Peterborough County

Our History - Your Future

Asset Management Plan 2025

Peterborough County

October 2025

psdcitywide

This Asset Management Plan was prepared by:

psdcitywide

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

Key Statistics

$1.9 b	2024 Replacement Cost of Asset Portfolio
74%	Percentage of Assets in Fair or Better Condition
89%	Percentage of Assets with Assessed Condition Data
$36 m	Annual Capital Infrastructure Deficit
3.0%	Recommended Annual Tax Increases to reach Proposed Levels of Service
15 Years	Recommended Timeframe to reach Proposed Levels of Service
3.0%	Target Reinvestment Rate to meet Proposed Levels of Service
1.1%	Actual (Current) Reinvestment Rate

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1. Executive Summary

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

1.1 Scope

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

This AMP includes the following asset categories:

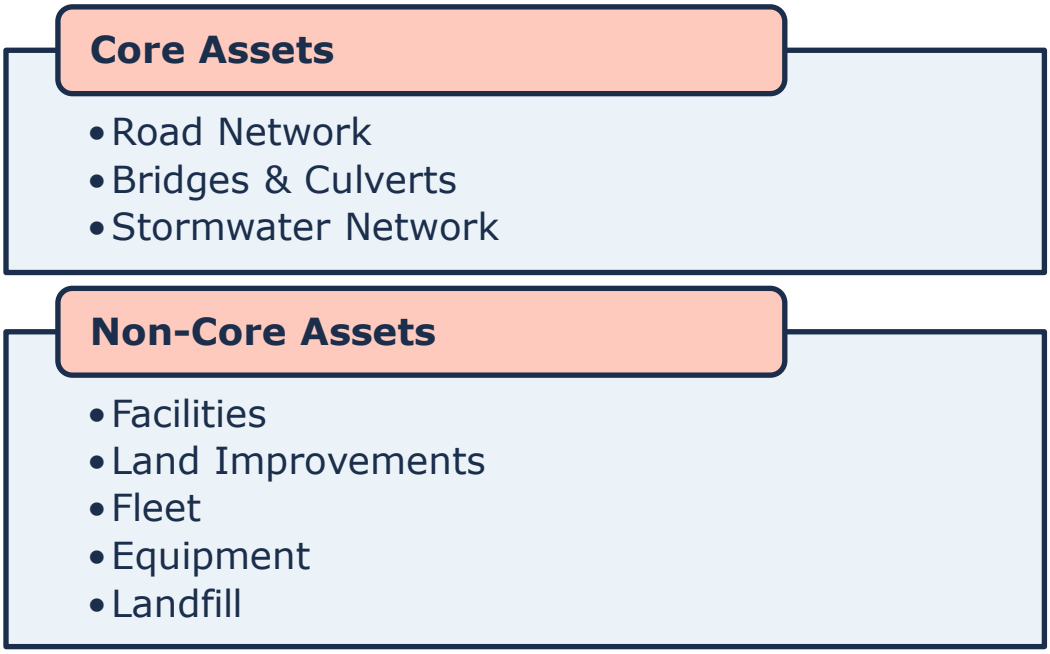


Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

With the development of this AMP Peterborough County 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 $1.88 billion. 74% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 89% of assets. For the remaining 11% 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 County's average annual capital requirement totals $55.8 million. Based on a historical analysis of sustainable capital funding sources, the County is committing approximately $20.2 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $35.6 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 County. 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 County's infrastructure deficit based on a **15-year plan**:

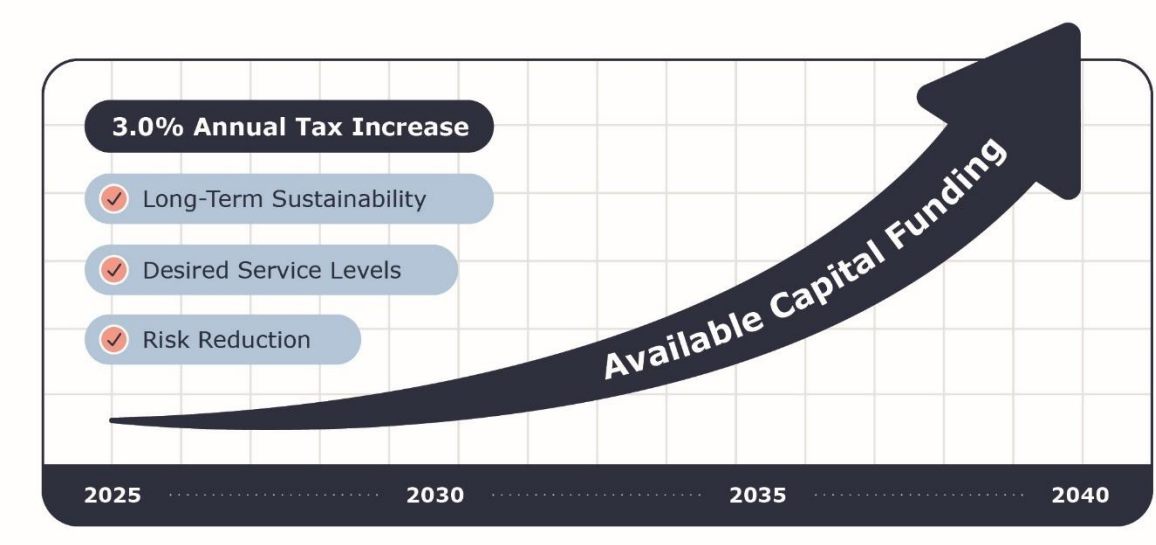


Figure 2 Proposed Tax/Rate Changes

2. Introduction & Context

2.1 Community Profile

Census Characteristic	Peterborough County	Ontario
Population 2021[1][2]	64,030	14,223,942
Population Change 2016-2021	11.9%	5.8%
Total Private Dwellings[3]	35,039	5,929,250
Population Density	39.1/km^2	15.9/km^2
Land Area	3,780 km^2	892,412 km^2

Table 1 Peterborough County Community Profile

Peterborough County is an upper-tier municipality comprised of 8 separate municipalities. These municipalities include:

- Municipality of Trent Lakes
- Township of Selwyn
- Township of Otonabee-South Monaghan
- Township of North Kawartha
- Township of Havelock-Belmont-Methuen
- Township of Douro-Dummer
- Township of Cavan-Monaghan
- Township of Asphodel-Norwood

It is also important to recognize that, while administratively independent from the Peterborough County, the municipal boundaries also encompass the Curve Lake First Nation and Hiawatha First Nation.

The County has a steadfast dedication to growth and prosperity and has been able to embrace the land it inhabits, where its many lakes have been a boon to the County via tourism. Along with this, there are over 900 farms in the region, bolstering food supplies and revenues in a sustainable way. With investment and initiatives around the aerospace, clean tech, and manufacturing industries, the County is diversifying its place within the market and locking in its future.

The County has experienced consistent year-over-year population growth. Over the last decade, the County has seen a 6.8% increase in population. The County has a population skewed to an aging population with 25% of the population being 65+, which is above the approximate 19% proportion for the rest of Ontario.

The County generates a total revenue of $83 million from taxes and rates and has an annual capital and projects budget of $32.3 million as of 2023. The County's infrastructure priorities include Tourism, economic growth, and public service delivery.

[1] Source: Statistics Canada, Census of Population 2021. Catalogue no. 98-316-X2021001
[2] County population was calculated by subtracting the Peterborough (City) census subdivision population (83,651) from the Peterborough (County) census division population (147,681).
[3] County households were calculated by subtracting the Peterborough (City) census subdivision households (38,006) from the Peterborough (County) census division households (73,045).

2.2 Climate Change

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

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

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

2.2.1 Peterborough County Climate Profile

Peterborough County is located in Southern Ontario around 60km away from Lake Ontario. The County is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme events. According to Climatedata.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – Peterborough County may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 6.1ºC
- Under a high emissions scenario, the annual average temperatures are projected to increase by 8.7ºC by the year 2050 and over 12.6ºC by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Peterborough County is projected to experience a 12% increase in precipitation by the year 2080 and a 17% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

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

- In some areas, extreme weather events will occur with greater frequency and severity than others, especially those close to or on Rice Lake.

2.2.2 Integration Climate Change and Asset Management

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

In order to achieve the sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset management and climate change adaptation observes industry best practices and enables the development of a holistic approach to risk management.

2.3 Asset Management Overview

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

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

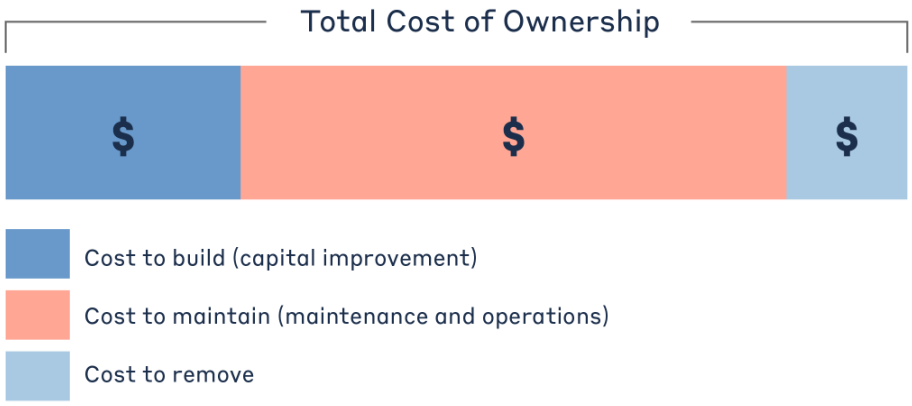


Figure 3 Total Cost of Asset Ownership

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.

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.

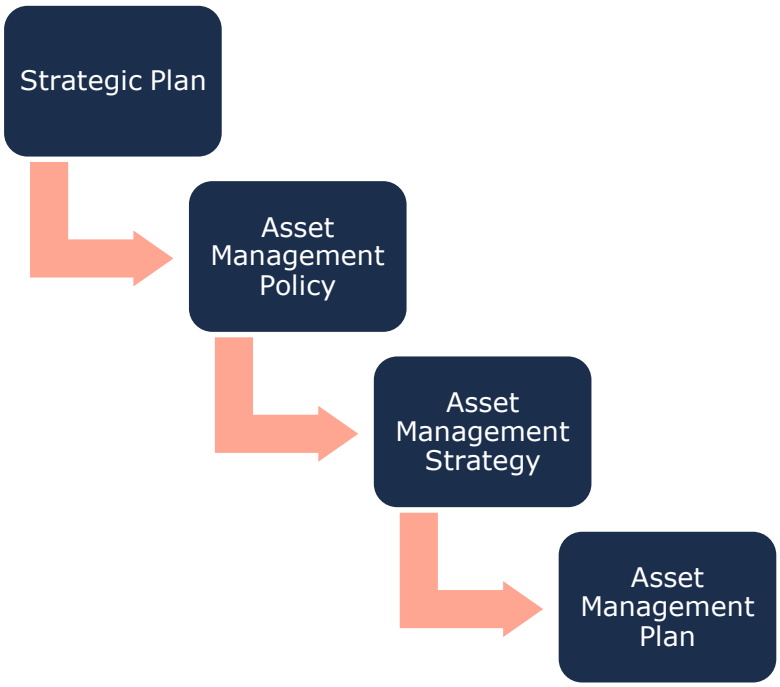


Figure 4 Foundational Asset Management Documents

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 County'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.

Peterborough County adopted policy number FIN-32 "Strategic Asset Management Policy" in 2019, in accordance with Ontario Regulation 588/17. The County will implement best practices in asset management by considering the following principles:

- Regulatory Compliance
- Condition Sustainability
- Return on Investment
- Financial Integration
- Cross Asset and Jurisdiction Integration
- Master Plan Integration
- Climate Change

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

The County'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 County'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 County 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 County'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.

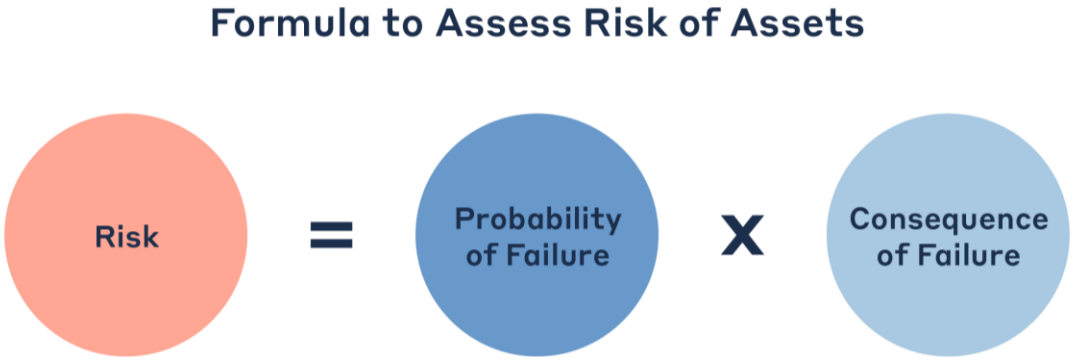


Figure 5 Risk Equations

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 County 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 County 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, Stormwater) the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP.

Technical Levels of Service

Technical levels of service are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of the County'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 Peterborough County 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 County'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.

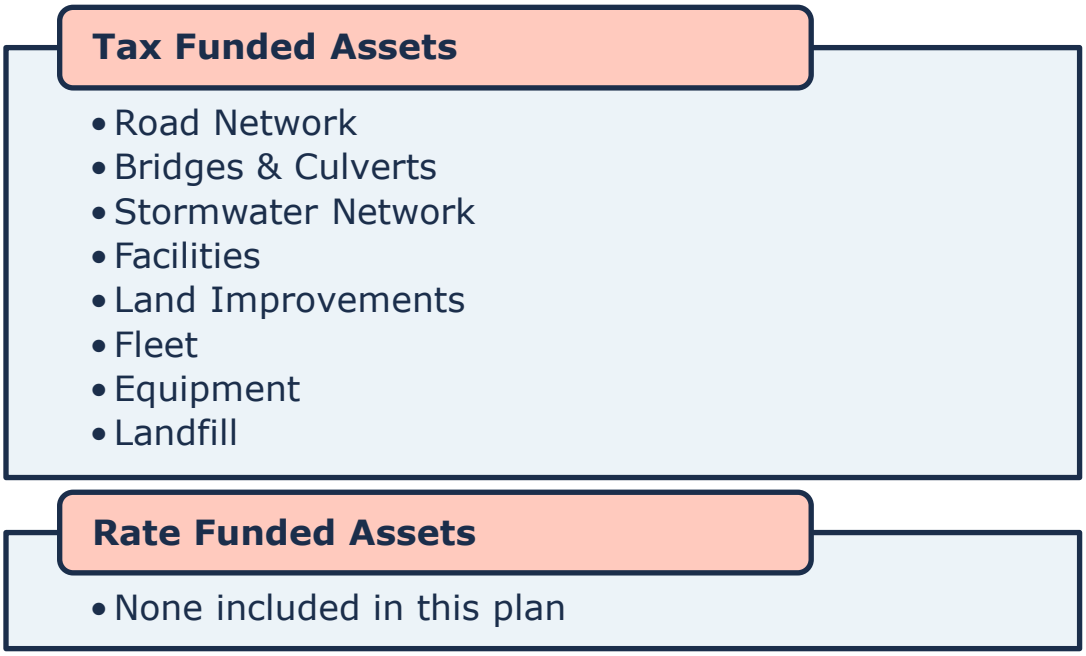


Figure 6 Tax Funded and Rate Funded Asset Categories

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 County. 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 County 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 County 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 County can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the County 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 County can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

Figure 8 Target Reinvestment Rate Calculation

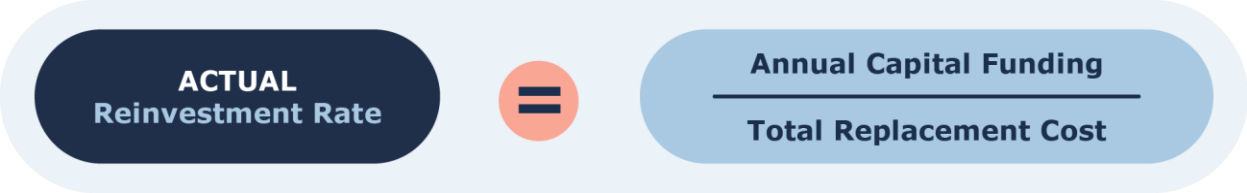


Figure 9 Actual Reinvestment Rate Calculation

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 County'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

***Note**: Condition scales vary by asset category. The above scale is a generalized representation of the standard approach to setting category specific condition scales.*

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)[4]. 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.

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

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

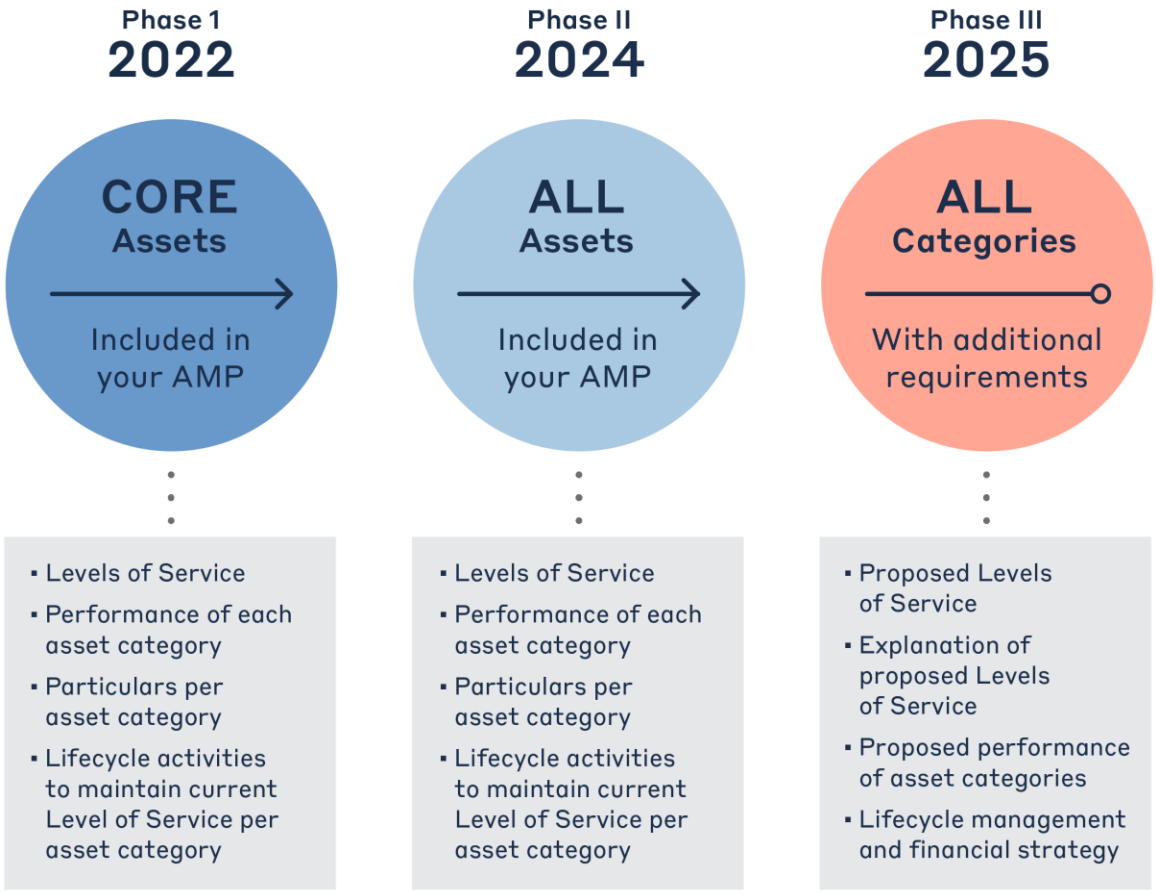


Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

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 – 12.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	5.1 – 12.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	5.3 – 12.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	5.2 – 12.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	5.4 – 12.4	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	5.7 – 12.7	Complete
Current performance measures in each category	S.5(2), 2	5.7 – 12.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	5.4 – 12.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	5.5 – 12.5	Complete
Growth considerations	S.6(1), 5	13.1 – 13.2	Complete
Proposed levels of service for each category for next 10 years	S.6(1), 1(i-ii)	5.8 – 12.8	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 County'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 eight asset categories analyzed in this Asset Management Plan have a total current replacement cost of $1.876 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 65% of the total portfolio, the Road Network forms the largest share of the County's asset portfolio, followed by Bridges and Culverts at 22%.

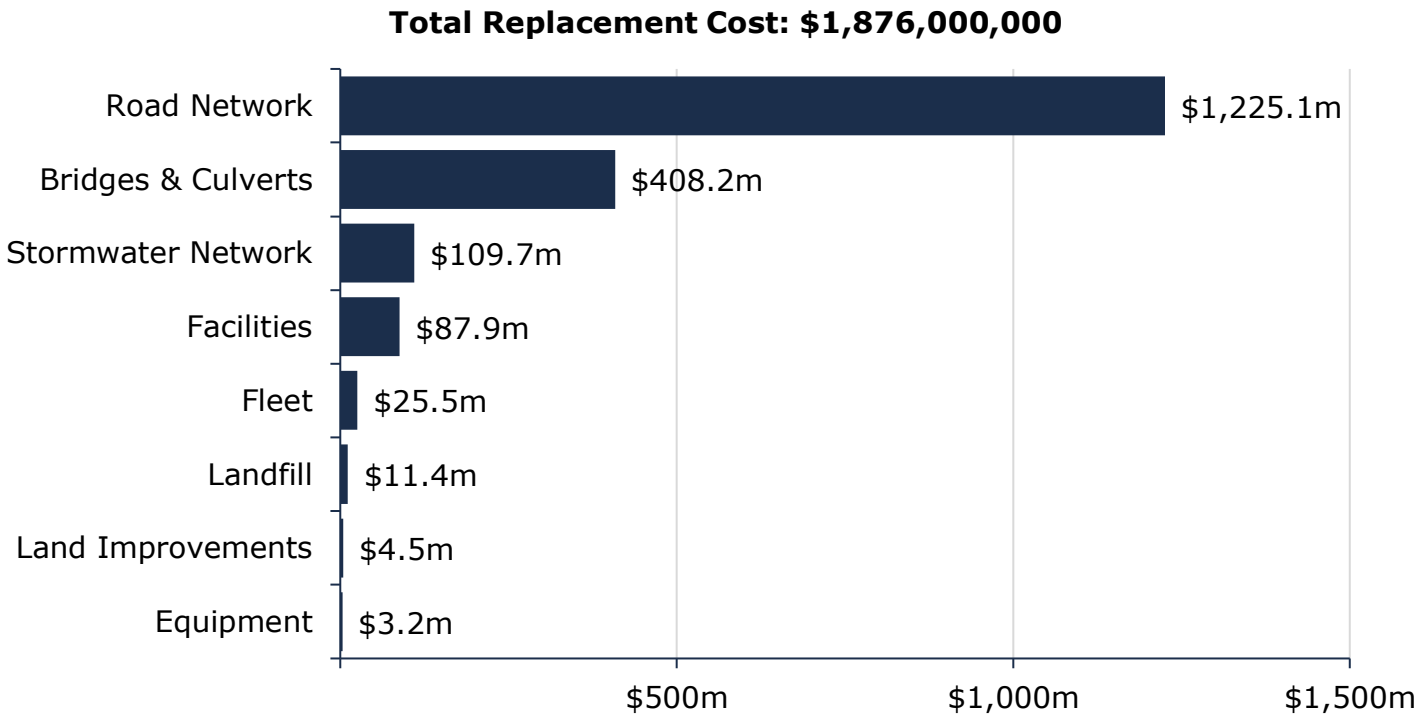


Figure 12 Current Replacement Cost by Asset Category[5]

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 County requires an annual capital investment of $55.8 million, for a target portfolio reinvestment rate of 3.0%. Currently, annual investment from sustainable revenue sources is $20.2 million, for a current portfolio reinvestment rate of 1.1%. Target and current re-investment rates by asset category are detailed below.

[5] Landfill costs within the Portfolio Overview reflect 50% of the total replacement costs of landfill assets that the County is partially financially responsible for. Refer to the Landfill section for full details.

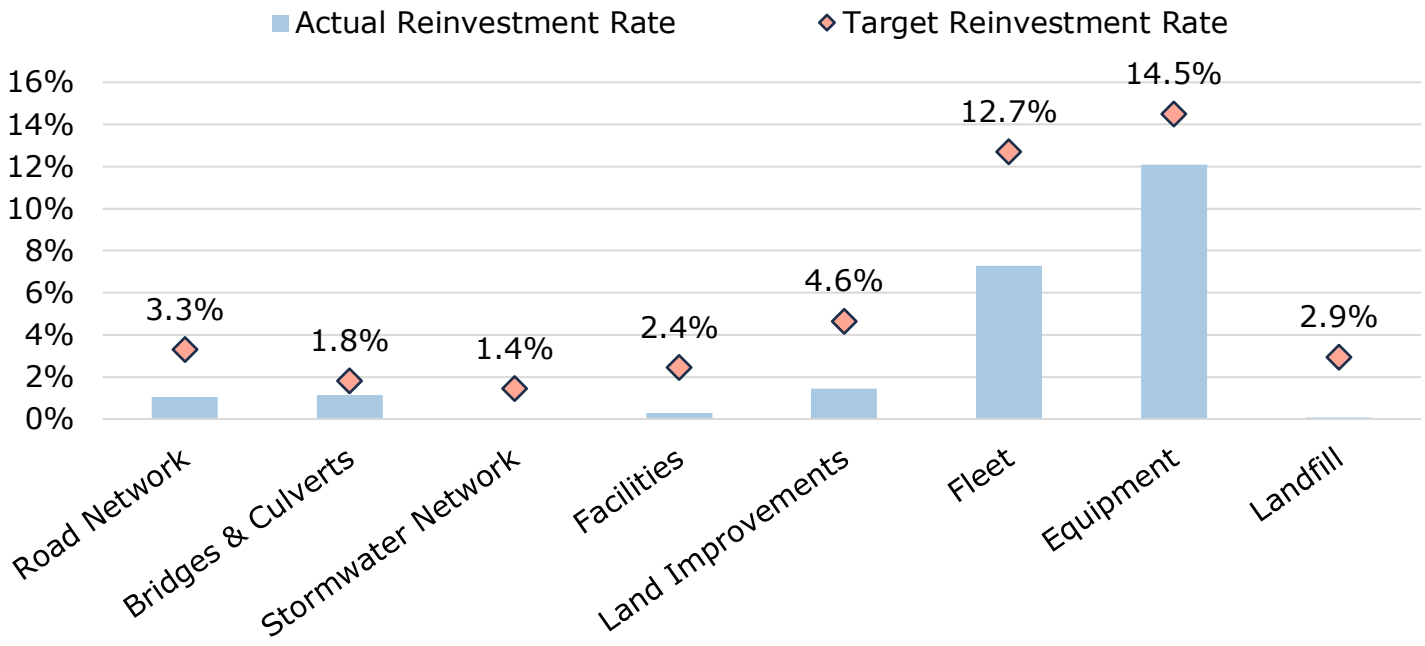


Figure 13 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 74% of the County's infrastructure portfolio is in fair or better condition, with the remaining 26% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

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

Condition data was available for majority of the road network, bridges & culverts, all facilities, and most land improvements. For all remaining assets, age was used as an approximation of condition for these assets. Age-based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

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

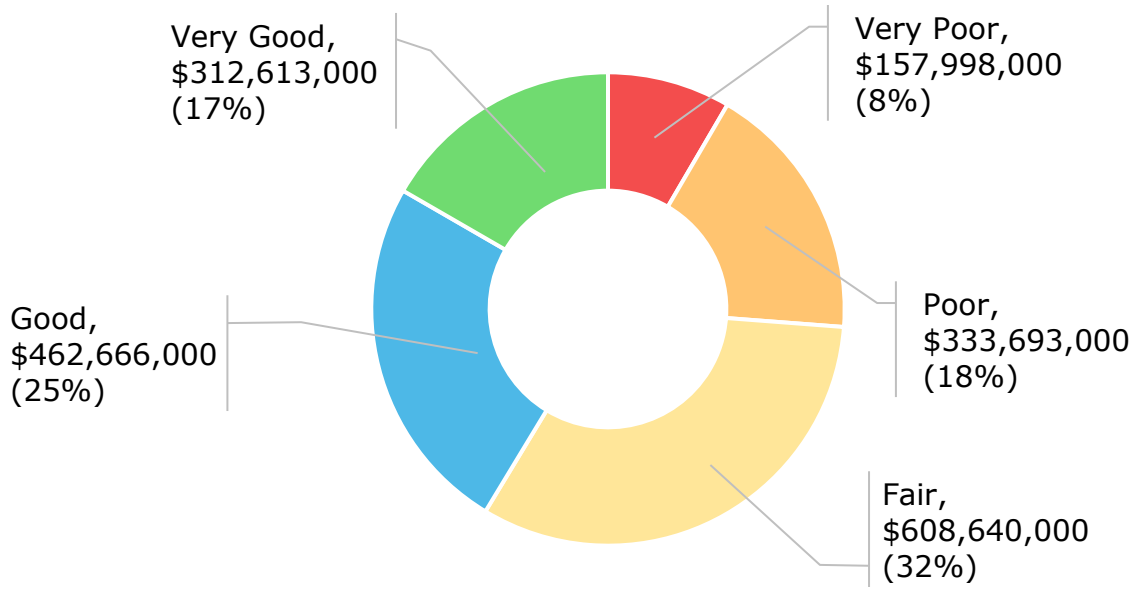


Figure 14 Asset Condition: Portfolio Overview

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

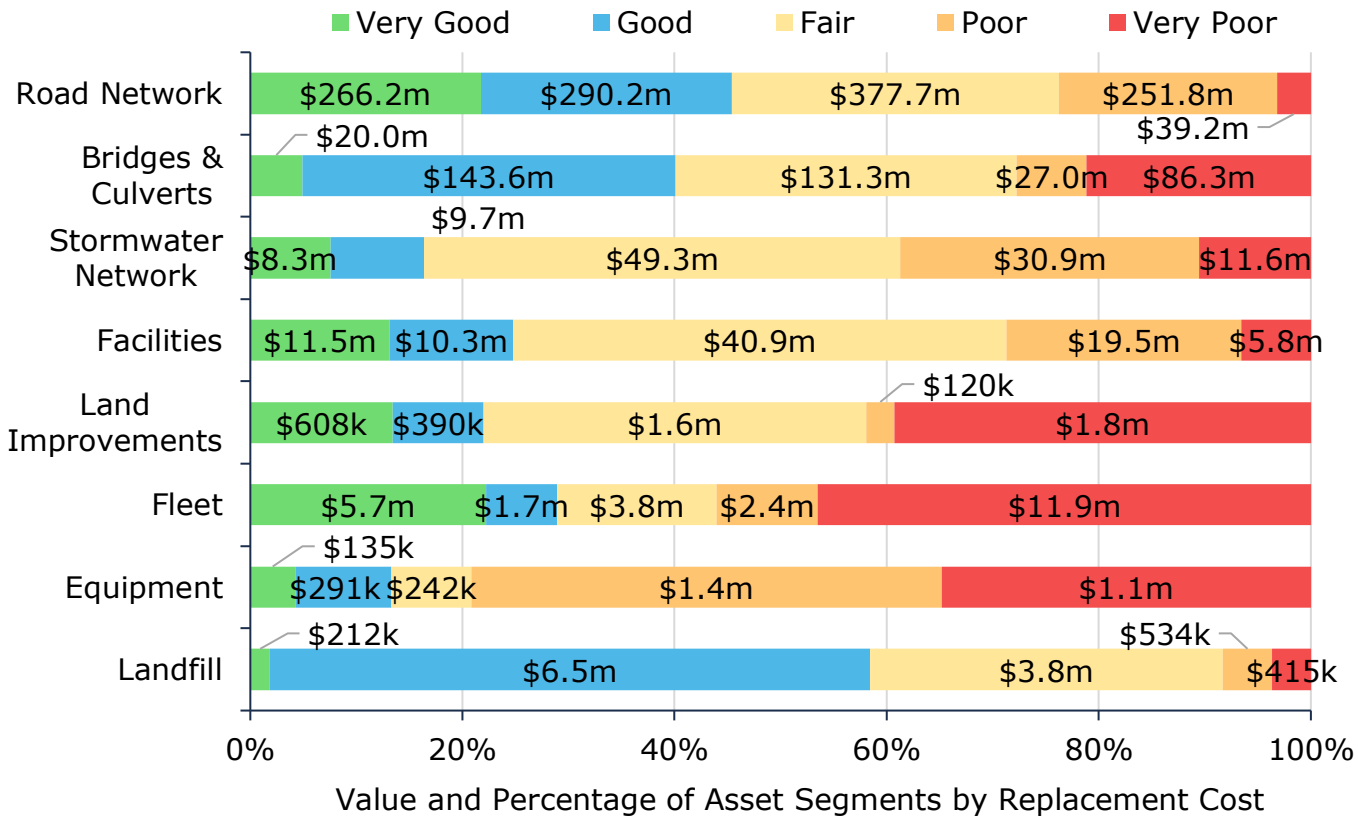


Figure 15 Asset Condition by Asset Category

Source of Condition Data

This AMP relies on assessed condition for 89% 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	Class A, B, C Roads	100%	2024 Condition Assessments
	Traffic Signals	0%	Age-Based
Bridges & Culverts	Bridges	100%	2023 OSIM Report
	Structural Culverts	99%	
	Cross Culverts	94%	Internal Staff
	Entrance Culverts	<1%	Age-Based
	Retaining Walls	100%	2023 OSIMs
Stormwater Network	All	0%	Age-Based
Facilities	All	100%	2024 Building Condition Assessments
Land Improvements	All	23%	2024 Building Condition Assessments
Fleet	All	0%	Age-Based
Equipment	All	0%	Age-Based
Landfill	All	100%	All landfill asset conditions were provided by the City of Peterborough.

Table 6 Source of Condition Data

3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 12% of the County's assets will require replacement within the next 10 years. Refer to Appendix B – 10-Year Capital Requirements.

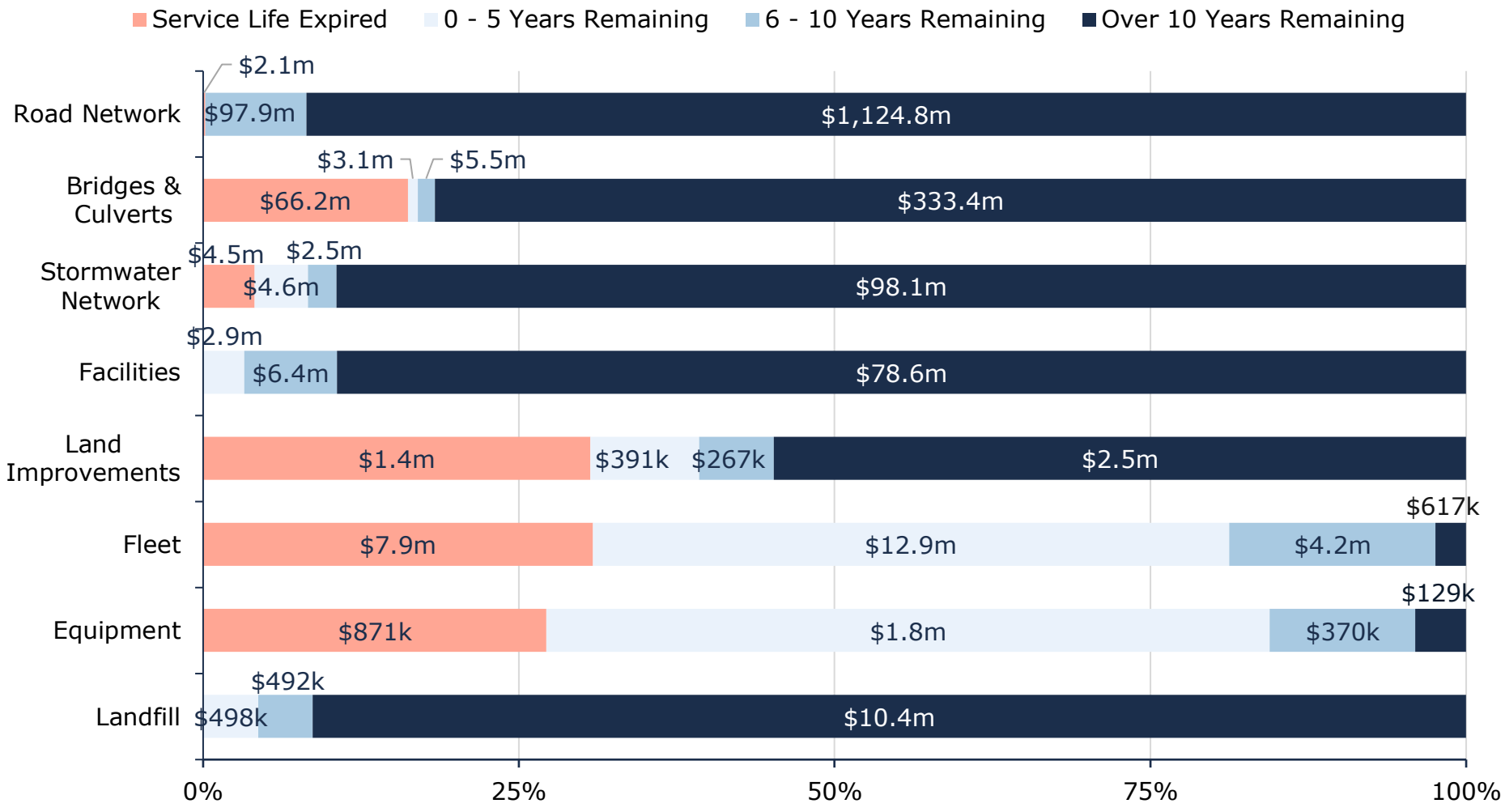


Figure 16 Service Life Remaining by Asset Category

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.

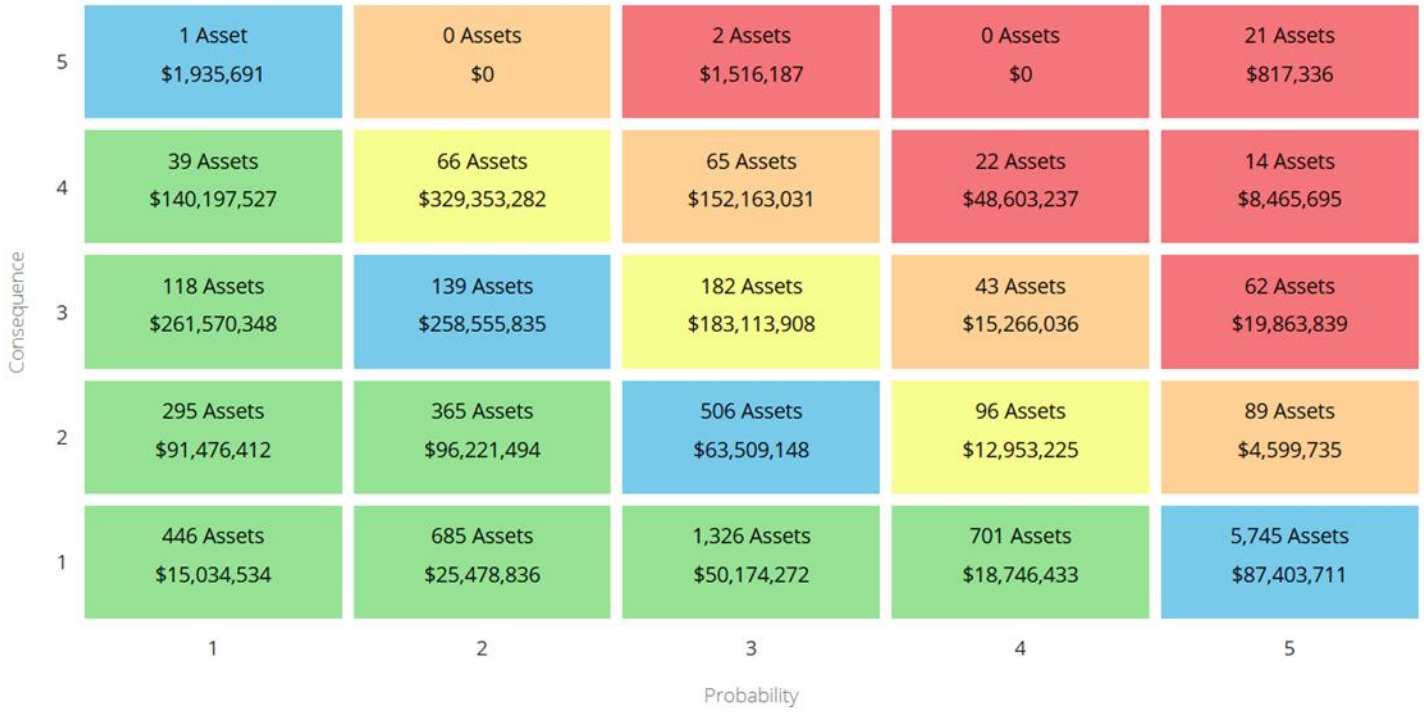


Figure 17 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 5.9% of the County's assets, with a current replacement cost of approximately $110 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 County.

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 County 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, $55.8 million is required each year to remain current with capital replacement needs for the County'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 $82.9 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.

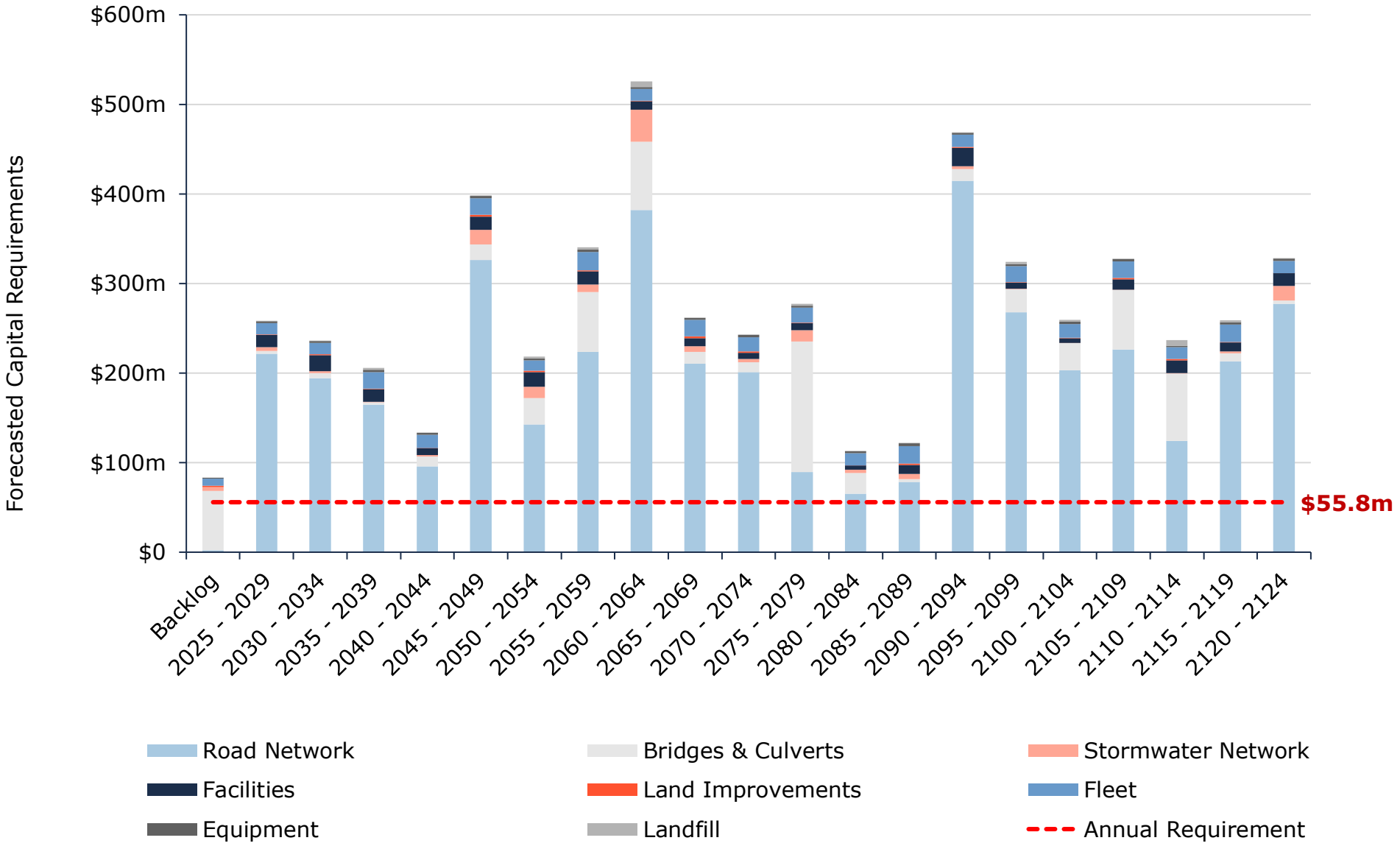


Figure 18 Capital Replacement Needs: Portfolio Overview 2025-2124

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

Financial Impact Assessments

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

Infrastructure Condition Assessments

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

Service Metrics

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

Service Impact Assessments

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

Key Lifecycle Activities

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

Risk Management

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

Infrastructure Condition Enhancements

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

Timelines

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

Stakeholder Engagement

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

Flexibility

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

4.2 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.

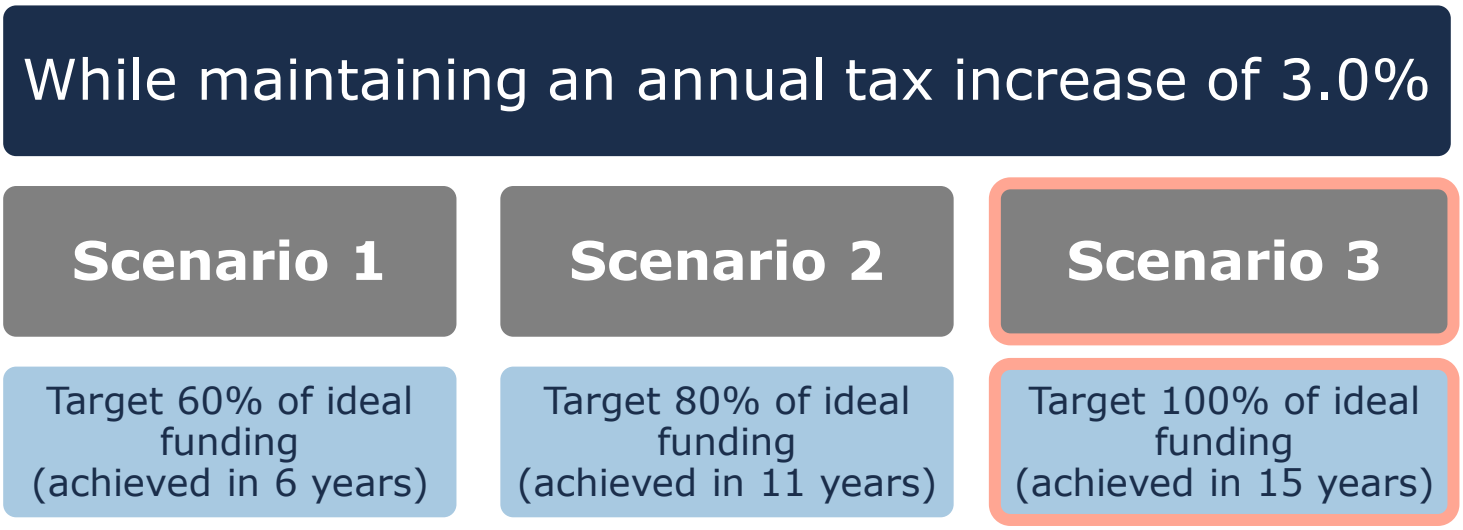


Figure 19 PLOS Scenario Overview

While all three scenarios were reviewed, ***Peterborough County selected Scenario 3 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: Achieving 60% Funding in 6 Years

This scenario assumes gradual tax, stabilizing at 60% of recommended funding in 6 years.

- Annual Tax Increase ~3.0%

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

Lifecycle Changes Required for Scenario 1

For all asset categories, 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 County'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. Reaching 60% of ideal funding immediately would require an increase of 21% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the modelled implementation timeframe of 6 years, tax revenue would be increased gradually from $20.2 million to $33.5 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 15 years for Scenario 1 is indicated in the graph below:

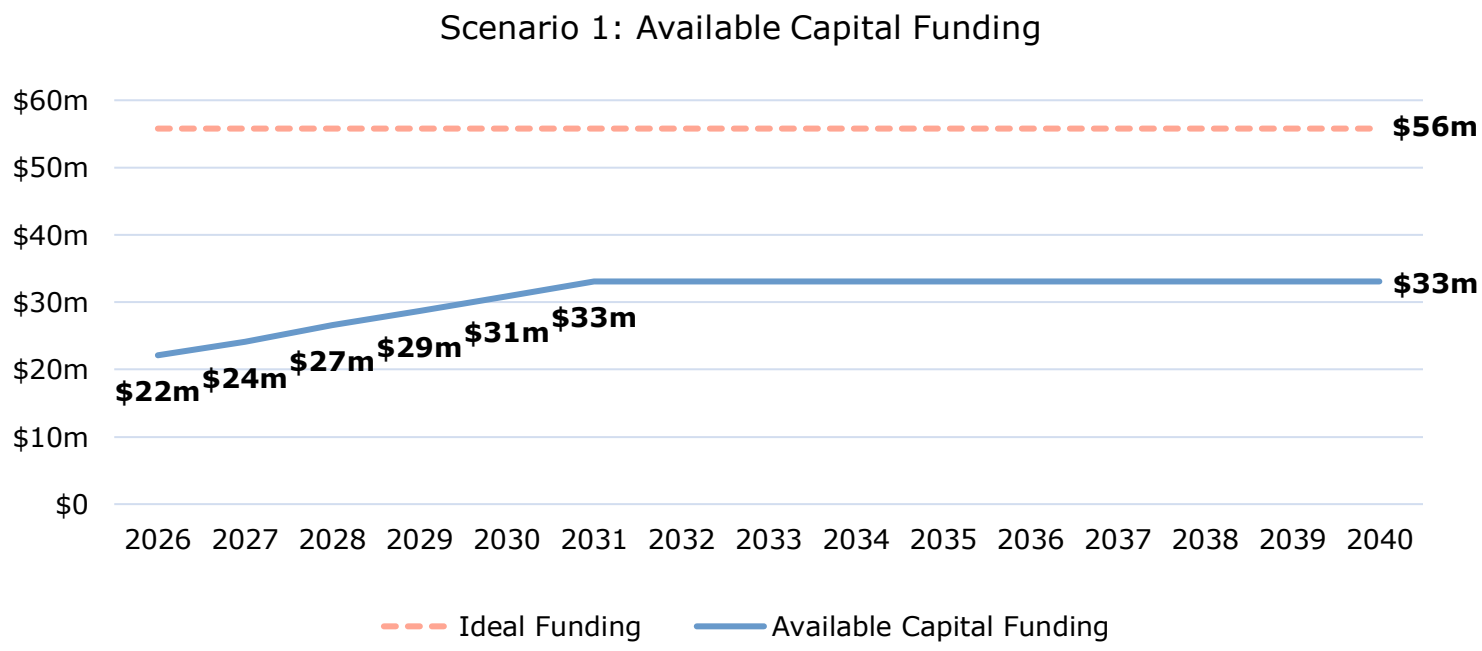


Figure 20 Scenario 1 Available Capital Funding Over Next 15 Years

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, Peterborough County owns and maintains ten bridges each with an estimated useful life of 65 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 County 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.

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

Peterborough County 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 mitigating the impact of financial increases on residents and businesses, taking 6 years to reach the targeted funding levels means 6 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 1 only targets 60% funding. By intentionally underfunding the County's asset portfolio, there is increased risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
  - As Scenario 1 targets 60% of recommended funding levels, the County 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 County 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 (storm sewers), can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the County risks paying more than necessary to maintain their asset inventory.

4.2.2 Scenario 2: Achieving 80% Funding in 11 Years

This scenario assumes gradual tax increases, stabilizing at 80% of recommended funding in 11 years.

- Annual Tax Increase ~3.0%

While this scenario was modelled for consideration, the County 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 the middle-ground option. Reaching 80% of ideal funding immediately would require an increase of 38% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the modelled implementation timeframe of 11 years, tax revenue would be increased gradually from $20.2 million to $44.6 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 15 years for Scenario 2 is indicated in the graph below:

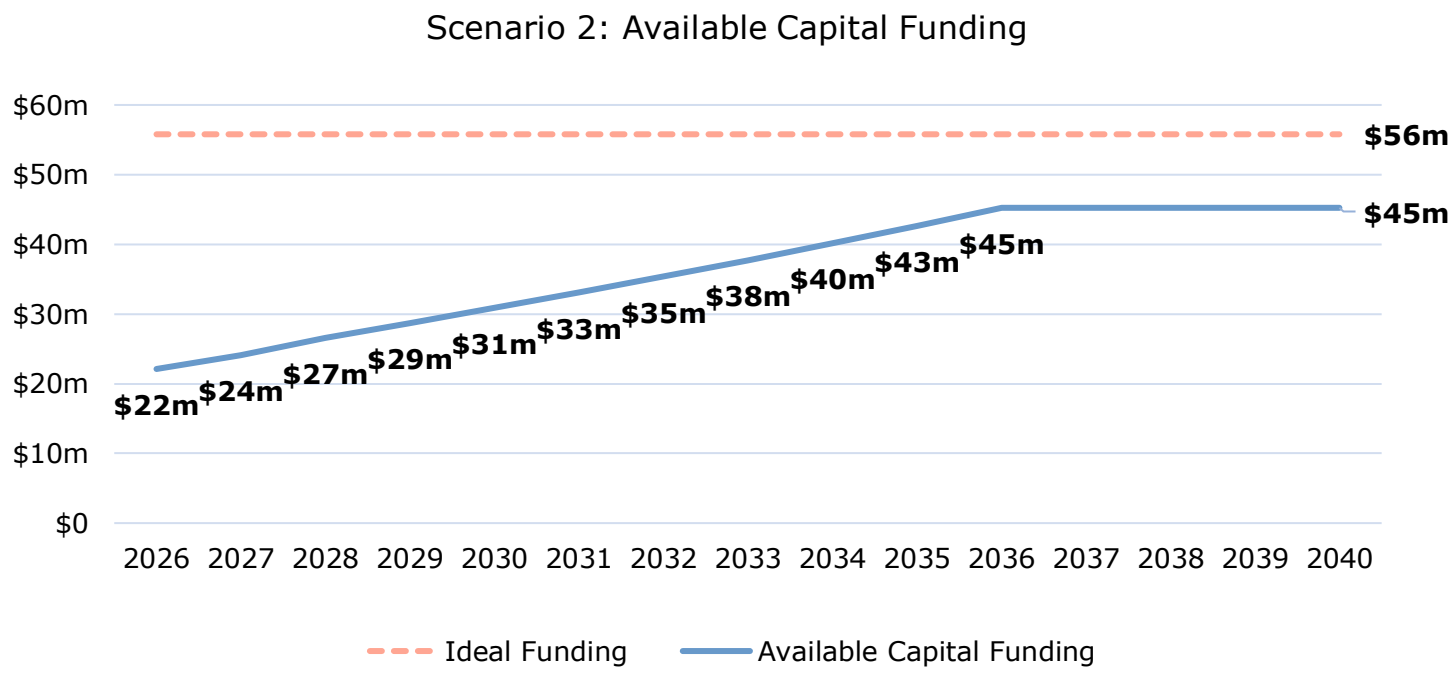


Figure 21 Scenario 2 Available Capital Funding Over Next 15 Years

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

Peterborough County 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 11 years to reach the targeted funding levels means 11 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 80% funding. By intentionally underfunding the County's asset portfolio, there is increased risk of services being impacted by deteriorating asset conditions.
- Reliance on Grants
  - As Scenario 2 targets 80% of recommended funding levels, the County 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 County 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 (storm sewers), can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the County risks paying more than necessary to maintain their asset inventory.

4.2.3 Scenario 3: Achieving 100% Funding in 15 Years (Preferred Scenario)

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

- Annual Tax Increase ~3.0%

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 ideal funding immediately would require an increase of 56% in tax revenue. This is not reasonable or realistic to achieve in a short period of time. With the modelled implementation timeframe of 15 years, tax revenue would be increased gradually from $20.2 million to $55.8 million. Based on these gradual proposed increases, while maintaining existing sustainable grant funding, the available capital funding over the next 15 years for Scenario 3 is indicated in the graph below:

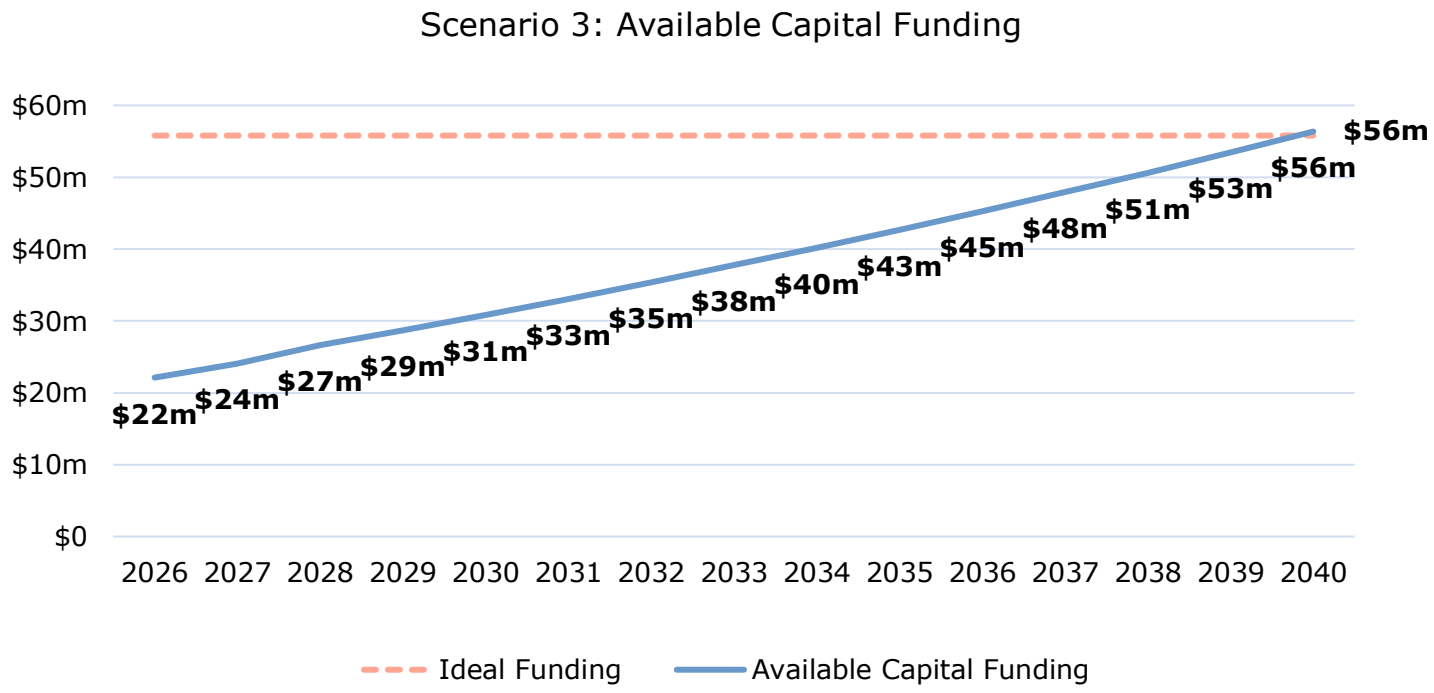


Figure 22 Scenario 3 Available Capital Funding Over Next 15 Years

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. There may be years with little or no capital expenditures in a specific asset category, however, this does not mean that the County 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 Peterborough County selected Scenario 3 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 3

Peterborough County 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
  - While mitigating the impact of financial increases on residents and businesses, taking 15 years to reach the targeted funding levels means 15 years of sub-optimal lifecycle management of assets. Being unable to complete strategic lifecycle interventions and replacements may result in increased asset failures, reduced reliability, and the potential for costly unbudgeted repairs to maintain services.
- Missed opportunities for efficiencies
  - While analyzing Scenario 3, no alternative lifecycle strategies were proposed. Mid-lifecycle interventions, such as asphalt overlays and sewer lining (storm sewer), can result in extended lifespans of assets and reduced costs over the lifetime of the assets. By relying on existing lifecycle strategies, the County risks paying more than necessary to maintain their asset inventory.
- Resident Pushback
  - With continual tax increases, there is risk of political pushback from residents and businesses as the financial burden increases.

Appropriateness of Scenario 3 to Meet the County's Needs

County staff emphasized a need to balance financial impacts on residents with the reality of the current state of infrastructure within the municipality. Upon review of all three scenarios, Scenario 3 was selected as the most appropriate option as an annual tax increase of 3.0% was determined to be subjectively manageable to implement, while creating a sustainable future for the County's infrastructure. The risks associated with relying on conditional grants from higher levels of government, and allowing conditions to deteriorate, were deemed to be too great considering the country-wide trend of downloading responsibilities (and costs) to municipal governments and reducing funding opportunities.

Category Analysis: Core Assets

5. Road Network

The County's road network comprises the largest share of its infrastructure portfolio, with a current replacement cost of more than $1.2 billion. The County also owns and manages other supporting infrastructure and capital assets such as traffic signals.

5.1 Inventory & Valuation

Table 7 summarizes the quantity and current replacement cost of the County's various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Class A Roads	178	Kilometers	$200,139,761	Cost per Unit
Class B Roads	902	Kilometers	$790,680,064	Cost per Unit
Class C Roads	305	Kilometers	$231,256,185	Cost per Unit
Traffic Signals	10	Assets	$3,000,000	User-Defined
TOTAL			**$1,225,076,010**	

Table 7 Detailed Asset Inventory: Road Network

Road Classes are defined by traffic volume, regardless of road surface type:

- Class A: >5,000 AADT
- Class B: 1,000 – 5,000 AADT
- Class C: <1,000 AADT

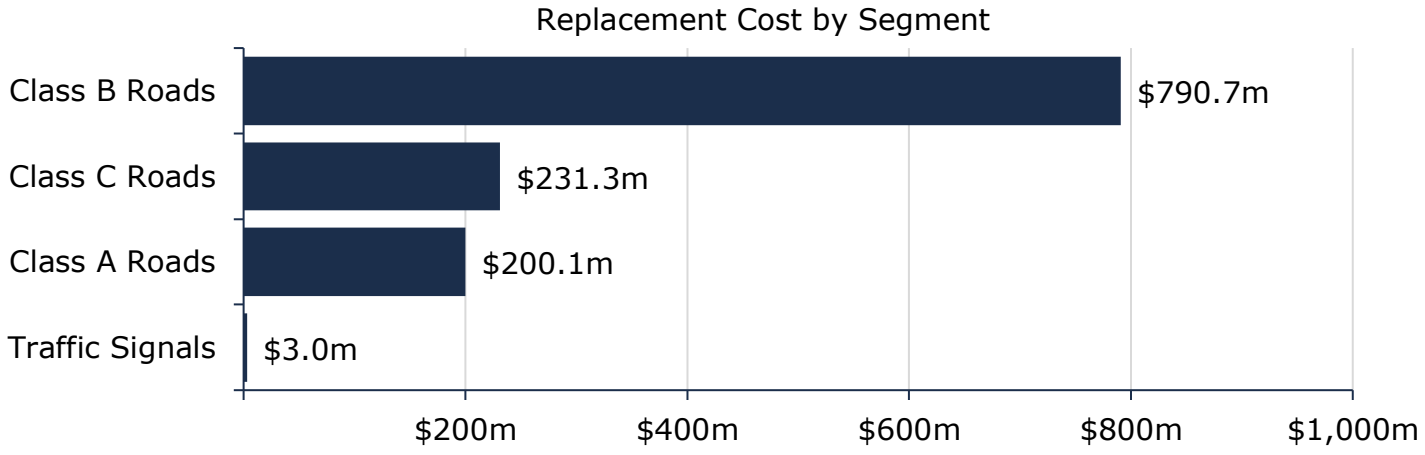


Figure 23 Portfolio Valuation: Road Network

5.2 Asset Condition

Figure 24 summarizes the replacement cost-weighted condition of the County's road network. Based on a combination of field inspection data and age, 76% of assets are in fair or better condition; the remaining 24% of assets are in poor to very poor condition. Condition assessments were available for 99% of all road class assets, 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 traffic signals.

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 24, the majority of the County's road network assets are in fair or better condition.

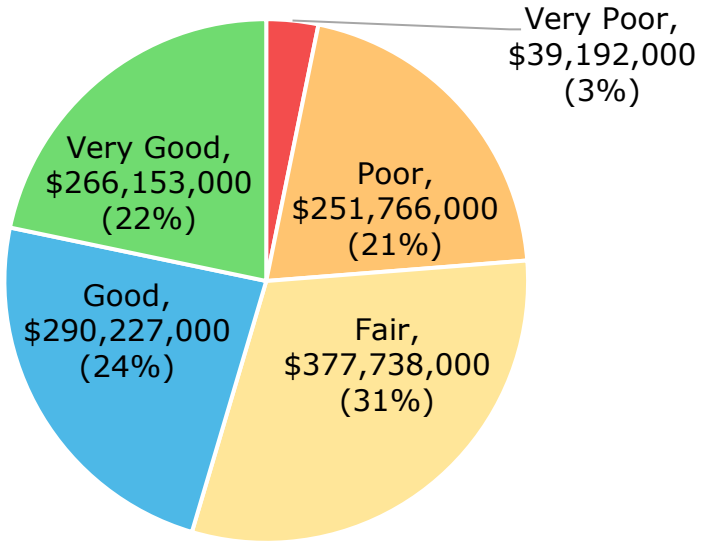


Figure 24 Asset Condition: Road Network Overall

As illustrated in Figure 25, based on condition assessments, the majority of the County's road network is in fair or better condition; however, 80% of traffic signals are in poor or worse condition, based solely on age.

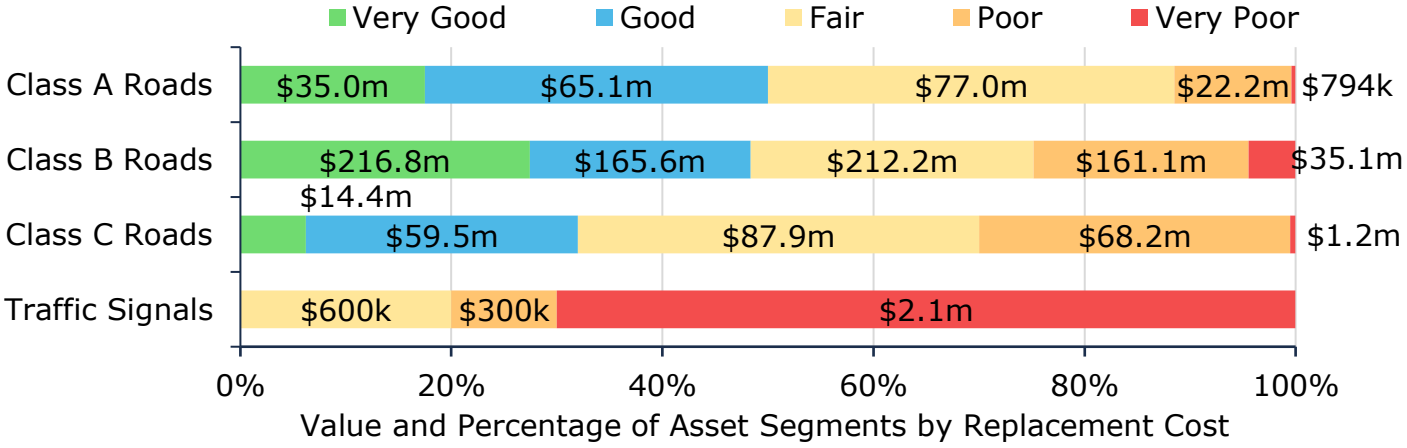


Figure 25 Asset Condition: Road Network by Segment

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 26 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.

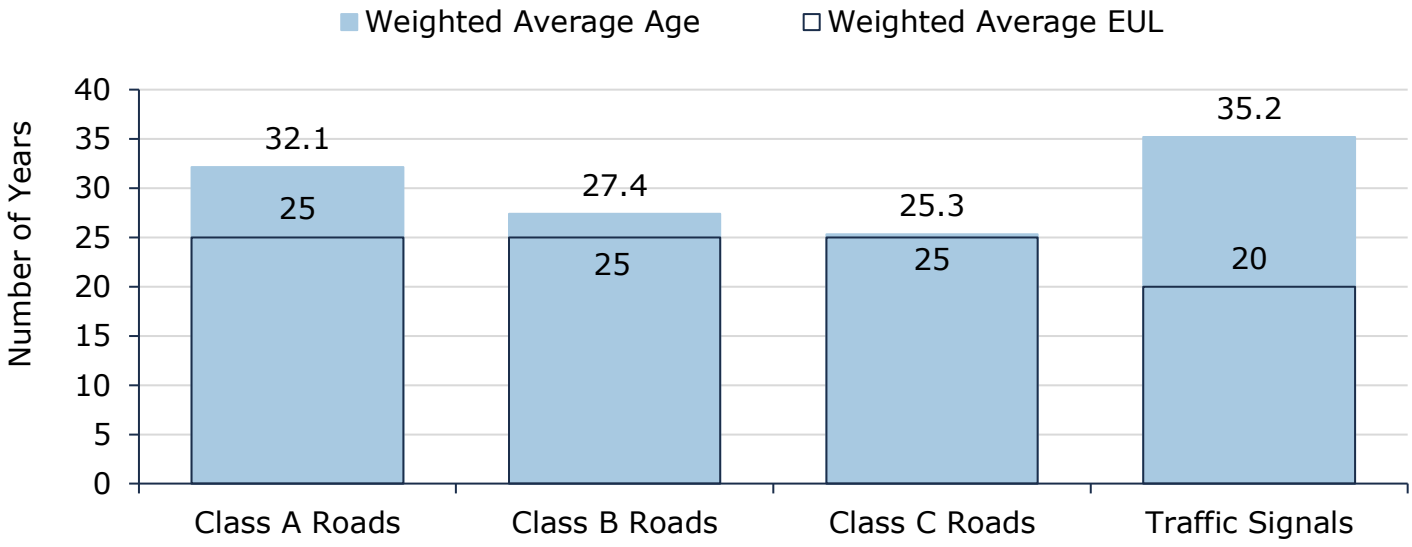


Figure 26 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that all aspects of the County's Road Network have surpassed their expected useful life, with an average age between 25.3 to 32.1 years against a design life of 25 years for roads. Traffic Signals continue to remain in service well beyond their expected useful life.

Note: *It is important to review the above age data in relation to lifecycle management approaches. Proactive lifecycle interventions, such as those currently implemented by Peterborough County, can significantly extend the expected lifespan of assets. More information is detailed in the next section.*

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 HCB and LCB roads for established A to C road classes. 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.

Paved Roads (Class A - HCB)		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Maintenance	88 to 95 Condition
Microsurfacing - Scratch and Surface Lift	Maintenance	77 to 86 Condition
Rural Overlay	Maintenance	67 to 74 Condition
Cold in Place Recycling - Rural (100mm)	Rehabilitation	54 to 63 Condition
Asset Replacement	Replacement	28 to 40 Condition

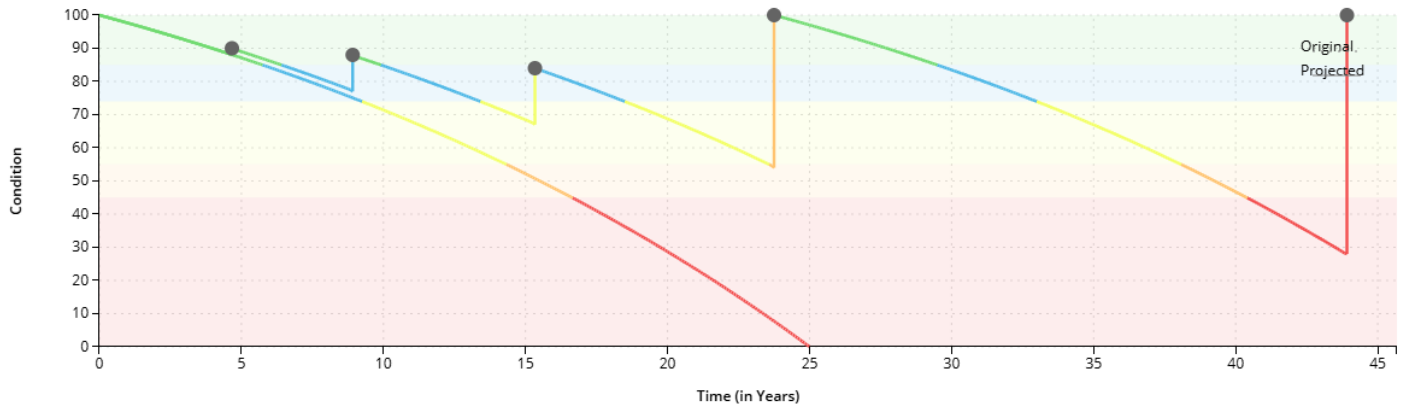


Table 8 Lifecycle Management Strategy: Road Network (Class A - HCB Roads)

Paved Roads (Class B - HCB)		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Maintenance	88 to 94 Condition
Microsurfacing - Scratch and Surface Lift	Maintenance	77 to 88 Condition
Rural Overlay	Maintenance	69 to 73 Condition
Full Depth Expanded Rural Rehabilitation	Rehabilitation	48 to 63 Condition
Asset Replacement	Replacement	28 to 40 Condition

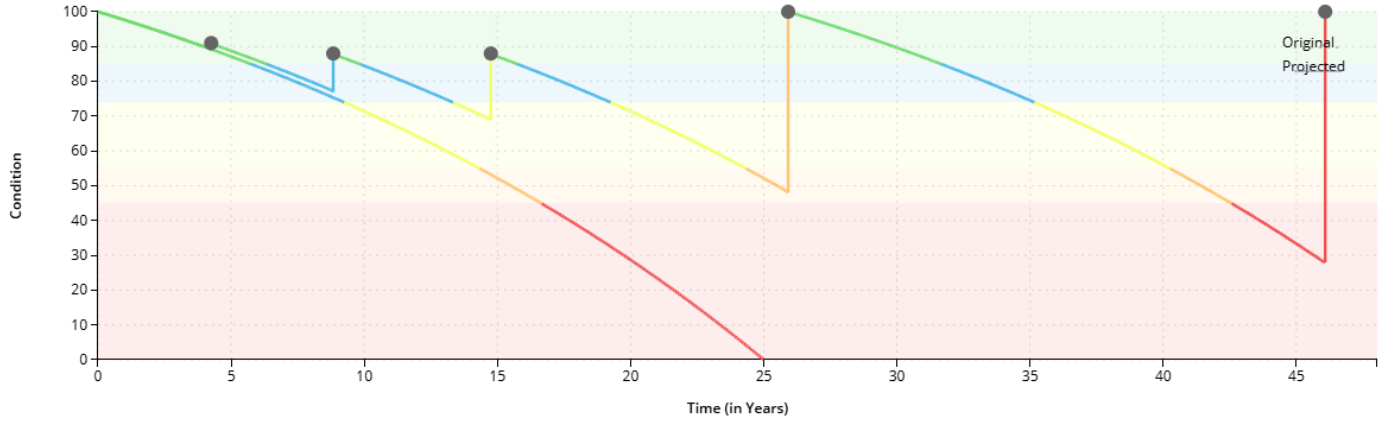


Table 9 Lifecycle Management Strategy: Road Network (Class B - HCB Roads)

Paved Roads (Class B - LCB)		
Event Name	**Event Class**	**Event Trigger**
Single Surface Treatment	Maintenance	81 to 84 Condition
SST with 10% Base Repairs	Maintenance	68 to 78 Condition
DST Rehab 10 % Base Repairs	Rehabilitation	42 to 65 Condition
Asset Replacement	Replacement	32 to 40 Condition

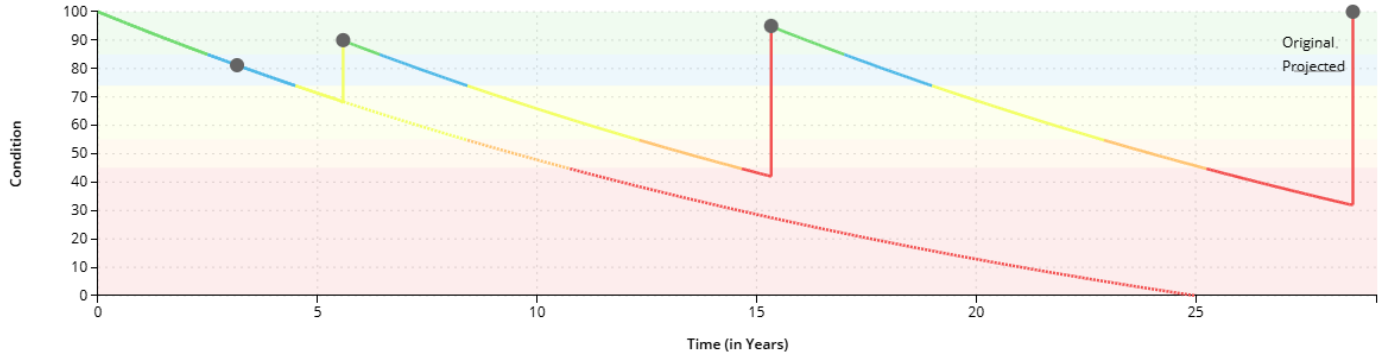


Table 10: Lifecycle Management Strategy: Road Network (Class B - LCB Roads)

Paved Roads (Class C - HCB)		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Maintenance	89 to 98 Condition
Microsurfacing - Scratch and Surface Lift	Maintenance	77 to 86 Condition
Rural Overlay	Maintenance	67 to 74 Condition
Full Depth Expanded Rural	Rehabilitation	49 to 63 Condition
Asset Replacement	Replacement	32 to 38 Condition

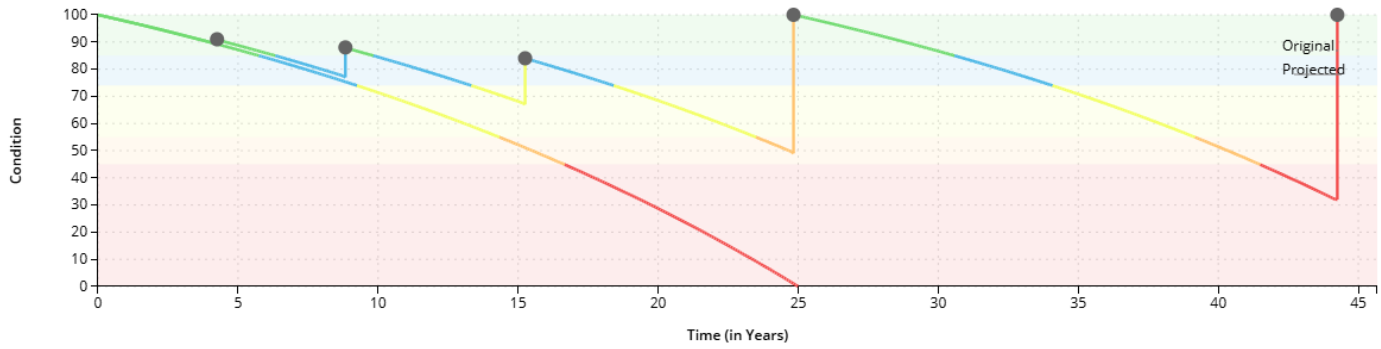


Table 11: Lifecycle Management Strategy: Road Network (Class C - HCB Roads)

Paved Roads (Class C - LCB)		
Event Name	**Event Class**	**Event Trigger**
Single Surface Treatment	Maintenance	81 to 84 Condition
SST with 10% Base Repairs	Maintenance	68 to 78 Condition
DST Rehab 10% Base Repairs	Rehabilitation	42 to 65 Condition
Asset Replacement	Replacement	32 to 40 Condition

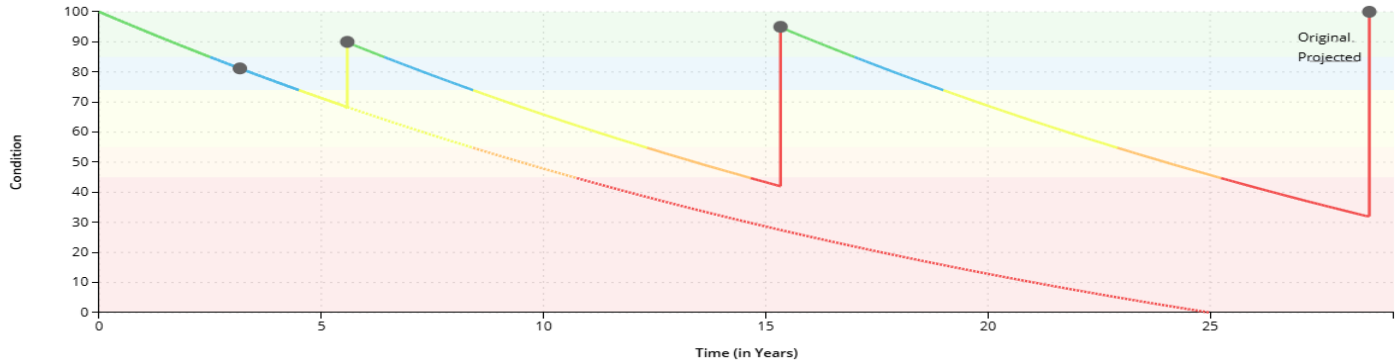


Table 12: Lifecycle Management Strategy: Road Network (Class C - LCB Roads)

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

Activity Type	Description of Current Strategy
Maintenance	Routine activities include crack sealing, patching, shoulder grading, ditching, and drainage improvements.
	Maintenance priorities are identified through regular field inspections and staff observations.
	Focus is placed on preserving pavement in "good" condition and addressing early signs of surface distress.
	Crack sealing and minor surface repairs are completed annually to prevent water infiltration and slow deterioration.
	Activities follow the "keep good roads good" approach to extend service life and defer major rehabilitation.
Rehabilitation	Reguarl resurfacing and surface treatment programs extend pavement life and restore surface quality.
	Projects are selected based on condition, traffic volume, and functional class

Activity Type	Description of Current Strategy
	Rehabilitation restores structural strength and ride quality without requiring full reconstruction
	The program emphasizes applying the right treatment at the right time for best return on investment
Replacement	Full reconstruction is undertaken when pavements reach the end of their useful life or exhibit major structural and drainage failures.
	Projects address base, subgrade, and cross-section deficiencies and restore the full structural capacity of the roadway.
	Reconstruction is coordinated with underground utility or drainage improvements where applicable.
Inspection	The most recent Roads Needs Study was prepared in 2022, integrated with the County's original Core Asset Management Plan. Road inspections/assessments are conducted annually by internal staff and, generally, a Road Needs Study is conducted by an external consultant every 5 years.
	Field observations and technical data are used to refine treatment timing and optimize investment decisions.

Table 13 Lifecycle Management Strategy: Road Network

5.5 Forecasted Long-Term Replacement Needs

Figure 13 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the County's road network. This analysis was run until 2074 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total **$40.5 million per year** for all assets in the road network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs through the forecast period. It also shows a relatively small backlog $2.1 million, comprised entirely of traffic signals. However, as traffic signals are pooled and no condition data was available, this estimate may not be accurate. 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.

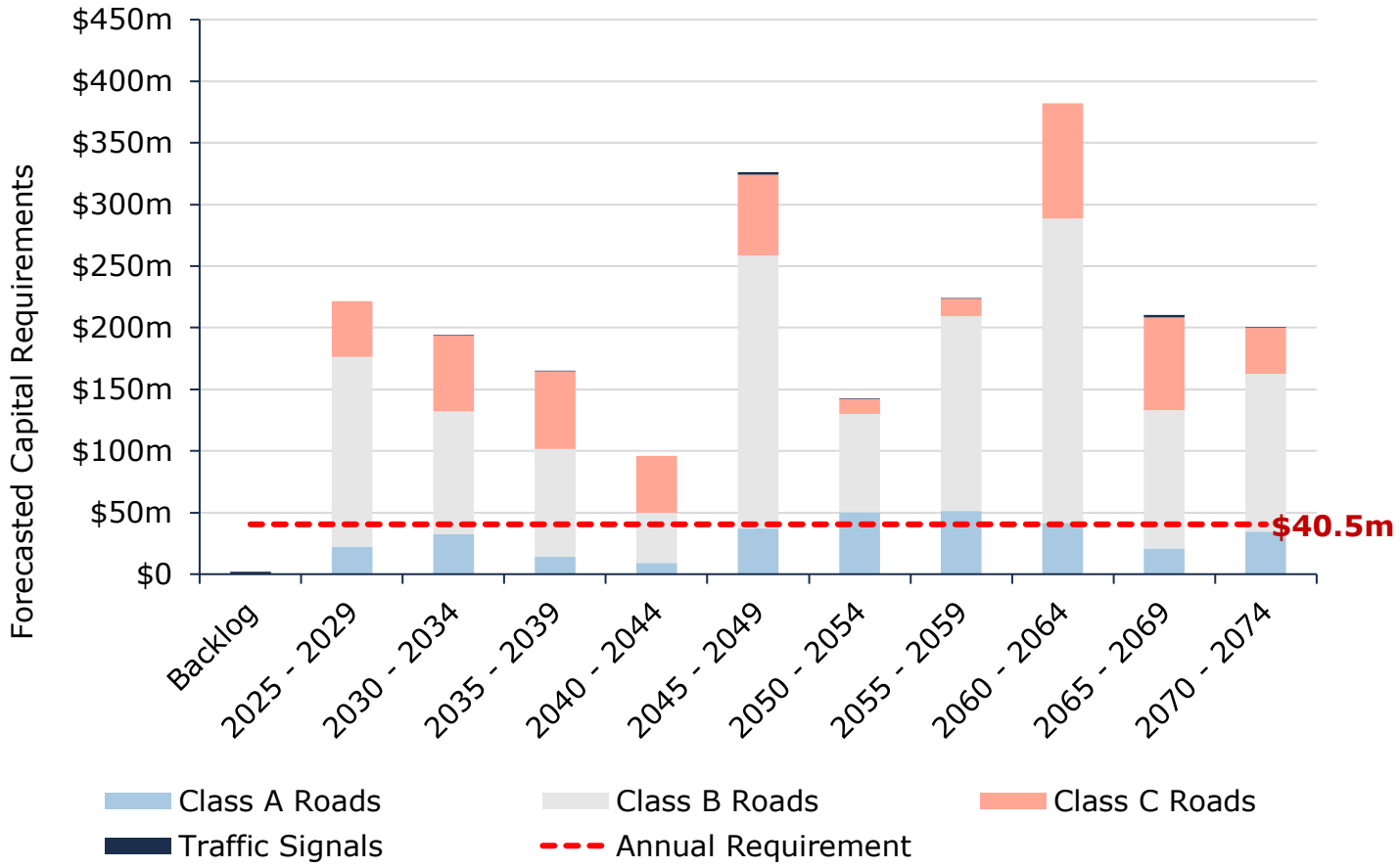


Figure 27 Forecasted Capital Replacement Needs: Road Network 2025-2074

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. 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

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

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

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

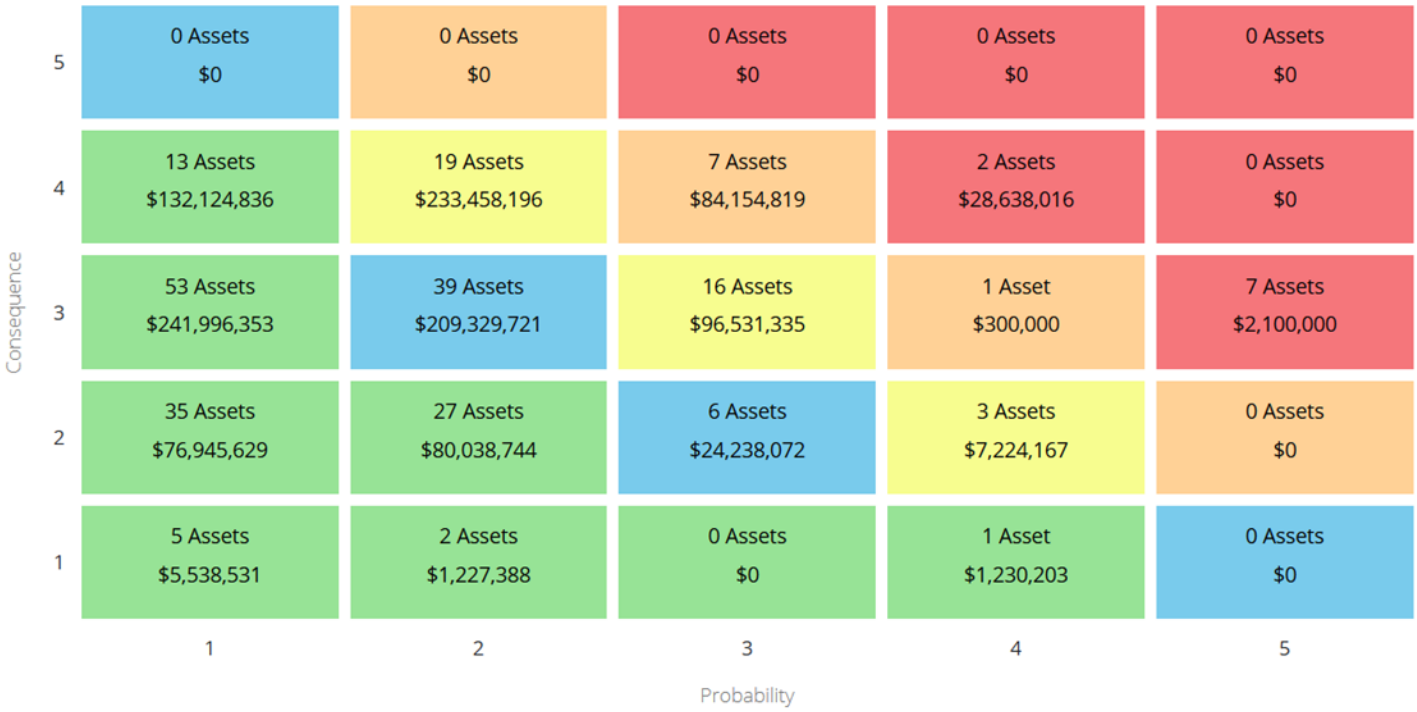


Figure 28 Risk Matrix: Road Network

5.7 Levels of Service

The tables that follow summarize the County's current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17, as well as any additional performance measures that the County 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	Approximately 1,385 km road network spanning just over 3,779 km² of area. The system mostly consists of a mix of urban and rural roads divided into Class A, B and C roads which are established based on AADT data.
Quality	Description or images that illustrate the different levels of road class pavement condition	See Appendix C – Level of Service Maps & Photos

Table 14 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)	0.04 km/km^2
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km^2)	0.31 km/km^2
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	0.02 km/km^2
Quality	Average surface condition for Paved Roads (Class A, B, C) in the County (e.g. excellent, good, fair, poor)	Class A: 73% Class B: 71% Class C: 64%
	% of road network assets in poor or worse condition	24%
Performance	Actual vs. Target Capital Reinvestment Rate	1.1% vs. 3.3%

Table 15 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 County'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: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Road network capital funding gradually increases from $13.0m/year to $24.3m/year over a span of 6 years
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Road network capital funding gradually increases from $13.0m/year to $32.4m/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Road network capital funding gradually increases from $13.0m/year to $40.5m/year over a span of 15 years

Table 16 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 (60%)	Average Condition	72%	70%	47%	
	Average Asset Risk	8.3	8.7	11.5	
	Average Annual Investment		$24,274,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		2.0%		
Scenario 2 (80%)	Average Condition	72%	70%	57%	
	Average Asset Risk	8.3	8.6	10.4	
	Average Annual Investment		$32,365,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		2.6%		
Scenario 3 (100%)	Average Condition	72%	70%	64%	
	Average Asset Risk	8.3	8.6	9.7	
	Average Annual Investment		$40,456,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		3.3%		

Table 17 Road Network PLOS Scenario Analysis

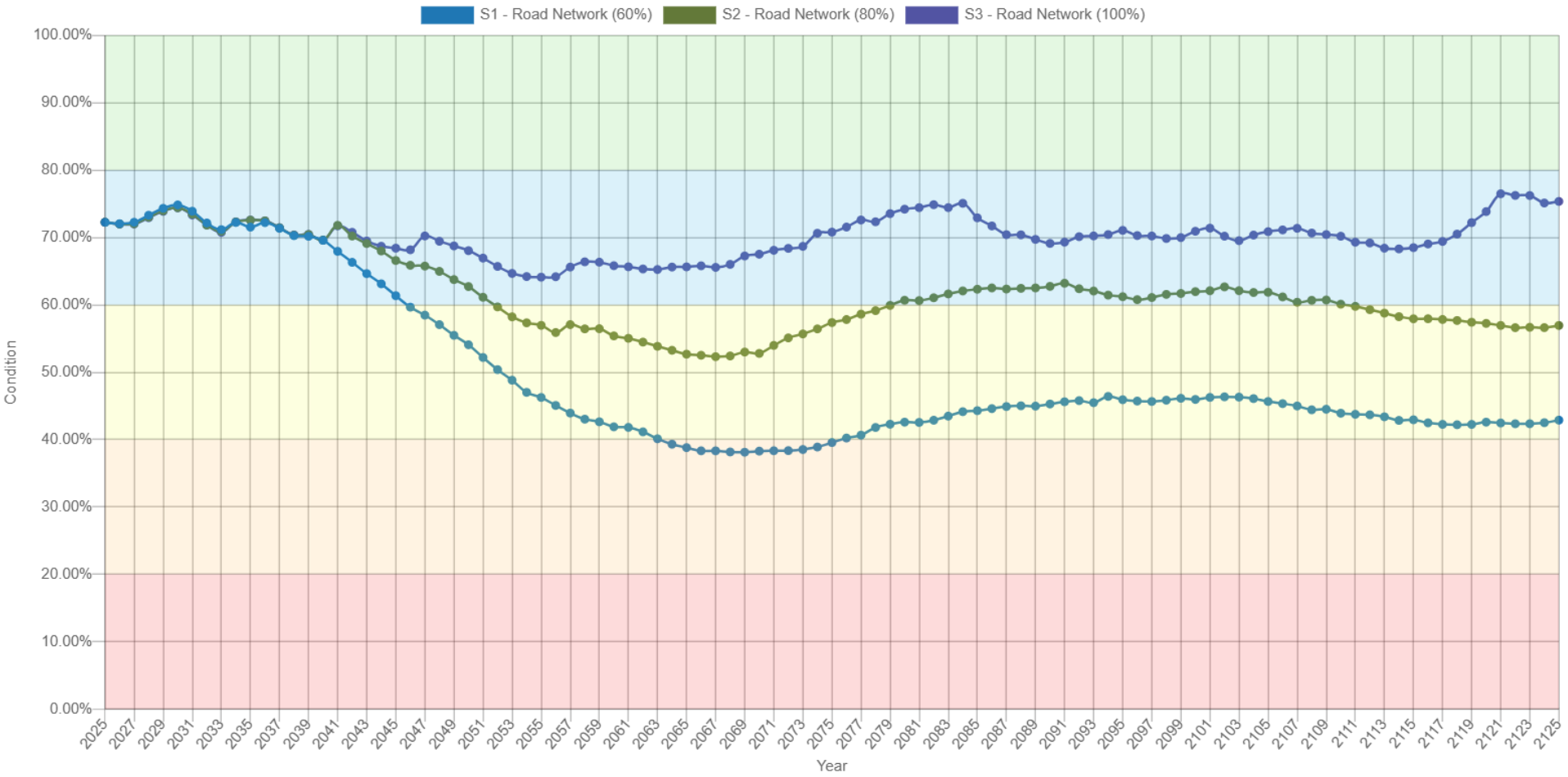


Figure 29 Road Network PLOS Scenario Condition Results

5.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the road network if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**	**$40.5m**
Projected Capital Spending	$14.4m	$16.0m	$17.9m	$19.5m	$21.2m	$22.9m	$24.7m	$26.5m	$28.4m	$30.3m
Funding Deficit	$26.0m	$24.5m	$22.6m	$20.9m	$19.3m	$17.6m	$15.8m	$14.0m	$12.1m	$10.1m
Target Reinvestment Rate	**3.3%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**	**3.3%**
Projected Reinvestment Rate	1.2%	1.3%	1.5%	1.6%	1.7%	1.9%	2.0%	2.2%	2.3%	2.5%

Table 18 Road Network 10-Year PLOS Financial Projections

6. Bridges & Culverts

The County's Bridges and culverts network also includes entrance culverts, retaining walls and structural culverts greater than 3 meters, combined these have a current replacement cost of $408 million.

6.1 Inventory & Valuation

Table 19 summarizes the quantity and current replacement cost of bridges and culverts. The County owns and manages 23,849 square meters of bridges and 19,986 meters of structural culverts.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	125	Assets	$251,669,945	User-Defined
Cross Culverts	1,192	Assets	$78,005,000	User-Defined
Entrance Culverts	4,295	Assets	$60,130,000	User-Defined
Retaining Walls	3	Assets	$500,000	User-Defined
Structural Culverts (>3m)	30	Assets	$17,901,626	User-Defined
TOTAL			**$408,206,571**	

Table 19 Detailed Asset Inventory: Bridges & Culverts

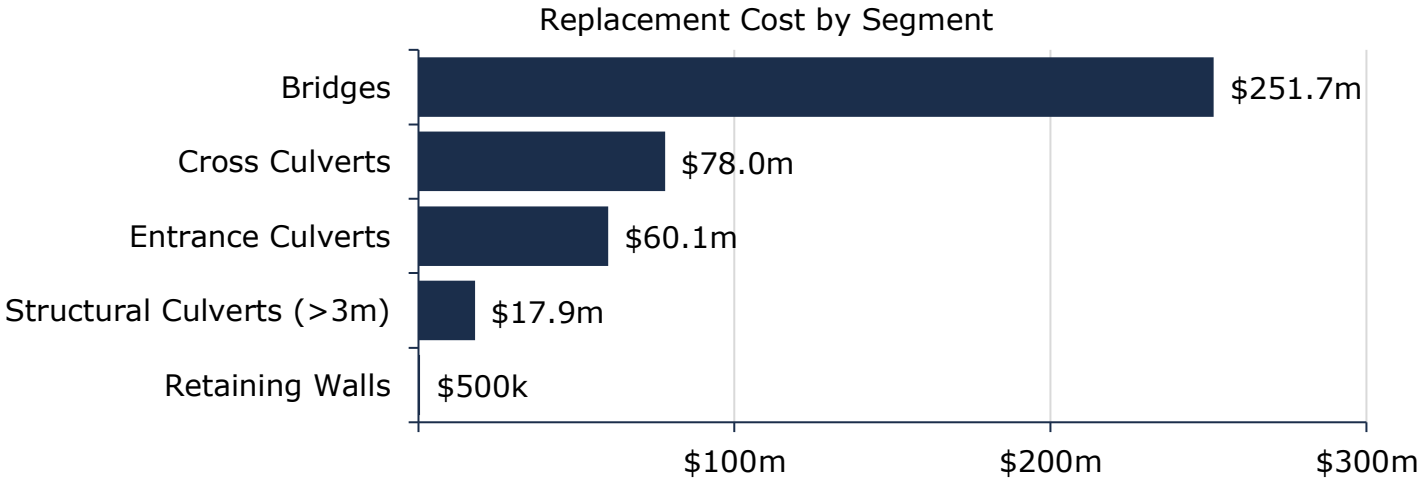


Figure 30 Portfolio Valuation: Bridges & Culverts

6.2 Asset Condition

Figure 31 summarizes the replacement cost-weighted condition of the County's bridges and culverts. Based on the County's recent Ontario Structures Inspection Manual (OSIM) assessments, 72% 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 24% of the total bridges and culverts portfolio, assets in poor or worse condition may require replacement in the immediate or short term.

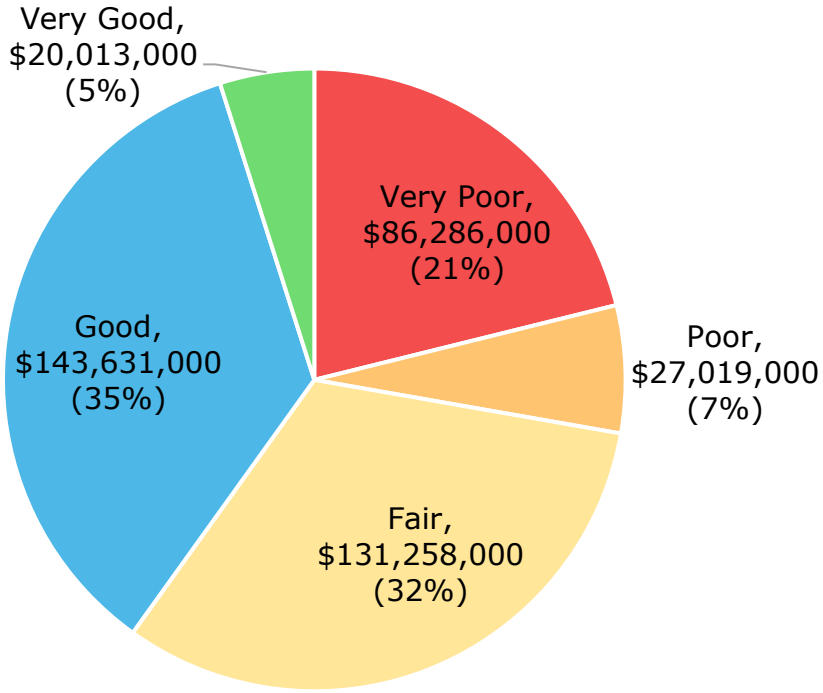


Figure 31 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 32, based primarily on in-field condition assessments, $26 million of cross culvert assets were assessed as being in poor or worse condition. Moreover, 100% of entrance culverts, with a current replacement cost of $60 million were identified as poor or worse, with condition based mainly on asset age. Bridges and structures with a poor or worse rating (i.e., a bridge condition index of less than 60) are not necessarily unsafe for regular use. The OSIM ratings are designed to identify repairs needed to elevate condition ratings to a fair or higher.

Note: *Entrance culverts do not have any assessed conditions associated with the 4,295 assets within Peterborough County's inventory, therefore their condition is projected based on age. This significantly skews the condition projection because entrance culverts have been input into their inventory with an in-service date of 1800 resulting in all entrance culverts reflecting 0% condition.*

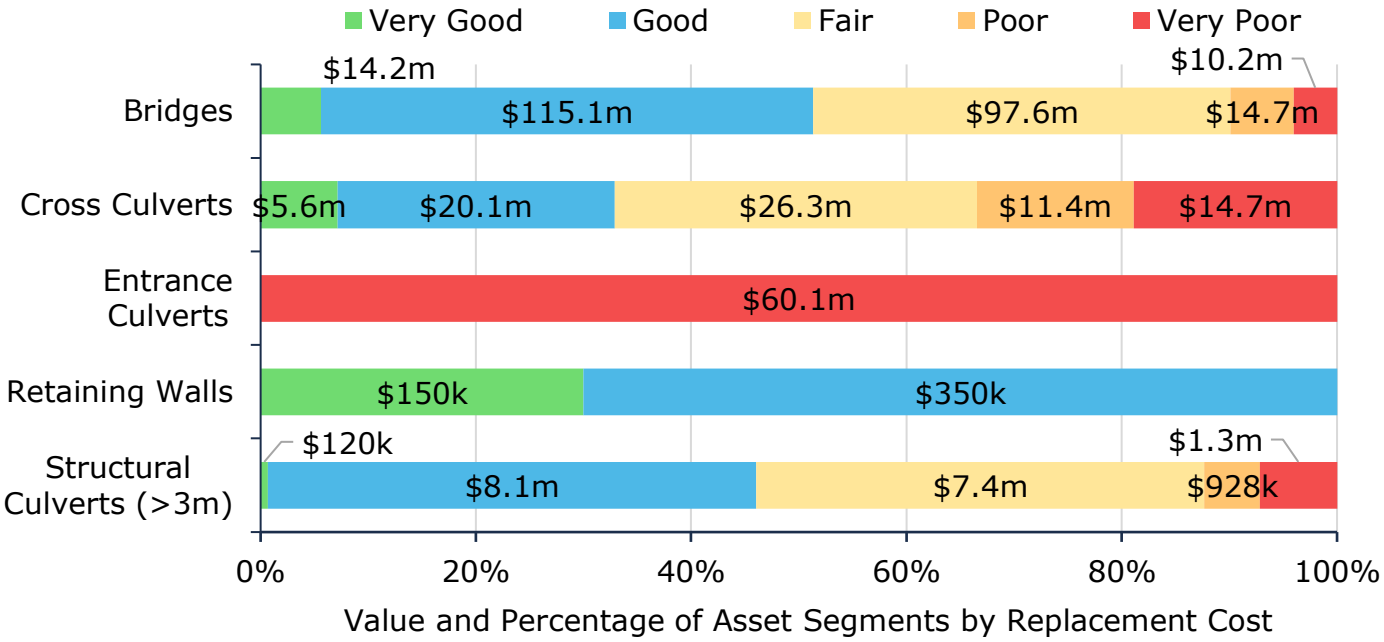


Figure 32 Asset Condition: Bridges & Culverts by Segment

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 33 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.

Note: *All Entrance Culvert assets were input into Citywide with an in-service date of 1800, and a majority of Cross Culvert assets with 1900, therefore age calculations are not available for the majority of assets in these segments.*

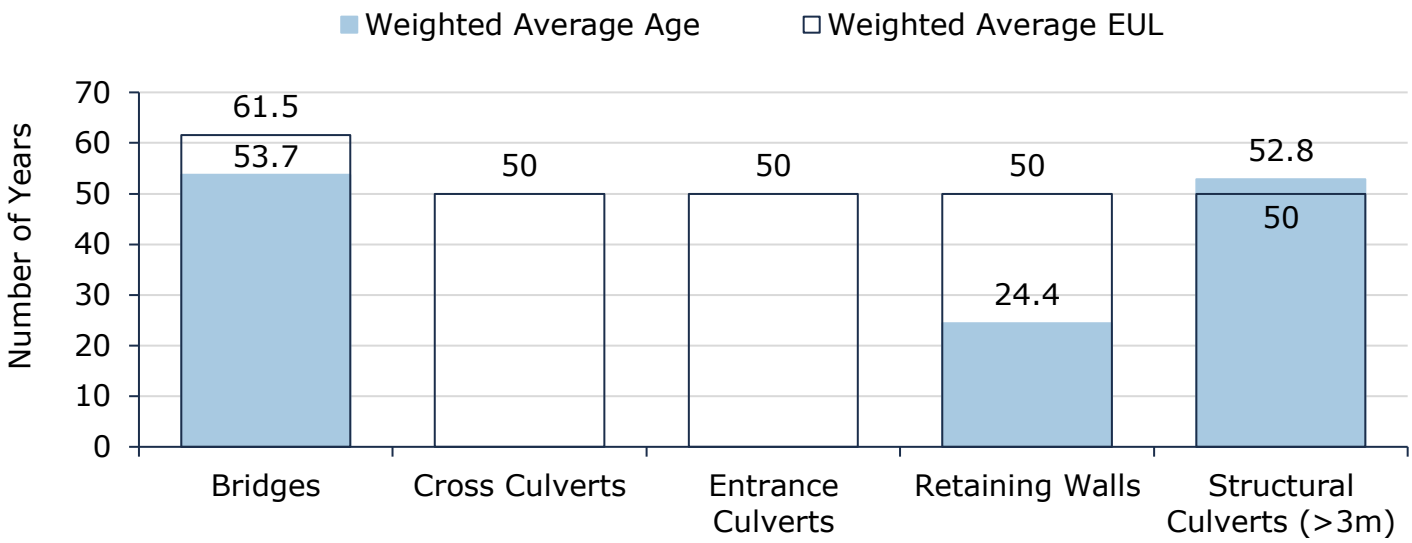


Figure 33 Estimated Useful Life vs. Asset Age: Bridges & Culverts

Age analysis reveals that on average, bridges are in the latter stages of their estimated useful life, with an average age of 53.7 years against an average EUL of 61.5 years. On average, structural culverts have exceeded their estimated useful life, with an average age of 52.8 years, against an average EUL of 50 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 County's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Routine maintenance includes cleaning of drains and joints, debris removal, and minor concrete or coating repairs.
	Work focuses on preventing moisture and salt intrusion, improving drainage, and addressing minor defects early
	Biennial OSIM inspection reports include a list of recommended maintenance activities that the County considers and completes according to cost and urgency.
Rehabilitation / Replacement	Biennial OSIM inspection reports include a Capital Needs List identifying recommended rehabilitation and replacement activities with estimated costs.
	Rehabilitation and replacement programs address structural, deck, and substructure deficiencies to extend service life or restore capacity.
	Projects are prioritized based on condition, safety, and network importance, and coordinated with roadway improvements where feasible.
Inspection	The most recent Bridge and Culvert inspection reports were prepared in 2023/2024 by D.M Wills Associates Limited.

Table 20 Lifecycle Management Strategy: Bridges & Culverts

6.5 Forecasted Long-Term Replacement Needs

Figure 34 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the County's bridges and culverts. This analysis was run until 2099 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the County's primary asset management system and asset register. The County's average annual requirements (red dotted line) for bridges and culverts total **$7.4 million per year**. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Although no major replacement spikes are anticipated for the next 15 years, there is a significant backlog of just over $66 million. Capital needs will gradually rise between 2045 and 2064, and peak at $145.8 million between 2075 and 2079 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.

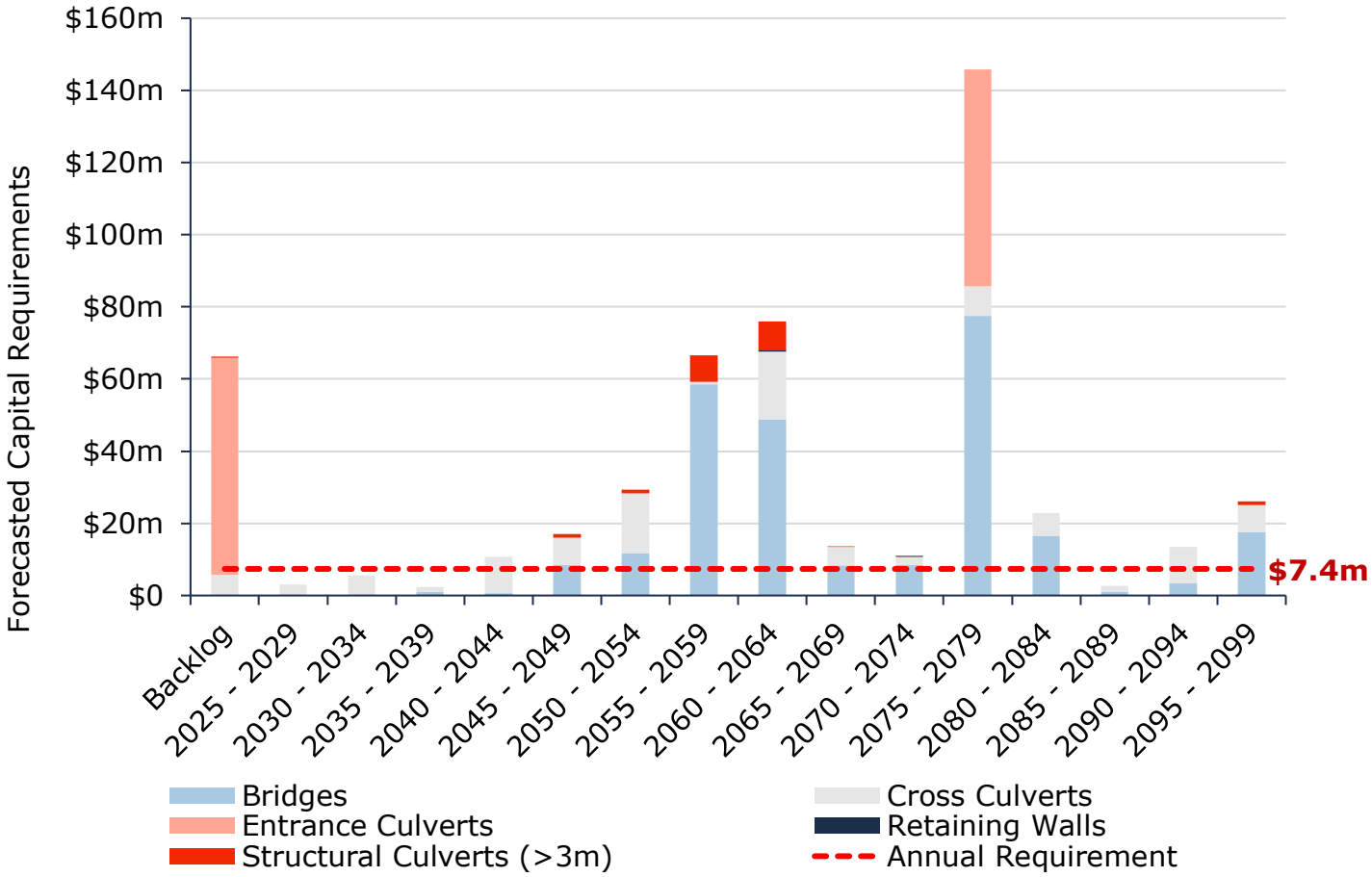


Figure 34 Forecasted Capital Replacement Needs: Bridges & Culverts 2025-2099

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

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

6.6 Risk Analysis

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

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

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

Figure 35 Risk Matrix: Bridges & Culverts

6.7 Levels of Service

The tables that follow summarize the County's current levels of service with respect to prescribed KPIs under Ontario Regulation 588/17 as well as any additional performance measures that the County 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)	Bridges and structural culverts are a key component of the County's transportation network. 21% of the County's structures have loading or dimensional restrictions meaning that not all types of vehicles, including heavy transport, motor vehicles, emergency vehicles, agricultural machinery, and cyclists can cross them without restriction.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	See Appendix C – Level of Service Maps & Photos

Table 21 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 County with loading or dimensional restrictions	21%[6]
Quality	Average bridge condition index value for bridges in the County	70%
	Average bridge condition index value for structural culverts over 3m in the County	66%
	% of bridges and culverts assets in poor or worse condition	28%
Performance	Actual vs. Target Capital Reinvestment Rate	1.2% vs. 1.8%

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

[6] The County currently has 11 structures with posted load restrictions, and 21 bridges with structures with single land restrictions.

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 County'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: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Bridge capital funding is reduced from $4.7m/year to $4.4m/year ♦ As Bridges have historically been funded at 64%, excess funds were redistributed to other underfunded asset categories to achieve the 60% funding level for all asset categories.
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Bridge capital funding gradually increases from $4.7m/year to $5.9m/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Bridge capital funding gradually increases from $4.7m/year to $7.4m/year over a span of 15 years

Table 23 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 (60%)	Average Condition	64%	43%	33%	
	Average Asset Risk	9.6	15.5	15.5	
	Average Annual Investment		$4,417,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		1.1%		
Scenario 2 (80%)	Average Condition	64%	43%	33%	
	Average Asset Risk	9.6	15.5	15.5	
	Average Annual Investment		$5,889,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		1.4%		
Scenario 3 (100%)	Average Condition	64%	43%	33%	
	Average Asset Risk	9.6	15.5	15.5	
	Average Annual Investment		$7,361,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		1.8%		

Table 24 Bridges & Culverts PLOS Scenario Analysis

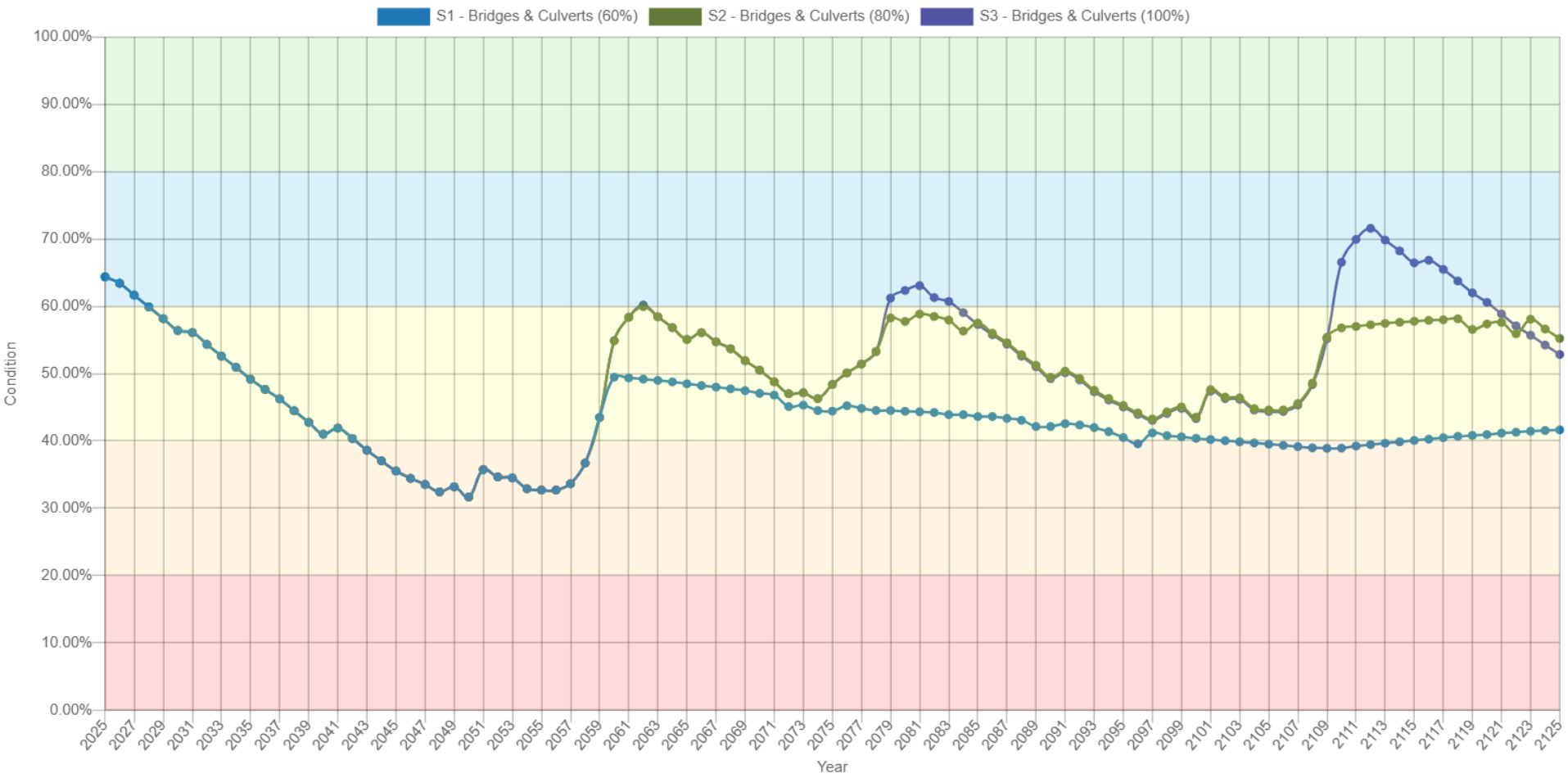


Figure 36 Bridges & Culverts PLOS Scenario Condition Results

6.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis* Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for bridges and culverts if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**	**$7.4m**
Projected Capital Spending	$4.8m	$5.0m	$5.2m	$5.3m	$5.5m	$5.6m	$5.8m	$6.0m	$6.2m	$6.4m
Funding Deficit	$2.5m	$2.4m	$2.2m	$2.0m	$1.9m	$1.7m	$1.5m	$1.4m	$1.2m	$989k
Target Reinvestment Rate	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**	**1.8%**
Projected Reinvestment Rate	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%

Table 25 Bridges & Culverts 10-Year PLOS Financial Projections

7. Stormwater Network

The stormwater network comprises sewer mains and other critical supporting capital assets such as manholes and catch basins, with a current replacement cost of over $109 million. The County is actively working to improve the data confidence in the stormwater inventory.

7.1 Inventory & Valuation

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

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basins	997	Quantity	$5,982,000	Cost per Unit
Storm Manholes	680	Quantity	$10,200,000	Cost per Unit
Storm Sewer	44,542	Length (m)	$93,538,725	Cost per Unit
TOTAL			**$109,720,725**	

Table 26 Detailed Asset Inventory: Stormwater Network

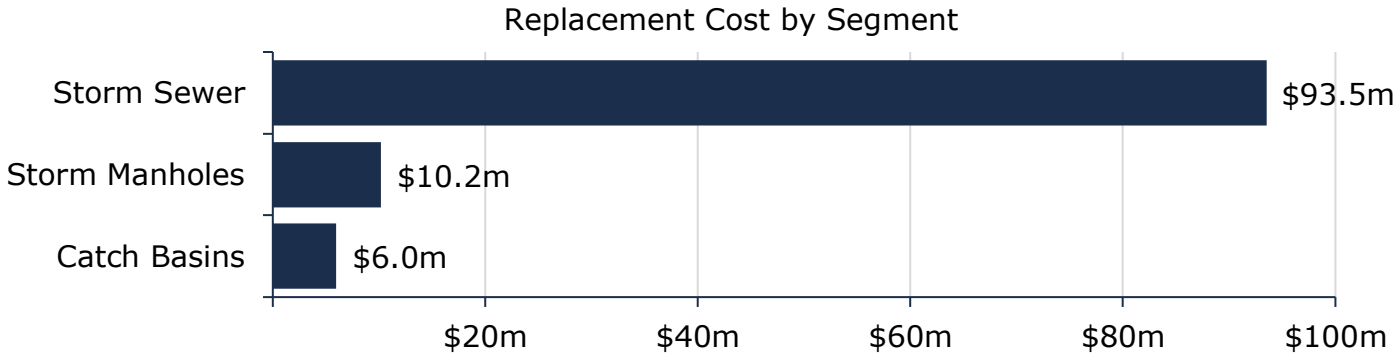


Figure 37 Portfolio Valuation: Stormwater Network

7.2 Asset Condition

Figure 38 summarizes the replacement cost-weighted condition of the County's stormwater network. Based on a combination of field inspection data and age, 62% of assets are in fair or better condition; the remaining 39% of assets are in poor to very poor condition. Condition assessments were not available for any asset type within the stormwater network. 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 38 the majority of the County's stormwater network assets are in fair or better condition.

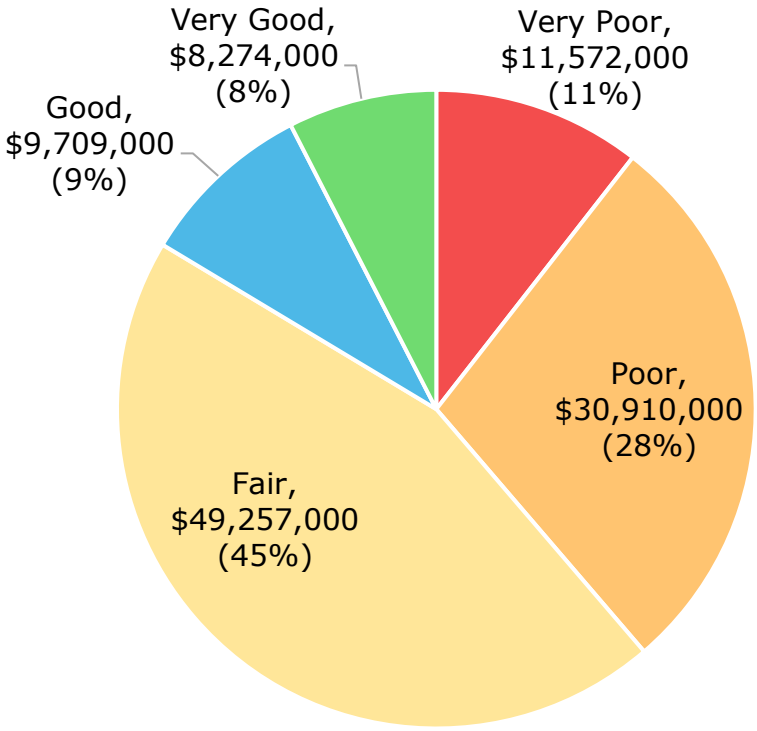


Figure 38 Asset Condition: Stormwater Network Overall

As illustrated in Figure 39, based on condition assessments and age-based conditions, the majority of the County's storm sewers are in fair or better condition, however, 89% of storm manholes are in poor or worse condition.

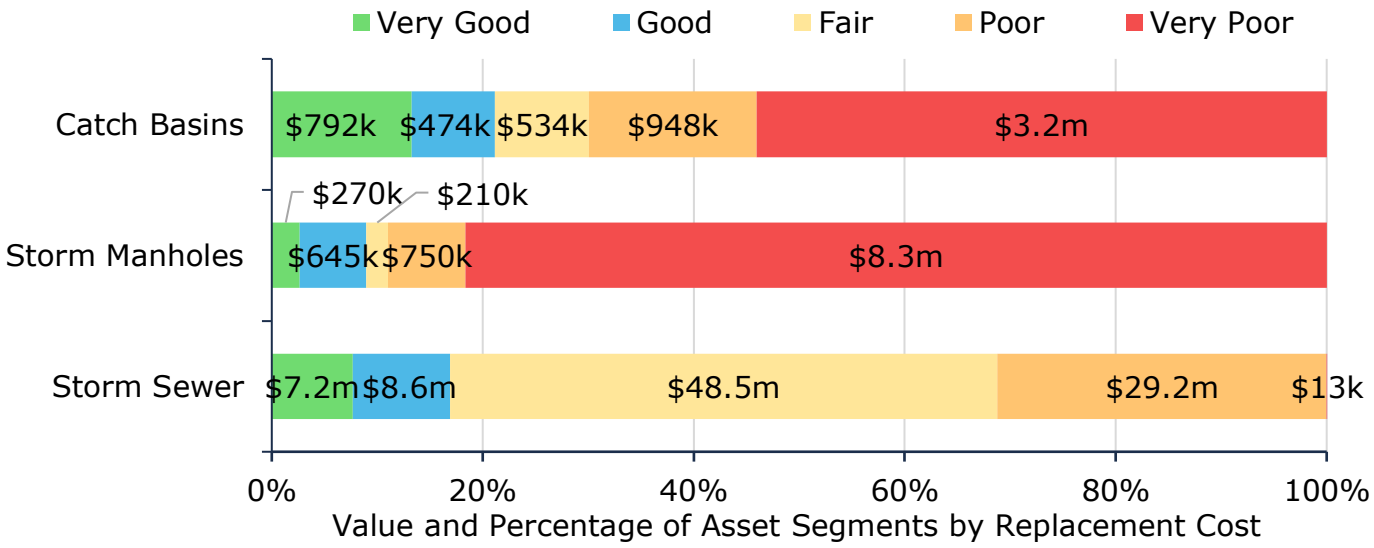


Figure 39 Asset Condition: Stormwater Network by Segment

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 40 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.

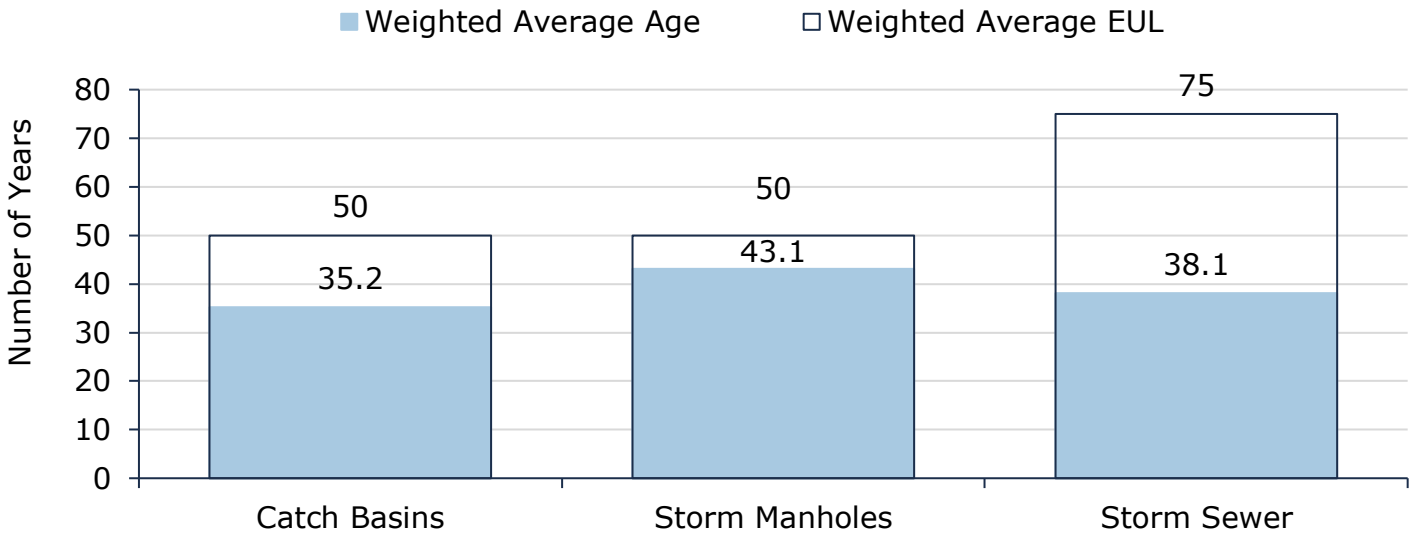


Figure 40 Estimated Useful Life vs. Asset Age: Stormwater Network

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 County's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Regular maintenance includes catch basin and ditch cleaning, flushing of storm sewer mains, and removal of blockages or sediment buildup.
	Efforts focus on ensuring adequate flow, preventing localized flooding, and maintaining system functionality.
	Activities are performed on a rotational basis or as needed based on condition or performance issues.
Rehabilitation/ Replacement	Rehabilitation and replacement activities address structural deterioration, hydraulic deficiencies, and capacity limitations.
	Common works include localized pipe repairs, relining, manhole adjustments, or full replacement of aging sections.
	Projects are prioritized based on condition, flow performance, and coordination with road or utility reconstruction projects
Inspection	Inspections are performed through CCTV surveys, field observations, and maintenance reports.
	Findings identify structural, operational, and environmental deficiencies for prioritization.

Table 27 Lifecycle Management Strategy: Stormwater Network

7.5 Forecasted Long-Term Replacement Needs

Figure 41 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the County's stormwater network. This analysis was run until 2099 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total **$1.6 million per year** for all assets in the sanitary sewer network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period, primarily after the 2045 – 2049 period. It also shows a backlog of $4.5 million split between catch basins and storm manholes. 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.

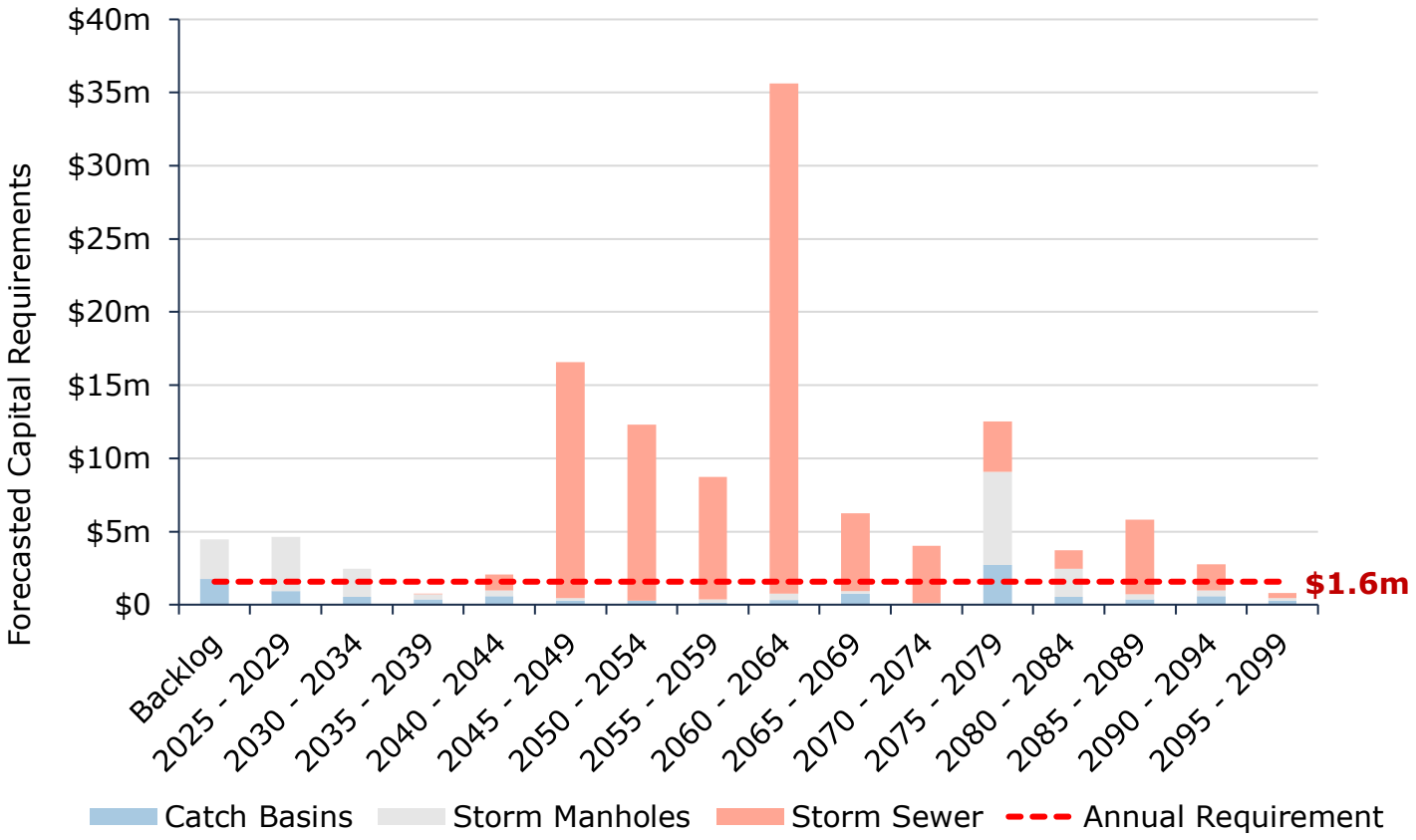


Figure 41 Forecasted Capital Replacement Needs: Stormwater Network 2025-2099

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. 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

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

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

Figure 42 Risk Matrix: Stormwater Network

7.7 Levels of Service

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

7.7.1 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 County that are protected from flooding, including the extent of protection provided by the municipal storm water network	The County's stormwater collection network controls minor or nuisance storms in urban areas. Their biggest benefit is protection of the roads from minor flooding and prolonging the life of the road assets.

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

7.7.2 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	91%[7]
	% of the municipal stormwater management system designed to be resilient to a 5-year storm	95%[8]
Performance	Actual vs. Target Capital Reinvestment Rate	0% vs. 1.4%

Table 29 O. Reg. 588/17 Technical Levels of Service: Stormwater 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 County's ability to afford the PLOS.

The below tables and graphs explain the proposed levels of service scenarios that were analyzed for the stormwater 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: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Storm capital funding gradually increases from $0/year to $943k/year over a span of 6 years
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Storm capital funding gradually increases from $0/year to $1.3m/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Storm capital funding gradually increases from $0/year to $1.6m/year over a span of 15 years

Table 30 Stormwater Network PLOS Scenario Descriptions

[7] Estimated using visual reference of ORCA data.
[8] Staff estimate.

7.8.2 PLOS Analysis Results

Scenario	Technical LOS Outcomes	Initial Value (2025)	15 Year Projection (2039)	30 Year Projection (2054)	Comments
Scenario 1 (60%)	Average Condition	44%	34%	25%	
	Average Asset Risk	6.5	7.6	8.2	
	Average Annual Investment		$943,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		0.9%		
Scenario 2 (80%)	Average Condition	44%	35%	32%	
	Average Asset Risk	6.5	7.5	7.7	
	Average Annual Investment		$1,257,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		1.1%		
Scenario 3 (100%)	Average Condition	44%	35%	35%	
	Average Asset Risk	6.5	7.5	7.4	
	Average Annual Investment		$1,571,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		1.4%		

Table 31 Stormwater Network PLOS Scenario Analysis

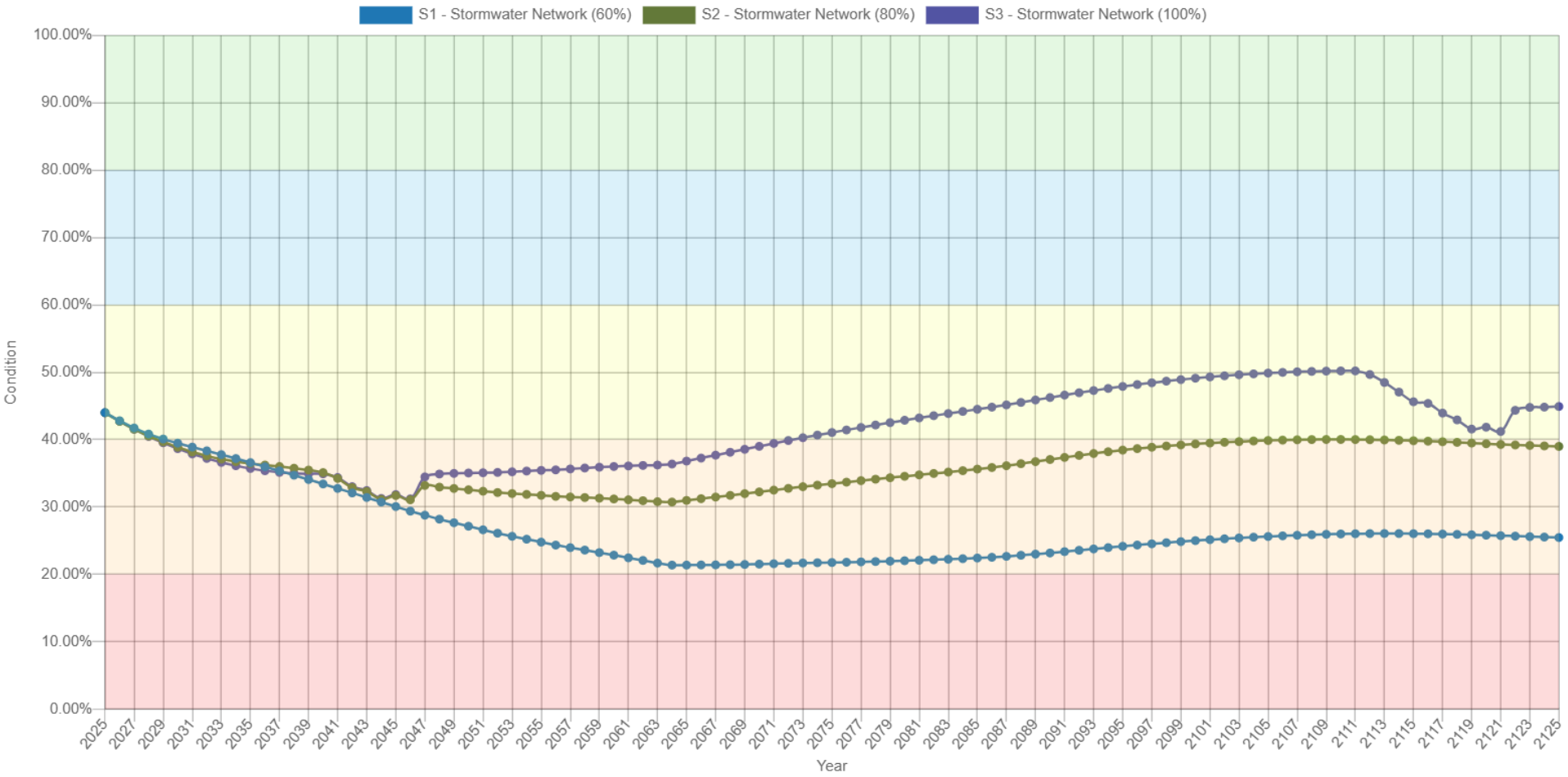


Figure 43 Stormwater Network PLOS Scenario Condition Results

7.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the stormwater network if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**	**$1.6m**
Projected Capital Spending	$85k	$172k	$282k	$375k	$470k	$568k	$670k	$774k	$881k	$991k
Funding Deficit	$1.5m	$1.4m	$1.3m	$1.2m	$1.1m	$1.0m	$901k	$797k	$690k	$579k
Target Reinvestment Rate	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**
Projected Reinvestment Rate	0.1%	0.2%	0.3%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%

Table 32 Stormwater Network 10-Year PLOS Financial Projections

Category Analysis: Non-Core Assets

8. Facilities

The County's facilities underwent a comprehensive building condition assessment and inventory exercise in 2024 where buildings were separated into their components to better track maintenance tasks and project future capital requirements. The quantities listed represent the number of asset records currently available for each department. The total current replacement of facilities is estimated at approximately $88 million.

8.1 Inventory & Valuation

Table 33 summarizes the quantity and current replacement cost of all facilities assets available in the County's asset register. The quantity listed represents the number of asset records currently available for each department.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Corporate	2 (440)	Facilities (Components)	$32,556,540	User-Defined
Lang Pioneer Village	4 (281)	Facilities (Components)	$11,374,650	User-Defined
PCCP	2 (278)	Facilities (Components)	$12,724,890	User-Defined
Public Works	19 (586)	Facilities (Components)	$31,284,531	User-Defined
TOTAL			**$87,940,611**	

Table 33 Detailed Asset Inventory: Facilities

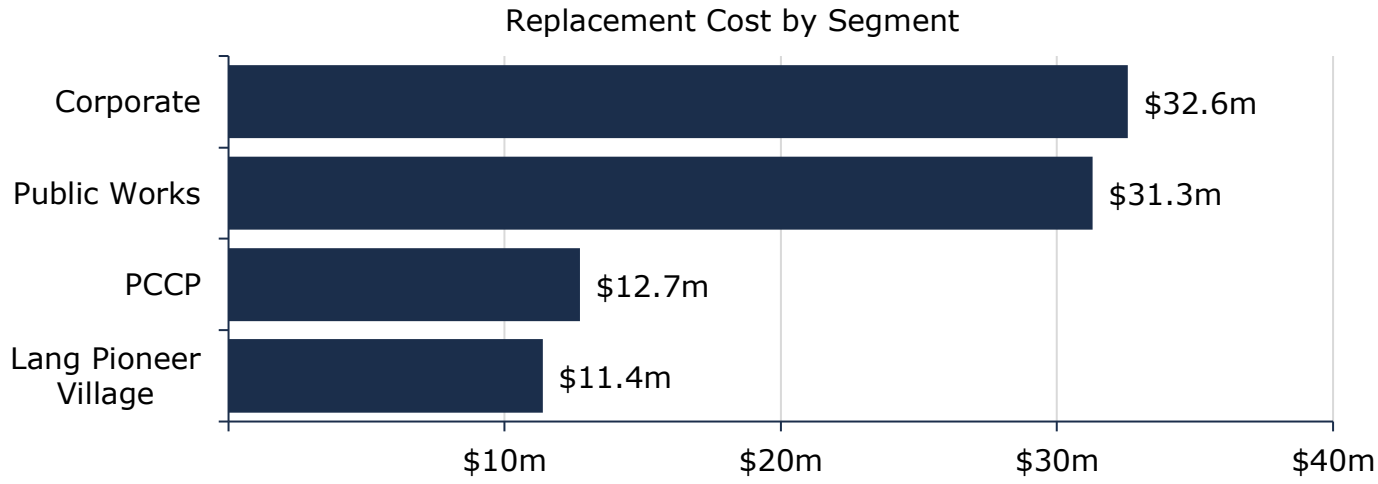


Figure 44 Portfolio Valuation: Facilities

8.2 Asset Condition

Figure 45 summarizes the replacement cost-weighted condition of the County's facilities portfolio. Based on building condition assessments completed in 2024, 71% of facilities assets are in fair or better condition; however, 29%, with a current replacement cost of more than $25 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.

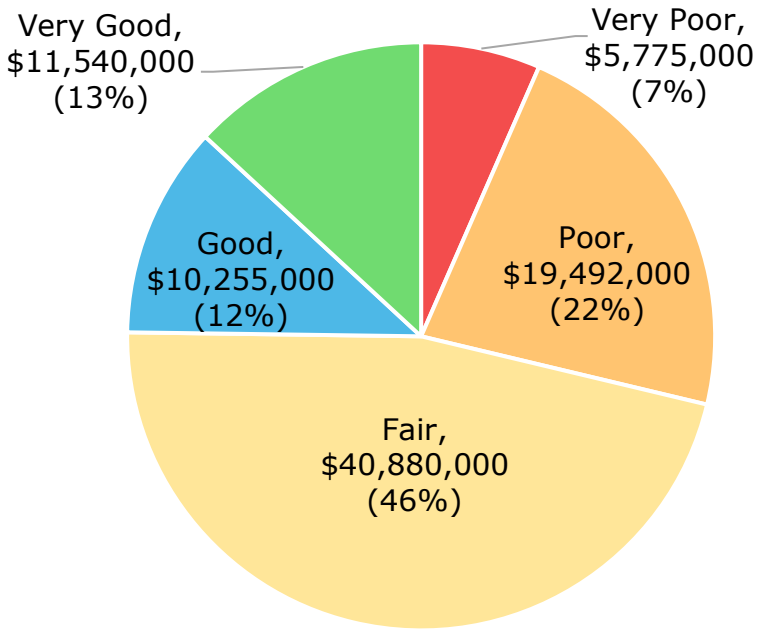


Figure 45 Asset Condition: Facilities Overall

Figure 46 summarizes the age-based condition of facilities by each department. A substantial portion of recreation assets and the majority of corporate and public works assets are in poor to worse condition.

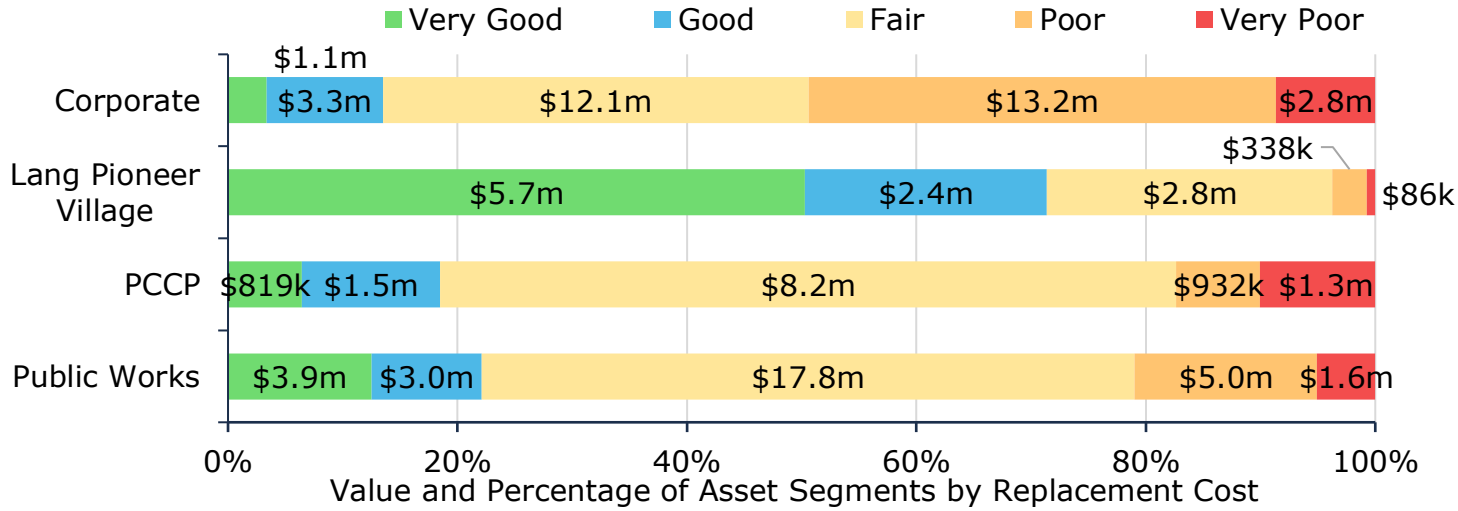


Figure 46 Asset Condition: Facilities by Segment

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 replacement spikes.

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

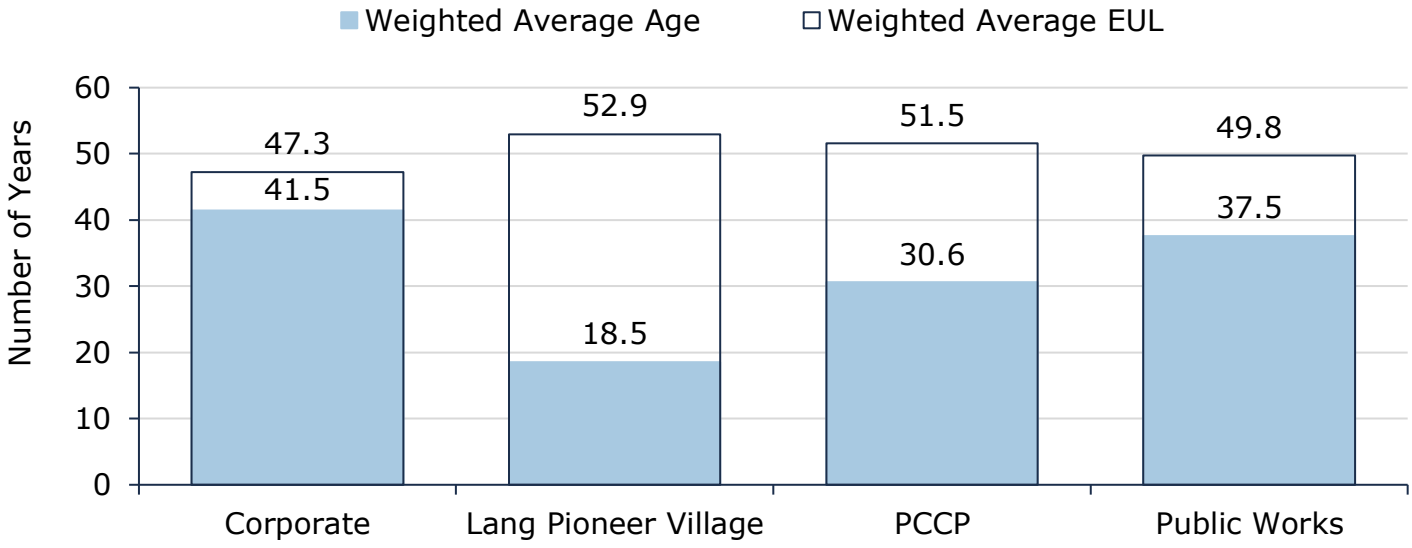


Figure 47 Estimated Useful Life vs. Asset Age: Facilities

Age analysis reveals that, on average, facilities assets are in the earlier stages of their serviceable life. However, based on acquisition years, corporate assets have surpassed their originally established useful life.

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.

Table 34 outlines the County's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Maintenance is triggered by inspections identifying safety, accessibility, functionality, and structural issues.
	Routine/preventative maintenance is performed on assets such as HVAC equipment.
	All other maintenance activities are completed on a reactive basis when operational issues are identified through complaints and service requests.
Rehabilitation/ Replacement	Rehabilitations such as roof replacements or HVAC component replacements are considered on an as needed basis and are completed by a combination of County staff and external contractors.
	The primary considerations for asset replacement are asset failure, safety issues, and availability of grant funding.
	Replacements are considered in line with Building Condition Assessments or regulatory requirements.
Inspections	County buildings had Building Condition Assessments completed in 2024 to better understand the condition, replacement costs, and maintenance deficiencies of facilities assets.
	There is no prescribed schedule for the frequency of Building Condition Assessments.
	Mechanical systems inspections are completed regularly by certified inspectors to ensure routine maintenance is completed in a proactive manner.

Table 34 Lifecycle Management Strategy: Facilities

8.5 Forecasted Long-Term Replacement Needs

Figure 48 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the County's facilities portfolio. This analysis was run until 2124 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total **$2.2 million per year** for all facilities. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to rise consistently over the next 35 years, reaching almost $18 million between 2054 and 2058. 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.

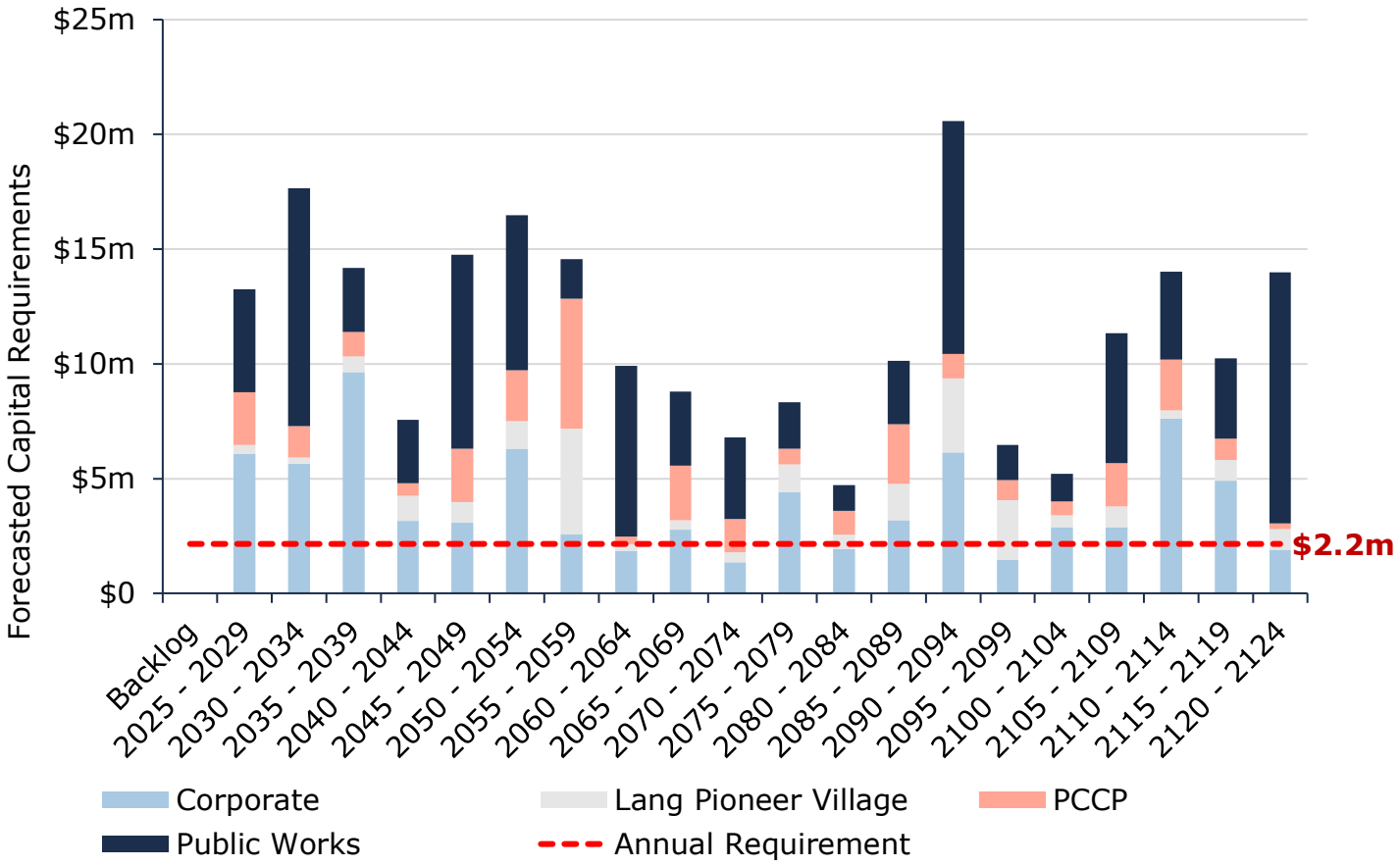


Figure 48 Forecasted Capital Replacement Needs Facilities 2025-2124

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. 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.

8.6 Risk Analysis

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

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

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

Figure 49 Risk Matrix: Facilities

8.7 Levels of Service

The tables that follow summarize the County'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 County has selected for this AMP.

8.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Reliability	Description of lifecycle management strategies and assessment programs applied to Facilities assets	The County adopts a comprehensive lifecycle management strategy for Facilities assets that includes regular safety inspections and proactive maintenance and service. Reviews of critical Facilities assets are carried out in line with regulatory requirements for accessibility and community safety.
Accessibility	Description of the availability of Facilities assets	The County's Facilities assets are maintained at a high standard to ensure safe and reliable use. Facilities are available and ready for municipal staff to assist in service delivery. There is a constant push for additions to Facilities to increase their accessibility.

Table 35 Community Levels of Service: Facilities

8.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average facility condition index value for facilities in the municipality	59% (Fair)
	% of facilities assets in poor or worse conditions	29%
Performance	Actual vs. Target Capital Reinvestment Rate	0.3% vs. 2.4%

Table 36 Technical Levels of Service: Facilities

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 County's ability to afford the PLOS.

The below tables and graphs explain the proposed levels of service scenarios that were analyzed for facilities. 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: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Facilities capital funding gradually increases from $248k/year to $1.3m/year over a span of 6 years
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Facilities capital funding gradually increases from $248k/year to $1.7m/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Facilities capital funding gradually increases from $248k/year to $2.2m/year over a span of 15 years

Table 37 Facilities 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 (60%)	Average Condition	57%	40%	28%	
	Average Asset Risk	10.1	12.3	14.1	
	Average Annual Investment		$1,291,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		1.5%		
Scenario 2 (80%)	Average Condition	57%	41%	37%	
	Average Asset Risk	10.1	12.2	12.7	
	Average Annual Investment		$1,721,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		2.0%		
Scenario 3 (100%)	Average Condition	57%	41%	43%	
	Average Asset Risk	10.1	12.1	11.5	
	Average Annual Investment		$2,151,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		2.5%		

Table 38 Facilities PLOS Scenario Analysis

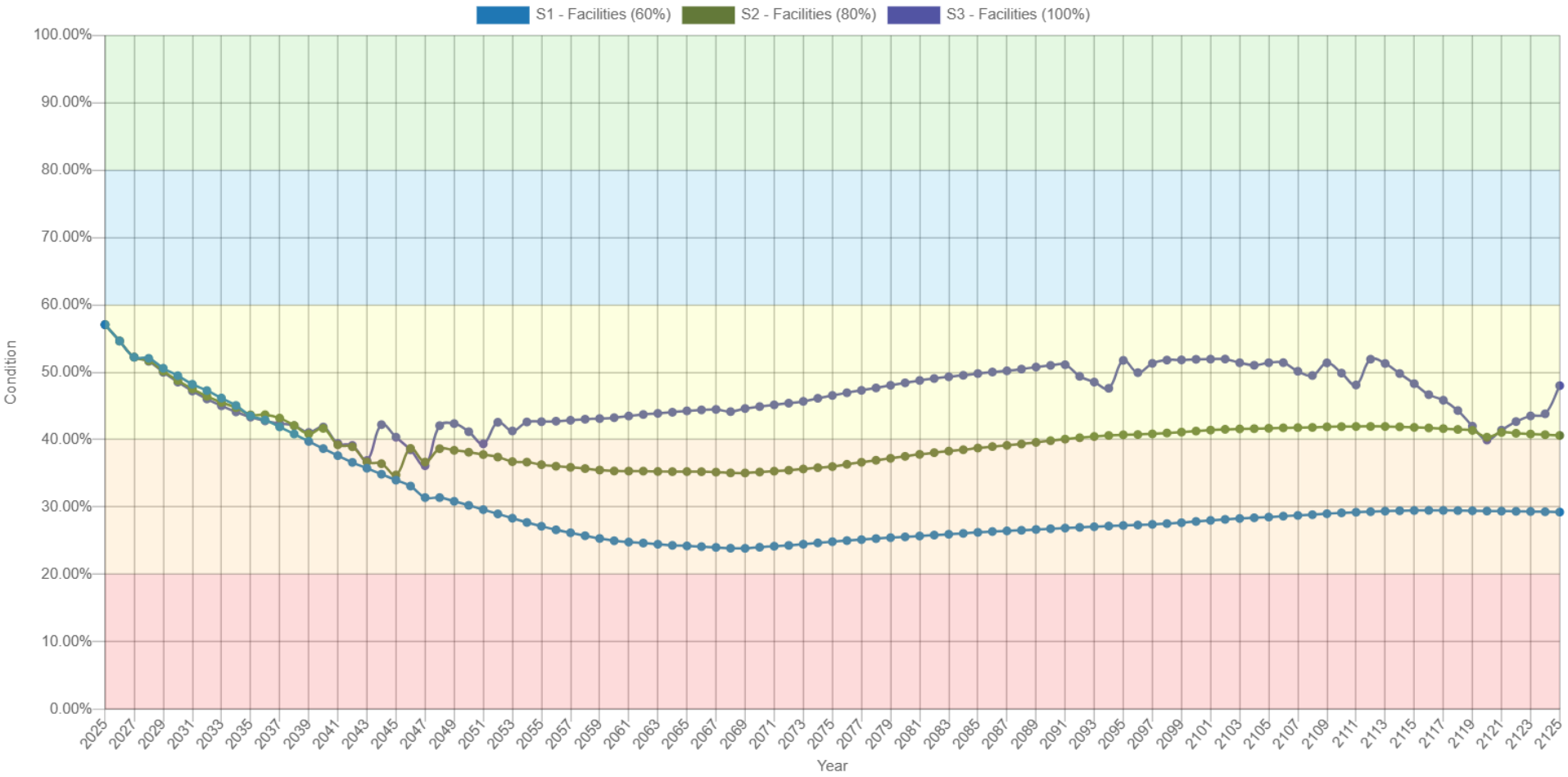


Figure 50 Facilities PLOS Scenario Condition Results

8.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for facilities if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**	**$2.2m**
Projected Capital Spending	$350k	$456k	$590k	$702k	$817k	$936k	$1.1m	$1.2m	$1.3m	$1.4m
Funding Deficit	$1.8m	$1.7m	$1.6m	$1.4m	$1.3m	$1.2m	$1.1m	$966k	$836k	$702k
Target Reinvestment Rate	**2.4%**	**2.4%**	**2.4%**	**2.4%**	**2.4%**	**2.4%**	**2.4%**	**2.4%**	**2.4%**	**2.4%**
Projected Reinvestment Rate	0.4%	0.5%	0.7%	0.8%	0.9%	1.1%	1.2%	1.3%	1.5%	1.6%

Table 39 Facilities 10-Year PLOS Financial Projections

9. Land Improvements

The County's land improvements portfolio includes parking lots, and park assets. The total current replacement of land improvements is estimated at approximately $4.5 million.

9.1 Inventory & Valuation

Table 40 summarizes the quantity and current replacement cost of all land improvements assets available in the County's asset register. Parking Lots accounts for the largest share of the land improvements asset group.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Parking Lots	42	Assets	$3,168,372	CPI
Parks	1 (14)	Park (Components)	$1,367,250	User-Defined
TOTAL			**$4,535,622**	

Table 40 Detailed Asset Inventory: Land Improvements

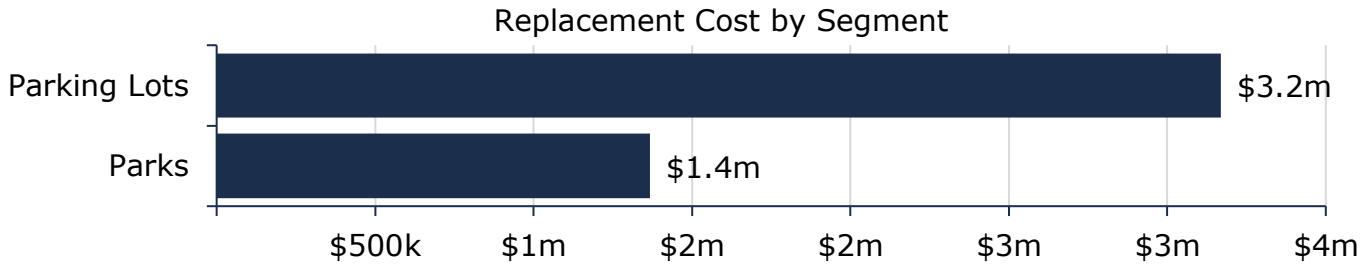


Figure 51 Portfolio Valuation: Land Improvements

9.2 Asset Condition

Figure 52 summarizes the replacement cost-weighted condition of the County's land improvements portfolio. Based on age data only, 58% of assets are in fair or better condition, the remaining 42% 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.

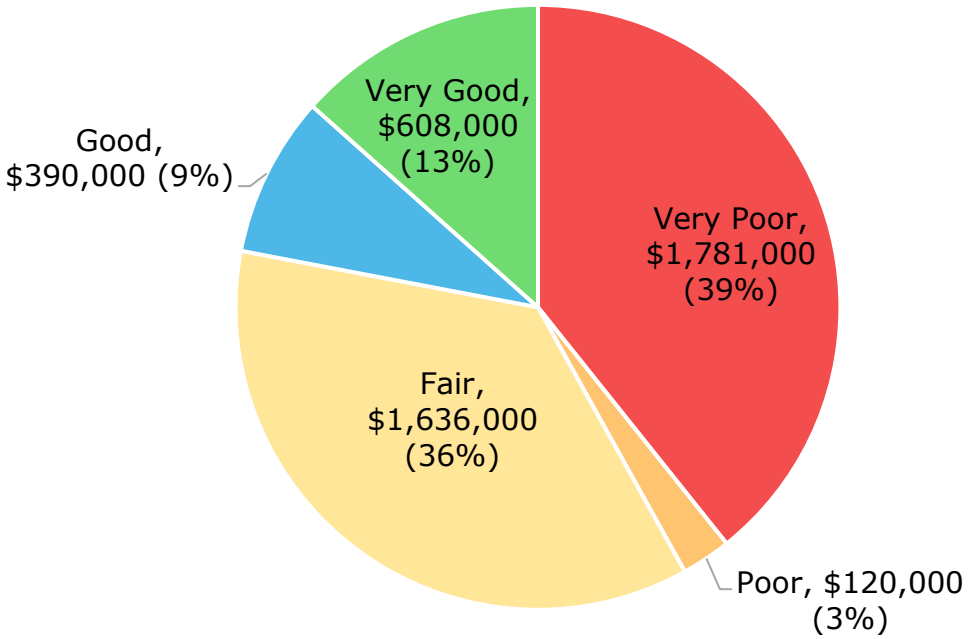


Figure 52 Asset Condition: Land Improvements Overall

Figure 53 summarizes the age-based condition of land improvements by each department. Assets in poor or worse condition are concentrated primarily in the parking lots segment.

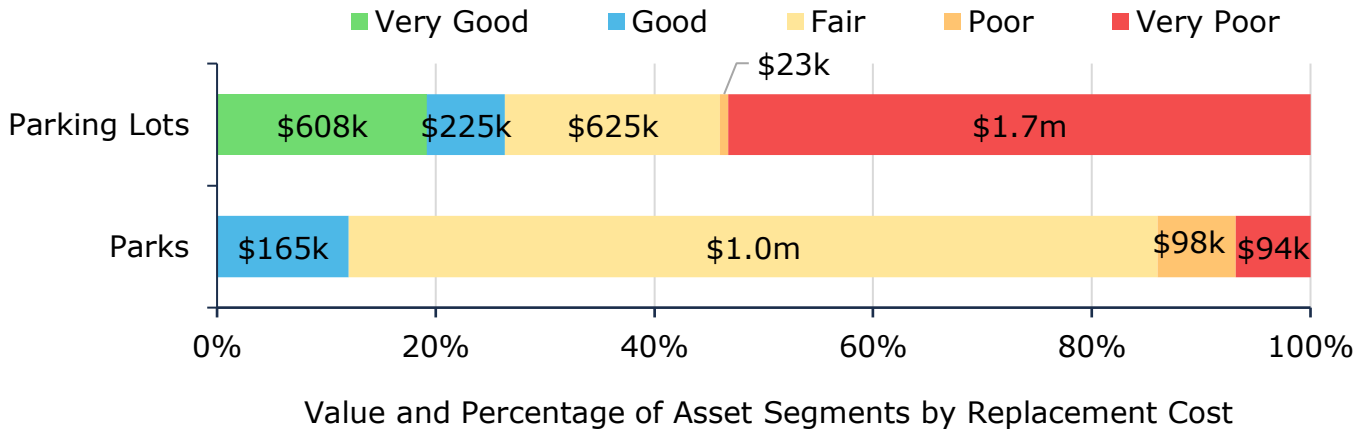


Figure 53 Asset Condition: Land Improvements by Segment

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 54 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.

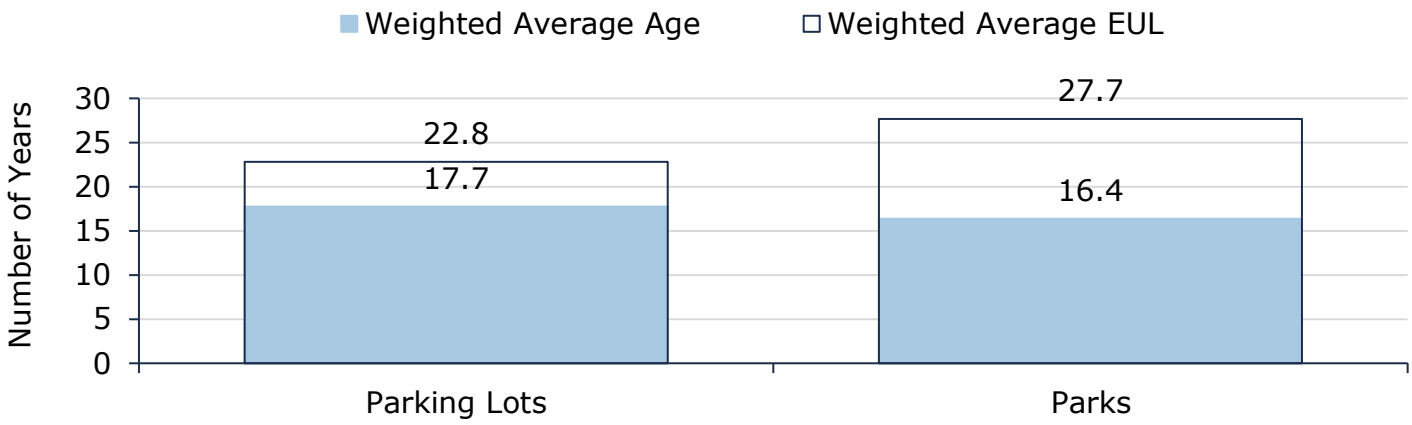


Figure 54 Estimated Useful Life vs. Asset Age: Land Improvements

Age analysis reveals that, on average, most parks and parking lot assets are in the moderate stages of their expected life.

9.4 Current Approach to Lifecycle Management

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

Table 41 outlines the Township's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Maintenance efforts are prioritized based on staff assessments and reported failures or signs of stress from the community.
Rehabilitation / Replacement	Replacement activities are conducted in line with assets estimated useful lives.
	Where applicable, assets under the scope of Building Condition Assessments are replaced as per report recommendations.
Inspections	Pavement parking lots are inspected on an ad-hoc basis to assess wear and tear, including cracks, potholes, and surface deterioration, ensuring safe and functional use.

Table 41 Lifecycle Management Strategy: Land Improvements

9.5 Forecasted Long-Term Replacement Needs

Figure 55 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the County's land improvements portfolio. This analysis was run until 2069 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total **$211,000 per year** for all land improvements. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to fluctuate over the 45-year time horizon, totaling just over $2 million for the current decade, and spiking to $1.7 million between 2045 and 2049, before peaking at $2 million in 2065-2069 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.

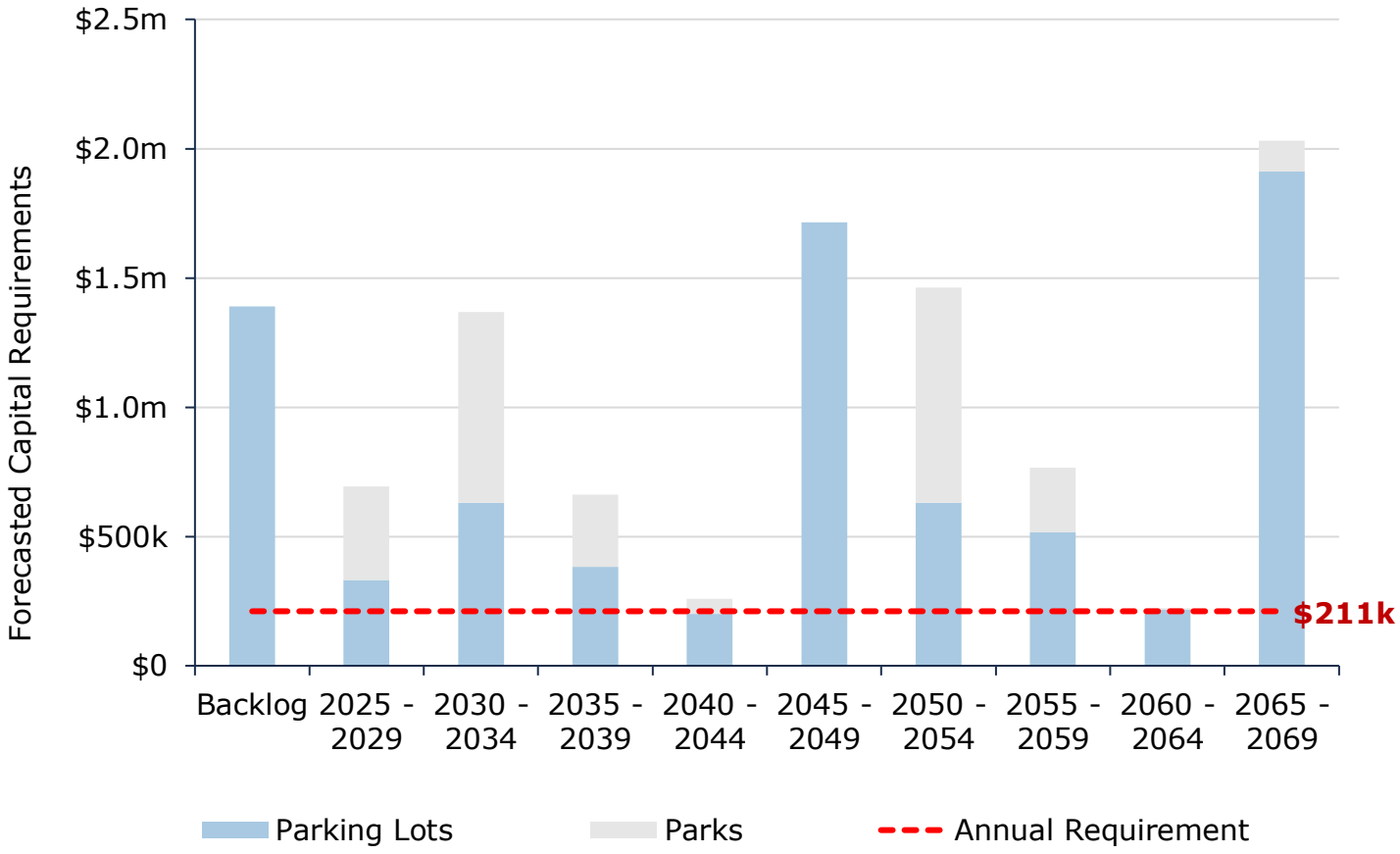


Figure 55 Forecasted Capital Replacement Needs: Land Improvements 2025-2069

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.

9.6 Risk Analysis

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

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

Figure 56 Risk Matrix: Land Improvements

9.7 Levels of Service

The tables that follow summarize the County'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 County has selected for this AMP.

9.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the land improvement assets that the County operated and maintains	The County maintains various parking lots throughout their jurisdiction, mainly relating to County owned facilities. Additionally, they are responsible for park assets at Victoria Park. The County is also responsible for communication towers throughout the municipality, however, these have been excluded from the AMP due to gradual decommissioning planned.

Table 42 Community Levels of Service: Land Improvements

9.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of land improvement assets in the municipality	42% (Fair)
	% of land improvement assets in poor or worse conditions	42%
Performance	Actual vs. Target Capital Reinvestment Rate	1.4% vs. 4.6%

Table 43 Technical Levels of Service: Land Improvements

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 County'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.*

9.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Land Improvements capital funding gradually increases from $65k/year to $127k/year over a span of 6 years
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Land Improvements capital funding gradually increases from $65k/year to $169k/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Land Improvements capital funding gradually increases from $65k/year to $211k/year over a span of 15 years

Table 44 Land Improvements 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 (60%)	Average Condition	40%	28%	29%	
	Average Asset Risk	11.9	13.7	13.8	
	Average Annual Investment		$127,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		2.8%		
Scenario 2 (80%)	Average Condition	40%	35%	39%	
	Average Asset Risk	11.9	12.4	11.6	
	Average Annual Investment		$169,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		3.7%		
Scenario 3 (100%)	Average Condition	40%	35%	48%	
	Average Asset Risk	11.9	12.2	10.2	
	Average Annual Investment		$211,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		4.7%		

Table 45 Land Improvements PLOS Scenario Analysis

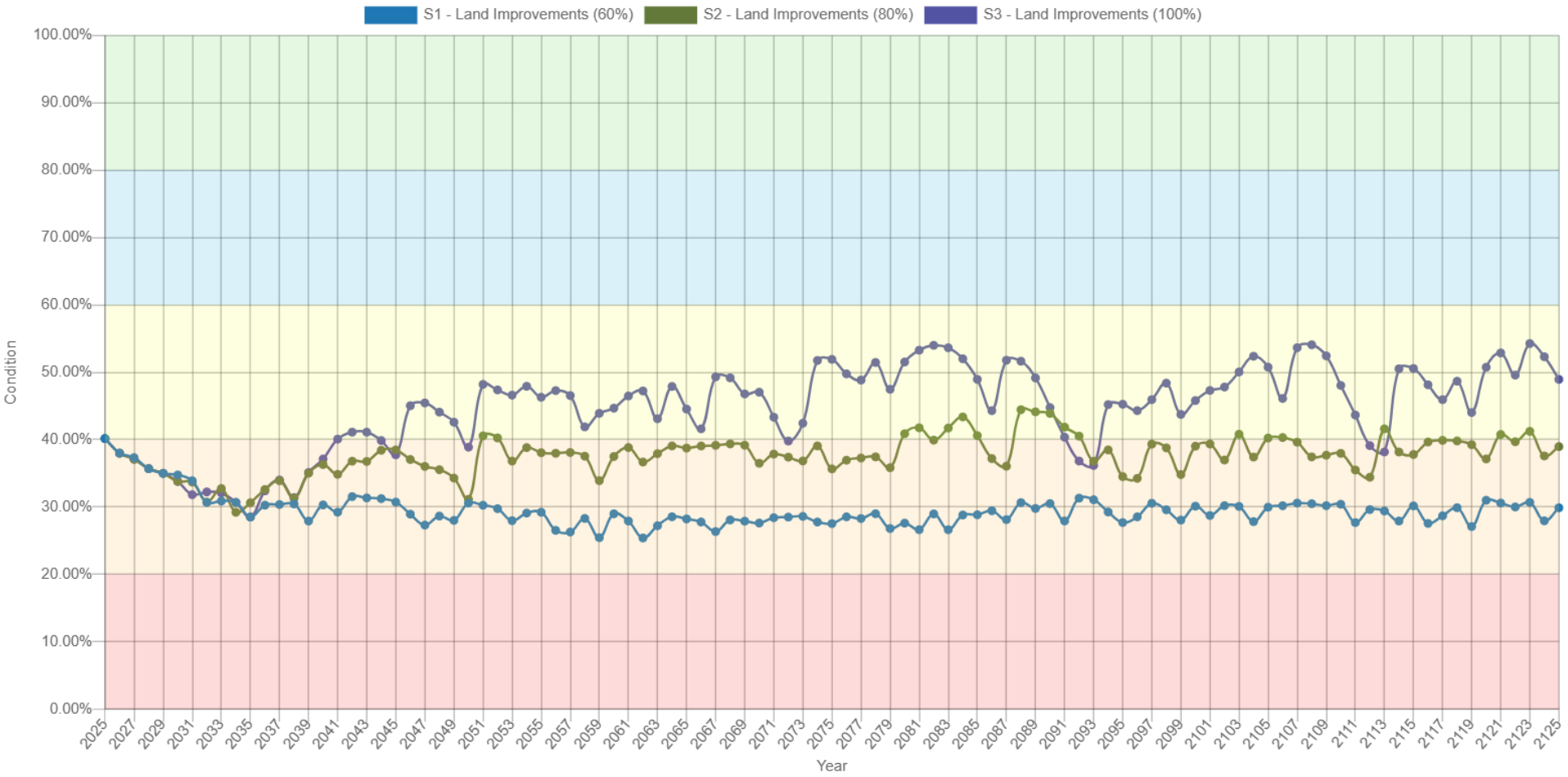


Figure 57 Land Improvements PLOS Scenario Condition Results

9.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the land improvements if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$211k**	**$211k**	**$211k**	**$211k**	**$211k**	**$211k**	**$211k**	**$211k**	**$211k**	**$211k**
Projected Capital Spending	$73k	$81k	$91k	$100k	$109k	$118k	$127k	$137k	$147k	$157k
Funding Deficit	$138k	$130k	$119k	$111k	$102k	$93k	$84k	$74k	$64k	$54k
Target Reinvestment Rate	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**
Projected Reinvestment Rate	1.6%	1.8%	2.0%	2.2%	2.4%	2.6%	2.8%	3.0%	3.2%	3.5%

Table 46 Land Improvements 10-Year PLOS Financial Projections

10. Fleet

The County's fleet portfolio includes 160 assets that support a variety of general and essential services, including public works, transit, corporate services and PCCP services The total current replacement of fleet is estimated at approximately $25.5 million.

10.1 Inventory & Valuation

Table 47 summarizes the quantity and current replacement cost of all fleet assets available in the County's asset register. Public works and PCCP account for the largest share of the fleet portfolio.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Corporate	1	Quantity	$56,598	User-Defined
Lang Pioneer Village	4	Quantity	$102,921	CPI
PCCP	40	Quantity	$7,327,015	User-Defined
Public Works - Heavy Equipment	46	Quantity	$6,193,346	User-Defined
Public Works - Vehicles	66	Quantity	$11,389,520	User-Defined
Transit	3	Quantity	$445,160	User-Defined
TOTAL			**$25,514,560**	

Table 47 Detailed Asset Inventory: Fleet

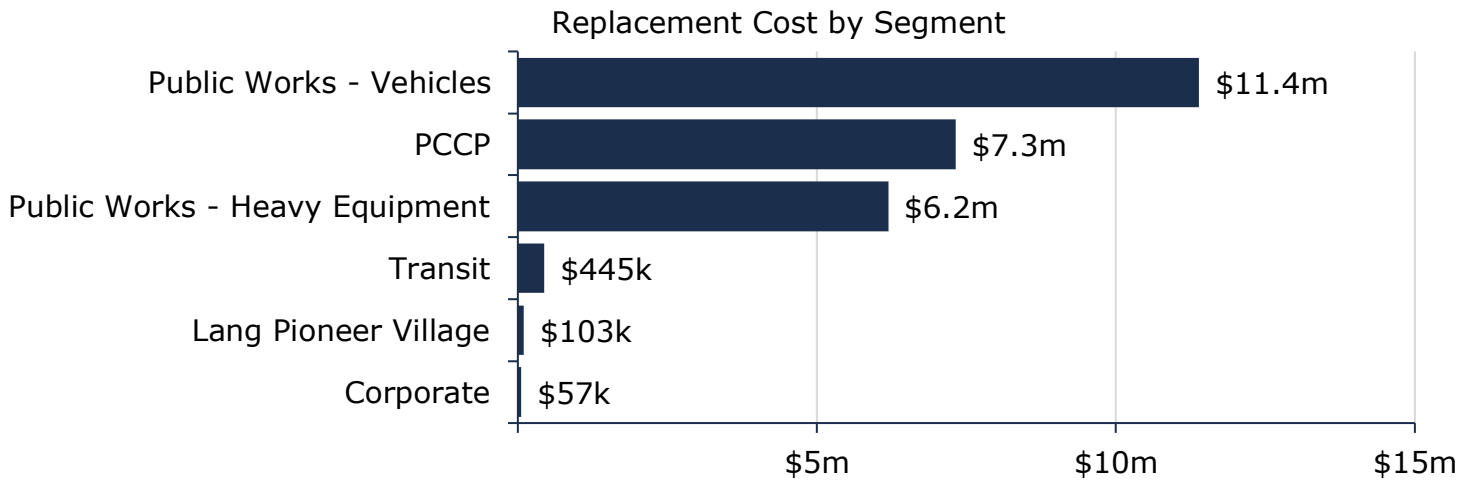


Figure 58 Portfolio Valuation: Fleet

10.2 Asset Condition

Figure 59 summarizes the replacement cost-weighted condition of the County's fleet portfolio. Based solely on age-based data, 44% of fleet are in fair or better condition, with the remaining 66% 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 not available for fleet assets, based on replacement costs; age was used to estimate condition for the remaining all assets.

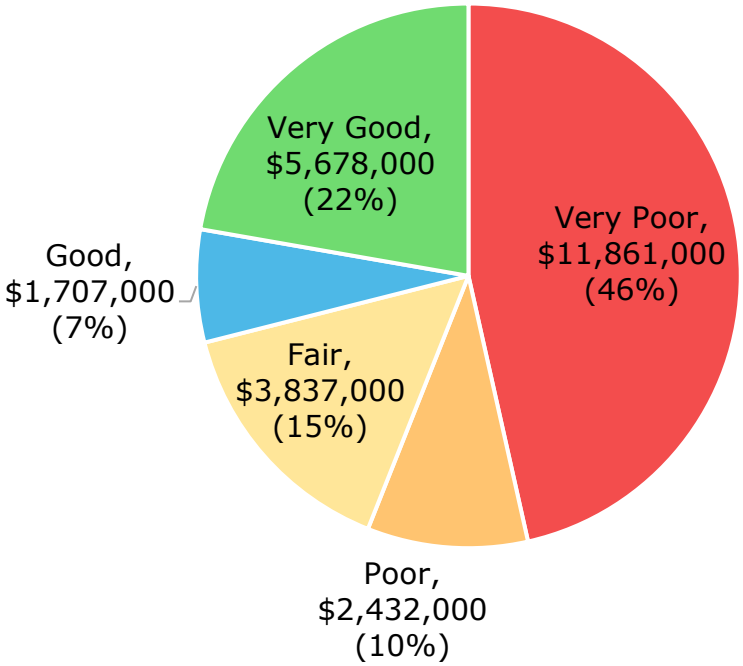


Figure 59 Asset Condition: Fleet Overall

Figure 60 summarizes the condition of fleet by each segment. The majority of value in Public Works – Vehicles and PCCP fleets are in fair or better condition. In contrast, assets in poor or very poor condition are concentrated in Public Works – Heavy Equipment, Lang Pioneer Village, Transit, and Corporate segments.

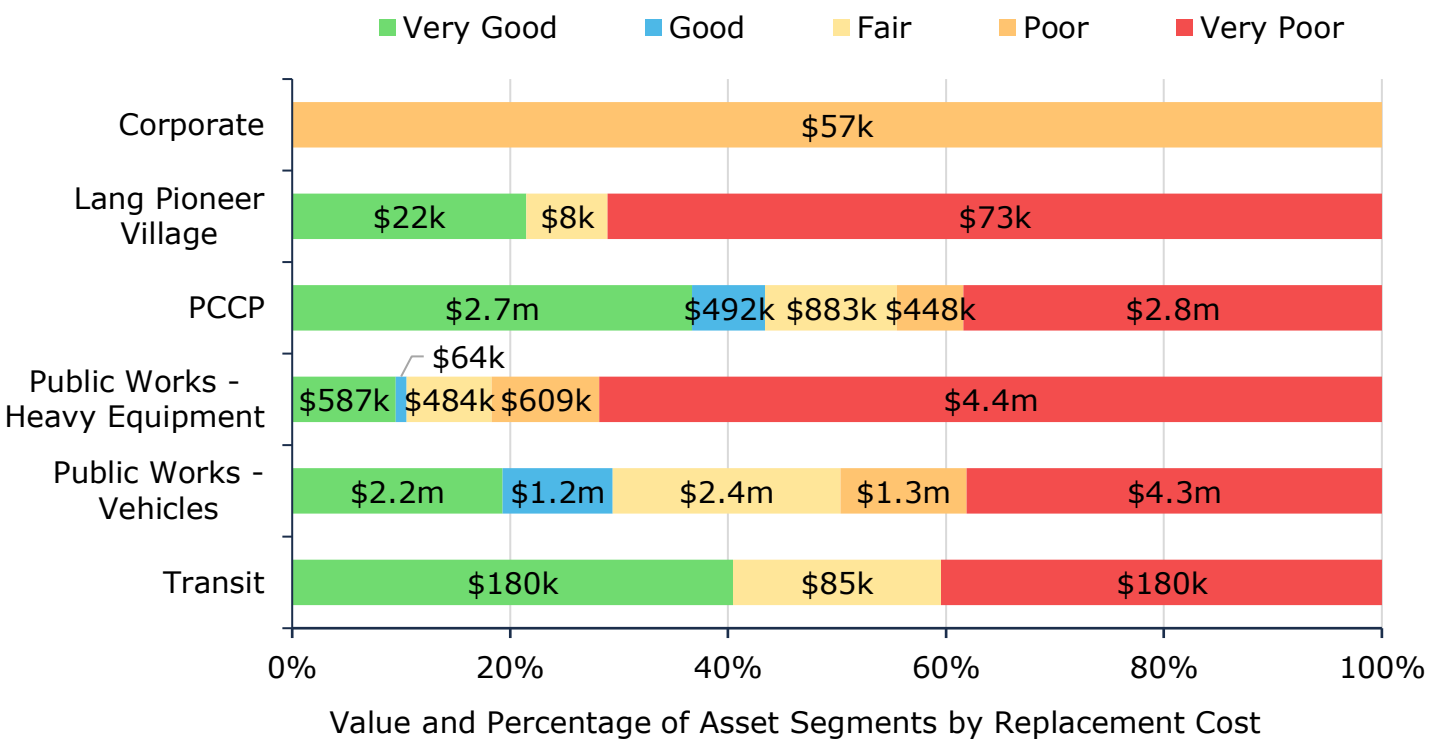


Figure 60 Asset Condition: Fleet by Segment

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 61 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.

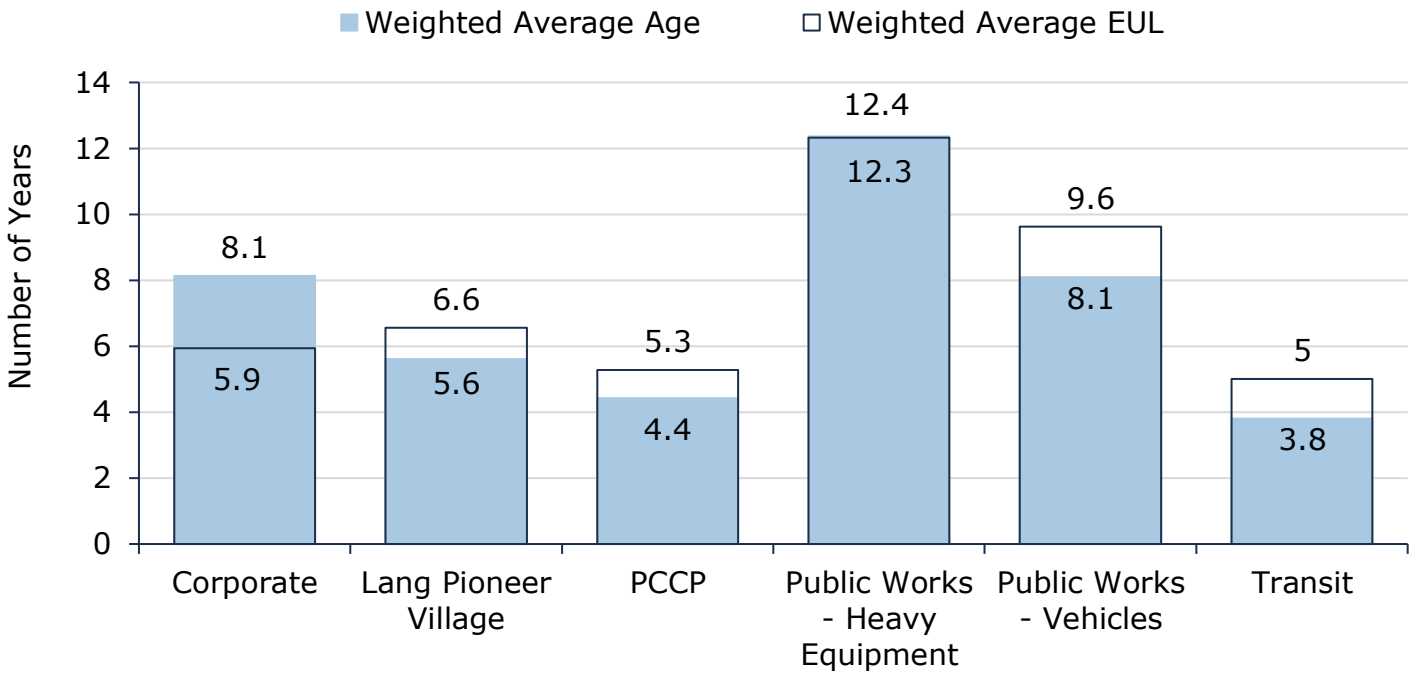


Figure 61 Estimated Useful Life vs. Asset Age: Fleet

Age analysis reveals that, on average, most vehicles are in the latter stages of their expected life. Assets in corporate services have remained in service beyond 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.

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

Activity Type	Description of Current Strategy
Maintenance	Oil changes and routine maintenance is completed as per manufacturer recommendations. The majority of maintenance is completed by in-house mechanics.
	Other maintenance activities are completed on a reactive, as-needed basis when operational issues are identified (e.g., mechanical breakdown, deficiencies identified during daily inspections)
Rehabilitation/ Replacement	Rehabilitation events such as a transmission or engine replacement is completed on an as-needed basis. Internal staff conduct a cost-benefit analysis of major rehabilitations vs. replacement.

Activity Type	Description of Current Strategy
	Fleet assets are replaced in line with a 5-20 year schedule, dependent on vehicle type. Despite a defined replacement schedule, fleet supervisors often flex this schedule to minimize the cost of maintenance attributed to problematic vehicles.
	When a fleet asset's target replacement year is approaching, staff consider a variety of factors to determine replacement timing and strategies including maintenance costs, service level changes, new technologies, and legislation changes.
Inspections	Fleet vehicles and heavy equipment are informally assessed by the operator daily before use.
	Licensed vehicles are inspected annually in line with Ministry of Transportation standards. As with inspections of non-licensed vehicles, any identified deficiencies are prioritized in the vehicle's maintenance schedule. These inspections do not currently provide AM usable condition ratings.

Table 48 Lifecycle Management Strategy: Fleet

10.5 Forecasted Long-Term Replacement Needs

Figure 62 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the County'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 County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total **$3.2 million per year** for all fleet 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 next 15 years, peaking at $18.5 million by 2035 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.

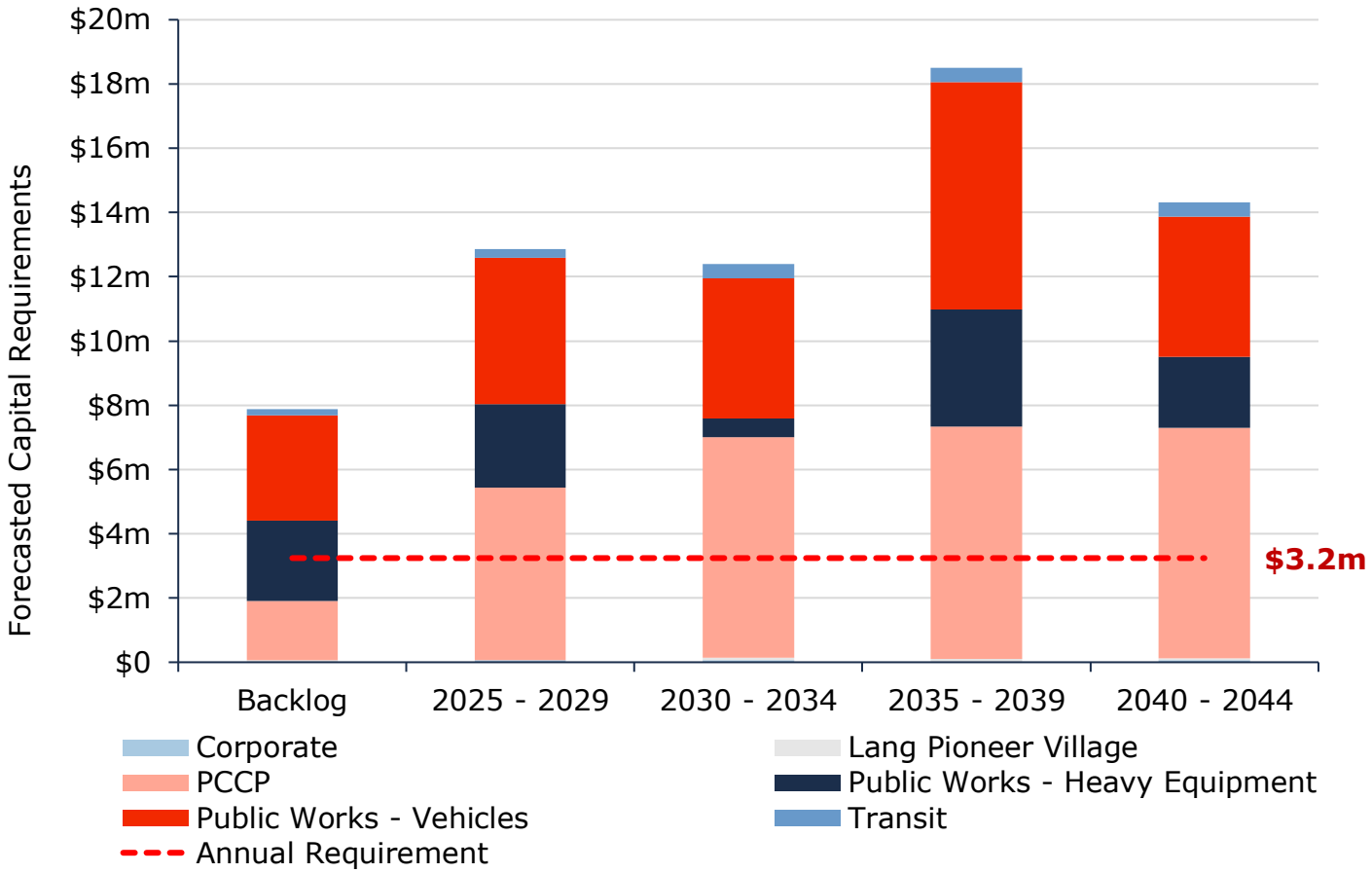


Figure 62 Forecasted Capital Replacement Needs: Fleet 2025-2044

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.

10.6 Risk Analysis

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

Figure 63 Risk Matrix: Fleet

10.7 Levels of Service

The tables that follow summarize the County'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 County has selected for this AMP.

10.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description of the availability of Fleet assets to Public Works	The County's Fleet assets are maintained at a high standard to ensure safe and reliable use. Services are available and ready for municipal staff to assist in service delivery
Reliability	Description of lifecycle management strategies and assessment programs applied to Fleet assets	The County adopts a comprehensive lifecycle management strategy for Fleet assets that includes regular safety inspections and proactive maintenance and service. Reviews of critical fleet assets are carried out in line with regulatory requirements.

Table 49 Community Levels of Service: Fleet

10.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of fleet assets	37% (Poor)
	% of fleet assets in poor or worse condition	56%
Performance	Actual vs. Target Capital Reinvestment Rate	7.3% vs. 12.7%

Table 50 Technical Levels of Service: Fleet

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 County'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.*

10.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Fleet capital funding gradually increases from $1.8m/year to $1.9m/year over a span of 6 years
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Fleet capital funding gradually increases from $1.8m/year to $2.6m/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Fleet capital funding gradually increases from $1.8m/year to $3.2m/year over a span of 15 years

Table 51 Fleet 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 (60%)	Average Condition	33%	31%	31%	
	Average Asset Risk	13.2	13.3	13.5	
	Average Annual Investment		$1,945,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		7.6%		
Scenario 2 (80%)	Average Condition	33%	37%	37%	
	Average Asset Risk	13.2	12.4	12.3	
	Average Annual Investment		$2,594,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		10.2%		
Scenario 3 (100%)	Average Condition	33%	40%	39%	
	Average Asset Risk	13.2	11.9	12.2	
	Average Annual Investment		$3,242,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		12.7%		

Table 52 Fleet PLOS Scenario Analysis

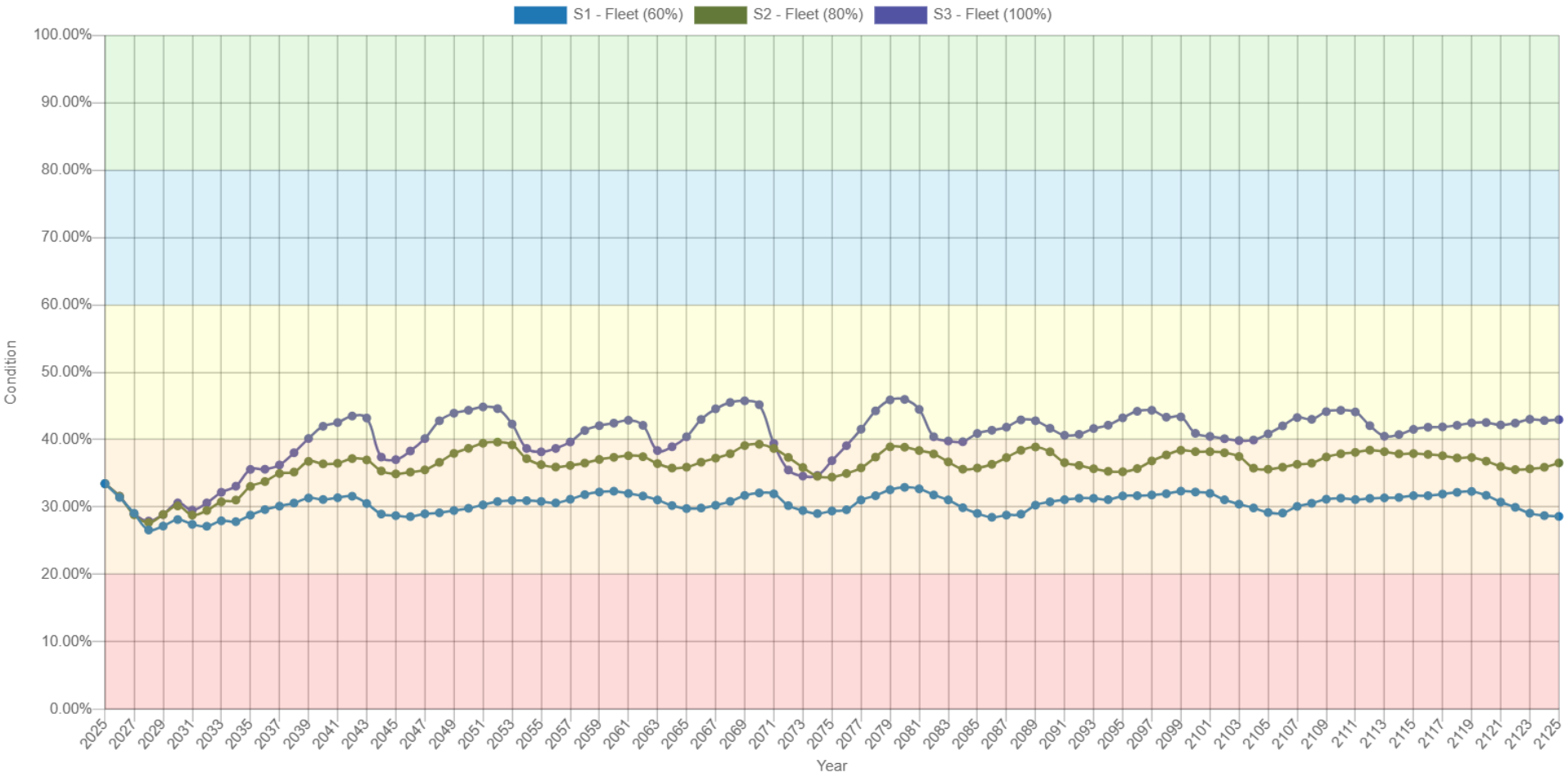


Figure 64 Fleet PLOS Scenario Condition Results

10.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for fleet if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**	**$3.2m**
Projected Capital Spending	$1.9m	$2.0m	$2.1m	$2.2m	$2.3m	$2.4m	$2.4m	$2.5m	$2.6m	$2.7m
Funding Deficit	$1.3m	$1.2m	$1.1m	$1.1m	$972k	$885k	$796k	$704k	$609k	$511k
Target Reinvestment Rate	**12.7%**	**12.7%**	**12.7%**	**12.7%**	**12.7%**	**12.7%**	**12.7%**	**12.7%**	**12.7%**	**12.7%**
Projected Reinvestment Rate	7.6%	7.9%	8.2%	8.6%	8.9%	9.2%	9.6%	9.9%	10.3%	10.7%

Table 53 Fleet 10-Year PLOS Financial Projections

11. Equipment

The County's equipment portfolio includes 84 assets that support a variety of general and essential services, including I.T., Paramedics Services (PCCP), public works, and Lang Pioneer Village. The total current replacement of equipment is estimated at approximately $3 million.

11.1 Inventory & Valuation

Figure 65 summarizes the quantity and current replacement cost of all equipment assets available in the County's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Corporate	1	Assets	$12,569	CPI
IT	13	Assets	$519,268	CPI
Lang Pioneer Village	4	Assets	$114,013	CPI
PCCP	5	Assets	$1,805,036	CPI
Public Works	18	Assets	$753,240	CPI
TOTAL			**$3,204,126**	

Table 54 Detailed Asset Inventory: Equipment

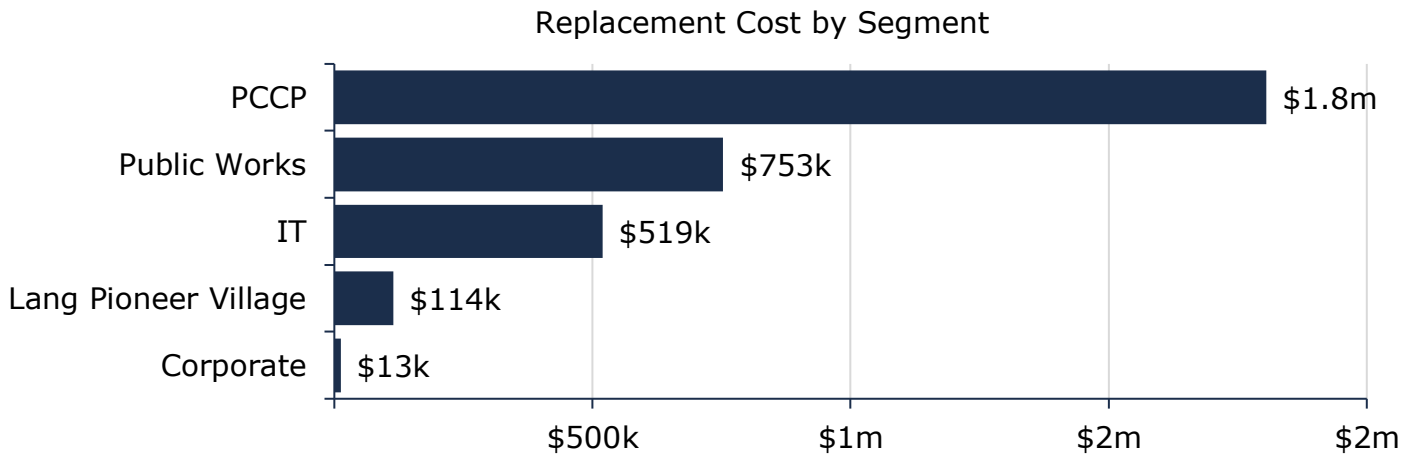


Figure 65 Portfolio Valuation: Equipment

11.2 Asset Condition

Figure 66 summarizes the replacement cost-weighted condition of the County's equipment portfolio. Based only on age data, 21% of assets are in fair or better condition; the remaining 79% 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.

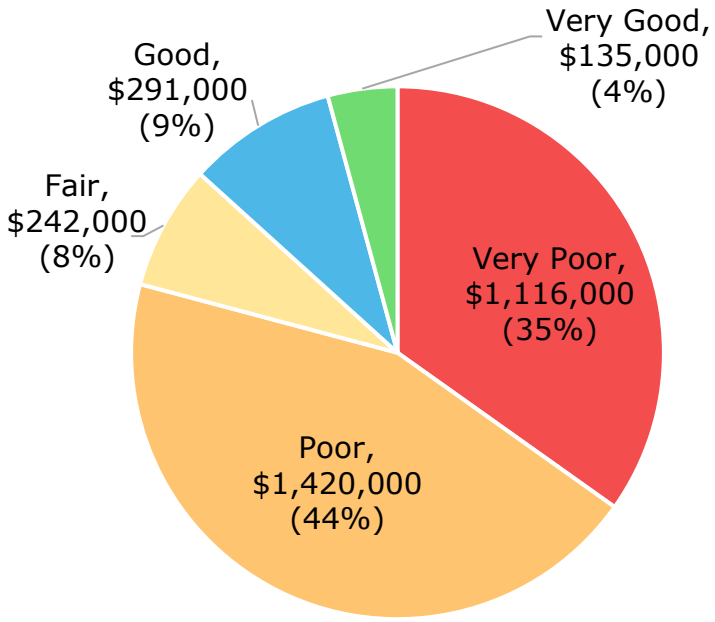


Figure 66 Asset Condition: Equipment Overall

Figure 67 summarizes the age-based condition of equipment by each department. The majority of assets that support the Lang Pioneer Village are in fair condition. Assets in poor or worse condition are concentrated in the rest of the asset segments presented.

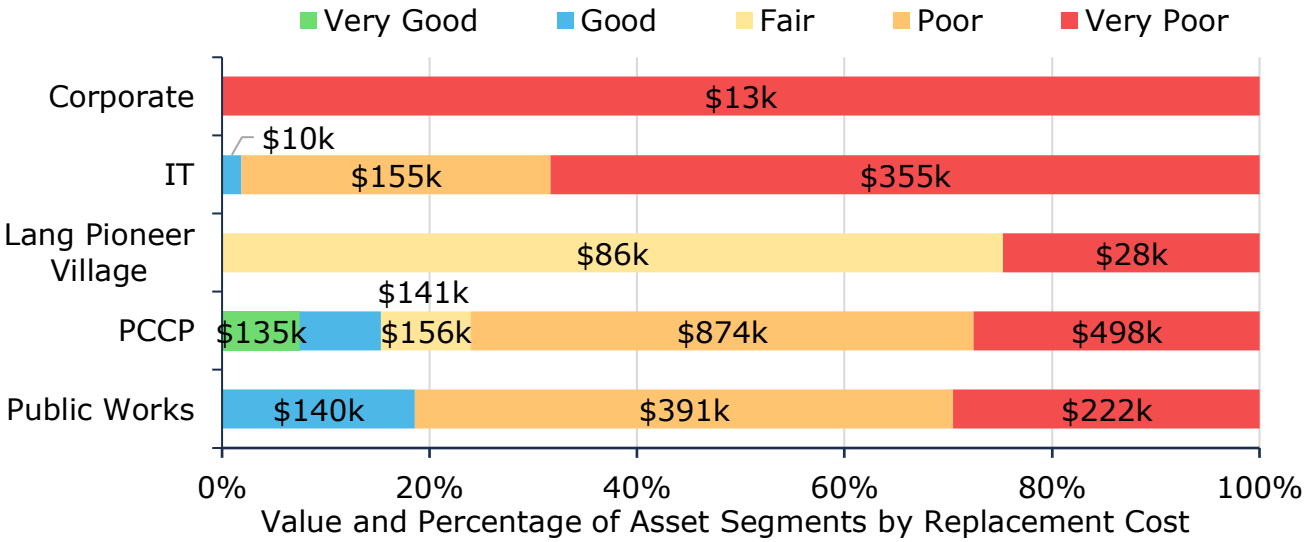


Figure 67 Asset Condition: Equipment by Segment

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 68 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.

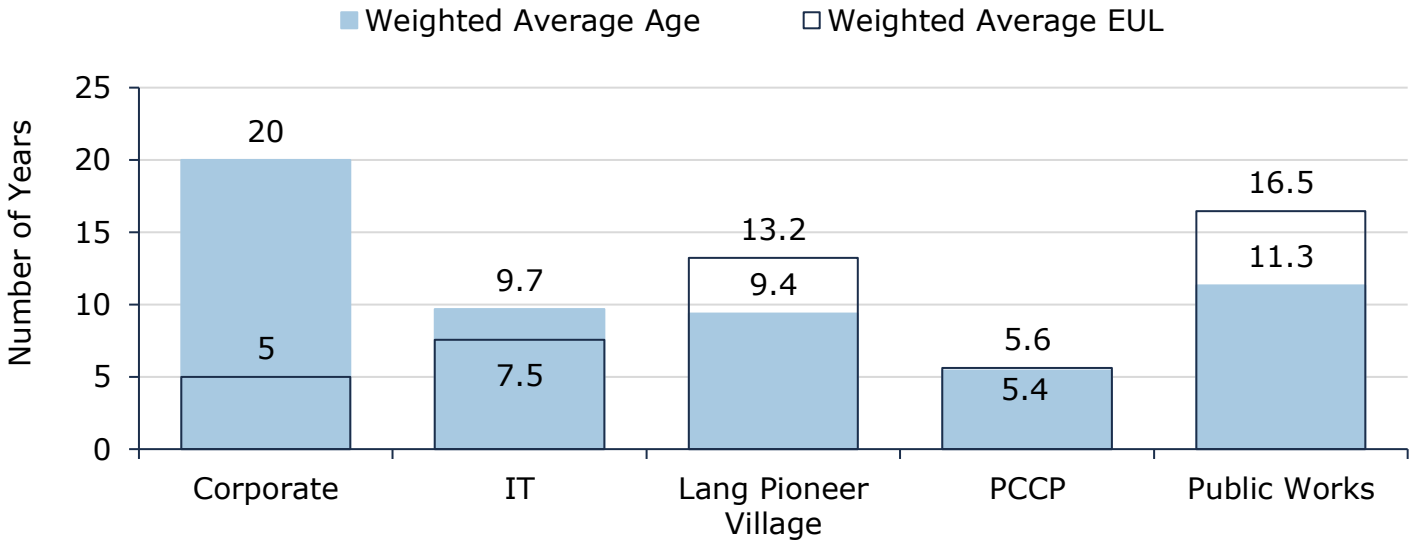


Figure 68 Estimated Useful Life vs. Asset Age: Equipment

Age analysis reveals that, on average, with the exception of Lang Pioneer Village and Public Works, most equipment assets are in the latter stages of their expected life or have well surpassed the originally intended lifespan.

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.

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

Activity Type	Description of Current Strategy
Maintenance	Maintenance activities are generally completed on a reactive basis when operational issues are identified (e.g., mechanical breakdown, deficiencies identified during daily inspections)
Replacement	Without the availability of up-to-date condition assessment information replacement activities are purely reactive in nature
Inspections	Equipment is inspected by staff before use, however, these inspections identify deficiencies but do not provide overall condition ratings

Table 55 Lifecycle Management Strategy: Equipment

11.5 Forecasted Long-Term Replacement Needs

Figure 69 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the County'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 County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total $464,000 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, growing gradually from $1.8 million by the end of the current decade to $2.3 million by 2040-2044. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

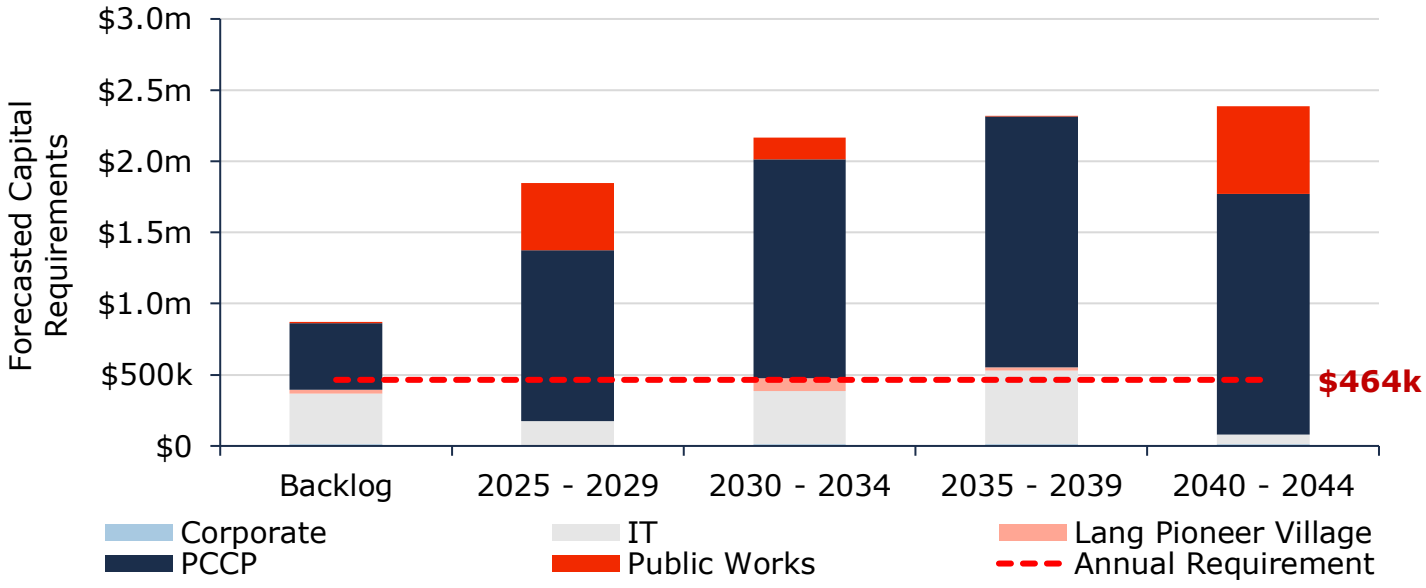


Figure 69 Forecasted Capital Replacement Needs: Equipment 2025-2044

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.

11.6 Risk Analysis

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

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

Figure 70 Risk Matrix: Equipment

11.7 Levels of Service

The tables that follow summarize the County'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 County has selected for this AMP.

11.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Reliability	Description of lifecycle management strategies and assessment programs applied to Equipment assets	The County utilizes a lifecycle management strategy for Equipment assets that includes availability assurance and time-based assessments. Reviews of safety critical assets are carried out in line with regulatory requirements and staff advisement.

Table 56 Community Levels of Service: Equipment

11.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average condition of equipment assets	27% (Poor)
	% of equipment assets in poor or worse condition	79%
Performance	Actual vs. Target Capital Reinvestment Rate	12.1% vs. 14.5%

Table 57 Technical Levels of Service: Equipment

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 County'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.*

11.8.1 PLOS Scenarios Analyzed

Scenario	Description
Scenario 1: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Equipment capital funding is decreased from $388k/year to $278k/year ♦ As Equipment has historically been funded at 83%, excess funds were redistributed to other underfunded asset categories to achieve the 60% funding level for all asset categories.
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Equipment capital funding is decreased from $388k/year to $371k/year ♦ As Equipment has historically been funded at 83%, excess funds were redistributed to other underfunded asset categories to achieve the 80% funding level for all asset categories.
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Equipment capital funding gradually increases from $388k/year to $464k/year over a span of 15 years

Table 58 Equipment 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 (60%)	Average Condition	27%	28%	30%	
	Average Asset Risk	12.0	11.6	11.5	
	Average Annual Investment		$278,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		8.7%		
Scenario 2 (80%)	Average Condition	27%	37%	29%	
	Average Asset Risk	12.0	11.4	11.9	
	Average Annual Investment		$371,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		11.6%		
Scenario 3 (100%)	Average Condition	27%	46%	33%	
	Average Asset Risk	12.0	7.2	11.8	
	Average Annual Investment		$464,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		14.5%		

Table 59 Equipment PLOS Scenario Analysis

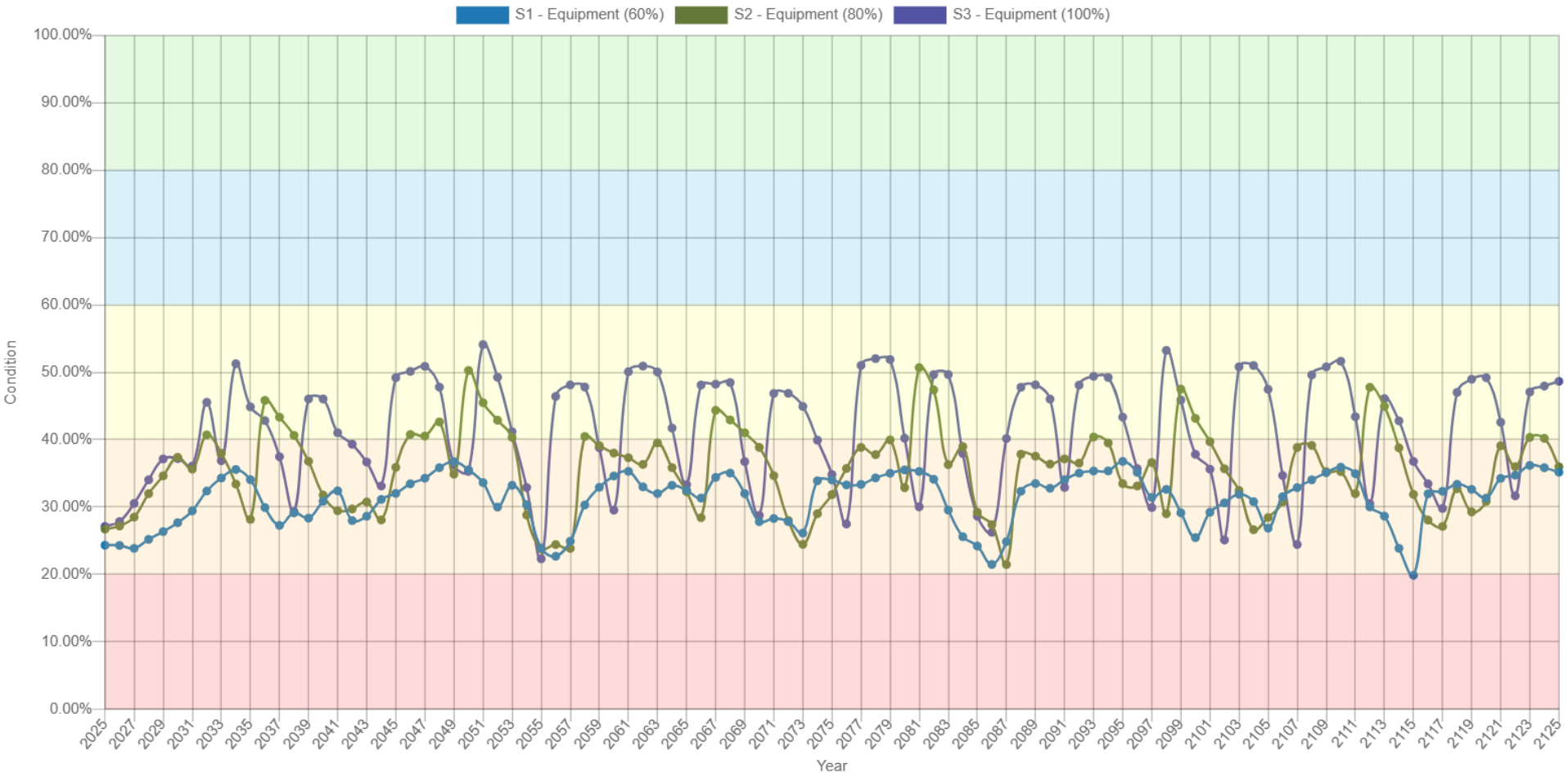


Figure 71 Equipment PLOS Scenario Condition Results

11.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for equipment if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$464k**	**$464k**	**$464k**	**$464k**	**$464k**	**$464k**	**$464k**	**$464k**	**$464k**	**$464k**
Projected Capital Spending	$392k	$396k	$401k	$406k	$411k	$415k	$420k	$425k	$431k	$436k
Funding Deficit	$73k	$68k	$63k	$59k	$54k	$49k	$44k	$39k	$34k	$28k
Target Reinvestment Rate	**14.5%**	**14.5%**	**14.5%**	**14.5%**	**14.5%**	**14.5%**	**14.5%**	**14.5%**	**14.5%**	**14.5%**
Projected Reinvestment Rate	12.2%	12.4%	12.5%	12.7%	12.8%	13.0%	13.1%	13.3%	13.4%	13.6%

Table 60 Equipment 10-Year PLOS Financial Projections

12. Landfill

The County's landfill comprises fleet and land improvements capital assets with a total current replacement cost of approximately $22.8 million. The County is responsible for 50% of that total, totaling to just over $11.4 million.

Note: *All asset data presented in this category was provided courtesy of the City of Peterborough and is not actively managed by the County*.

12.1 Inventory & Valuation

Table 61 summarizes the quantity and current replacement cost of all landfill assets available in the County's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Landfill Fleet	2	Assets	$80,819	User-Defined
Landfill Land Improvement	80	Assets	$22,740,708	User-Defined
TOTAL			**$22,821,527**	
County Portion (50%)			**$11,410,764**	

Table 61 Detailed Asset Inventory: Landfill

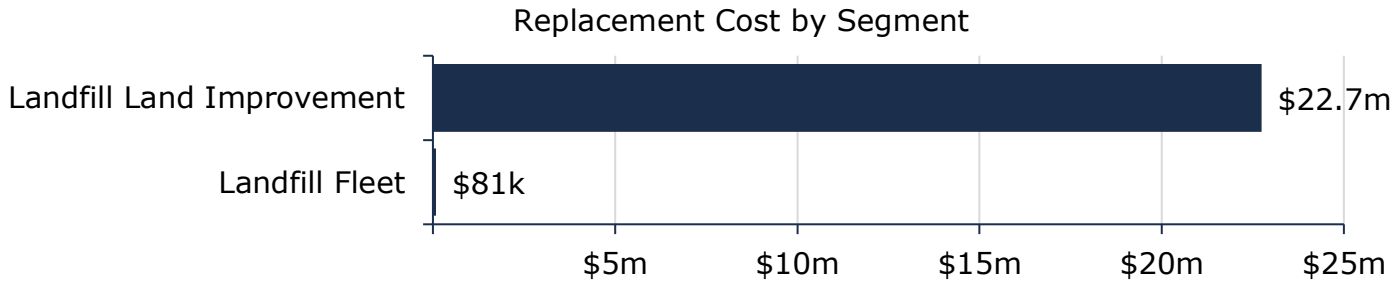


Figure 72 Portfolio Valuation: Landfill

12.2 Asset Condition

Figure 73 summarizes the replacement cost-weighted condition of the County's landfill assets. Based on assessment data provided by the City, approximately 92% of assets are in fair or better condition. There may be some assets in fair condition that could require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

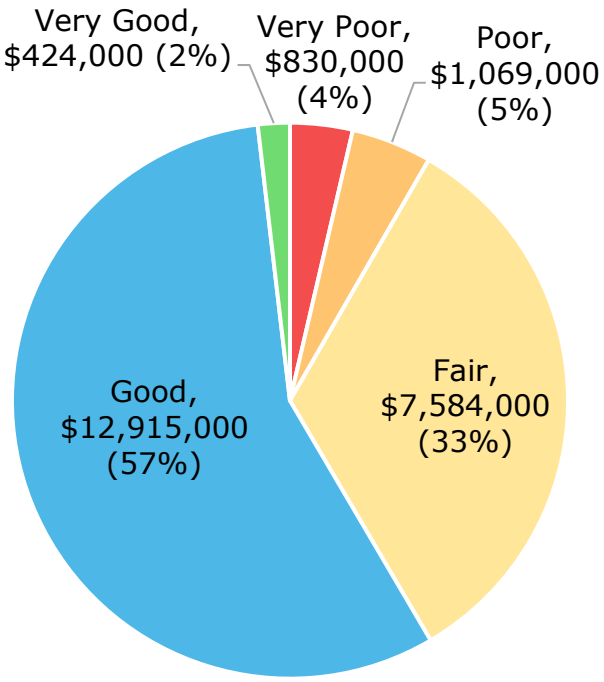


Figure 73 Asset Condition: Landfill Overall

Figure 74 summarizes the assessed condition of landfill assets, as provided by the City of Peterborough. The analysis illustrates that the majority of landfill land improvements are in fair or better condition. Additionally, all of the landfill fleet, with a current replacement cost of $81 thousand, are in very good condition.

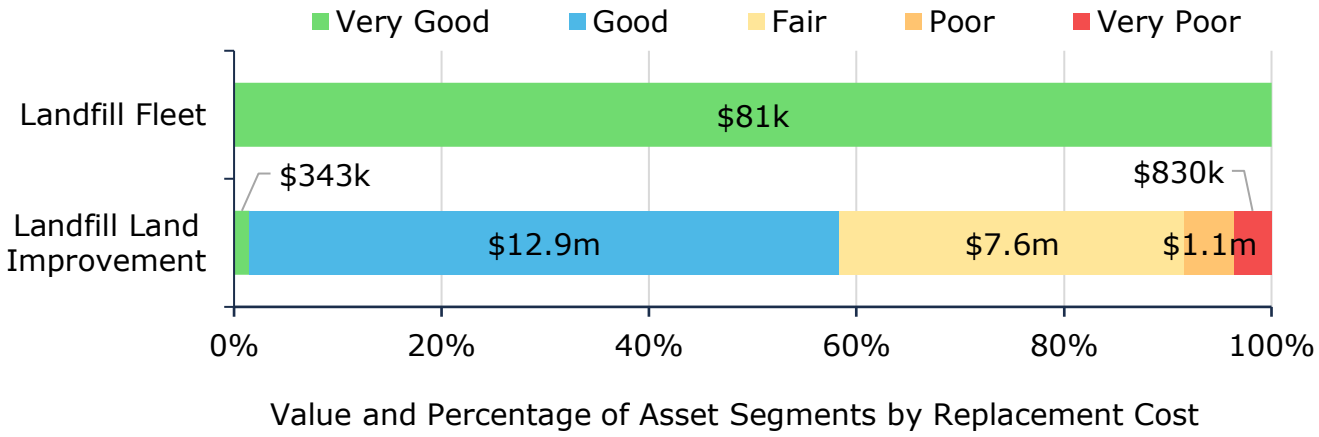


Figure 74 Asset Condition: Landfill by Segment

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 75 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.

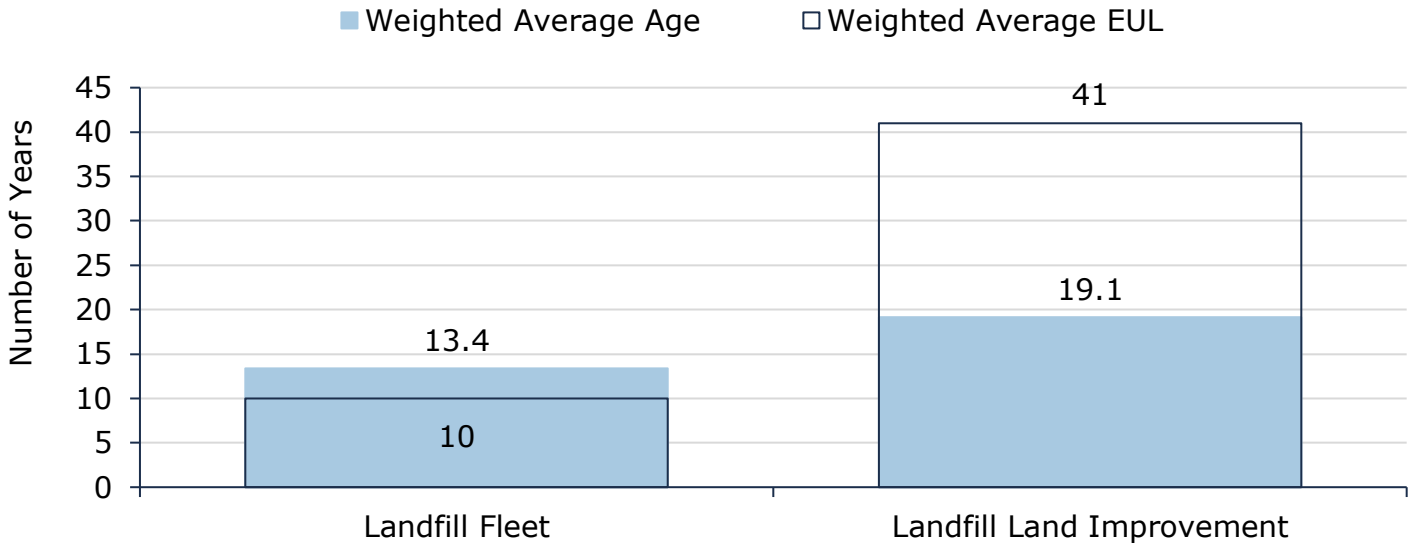


Figure 75 Estimated Useful Life vs. Asset Age: Landfill

Age analysis reveals that on average, the landfill fleet has surpassed its expected useful life, but assessments have detailed that the assets in question are still in great shape. Age profiles and inspections will continue to help to identify assets in need of replacements and/or upgrades. Extensions to EULs for landfill assets may also be considered based on performance history to date.

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 current lifecycle management strategy the City of Peterborough follows (referenced from the City's 2024 Asset Management Plan).

Activity Type	Description of Current Strategy
Maintenance	Contractors apply an approved preventative maintenance program for equipment.
	Scales are calibrated and checked twice a year.
	Landfill inspections trigger maintenance program changes at landfill.
	Hours of operations are tracked and trigger preventative maintenance activities.
	Leachate collection system maintained based on Environmental Compliance Approval (ECA) requirements.
Rehabilitation	Rental properties maintained by City Facility Manager.
	Pumps in leachate system are rebuilt.
	Completed based on review of records gathered from operating/maintenance activities. If issues are identified by O&M activities, then the asset is scheduled for renewal/rehabilitation
Replacement	Replacement of landfill equipment is determined by age of the asset, the number of hours in service and the cost of continued maintenance.
	Fleet is replaced based on the age of the assets.
	Service truck is traded in when replaced.
	Facility assets are replaced based on actual findings and recommendations from building condition assessments or during in-field inspections by staff during maintenance activities.
Disposal/ Abandonment	Dispose of assets when cost of maintenance is greater than value or replacement parts are no longer available.
	Landfill once closed will be maintained by the City for environmental purposes for 175 years.
	Landfill will be retired once capacity has been reached.
	Rental properties sold/removed based on cost to maintain vs. revenue from rental generated.

Table 62 Lifecycle Management Strategy: Landfill[9]

[9] All Lifecycle strategy details were provided by the City of Peterborough.

12.5 Forecasted Long-Term Replacement Needs

Figure 76 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the County's landfill assets. This analysis was run until 2084 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the County's primary asset management system and asset register. The County's average annual requirements (red dotted line) total **$336,000 per year** for all assets in the landfill. 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.

As landfill assets are managed by the City of Peterborough, is it essential that management and financial personnel at the County maintain regular communication with their City counterparts to ensure informed budgeting can take place.

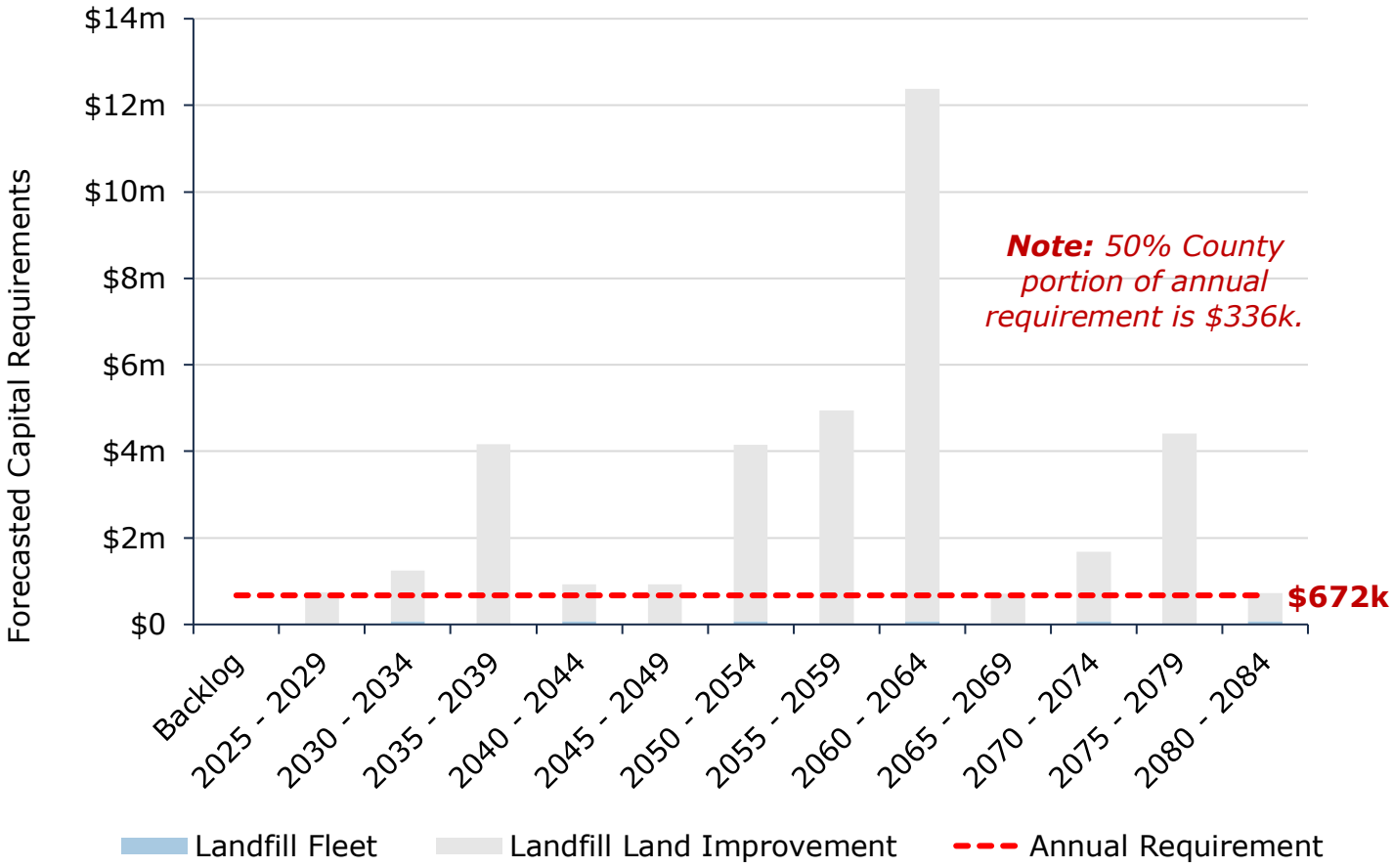


Figure 76 Forecasted Capital Replacement Needs Landfill 2024-2084

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.

12.6 Risk Analysis

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

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

Figure 77 Risk Matrix: Landfill

12.7 Levels of Service

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

12.7.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Availability	Description of the availability/accessibility of the landfill to County users	The landfill hours are: - Monday to Friday 8:00am – 4:45pm - Saturday from 8:00am – 3:45pm - (exceptions on statutory holidays) The landfill accepts a variety of waste including residential garbage and recyclables, freon items, tires, asbestos items, mattresses, cover soil and contaminated soil.

Table 63 O. Reg. 588/17 Community Levels of Service: Landfill

12.7.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Scope	Average condition of landfill assets	67% (Good)
	% of landfill assets in poor or worse condition	8%
Performance	Actual vs. Target Capital Reinvestment Rate	0.1% vs. 2.9%

Table 64 O. Reg. 588/17 Technical Levels of Service: Landfill

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 County's ability to afford the PLOS.

The below tables and graphs explain the proposed levels of service scenarios that were analyzed for the landfill. 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: Achieving 60% Funding in 6 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 60% funding across all asset categories in 6 years. ♦ Landfill capital funding (County portion) gradually increases from $10k/year to $202k/year over a span of 6 years
Scenario 2: Achieving 80% Funding in 11 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 80% funding across all asset categories in 11 years. ♦ Landfill capital funding (County portion) gradually increases from $10k/year to $269k/year over a span of 11 years
Scenario 3: Achieving 100% Funding in 15 Years	This scenario assumes gradual tax increases of ~3.0%/year, stabilizing at 100% funding across all asset categories in 15 years. ♦ Landfill capital funding (County portion) gradually increases from $10k/year to $336k/year over a span of 15 years

Table 65 Landfill 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 (60%)	Average Condition	64%	41%	27%	
	Average Asset Risk	9.1	11.9	16.0	
	Average Annual Investment		$202,000		Increase taxes by ~3.0% per year for 6 years
	Average Capital re-investment rate		1.8%		
Scenario 2 (80%)	Average Condition	64%	41%	36%	
	Average Asset Risk	9.1	11.9	14.5	
	Average Annual Investment		$269,000		Increase taxes by ~3.0% per year for 11 years
	Average Capital re-investment rate		2.4%		
Scenario 3 (100%)	Average Condition	64%	42%	35%	
	Average Asset Risk	9.1	11.8	14.7	
	Average Annual Investment		$336,000		Increase taxes by ~3.0% per year for 15 years
	Average Capital re-investment rate		2.9%		

Table 66 Landfill PLOS Scenario Analysis

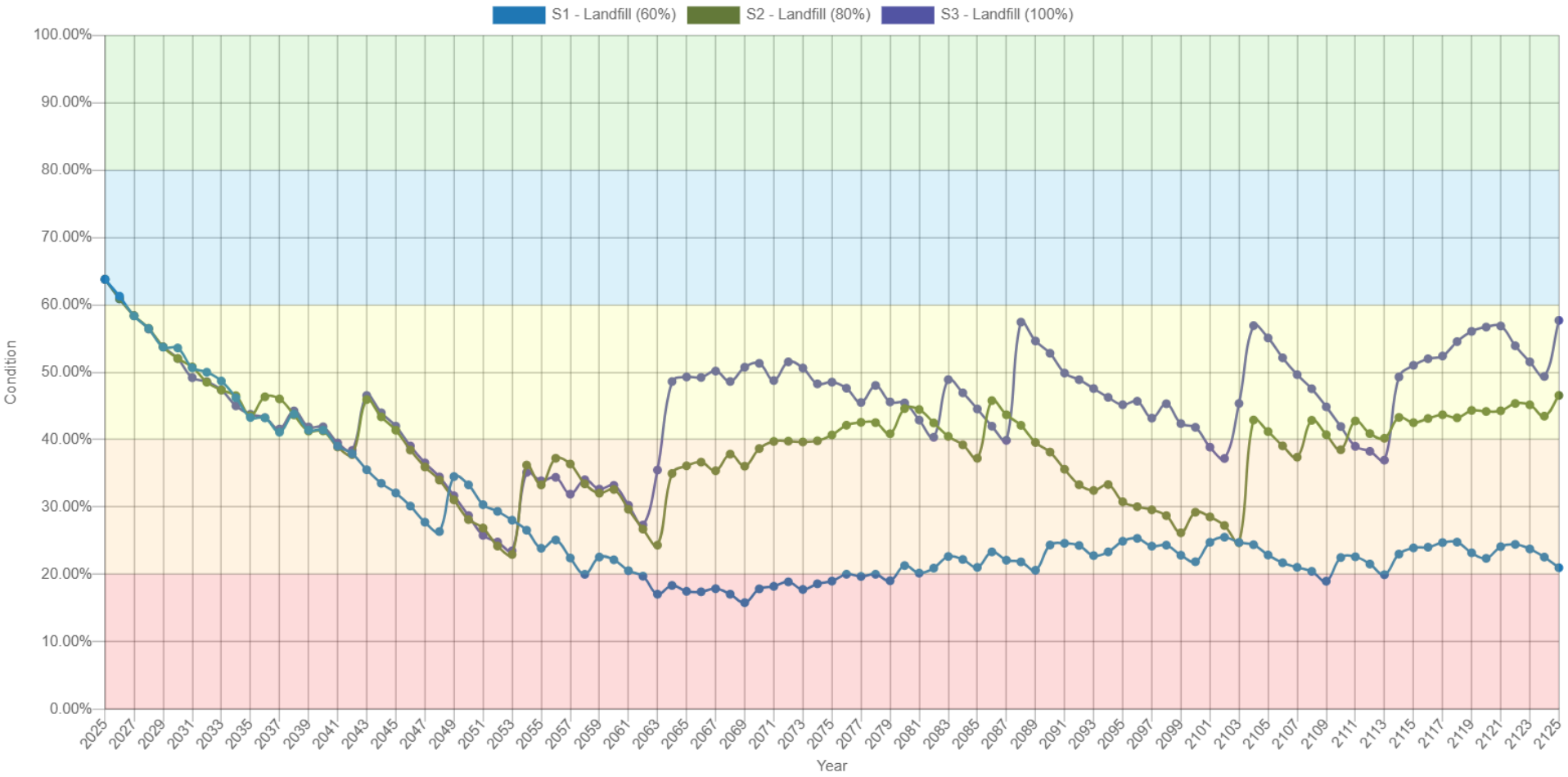


Figure 78 Landfill PLOS Scenario Condition Results

12.8.3 10-Year PLOS Financial Projections

As outlined in Section *4. Proposed Levels of Service Analysis*, Peterborough County selected Scenario 3 as their preferred proposed levels of service. The main objective is to increase spending gradually to reach a more sustainable funding level to manage the County's current inventory of assets. The following table outlines the funding trajectory over the next 10 years for the landfill if the financial strategy for Scenario 3 is implemented.

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Targeted Capital Spending	**$336k**	**$336k**	**$336k**	**$336k**	**$336k**	**$336k**	**$336k**	**$336k**	**$336k**	**$336k**
Projected Capital Spending	$28k	$46k	$69k	$88k	$108k	$128k	$149k	$171k	$193k	$216k
Funding Deficit	$308k	$290k	$267k	$248k	$228k	$208k	$187k	$165k	$143k	$120k
Target Reinvestment Rate	**2.9%**	**2.9%**	**2.9%**	**2.9%**	**2.9%**	**2.9%**	**2.9%**	**2.9%**	**2.9%**	**2.9%**
Projected Reinvestment Rate	0.2%	0.4%	0.6%	0.8%	0.9%	1.1%	1.3%	1.5%	1.7%	1.9%

Table 67 Landfill 10-Year PLOS Financial Projections

Strategies

13. 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 County 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.

13.1 Growth Assumptions

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

13.1.1 Peterborough County Growth Analysis Report (2022)

The County of Peterborough sought out a growth analysis report in 2022 as they seek to update their official plan. Hamson Consulting provided this report on March 28th, 2022, and presented the findings on April 6th, 2022. The growth analysis report had a 30-year horizon, predicting growth to the year 2051.

The plan was prepared with the following considerations added to best fit the context of the county. First, the large amount of second homes in the area, and the process and trends around these second homes becoming primary residences. Also, the growth of the City of Peterborough, and how that impacts the financials and rate of growth for the County. Finally, the plan included the County's ability to meet density and intensification targets.

The report identified population movement from the Greater Toronto Area to be a major driver of population growth for the County. The plan highlighted how young home buyers have and will move into the region in search of affordable housing. This population movement is also fueled by older generations transitioning their second homes in the area into permanent residences. Due to this, the expected growth in the County will occur in the areas closest to the Greater Toronto Area and the City of Peterborough. This is apparent in the plans estimate that 71% of the County's growth will occur in the Townships closest to the large metropolitan areas, including the Townships of Cavan Monaghan, Selwyn, and Asphodel-Norwood.

13.1.2 Peterborough County Official Plan (2022)

The County of Peterborough adopted a new Official Plan on June 29, 2022, to guide land use planning and development for the next 30 years, extending to 2051. This plan serves as the primary planning document for the County and seven of its local municipalities, aligning with provincial legislation such as the Growth Plan for the Greater Golden Horseshoe and the Provincial Policy Statement.

Key considerations in the plan include the County's unique rural character, the protection of agricultural land, and the integration of environmental conservation policies, including natural heritage preservation and climate resilience. Growth management was a primary focus, with

projections identifying an anticipated population of 82,000 and employment reaching 26,000 by 2051. The plan highlights that 71% of this growth is expected to be concentrated in the Townships of Cavan Monaghan, Selwyn, and Asphodel-Norwood.

The plan directs the most growth toward municipally serviced settlement areas, such as Millbrook, Norwood, Lakefield, and Havelock, ensuring efficient land use and infrastructure deployment. It also includes strategies for economic development, housing diversity, transportation infrastructure, and Indigenous consultation.

Implementation will be carried out through local zoning by-laws, development agreements, and site-specific policies, ensuring that growth aligns with the County's long-term vision of sustainability, economic vitality, and community well-being.

13.2 Impact of Growth on Lifecycle Activities

Planning for forecasted population growth may require the expansion of existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated into Peterborough County's AMP. While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, Peterborough County 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.

While not considered a sustainable funding source, Peterborough County utilizes development charges to offset the burden of growth-related projects from the taxpayers. For the past three years, the County has averages $1.8 million per year in development charge revenue.

Significant impacts of population growth are expected to be felt by the lower-tier municipalities which will include new subdivisions, additional local roadways, and expansion of existing underground utility networks. Upper-tier municipalities will certainly still be impacted including additional population to be served by County paramedics, and potential road safety upgrades to accommodate increased traffic.

14. 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 Peterborough County 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 (refer to section *4. Proposed Levels of Service Analysis)*
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community-Building Fund (CCBF)
    b. Annual grants

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

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

14.1 Annual Requirements & Capital Funding

14.1.1 Annual Requirements

The annual requirements represent the amount the County 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 County must allocate approximately $55.8 million annually to address capital requirements for the assets included in this AMP.

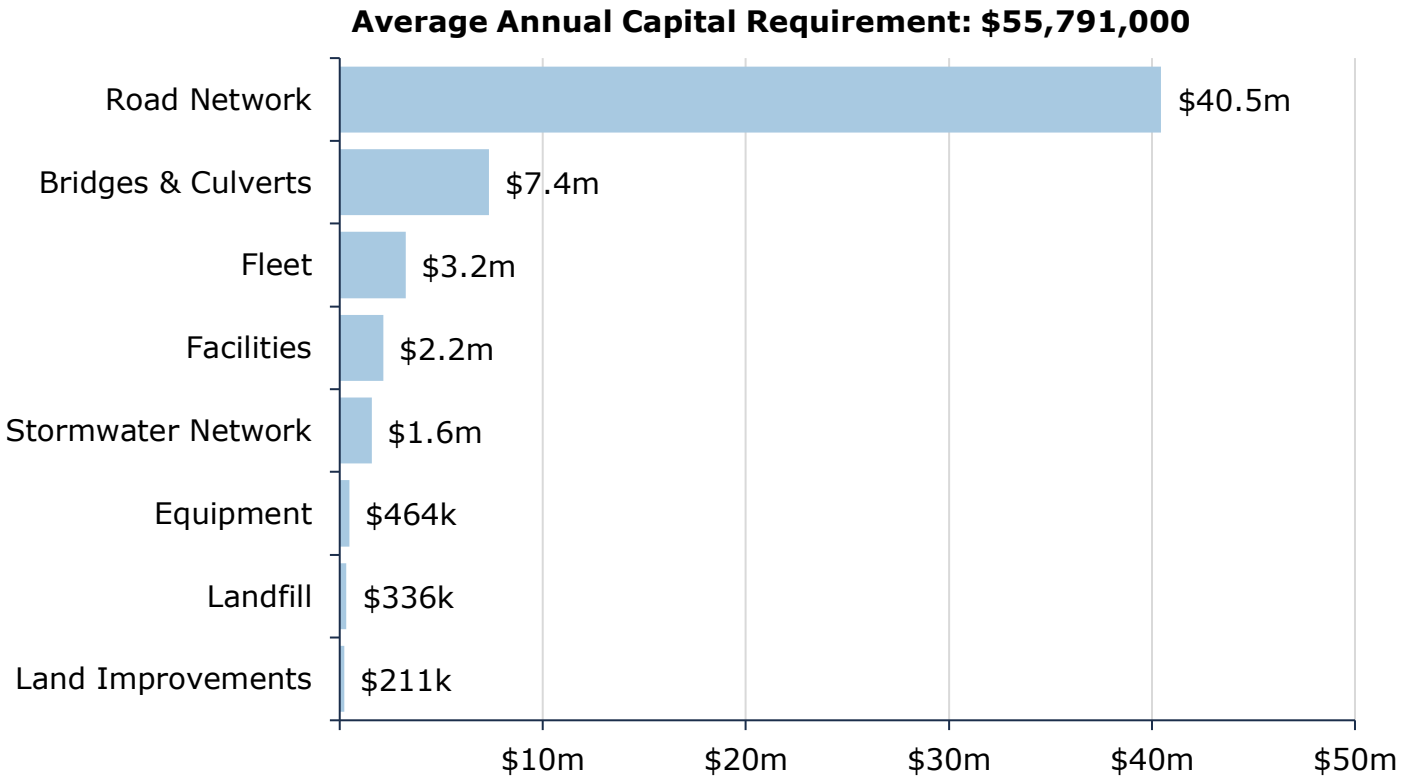


Figure 79 Annual Capital Funding Requirements by Asset Category

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

However, for the Road Network, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the County's roads. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the Road Network:

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

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	$49,033,000	$40,456,000	$8,577,000

Table 68 Lifecycle Strategies Annual Savings

The implementation of a proactive lifecycle strategy for roads leads to a potential annual cost avoidance of $8.6 million. This represents an overall reduction of the annual requirements of 17%. As the lifecycle strategy scenario represents the lowest cost option available to the County, we have used these annual requirements in the development of the financial strategy.

14.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the County is committing approximately $20.2 million towards capital projects per year. Given the annual capital requirement of $55.8 million, there is currently a funding gap of $35.6 million annually.

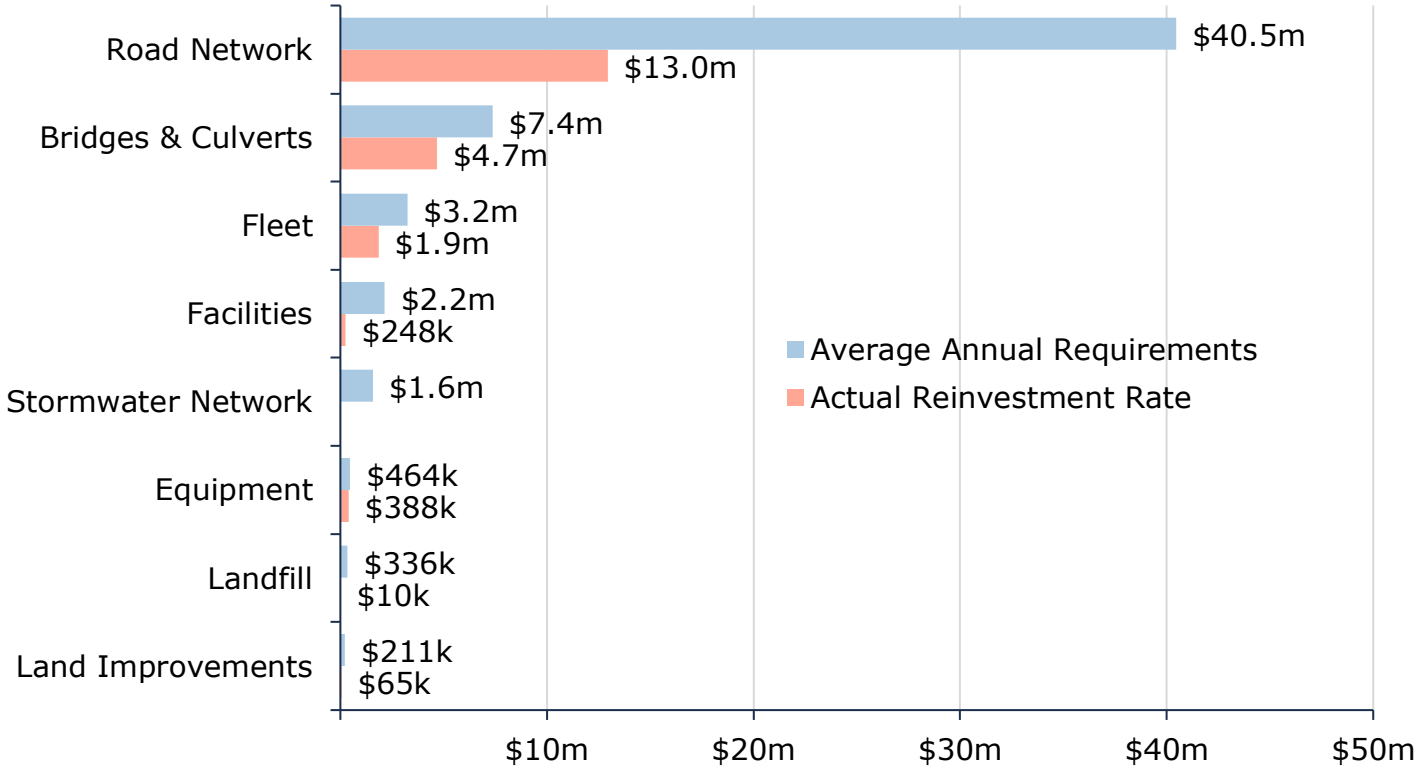


Figure 80 Annual Requirements vs. Capital Funding Available

14.2 Funding Objective

We have developed a scenario that would enable Peterborough County to achieve full funding within 15 years for the following tax-funded assets:

- Road Network
- Bridges & Culverts
- Stormwater Network
- Facilities
- Land Improvements
- Fleet
- Equipment
- Landfill

Peterborough County does not own any rate-funded assets.

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

14.3 Financial Profile: Tax Funded Assets

14.3.1 Current Funding Position

The following tables show, by asset category, Peterborough County'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 - Direct to Projects	Taxes - To Reserves for Planned Projects	CCBF	OCIF	Total Available	
Road Network	40,456,100	10,176,661		1,629,418	1,145,482	12,951,561	27,504,539
Bridges & Culverts	7,360,842	3,549,132	130,313	1,000,000		4,679,445	2,681,396
Stormwater Network	1,570,823					0	1,570,823
Facilities	2,150,851		247,601			247,601	1,903,250
Land Improvements	210,723		65,172			65,172	145,552
Fleet	3,241,817		1,855,077			1,855,077	1,386,741
Equipment	464,407		387,540			387,540	76,867
Landfill	335,859		10,000			10,000	325,859
Total	**55,791,422**	**13,725,793**	**2,695,704**	**2,629,418**	**1,145,482**	**20,196,397**	**35,595,026**

Table 69 Annual Available Funding for Tax Funded Assets

The average annual investment requirement for the above categories is $55.8 million. Annual revenue currently allocated to these assets for capital purposes is $20.2 million leaving an annual deficit of $35.6 million. Put differently, these infrastructure categories are currently funded at 36% of their long-term requirements.

14.3.2 Full Funding Requirements

In 2025, Peterborough County had budgeted annual tax revenues of approximately $64.0 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	43.0%
Bridges & Culverts	4.2%
Stormwater Network	2.5%
Facilities	3.0%
Land Improvements	0.2%
Fleet	2.2%
Equipment	0.1%
Landfill	0.5%
Total	**55.7%**

Table 70 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) Peterborough County's debt payments for these asset categories will be decreasing $470,000 by 2028, due a facilities loan coming to maturity.

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

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	35,595,026	35,595,026	35,595,026	35,595,026
Change in Debt Costs	-469,916	-469,916	-469,916	-469,916
Resulting Infrastructure Deficit:	**35,125,110**	**35,125,110**	**35,125,110**	**35,125,110**
Tax Increase Required	54.9%	54.9%	54.9%	54.9%
Annually:	**9.2%**	**4.5%**	**3.0%**	**2.3%**

Table 71 Tax Increase Options 5-20 Years

14.3.3 Financial Strategy Recommendations

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

a) increasing tax revenues by 3.0% each year for the next 15 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
b) allocating the current CCBF and OCIF revenue as outlined previously.
c) reallocating appropriate revenue from categories in a surplus position to those in a deficit position, if applicable.
d) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[10].
2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

Although this option achieves full funding on an annual basis in 15 years 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 $82.9 million, concentrated in bridges and culverts, fleet, and stormwater.

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

14.4 Use of Debt

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

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

[10] The County 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.

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:

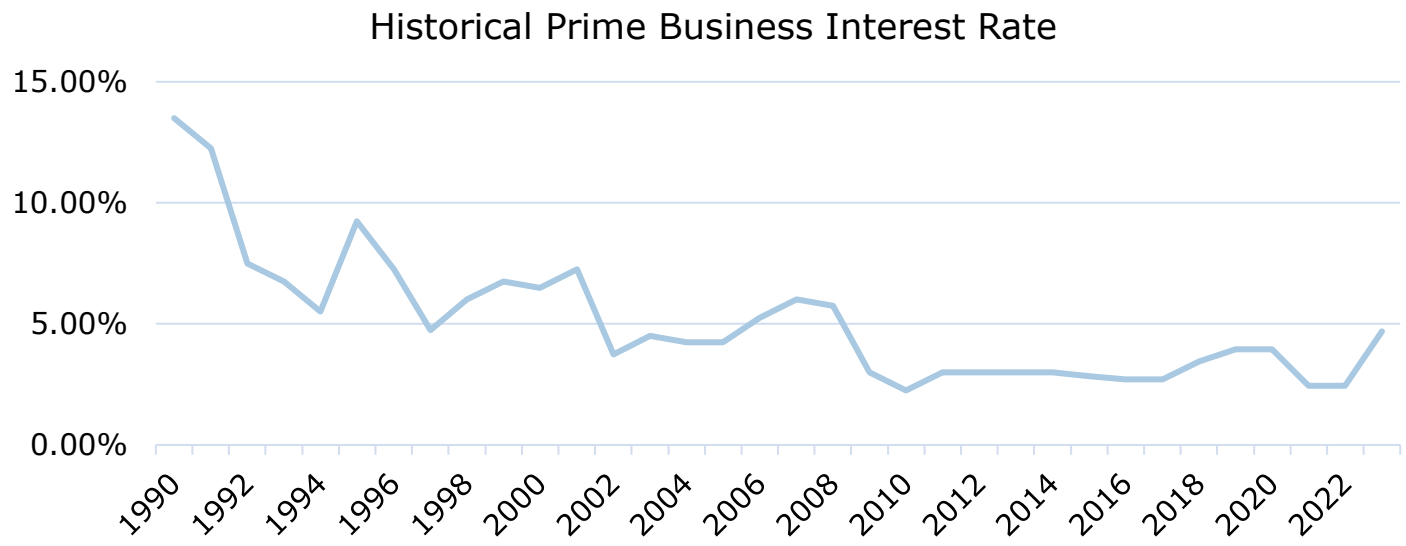


Figure 81 Historical Prime Rate

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

The following tables outline how Peterborough County has historically used debt very sparingly for investing in the asset categories as listed. As of year-end 2024, there is currently $1.3 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $470,000, well within its County's provincially prescribed maximum.

Asset Category	Current Debt Outstanding as of Dec. '24	Use of Debt in the Last Five Years				
		2020	2021	2022	2023	2024
Road Network	0	0	0	0	0	0
Bridges & Culverts	0	0	0	0	0	0
Stormwater Network	0	0	0	0	0	0
Facilities	1,289,862	0	0	0	0	0
Land Improvements	0	0	0	0	0	0
Fleet	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Landfill	0	0	0	0	0	0
Total Tax-Funded	**1,289,862**	0	0	0	0	0

Table 72 Peterborough County Use of Debt 2020-2024

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Road Network	0	0	0	0	0	0	0
Bridges & Culverts	0	0	0	0	0	0	0
Stormwater Network	0	0	0	0	0	0	0
Facilities	469,916	469,916	469,916	0	0	0	0
Land Improvements	0	0	0	0	0	0	0
Fleet	0	0	0	0	0	0	0
Equipment	0	0	0	0	0	0	0
Landfill	0	0	0	0	0	0	0
Total Tax-Funded	**469,916**	**469,916**	**469,916**	**0**	**0**	**0**	**0**

Table 73 Peterborough County Principal and Interest Payments

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

14.5 Use of Reserves

14.5.1 Available Reserves

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

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 Peterborough County.

Asset Category	Balance at December 31, 2024
Major Dedicated Reserves	
- Waste Management	5,663,977
- PW Infrastructure (i.e. Roads/Bridges)	5,389,208
- PCCP	1,921,716
- PW Equipment	1,288,502
- Facilities (PW + General Facilities)	761,116
- Transit	232,238
- Lang Pioneer Village	125,908
- Trails	28,678
Misc. Reserves	1,397,509
Total Tax Funded:	**16,808,852**

Table 74 Peterborough County Reserve Balances

There is considerable debate in the municipal sector as to the appropriate level of reserves that a County 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 Peterborough County'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.

15. Recommendations & Key Considerations

15.1 Financial Strategies

1. Review the feasibility of adopting a full-funding scenario to achieve 100% of average annual funding requirement for the asset categories analyzed. This includes increasing taxes by 3.0% per year over a period of 15 years.

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

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

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

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

15.2 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.

15.3 Risk & Levels of Service

1. Risk models and matrices can play an important role in identifying high-value assets, and developing an action plan which may include repair, rehabilitation, replacement, or further

evaluation through condition assessments. As a result, project selection and the development of multi-year capital plans can become more strategic and objective. Initial models have been built into Citywide for all asset groups. These models reflect current data, which was limited. As the data evolves and new attribute information is obtained, these models should also be refined and updated.

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

Appendices

Appendix A – Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition	Financial Capacity		% Funded
Road Network	**$1.2 b**	**Good**	Annual Requirement:	$40,456,000	**32%**
			Funding Available:	$12,952,000	
			Annual Deficit:	**$27,505,000**	
Bridges & Culverts	**$408.2 m**	**Fair**	Annual Requirement:	$7,361,000	**64%**
			Funding Available:	$4,679,000	
			Annual Deficit:	**$2,681,000**	
Stormwater Network	**$109.7 m**	**Fair**	Annual Requirement:	$1,571,000	**0%**
			Funding Available:	$0	
			Annual Deficit:	**$1,571,000**	
Facilities	**$87.9 m**	**Fair**	Annual Requirement:	$2,151,000	**12%**
			Funding Available:	$248,000	
			Annual Deficit:	**$1,903,000**	
Land Improvements	**$4.5 m**	**Fair**	Annual Requirement:	$211,000	**31%**
			Funding Available:	$65,000	
			Annual Deficit:	**$146,000**	
Fleet	**$25.5 m**	**Poor**	Annual Requirement:	$3,242,000	**57%**
			Funding Available:	$1,855,000	
			Annual Deficit:	**$1,387,000**	
Equipment	**$3.2 m**	**Poor**	Annual Requirement:	$464,000	**83%**
			Funding Available:	$388,000	
			Annual Deficit:	**$77,000**	
Landfill	**$11.4 m**	**Good**	Annual Requirement:	$336,000	**3%**
			Funding Available:	$10,000	
			Annual Deficit:	**$326,000**	
Total	**$1.9 b**	**Good**	Annual Requirement:	$55,791,000	**36%**
			Funding Available:	$20,196,000	
			Annual Deficit:	**$35,595,000**	

Appendix B – 10-Year Capital Requirements

Capital Requirements for Current Levels of Service

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

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

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

Road Network

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Class A Roads	-	$6.2m	$258k	$4.1m	$10.9m	$1.1m	$17.7m	$1.6m	$1.3m	$9.6m	$2.2m
Class B Roads	-	$22.0m	$22.6m	$13.8m	$77.9m	$17.6m	$6.0m	$3.8m	$12.6m	$14.1m	$63.3m
Class C Roads	-	$7.6m	$8.0m	$5.7m	$19.4m	$4.3m	$580k	$2.5m	$5.9m	$21.4m	$30.9m
Traffic Signals	$2.1m	-	-	-	-	-	$300k	-	-	$300k	-
Total	**$2.1m**	**$35.8m**	**$30.9m**	**$23.6m**	**$108.2m**	**$23.0m**	**$24.6m**	**$7.9m**	**$19.8m**	**$45.5m**	**$96.4m**

Table 75 System Generated 10-Year Capital Replacement Forecast: Road Network

Bridges & Culverts

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges	-	-	-	-	-	-	-	-	-	-	-
Cross Culverts	$5.8m	$180k	$2.7m	-	$100k	$60k	-	$5.1m	-	$120k	$340k
Entrance Culverts	$60.1m	-	-	-	-	-	-	-	-	-	-
Retaining Walls	-	-	-	-	-	-	-	-	-	-	-
Structural Culverts (>3m)	$300k	-	-	-	-	-	-	-	-	-	-
Total	**$66.2m**	**$180k**	**$2.7m**	**-**	**$100k**	**$60k**	**-**	**$5.1m**	**-**	**$120k**	**$340k**

Table 76 System Generated 10-Year Capital Replacement Forecast: Bridges & Culverts

Stormwater Network

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Catch Basins	$1.8m	$108k	-	$300k	$270k	$252k	-	-	$360k	$168k	$6k
Storm Manholes	$2.7m	-	-	$510k	$1.4m	$1.8m	-	-	$1.6m	$375k	-
Storm Sewer	-	-	-	-	-	-	-	-	-	-	-
Total	**$4.5m**	**$108k**	**-**	**$810k**	**$1.7m**	**$2.0m**	**-**	**-**	**$1.9m**	**$543k**	**$6k**

Table 77 System Generated 10-Year Capital Replacement Forecast: Stormwater Network

Facilities

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Corporate	-	$4.2m	$538k	$474k	$201k	$619k	$2k	$492k	$18k	$37k	$5.1m
Lang Pioneer Village	-	$99k	$169k	$8k	$84k	$36k	$4k	$114k	$12k	$133k	$6k
PCCP	-	$1.3m	$524k	$83k	$270k	$140k	$8k	$367k	$277k	$22k	$701k
Public Works	-	$2.4m	$587k	$682k	$81k	$739k	$6.2m	$2.0m	$357k	$28k	$1.7m
Total	**-**	**$8.0m**	**$1.8m**	**$1.2m**	**$636k**	**$1.5m**	**$6.2m**	**$3.0m**	**$664k**	**$220k**	**$7.5m**

Table 78 System Generated 10-Year Capital Replacement Forecast: Facilities

Land Improvements

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Parking Lots	$1.4m	$85k	-	$237k	$10k	-	$12k	$424k	-	-	$194k
Parks	-	$309k	-	-	-	$53k	-	$5k	-	-	$734k
Total	**$1.4m**	**$394k**	**-**	**$237k**	**$10k**	**$53k**	**$12k**	**$429k**	**-**	**-**	**$928k**

Table 79 System Generated 10-Year Capital Replacement Forecast: Land Improvements

Fleet

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Corporate	-	-	$57k	-	-	-	-	-	-	$57k	-
Lang Pioneer Village	$73k	-	-	-	-	-	$65k	$22k	-	-	-
PCCP	$1.8m	$987k	$448k	$883k	$110k	$2.9m	$2.2m	$1.1m	$908k	$110k	$2.6m
Public Works - Heavy Equipment	$2.5m	$770k	$329k	$856k	$613k	$49k	$68k	$16k	$362k	$132k	$18k
Public Works - Vehicles	$3.3m	$420k	$650k	$239k	$2.0m	$1.3m	$278k	$496k	$1.5m	$1.4m	$725k
Transit	$180k	-	-	$85k	-	$180k	$180k	-	$85k	-	$180k
Total	**$7.9m**	**$2.2m**	**$1.5m**	**$2.1m**	**$2.7m**	**$4.4m**	**$2.8m**	**$1.6m**	**$2.9m**	**$1.7m**	**$3.5m**

Table 80 System Generated 10-Year Capital Replacement Forecast: Fleet

Equipment

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Corporate	$13k	-	-	-	-	-	$13k	-	-	-	-
IT	$355k	-	$17k	$137k	-	$22k	$29k	$17k	$314k	$12k	-
Lang Pioneer Village	$28k	-	-	-	-	-	-	-	$92k	-	-
PCCP	$468k	$20k	$884k	-	$147k	$147k	$495k	$933k	$14k	$19k	$76k
Public Works	$8k	$64k	-	$150k	$131k	$126k	$142k	-	$11k	-	-
Total	**$871k**	**$85k**	**$902k**	**$287k**	**$277k**	**$295k**	**$678k**	**$951k**	**$431k**	**$31k**	**$76k**

Table 81 System Generated 10-Year Capital Replacement Forecast: Equipment

Landfill[11]

Segment	Back-log	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Landfill Fleet	-	-	-	-	-	-	-	-	-	-	$40k
Landfill Land Improvement	-	-	$50k	-	$307k	$11k	$129k	-	$438k	-	$14k
Total	**-**	**-**	**$50k**	**-**	**$307k**	**$11k**	**$129k**	**-**	**$438k**	**-**	**$54k**

Table 82 System Generated 10-Year Capital Replacement Forecast: Landfill

[11] These values are 50% of the total event costs, representing only the County's portion.

Capital Requirements for Proposed Levels of Service

The following capital forecasts are based on gradually increasing funding over the next 15 years to reach a target of 100% of ideal funding levels. ***Note: These projections do consider the availability of funding.***

AMP Category	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Road Network	$15.1m	$14.5m	$16.4m	$17.9m	$19.5m	$21.1m	$22.3m	$25.2m	$26.6m	$26.9m
Bridges & Culverts	$1.3m	$2.7m	-	$100k	$60k	-	$5.1m	-	$120k	$340k
Stormwater Network	-	$84k	$168k	$282k	$378k	$468k	$570k	$672k	$765k	$885k
Facilities	$2.0m	$78k	$76k	$1.6m	$744k	$936k	$945k	$1.1m	$1.2m	$1.3m
Land Improvements	$263k	$45k	$108k	$79k	$113k	$90k	$56k	$173k	$155k	$101k
Fleet	$1.5m	$1.8m	$1.5m	$1.8m	$2.1m	$2.3m	$1.7m	$2.2m	$2.4m	$2.3m
Equipment	$386k	$308k	$364k	$395k	$389k	$291k	$254k	$593k	$12k	$913k
Landfill[12]	-	-	$51k	$98k	$27k	$129k	-	$251k	$186k	$54k
Total	**$20.5m**	**$19.5m**	**$18.7m**	**$22.3m**	**$23.4m**	**$25.3m**	**$30.9m**	**$30.2m**	**$31.4m**	**$32.9m**

Table 83 System Generated Proposed LOS 10-Year Capital Replacement Forecast: All Categories

[12] These values are 50% of the total event costs, representing only the County's portion.

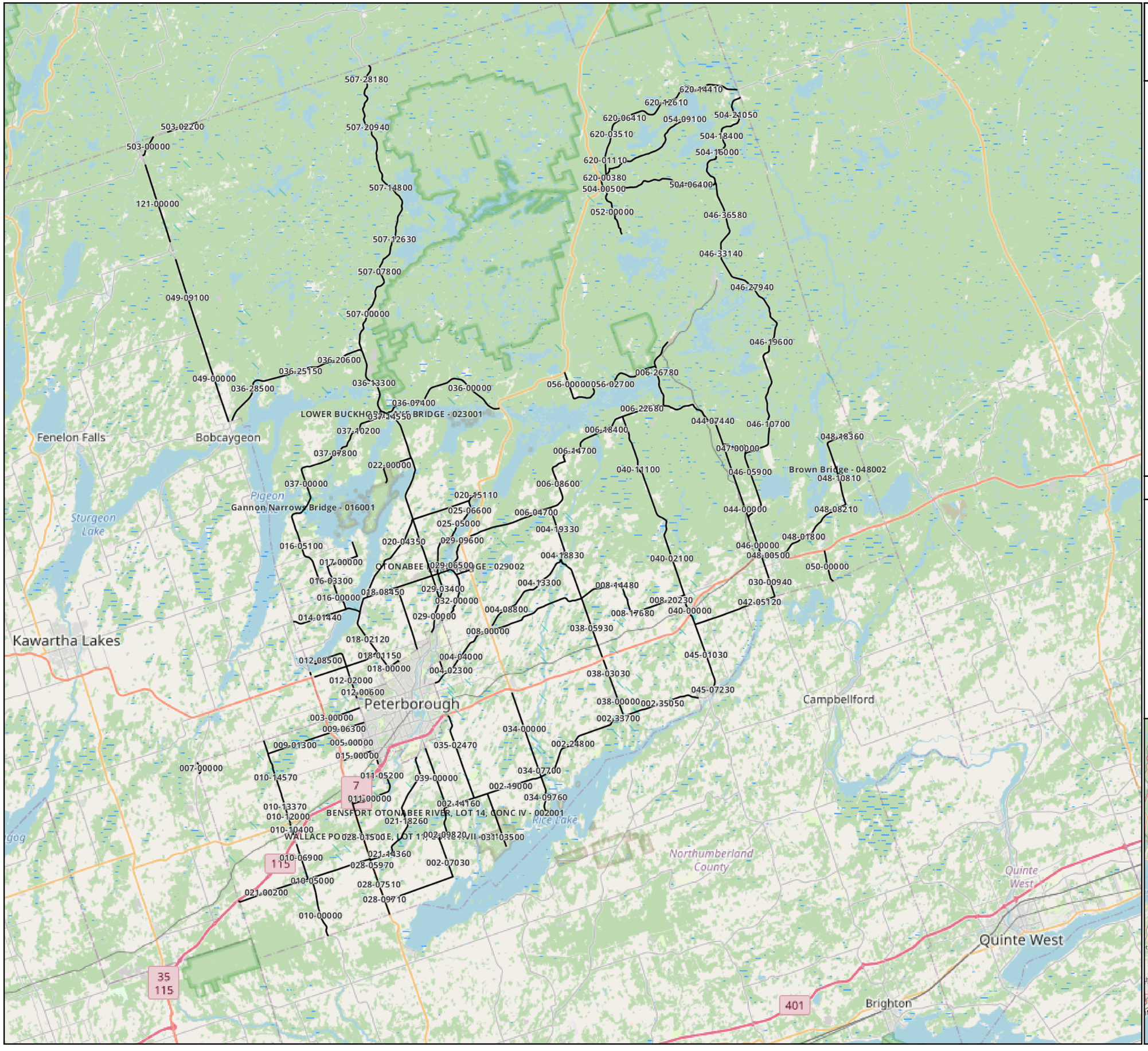
Appendix C – Level of Service Maps & Photos

Road Network

Figure 82 Road Surface in Good Condition Example

Figure 83 Road Surface in Fair Condition Example

Figure 84 Road Surface in Poor Condition Example



Map Title

County Road Sections

Bridges

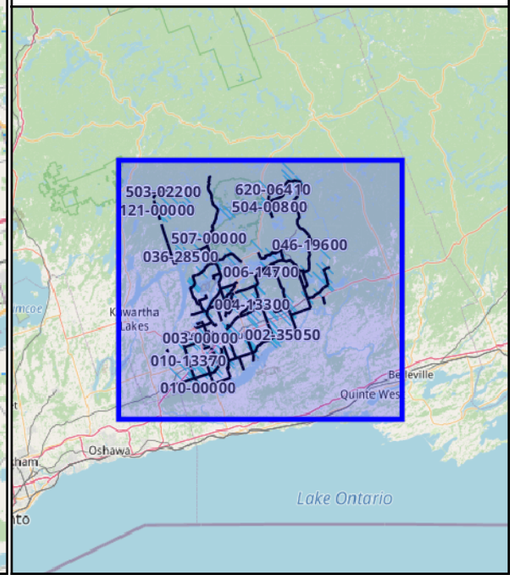
08-10-2025

0 5 10 15km

Peterborough County

Address:

Telephone:
Website:
Email:



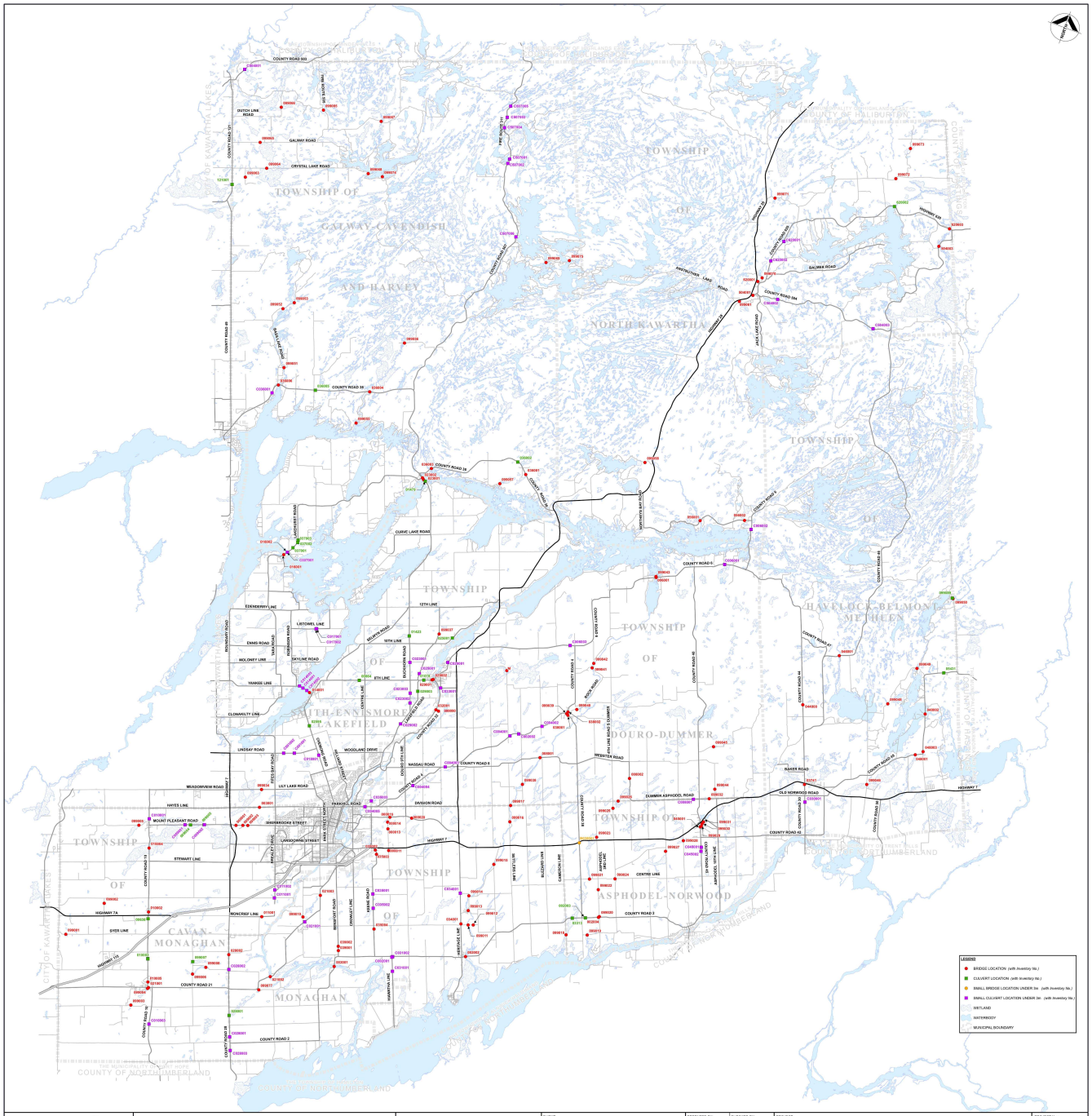
Bridges & Culverts

Name: COUNTY ROAD 30 BELMONT BRIDGE – 003741
Date Inspected: 2023-12-22

Figure 85 Bridge in Good Condition Example

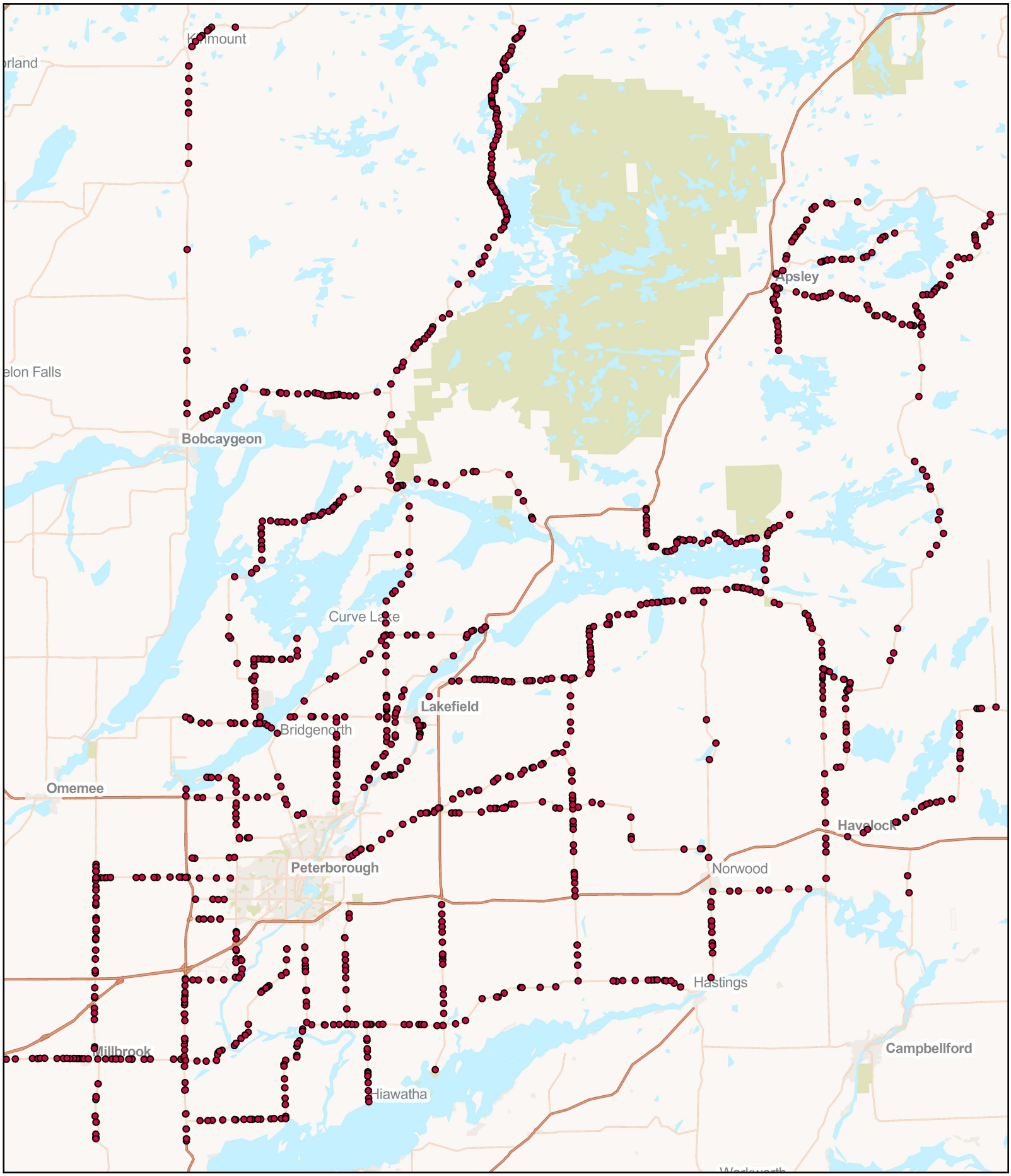
Name: CN RAIL OVERPASS, LOT 5/6, CONC II - 002003
Date Inspected: 2023-12-22

Figure 86 Culvert in Good Condition Example



			CLIENT: COUNTY OF PETERBOROUGH	PREPARED BY:	CHECKED BY:	PROJECT: 2024 COUNTY OF PETERBOROUGH STRUCTURE INVENTORY	PROJECT No.: 11115162
				DESIGNED BY:	APPROVED BY:		MAP: 1
				SCALE:	DATE:	DRAWING: STRUCTURE LOCATION MAP	

Peterborough County - Cross Culverts



Appendix D – Risk Rating Criteria

Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Prob. of Failure Score
Roads	Condition	75%	85 - 100	1
			74 - 84	2
			55 - 73	3
			45 - 54	4
			0 - 44	5
	Truck Traffic (%)	25%	0% - 5%	1
			6% - 15%	2
			16% - 23%	3
			24% - 30%	4
			> 31%	5
Bridges and Structural Culverts	Condition	100%	85 – 100	1
			70 – 84	2
			60 – 69	3
			50 – 59	4
			0 - 49	5
Culverts	Condition	100%	4.1 - 5	1
			3.1 - 4	2
			2.1 - 3	3
			1.1 - 2	4
			0 - 1	5
Storm Sewers	Condition	70%	80 – 100	1
			60 – 79	2
			40 – 59	3
			20 – 39	4
			0 - 19	5

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Prob. of Failure Score
	Material	30%	PVC	1
			Concrete, Cement, Polyethylene	2
			Corrugated Metal, Corrugated Steel, Steel	3
Facilities	Condition	100%	4 - 5	1
			3 - 3.9	2
			2 - 2.9	3
			1 - 1.9	4
			0 - 0.9	5
Fleet	Condition	100%	80 - 100	1
			60 - 79	2
			40 - 59	3
			20 - 39	4
			0 - 19	5
Equipment	Condition	100%	80 - 100	1
			60 - 79	2
			40 - 59	3
			20 - 39	4
			0 - 19	5
Land Improvements	Condition	100%	80 - 100	1
			60 - 79	2
			40 - 59	3
			20 - 39	4
			0 - 19	5
Landfill (Parameters provided by City of Peterborough)	Condition	100%	4.1 - 5	1
			3.1 – 4	2
			2.1 - 3	3
			1.1 - 2	4
			0 - 1	5

Table 84 Probability of Failure Risk Criteria

Consequence of Failure

Asset Category	Risk Class.	Risk Criteria	Value/Range	Cons. of Failure Score
Roads	Economic (75%)	Replacement Cost (100%)	$0 – $500,000	1
			$500,000 - $2,000,000	2
			$2,000,000 - $5,000,000	3
			$5,000,000 - $10,000,000	4
			$10,000,000+	5
	Social (25%)	AADT (100%)	0 – 1,000	1
			1,001 – 2,500	2
			2,501 – 5,000	3
			5,001 – 10,000	4
			10,001 +	5
Bridges and Structural Culverts	Economic (60%)	Replacement Cost (100%)	$0 - $100,000	1
			$100,000 - $250,000	2
			$250,000 - $500,000	3
			$500,000 - $1,000,000	4
			$1,000,000 +	5
	Environmental (10%)	Crossing Type (100%)	Non-Navigable Waterway	2
			Navigable Waterway	4
	Social (20%)	AADT (50%)	0 – 1,000	1
			1,001 – 2,500	2
			2,501 – 5,000	3
			5,001 – 10,000	4
			10,001 +	5
		Detour Length Around Bridge (km) (50%)	0 – 10	1
			11 – 20	2
			21 – 25	3
			26 – 98	4
			99 (i.e. no alternative detour)	5
	Health & Safety	Load Limit 3 (Tonnes)	> 30	1

Asset Category	Risk Class.	Risk Criteria	Value/Range	Cons. of Failure Score
	(10%)	100%)	20 – 29	2
			15 – 19	3
			10 – 14	4
			0 - 9	5
Culverts	Economic (100%)	Replacement Cost (100%)	$0 - $100,000	1
			$100,000 - $250,000	2
			$250,000 - $500,000	3
			$500,000 - $1,000,000	4
			$1,000,000+	5
Storm Sewers	Economic (20%)	Replacement Cost (100%)	$0 - $100,000	1
			$100,000 - $250,000	2
			$250,000 - $500,000	3
			$500,000 - $1,000,000	4
			$1,000,000+	5
	Operational (80%)	Diameter (mm) (100%)	0 – 100	1
			101 – 250	2
			251 – 450	3
			451 – 600	4
			601 +	5
Facilities	Economic (60%)	Replacement Cost (100%)	$0 - $50,000	1
			$50,000 - $100,000	2
			$100,000 - $250,000	3
			$250,000 - $500,000	4
			$500,000+	5
	Health & Safety (40%)	AMP Segment (100%)	Lang Pioneer Village	1
			Corporate	3
			Public Works	3
			PCCP	4
Equipment	Economic	Replacement Cost	$0 - $50,000	1

Asset Category	Risk Class.	Risk Criteria	Value/Range	Cons. of Failure Score
(General Equipment)	(60%)	(100%)	$50,000 - $100,000	2
			$100,000 - $250,000	3
			$250,000 - $500,000	4
			$500,000+	5
	Operational (40%)	AMP Segment (100%)	Lang Pioneer Village	1
			Corporate, IT	2
			Public Works	3
			PCCP	4
Fleet	Economic (85%)	Replacement Cost (100%)	$0 - $25,000	1
			$25,000 - $50,000	2
			$50,000 - $250,000	3
			$250,000 - $500,000	4
			$500,000+	5
	Health & Safety (15%)	AMP Segment (100%)	Lang Pioneer Village	1
			Corporate	2
			Public Works - Vehicles	2
			Public Works – Heavy Equipment, Transit	3
			PCCP	4
Land Improvements	Economic (100%)	Replacement Cost (100%)	$0 - $25,000	1
			$25,000 - $50,000	2
			$50,000 - $250,000	3
			$250,000 - $500,000	4
			$500,000+	5
Landfill (Parameters provided by City of Peterborough)	Operational (100%)	City Consequence Score (100%)	5	1
			4	2
			3	3
			2	4
			1	5

Table 85 Consequence of Failure Risk Criteria