While mitigating the impact of financial increases on residents and businesses, taking 10 years to reach the targeted funding levels means 10 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
  - In addition to the risks of reaching the desired funding levels gradually, Scenario 2 only targets 75% funding. By intentionally underfunding the City's asset portfolio, there is increased risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
  - As Scenario 2 targets 75% of recommended funding levels, the City will be more reliant on conditional grants, as they become available. While these are beneficial to all municipalities to secure to reduce their tax/rate burden on residents, they are considered an unsustainable revenue source. The City will be more vulnerable to changes in provincial and federal policy and funding programs.
- Missed opportunities for efficiencies
  - While analyzing Scenario 2, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the City risks paying more than necessary to maintain their asset inventory.

4.2.3 Scenario 3: Achieving 100% Funding in 10 Years

This scenario assumes gradual tax and rate increases, stabilizing at 100% of recommended funding in 10 years.

- Annual Tax Increase ~2.1%
- Annual Wastewater Rate Increase Following Recommendations from Water and Wastewater Rate Study
- Annual Water Rate Increase Following Recommendations from Water and Wastewater Rate Study

No solid waste rate increase was modeled for this scenario, as the solid waste is currently funded at 100% of the targeted funding. It is important to note that the solid waste funding accounts only for maintenance and replacement of current assets. Rates may need to be adjusted in the future to account for the development of new assets, such as construction of a new landfill.

The Water and Wastewater Rate increases recommended by the Water and Wastewater Rate Study are as follows:

Customer Type	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential – Single-detached	8.8%	5.2%	8.8%	8.8%	8.8%	8.8%	8.9%	8.9%	8.9%
Large Commercial	9.2%	59.8%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Multi-residential Building	8.8%	-32.6%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Multi-residential Unit	8.8%	-32.6%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%

Table 10 Annual Water and Wastewater Rate Forecasts

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

Lifecycle Changes Required for Scenario 3

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

Affordability/Achievability of Scenario 3

Of the three scenarios analyzed, Scenario 3 is the most expensive option. Reaching 100% of recommended funding immediately would require an increase of 24.4% in tax revenue. With the recommended implementation timeframe of 10 years, tax revenue would be increased gradually from $33.8 million to $42.5 million, water revenue from $6.2 million to $14.4 million and wastewater revenue from $6.2 million to $13.3 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 10 years for Scenario 3 is indicated in the table below:

Categories	Available Capital Funding									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax-Funded	$9.7m	$10.4m	$11.2m	$11.9m	$12.7m	$13.5m	$14.3m	$15.1m	$15.9m	$16.8m
Rate-Funded (Water)	$2.9m	$3.4m	$4.1m	$4.7m	$5.4m	$6.2m	$7.1m	$8.1m	$9.2m	$9.2m
Rate-Funded (Wastewater)	$2.3m	$2.7m	$3.3m	$3.8m	$4.5m	$5.2m	$5.9m	$6.8m	$7.7m	$7.7m
Rate-Funded (Solid Waste)	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k

Table 11 Scenario 3 Available Capital Funding Over Next 10 Years

It is important to note that an AMP is a dynamic document which should be reviewed regularly to ensure up-to-date information is incorporated including accurate replacement costs, changes in

inventory, changes in available funding sources, and reflection on progress made on previous recommendations.

Changes to Community and Technical Levels of Service for Scenario 1

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

Risks Associated with Scenario 3

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

- Increased infrastructure backlog during 10-year implementation
  - While mitigating the impact of financial increases on residents and businesses, taking 10 years to reach the targeted funding levels means 10 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
- Missed opportunities for efficiencies
  - While analyzing Scenario 3, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining, can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the City risks paying more than necessary to maintain their asset inventory.
- Political resistance tax/rate increases
  - Scenario 3 is the most expensive option analyzed in this asset management plan. It is likely that implementing a strategy which would require annual rate increases as outlined above would result in stakeholder pushback with extreme pressure on politicians to reduce the tax burden on residents.

Category Analysis: Core Assets

5. Road Network

The Road Network is a critical component of the provision of safe and efficient transportation services. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure including sidewalks, guide rails, signage and streetlights.

The City's road assets are managed by the Infrastructure and Operations department who is also responsible for pothole patching, ditch brushing, sanding, and salting, and snow removal operations.

5.1 Inventory & Valuation

Table 12 summarizes the quantity and current replacement cost of the City's various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Asphalt Roads	1,133,289	m^2	$124,540,000	Cost/Unit
Gravel Roads	400,599	m^2	$13,155,000	Cost/Unit
Guide Rails	7,684	m	$4,188,000	Cost/Unit
Paved Alleys	37,237	m^2	$2,882,000	Cost/Unit
Sidewalks	133,682	m^2	$53,633,000	Cost/Unit
Signage	11	Quantity	$1,826,000	Cost/Unit
Streetlights & Traffic Signals	1,857	Quantity	$20,361,000	Cost/Unit
Surface Treated Roads	400,332	m^2	$13,326,000	Cost/Unit
TOTAL			**$233,911,000**	

Table 12 Detailed Asset Inventory: Road Network

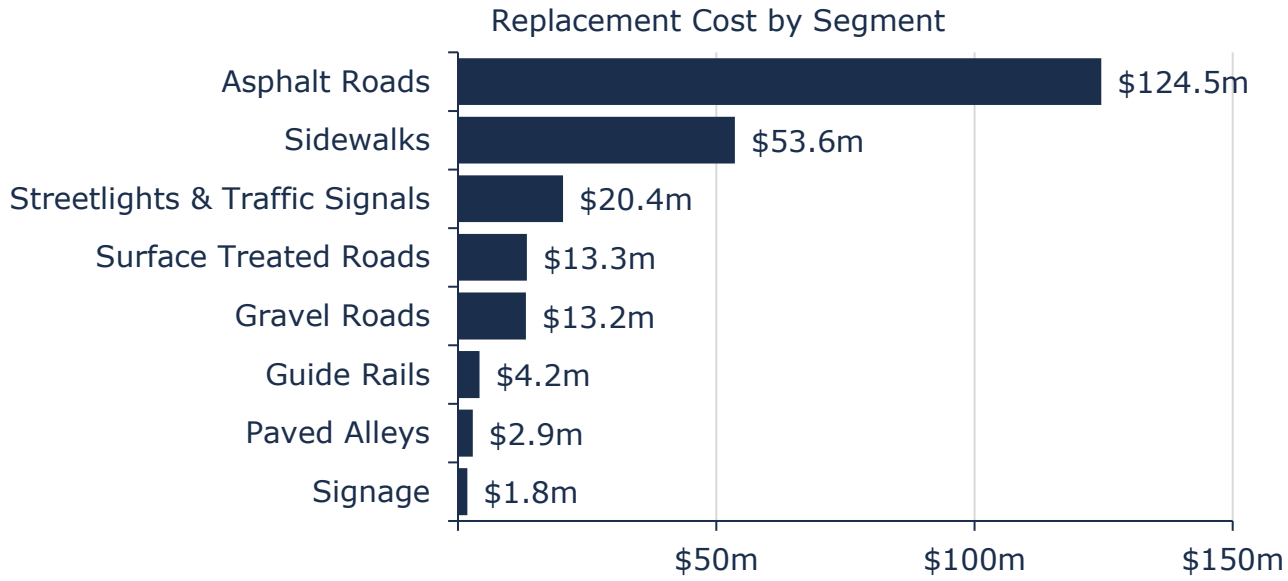


Figure 21 Portfolio Valuation: Road Network

5.2 Asset Condition

Figure 22 summarizes the replacement cost-weighted condition of the City's road network. Based on a combination of field inspection data and age, 55% of assets are in fair or better condition; the remaining 45% of assets are in poor to very poor condition. Condition assessments were available for 96% of paved roads, 100% of unpaved roads, 50% of guide rails, 83% of paved alleys, 5% of sidewalks, 62% of signage, and 84% of streetlights, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remaining asset types.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 22, the majority of the City's road network assets are in fair or better condition.

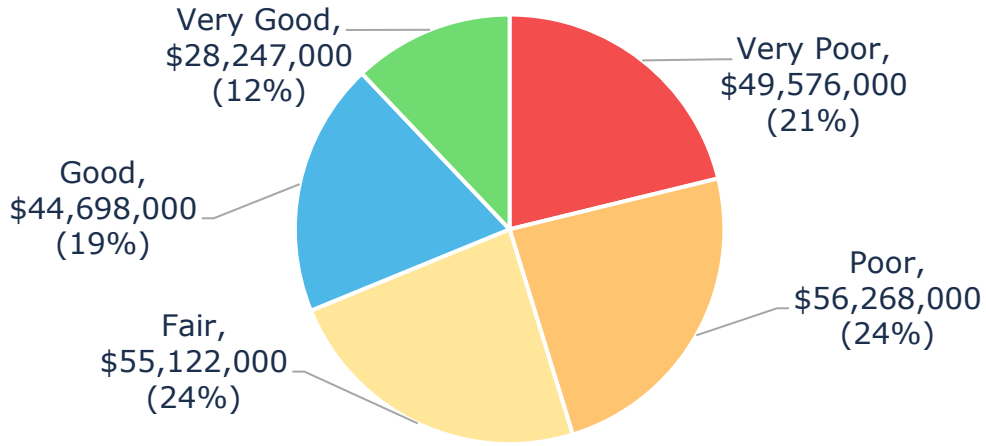


Figure 22 Asset Condition: Road Network Overall

As illustrated in Figure 23, based on condition assessments, the majority of the City's asphalt roads are in fair or better condition; however, 75% of surface treated roads are in poor or worse condition.

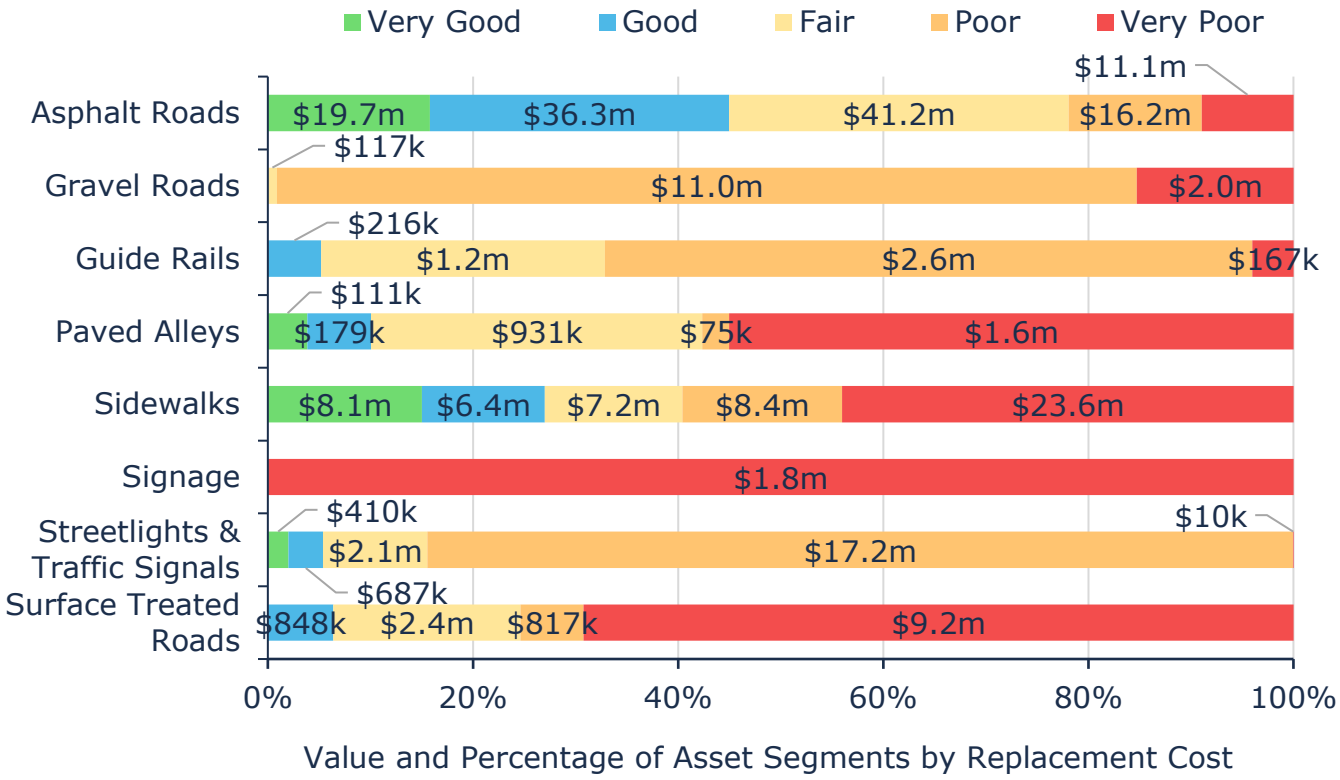


Figure 23 Asset Condition: Road Network by Segment

Across Ontario, municipal road networks are generally characterized by a balanced distribution skewed toward "fair" condition, with a significant portion also falling into poor or very poor categories due to aging infrastructure and historical underinvestment. Many asset management studies and municipal plans indicate that approximately 40–60% of road networks are typically in fair to very poor condition, reflecting the lifecycle stage of assets and funding constraints.

When compared to typical Ontario municipalities, the City is generally aligned with provincial trends, where a large portion of road networks fall into fair-to-poor categories. The proportion of assets in poor and very poor conditions is not uncommon, particularly for municipalities managing aging infrastructure with funding gaps. The City maintains a meaningful share of assets in fair or better conditions, demonstrating ongoing investment and renewal efforts.

5.3 Age Profile

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

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

Figure 24 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.

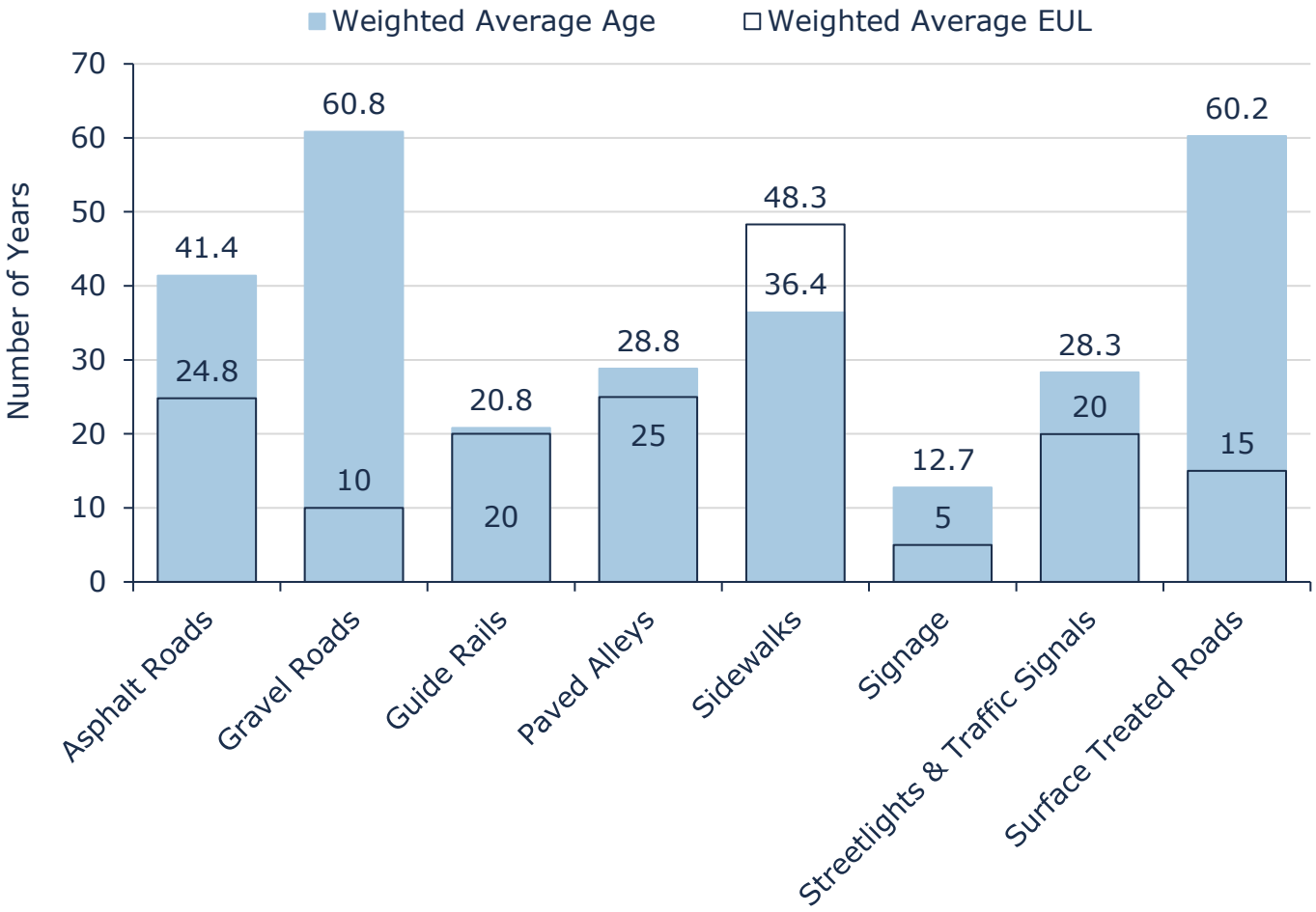


Figure 24 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that the majority of paved roads have exceeded their expected useful life, with an average age of 50 years against a design life of 20 years. Unpaved continue to remain in service well beyond their expected useful life. However, unpaved roads can be maintained on a perpetual cycle through the operational maintenance budget with a regular roadway granular replacement program.

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

5.4 Current Approach to Lifecycle Management

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

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

Asphalt Roads		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Preventative Maintenance	80% Condition
Resurfacing	Rehabilitation	30% Condition
Full Reconstruction	Replacement	10% Condition

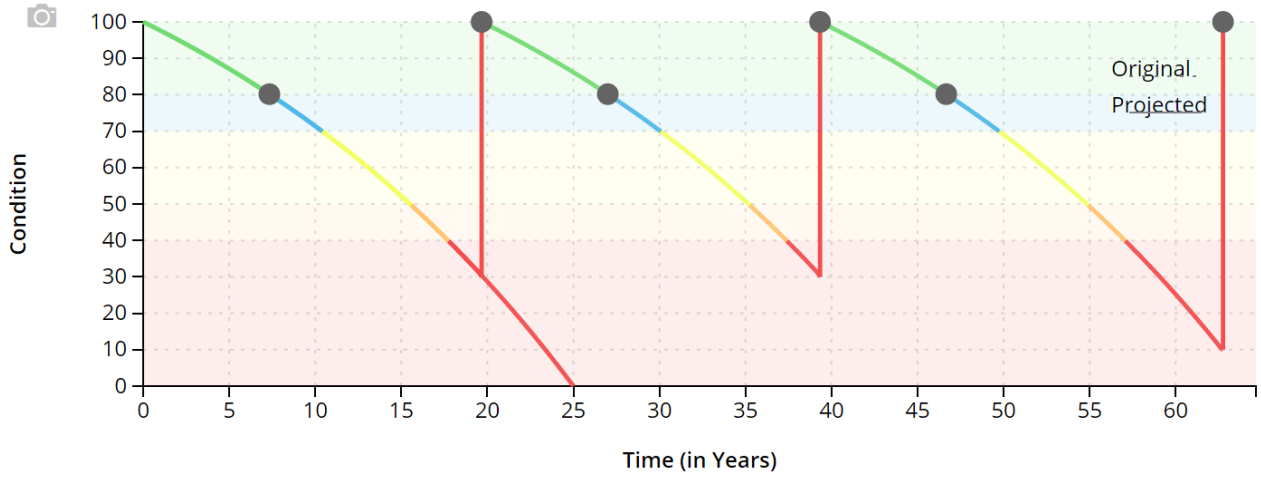


Table 13 Lifecycle Management Strategy: Road Network (Asphalt Roads)

Surface Treated Roads		
Event Name	**Event Class**	**Event Trigger**
Surface Lift Treatment	Rehabilitation	30% Condition
Full Reconstruction	Replacement	0-10% Condition

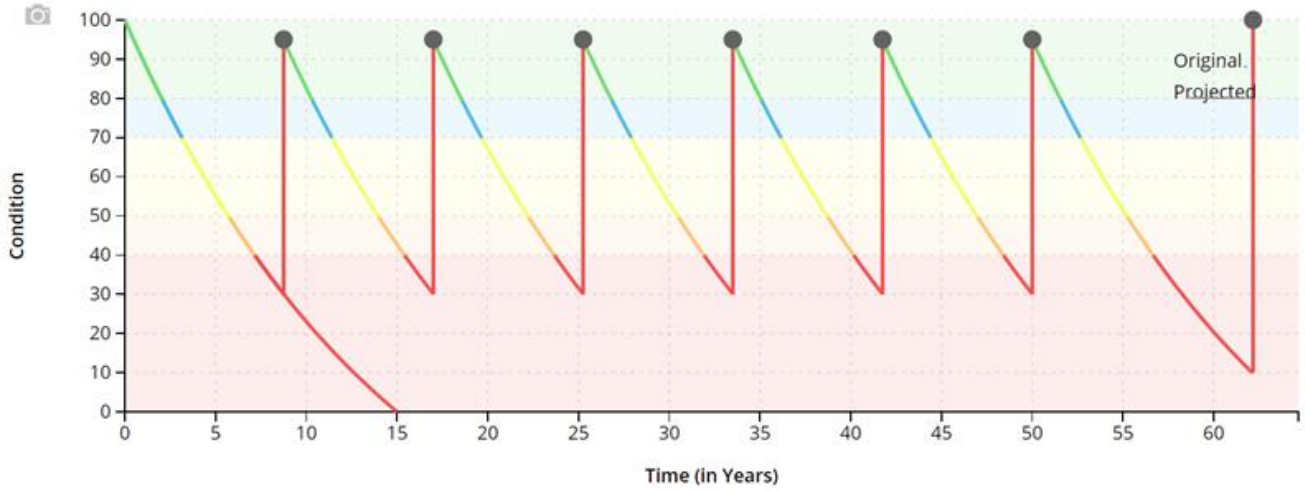


Table 14 Lifecycle Management Strategy: Road Network (Surface Treated Roads)

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

Activity Type	Description of Current Strategy
Maintenance	A crack sealing program is in place for asphalt roads as needed; typically, within the first 4-6 years of construction.
	The City conducts regular road shouldering, grading, and dust suppression for gravel roads to maintain structural integrity and performance.
	The City conducts several seasonal maintenance activities. All season maintenance activities include asphalt patching, graveling/shouldering, and sweeping. Summer maintenance activities include sidewalk repairs, grading, re-gravelling, dust control, ditching, roadside mowing, tree trimming, brush cleanup, road sign installation/maintenance, and line painting. Winter maintenance activities include snow plowing, sanding and snow removal.
Rehabilitation/ Replacement	Asphalt and Surface Treated Roads are resurfaced proactively, at various intervals, based on performance, road criticality/priority, and public input. Resurfacing includes removal of the existing surface layer, base re-strengthening and repaving.
	Road replacement is determined by consideration of growth, risk, condition, health and safety, and social impact. Staff also consider road reconstruction in

Activity Type	Description of Current Strategy
	coordination with other right-of-way asset replacements (i.e., underground linear).
	Sidewalks and other road assets are repaired and/or replaced, as needed.
Inspection	Roads are inspected, for rideability and structural integrity, annually through visual staff assessments.
	Pavement Condition Index (PCI) are completed every 3 years, on average, to provide reliable condition ratings. The most recent PCI was conducted in 2023 and the information was utilized to support accurate asset management decision-making within this AMP.
	Sidewalks are inspected annually to identify deficiencies, in accordance with Minimum Maintenance Standards (MMS).
	Regulatory signs undergo reflectivity testing, in accordance with the Ontario Traffic Manual (OTM) requirements.
	Other road appurtenances are visually inspected on an as-needed basis.

Table 15 Lifecycle Management Strategy: Road Network

5.5 Forecasted Long-Term Replacement Needs

Figure 25 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the City's road network. This analysis was run until 2089 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $7.1 million for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs through the forecast period. It also shows a backlog of $17.0 million, dominated by sidewalks. These projections are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling (roads only). They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

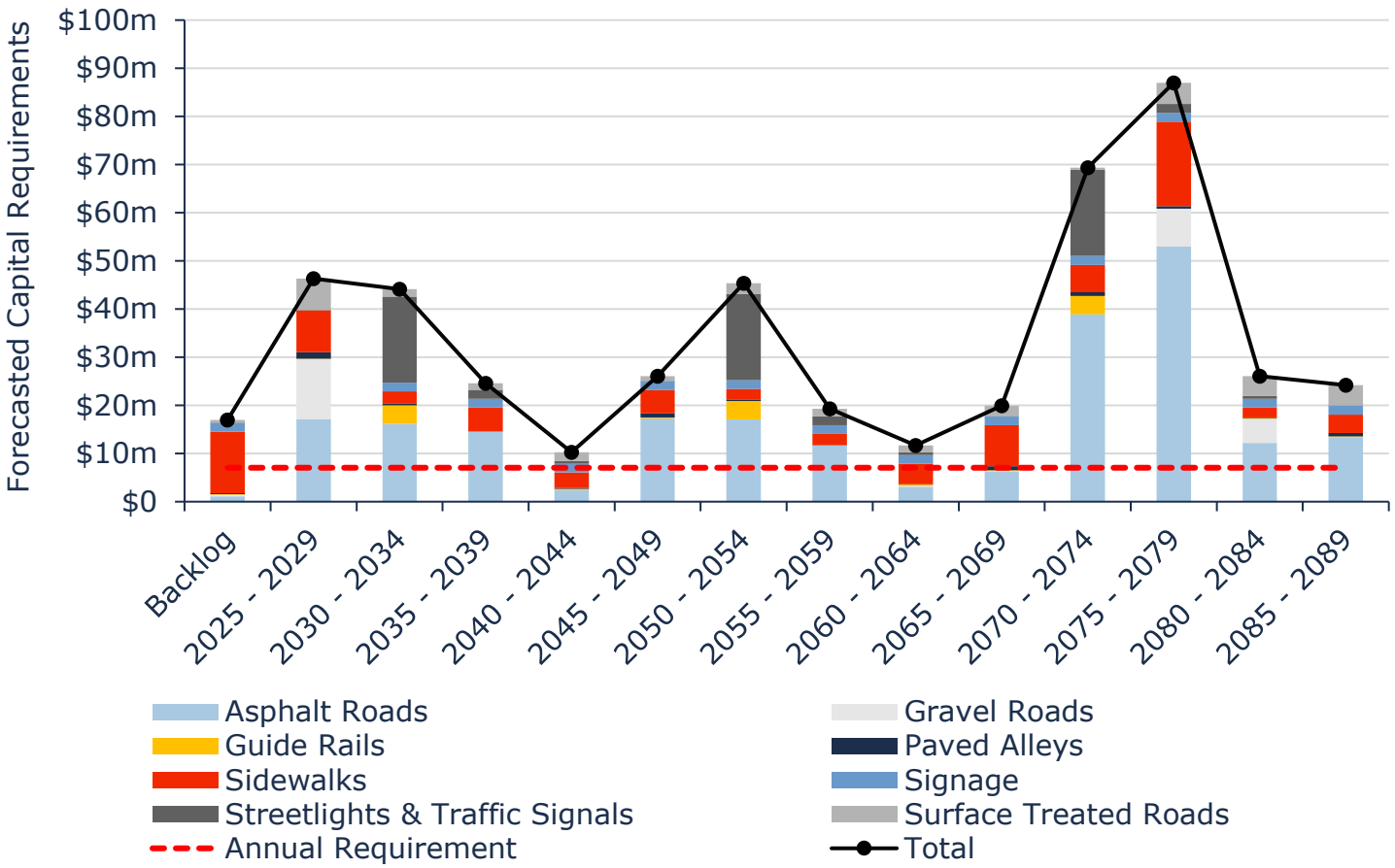


Figure 25 Forecasted Capital Replacement Needs: Road Network 2025-2089

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

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

5.6 Risk Analysis

5.6.1 Risk Matrix

The risk matrix below is generated using available asset data, including condition, average daily traffic counts, truck/bus route, replacement cost, road classification, speed limit and land use. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

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

highest criticality and likelihood of failure receive a risk rating of 25; those with lowest probability of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the City 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 City's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

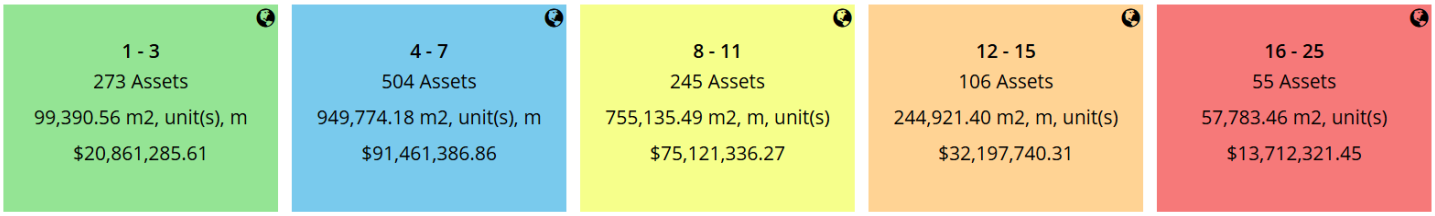


Figure 26 Risk Matrix: Road Network

5.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Climate Change & Extreme Weather Events

An increase in the frequency and intensity of precipitation events can result in flooding of sections of the road network. The drainage capacity of the road network is not always sufficient to withstand heavy water flow, particularly in low-lying areas along a body of water. Further issues can arise as a result of flooding and poor drainage including accelerated deterioration caused by freeze/thaw cycles. To improve asset resiliency, staff should continue to identify problem areas and improve drainage through enhanced lifecycle strategies.

Capital Funding Strategies

Major capital rehabilitation projects for roads are sometimes dependent on the availability of grant funding opportunities. When grants are not available, rehabilitation projects may be deferred. A long-term capital funding strategy can reduce dependency on grant funding and help prevent the deferral of capital works.

5.7 Levels of Service

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

5.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	See Appendix C – Level of Service Maps & Photos
Quality	Description or images that illustrate the different levels of road class pavement condition	See Appendix C – Level of Service Maps & Photos

Table 16 O. Reg. 588/17 Community Levels of Service: Road Network

5.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km^2)	0 km/km^2
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km^2)	0.66 km/km^2
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	2.14 km/km^2
Quality	Average pavement condition index for paved roads in the City	62%
	Average surface condition for unpaved roads in the City (e.g. excellent, good, fair, poor)	Fair
Performance	Percentage of sidewalks inspected annually	100%
	Percentage of road network in poor or very poor condition	45%
	Average risk rating associated to road network	7.54 (Low)
	Annual capital reinvestment rate	1.62%

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

5.8 Proposed Levels of Service

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

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

5.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (54%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Road Network capital funding maintained at $3.79m/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~1.0%/year, stabilizing at 75% funding across all asset categories in 10 years. ♦ Road Network capital funding gradually increases from $3.79m/year to $5.29m/year over a span of 10 years
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years: ♦ Road Network capital funding gradually increases from $3.79m/year to $7.05m/year over a span of 10 years

Table 18 Road Network PLOS Scenario Descriptions

5.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (54% Funding)	Average Condition	51%	49%	50%	
	Average Asset Risk	8.0	7.7	8.5	
	Annual Investment Required		$3,792,167		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		1.6%		
Scenario 2 (75% Funding)	Average Condition	51%	54%	60%	
	Average Asset Risk	8.0	7.3	7.7	
	Annual Investment Required		$5,289,000		This parameter is increased from $3.79m incrementally to reach 75% of the target portfolio investment, $5.29m, over 10 years
	Capital Reinvestment Rate		2.3%		
Scenario 3 (100% Funding)	Average Condition	51%	61%	64%	
	Average Asset Risk	8.0	6.9	6.9	
	Annual Investment Required		$7,052,000		This parameter is increased from $3.79m incrementally to reach 100% of the target portfolio investment, $7.05m, over 10 years
	Capital Reinvestment Rate		3.0%		

Table 19 Road Network PLOS Scenario Analysis

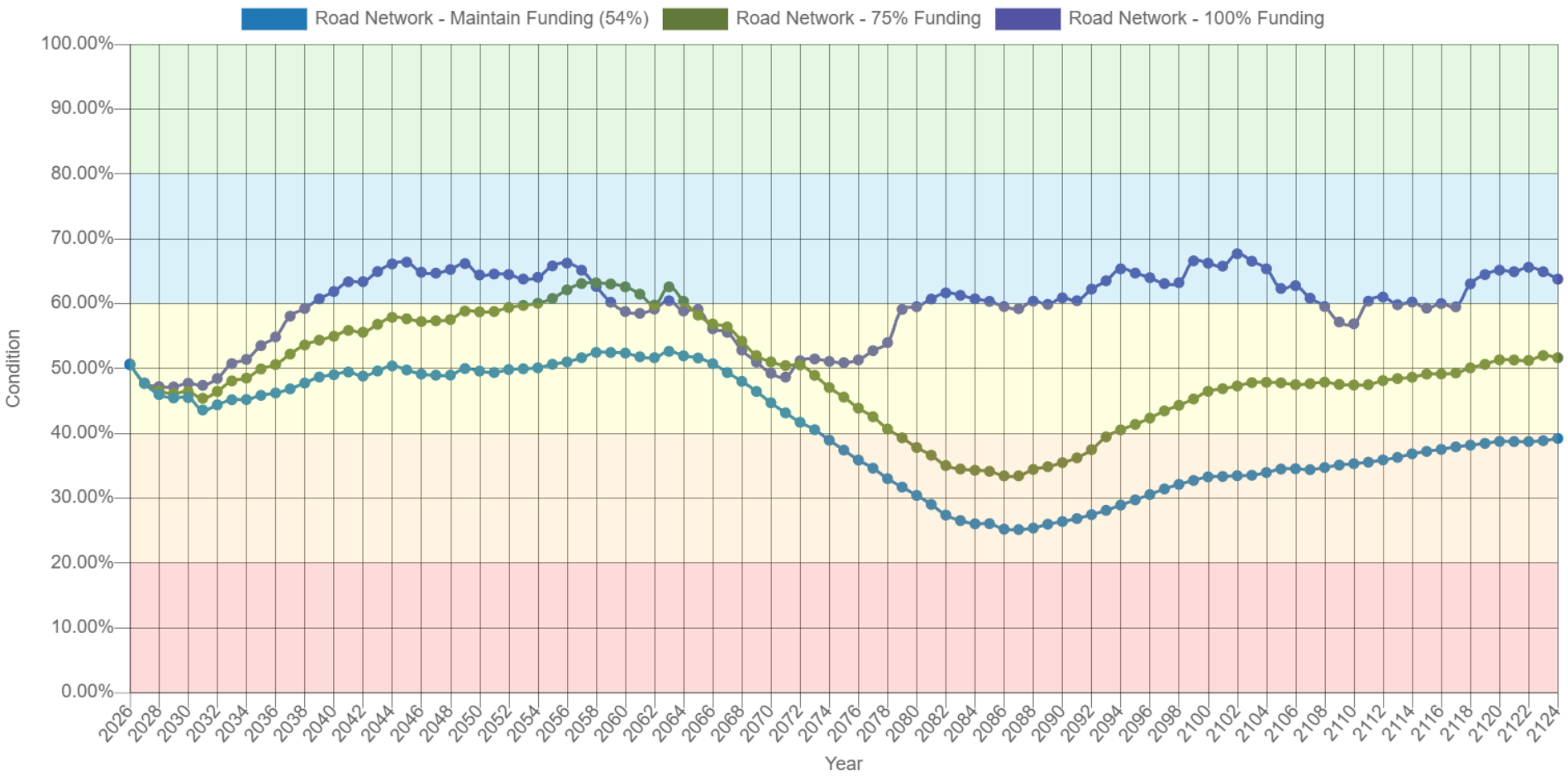


Figure 27 Road Network PLOS Scenario Condition Results

6. Bridges & Culverts

Bridges & Culverts represent a critical portion of the transportation services provided to the community. The Infrastructure and Operations department is responsible for the maintenance of all structural bridges and culverts located across municipal roads with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

6.1 Inventory & Valuation

Table 20 summarizes the quantity and current replacement cost of bridges and culverts.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges – Substructure	21	Quantity	$179,454,000	User-Defined
Bridges - Superstructure	21	Quantity	$75,772,000	User-Defined
Culverts	454	Quantity	$6,251,000	User-Defined
TOTAL			**$261,478,000**	

Table 20 Detailed Asset Inventory: Bridges & Culverts

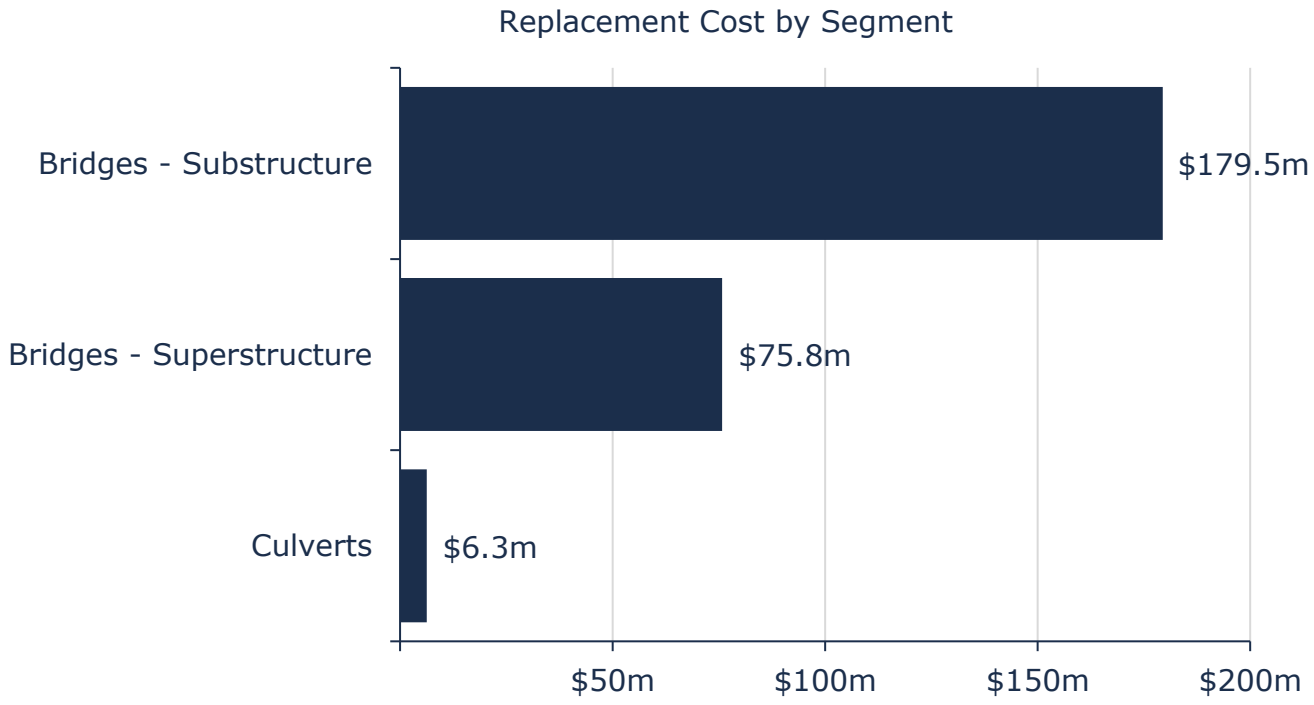


Figure 28 Portfolio Valuation: Bridges & Culverts

6.2 Asset Condition

Figure 29 summarizes the replacement cost-weighted condition of the City's bridges and culverts. Based on the City's recent Ontario Structures Inspection Manual (OSIM) assessments, 85% of bridges and culverts are in fair or better condition. Some elements or components of these structures may be candidates for replacement or rehabilitation in the medium term and should be monitored for further degradation in condition. At 15% of the total bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

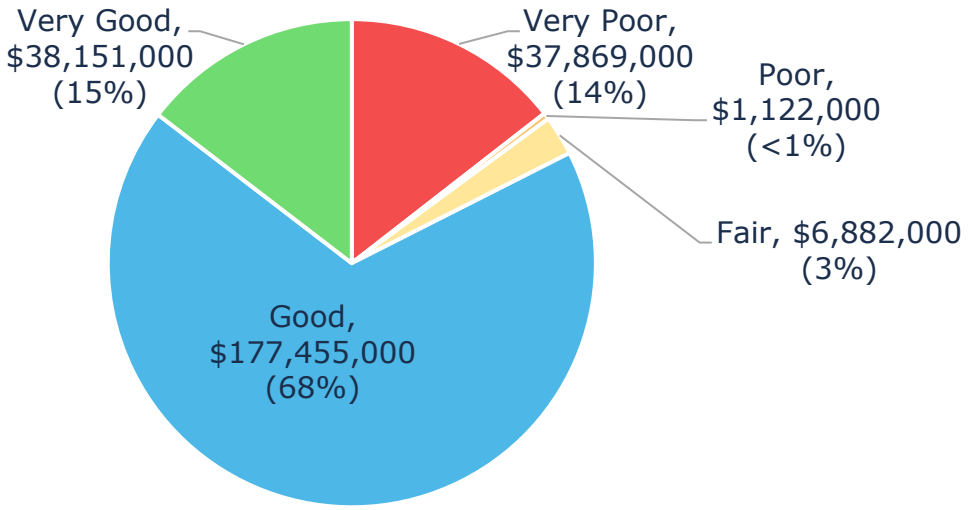


Figure 29 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 30, based on in-field condition assessments, $38.3 million of bridge assets were assessed as being in poor or very poor condition. Similarly, 11% of culverts, with a current replacement cost of $670,000 were identified as poor or worse. Bridges and structures with a poor or worse rating are not necessarily unsafe for regular use. The OSIM ratings are designed to identify repairs needed to elevate condition ratings to a fair or higher.

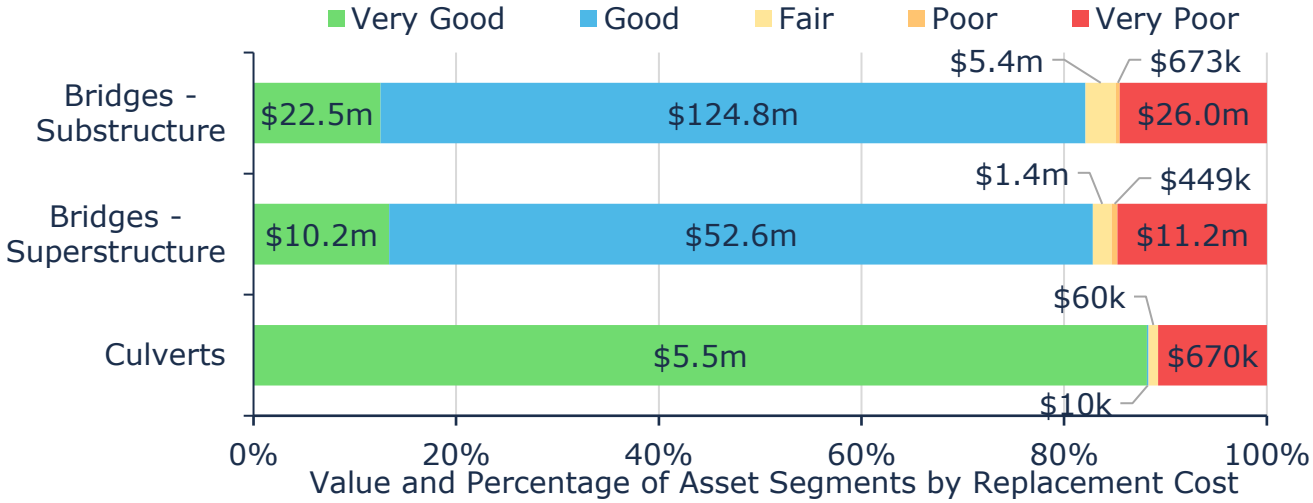


Figure 30 Asset Condition: Bridges & Culverts by Segment

6.3 Age Profile

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

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

Figure 31 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.

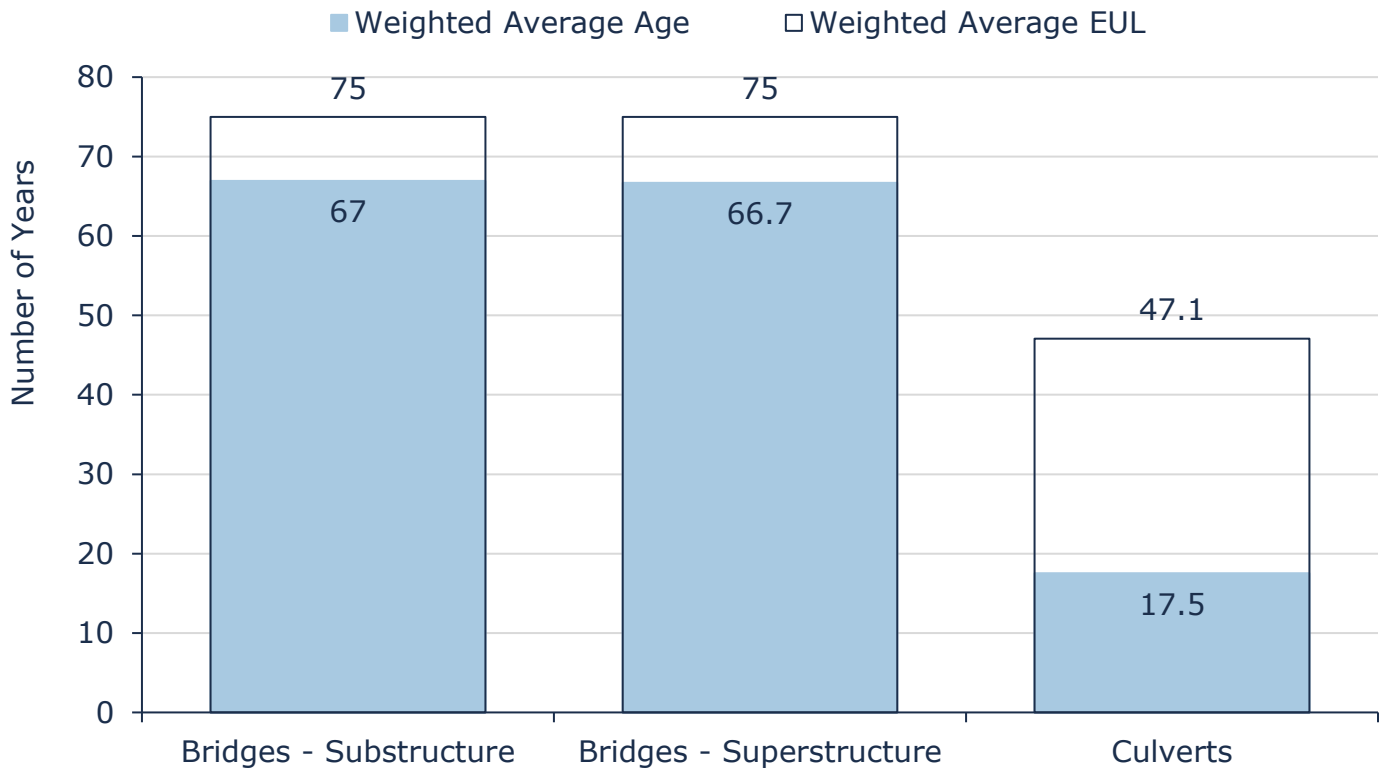


Figure 31 Estimated Useful Life vs. Asset Age: Bridges & Culverts

Age analysis reveals that on average, bridges are nearing the end of their estimated useful life, with an average age of 67 years against an average EUL of 75 years. On average, culverts are in the earlier stages of their lifecycle, with an average age of 17.5 years, against an average EUL of 47 years. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

6.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	Lifecycle activities are driven by the recommendations of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM) and staff expertise.
Inspection	Condition assessments of all structural bridges and culverts are completed every 2 years in accordance with the Ontario Structure Inspection Manuals (OSIM). This AMP utilizes condition information from the latest 2024 OSIM.

Table 21 Lifecycle Management Strategy: Bridges & Culverts

6.5 Forecasted Long-Term Replacement Needs

Figure 32 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the City's bridges and culverts. This analysis was run until 2089 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) for bridges and culverts total $3.5 million. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Major replacement spikes are anticipated to occur between the years 2030 and 2034, 2045 and 2049, and 2060 and 2064, and peak at $134.5 million between 2045 and 2049 as assets reach the end of their useful life. These projections and estimates are based on asset replacement costs, age analysis, and condition data. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

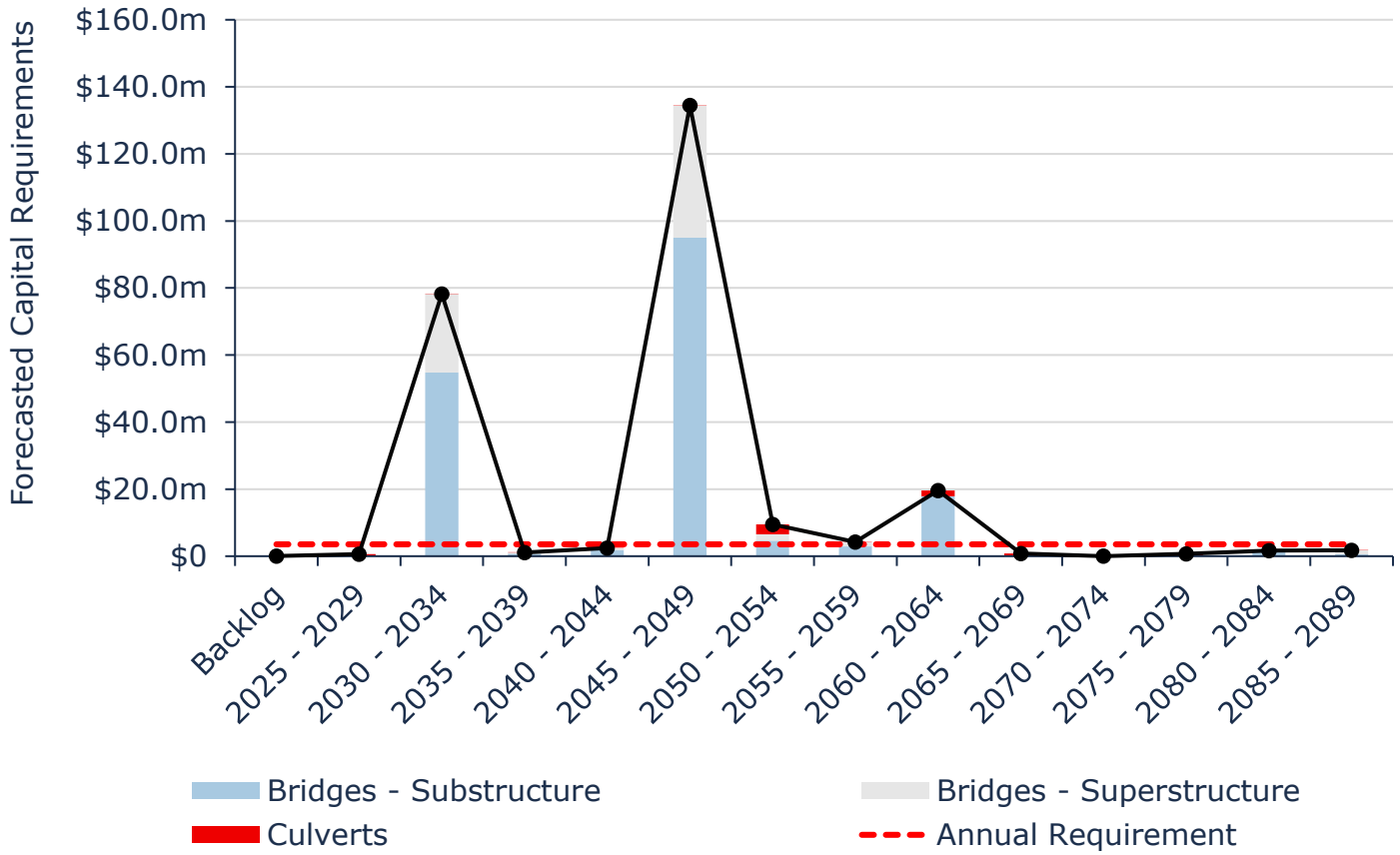


Figure 32 Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2089

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

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

6.6 Risk Analysis

6.6.1 Risk Matrix

The risk matrix below is generated using available asset data, including condition, average daily traffic counts, loading and dimensional restrictions, replacement cost, detour distance, truck/bus route, road classification, road environment and speed limit. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

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

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

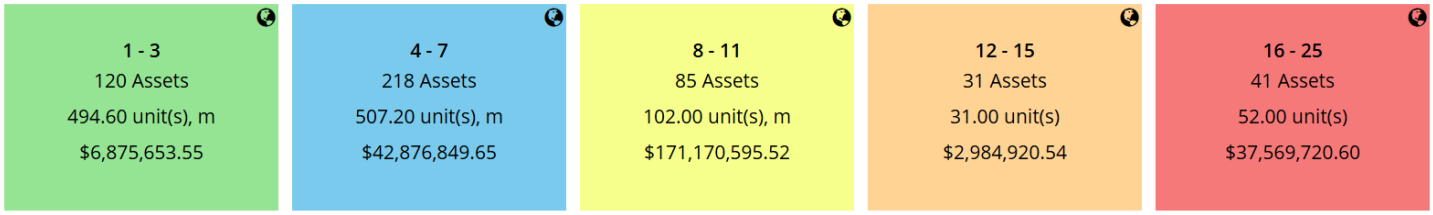


Figure 33 Risk Matrix: Bridges & Culverts

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. Using risk in conjunction with levels of service, and the recommended workplans in OSIM inspections, can assist in optimizing limited funds.

6.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Climate Change & Extreme Weather Events

Flooding and extreme weather can cause damage to multiple elements of the City's bridges including the deck, superstructure, substructure, and approaches. The rising levels of freshwater and the increased frequency and intensity of precipitation events are likely to advance the deterioration of bridge components. Staff should identify and monitor affected bridges and culverts. The City should also prioritize infrastructure maintenance, rehabilitation, and replacement based on susceptibility to climate impacts.

Funding & Staff Capacity

The City has a large inventory of bridges which require regular maintenance and assessment. Staff capacity is insufficient or not economically feasible to deploy optimal maintenance and assessment strategies. Major capital rehabilitation projects for bridges and culverts may also be deferred depending on the availability of grant funding opportunities. A long-term capital funding strategy can reduce dependency on grant funding and help prevent the deferral of necessary capital works.

6.7 Levels of Service

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

6.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Structural bridges and culverts are a key component of the City's transportation service, and support the movement of pedestrians, trucks, emergency vehicles, and motor vehicles in and around Kenora.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	Excellent (BCI 100): Considered like new. No repair or rehabilitation work required within 5-10 years. Good (BCI 70-100): Considered to be in good condition. Repair or rehabilitation work is not usually required within the next 5 years. Fair (BCI 60-70): Considered to be in good-fair condition. Repair or rehabilitation work recommended is ideally scheduled to be completed within the next 5 years. Poor (BCI Less than 60): Considered poor with lower numbers representing structures nearing the end of their service life. The repair or rehabilitation of these structures is ideally best scheduled to be completed within a year. However, if determined that replacement is more viable, the structure can be identified for continued monitoring and scheduled for replacement within the short-term.

Table 22 O. Reg. 588/17 Community Levels of Service: Bridges & Culverts

6.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of bridges in the City with loading or dimensional restrictions	5%
Quality	Average bridge condition index value for bridges in the City	63%
	Average bridge condition index value for structural culverts in the City	85%
Performance	Percentage of bridges and culverts in poor/very poor condition	15%
	Average risk rating associated to bridges and culverts	10.8 (Moderate)
	Annual capital reinvestment rate	0.91%

Table 23 O. Reg. 588/17 Technical Levels of Service: Bridges & Culverts

6.8 Proposed Levels of Service

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

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

6.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (68%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Bridges and culverts capital funding maintained at $2.38m/year.
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~1.0%/year, stabilizing at 75% funding across all asset categories in 10 years. ♦ Bridges and culverts capital funding increases from $2.38m/year to $2.66m/year over a span of 10 years

Scenario	Description
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years. ♦ Bridges and culverts capital funding decreases from $2.38m/year to $3.54m/year over a span of 10 years

Table 24 Bridges & Culverts PLOS Scenario Descriptions

6.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (67% Funding)	Average Condition	72%	46%	31%	
	Average Asset Risk	11.5	20.7	18.5	
	Annual Investment Required		$2,375,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.9%		
Scenario 2 (75% Funding)	Average Condition	72%	46%	31%	
	Average Asset Risk	11.5	20.7	18.5	
	Annual Investment Required		$2,657,000		This parameter is increased from $2.38m incrementally to reach 75% of the target portfolio investment, $2.66m, over 10 years
	Capital Reinvestment Rate		1.0%		
Scenario 3 (100% Funding)	Average Condition	72%	56%	40%	
	Average Asset Risk	11.5	18.9	16.8	
	Annual Investment Required		$3,543,000		This parameter is increased from $2.38m incrementally to reach 100% of the target portfolio investment, $3.54M, over 10 years
	Capital Reinvestment Rate		1.4%		

Table 25 Bridges & Culverts PLOS Scenario Analysis

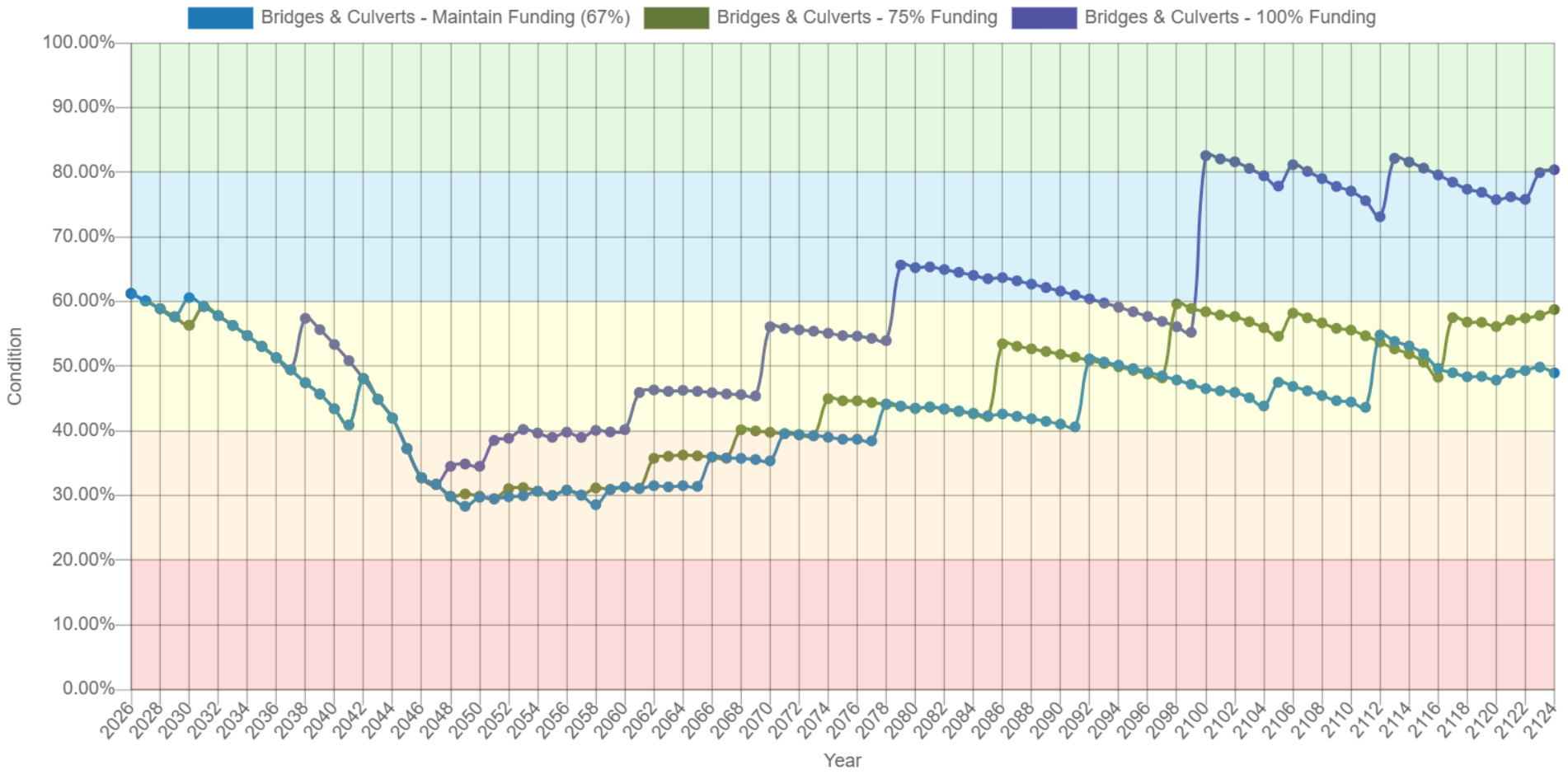


Figure 34 Bridges & Culverts PLOS Scenario Condition Results

7. Water Network

The City of Kenora maintains and operates municipal water services. Municipal staff maintain critical infrastructure to provide safe and clean drinking water to the public. The Water Network includes the following assets:

- Underground water mains and accompanying assets such as meters, valves, and hydrants
- Fleet and equipment utilized by staff to support the delivery of the water services
- Water buildings such as the treatment plant, pumping stations and booster stations

7.1 Inventory & Valuation

Table 26 summarizes the quantity and current replacement cost of the City's various water network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Equipment	1	Quantity	$1,047,000	User-Defined
Fleet	9	Quantity	$674,000	User-Defined
Hydrants	582	Quantity	$9,990,000	User-Defined
Valve Chambers	28	Quantity	$272,000	User-Defined
Water Mains	137,894	m	$259,369,000	User-Defined
Water Meters	6,602	Quantity	$4,682,000	User-Defined
Water Standpipes & Booster Stations	21	Quantity	$14,337,000	User-Defined
Water Treatment Plant	1 (28)	Quantity (components)	$65,250,000	User-Defined
Water Valves	1,710	Quantity	$16,365,000	User-Defined
TOTAL			**$371,986,000**	

Table 26 Detailed Asset Inventory: Water Network

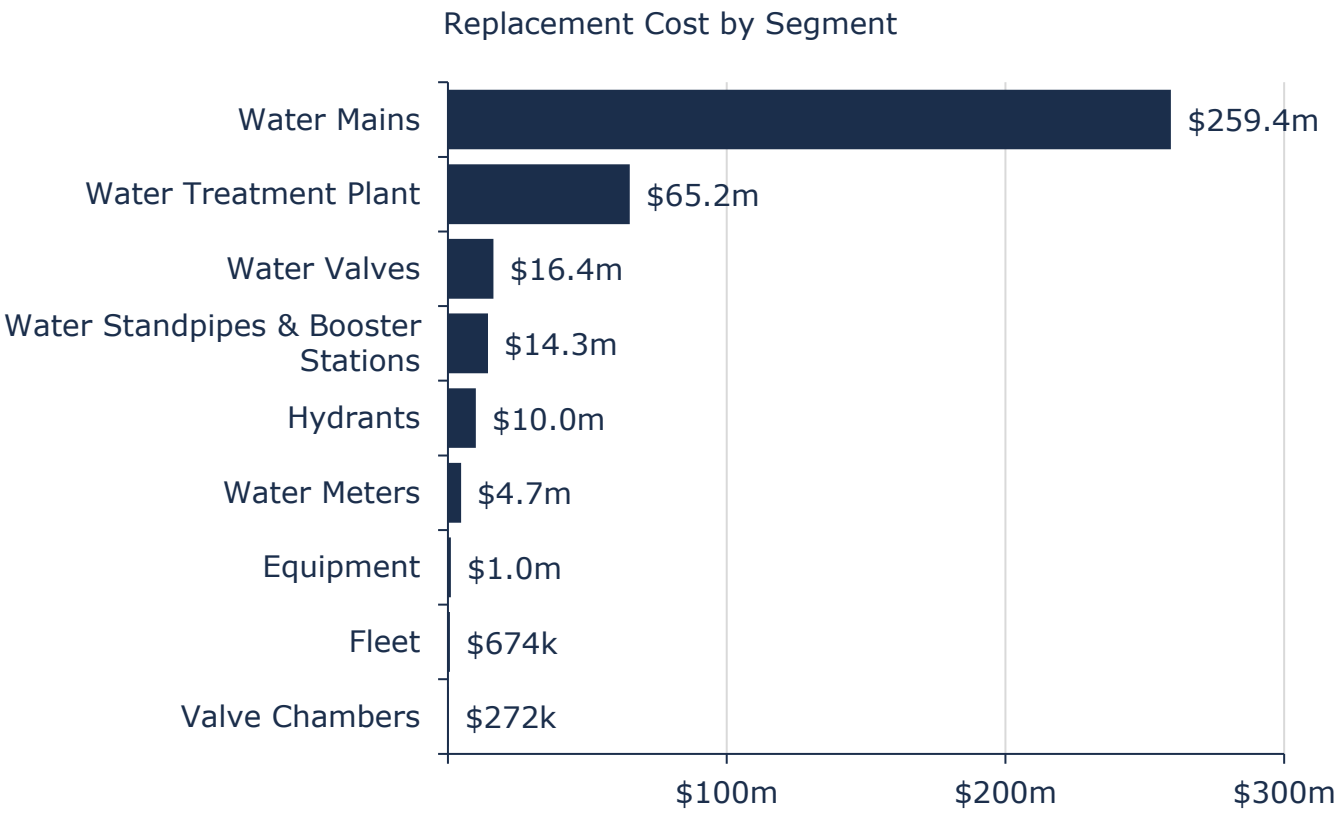


Figure 35 Portfolio Valuation: Water Network

7.2 Asset Condition

Figure 36 summarizes the replacement cost-weighted condition of the City's water network. Based on a combination of field inspection data and age, 78% of assets are in fair or better condition; the remaining 22% of assets are in poor to very poor condition. Condition assessments were available for 99% of water meters, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remainder of water network assets.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 36, the majority of the City's water network assets are in fair or better condition.

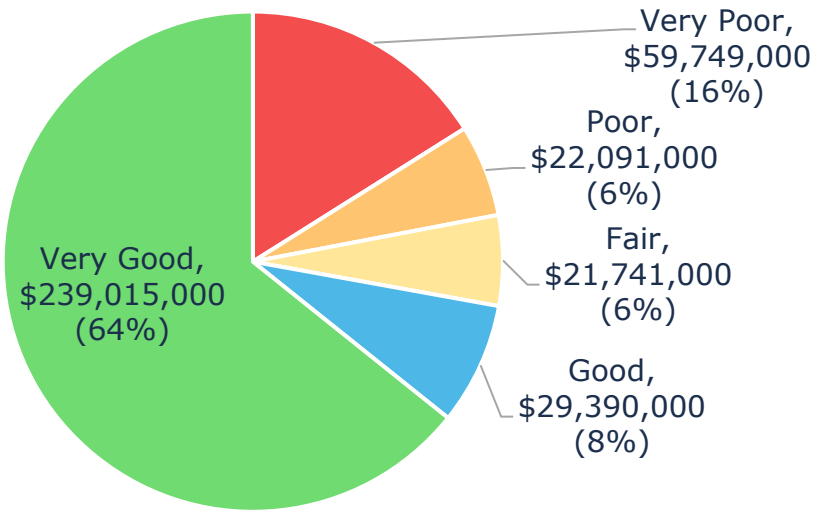


Figure 36 Asset Condition: Water Network Overall

As illustrated in Figure 37, based on condition assessments and age-based conditions, the majority of the City's water network is in fair or better condition; however, 99% of water meters are in poor or worse condition.

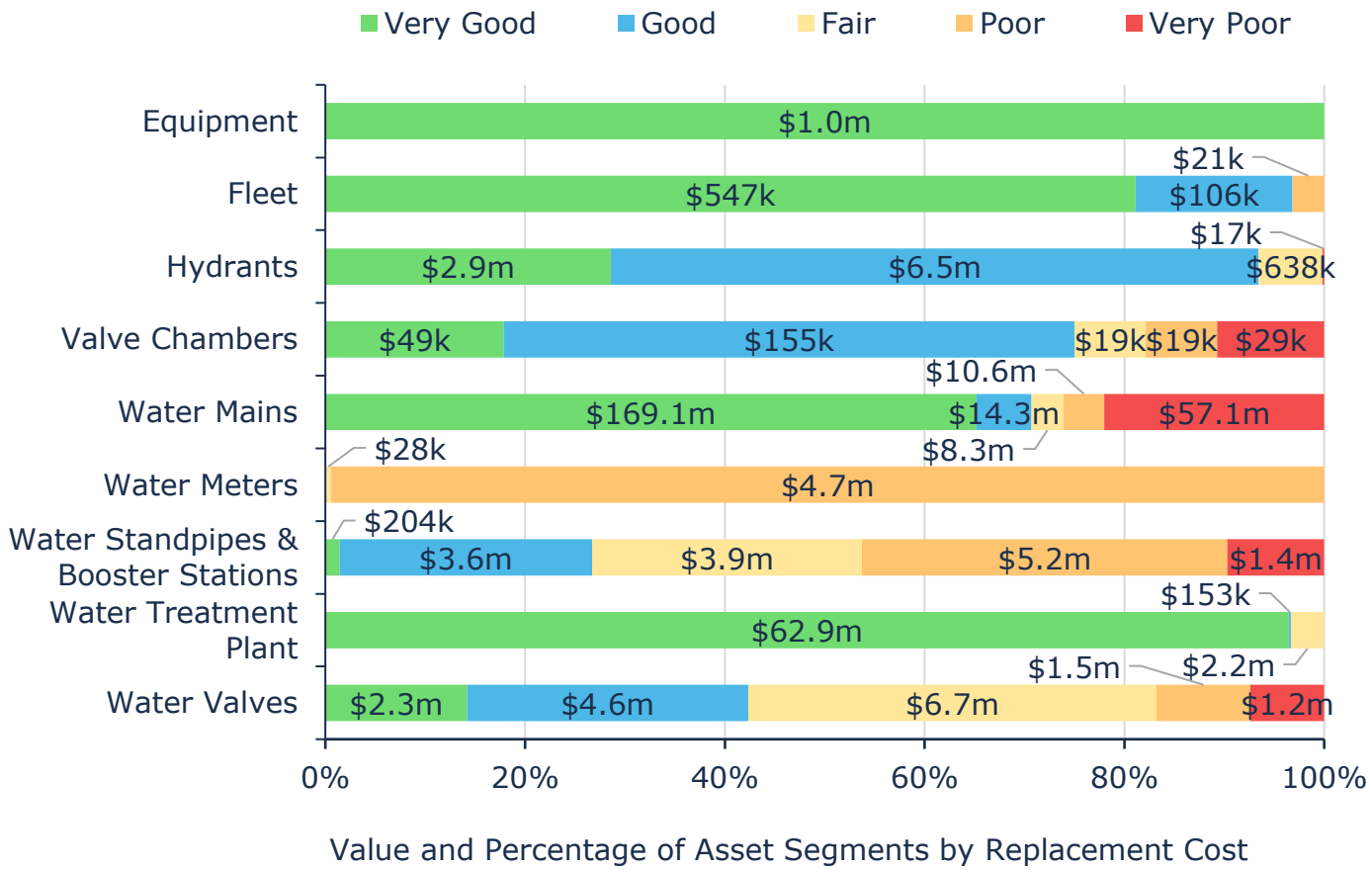


Figure 37 Asset Condition: Water Network by Segment

7.3 Age Profile

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

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

Figure 38 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.

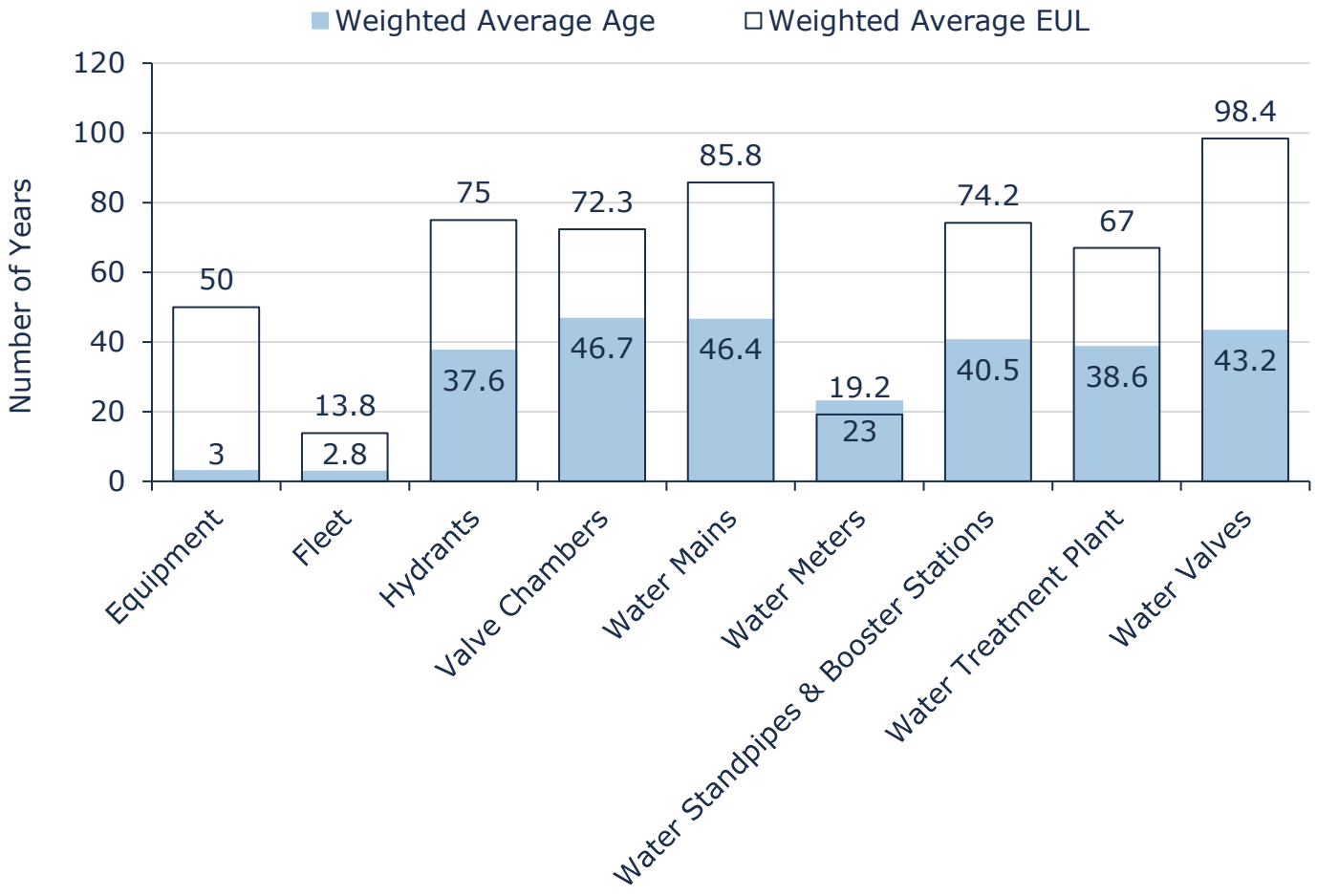


Figure 38 Estimated Useful Life vs. Asset Age: Water Network

7.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance	Main flushing and valve exercising is completed for the entire network on a 3 year cycle.
	Periodic pressure and flow testing is completed to identify areas with reduced flows.
Rehabilitation	Trenchless re-lining of water mains presents significant challenges and is not typically a viable option that the City has employed.
Replacement	In the absence of mid-lifecycle rehabilitative events, most mains are simply maintained with the goal of full replacement once they reach end-of-life.
	Replacement activities are identified based on an analysis of the main break rate, any issues identified during regular maintenance activities, and in coordination with other right-of-way projects. Linear infrastructure with cement asbestos material is also prioritized for replacement.
Inspection	Staff primarily rely on the age, pipe material, and the number of breaks to determine the projected condition of water mains. The City has recently completed a hydraulic modelling analysis to investigate the requirements to create redundancies in some areas with a higher population density.
	Hydrants, valves, and other point assets are visually inspected on a regular basis and repaired/replaced as needed.
	Water buildings are inspected on a monthly basis in accordance with Health and Safety standards. Annual roofing inspections are conducted to ensure structural integrity, and Bi-annual HVAC inspections are conducted.
	Water vehicles are inspected and serviced in accordance with Commercial Vehicle Operators Registration (CVOR) requirements.

Table 27 Lifecycle Management Strategy: Water Network

7.5 Forecasted Long-Term Replacement Needs

Figure 39 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the City's water network. This analysis was run until 2124 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $6.3 million for all assets in the water network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark

value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog $33.6 million, dominated by water mains. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

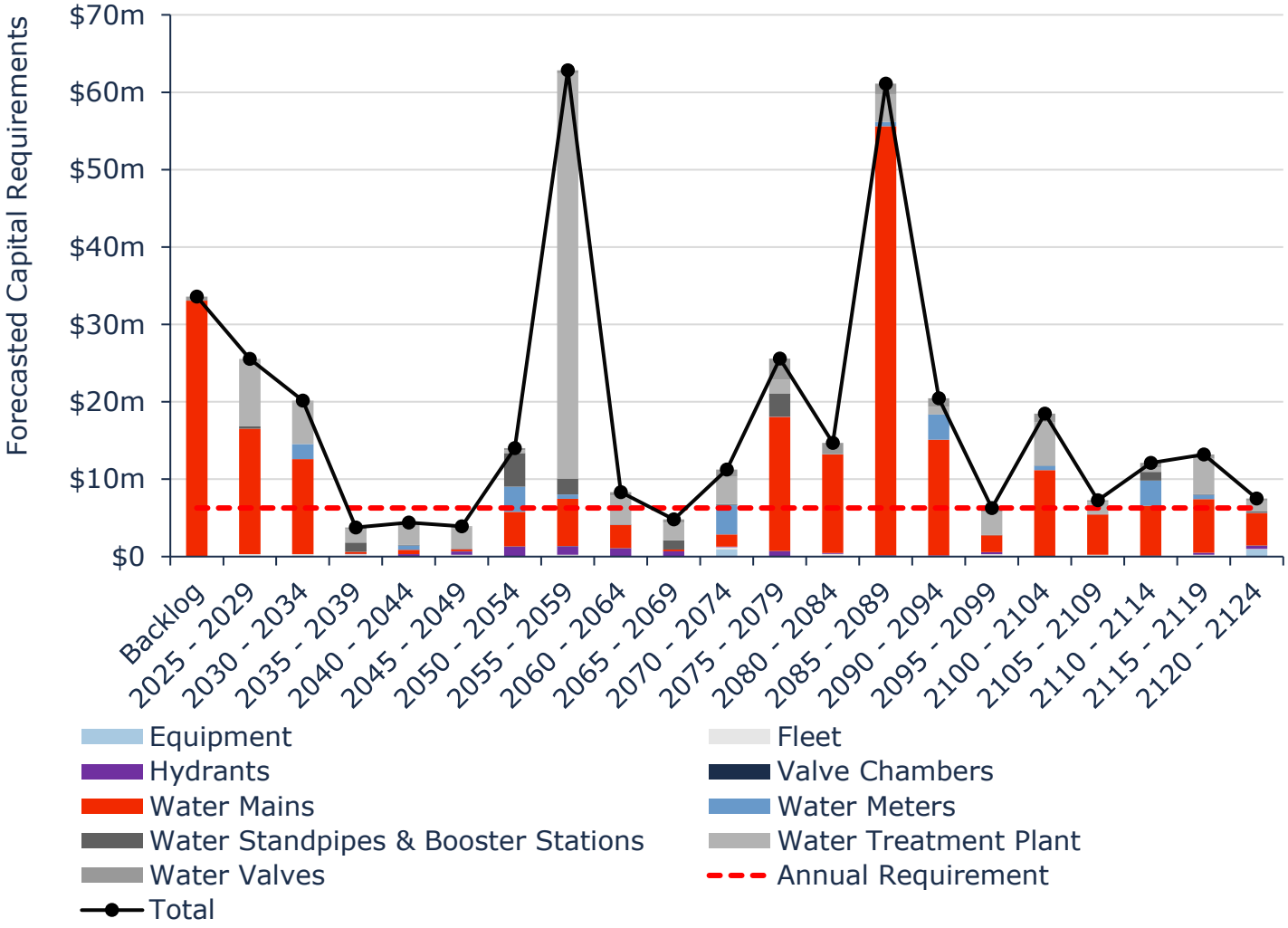


Figure 39 Forecasted Capital Replacement Needs: Water Network 2025-2124

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

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

7.6 Risk Analysis

7.6.1 Risk Matrix

The risk matrix below is generated using available asset data, including condition, pipe material, breaks/segment, service life remaining, replacement cost, pipe diameter, land use and average daily traffic counts. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

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

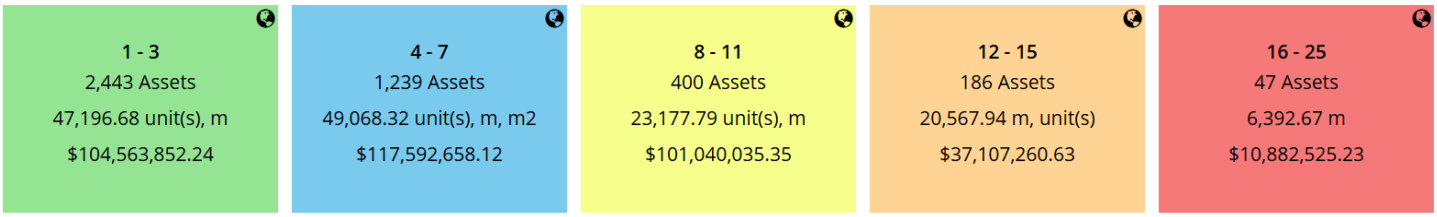


Figure 40 Risk Matrix: Water Network

7.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Capital Funding
The City has limited funding to dedicate towards the water network. Major capital rehabilitation and replacement projects for water assets may also be deferred depending on the availability of grant funding opportunities. A long-term capital funding strategy can reduce dependency on grant funding and help prevent the deferral of necessary capital works.

Asset Data & Information
There is a lack of confidence in the available condition information for the water network; only 1% of the network has assessed condition. Although many of the above-ground assets can be physically assessed, it can be challenging to collect direct assessed condition on watermains. An approximated condition, based on reliable metrics, will help staff develop optimal strategies for rehabilitation/replacement. When possible, staff should consider conducting ultrasonic testing or leak detection testing to supplement their knowledge of the linear water network.

7.7 Levels of Service

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

7.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system	See Appendix C – Level of Service Maps & Photos
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	See Appendix C – Level of Service Maps & Photos
Reliability	Description of boil water advisories and service interruptions	In accordance with regulatory requirements, the City reports each incident to the Ministry of Health (MOH) and completes the Notice of Adverse Test Results and Issue Resolution form and informs the public.

Table 28 O. Reg. 588/17 Community Levels of Service: Water Network

7.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal water system	58%
	% of properties where fire flow is available	69%
Reliability	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0.92
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	0.05
Performance	Percentage of water network in poor/very poor condition	22%
	Average Risk Rating associated to the water network	6.33 (Low)
	Annual capital reinvestment rate	0.62%

Table 29 O. Reg. 588/17 Technical Levels of Service: Water Network

7.8 Proposed Levels of Service

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

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

7.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (37%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Water Network capital funding maintained at $2.3m/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes water rate changes based on achieving 75% of the recommendations provided by the Water and Wastewater Rate Study
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes water rate changes based on the recommendations provided by the Water and Wastewater Rate Study

Table 30 Water Network PLOS Scenario Descriptions

7.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (37% Funding)	Average Condition	69%	65%	56%	
	Average Asset Risk	6.9	7.1	9.6	
	Annual Investment Required		$2,297,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.6%		
Scenario 2 (75% Funding)	Average Condition	69%	76%	66%	
	Average Asset Risk	6.9	6.4	8.8	
	Annual Investment Required		$6,882,000		This parameter is based on water rates achieving 75% of the recommendations from the Water & Wastewater Rate Study
	Capital Reinvestment Rate		1.9%		
Scenario 3 (100% Funding)	Average Condition	69%	79%	66%	
	Average Asset Risk	6.9	5.9	8.8	
	Annual Investment Required		$9,176,496		This parameter is based on water rates following the recommendations from the Water & Wastewater Rate Study
	Capital Reinvestment Rate		2.5%		

Table 31 Water Network PLOS Scenario Analysis

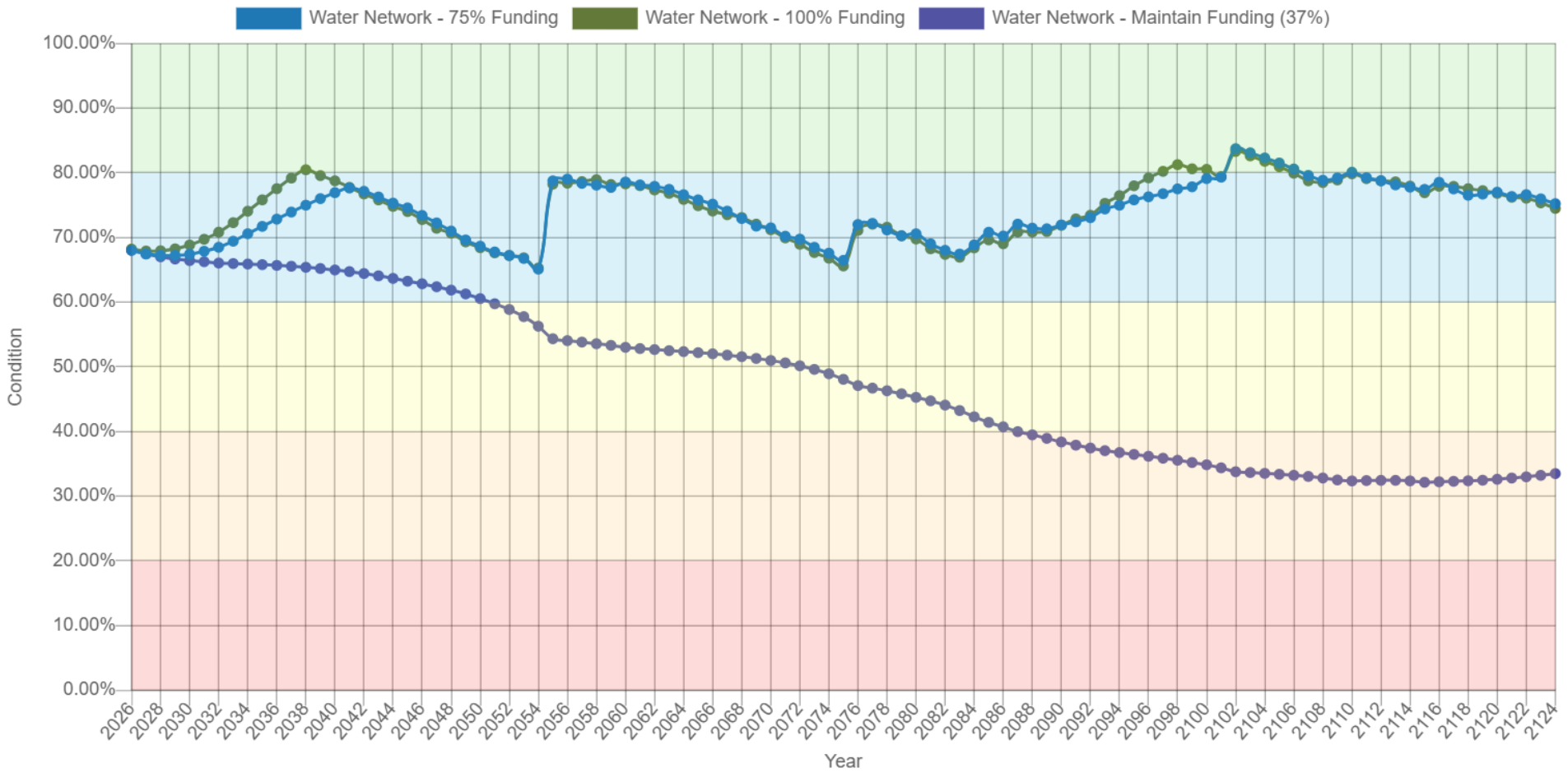


Figure 41 Water Network PLOS Scenario Condition Results

8. Wastewater Network

The City of Kenora maintains and operates wastewater services. Staff maintain critical infrastructure to distribute and safely dispose of municipal wastewater. The Wastewater Network includes the following assets:

- Underground sanitary mains and accompanying assets such as manholes and valves
- Fleet and equipment utilized by staff to support the delivery of wastewater services
- Wastewater buildings such as the treatment plant and pumping/lift stations.

8.1 Inventory & Valuation

Table 32 summarizes the quantity and current replacement cost of the City's various wastewater network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Equipment	1	Quantity	$8,000	User-Defined
Fleet	19	Quantity	$3,701,000	User-Defined
Pumping/Lift Station	221	Quantity	$51,594,000	User-Defined
Sanitary Manholes	2,622	Quantity	$23,377,000	User-Defined
Wastewater Mains	132,112	m	$174,536,000	User-Defined
Wastewater Treatment Plant	1 (38)	Quantity (components)	$69,858,000	User-Defined
Valves	6	Quantity	$60,000	User-Defined
TOTAL			**$323,134,000**	

Table 32 Detailed Asset Inventory: Wastewater Network

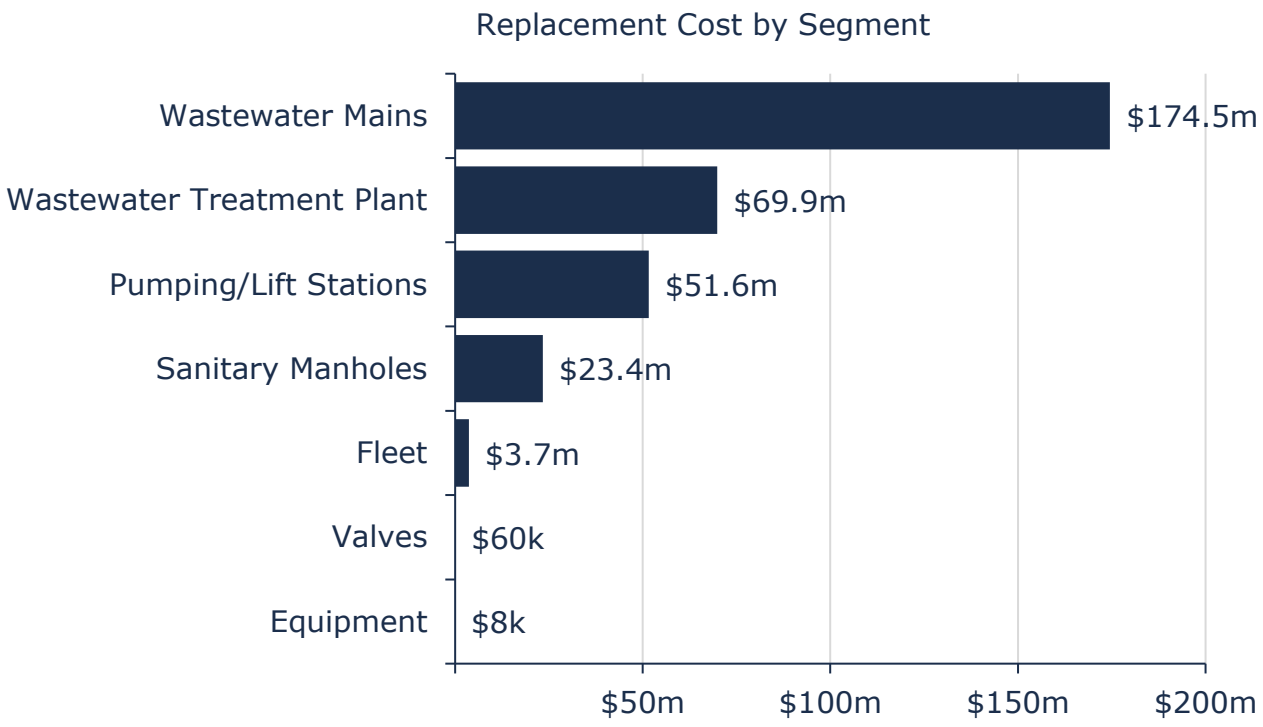


Figure 42 Portfolio Valuation: Wastewater Network

8.2 Asset Condition

Figure 43 summarizes the replacement cost-weighted condition of the City's wastewater network. Based on a combination of field inspection data and age, 81% of assets are in fair or better condition; the remaining 19% of assets are in poor to very poor condition. Condition assessments were available for 43% of wastewater mains, and 33% of sanitary fleet, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for sanitary equipment.

Assets in poor or worse condition may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 43 the majority of the City's wastewater network assets are in fair or better condition.

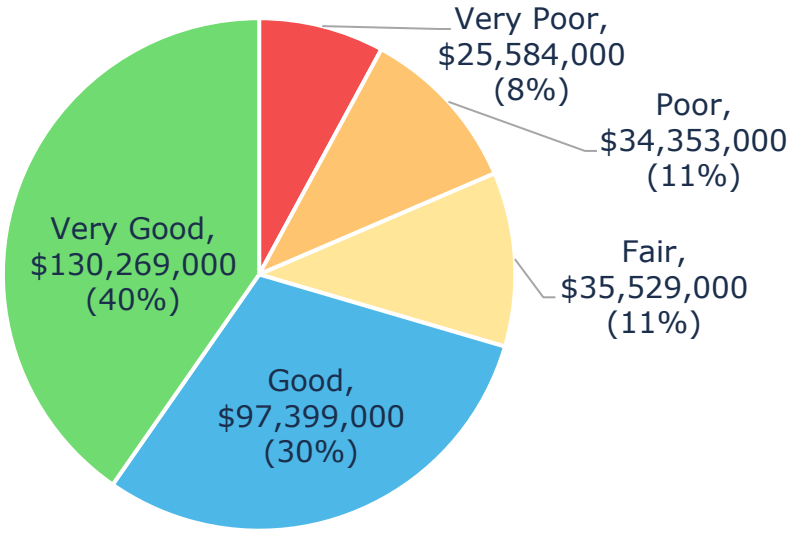


Figure 43 Asset Condition: Wastewater Network Overall

As illustrated in Figure 44, based on condition assessments and age-based conditions, the majority of the City's wastewater mains are in good or very good condition however, all wastewater equipment assets are in poor or worse condition.

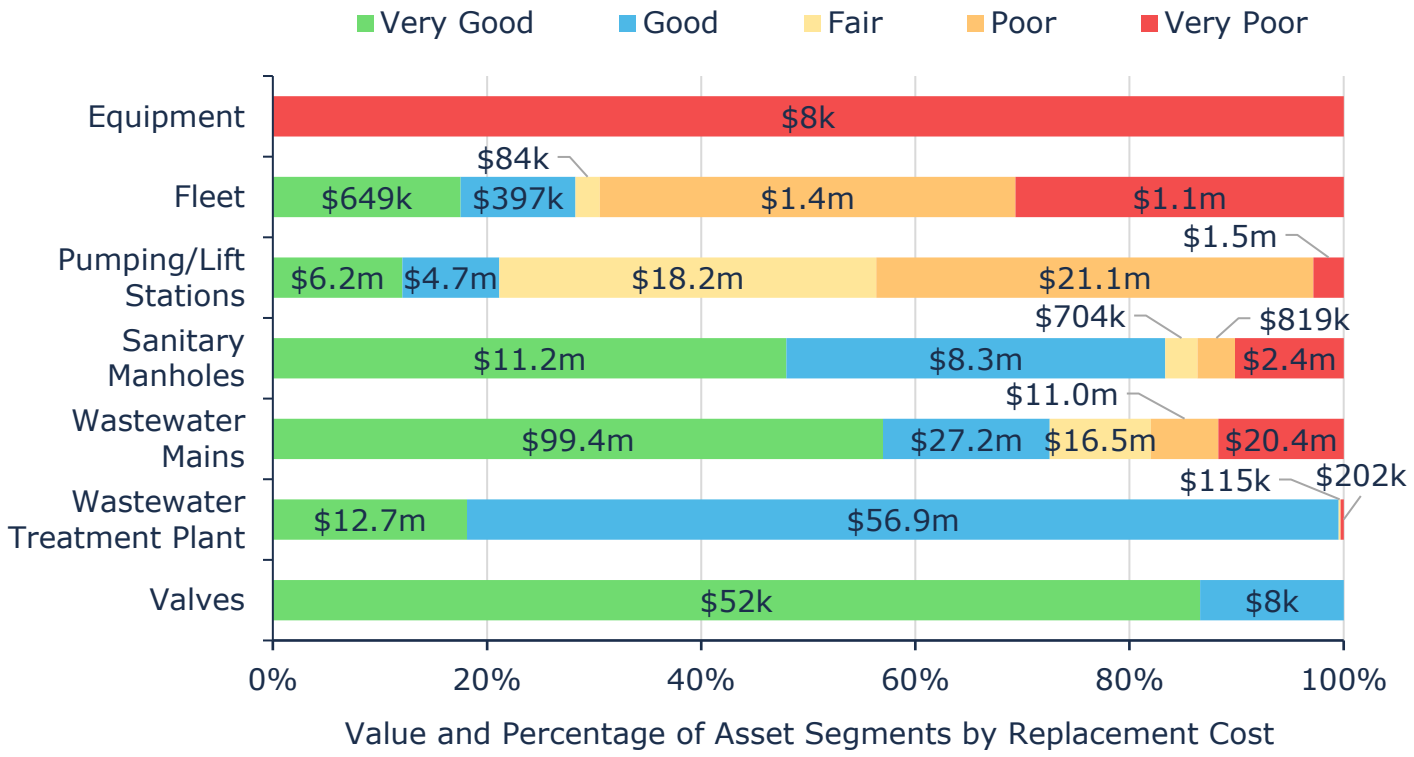


Figure 44 Asset Condition: Wastewater Network by Segment

8.3 Age Profile

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

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

Figure 45 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.

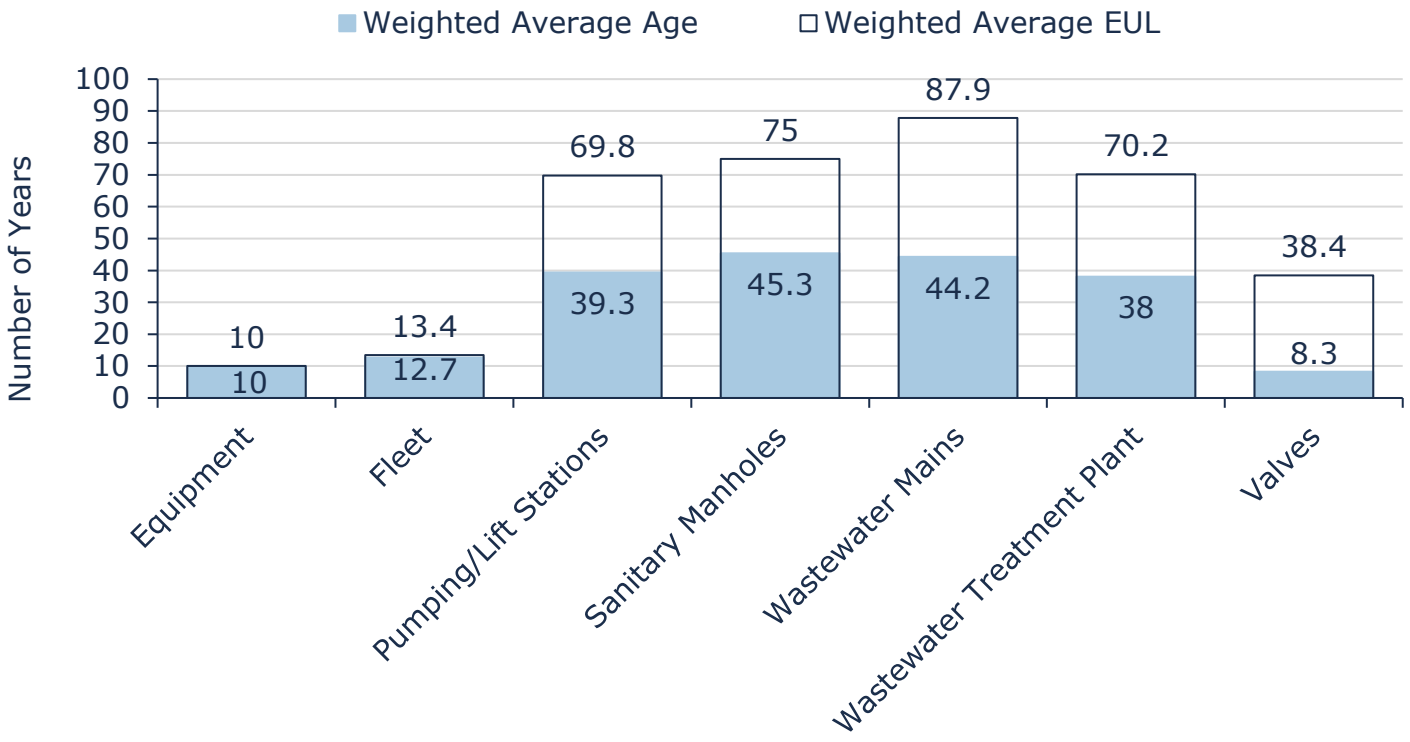


Figure 45 Estimated Useful Life vs. Asset Age: Wastewater Network

8.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance	Flushing is completed for the entire network on a 5-8 year cycle by a third party contractor.
	Pumping station cleaning and flushing is performed annually.
Rehabilitation	Trenchless relining is considered and performed when viable candidates are identified, and budget allows.
	Wastewater buildings, fleet and equipment are repaired and/or replaced strategically based on staff expertise, manufacturer and other third-party recommendations, and budget availability.
Replacement	In the absence of mid-lifecycle rehabilitative events, most mains are simply maintained with the goal of full replacement once they reach end-of-life.
	Project prioritization is based on available CCTV inspections, asset age, material, backup history, environmental risks, and customer complaints.
Inspection	CCTV inspections are conducted on the entire network on a 5 to 8 year cycle or in coordination with road construction projects.
	Staff rely on a variety of metrics including age, pipe material and diameter, location, backup history, and available CCTV assessments to determine the projected condition of sanitary mains.
	Sanitary buildings are inspected on a monthly basis in accordance with Health and Safety standards. Annual roofing inspections are conducted to ensure structural integrity, and bi-annual HVAC inspections are conducted.
	Wastewater vehicles are inspected and serviced in accordance with Commercial Vehicle Operators Registration (CVOR) requirements.
	Point assets such as manholes and valves are inspected on a regular basis.

Table 33 Lifecycle Management Strategy: Wastewater Network

8.5 Forecasted Long-Term Replacement Needs

Figure 46 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the City's wastewater network. This analysis was run until 2124 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $5.1 million for all assets in the wastewater network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog of $7.4 million split between sanitary manholes and wastewater mains. These projections are based on asset replacement costs, age analysis, and condition data when

available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

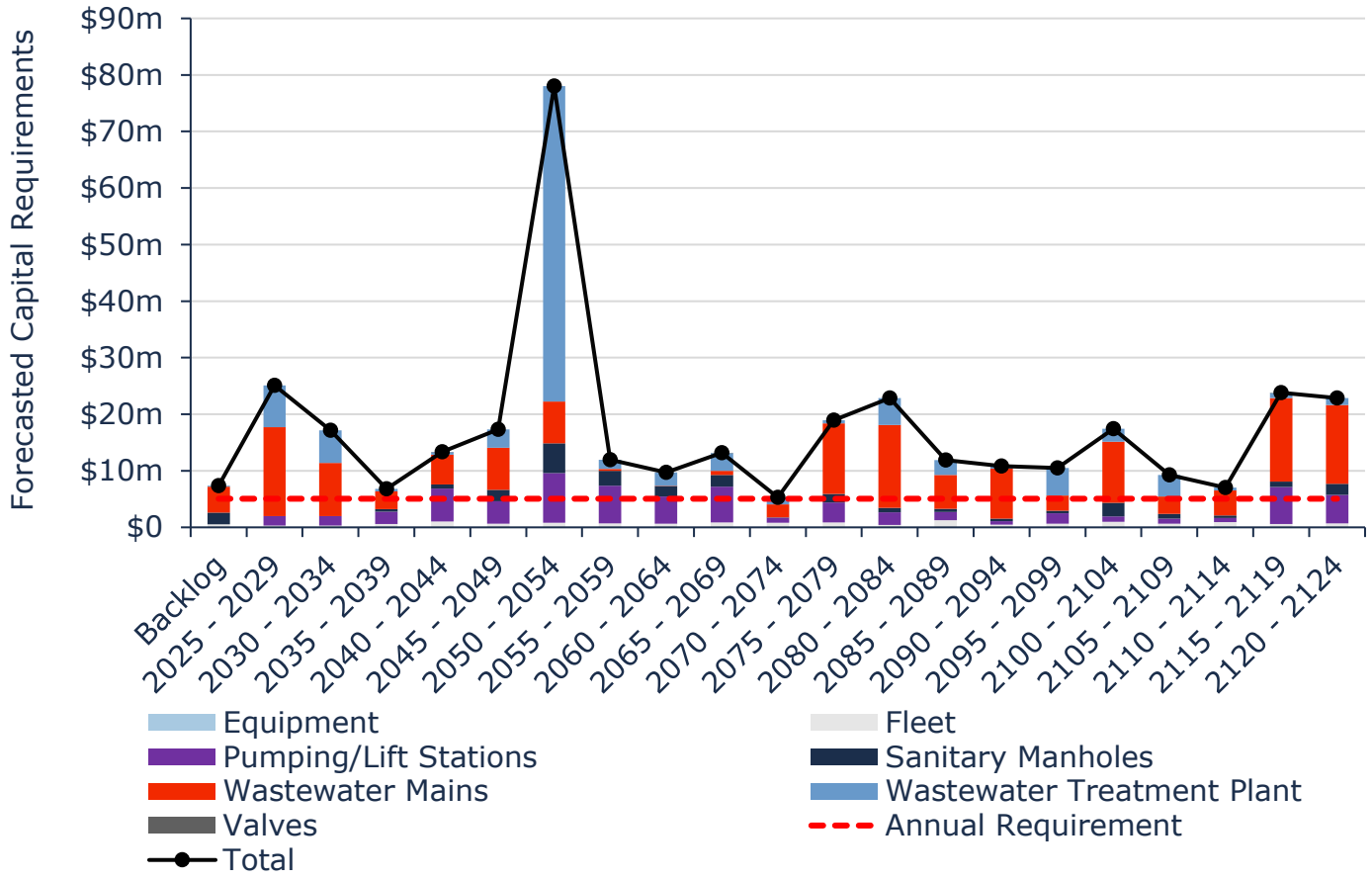


Figure 46 Forecasted Capital Replacement Needs: Wastewater Network 2025-2124

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

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

8.6 Risk Analysis

8.6.1 Risk Matrix

The risk matrix below is generated using available asset data, including condition, pipe material, service life remaining, surcharge/blockage, replacement cost, pipe diameter, land use and average daily traffic counts. The risk ratings for assets without useful attribute data were calculated using only condition, service life remaining, and their replacement costs.

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

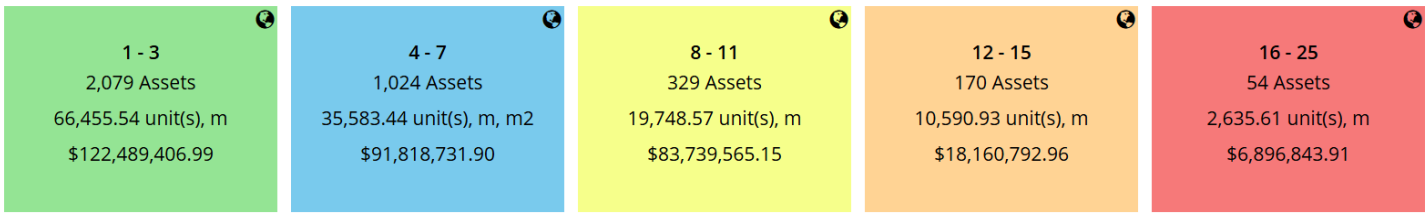


Figure 47 Risk Matrix: Wastewater Network

8.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Inflow & Infiltration
The wastewater network experiences occasional inflow and infiltration issues, particularly in the spring, which reduces overall collection and treatment capacity. To address concerns with inflow & infiltration staff aim to become more proactive with flow monitoring. A regular flow monitoring program would help identify I&I at an earlier stage and provide staff with data to inform lifecycle planning.

Asset Data & Information
There is a lack of confidence in the available condition information for the wastewater network; only 12% of the network has assessed condition. Staff plan to prioritize data refinement efforts and hope to conduct more CCTV inspections as budget becomes available. Assessed condition will help staff develop better defined strategies that will extend the network's lifecycle, increase capacity for growth, and the lower total cost.

8.7 Levels of Service

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

8.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	See Appendix C – Level of Service Maps & Photos
Reliability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	N/A
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	N/A
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Stormwater can enter into sanitary sewers due to cracks in sanitary mains or through indirect connections (e.g., weeping tiles). In the case of heavy rainfall events, sanitary sewers may experience a volume of water and sewage that exceeds its designed capacity. In some cases, this can cause water and/or sewage to overflow backup into homes. The disconnection of weeping tiles from sanitary mains and the use of sump pumps and pits directing storm water to the storm drain system can help to reduce the chance of this occurring.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The municipality follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups.

Service Attribute	Qualitative Description	Current LOS (2024)
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Effluent refers to water pollution that is discharged from a wastewater treatment plant and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants.

Table 34 O. Reg. 588/17 Community Levels of Service: Wastewater Network

8.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties connected to the municipal wastewater system	57%
Reliability	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	0
	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	0
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0
Performance	% of wastewater network assets in poor/very poor condition	19%
	Average risk rating associated to the wastewater network	6.13 (Low)
	Annual capital reinvestment rate	0.67%

Table 35 O. Reg. 588/17 Technical Levels of Service: Wastewater Network

8.8 Proposed Levels of Service

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

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

8.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (43%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Wastewater network capital funding maintained at $2.15m/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes wastewater rate changes based on achieving 75% of the recommendations provided by the Water and Wastewater Rate Study
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes wastewater rate changes based on the recommendations provided by the Water and Wastewater Rate Study

Table 36 Wastewater Network PLOS Scenario Descriptions

8.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (43% Funding)	Average Condition	70%	62%	49%	
	Average Asset Risk	6.1	7.5	9.1	
	Annual Investment Required		$2,150,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.7%		
Scenario 2 (75% Funding)	Average Condition	70%	70%	65%	
	Average Asset Risk	6.1	6.5	7.9	
	Annual Investment Required		$5,793,000		This parameter is based on wastewater rates achieving 75% of the recommendation from the Water and Wastewater Rate Study
	Capital Reinvestment Rate		1.8%		
Scenario 2 (100% Funding)	Average Condition	70%	70%	81%	
	Average Asset Risk	6.1	6.5	4.6	
	Annual Investment Required		$7,724,470		This parameter is based on wastewater rates following the recommendation from the Water and Wastewater Rate Study
	Capital Reinvestment Rate		2.4%		

Table 37 Wastewater Network PLOS Scenario Analysis

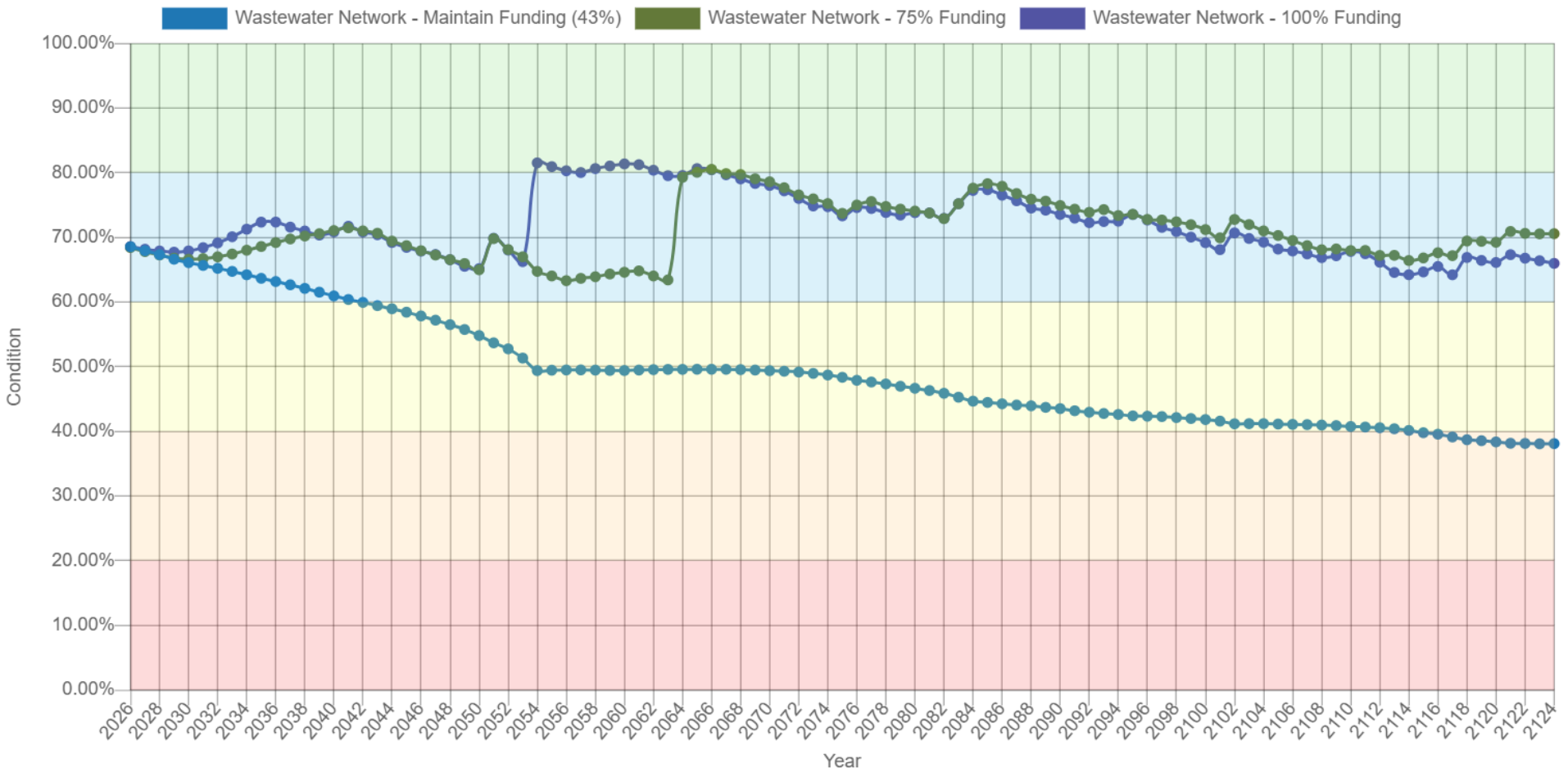


Figure 48 Wastewater Network PLOS Scenario Condition Results

9. Storm Sewer Network

The City is responsible for maintaining a Storm Sewer Network of storm mains, catch basins, manholes and other supporting infrastructure. Staff are working towards improving the accuracy and reliability of their inventory to assist with long-term asset management planning.

9.1 Inventory & Valuation

Table 38 summarizes the quantity and current replacement cost of all storm sewer network assets available in the City's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catchbasins	717	Quantity	$5,864,000	User-Defined
Storm Mains	42,238	m	$38,796,000	User-Defined
Storm Manholes	612	Quantity	$8,747,000	User-Defined
TOTAL			**$53,407,000**	

Table 38 Detailed Asset Inventory: Storm Sewer Network

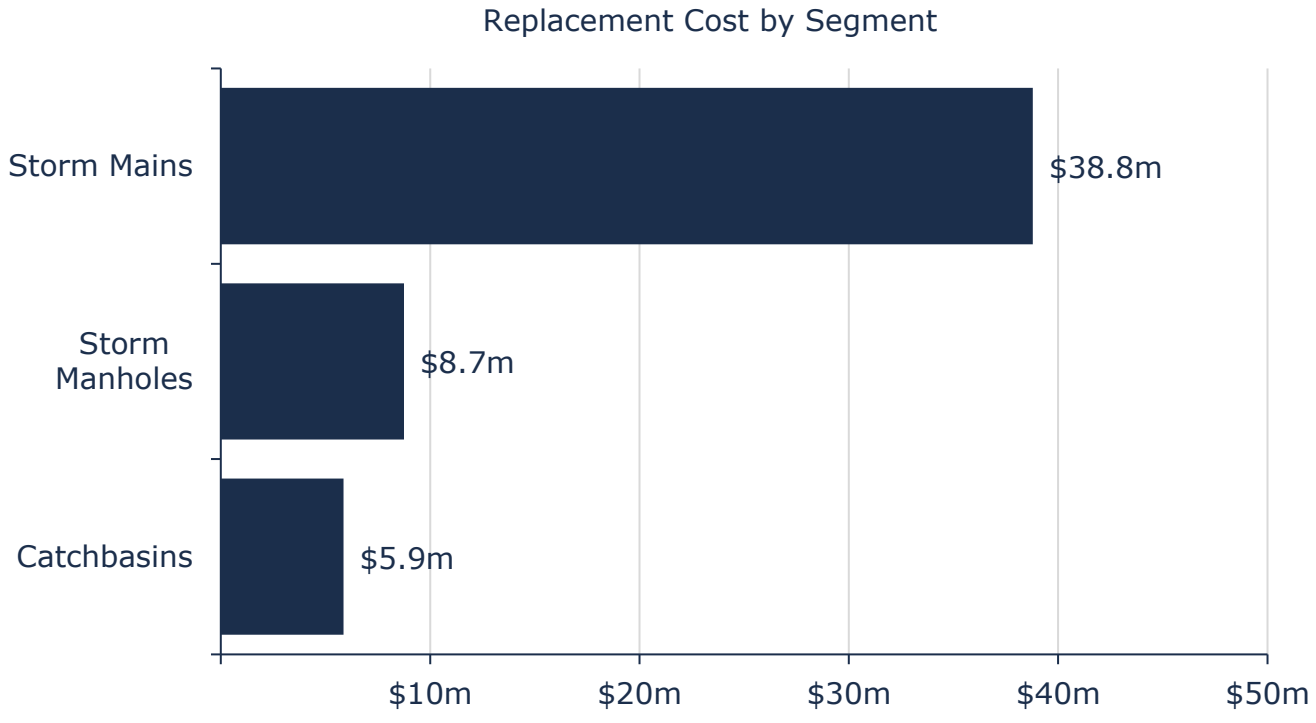


Figure 49 Portfolio Valuation: Storm Sewer Network

9.2 Asset Condition

Figure 50 summarizes the replacement cost-weighted condition of the City's storm sewer network assets. Based on assed condition and age data, approximately 90% of assets are in fair or better condition, with the remaining 10% in poor or 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.

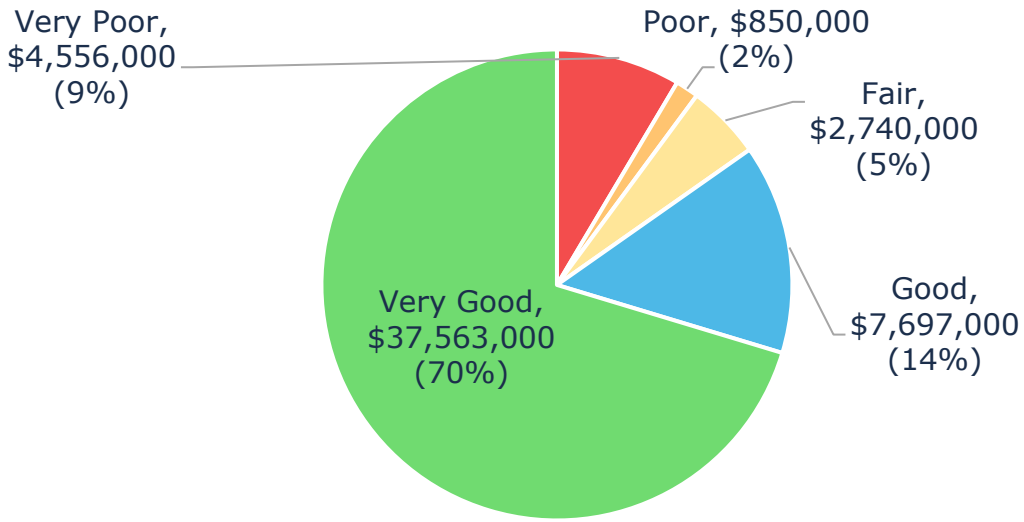


Figure 50 Asset Condition: Storm Sewer Network Overall

Figure 51 summarizes the condition of storm sewer network assets. The analysis illustrates that the majority of storm water are in fair or better condition. However, 13% of mains, with a current replacement cost of $5.1 million, are in poor or worse condition.

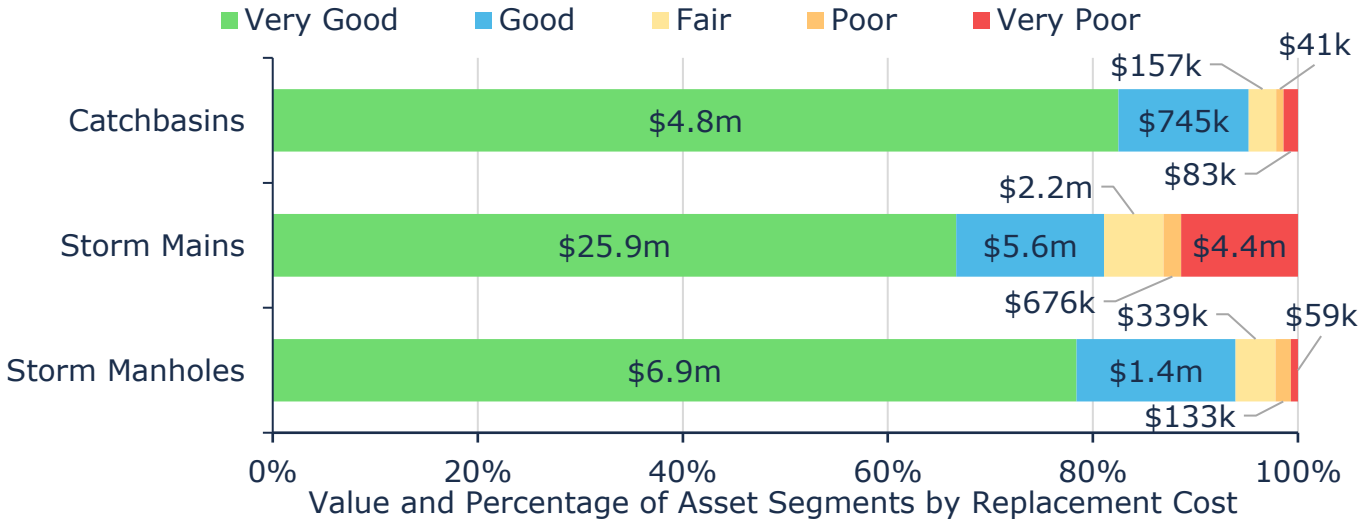


Figure 51 Asset Condition: Storm Sewer Network by Segment

9.3 Age Profile

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

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

Figure 52 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.

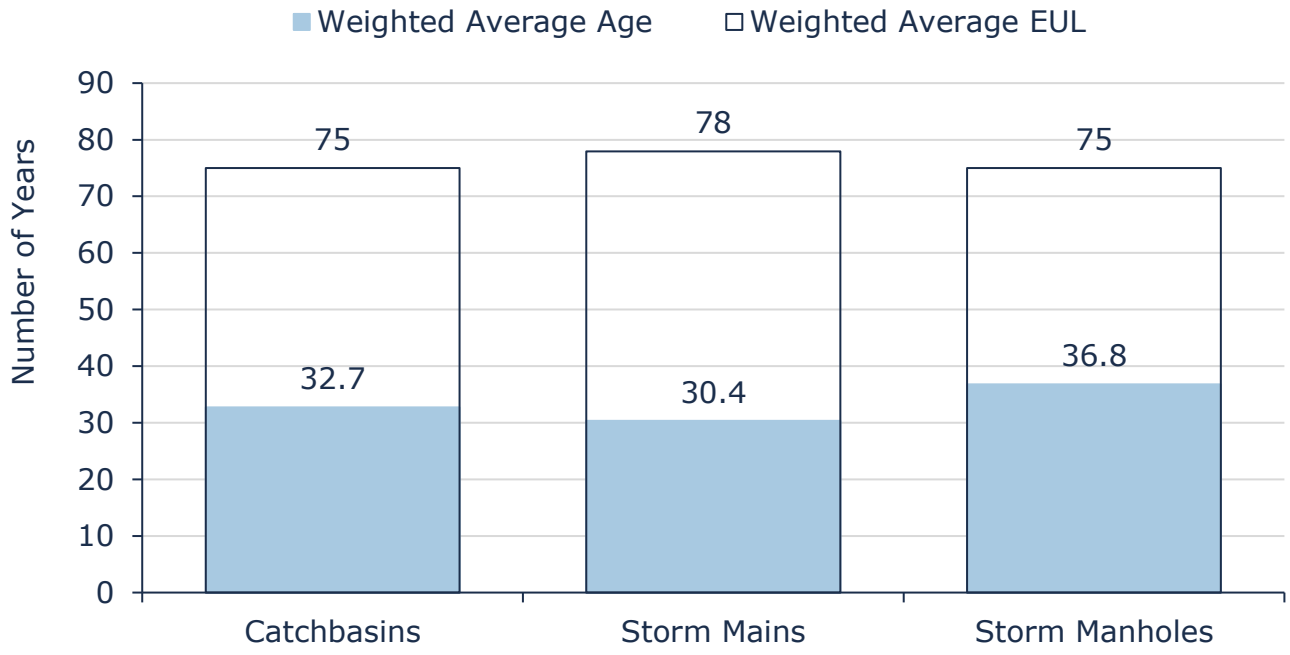


Figure 52 Estimated Useful Life vs. Asset Age: Storm Sewer Network

9.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance	Maintenance activities include annual catchbasin cleanouts. Storm main flushing is performed on a small percentage of the network annually in prepartion for CCTV inspections.
	CCTV inspections are currently completed, as budget allows, with the goal of achieving a 5-8 year cycle for the entire network.
Rehabilitation	Trenchless re-lining has been conducted minimally, when viable candidates have been identified, based on location/depth, criticality, material, and size.
	Mainline repairs are mostly reactive based on identified deficiencies, poor drainage and flooding, or complaints.
Replacement	Replacement of storm sewer assets is mostly reactive, and is typically performed in coordination with other road or underground replacements. Staff also factor in capacity or growth considerations when replacing these assets.
Inspection	CCTV inspections are performed, as needed, to capture condition/performance and grade the pipes. However, in the absence of direct physical condition, staff rely on a multitude of metrics such as age, pipe material, pipe size and performance to gauge overall condition.
	Other storm assets, such as manholes and catchbasins, are inspected on a regular as-needed basis.

Table 39 Lifecycle Management Strategy: Storm Sewer Network

9.5 Forecasted Long-Term Replacement Needs

Figure 53 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the City's storm sewer network assets. This analysis was run until 2124 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $724,000 for all assets in the storm sewer network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates an age-based backlog of $1.8 million dominated by storm mains. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

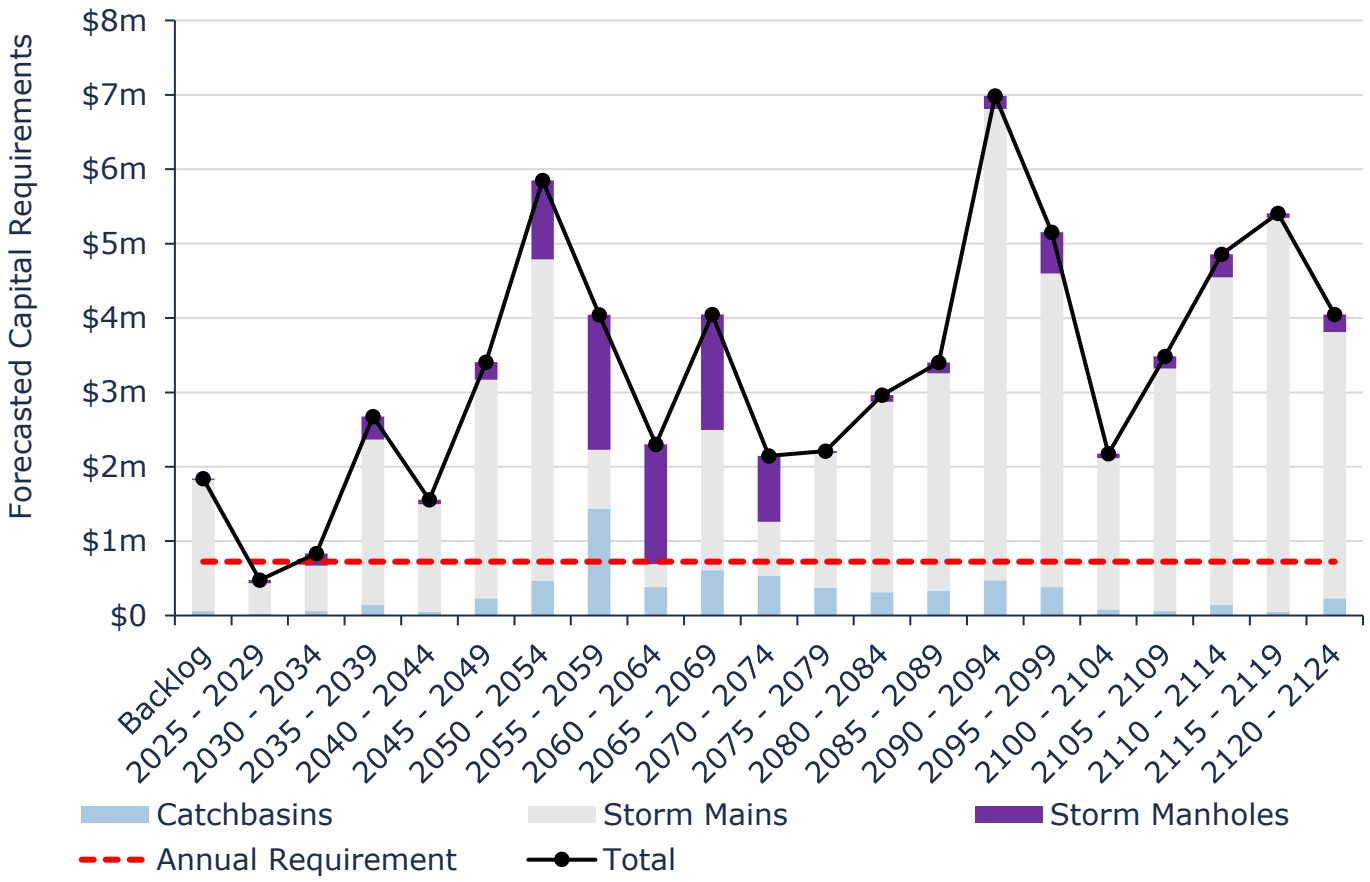


Figure 53 Forecasted Capital Replacement Needs Storm Sewer Network 2025-2124

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

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

9.6 Risk Analysis

9.6.1 Risk Matrix

The risk matrix below is generated using available asset data, including condition, pipe material, slope, service life remaining, replacement cost, pipe diameter, land use and average daily traffic counts. For assets with no attribute data available, the risk ratings were calculated using only replacement cost, condition, and service life remaining.

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

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

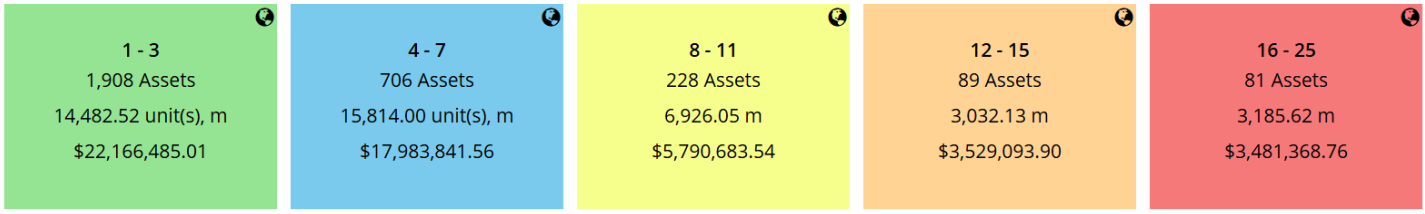


Figure 54 Risk Matrix: Storm Sewer Network

9.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Climate Change & Extreme Weather Events

Staff need a better sense of the impacts of climate change on the storm sewer network to inform retrofitting and replacement planning. Additional data will help address concerns with system capacity and the ability of the stormwater network to manage any potential increase in the intensity, frequency, and duration of rainfall events. Incorporating a monitoring and maintenance program for all stormwater infrastructure into the asset management plan can further support infrastructure resiliency and reduce risk.

Capital Funding

The City has limited funding to dedicate towards the storm sewer network. Major capital rehabilitation and replacement projects for storm sewer assets may also be deferred depending on the availability of grant funding opportunities. A long-term capital funding strategy can reduce dependency on grant funding and help prevent the deferral of necessary capital works.

Asset Data & Information

There are some data gaps for the storm sewer network. Staff are in the process of evaluating the resources and activities required to improve the existing asset inventory. Staff plan to prioritize data refinement efforts and hope to conduct more CCTV inspections.

This has become even more crucial, in light of recent changes to the Environmental Compliance Approval (ECA) application process, managed by the Ministry of Environment, Conservation, and Parks (MECP), requiring accurate inventory of municipal sewer systems.

9.7 Levels of Service

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

9.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include map, of the user groups or areas of the City that are protected from flooding, including the extent of protection provided by the municipal storm water network	See Appendix C – Level of Service Maps & Photos

Table 40 O. Reg. 588/17 Community Levels of Service: Storm Sewer Network

9.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	% of properties in municipality designed to be resilient to a 100-year storm	TBD
	% of the municipal stormwater management system designed to be resilient to a 5-year storm	0%[3]
Performance	% of storm network in poor/very poor condition	10%
	Average risk rating associated to the storm network	0.67 (Very Low)
	Annual capital reinvestment rate	0.44%

Table 41 O. Reg. 588/17 Technical Levels of Service: Storm Sewer Network

9.8 Proposed Levels of Service

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

[3] The City does not currently have data available to confidently determine the resilience of the storm sewer network to a 5-year storm, however, the network was built to withstand a 2-year storm.

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

9.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (33%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Storm sewer network capital funding maintained at $236,000
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~1.0%/year, stabilizing at 75% funding across all asset categories in 10 years. ♦ Storm sewer network capital funding increases from $236,000/year to $543,000/year.
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years. ♦ Storm sewer network capital funding gradually increases from $236,000/year to $724,000/year

Table 42 Storm Sewer Network PLOS Scenario Descriptions

9.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (33% Funding)	Average Condition	80%	72%	59%	
	Average Asset Risk	5.6	6.6	7.7	
	Annual Investment Required		$236,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.4%		
Scenario 2 (75% Funding)	Average Condition	80%	78%	73%	
	Average Asset Risk	5.6	5.7	5.9	
	Annual Investment Required		$543,000		This parameter was increased from $236,000/year to $543,000/year gradually over 10 years.
	Capital Reinvestment Rate		1.0%		
Scenario 3 (100% Funding)	Average Condition	80%	81%	80%	
	Average Asset Risk	5.6	5.5	5.3	
	Annual Investment Required		$724,000		This parameter was increased from $236,000/year to $724,000/year gradually over 10 years.
	Capital Reinvestment Rate		1.4%		

Table 43 Storm Sewer Network PLOS Scenario Analysis

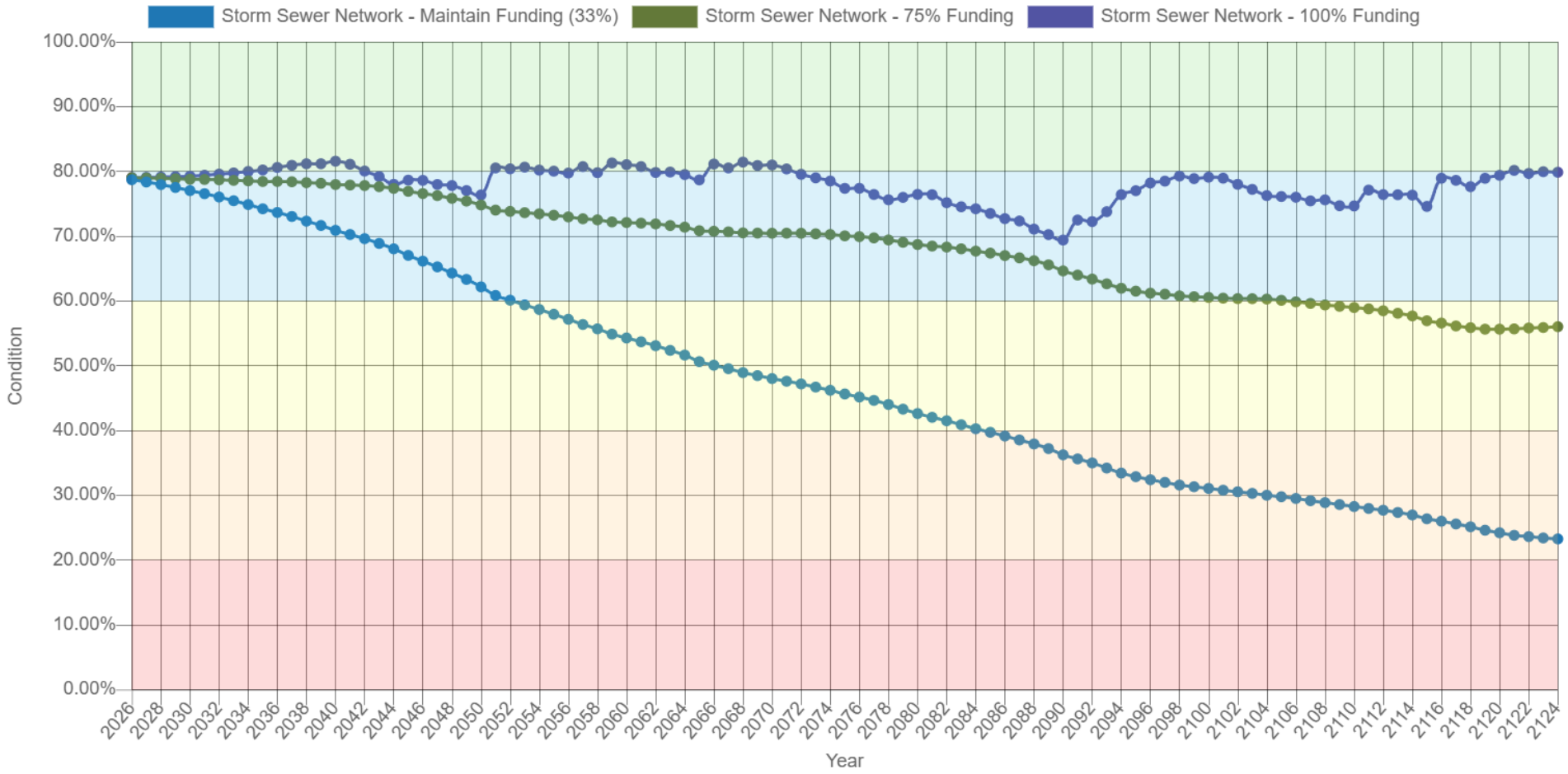


Figure 55 Storm Sewer Network PLOS Scenario Condition Results

Category Analysis: Non-Core Assets

10. Buildings

The City of Kenora owns and maintains numerous facilities and recreation centers that provide key services to the community. These include:

- Administrative offices
- Fire halls and associated offices and facilities
- Public works garages and storage sheds
- An arena, library, and other community centers

10.1 Inventory & Valuation

Table 44 summarizes the quantity and current replacement cost of all buildings assets available in the City's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration Buildings	2 (13)	Quantity (components)	$4,855,000	User-Defined
Athletic Fields & Courts	1	Quantity (components)	$111,000	User-Defined
Cemetery	1	Quantity (components)	$50,000	User-Defined
Emergency Buildings	2 (1)	Quantity (components)	$289,000	User-Defined
Fire Buildings	3 (20)	Quantity (components)	$2,018,000	User-Defined
Museum & Library	4 (37)	Quantity (components)	$12,703,000	User-Defined
Parks Facilities	38	Quantity (components)	$12,458,000	User-Defined
Public Works Buildings	19 (17)	Quantity (components)	$22,592,000	User-Defined
Recreational Facilities	15 (87)	Quantity (components)	$40,648,000	User-Defined
Rental Facilities	8 (7)	Quantity (components)	$2,081,000	User-Defined
TOTAL			**$97,806,000**	

Table 44 Detailed Asset Inventory: Buildings

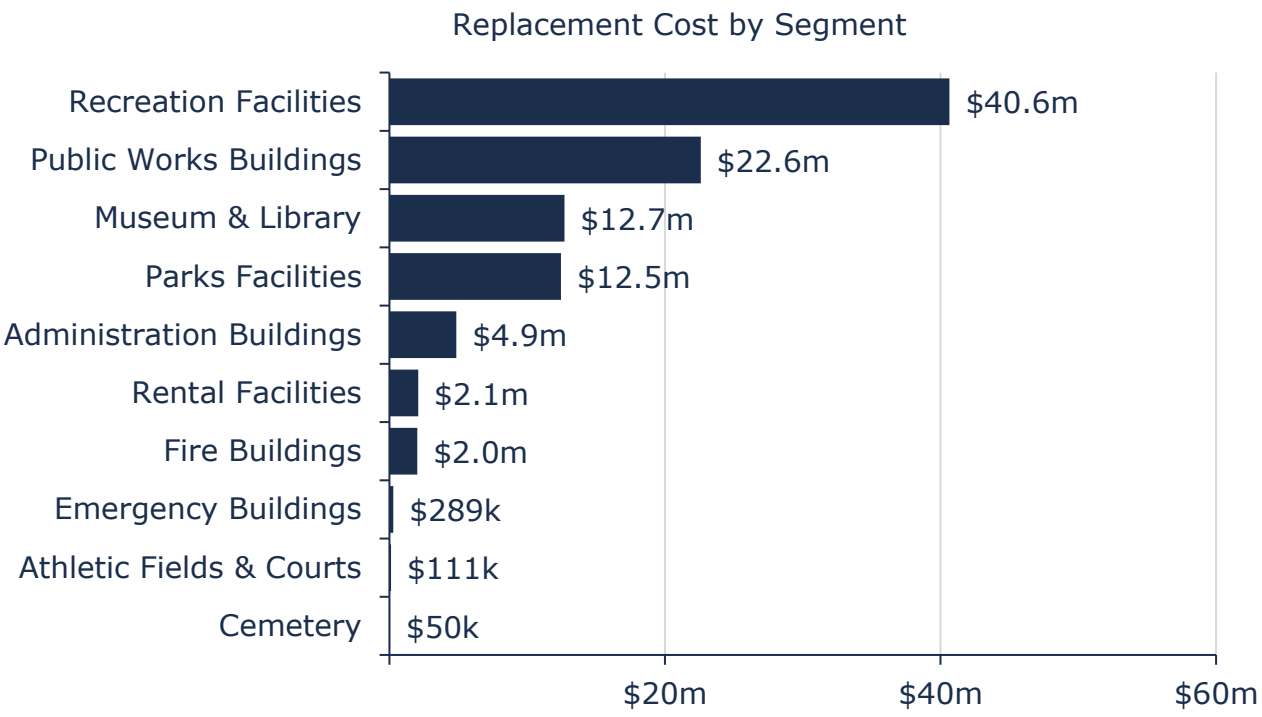


Figure 56 Portfolio Valuation: Buildings

10.2 Asset Condition

Figure 63 summarizes the replacement cost-weighted condition of the City's buildings portfolio. Based mostly on age data, 96% of buildings assets are in fair or better condition; however, 4%, with a current replacement cost of more than $4 million are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

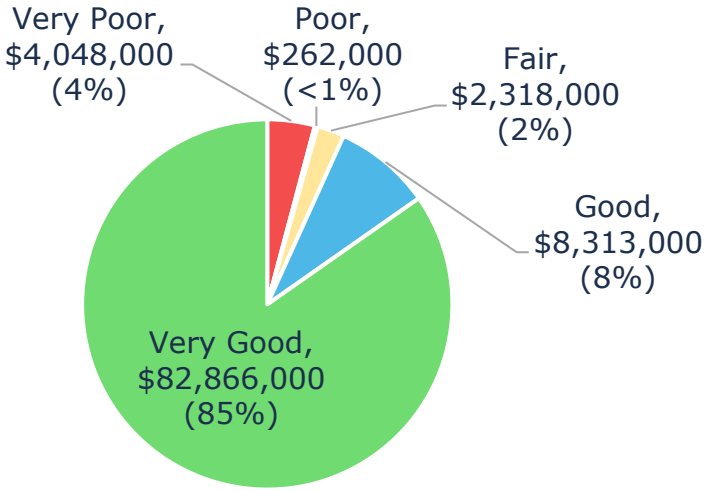


Figure 57 Asset Condition: Buildings Overall

Figure 58 summarizes the age-based condition of buildings by each department. A substantial portion of cemetery assets and athletic fields and courts are in poor to worse condition.

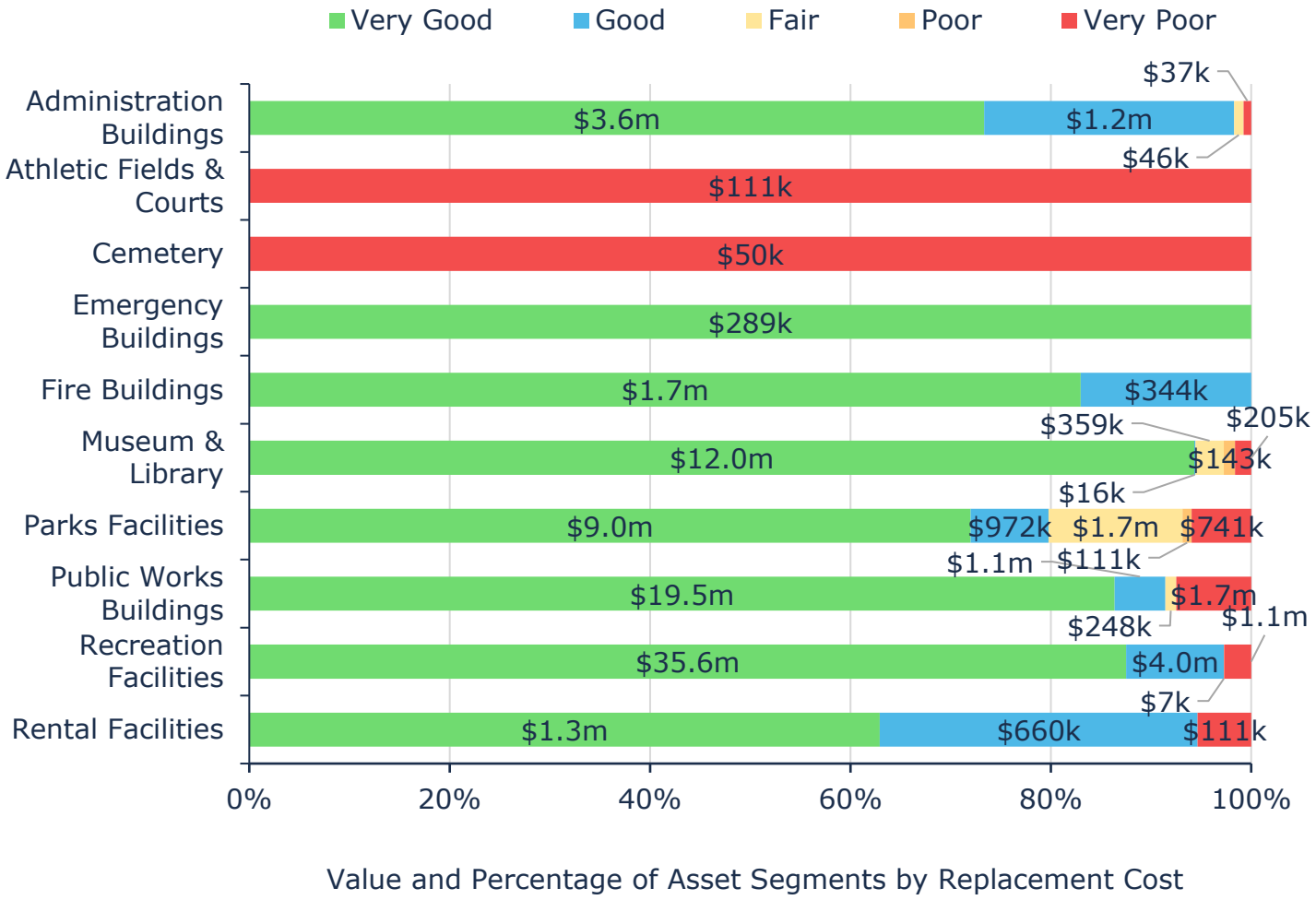


Figure 58 Asset Condition: Buildings by Segment

10.3 Age Profile

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

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

Figure 59 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.

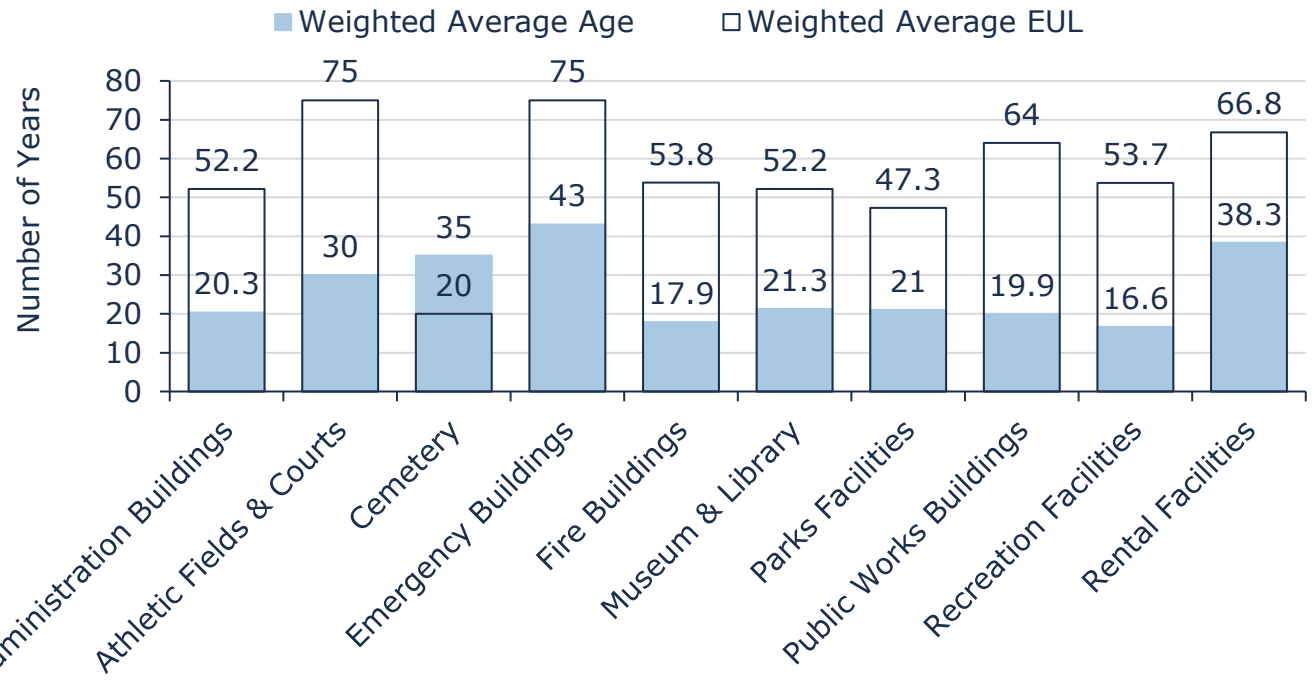


Figure 59 Estimated Useful Life vs. Asset Age: Buildings

Age analysis reveals that, on average, buildings assets are in the earlier stages of their serviceable life. However, based on acquisition years, most cemetery assets have exceeded their established useful life.

10.4 Current Approach to Lifecycle Management

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

Table 45 outlines the City's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Municipal buildings are subject to monthly health & safety inspections by the City's Joint Health & Safety Committee.
	Critical buildings (i.e. fire buildings and emergency buildings) have detailed maintenance and rehabilitation schedules, while less critical facilities are managed more reactively.

Activity Type	Description of Current Strategy
	Specific components of buildings, such as HVAC systems, generators, and elevators, are inspected in accordance with their manufacturing recommendations and/or Building Code Act requirements.
Rehabilitation/ Replacement	Rehabilitation and/or replacement activities are completed strategically based on the criticality of the components to the function/operation of the buildings, customer impact, Health and Safety concerns, and capacity/growth requirements.
Inspections	Buildings are assessed by internal staff on a regular basis to identify component failures and deficiencies. Findings are documented for the purposes of short-term capital planning.
	Formal condition assessments are conducted by external consultants on an as-needed basis; However, staff are actively considering conducting a network wide assessment of all their critical buildings in the short-term to support accurate and proactive capital planning.

Table 45 Lifecycle Management Strategy: Buildings

10.5 Forecasted Long-Term Replacement Needs

Figure 60 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the City's buildings portfolio. This analysis was run until 2099 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $2.6 million for all buildings. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to rise consistently over the next 75 years, reaching a peak of $46.7 million between 2075 and 2079. The chart also illustrates a backlog of more than $3.9 million, dominated by public works and recreation facilities, and comprising assets that have reached the end of their useful life but still remain in operation. These projections and estimates are based on current asset records, their replacement costs, and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

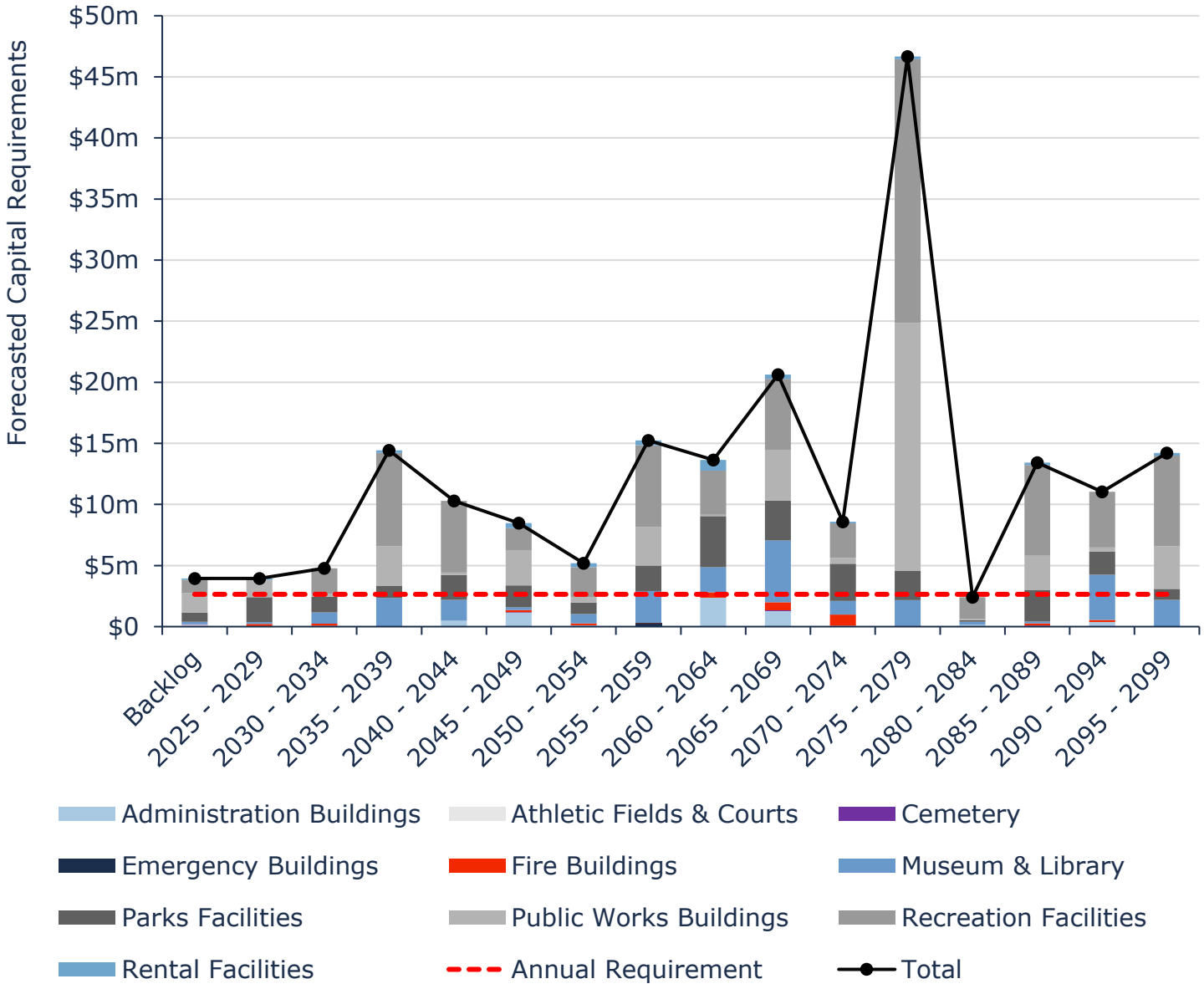


Figure 60 Forecasted Capital Replacement Needs Buildings 2025-2099

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

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

10.6 Risk Analysis

10.6.1 Risk Matrix

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

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

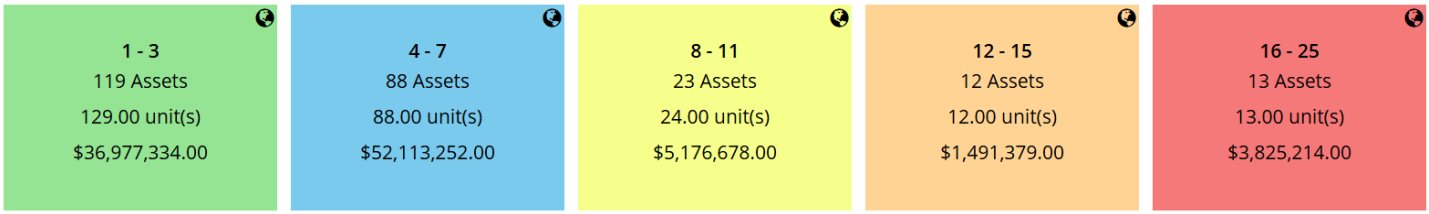


Figure 61 Risk Matrix: Buildings

10.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Asset Data & Information

The current limited structure and componentization of the City's buildings restricts Staff's abilities to plan capital projects and asset rehabilitations/replacements proactively; these components have unique estimated useful lives and require asset-specific lifecycle strategies. Staff have begun prioritizing data refinement efforts to componentize their buildings to improve capital planning and lifecycle management.

Climate Change & Extreme Events

Flooding and extreme weather can cause damage to multiple elements of the City's buildings. Changing temperatures, rising levels of freshwater, and the increased frequency and intensity of precipitation events, lightning storms, and windstorms pose a risk to buildings. Staff should identify and monitor the effects of climate change and extreme events on buildings. The City should also prioritize infrastructure maintenance, rehabilitation, and replacement based on susceptibility to climate impacts.

10.7 Levels of Service

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

10.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Accessible & Reliable	List of facilities that meet accessibility standards and any work that has been undertaken to achieve alignment	**City Hall** offers an accessible ramp and automatic doors to enter the main building and council chambers. There are lower level desks for wheelchair access and accessible public washrooms. Parking lot offers one handicap spot. **Operations Centre** offers an accessible ramp and automatic doors to enter the building. An elevator allowing passage between two floors and accessible public washrooms. Parking lot offers one handicap spot. **Lake of the Woods Discovery Centre** offers sidewalk-level entrance with automatic doors; Elevators allowing passage between two floors, accessible public washrooms, and Wi-Fi throughout the building. **Thistle Pavilion** offers sidewalk-level entrance with automatic doors for entry and accessible public washrooms. **Whitecap Pavilion** offers accessible all around level. **Kenora Public Libraries** offer online access and physical access to books, audio, and video tapes. Other services include inter-library loan of materials, access to a fax machine and word processing software, along with a variety of special programs for children and adults. Two branches provide internet access. **The Muse** (includes the Lake of the Woods Museum and Douglas Family

Service Attribute	Qualitative Description	Current LOS (2024)
		Art Centre) offers a sidewalk-level entrance with automatic doors; elevators allowing passage between all three floors, accessible public washrooms, wide hallways and door openings and Wi-Fi throughout the building. **Kenora Recreation Centre** offers an accessible ramp with automatic doors leading into the building; Elevators allowing passage between two floors; contains accessible public washrooms, accessible pool entry/exit and wheelchair ice-level seating by lift. **Keewatin Memorial Arena** offers an accessible ramp with automatic doors for entry and/or exit. **Transfer Station** offers sidewalk-level entry with automatic doors. **Cemetery** provides internet services. **Fire Stations** offer sidewalk-level entry with automatic doors; Elevators allowing passage between two floors.
Affordable	Description of usage rates and operating hours	**City Hall** – Monday to Friday, 8 a.m-4:30 pm. Usage rates would be to rent Council Chambers, in Tariff of Fees and Charges. **Operations Centre** – Monday to Friday, 8 am to 4:30 pm. **Lake of the Woods Discovery Centre** – Open daily, 9 am to 4 pm. Usage rates in the Tariff of Fees and Charges **Thistle Pavilion** – open in the summer. User rates in the Tariff of Fees and Charges **Whitecap Pavilion** – variable hours depending on scheduled events. User rates in Tariff of Fees and Charges **Kenora Library** – Mon/Wed/Thurs/Fri (9 am-5 pm); Tue (9 am-7 pm); Sat (9 am-2 pm); closed on statutory holidays and Sunday.

Service Attribute	Qualitative Description	Current LOS (2024)
		Keewatin Library – Mon/Wed/Fri (10 am-12 pm and 1 pm-5 pm); closed on statutory holidays and Tue/Thurs/Sat/Sun. **The Muse** - September – June: Tuesday to Saturday, 10am – 5pm; July – August: Sunday to Saturday, 10am – 5pm. User rates for Museum or Art Centre can be found here: https://themusekenora.ca/plan-your-visit/hours-and-admission/ **Kenora Recreation Centre** – Open Monday to Friday, 6 am to 9:30 pm; Saturday and Sunday 7:15 am to 8:15 pm; walking track open daily 6 am to 10:00 pm. Usage rates in the Tariff of Fees and Charges; parking fees and tenant rental fees available **Keewatin Memorial Arena** – Open Monday to Friday, 6 am to 9:30 pm; Saturday and Sunday 7:15 am to 8:15 pm; ice surface is open in summer months. Usage rates in the Tariff of Fees and Charges. **Transfer Station** – Monday to Friday, 8 am to 5:30 pm; Saturday 8:30 am to 4 pm, Sunday - April to October, 8:30 am to 4 pm - November to March, 12 noon to 4 pm. Closed on statutory holidays. Usage rates are included in the fees. **Cemetery garage** – Open during park hours (8 am to 8 pm). Usage rates are identified in the By-law 87-2020 . **Fire Stations** – Station One is open all day, every day; Station Two is unmanned; Stations Three and Four are open an on-call basis. Usage rates for parking and rental of training room and be found here: https://www.kenora.ca/en/living-here/fire-services.aspx

Table 46 Community Levels of Service: Buildings

10.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Accessible & Reliable	% of assets where their age is greater than their useful life	4%
Safe & Regulatory	# of health and safety inspections per building	12
Sustainable	% of buildings that are in good/very good condition	93%
	% of buildings that are in poor/very poor condition	4%
	% of buildings and facilities having a building condition assessment over the last (5) years	0%
	Average risk rating associated to buildings	4.9 (Very Low)
	Annual capital reinvestment rate	1.0%

Table 47 Technical Levels of Service: Buildings

10.8 Proposed Levels of Service

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

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

10.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (37%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Buildings capital funding maintained at $983,000/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~1.0%/year, stabilizing at 75% funding across all asset categories in 10 years. ♦ Buildings' capital funding gradually increases from $983,000/year to $1.98m/year over a span of 10 years
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years. ♦ Buildings' capital funding gradually increases from $983,000/year to $2.65m/year over a span of 10 years

Table 48 Buildings PLOS Scenario Descriptions

10.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (37% Funding)	Average Condition	88%	71%	59%	
	Average Asset Risk	5.0	7.2	9.8	
	Annual Investment Required		$983,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		1.0%		
Scenario 2 (75% Funding)	Average Condition	88%	80%	70%	
	Average Asset Risk	5.0	5.8	8.0	
	Annual Investment Required		$1,985,000		This parameter is increased from $983,000 incrementally to reach a target portfolio investment of $1.98m over 10 years
	Capital Reinvestment Rate		2.0%		
Scenario 3 (100% Funding)	Average Condition	88%	82%	70%	
	Average Asset Risk	5.0	5.4	8.0	
	Annual Investment Required		$2,646,000		This parameter is increased from $983,000 incrementally to reach a target portfolio investment of $2.65M over 10 years
	Capital Reinvestment Rate		2.7%		

Table 49 Buildings PLOS Scenario Analysis

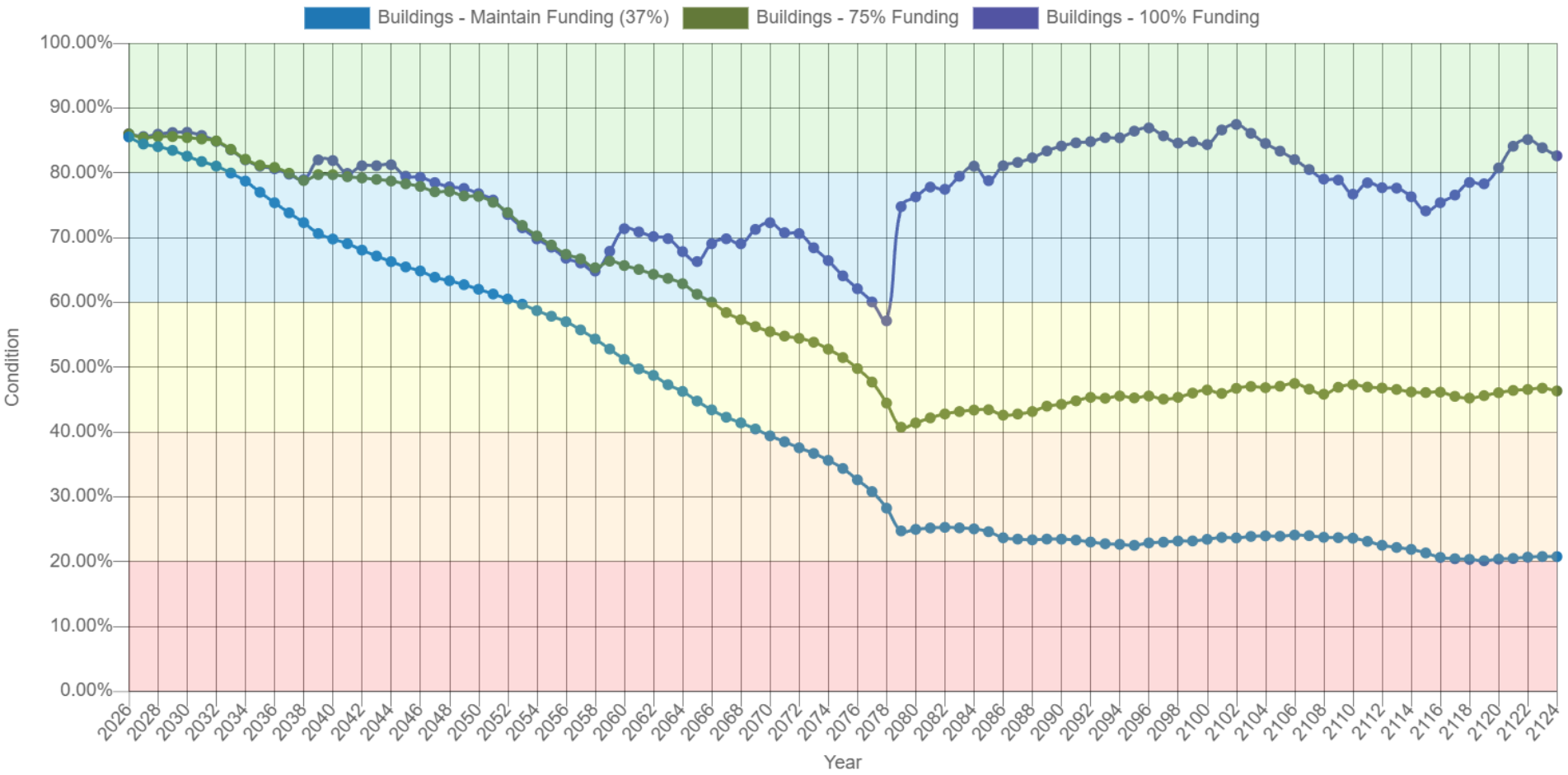


Figure 62 Buildings PLOS Scenario Condition Results

11. Land Improvements

The City of Kenora owns a number of assets that are considered Land Improvements. This category includes:

- Parking lots for municipal facilities and parks
- Trailways and playgrounds
- Athletic courts and fields
- Docks and wharfs

11.1 Inventory & Valuation

Table 50 summarizes the quantity and current replacement cost of all land improvements assets available in the City's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Athletic Fields & Courts	55	Quantity	$1,518,000	CPI
Docks & Wharfs	45	Quantity	$14,029,000	CPI
Parking Lots	3	Quantity	$478,000	CPI
Parks & Recreation	11	Quantity	$3,972,000	User-Defined
Playgrounds & Splash Parks	7	Quantity	$1,055,000	CPI
Trails & Walkways	10	Quantity	$2,185,000	User-Defined
TOTAL			**$23,236,000**	

Table 50 Detailed Asset Inventory: Land Improvements

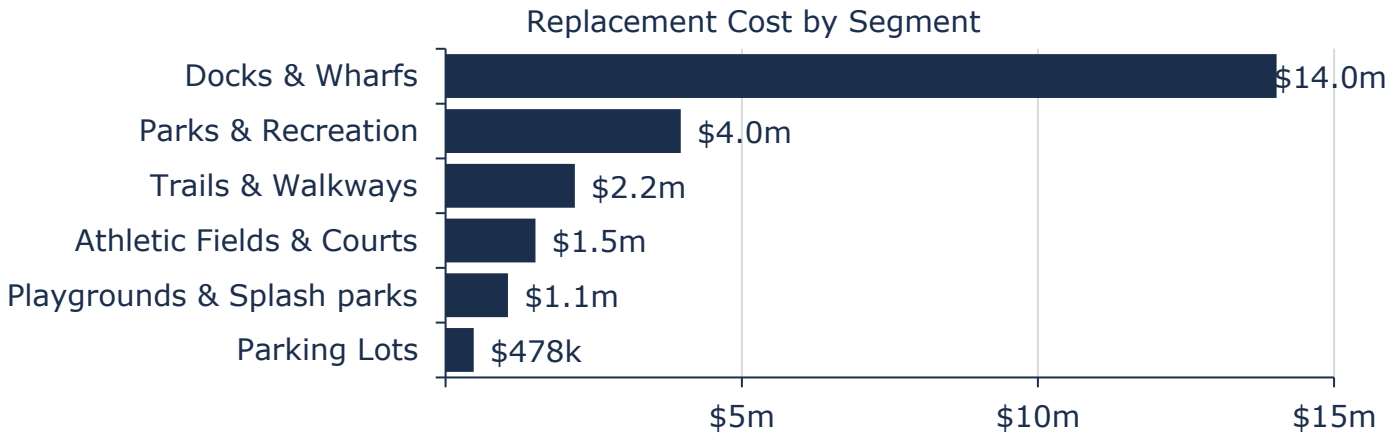


Figure 63 Portfolio Valuation: Land Improvements

11.2 Asset Condition

Figure 64 summarizes the replacement cost-weighted condition of the City's land improvements portfolio. Based on a combination of assessed condition and age data, 51% of assets are in fair or better condition, the remaining 49% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

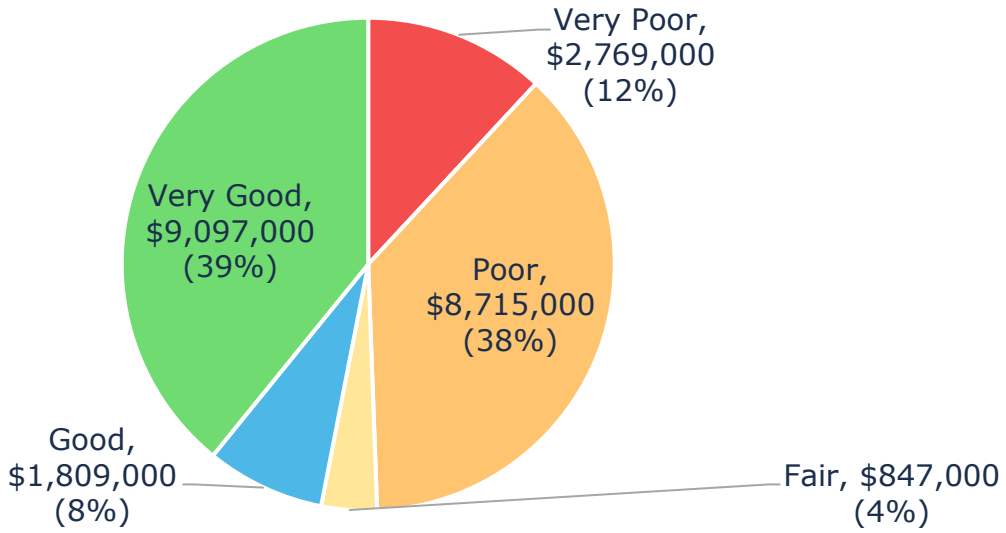


Figure 64 Asset Condition: Land Improvements Overall

Figure 65 summarizes the age-based condition of land improvements by each department. Assets in poor or worse condition are concentrated primarily in docks and wharfs.

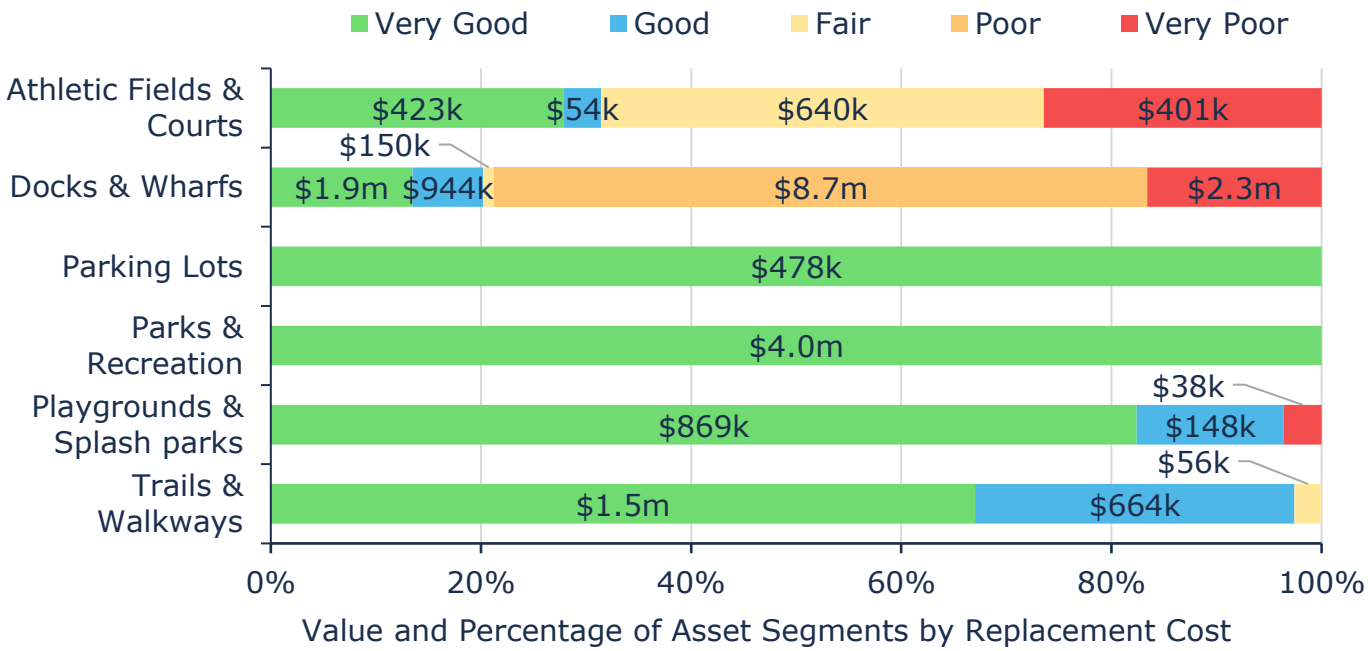


Figure 65 Asset Condition: Land Improvements by Segment

11.3 Age Profile

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

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

Figure 66 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.

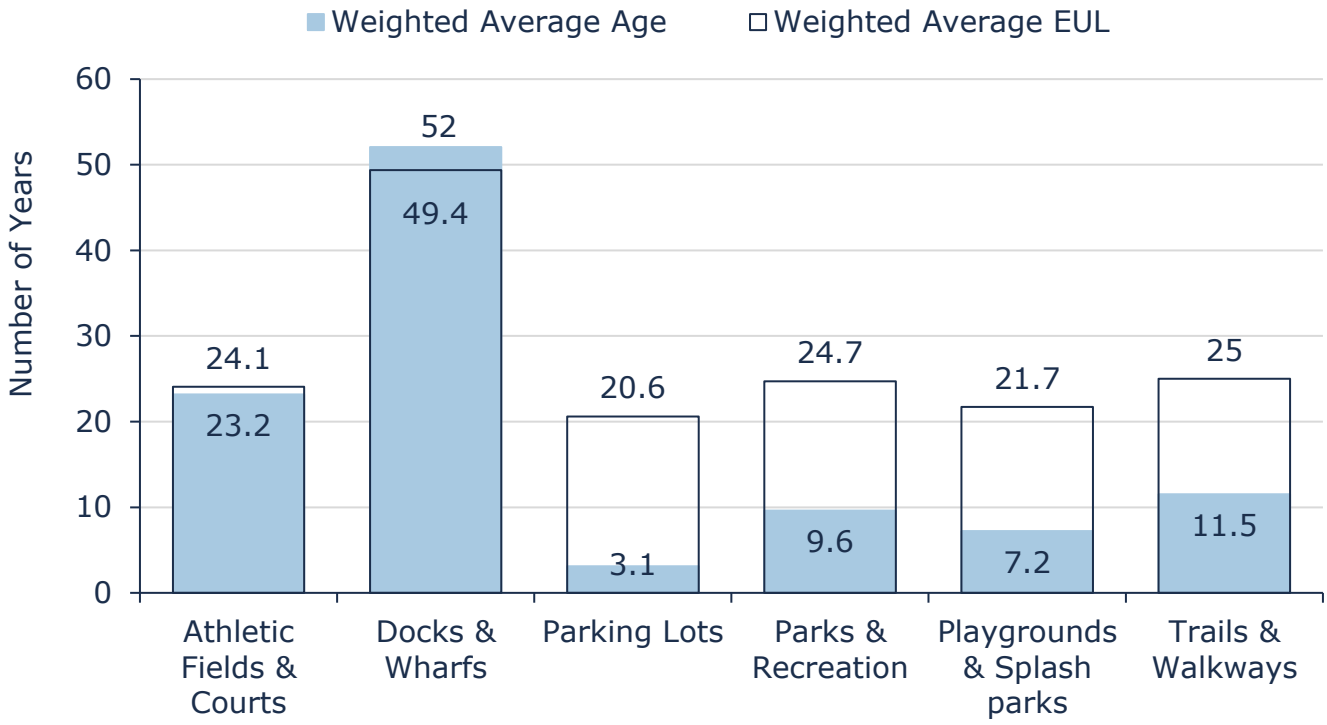


Figure 66 Estimated Useful Life vs. Asset Age: Land Improvements

Age analysis reveals that, on average, most dock and wharf assets have exceeded their expected life, with an average weighted age of 52 years against an EUL of 49 years. Athletic fields and courts are in the latter stages of their expected design life.

11.4 Current Approach to Lifecycle Management

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

Table 51 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation & Replacement	Land Improvement assets include several unique asset types and maintenance activities which are dealt with on a case-by-case basis. Maintenance often includes daily and/or weekly cleaning and inspection of land improvement assets.
	Most land improvement assets are replaced at end-of-life; Repairs are driven by health and safety concerns, customer complaints/expectations and budget constraints.
Inspections	To ensure they are in a state of adequate repair, daily and/or weekly visual inspections of playgrounds and parks are undertaken. Safety inspections are conducted by a qualified playground inspector in accordance with CSA Z614 standards.
	Other land improvement assets are assessed as needed. Asset failures and deficiencies are documented for the purposes of short-term capital planning.

Table 51 Lifecycle Management Strategy: Land Improvements

11.5 Forecasted Long-Term Replacement Needs

Figure 67 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the City's land improvements portfolio. This analysis was run until 2074 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $785,000 for all land improvements. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to fluctuate over the 50-year time horizon, peaking at $6.2 million between 2030 and 2034 as assets reach the end of their useful life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

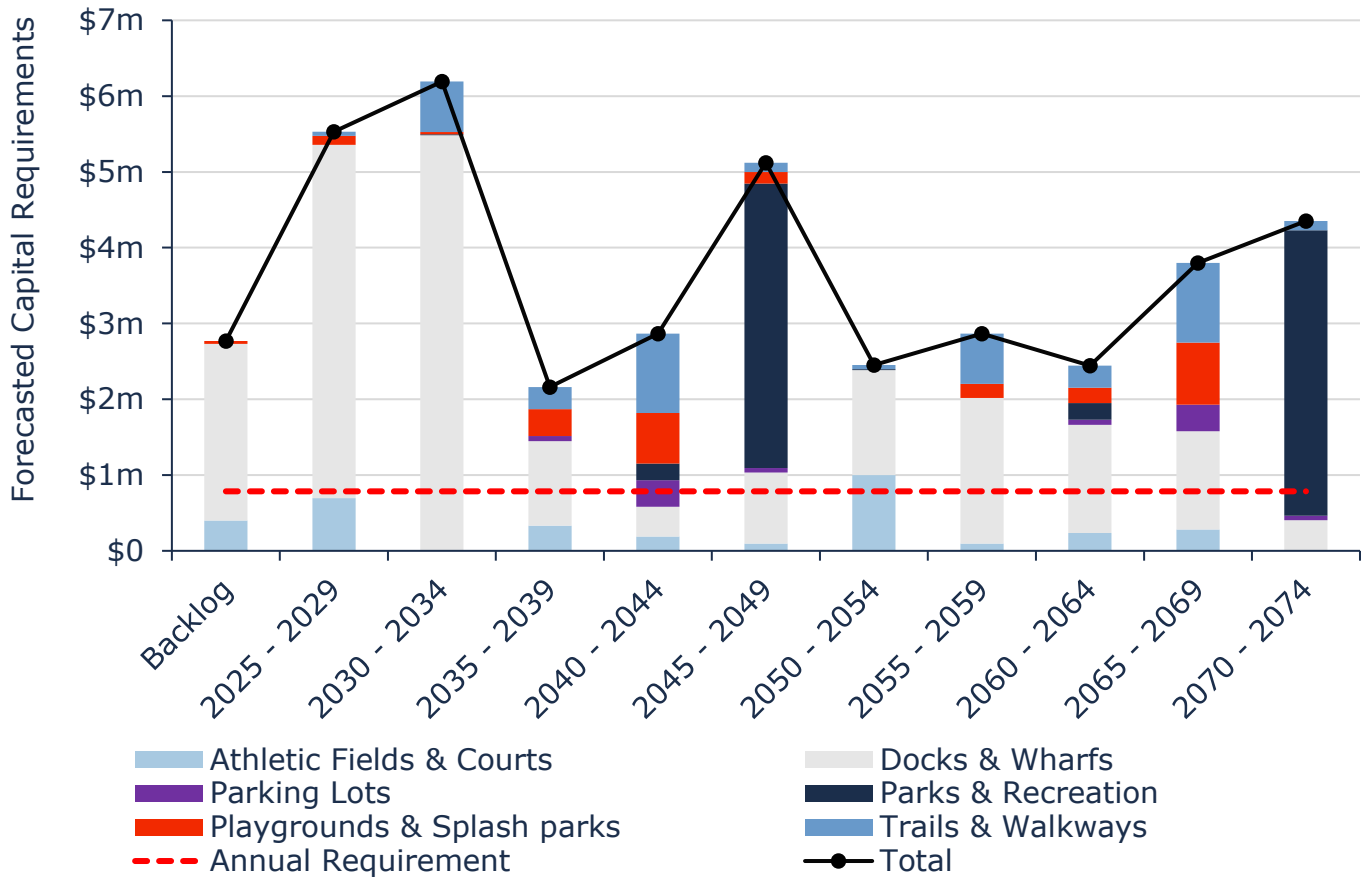


Figure 67 Forecasted Capital Replacement Needs: Land Improvements 2025-2074

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

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

11.6 Risk Analysis

11.6.1 Risk Matrix

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

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

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

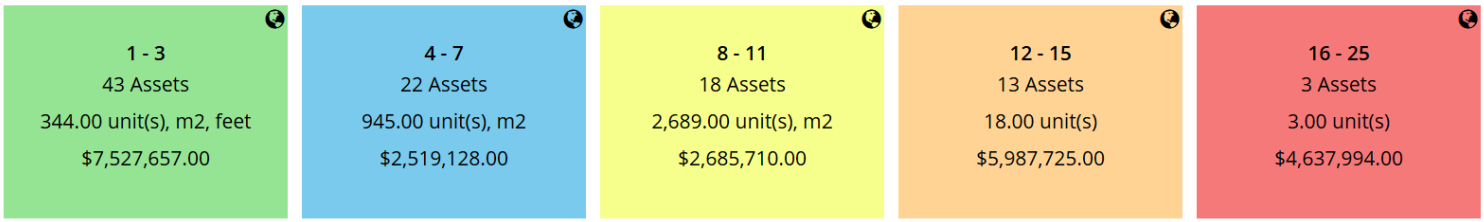


Figure 68 Risk Matrix: Land Improvements

11.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Staff Capacity & Asset Information
Staff capacity limitations can make it challenging to deploy optimal maintenance and assessment strategies for land improvement assets, particularly for trails. The City owns an unknown length of trails and natural assets that require constant maintenance and rehabilitation. A standardized approach to data and condition gathering can enable the City to proactively manage these assets.

11.7 Levels of Service

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

11.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Safe & Regulatory	Description of the parks' inspection process and timelines for inspections	Trails, parks, and natural assets are inspected at various intervals (daily, weekly, and monthly).
Sustainable	Description of the current condition of land improvement assets and the plans that are in place to maintain or improve condition	Land Improvement assets are in an overall Good condition as they are repaired and replaced as-needed.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of municipal parks and their location	Anicinabe Park – 955 Gold Course Rd. Beatty Park – Tenth St S. & Front St. Coney Island Park – Lake of the Woods Garrow Park – Birchwood Cres. & Rabbit Lake Rd. Jack Robinson Park – Redditt Rd. & Rabbit Lake Rd. Jaffray Melick Lookout Point – North West End of Rabbit Lake Rd. Keewatin Rock Potholes – 6th St. in Keewatin Norman Park – 35 Minnesota St.

Table 52 Community Levels of Service: Land Improvements

11.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Affordable	Annual Capital Reinvestment Rate	0.38%
Sustainable	% of land improvements that are in good/very good condition	47%
	% of land improvements that are in poor/very poor condition	49%
	Average risk rating associated with land improvement assets	9.6 (Moderate)
	% of natural assets in good/very good condition	TBD[4]
	% of natural assets in poor/very poor condition	TBD[4]
	Average risk rating associated to natural assets	TBD[4]

Table 53 Technical Levels of Service: Land Improvements

11.8 Proposed Levels of Service

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

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

[4] The City is working towards developing their natural assets inventory and intend to include these metrics in the next iteration of the AMP.

11.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (11%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Land Improvements capital funding maintained at $89,000/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~1.0%/year, stabilizing at 75% funding across all asset categories in 10 years. ♦ Land Improvements capital funding increases from $89,000/year to $589,000/year.
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years. ♦ Land Improvements capital funding increases from $89,000/year to $785,000/year.

Table 54 Land Improvements PLOS Scenario Descriptions

11.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (11% Funding)	Average Condition	58%	27%	8%	
	Average Asset Risk	9.2	14.5	16.3	
	Annual Investment Required		$89,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		0.4%		
Scenario 2 (75% Funding)	Average Condition	58%	48%	45%	
	Average Asset Risk	9.2	10.9	11.3	
	Annual Investment Required		$589,000		This parameter was increased from $89,000/year to $589,000/year gradually over 10 years.
	Capital Reinvestment Rate		2.5%		
Scenario 3 (100% Funding)	Average Condition	58%	58%	64%	
	Average Asset Risk	9.2	9.3	8.2	
	Annual Investment Required		$785,000		This parameter was increased from $155,000/year to $89,000/year gradually over 10 years.
	Capital Reinvestment Rate		3.4%		

Table 55 Land Improvements PLOS Scenario Analysis

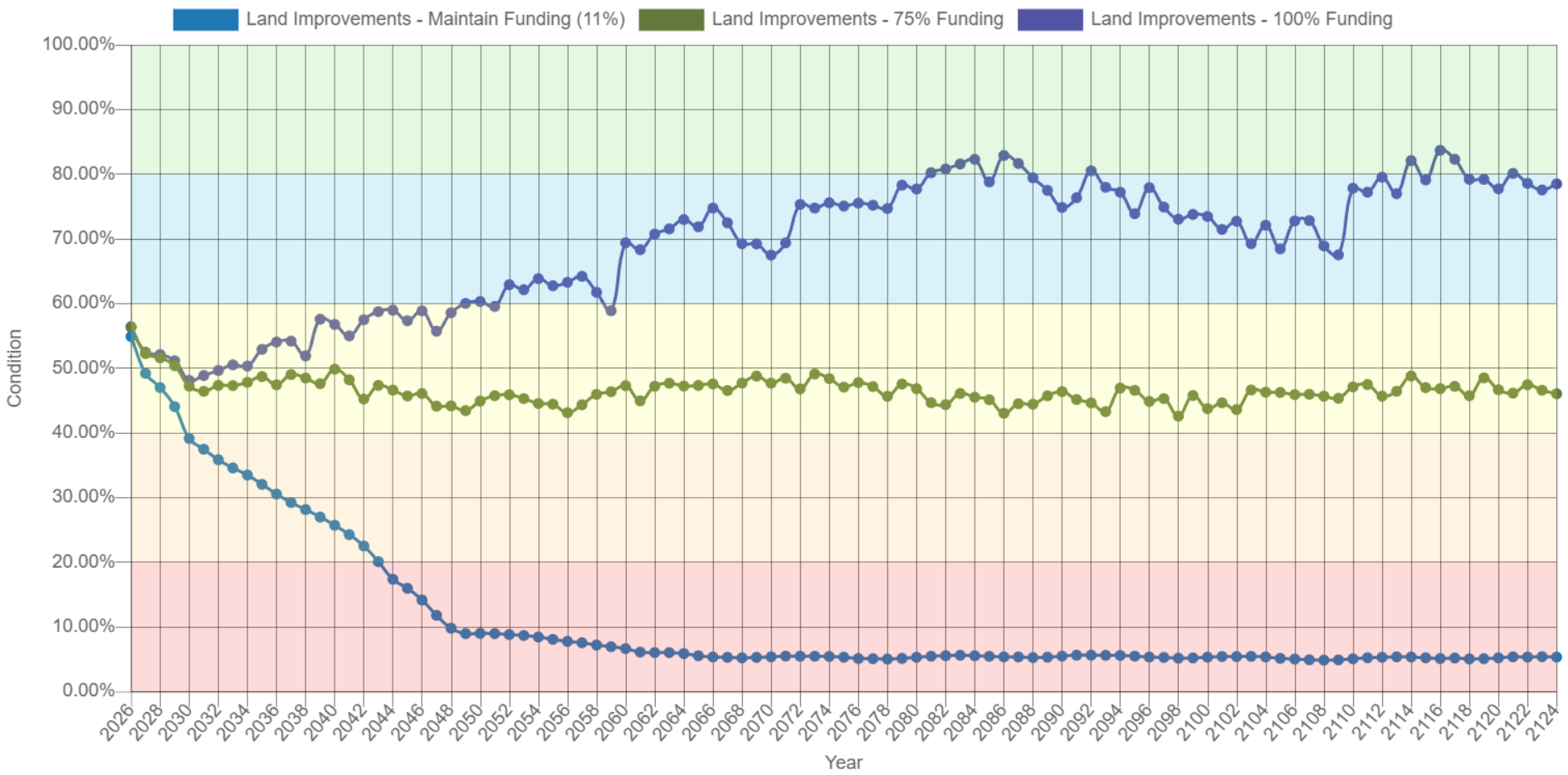


Figure 69 Land Improvements PLOS Scenario Condition Results

12. Fleet

Fleet allows staff to efficiently deliver municipal services and personnel. Municipal fleet supports several service areas, including:

- Pick-up trucks and heavy machinery to support the maintenance of the transportation network and address service requests for parks and recreation
- Fire rescue vehicles to provide emergency services

12.1 Inventory & Valuation

Table 56 summarizes the quantity and current replacement cost of all fleet assets available in the City's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Animal Control	3	Quantity	$178,000	User-Defined
Fire	14	Quantity	$5,949,000	CPI
Parks & Recreation	25	Quantity	$1,338,000	CPI
Public Works	110	Quantity	$15,595,000	User-Defined
TOTAL			**$23,059,000**	

Table 56 Detailed Asset Inventory: Fleet

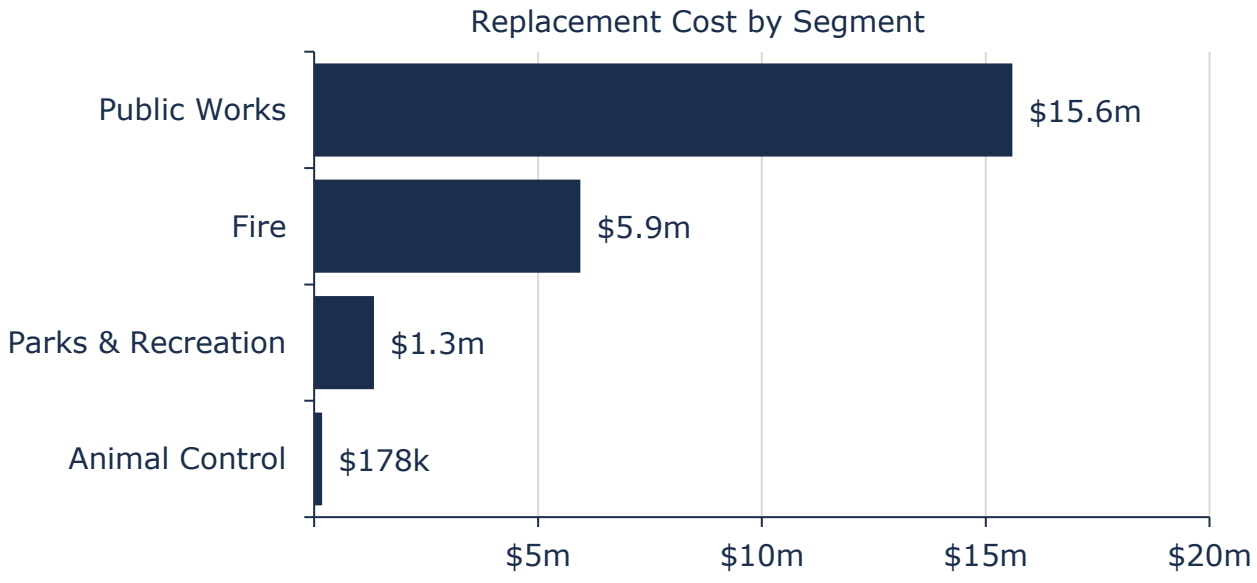


Figure 70 Portfolio Valuation: Fleet

12.2 Asset Condition

Figure 71 summarizes the replacement cost-weighted condition of the City's fleet portfolio. Based primarily on age data, 59% of fleet are in fair or better condition, with the remaining 41% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. Condition data was available for 34% of fleet, based on replacement costs; age was used to estimate condition for the remaining assets.

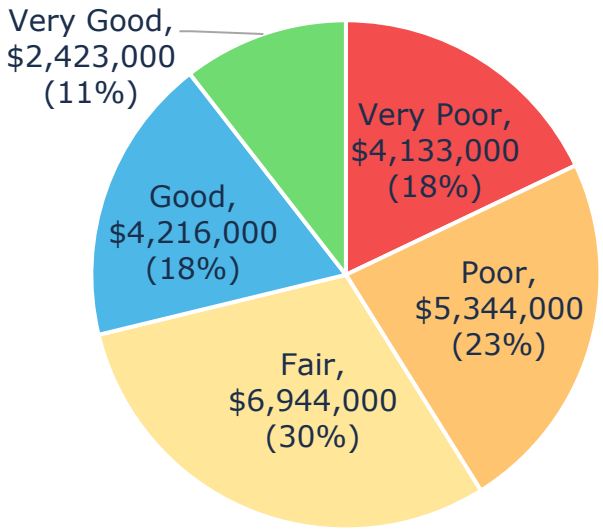


Figure 71 Asset Condition: Fleet Overall

Figure 72 summarizes the condition of fleet by each department. The vast majority of vehicles that support critical services such as fire are in fair or better condition. Assets in poor or worse condition are concentrated primarily in animal control.

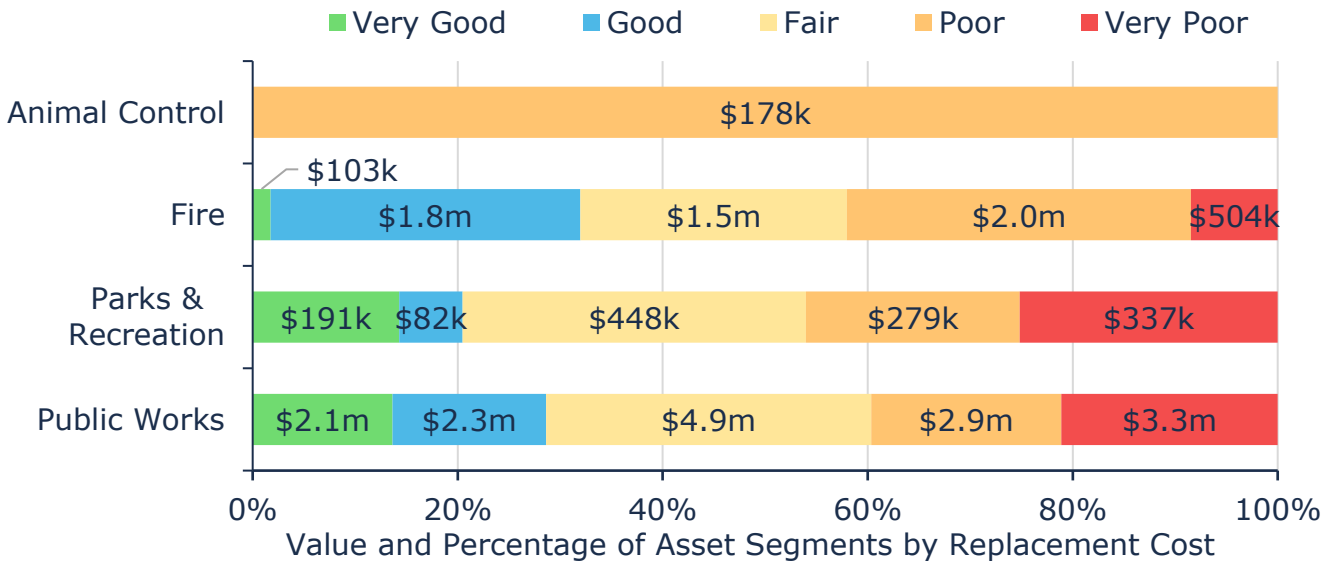


Figure 72 Asset Condition: Fleet by Segment

12.3 Age Profile

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

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

Figure 73 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.

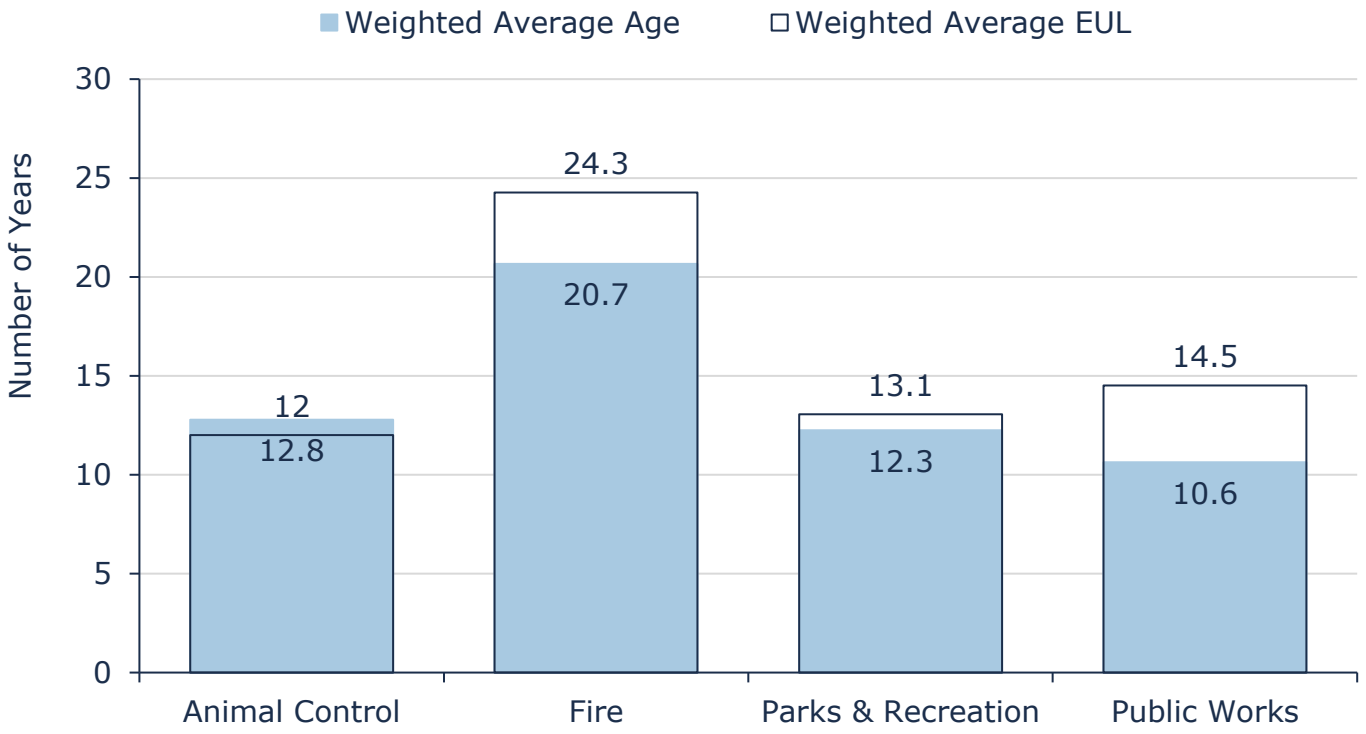


Figure 73 Estimated Useful Life vs. Asset Age: Fleet

Age analysis reveals that, on average, most vehicles are in the latter stages of their expected life. Assets in animal control remain in service well beyond their established useful life.

12.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	Visual inspections are completed and documented daily; fluids are inspected at every fuel stop; tires are inspected monthly.
	Certification and safety inspections are completed annually, as required.
	Annual preventative maintenance activities include system components check and additional detailed inspections by internal mechanics.
Replacement	Fleet replacement is performed strategically to maximize the estimated useful life and remaining value of the assets, with some assets being transferred or rotated to different departments or lighter function.
	Service life remaining, mileage, performance, regulatory requirements, and annual repair costs are taken into consideration when determining the most appropriate treatment option for fleet assets.
Inspections	Staff complete regular visual inspections of fleet to ensure they are in state of adequate repair prior to operation. Annual certification and safety inspections are completed as required by Commercial Vehicle Operator's Registration (CVOR).
	Inspection of fire-related fleet adhere to National Fire Protection Association (NFPA) requirements.

Table 57 Lifecycle Management Strategy: Fleet

12.5 Forecasted Long-Term Replacement Needs

Figure 74 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the City's fleet portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $1.5 million for all vehicles. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to rise considerably in the current decade, peaking at $9.2 million by 2031 as vehicles reach the end of their useful life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

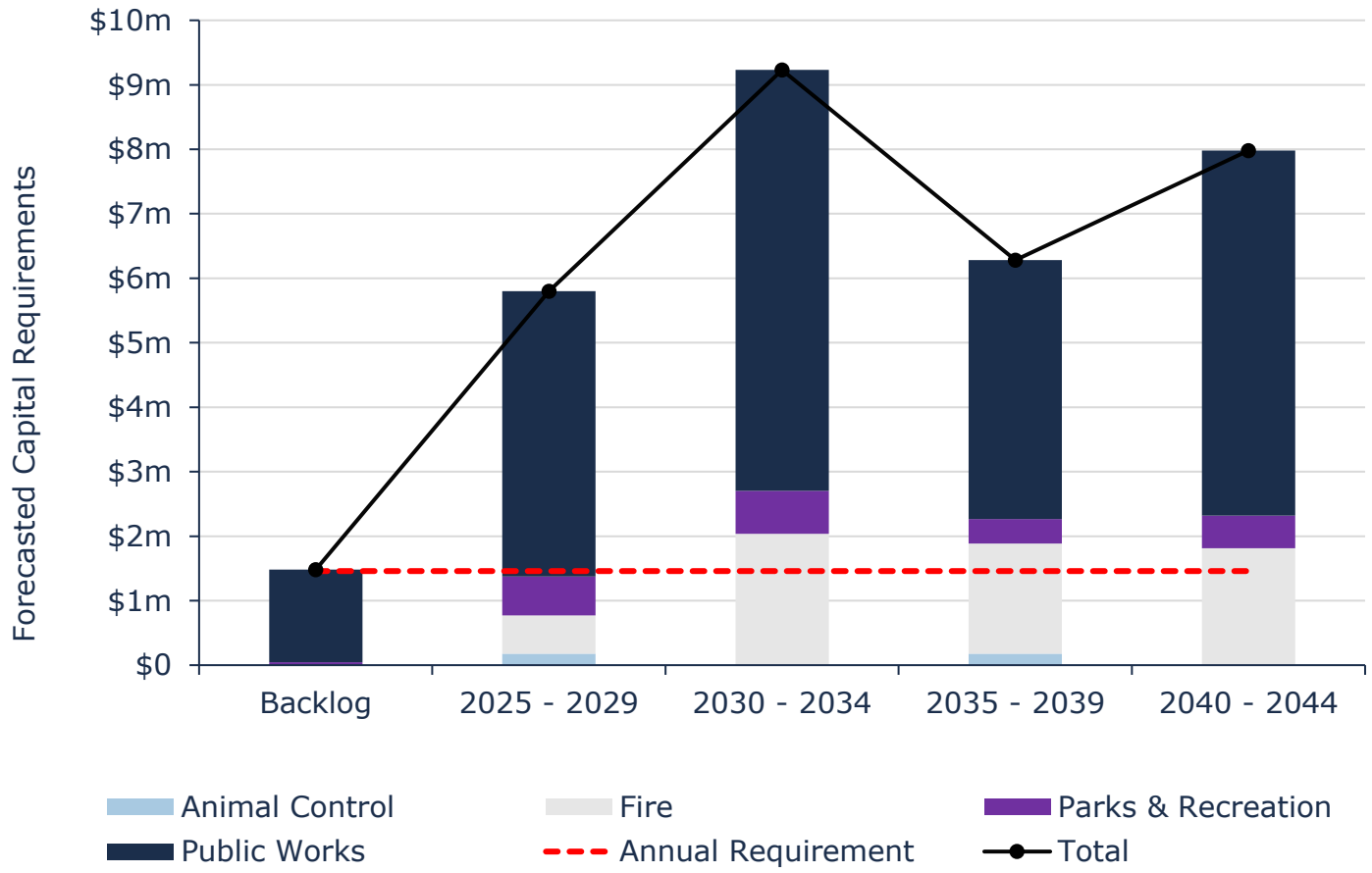


Figure 74 Forecasted Capital Replacement Needs: Fleet 2025-2044

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

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

12.6 Risk Analysis

12.6.1 Risk Matrix

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

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

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

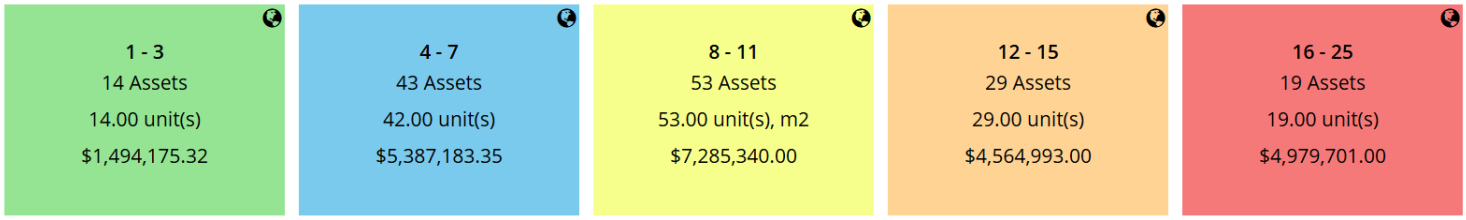


Figure 75 Risk Matrix: Fleet

12.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Inventory Supply & Staff Capability

The City does not have sufficient inventory to efficiently execute lifecycle activities. Excessive use and user-error result in increased asset deterioration and vehicles are often out of commission due to repairs. Further delay is caused by the lack of available parts for repairs. The City should consider investing in expanding the fleet and staff training to reduce asset failure.

Capital Funding Strategies

Fleet procurement and capital rehabilitation projects are often dependent on the availability of grant funding opportunities. When grants are not available, rehabilitation projects or necessary acquisition may be deferred. An annual capital funding strategy can reduce dependency on grant funding and help prevent deferral of capital works.

12.7 Levels of Service

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

12.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Accessible & Reliable	List of fleet that have an annual out-of-service time exceeding 3 days	N/A
Safe & Regulatory	Description of the MTO vehicles inspection process undertaken each year	Fleet within the fire department are inspected in reference to vehicle manuals and in accordance with the guidelines set by the National Fire Protection Association (NFPA). The Commercial Vehicle Operator's Registration (CVOR) Fleet are inspected and maintained by an external, certified mechanic.
Affordable	Description of the lifecycle activities (maintenance, rehabilitation, and replacement) performed on vehicles	Regular maintenance and rehabilitation activities such as servicing, or engine refurbishments are performed when required and/or based on mileage.
Sustainable	Description of the current condition of vehicles and the plans that are in place to maintain or improve the provided level of service	The City develops a 10-year capital plan for its assets' renewal considering the condition, service life remaining, and criticality of those assets. Staff try to maximize the useful life of vehicles by rotating them to light work when they get older and less efficient.

Table 58 Community Levels of Service: Fleet

12.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Accessible & Reliable	% of assets where their age is greater than their useful service life	6%
Safe & Regulatory	# of fleet involved in a collision per year	0
Sustainable	% of fleet that are in good/very good condition	29%
	% of fleet that are in poor/very poor condition	41%
	Average risk rating associated to fleet	10.62 (High)
	Annual Capital Reinvestment Rate	5.01%

Table 59 Technical Levels of Service: Fleet

12.8 Proposed Levels of Service

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

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

12.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (79%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Fleet capital funding maintained at $1.16m/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario maintains existing capital funding levels for fleet as this category is currently 79% funded. ♦ Fleet capital funding maintained at $1.16m/year
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years. ♦ Fleet capital funding increases from $1.16m/year to $1.46m/year.

Table 60 Fleet PLOS Scenario Descriptions

12.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 & 2 (79% Funding)	Average Condition	45%	36%	35%	
	Average Asset Risk	11.6	11.9	12.9	
	Annual Investment Required		$1,156,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		5.0%		
Scenario 3 (100% Funding)	Average Condition	45%	41%	44%	
	Average Asset Risk	11.6	11.1	11.3	
	Annual Investment Required		$1,459,000		This parameter was increased from $1.16m/year to $1.46m/year gradually over 10 years.
	Capital Reinvestment Rate		6.3%		

Table 61 Fleet PLOS Scenario Analysis

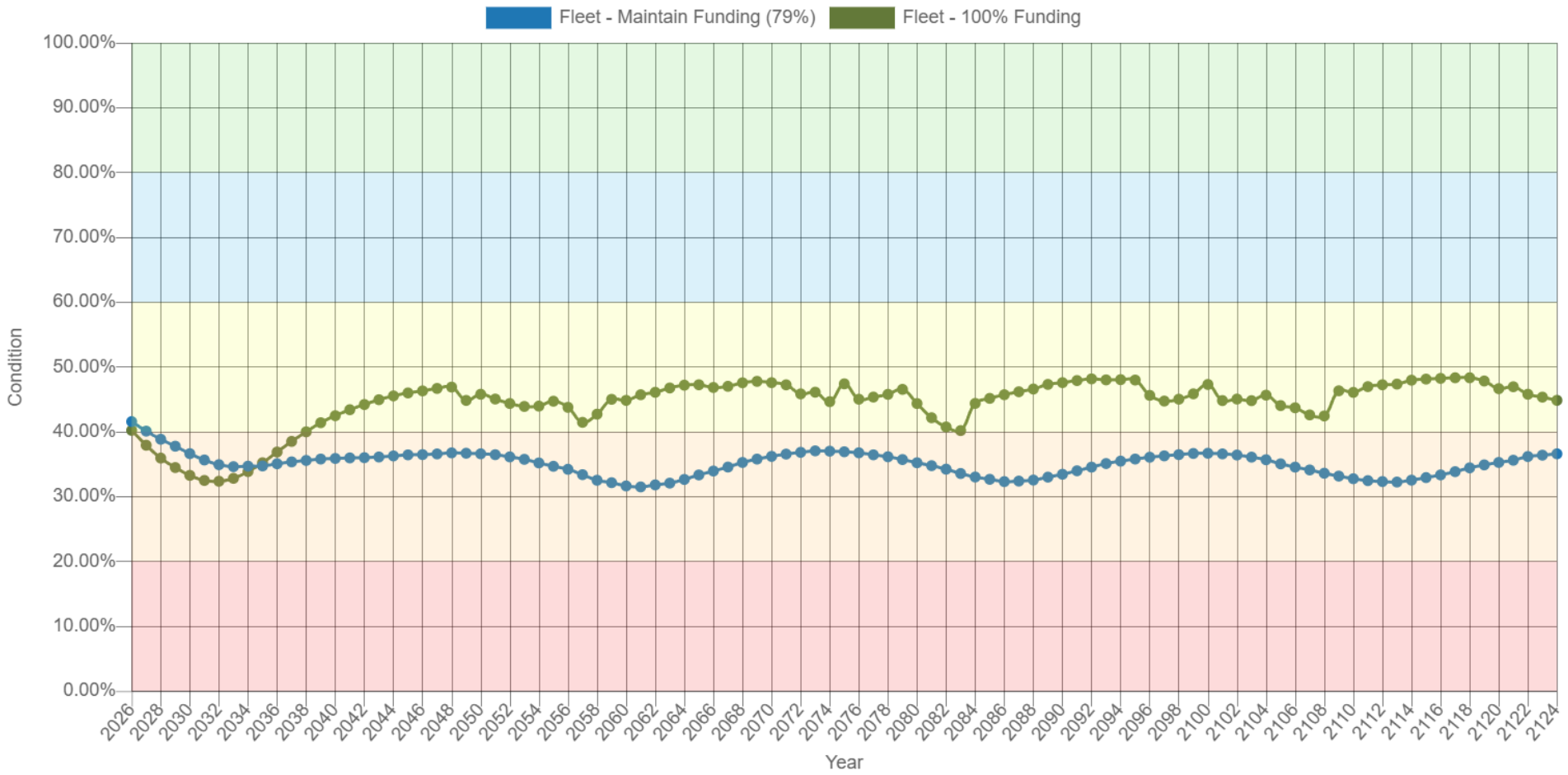


Figure 76 Fleet PLOS Scenario Condition Results

13. Equipment

In order to maintain the high quality of public infrastructure and support the delivery of core services, City staff own and employ several types of equipment. This includes:

- Landscaping equipment to maintain public parks
- Machinery and equipment to maintain and repair core infrastructure
- Machinery to maintain recreational facilities
- Equipment for public use within recreation centers
- Administrative computers and other hardware
- Fire equipment to support the delivery of emergency services

13.1 Inventory & Valuation

Figure 77 summarizes the quantity and current replacement cost of all equipment assets available in the City's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Animal Control	5	Quantity	$64,000	CPI
Cemetery	1	Quantity	$47,000	CPI
Finance & Administration	47	Quantity	$1,116,000	CPI
Fire	1,888	Quantity	$3,150,000	CPI
Museum & Library	37	Quantity	$462,000	CPI
Network & IT	28	Quantity	$1,147,000	CPI
Parks & Recreation	102	Quantity	$1,478,000	CPI
Public Works	450	Quantity	$2,074,000	CPI
TOTAL			**$9,539,000**	

Table 62 Detailed Asset Inventory: Equipment

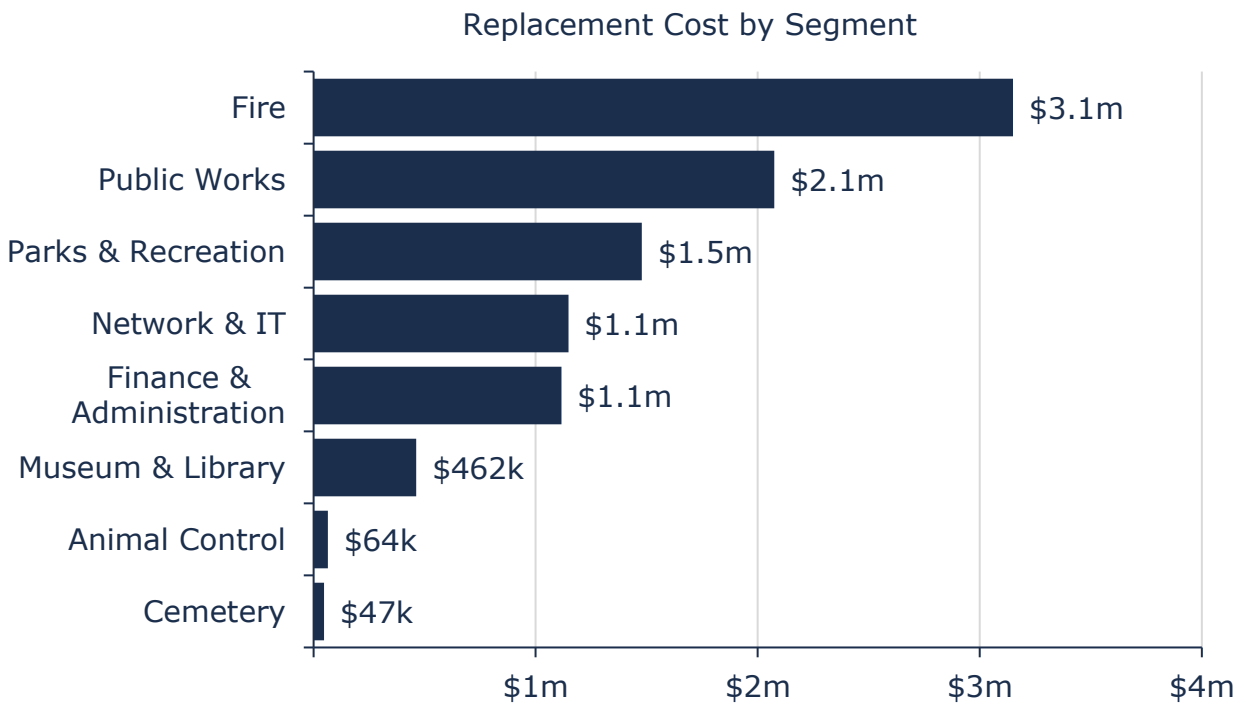


Figure 77 Portfolio Valuation: Equipment

13.2 Asset Condition

Figure 78 summarizes the replacement cost-weighted condition of the City's equipment portfolio. Based primarily on age data, 42% of assets are in fair or better condition; the remaining 58% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

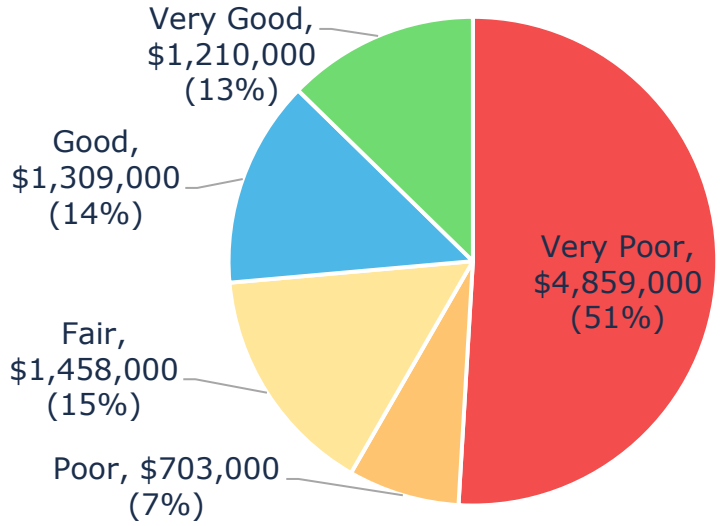


Figure 78 Asset Condition: Equipment Overall

Figure 79 summarizes the age-based condition of equipment by each department. The majority of assets that support fire services are in fair or better condition. Assets in poor or worse condition are concentrated primarily in animal control and finance.

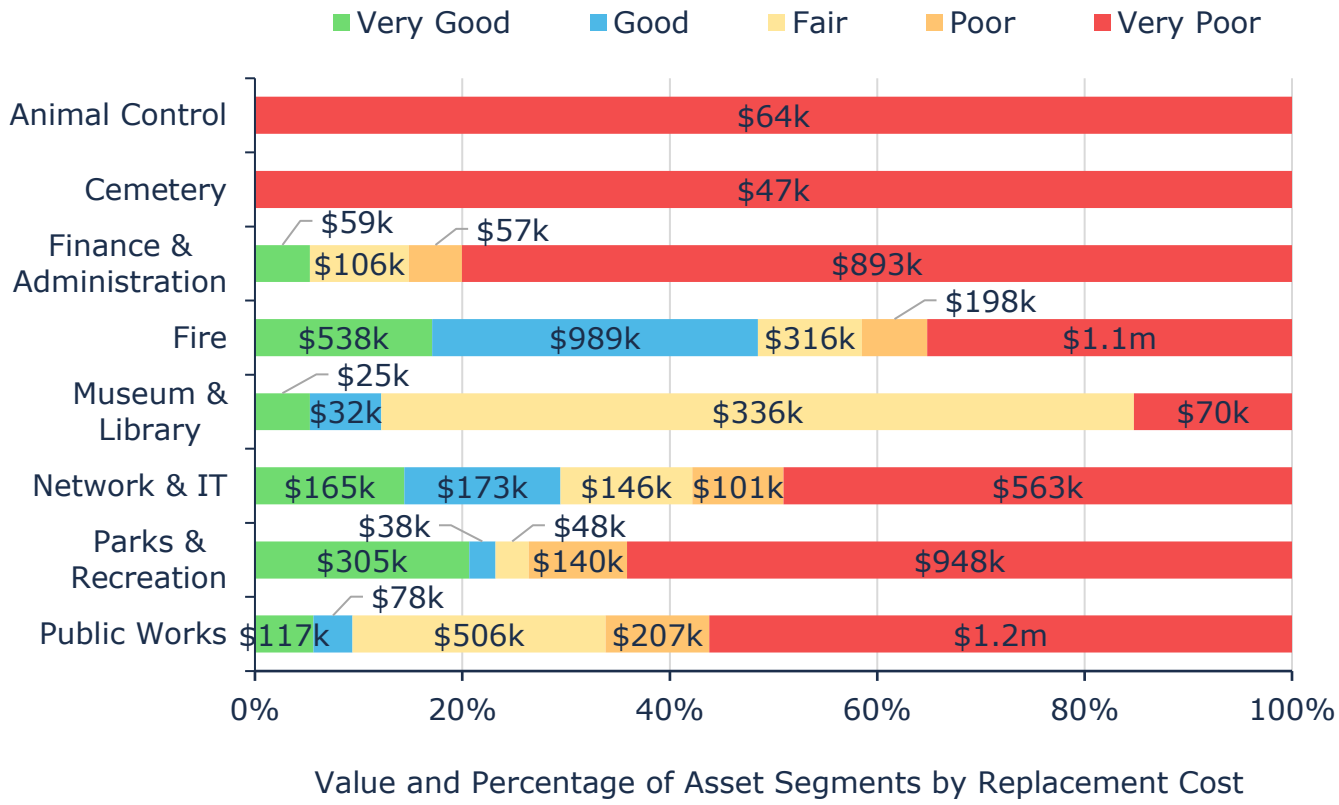


Figure 79 Asset Condition: Equipment by Segment

The high proportion of equipment classified in poor or very poor condition is primarily driven by current data limitations rather than observed operational performance. 96% of equipment asset conditions are based on financial estimated useful lives (EULs) and lack detailed, asset-level condition assessments.

In the absence of condition data, assets that exceed their accounting life are automatically categorized as poor or very poor. Since financial-based EULs are conservative and designed for financial reporting purposes, they often signal end-of-life earlier than actual functional failure. This results in an overstatement of both condition concerns and reinvestment needs.

In practice, many equipment assets continue to operate effectively due to regular maintenance and monitoring. As condition-based assessments are introduced, these ratings are expected to better reflect actual asset performance.

13.3 Age Profile

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

assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

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

Figure 80 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.

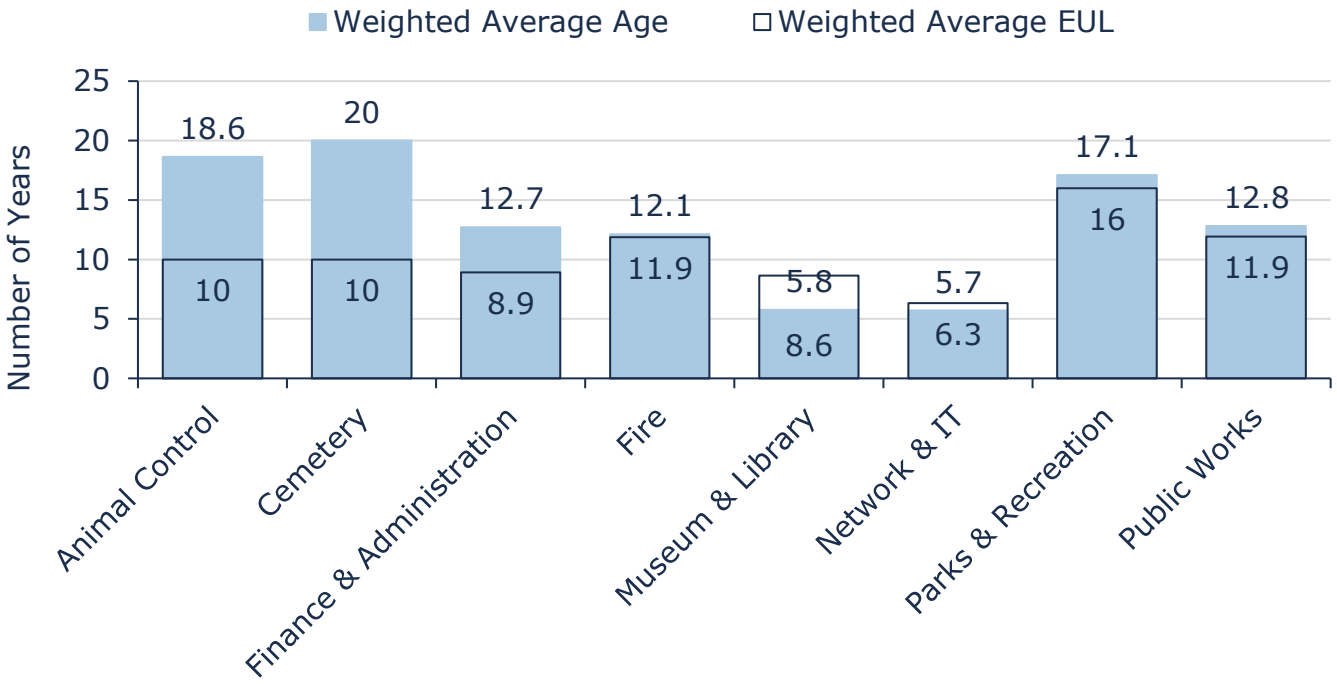


Figure 80 Estimated Useful Life vs. Asset Age: Equipment

Age analysis reveals that, on average, most equipment assets are in the latter stages of their expected life. As previously noted, this is primarily driven by the use of financial-based estimated useful lives, rather than observed condition for 96% of equipment assets.

13.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation/ Replacement	The maintenance program varies by department, but most equipment assets have minimal maintenance activities. Fire equipment and other critical assets are inspected and maintained more riguously.
	Equipment repair and/or replacement is driven by manufacturer recommendations and municipal staff expertise. Staff prioritize the replacement of assets based on their criticality, available redundancies and budget constraints.
Inspections	There are no formal condition assessment programs in place for most equipment, however, internal, and external inspections of equipment are completed as needed to ensure they are in state of adequate repair.

Table 63 Lifecycle Management Strategy: Equipment

13.5 Forecasted Long-Term Replacement Needs

Figure 81 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the City's equipment portfolio. This analysis was run until 2044 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $1.0 million for all equipment. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to remain consistent over the 20-year projection period, peaking at $6.3 million in the next 15 years. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

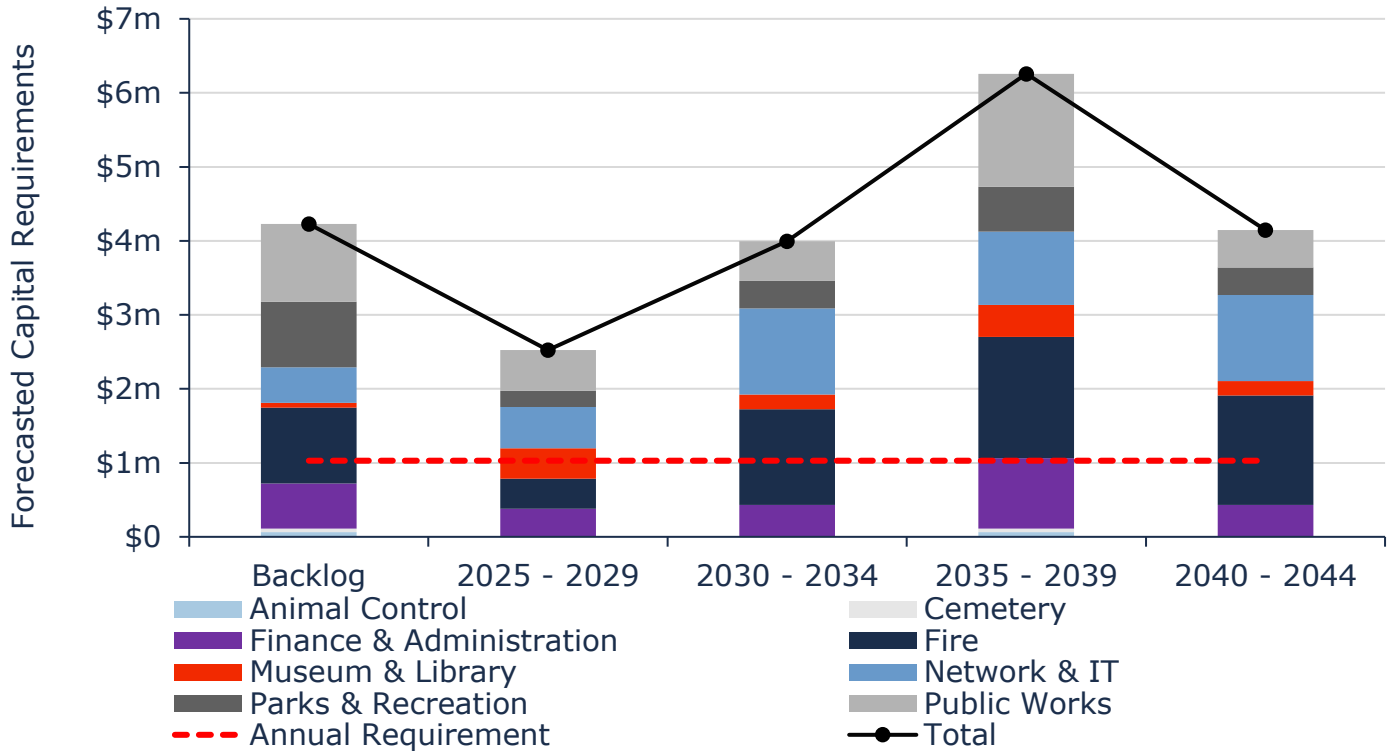


Figure 81 Forecasted Capital Replacement Needs: Equipment 2025-2044

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

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

13.6 Risk Analysis

13.6.1 Risk Matrix

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

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

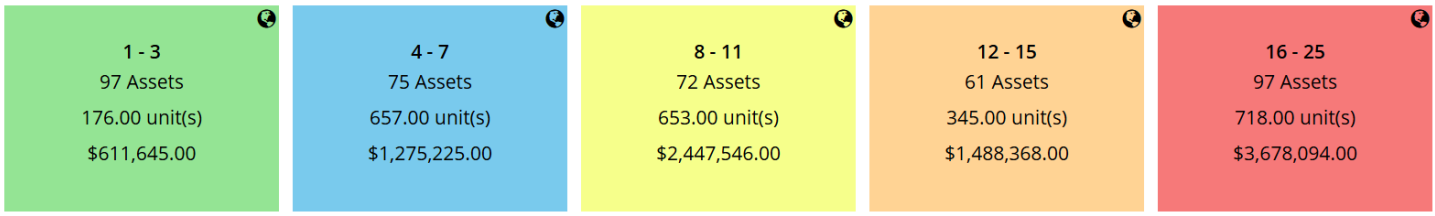


Figure 82 Risk Matrix: Equipment

13.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Aging Infrastructure
A significant portion of equipment assets are approaching or beyond their useful life. As equipment ages, its performance and reliability declines exponentially, leading to an increase in operating expenses to maintain the required level of service.

13.7 Levels of Service

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

13.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Accessible & Reliable	Description of redundancies available to ensure equipment is available, as necessary, for operations	Redundancies are present in the majority of equipment segements to ensure it is available to complete operations. For computers and IT devices, a staff member can work from any City device of which there are many spares. For critical operational activities generally back-ups and/or spares are available.

Service Attribute	Qualitative Description	Current LOS (2024)
Safe & Regulatory	Description of the timelines for equipment inspections and timing for IT software and hardware upgrades	Typical personal computers are replaced every three to four years including software updates if available.
Affordable	Description of the lifecycle activities (maintenance, rehabilitation, and replacement) performed on equipment assets	Lifecycle activities vary widely depending on the type of equipment asset, and are guided by the criticality of the asset and budget constraints. End-of-life replacement is typically employed.
Sustainable	Description of the current condition of equipment and the plans that are in place to maintain or improve the condition	Most equipment assets are maintained reactively, and are repaired/replaced at end-of-life or as-needed.

Table 64 Community Levels of Service: Equipment

13.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Accessible & Reliable	% of assets where their age is greater than their useful service life	44%
Safe & Regulatory	# of workplace injuries due to equipment failures	0
Sustainable	% of equipment that are in good/very good condition	27%
	% of equipment that are in poor/very poor condition	58%
	Average risk rating associated with Equipment assets	13.64 (High)
	Annual Capital Reinvestment rate	3.80%

Table 65 Technical Levels of Service: Equipment

13.8 Proposed Levels of Service

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

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

13.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (35%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Equipment capital funding maintained at $362,000/year
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~1.0%/year, stabilizing at 75% funding across all asset categories in 10 years. ♦ Equipment capital funding increases from $362,000/year to $772,000/year.
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario assumes gradual tax increases of ~2.1%/year, stabilizing at 100% funding across all asset categories in 10 years. ♦ Equipment capital funding increases from $362,000/year to $1.03m/year.

Table 66 Equipment PLOS Scenario Descriptions

13.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (37% Funding)	Average Condition	30%	18%	20%	
	Average Asset Risk	14.7	16.2	16.2	
	Annual Investment Required		$362,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		3.8%		
Scenario 2 (75% Funding)	Average Condition	30%	39%	37%	
	Average Asset Risk	14.7	12.7	12.8	
	Annual Investment Required		$772,000		This parameter was increased from $362,000/year to $772,000/year gradually over 10 years.
	Capital Reinvestment Rate		8.1%		
Scenario 3 (100% Funding)	Average Condition	30%	51%	38%	
	Average Asset Risk	14.7	10.9	12.7	
	Annual Investment Required		$1,029,000		This parameter was increased from $362,000/year to $1.03m/year gradually over 10 years.
	Capital Reinvestment Rate		10.8%		

Table 67 Equipment PLOS Scenario Analysis

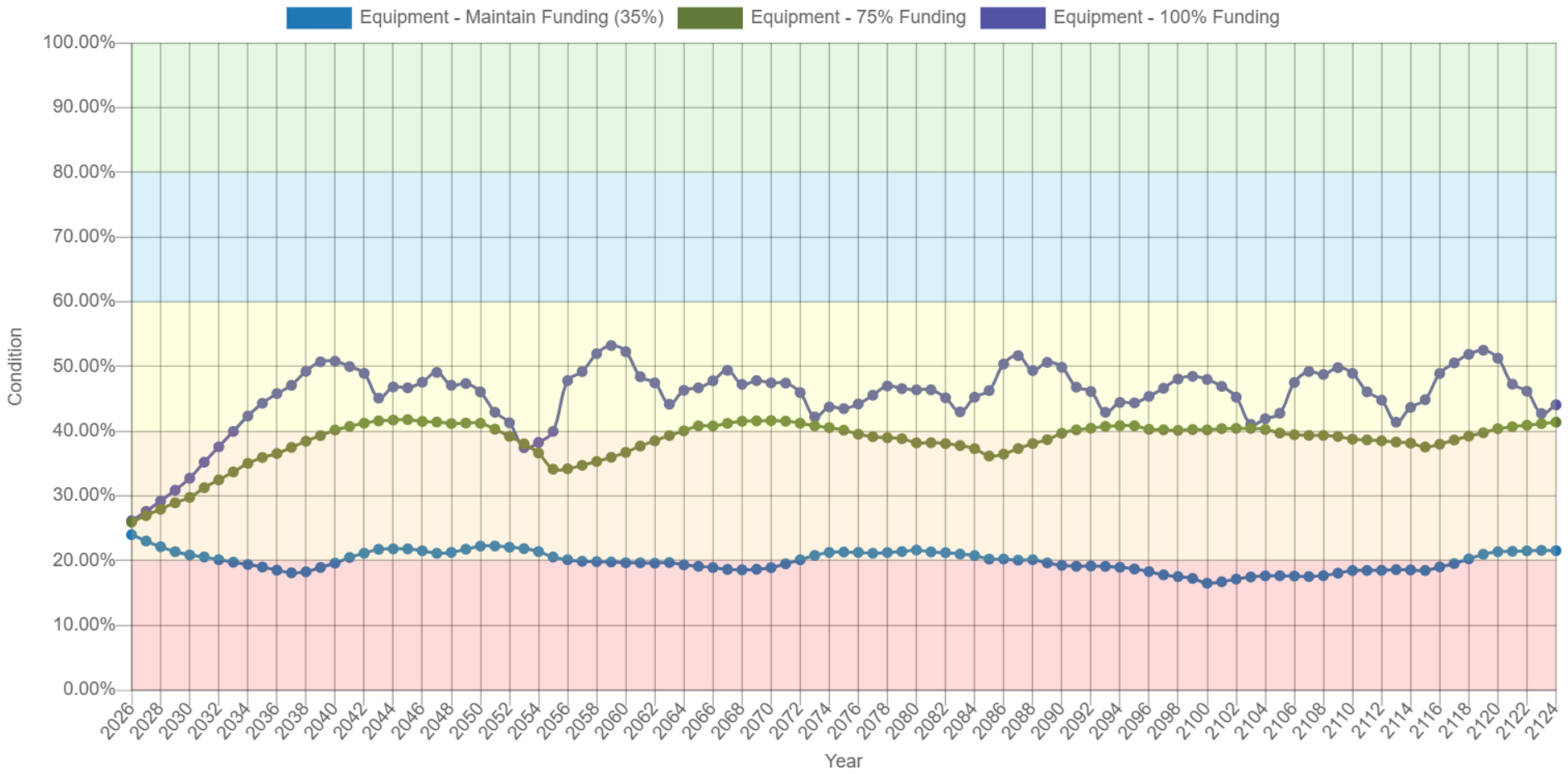


Figure 83 Equipment PLOS Scenario Condition Results

14. Solid Waste

The City of Kenora maintains and operates solid waste services. Staff maintain critical infrastructure to transport and dispose of household waste and recycling. The Solid Waste Network includes the following assets:

- Pick-up trucks, dump trucks, and other vehicles and machinery and equipment utilized by staff to maintain the solid waste network
- Solid waste facilities and transfer stations
- Containers and bins for solid waste storage

14.1 Inventory & Valuation

Table 67 summarizes the quantity and current replacement cost of all solid wase assets available in the City's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Equipment	4	Quantity	$154,000	User-Defined
Fleet	23	Quantity	$4,968,000	User-Defined
Land Improvements	17	Quantity	$903,000	User-Defined
Solid Waste Facilities	11	Quantity	$1,285,000	User-Defined
Transfer Station	16	Quantity	$1,871,000	User-Defined
Landfill	1	Quantity	$1,441,000	
TOTAL			**$10,622,000**	

Table 68 Detailed Asset Inventory: Solid Waste

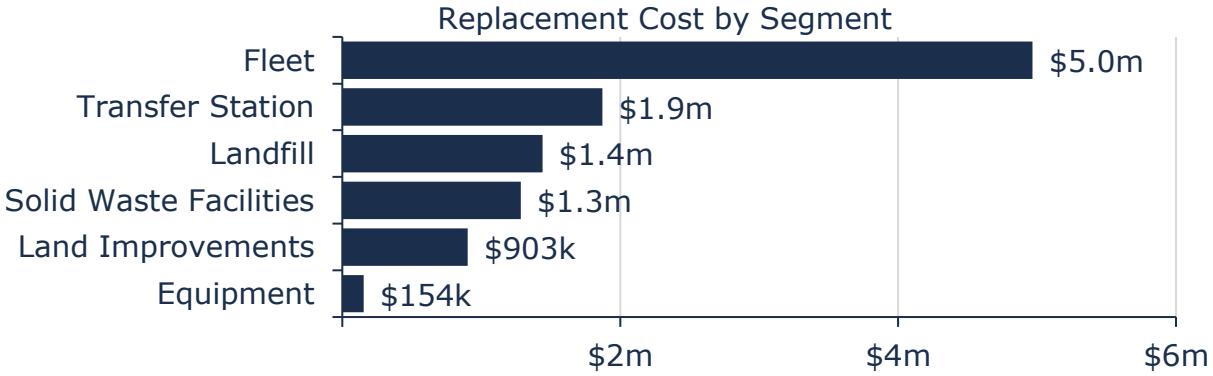


Figure 84 Portfolio Valuation: Solid Waste

14.2 Asset Condition

Figure 85 summarizes the replacement cost-weighted condition of the City's solid waste portfolio. Based primarily on age data, 74% of assets are in fair or better condition; the remaining 26% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

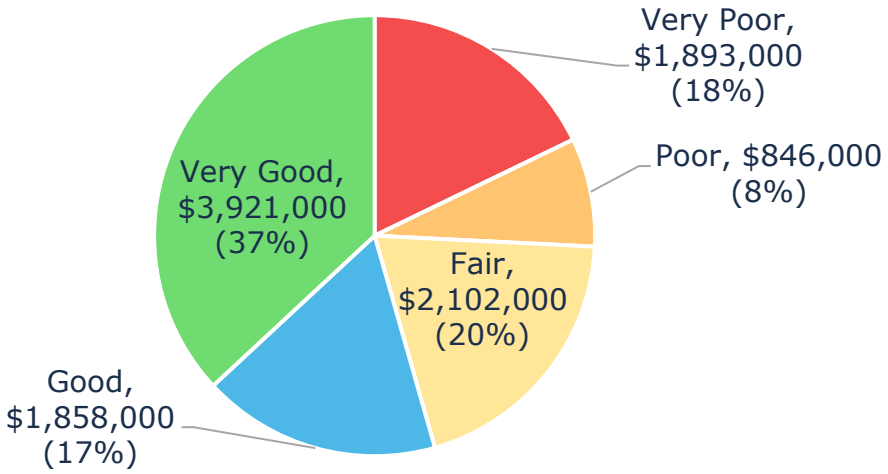


Figure 85 Asset Condition: Solid Waste Overall

Figure 86 summarizes the age-based condition of solid waste by segment. The majority of assets in the solid waste network are in fair or better condition. Assets in poor or worse condition are concentrated primarily in land improvements and equipment.

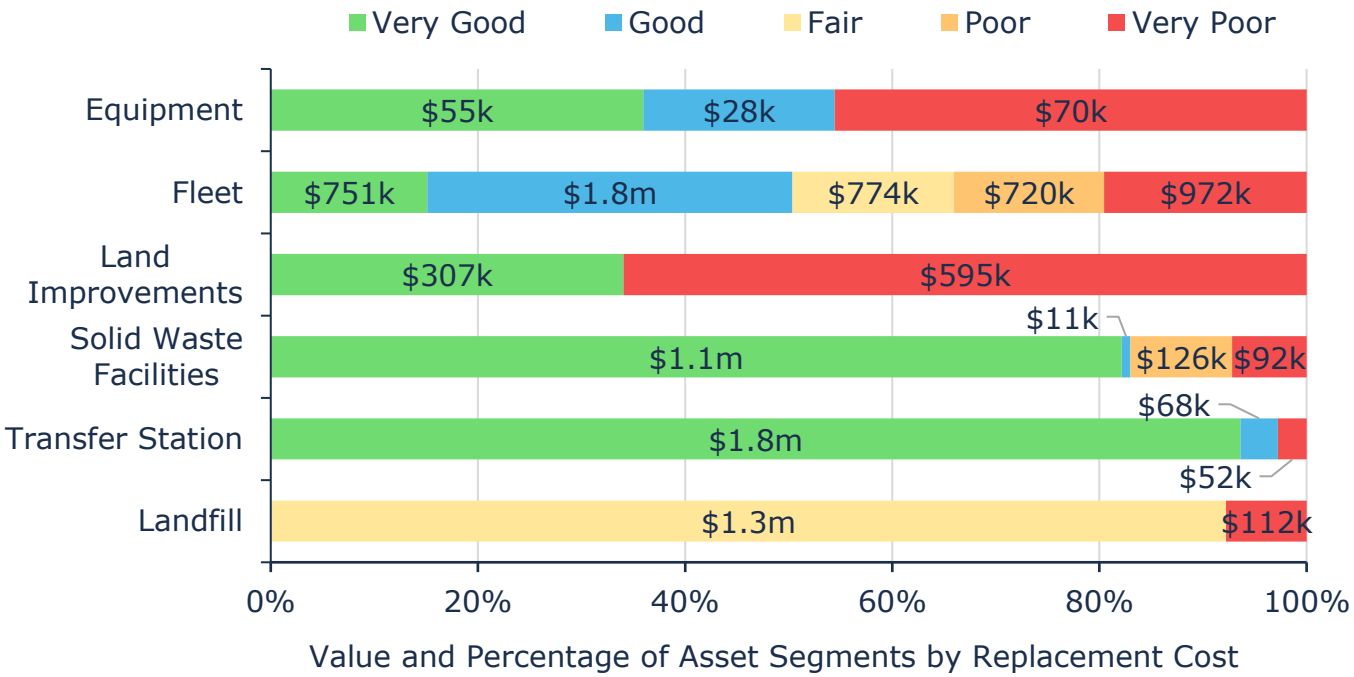


Figure 86 Asset Condition: Solid Waste by Segment

14.3 Age Profile

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

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

Figure 87 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.

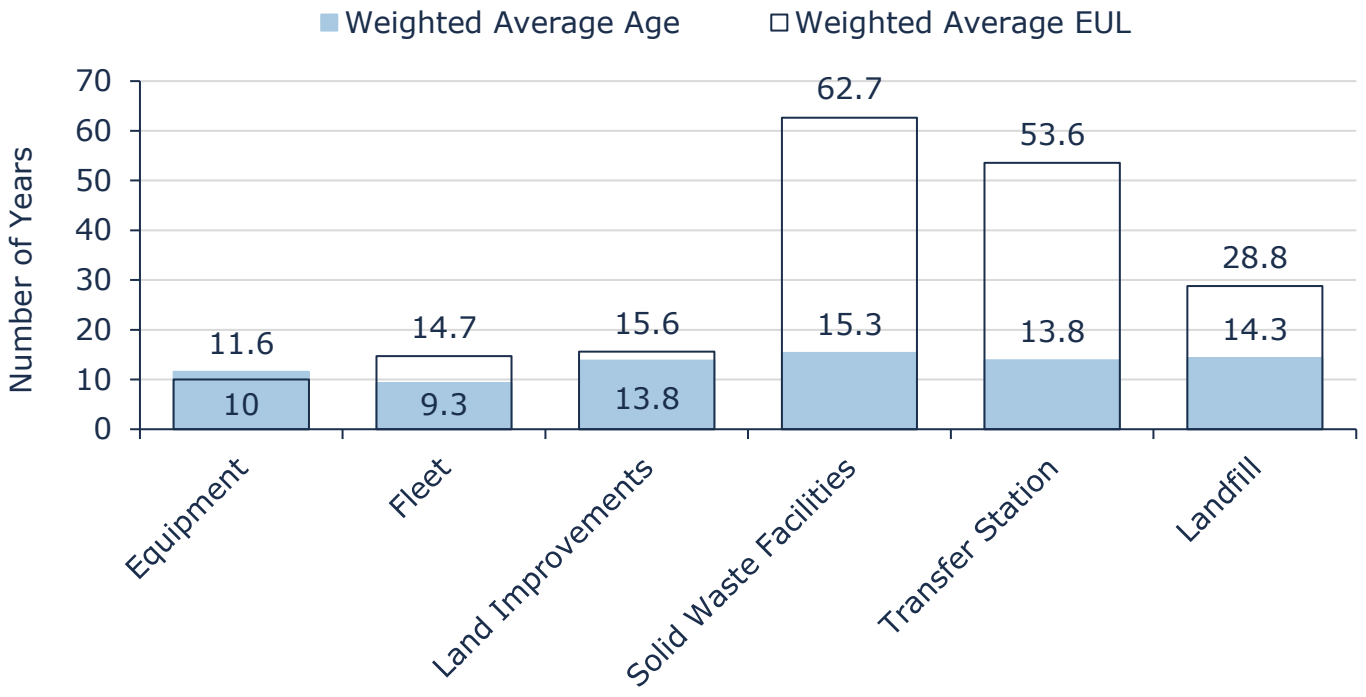


Figure 87 Estimated Useful Life vs. Asset Age: Solid Waste

14.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation/ Replacement	Solid Waste assets include several unique asset types and maintenance activities which are dealt with on a case-by-case basis. Maintenance often includes daily cleaning and inspection.
	In the absence of mid-lifecycle rehabilitative events, most solid waste assets are maintained with the goal of full replacement once they reach end-of-life.
	Replacement activities are identified based on age, performance, regulatory requirements, and budget restraints.
Inspections	Staff complete regular visual inspections of fleet and equipment to ensure they are in state of adequate repair prior to operation. Annual certification and safety inspections are completed as required by Commercial Vehicle Operator's Registration (CVOR).
	Solid waste buildings and stations are inspected in accordance with Building Code Act requirements and have monthly Health and Safety inspections conducted on them.
	Other smaller assets are inspected as-needed.

Table 69 Lifecycle Management Strategy: Solid Waste

14.5 Forecasted Long-Term Replacement Needs

Figure 88 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the City's solid waste portfolio. This analysis was run until 2099 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the City's primary asset management system and asset register. The City's average annual requirements (red dotted line) total $573,000 for all solid waste assets. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

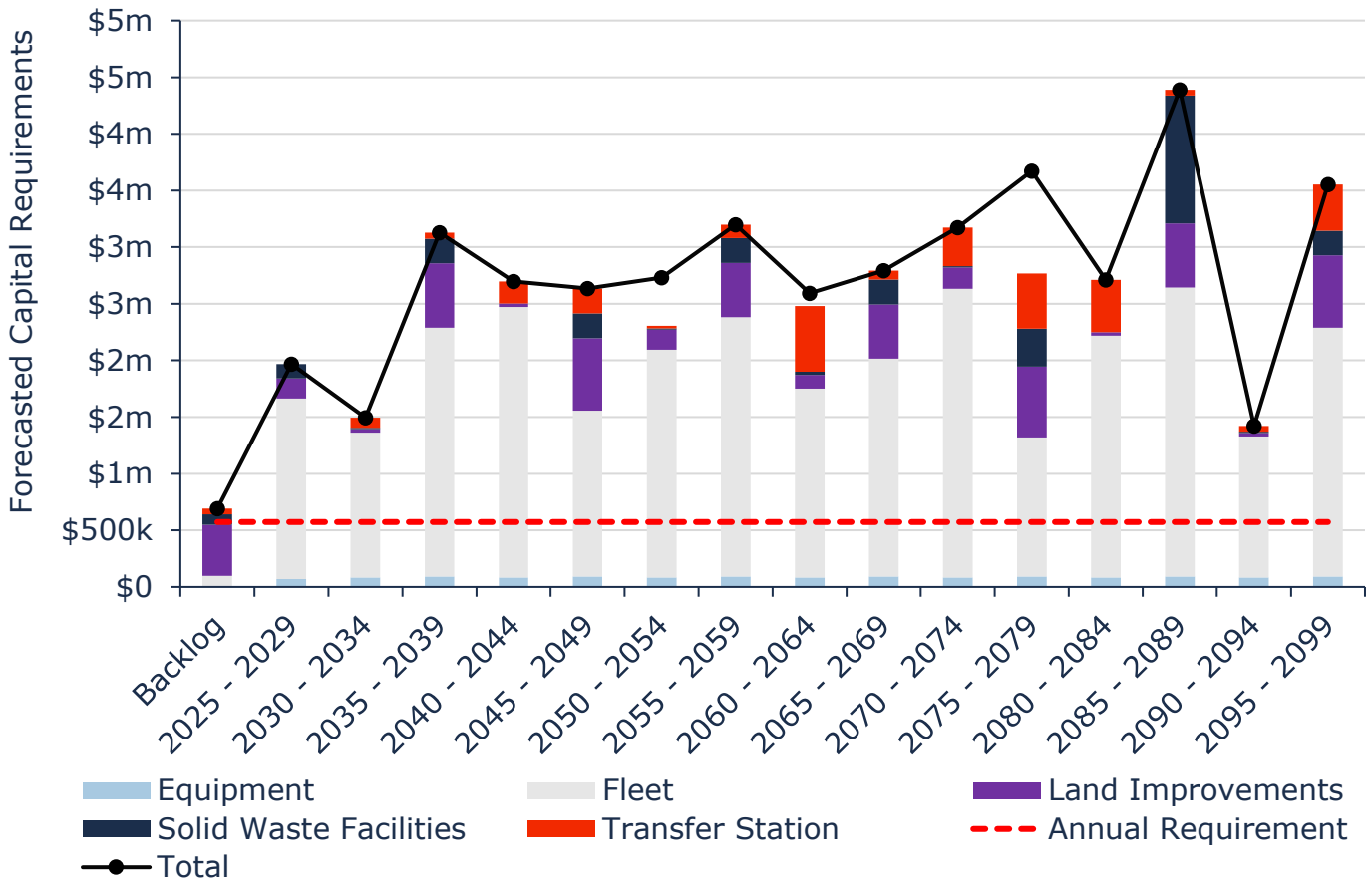


Figure 88 Forecasted Capital Replacement Needs: Solid Waste 2025-2099

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

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

14.6 Risk Analysis

14.6.1 Risk Matrix

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

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

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

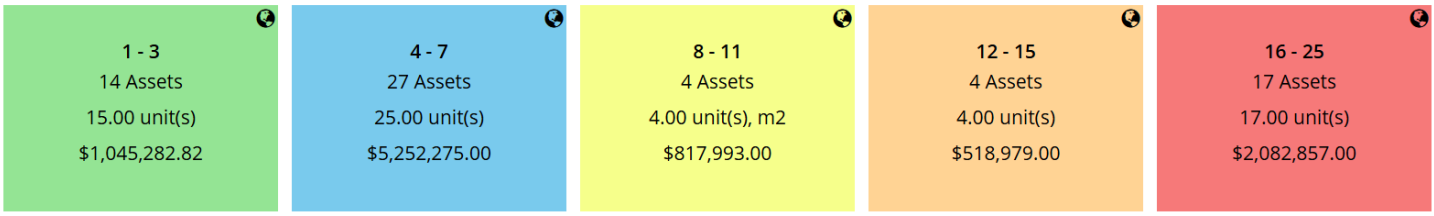


Figure 89 Risk Matrix: Solid Waste

14.6.2 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the City is currently facing:

Asset Data & Information
There is a lack of confidence in the available condition information for the solid waste assets; only 5% of the network has assessed condition. Staff plan to prioritize data refinement efforts and hope condition assessments for solid waste infrastructure. Assessed condition will help staff develop better defined strategies that will extend the network's lifecycle, increase capacity for growth, and the lower total cost.

14.7 Levels of Service

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

14.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the solid waste operational system	See Appendix C – Level of Service Maps & Photos

Table 70 Community Levels of Service: Solid Waste

14.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Accessible	# of waste facility transactions per site	53,696
Safe & Regulatory	# of regulatory non-compliance events per year (Ministry of Environment, Conservation and Parks requirements)	0
	Residential diversion rate of waste from landfill (%)	31.3%
	Total diversion rate of waste from landfill (%)	5.9%
	# of required inspections completed of landfill sites and transfer stations	12
	# of workplace incidents per FTE per year	10
	# of incidents of non-compliance events related to groundwater tests	0
	# of complaints received related to regulatory compliance of waste facility operations	0
	# of MECP inspections conducted on City facilities	0
	# of orders or recommendations received from the Ministry of Environment	0
	# of orders or recommendations received from the Ministry of Labour	0
	# of orders or recommendations received from the Ministry of Natural Resources	0
Sustainable	Annual tonnage of waste buried	23,307
	Annual capital reinvestment rate	5.92%
	% of solid waste assets in good/very good condition	54%
	% of solid waste assets in poor/very poor condition	26%
	Average Risk Rating associated to solid waste assets	8.8 (Moderate)

Table 71 Technical Levels of Service: Solid Waste

14.8 Proposed Levels of Service

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

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

14.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Maintain Current Funding Level (110%)	This scenario maintains existing capital funding levels for those categories that are underfunded. ♦ Solid Waste capital funding maintained at $629,000
Scenario 2: Achieving 75% Target Funding in 10 Years	This scenario maintains existing capital funding levels as Solid Waste is already 100% funded. ♦ Solid Waste capital funding maintained at $629,000
Scenario 3: Achieving 100% Target Funding in 10 Years	This scenario maintains existing capital funding levels as Solid Waste is already 100% funded. ♦ Solid Waste capital funding maintained at $629,000

Table 72 Solid Waste PLOS Scenario Descriptions

14.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1, 2 & 3 (110% Funding)	Average Condition	61%	60%	58%	
	Average Asset Risk	10.0	10.4	10.7	
	Annual Investment Required		$629,000		This is the maintained parameter in this scenario
	Capital Reinvestment Rate		5.9%		

Table 73 Solid Waste PLOS Scenario Analysis

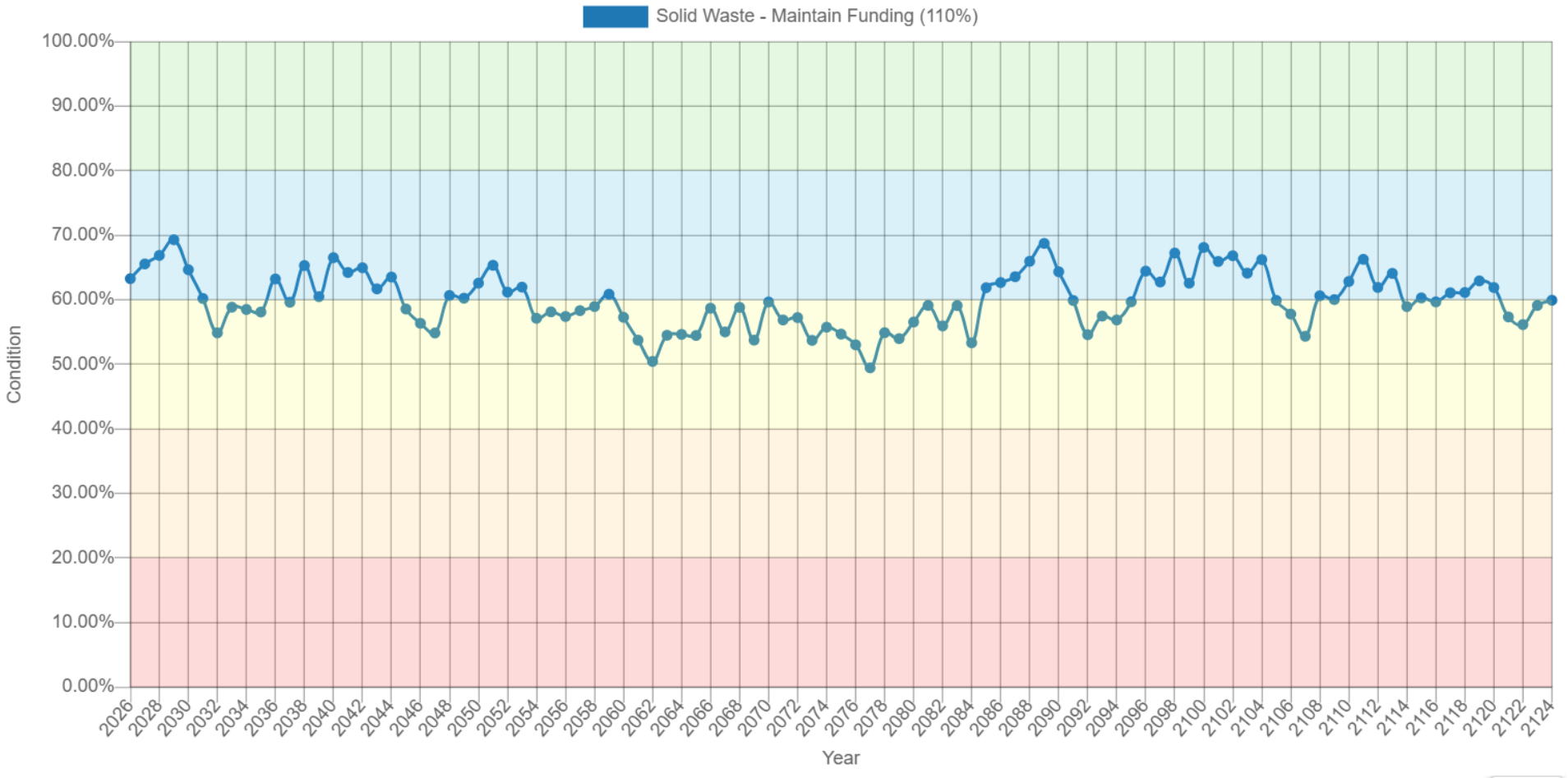


Figure 90 Solid Waste PLOS Scenario Condition Results

Strategies

15. Growth

The demand for infrastructure and services will change over time based on a combination of internal and external factors. Understanding the key drivers of growth and demand will allow the City to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure. Increases or decreases in demand can affect what assets are needed and what level of service meets the needs of the community.

15.1 Growth Assumptions

15.1.1 Charting our Course 2027 Strategic Plan (2022)

The City of Kenora adopted its Strategic Plan (Charting our Course 2027) for the years 2022–2027, which establishes a forward-looking framework focused on building a resilient, sustainable, and vibrant community. The Plan emphasizes key priorities such as:

- Economic diversification and growth
- Responsible infrastructure management
- Housing availability
- Organizational capacity
- Community well-being
- Environmental sustainability
- Tourism development
- Cultural inclusion
- Advocacy for sustainable funding

These priorities are closely supported by the continued advancement of the City's asset management program. A central focus of the Strategic Plan is strengthening the City's foundation through the effective management and maintenance of municipal infrastructure. This Asset Management Plan (AMP) aligns with the Strategic Plan by supporting informed decision-making, long-term financial sustainability, and strategic investment in infrastructure, ensuring the City is well-positioned to meet current and future community needs.

15.1.2 Kenora Official Plan (2015) & Official Plan Review (2024)

The City of Kenora's Official Plan guides future growth in the city by outlining the municipality's positions on land use, community improvement, and what services like roads, watermains, sewers, and parks will be needed. The current plan was adopted by council in May of 2015; however, a review of the plan has been initiated, and a new Official Plan is expected to be approved in 2026.

The City's Official Plan emphasizes the role of asset management planning. Policies are proposed to guide the provision of municipal services in a fiscally responsible and sustainable manner. Extensions of water and sewer services must be efficiently coordinated with land use planning and phased appropriately. Strategic service expansion will focus on areas that support growth and intensification, while minimizing environmental impacts and safeguarding water quality. By prioritizing infrastructure renewal and targeted investment, Kenora can accommodate future development without compromising its financial stability or natural resources.

The Official Plan Review will include updated population projections from the Final Official Plan and Zoning By-law Background Report produced by WSP Planning Consultants in May 2025. The following table provides the population and employment projections for the year 2051.

	2011	2016	2039 (Projected)
Population	15,348	15,096	19,013
Employment	-	7,510	8,438

Kenora is currently experiencing a housing shortage of 1,620 units according to the City of Kenora Housing Needs Assessment Summative Report 2025. Should the current pace of construction remain unchanged, the report projects this shortage to grow to 2,300 units by 2031.

A Vacant Land Supply Analysis (2025) completed to support the new Official Plan identifies a need for 31.1 gross ha of land to be added to the current Settlement Area to accommodate projected growth.

15.2 Impact of Growth on Lifecycle Activities

Future versions of the City's asset management plan must include assumptions regarding projected changes in population and economic activity informing the preparation of lifecycle management and financial strategies.

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

The City has developed and adopted numerous documents to guide strategic planning and promote growth. Such documents include but are not limited to the following: Community Improvement Plans, Housing Plans, Parks and Recreation Master Plan, Sustainable Action Plan, and Service Delivery Review Report. These documents, paired with this AMP will inform the expected impact of growth on municipal lifecycle activities.

16. Financial Strategy

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the City of Kenora to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels (none identified for this plan)
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community-Building Fund (CCBF)
    b. Annual grants

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

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

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

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

16.1 Annual Requirements & Capital Funding

16.1.1 Annual Requirements

The annual requirements represent the amount the City should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability. In total, the City must allocate approximately $29.15 million annually to address capital requirements for the assets included in this AMP.

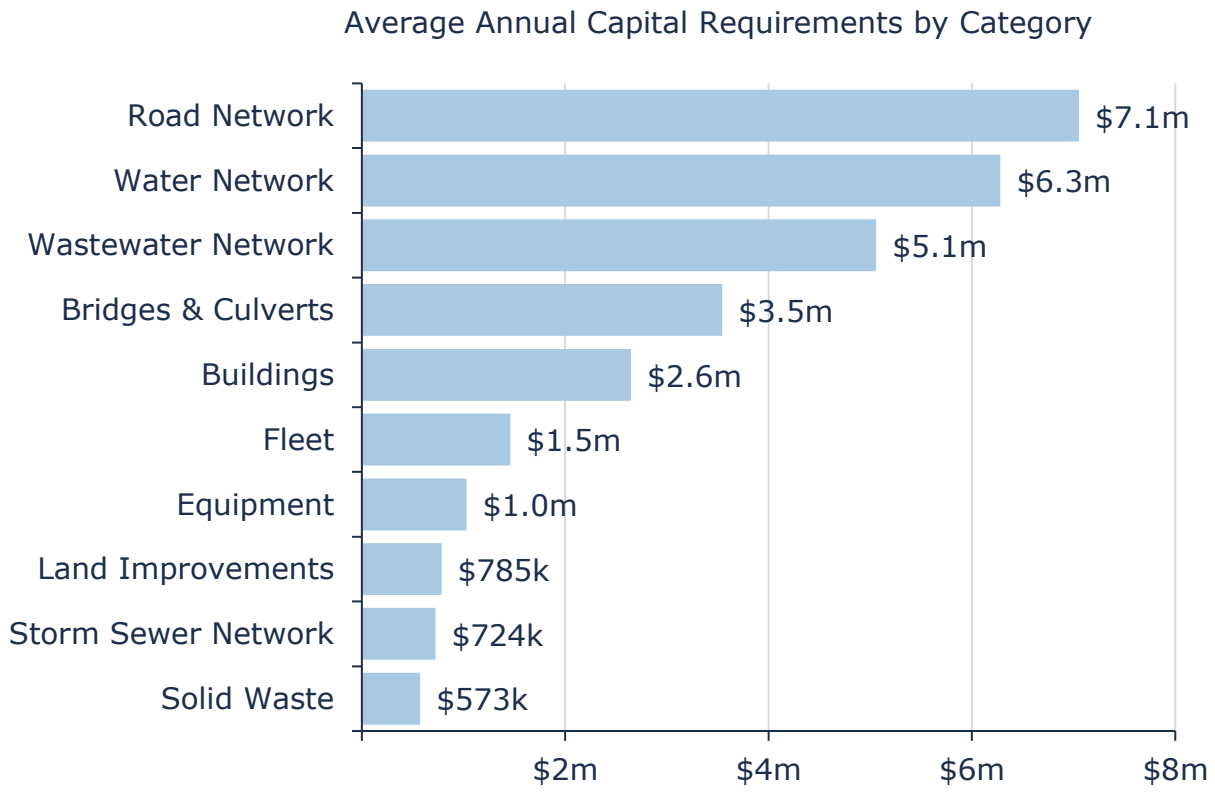


Figure 91 Annual Capital Funding Requirements by Asset Category

For most asset categories the annual requirement has been calculated based on a "replacement only" scenario, in which capital costs are only incurred at the construction and replacement of each asset.

However, for the road network and bridges and culverts, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the City's roads and sanitary sewer mains respectively. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented.

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

The implementation of a proactive lifecycle strategy can lead to direct and indirect cost savings. Potential cost savings are influenced by current rehabilitation and reconstruction costs, the coordination of multiple projects, and the criticality of the assets and projects. Beyond cost savings, having proactive lifecycle strategies can also decrease the number of complaints received, lower health and safety hazards, and maintain the desired level of service that the City wants to achieve.

16.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the City is committing approximately $14.07 million towards capital projects per year. Given the annual capital requirement of $29.15 million, there is currently a funding gap of $15.08 million annually.

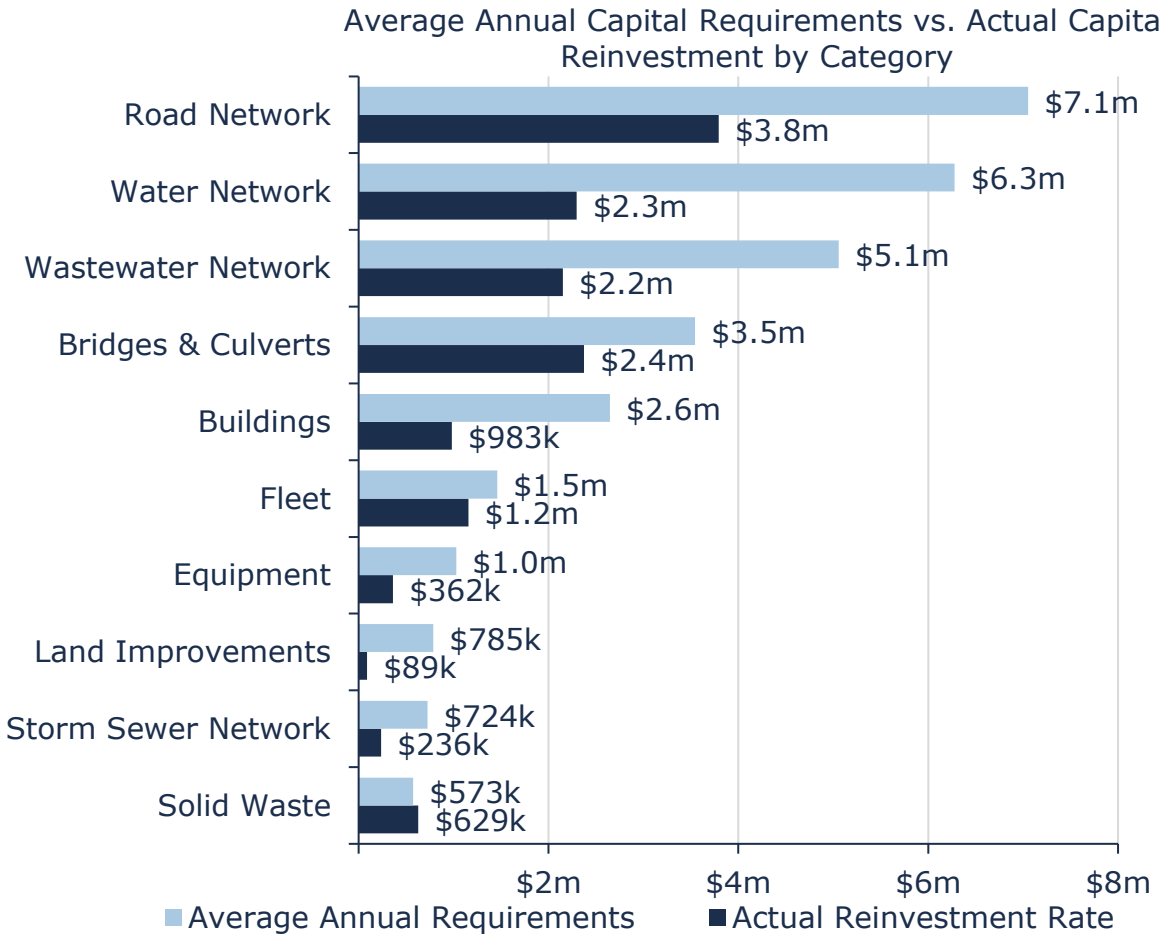


Figure 92 Annual Requirements vs. Capital Funding Available

16.2 Funding Objective

We have developed a scenario that would enable City of Kenora to achieve full funding within 10 years for the following assets:

1. **Tax Funded Assets:** Road Network, Storm Sewer Network, Bridges & Culverts, Buildings, Equipment, Land Improvements, Fleet

2. **Rate-Funded Assets:** Water Network, Wastewater Network, Solid Waste

Note: For the purposes of this AMP, we have excluded gravel roads since they are a perpetual maintenance asset and end of life replacement calculations do not normally apply. If gravel roads are maintained properly, they can theoretically have a limitless service life.

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

16.3 Financial Profile: Tax Funded Assets

16.3.1 Current Funding Position

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

Asset Category	Avg. Annual Require-ment	Annual Funding Available				Annual Deficit
		Taxes/ Reserves	CCBF	OCIF	Total Available	
Road Network	7,052,000	1,398,796	0	2,393,371	3,792,167	3,259,833
Storm Sewer Network	724,000	236,250	0	0	236,250	487,750
Bridges & Culverts	3,543,000	1,394,658	980,342	0	2,375,000	1,168,000
Buildings	2,646,000	982,817	0	0	982,817	1,663,183
Equipment	1,029,000	362,436	0	0	362,436	666,564
Land Improve-ments	785,000	88,501	0	0	88,501	696,499
Fleet	1,459,000	1,156,150	0	0	1,156,150	302,850
Total	**17,238,000**	**5,589,608**	**980,342**	**2,393,371**	**8,993,321**	**8,244,679**

Table 74 Annual Available Funding for Tax Funded Assets

The average annual investment requirement for the above categories is $17.24 million. Annual revenue currently allocated to these assets for capital purposes is $8.99 million leaving an annual deficit of $8.24 million. Put differently, these infrastructure categories are currently funded at 52.2% of their long-term requirements.

16.3.2 Full Funding Requirements

In 2024, the City of Kenora had budgeted annual tax revenues of approximately $33.85 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Road Network	9.6%
Storm Sewer Network	1.4%
Bridges & Culverts	3.5%
Buildings	4.9%
Equipment	2.0%
Land Improvements	2.1%
Fleet	0.9%
Total	**24.4%**

Table 75 Tax Increase Requirements for Full Funding

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

a) Kenora's debt payments for these asset categories will be decreasing $646,000 by 2034.

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

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	8,244,679	8,244,679	8,244,679	8,244,679
Change in Debt Costs	-461,207	-646,323	-646,323	-812,519
Resulting Infrastructure Deficit:	**7,783,472**	**7,598,356**	**7,598,356**	**7,432,160**
Tax Increase Required	23.0%	22.4%	22.4%	22.0%
Annually:	**4.3%**	**2.1%**	**1.4%**	**1.0%**

Table 76 Tax Increase Options 5-20 Years

16.3.3 Financial Strategy Recommendations

Considering all the above information and the selected proposed level of service, we recommend maintaining the current tax rates. This involves proposed funding being achieved by:

a) maintaining tax revenues at $8.99 million each year solely for the purpose of maintaining proposed funding to the asset categories covered in this section of the AMP.
b) allocating the current CCBF and OCIF revenue as outlined previously.
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF funding, if applicable, since this funding is a multi-year commitment[5].

Although this option achieves proposed funding on an annual basis and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of $59,000 for bridges and culverts, $3.9 million for buildings, $4.2 million for equipment, $1.5 million for fleet, $2.8 million for land improvements, $17.0 million for the road network and $1.8 million for the storm sewer network.

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

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

16.4 Financial Profile: Rate Funded Assets

16.4.1 Current Funding Position

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

Asset Category	Avg. Annual Require-ment	Annual Funding Available				Annual Deficit
		Rates	To Operations	To Debt	Total Available	
Water Network	6,279,000	6,217,506	-3,786,032	-134,391	2,297,083	3,981,917
Wastewater Network	5,057,000	6,217,506	-4,036,077	-31,206	2,150,223	2,906,777
Solid Waste	573,000	2,933,012	-2,303,887	0	629,125	-56,125
Total	**11,909,000**	**15,368,024**	**-10,125,996**	**-165,597**	**5,076,431**	**6,832,569**

Table 77 Annual Available Funding for Rate Funded Assets

The average annual investment requirement for the above categories is $11.91 million. Annual revenue currently allocated to these assets for capital purposes is $5.08 million, leaving an annual deficit of $6.83 million. Put differently, these infrastructure categories are currently funded at 42.6% of their long-term requirements.

16.4.2 Full Funding Requirements

In 2024, Kenora had annual sanitary revenues of $6.22 million, annual water revenues of $6.22 million, and annual solid waste revenues of $2.93 million. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Water Network	64.0%
Wastewater Network	46.8%
Solid Waste	-1.9%

Table 78 Rate Increase Requirements for Full Funding

Rate projections for the water and wastewater systems to achieve full funding requirements have been developed using the increases outlined in the approved rate study. This ensures alignment between the asset management plan and the utility's financial framework, with rates grounded in a full-cost recovery model that considers operating, capital, and lifecycle funding

requirements. The following table identifies the rate increases recommended by the 2025 Water and Wastewater Rate Study:

Customer Type	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential – Single-detached	8.8%	5.2%	8.8%	8.8%	8.8%	8.8%	8.9%	8.9%	8.9%
Large Commercial	9.2%	59.8%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Multi-residential Building	8.8%	-32.6%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Multi-residential Unit	8.8%	-32.6%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%

Table 79 Annual Water and Wastewater Rate Forecasts

Solid waste services are currently funded at 100% of their targeted capital requirements; therefore, no rate increases have been modeled for solid waste assets at this time. It is important to note that this funding level reflects only the maintenance and replacement of existing assets.

Future rate adjustments may be required to support new infrastructure, such as the development of a new landfill. In addition, the average annual funding identified in this analysis addresses capital needs only. Any increases required to address rising operating costs would need to be considered separately.

16.4.3 Financial Strategy Recommendations

Considering all of the above information and the selected proposed level of service, we recommend maintaining the current rates. This involves proposed funding being achieved by:

a) maintaining $629,000 for solid waste services each year solely for the purpose of maintaining proposed funding to the asset categories covered in this section of the AMP.
b) maintaining current water and wastewater rates to support the proposed funding levels to the asset categories covered in this section of the AMP. Council has already approved the 2026 rate increase in alignment with the recommendations of the water and wastewater rate study. The affordability and feasibility of the wastewater study recommendations should be reviewed annually, with the intention of following the plan as closely as possible
c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
2. Any increase in rates required for operations would be in addition to the above recommendations.

Although this option achieves proposed funding on an annual basis and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment

demand of $33.6 million for the water network, $7.4 million for the wastewater network, and $692,000 for solid waste.

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

16.5 Use of Debt

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

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

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

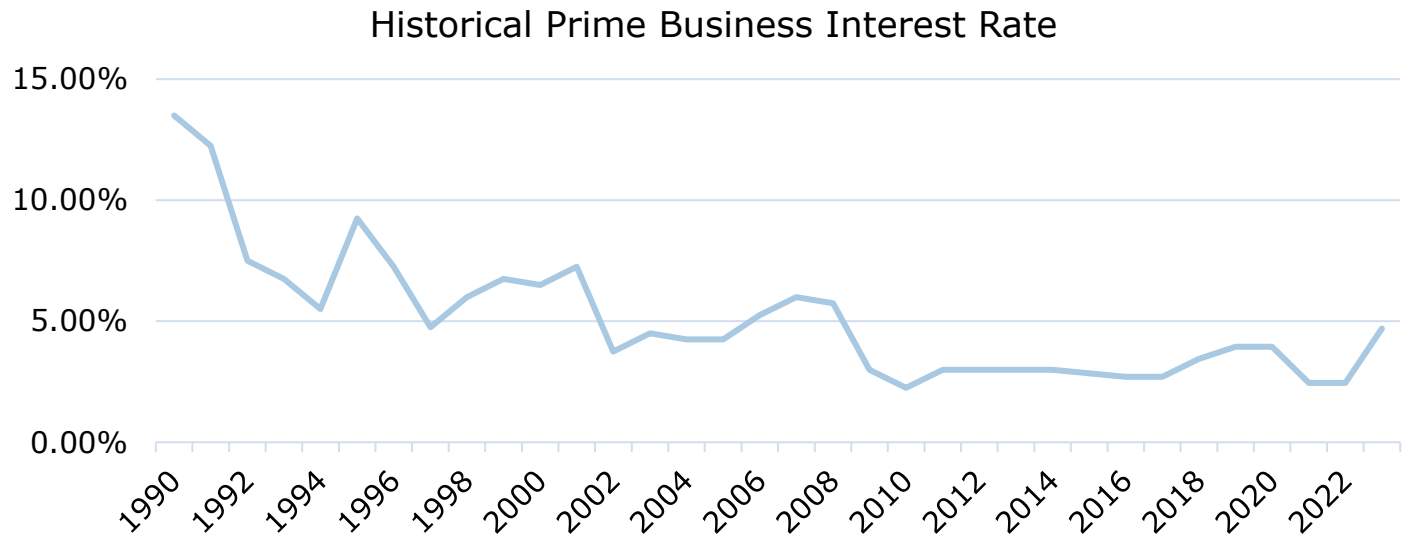


Figure 93 Historical Prime Rate

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

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a $1 million project financed at 3.0%[6] over 15 years would result in a 26% premium or $260 thousand of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

Interest Rate	Number of Years Financed					
	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

Table 80 Interest Premiums Paid

The following tables outline how Kenora has historically used debt for investing in the asset categories as listed. As of year-end 2024, there is currently $7.6 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $979,000, well within its provincially prescribed maximum of $12.3 million.

[6] Current municipal Infrastructure Ontario rates for 15-year money is 4.03%.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2019	2020	2021	2022	2023
Road Network	2,083,194	0	0	0	152,169	152,169
Storm Sewer Network	1,266,365	0	0	0	83,098	83,098
Bridges & Culverts	0	0	0	0	0	0
Buildings	1,719,345	0	0	0	576,452	576,452
Equipment	0	0	0	0	0	0
Land Improvements	0	0	0	0	0	0
Fleet	0	0	0	0	0	0
Total Tax Funded	**5,068,904**	**0**	**0**	**0**	**811,719**	**811,719**
Water Network	1,266,365	0	0	0	83,098	83,098
Wastewater Network	1,266,365	0	0	0	83,098	83,098
Solid Waste	0	0	0	0	0	0
Total Rate Funded	**2,532,730**	**0**	**0**	**0**	**166,197**	**166,197**

Table 81 Kenora Use of Debt 2019-2023

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Road Network	152,169	152,169	152,169	152,169	152,169	83,098	83,098
Storm Sewer Network	83,098	83,098	83,098	83,098	83,098	83,098	83,098
Bridges & Culverts	0	0	0	0	0	0	0
Buildings	577,252	494,233	434,224	116,045	116,045	116,045	0
Equipment	0	0	0	0	0	0	0
Land Improvements	0	0	0	0	0	0	0
Fleet	0	0	0	0	0	0	0
Total Tax Funded	**812,519**	**729,501**	**669,492**	**351,312**	**351,312**	**351,312**	**166,197**
Water Network	83,098	83,098	83,098	83,098	83,098	83,098	83,098
Wastewater Network	83,098	83,098	83,098	83,098	83,098	83,098	83,098
Solid Waste	0	0	0	0	0	0	0
Total Rate Funded	**166,197**	**166,197**	**166,197**	**166,197**	**166,197**	**166,197**	**166,197**

Table 82 Kenora Principal and Interest Payments

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

16.6 Use of Reserves

16.6.1 Available Reserves

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

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

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

Asset Category	Balance at December 31, 2024
Road Network	1,474,000
Storm Sewer Network	120,000
Bridges & Culverts	121,000
Buildings	3,524,000
Equipment	3,073,000
Land Improvements	5,072,000
Fleet	861,000
Total Tax Funded:	**14,243,000**
Water Network	2,870,000
Wastewater Network	2,870,000
Solid Waste	4,247,000
Total Rate Funded:	**9,987,000**

Table 83 Kenora Reserve Balances

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

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

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Kenora's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

16.6.2 Recommendation

In 2025, Ontario Regulation 588/17 required Kenora to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on reserve balances.

17. Recommendations & Key Considerations

17.1 Financial Strategies

1. Review the feasibility of adopting the proposed funding scenario to maintain the current average annual funding for the asset categories analyzed. This includes:
    a. Maintaining tax revenues at $8.99 million annually;
    b. Maintaining water revenues at $2.30 million annually;
    c. Maintaining wastewater revenues at $2.15 million annually; and
    d. Maintaining solid waste revenues at $629,000 annually.

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

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

4. Increasing existing and future infrastructure budgets by the applicable inflation index.

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

17.2 Asset Data

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

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

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

17.3 Risk & Levels of Service

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

2. Available data on current performance should be centralized and tracked to support any calibration of service in accordance with O. Reg. 588's 2025 requirements on proposed levels of service.

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

Appendices

Appendix A – Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition	Financial Capacity		% Funded
Road Network	**$233.9 m**	**Fair**	Annual Requirement:	$7,052,000	**54%**
			Funding Available:	$3,792,000	
			Annual Deficit:	**$3,260,000**	
Bridges & Culverts	**$261.5 m**	**Fair**	Annual Requirement:	$3,543,000	**67%**
			Funding Available:	$2,375,000	
			Annual Deficit:	**$1,168,000**	
Water Network	**$372.0 m**	**Good**	Annual Requirement:	$6,279,000	**25%**
			Funding Available:	$2,297,000	
			Annual Deficit:	**$3,982,000**	
Wastewater Network	**$323.1 m**	**Good**	Annual Requirement:	$5,057,000	**28%**
			Funding Available:	$2,150,000	
			Annual Deficit:	**$2,907,000**	
Storm Sewer Network	**$53.4 m**	**Good**	Annual Requirement:	$724,000	**33%**
			Funding Available:	$236,000	
			Annual Deficit:	**$488,000**	
Buildings	**$97.8 m**	**Very Good**	Annual Requirement:	$2,646,000	**37%**
			Funding Available:	$983,000	
			Annual Deficit:	**$1,663,000**	
Land Improvements	**$23.2 m**	**Fair**	Annual Requirement:	$785,000	**11%**
			Funding Available:	$89,000	
			Annual Deficit:	**$696,000**	
Fleet	**$23.1 m**	**Fair**	Annual Requirement:	$1,459,000	**79%**
			Funding Available:	$1,156,000	
			Annual Deficit:	**$303,000**	
Equipment	**$9.5 m**	**Poor**	Annual Requirement:	$1,029,000	**35%**
			Funding Available:	$362,000	
			Annual Deficit:	**$667,000**	
Solid Waste	**$10.6 m**	**Good**	Annual Requirement:	$573,000	**110%**
			Funding Available:	$629,000	
			Annual Deficit:	**-$56,000**	

Appendix B – 10-Year Capital Requirements

Current Levels of Service (No consideration of available capital funding)

Road Network											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Asphalt Roads	$1.1m	$621k	$1.6m	$3.0m	$6.9m	$5.0m	$2.8m	$3.1m	$4.7m	$2.4m	$3.3m
Gravel Roads	$367k	$9.2m	$3.2m	$63k	-	-	-	-	-	-	-
Guide Rails	$105k	-	-	$62k	-	-	$1.7m	$156k	$799k	$1.2m	-
Paved Alleys	$204k	$159k	$180k	$607k	$265k	$142k	$78k	$93k	$127k	$41k	$8k
Sidewalks	$12.8m	$1.2m	$3.0m	$1.9m	$2.6m	-	$323k	$365k	$320k	$388k	$1.2m
Signage	$1.8m	-	-	-	-	-	$1.8m	-	-	-	-
Streetlights & Traffic Signals	$10k	-	-	-	-	$68k	$10k	$106k	$17.0m	$58k	$677k
Surface Treated Roads	$618k	$1.9m	$280k	$1.7m	$2.4m	$189k	$144k	$151k	-	$466k	$808k
Total:	**$17.0m**	**$13.1m**	**$8.3m**	**$7.4m**	**$12.2m**	**$5.4m**	**$6.9m**	**$3.9m**	**$22.9m**	**$4.5m**	**$6.0m**

Bridges & Culverts											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Bridges - Substructure	-	-	-	-	-	-	$26.0m	-	-	$28.7m	-
Bridges - Superstructure	-	-	-	-	-	-	$11.2m	-	-	$12.3m	-
Culverts	$59k	$611k	-	$35k	-	-	$25k	-	-	-	-
Total	**$59k**	**$611k**	**-**	**$35k**	**-**	**-**	**$37.2m**	**-**	**-**	**$41.0m**	**-**

Storm Sewer Network											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Catchbasins	$58k	$25k	-	-	-	-	$41k	-	$8k	$8k	-
Storm Mains	$1.8m	$271k	-	$72k	$64k	-	$134k	$188k	$103k	$99k	$90k
Storm Manholes	$15k	$44k	-	-	-	-	$133k	-	$15k	$15k	-
Total	**$1.8m**	**$341k**	**-**	**$72k**	**$64k**	**-**	**$308k**	**$188k**	**$126k**	**$122k**	**$90k**

Buildings											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Administration Buildings	$37k	-	-	-	$46k	-	-	-	-	-	$65k
Athletic Fields & Courts	$111k	-	-	-	-	-	-	-	-	-	-
Cemetery	$50k	-	-	-	-	-	-	-	-	-	-
Emergency Buildings	-	-	-	-	-	-	-	-	-	-	-
Fire Buildings	-	-	-	$10k	-	$167k	$167k	-	-	-	-
Museum & Library	$205k	-	$143k	-	-	-	$143k	$33k	-	-	$745k
Parks Facilities	$741k	-	$1.1m	$434k	$468k	-	$111k	$1.0m	-	$145k	-

Buildings											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Public Works Buildings	$1.6m	-	-	$1.1m	$102k	$167k	-	-	-	$192k	$53k
Recreation Facilities	$1.1m	$7k	-	$8k	$9k	$18k	$794k	$707k	$24k	$519k	$18k
Rental Facilities	$111k	-	-	$101k	-	-	-	-	-	-	-
Total	**$3.9m**	**$7k**	**$1.3m**	**$1.7m**	**$625k**	**$352k**	**$1.2m**	**$1.8m**	**$24k**	**$856k**	**$882k**

Equipment											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Animal Control	$64k	-	-	-	-	-	-	-	-	-	-
Cemetery	$47k	-	-	-	-	-	-	-	-	-	-
Finance & Administration	$610k	$205k	$104k	-	$72k	-	$266k	$67k	-	-	$100k
Fire	$1.0m	$16k	$66k	$71k	$16k	$233k	$193k	$590k	$59k	$432k	$15k
Museum & Library	$62k	$6k	$2k	$13k	$60k	$334k	$35k	$73k	$9k	$15k	$69k
Network & IT	$480k	$40k	$124k	$164k	$101k	$124k	$431k	$177k	$289k	$60k	$207k
Parks & Recreation	$886k	$62k	-	$22k	$118k	$21k	$27k	$23k	$15k	$291k	$14k
Public Works	$1.1m	$52k	$78k	$93k	$94k	$233k	$193k	$72k	$45k	$51k	$178k
Total	**$4.2m**	**$382k**	**$374k**	**$364k**	**$461k**	**$944k**	**$1.1m**	**$1.0m**	**$416k**	**$849k**	**$583k**

Fleet											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Animal Control	-	-	-	$178k	-	-	-	-	-	-	-
Fire	-	$57k	-	-	$446k	$89k	-	-	$57k	$2.0m	-
Parks & Recreation	$45k	$137k	$176k	-	$73k	$220k	$8k	$450k	$50k	$99k	$59k
Public Works	$1.4m	$1.1m	$405k	$681k	$1.5m	$699k	$509k	$1.7m	$1.3m	$1.9m	$1.0m
Total	**$1.5m**	**$1.3m**	**$580k**	**$859k**	**$2.0m**	**$1.0m**	**$517k**	**$2.2m**	**$1.4m**	**$4.0m**	**$1.1m**

Land Improvements											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Athletic Fields & Courts	$401k	-	$24k	-	$670k	-	-	-	-	-	-
Docks & Wharfs	$2.3m	$105k	$33k	$4.5m	-	-	$5.0m	-	$88k	$329k	$40k
Parking Lots	-	-	-	-	-	-	-	-	-	-	-
Parks & Recreation	-	-	-	-	-	-	-	-	-	$12k	-
Playgrounds & Splash parks	$38k	-	-	$115k	-	-	-	-	$33k	-	-
Trails & Walkways	-	-	-	$56k	-	-	-	$664k	-	-	-
Total	**$2.8m**	**$105k**	**$57k**	**$4.7m**	**$670k**	**-**	**$5.0m**	**$664k**	**$121k**	**$341k**	**$40k**

Water Network											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Equipment	-	-	-	-	-	-	-	-	-	-	-
Fleet	-	$84k	$61k	$30k	$39k	$82k	$79k	$33k	$40k	$17k	$147k
Hydrants	-	-	-	-	-	-	-	-	-	-	-
Valve Chambers	$24k	-	-	-	-	-	-	-	-	-	-
Water Mains	$33.1m	$1.5m	$1.6m	$1.6m	$1.1m	$10.5m	$3.9m	$5.0m	$1.7m	$1.7m	-
Water Meters	-	-	-	-	-	-	$990k	$966k	-	-	-
Water Standpipes & Booster Stations	-	-	$293k	-	-	-	-	-	-	-	-
Water Treatment Plant	-	$963k	-	$1.4m	$3.7m	$2.6m	-	-	$294k	$3.8m	$1.5m
Water Valves	$520k	-	-	-	-	-	-	-	-	-	-
Total	**$33.6m**	**$2.5m**	**$1.9m**	**$3.0m**	**$4.9m**	**$13.2m**	**$4.9m**	**$6.0m**	**$2.1m**	**$5.5m**	**$1.7m**

Wastewater Network											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Equipment	-	-	-	-	-	-	-	-	-	-	-
Fleet	$557k	$84k	$61k	$30k	$39k	$82k	$79k	$33k	$40k	$17k	$147k
Pumping/Lift Stations	-	$357k	$295k	$347k	$333k	$363k	$333k	$333k	$333k	$332k	$332k
Sanitary Manholes	$2.0m	-	-	-	-	-	-	-	-	-	-
Wastewater Mains	$4.6m	$1.5m	$1.3m	$1.6m	$975k	$10.4m	$3.8m	$1.8m	$1.7m	$1.7m	$400k
Wastewater Treatment Plant	$208k	$620k	$941k	$5.8m	-	-	-	$302k	$5.5m	-	-
Valves	-	-	-	-	-	-	-	-	-	-	-
Total	**$7.4m**	**$2.6m**	**$2.6m**	**$7.8m**	**$1.3m**	**$10.8m**	**$4.2m**	**$2.5m**	**$7.6m**	**$2.1m**	**$879k**

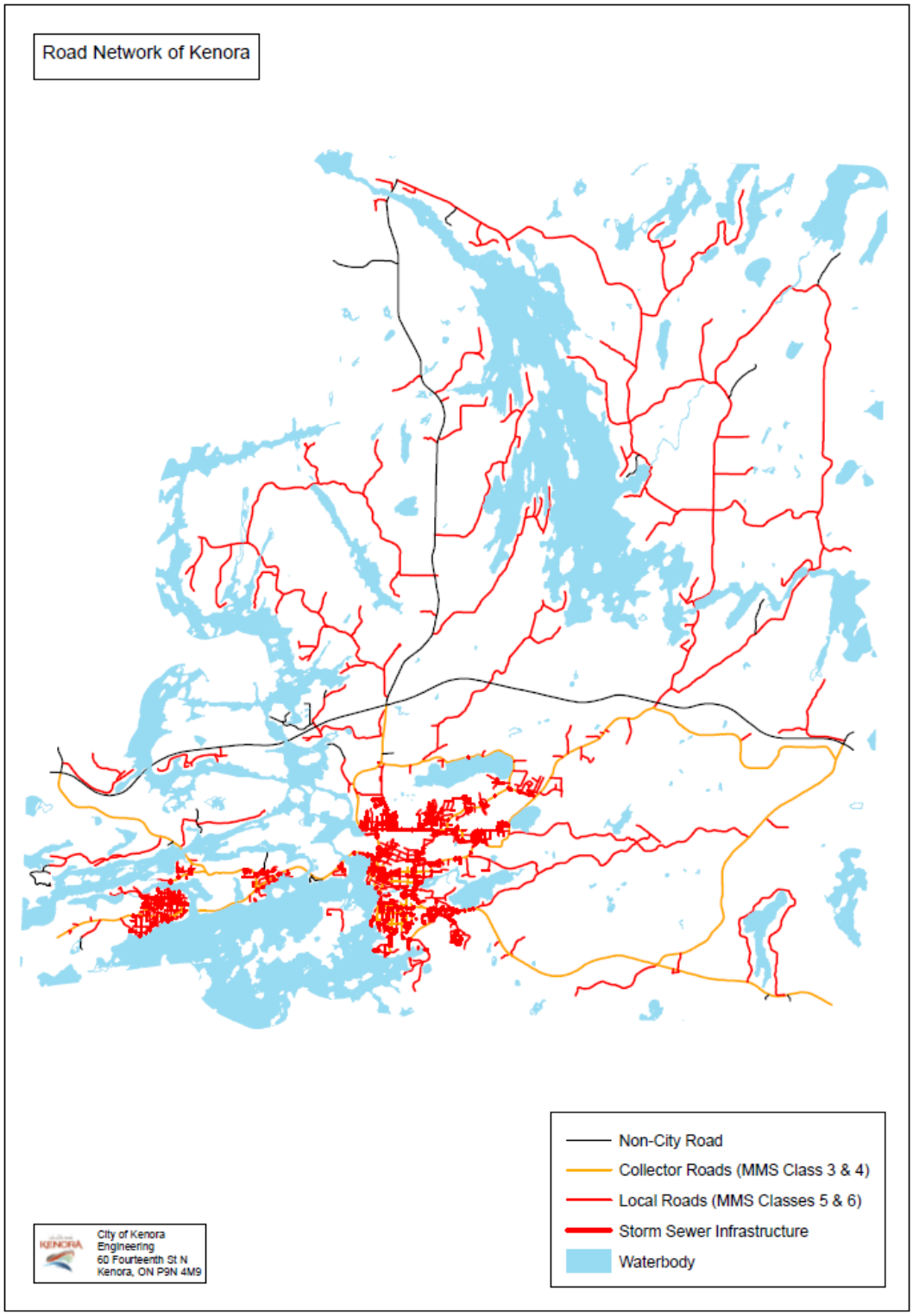
Solid Waste											
Segment	**Backlog**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Equipment	-	$70k	-	-	-	-	-	$28k	-	-	$55k
Fleet	$99k	$210k	$453k	$261k	$669k	-	-	$10k	$35k	$781k	$452k
Land Improvements	$594k	$146k	-	-	-	$31k	$31k	-	-	-	-
Solid Waste Facilities	$92k	$126k	-	-	-	-	$11k	-	-	-	-
Transfer Station	$52k	-	-	-	-	-	$23k	-	-	$68k	-
Landfill	-	-	-	-	-	-	-	-	-	-	-
Total	**$837k**	**$553k**	**$453k**	**$261k**	**$669k**	**$31k**	**$65k**	**$39k**	**$35k**	**$849k**	**$507k**

Proposed Levels of Service (Based on available capital funding, following recommended financial strategy)

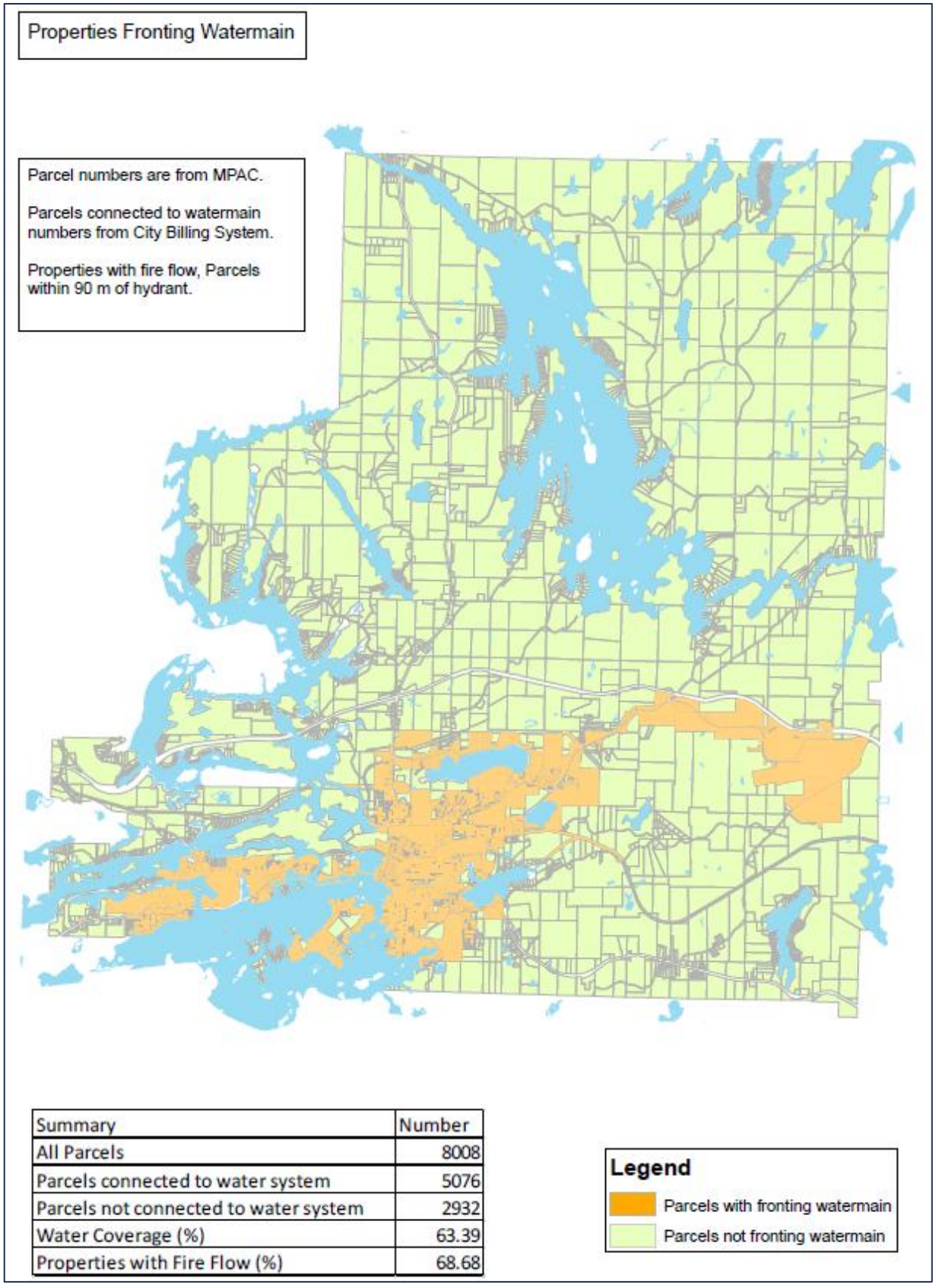
Categories	Available Capital Funding									
	2026	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Tax-Funded	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m	$9.0m
Rate-Funded (Water)	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m	$2.3m
Rate-Funded (Wastewater)	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m	$2.2m
Rate-Funded (Solid Waste)	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k	$629k

Appendix C – Level of Service Maps & Photos

Road Network

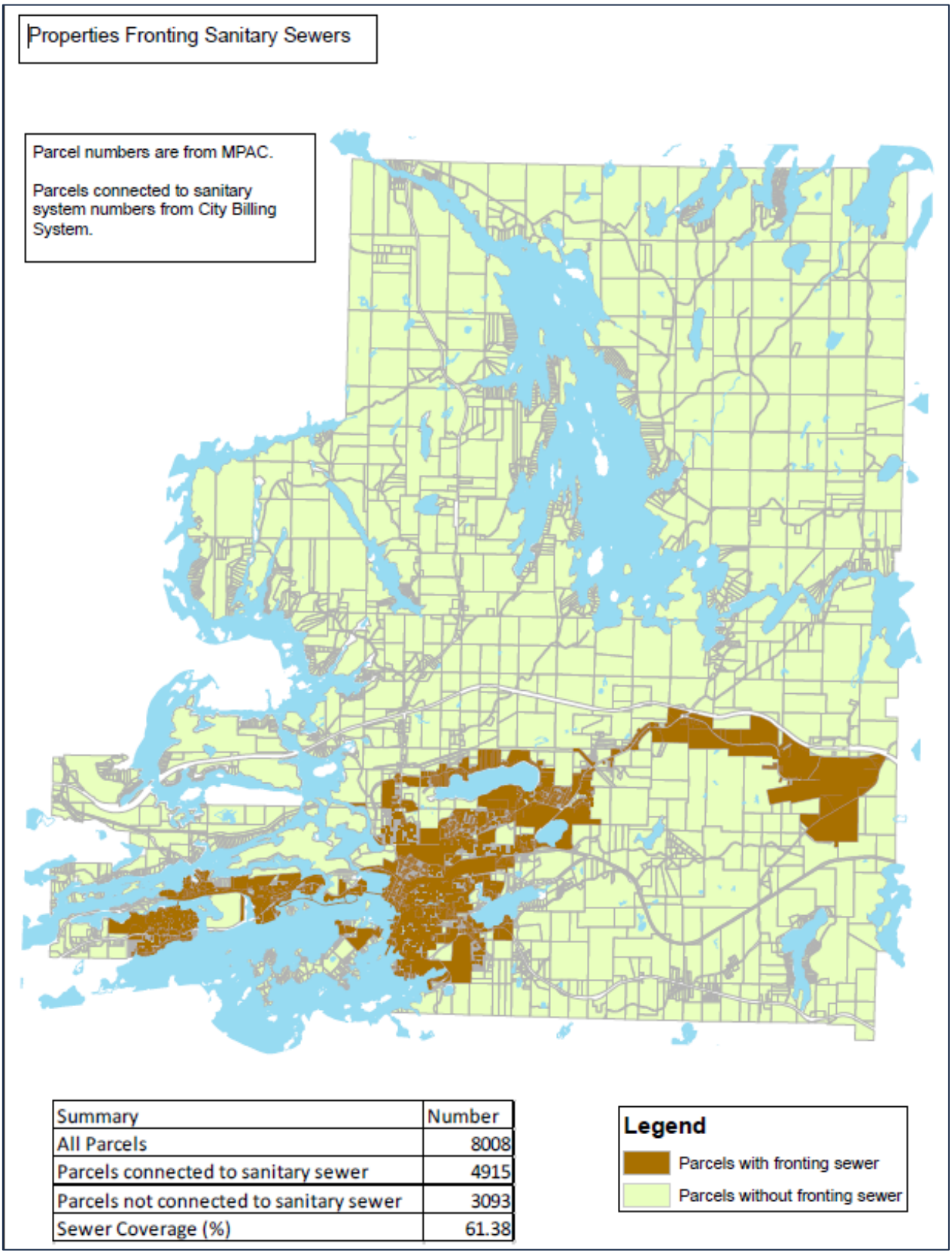


Water Network Map

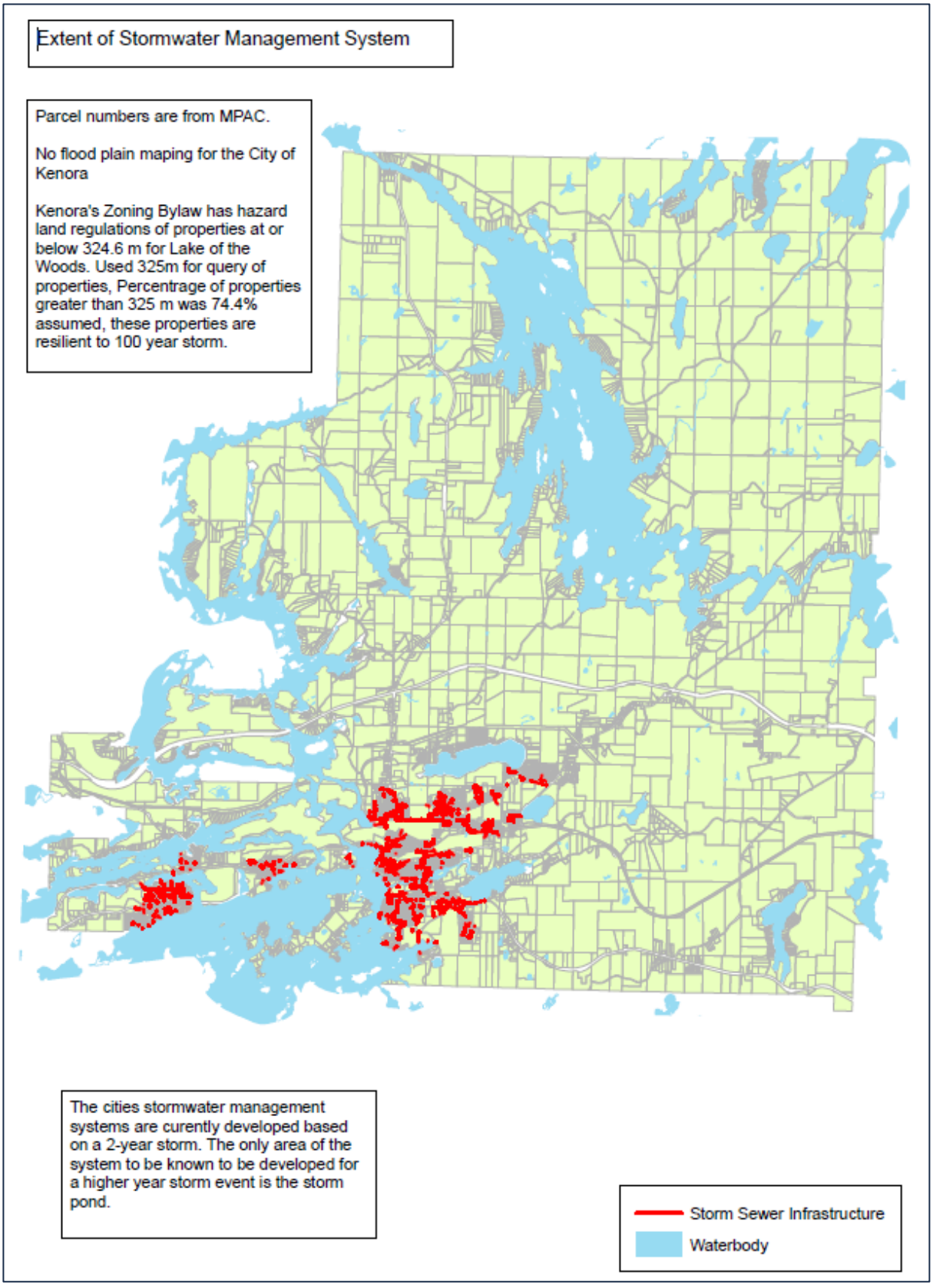


Summary	Number
All Parcels	8008
Parcels connected to water system	5076
Parcels not connected to water system	2932
Water Coverage (%)	63.39
Properties with Fire Flow (%)	68.68

Wastewater Network Map



Storm Sewer Network Map



Solid Waste System